Event # 518-4

Name: Holiday Park Improvements - Phase II

Description: The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction services located at Holiday Park, 1150 G. Harold Martin Drive, Fort Lauderdale, FL 33304, for the City's Parks and Recreation Department, in accordance with the terms, conditions, and specifications contained in this Invitation to Bid (ITB).

This Project includes but is not limited to demolition, grading, drainage improvements, irrigation, erosion control, tree protection, site enhancements, and new installations throughout the park. The Work also includes demolition, removal of the existing playground, lighting, root removal, fence, utilities, asphalt sidewalks, signage, and wayfinding structures, as well as the removal and relocation of existing trees and palms, grubbing, stump grinding, and root pruning. In addition, grading and drainage improvements will be performed, including cut and fill operations, excavation, and adjustments to storm drainage structures such as inlets, water meter, sanitary lateral, and manholes. Irrigation and landscaping work includes the installation of a new site irrigation system, planting of new trees, palms, shrubs, sod, and tree diapers. Park enhancements involve the construction of a new playground area with footers, site preparation, play surfacing, playground equipment, shade structures, benches, tables, trash receptacles, turf system, curbs, fencing, gates, drinking fountain, seat walls, gravity walls, playground irrigation, and lighting. Dog park improvements include concrete pads, benches, picnic tables, trash receptacles, fencing, dog park irrigation, seating shelter, pet station, water fountain, and gates. Additional park complex improvements consist of new concrete sidewalks, precast concrete pavers, rice rock, and header curb pavers, along with new signage, wayfinding structures, trash receptacles, benches, pavement markings, and shade structures for baseball, tee-ball, and multipurpose fields.

Buyer: WILLIAMS, LESLEY

Status: Pending Award

Event Type: IFB

Currency: USD

Sealed Bid: Yes

Respond To All Lines: Yes

Q & A Allowed: Yes

Number Of Amendments: 4

Display Bid Tabulation: Display When Event Closed For Bidding

Event Dates

Preview:

Q & A Open: 09/08/2025 02:00:01 PM

Open: 09/08/2025 02:00:00 PM

Q & A Close: 10/06/2025 05:00:00 PM

Close: 10/27/2025 02:00:00 PM

Dispute Close:

Questions

Event # 518-4: Holiday Park Improvements - Phase II

Question	Response Type	Attachment
Required Forms: Did you complete and attach the required forms?	Yes No	Event 518 - Required Forms.pdf
The attached Anti-Human Trafficking Affidavit is provided for reference and will be required from the awarded bidder. It is not necessary to include this document with your initial bid submission.	Yes No	Event 518 - Anti-Human Trafficking Affidavit Sample.pdf

Meetings

Meeting	Description	Location	Date	Required
Site Visit	A non-mandatory site visit is scheduled for Monday, September 15th at 2:00 pm EST at the Holiday Park Social Center.	Holiday Park Social Center	09/15/2025 02:00:00 PM	No

Attachments

Name	Description	Attachment
Event 518 - Holiday Park Impr. P2 Contract and Specifications Package.pdf	Event 518 - Holiday Park Improvements - Phase II Contract & Specifications Package	Event 518 - Holiday Park Impr. P2 Contract and Specifications Package.pdf
Event 518 - Bid Plans Part 1.pdf	Event 518 - Bid Plans Part 1	Event 518 - Bid Plans Part 1.pdf
Event 518 - Bid Plans Part 2.pdf	Event 518 - Bid Plans Part 2 - Revised	Event 518 - Bid Plans Part 2 Revised.pdf
Event 518 - Technical Specs VOL 1.pdf	Event 518 - Technical Specs VOL 1	Event 518 - Technical Specs VOL 1.pdf
Event 518 - Technical Specs VOL 2.pdf	Event 518 - Technical Specs VOL 2	Event 518 - Technical Specs VOL 2.pdf
Event 518 - Line Items.pdf	Event 518 - Line Items	Event 518 - Line Items.2.pdf
Addendum #1.pdf	Addendum #1 is being issued to extend the bid closing date to October 27, 2025.	Addendum #1.pdf
Playground Manufacturer Detail for Turf Mounds.pdf		Playground Manufacturer Detail for Turf Mounds.pdf
Geotechnical Report.pdf		Event 518 - Geotechnical Report.pdf
Electrical Riser Diagrams.pdf		Event 518 - Electrical Riser Diagrams.pdf

Event # 518-4: Holiday Park Improvements - Phase II

Name	Description	Attachment
Addendum #2.pdf	Addendum #2 is being issued to update line items, include material changes, and clarify responses.	Addendum #2.pdf
Addendum #3.pdf	Addendum #3 is being issued to add Line item 98 – Electrical Panel for the misting system.	Addendum #3.pdf

Contacts

Name	Email Address
LESLEY WILLIAMS	lwilliams@fortlauderdale.gov

Commodity Codes

Commodity Code	Description
020-49	Irrigation Equipment and Supplies, Agricultural
020-90	Tree and Root Cutters and Stump Grinders, Tractor Mounted
022-62	Irrigation System Parts, Agricultural
085	BAGS, BAGGING, TIES, AND EROSION SHEETING, ETC.
155-86	Structures, Rooms, Panels, Enclosures, etc. (Radio Frequency
220-87	Weather Instruments: Anemometers, Barographs, Barometers, Hy
225	COOLERS, DRINKING WATER (WATER FOUNTAINS)
225-30	Coolers, Electric (Water Fountains)
225-32	Coolers, Non-Electric (Water Fountains)
225-40	Coolers, Storage Type (Remote Refrigeration Unit), Including
225-64	Recycled Drinking Fountains and Supplies
305-71	Signage and Logos, Architectural (Glass, Photographic, Stone
306-71	Signage and Logos, Architectural (Glass, Photographic, Stone
330	FENCING
330-13	Fencing, Chain Link (Including Fabric, Gates, Panels, Posts

Event # 518-4: Holiday Park Improvements - Phase II

Commodity Code	Description
360-75	Tile, Asphalt
485-94	Waste Receptacles and Dust Pans
486-94	Waste Receptacles and Dust Pans, Environmentally Certified P
515-83	Tree Trimming and Pruning Equipment (Portable, Power Operate
578-94	Turf, Artificial, Indoor and Outdoor
595-75	Trees, Ornamental and Shade
631-12	Coatings, Protective, Asphalt Based (Also See Class 770-26),
650	PARK, PLAYGROUND, RECREATIONAL AREA AND SWIMMING POOL EQUIPM
650-06	Benches, Park (Including Bus Stop Benches)
650-12	Climbers, Playground
650-18	Combination Sets, Playground
650-20	Fountains, Decorative
650-21	Fountains, Pet Drinking
650-36	Picnic Tables
650-38	Playground Equipment (Not Otherwise Classified) (See 420-04
650-50	Safety Surfaces, Playground
650-54	Seesaws, Playground
650-60	Slides, Playground
650-72	Swings, Playground
745-14	Asphaltic Concrete, Cold Laid
745-21	Asphaltic Concrete, Hot Laid Including Bituminous Materials
745-65	Patching Mix, Asphalt Concrete
755-30	Asphalt Pavers, Self-Propelled Type
755-35	Asphalt Pavers, Towed Type
755-95	Recycled Asphalt and Concrete Handling Equipment, Accessorie
790	SEED, SOD, SOIL, AND INOCULANTS
790-02	Athletic Field Compositions (Baseball Infields, etc.)
790-50	Sod, Grass
790-95	Recycled Seed, Soil, Sod and Inoculants
815-22	Gaskets: Flange, Handhole and Manhole, All Types
870	VENETIAN BLINDS, AWNINGS, AND SHADES

Commodity Code	Description
890-30	Manholes, and Manhole Covers, Frames, Grates, Rings, Yokes,
906-72	Recreation Facilities (Parks, Marinas, etc.) - Architectural
912	CONSTRUCTION SERVICES, GENERAL (INCL. MAINTENANCE AND REPAIR
912-19	Clearing and Grubbing Services
912-23	Construction, General (Backfill Services, Digging, Ditching,
912-40	Demolition Services
912-44	Excavation Services
925	ENGINEERING SERVICES, PROFESSIONAL
925-28	Drainage Engineering
925-58	Irrigation; Drainage; Flood Control/Engineering
931-65	Park, Playground, and Swimming Pool Equipment Maintenance an
988-14	Erosion Control Services
988-63	Park Area Construction/Renovation
988-87	Tree Trimming and Pruning Services, Utility Lines (Energized
988-88	Tree Trimming and Pruning Services

Line Details

Line 1: Furnish and Install Silt Fence for Holiday Park

Description: Furnish and Install Silt Fence for Holiday Park

Item: HOLIDAY PARK SILT FENCE Furnish and Install Silt Fence for Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 6,387.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 2: Furnish and Install Inlet Projection at existing inlets

Description: Furnish and Install Inlet Projection at existing inlets

Item: HOLIDAY PARK INLET PROJECTION Furnish and Install Inlet Projection at existing inlets

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 5.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 3: Furnish and Install Tree Protection Barrier for Holiday Park

Description: Furnish and Install Tree Protection Barrier for Holiday Park

Item: HOLIDAY PARK TREE PROTECTION Furnish and Install Tree Protection Barrier for Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 9,745.0000

Unit of Measure: LF

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges No

Allowed:

Line 4: Furnish and Install Temporary Construction Entrance

Description: Furnish and Install Temporary Construction Entrance

Item: HOLIDAY PARK TEMPORARY CONST ENT Furnish and Install Temporary Construction Entrance

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 5: Clear, grub and stripping for Holiday Park

Description: Clear, grub and stripping for Holiday Park

Item: HOLIDAY PARK CLEAR, GRUB & STRIP Clear, grub and stripping for Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 6: Cut & Fill Grading for Holiday Park

Description: Cut &Fill Grading for Holiday Park

Item: HOLIDAY PARK CUT & FILL GRADING Cut & Fill Grading for Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 3,872.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 7: Regular Excavation for Holiday Park

Description: Regular Excavation for Holiday Park

Item: HOLIDAY PARK REGULAR EXCAVATION Regular Excavation for Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 573.0000 **Unit of Measure:** CY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 8: Furnish and Install 18" French Drain

Description: Furnish and Install 18" French Drain

Item: HOLIDAY PARK 18" FRENCH DRAIN Furnish and Install 18" French Drain

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 296.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 9: Furnish and Install Type C Inlet

Description: Furnish and Install Type C Inlet

Item: HOLIDAY PARK TYPE C INLET Furnish and Install Type C Inlet

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 8.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 10: Furnish and Install Water Meter

Description: Furnish and Install Water Meter

Item: HOLIDAY PARK WATER METER Furnish and Install Water Meter

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 11: Furnish and Install Valve Assembly/Pressure Reducer

Description: Furnish and Install Valve Assembly/Pressure Reducer

Item: HOLIDAY PARK VALVE ASSEMBLY Furnish and Install Valve Assembly/Pressure Reducer

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 12: Furnish and Install 1/2" PVC Irrigation

Description: Furnish and Install 1/2" PVC Irrigation

Item: HOLIDAY PARK 1/2" PVC IRRIGATION Furnish and Install 1/2" PVC Irrigation

Commodity 925 ENGINEERING SERVICES, PROFESSIONAL

Code:

Quantity: 130.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/30/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 13: Furnish and Install 1" HDPE Water Service Line

Description: Furnish and Install 1" HDPE Water Service Line (Includes Corp Stop, Meter and Backflow)

Item: HOLIDAY PARK 1" HDPE WATER Furnish and Install 1" HDPE Water Service Line

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 536.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 14: Furnish and Install 2" HDPE Water Service Line

Description: Furnish and Install 2" HDPE Water Service Line (Includes Corp Stop, Meter and Backflow)

Item: HOLIDAY PARK 2" HDPE WATER SERV Furnish and Install 2" HDPE Water Service Line

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 364.0000 **Unit of** LF

Measure:

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 15: Furnish and Install Park Sign Type A1

Description: Furnish and Install Park Sign Type A1

Item: HOLIDAY PARK PARK SIGN TYPE A1 Furnish and Install Park Sign Type A1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 1.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 16: Furnish and Install Park Sign Type B1

Description: Furnish and Install Park Sign Type B1

Item: HOLIDAY PARK PARK SIGN TYPE B1 Furnish and Install Park Sign Type B1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 1.0000

Unit of Measure: EA

Requested 12/05/2025

Delivery Date:

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No

Add On Charges Allowed: No

Line 17: Furnish and Install Park Sign Type C1

Description: Furnish and Install Park Sign Type C1

Item: HOLIDAY PARK PARK SIGN TYPE C1 Furnish and Install Park Sign Type C1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC
Division: DIV

Quantity: 7.0000
Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No

Add On Charges Allowed: No

Line 18: Furnish and Install Park Sign Type E1

Description: Furnish and Install Park Sign Type E1

Item: HOLIDAY PARK PARK SIGN TYPE E1 Furnish and Install Park Sign Type E1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC
Division: DIV

Quantity: 4.0000
Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 19: Furnish and Install Park Sign Type E2

Description: Furnish and Install Park Sign Type E2

Item: HOLIDAY PARK PARK SIGN TYPE E2 Furnish and Install Park Sign Type E2
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Manufacturer Code: MFC
Division: DIV
Quantity: 1.0000
Unit of Measure: EA
Requested Delivery Date: 12/05/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 20: Furnish and Install Park Sign Type F1

Description: Furnish and Install Park Sign Type F1

Item: HOLIDAY PARK PARK SIGN TYPE F1 Furnish and Install Park Sign Type F1
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Manufacturer Code: MFC
Division: DIV
Quantity: 1.0000
Unit of Measure: EA
Requested Delivery Date: 12/05/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No

Add On Charges Allowed: No

Line 21: Furnish and Install Park Sign Type H1

Description: Furnish and Install Park Sign Type H1

Item: HOLIDAY PARK PARK SIGN TYPE H1 Furnish and Install Park Sign Type H1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 22: Furnish and Install Park Sign Type H2

Description: Furnish and Install Park Sign Type H2

Item: HOLIDAY PARK PARK SIGN TYPE H2 Furnish and Install Park Sign Type H2

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 2.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges No

Allowed:

Line 23: Demolition at Holiday Park

Description: Demolition at Holiday Park (Includes fencing, existing utilities, etc.)

Item: HOLIDAY PARK DEMOLITION Demolition at Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 24: Demolish Existing Asphalt Sidewalk

Description: Demolish Existing Asphalt Sidewalk

Item: HOLIDAY PARK SIDEWALK DEMO Demolish Existing Asphalt Sidewalk

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 16,688.0000 **Unit of Measure:** SF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 25: Furnish and Install Paving Type A - 4" Concrete Finish 1

Description: Furnish and Install Paving Type A - 4" Concrete Finish 1

Item: HOLIDAY PARK PAV TYPE A - 4" F1 Furnish and Install Paving Type A - 4" Concrete Finish 1

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1,260.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 26: Furnish and Install Paving Type A - 4" Concrete Finish 2

Description: Furnish and Install Paving Type A - 4" Concrete Finish 2

Item: HOLIDAY PARK PAV TYPE A - 4" F2 Furnish and Install Paving Type A - 4" Concrete Finish 2

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 25.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 27: Furnish and Install Precast Concrete Pavers

Description: Furnish and Install Precast Concrete Pavers

Item: HOLIDAY PARK PRECAS CONCRETE PAV Furnish and Install Precast Concrete Pavers

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 35.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 28: Furnish and Install Rice Rock

Description: Furnish and Install Rice Rock

Item: HOLIDAY PARK RICE ROCK Furnish and Install Rice Rock

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 250.0000 **Unit of Measure:** CY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 29: Furnish and Install Header Curb Pavers

Description: Furnish and Install Header Curb Pavers

Item: HOLIDAY PARK HEADER CURB PAVERS Furnish and Install Header Curb Pavers

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1,352.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 30: Furnish and Install Trash and Recycling Receptables

Description: Furnish and Install Trash and Recycling Receptables

Item: HOLIDAY PARK TRASH AND RECYCLING Furnish and Install Trash and Recycling Receptables

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 31: Furnish and Install Benches

Description: Furnish and Install Benches

Item: HOLIDAY PARK BENCHES Furnish and Install Benches

Commodity 925 ENGINEERING SERVICES, PROFESSIONAL

Code:

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 32: Furnish and Install Bike Racks

Description: Furnish and Install Bike Racks

Item: HOLIDAY PARK BIKE RACKS Furnish and Install Bike Racks

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 33: Furnish and Install 2" Conduit at Holiday Park Site

Description: Furnish and Install 2" Conduit at Holiday Park Site

Item: HOLIDAY PARK 2" CONDUIT Furnish and Install 2" Conduit at Holiday Park Site

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer MFC **Division:** DIV

Code:

Quantity: 33.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 34: Furnish and Install 2-1/2" Conduit at Holiday Park Site

Description: Furnish and Install 2-1/2" Conduit at Holiday Park Site

Item: HOLIDAY PARK 2-1/2" CONDUIT Furnish and Install 2-1/2" Conduit at Holiday Park Site

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 2,698.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 35: Furnish and Install Pull Box at Holiday Park Site

Description: Furnish and Install Pull Box at Holiday Park Site

Item: HOLIDAY PARK PULL BOX Furnish and Install Pull Box at Holiday Park Site

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of** EA

Measure:

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 36: Furnish and Install Non-metallic sheathed cable, copper

Description: Furnish and Install Non-metallic sheathed cable, copper with ground wire at Holiday Park Site

Item: HOLIDAY PARK NON-METALLIC SHEAT Furnish and Install Non-metallic sheathed cable, copper

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 2,254.0000

Unit of Measure: LF

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 37: Furnish and Install Sign Assemblies

Description: Furnish and Install Sign Assemblies

Item: HOLIDAY PARK SIGN ASSEMBLIES Furnish and Install Sign Assemblies

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 4.0000

Unit of Measure: EA

Requested 12/05/2025

Delivery Date:

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 38: Furnish and Install Pavement Markings

Description: Furnish and Install Pavement Markings

Item: HOLIDAY PARK PAVEMENT MARKINGS Furnish and Install Pavement Markings

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 1.0000

Unit of Measure: LS

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 39: Remove Existing Trees/ Palms and Grind Stumps w Root Removal

Description: Remove Existing Trees/ Palms and Grind Stumps w Root Removal

Item: HOLIDAY PARK EXISTING TREES/PALM Remove Existing Trees/ Palms and Grind Stumps w Root Removal

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 65.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 40: Relocate Existing Trees/ Palms

Description: Relocate Existing Trees/ Palms

Item: HOLIDAY PARK RELOCATE EXISTING Relocate Existing Trees/ Palms
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Manufacturer Code: MFC
Division: DIV
Quantity: 2.0000
Unit of Measure: EA
Requested Delivery Date: 12/05/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 41: Root Pruning at Holiday Park

Description: Root Pruning at Holiday Park

Item: HOLIDAY PARK ROOT PRUNING Root Pruning at Holiday Park
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Quantity: 1.0000
Unit of Measure: LS
Requested Delivery Date: 12/30/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges No

Allowed:

Line 42: Furnish and Install Trees (Avg. 2.5" DBH)

Description: Furnish and Install Trees (Avg. 2.5" DBH)

Item: HOLIDAY PARK TREES -AVG. 2.5" DB Furnish and Install Trees (Avg. 2.5" DBH)

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 151.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 43: Furnish and Install Palms

Description: Furnish and Install Palms

Item: HOLIDAY PARK PALMS Furnish and Install Palms

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 21.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 44: Furnish and Install Shrubs

Description: Furnish and Install Shrubs

Item: HOLIDAY PARK SHRUBS Furnish and Install Shrubs

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 14.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 45: Furnish and Install Shrubs for Shrub Areas

Description: Furnish and Install Shrubs for Shrub Areas

Item: HOLIDAY PARK SHRUBS AREAS Furnish and Install Shrubs for Shrub Areas

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1,151.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 46: Furnish and Install Groundcovers and Grasses

Description: Furnish and Install Groundcovers and Grasses

Item: HOLIDAY PARK GROUNDCOVERS &GRASS Furnish and Install Groundcovers and Grasses

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1,346.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 47: Furnish and Install SOD area / Lawn Areas

Description: Furnish and Install SOD area / Lawn Areas

Item: HOLIDAY PARK SOD AREA /LAWN AREA Furnish and Install SOD area / Lawn Areas

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 3,982.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 48: Furnish and Install Tree Diapers for Non-Irrigated Trees

Description: Furnish and Install Tree Diapers for Non-Irrigated Trees

Item: HOLIDAY PARK TREE DIAPER Furnish and Install Tree Diapers for Non-Irrigated Trees

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 86.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 49: Demolition existing playground at Holiday Park

Description: Demolition existing playground at Holiday Park

Item: HOLIDAY PARK EXISTING PLAYGROUND Demolition existing playground at Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 50: Furnish and Install Paving Type A - 4" Concrete Finish 1

Description: Furnish and Install Paving Type A - 4" Concrete Finish 1 at Playground

Item: HOLIDAY PARK PLAYGROUND PAV F1 Furnish and Install Paving Type A - 4" Concrete Finish 1

Commodity 925 ENGINEERING SERVICES, PROFESSIONAL

Code:

Manufacturer Code: MFC **Division:** DIV

Quantity: 78.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 51: Furnish and Install Paving Type A - 4" Concrete Finish 2

Description: Furnish and Install Paving Type A - 4" Concrete Finish 2 at Playground

Item: HOLIDAY PARK PLAYGROUND PAV F2 Furnish and Install Paving Type A - 4" Concrete Finish 2

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 27.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 52: Furnish and Install Paving Type C - 6" at Playground

Description: Furnish and Install Paving Type C - 6" at Playground

Item: HOLIDAY PARK PLAYGROUND PAV C-6 Furnish and Install Paving Type C - 6" at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer MFC **Division:** DIV

Code:

Quantity: 55.0000 **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 53: Furnish and Install Playground Equipment at Playground

Description: Furnish and Install Playground Equipment at Playground

Item: HOLIDAY PARK PLAYGROUND EQUIP Furnish and Install Playground Equipment at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 54: Furnish and Install Playground Shade Structures

Description: Furnish and Install Playground Shade Structures

Item: HOLIDAY PARK PLAYGROUND SHADE ST Furnish and Install Playground Shade Structures

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of** LS

Measure:

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 55: Furnish and Install Lakeside Backed Bench at Playgound

Description: Furnish and Install Lakeside Backed Bench at Playgound

Item: HOLIDAY PARK PLAYGROUND LAKESIDE Furnish and Install Lakeside Backed Bench at Playgound

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 6.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 56: Furnish and Install Glide Backed Bench at Playground

Description: Furnish and Install Glide Backed Bench at Playground

Item: HOLIDAY PARK PLAYGOUND GLIDE BAC Furnish and Install Glide Backed Bench at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 6.0000

Unit of Measure: EA

Requested 12/05/2025

Delivery Date:

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 57: Furnish and Install Trash Receptacles at Playground

Description: Furnish and Install Trash Receptacles at Playground

Item: HOLIDAY PARK PLAYGROUND TRASH RE Furnish and Install Trash Receptacles at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 6.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes

Price Breaks Allowed: No

Allow Alternate Responses: No

Add On Charges Allowed: No

Line 58: Furnish and Install Recycling Receptacles at Playground

Description: Furnish and Install Recycling Receptacles at Playground

Item: HOLIDAY PARK PLAYGROUNDRECYCLING Furnish and Install Recycling Receptacles at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC

Division: DIV

Quantity: 4.0000

Unit of Measure: EA

Requested Delivery Date: 12/05/2025

Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 59: Furnish and Install Picnic Tables at Playground

Description: Furnish and Install Picnic Tables at Playground

Item: HOLIDAY PARK PLAYGROUND PICNIC Furnish and Install Picnic Tables at Playground
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Manufacturer Code: MFC
Division: DIV
Quantity: 4.0000
Unit of Measure: EA
Requested Delivery Date: 12/05/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No
Add On Charges Allowed: No

Line 60: Demotion existing lighting at Playground

Description: Demotion existing lighting at Playground

Item: HOLIDAY PARK LIGHTING DEMO Demotion existing lighting at Playground
Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL
Manufacturer Code: MFC
Division: DIV
Quantity: 1.0000
Unit of Measure: LS
Requested Delivery Date: 12/05/2025
Require Response: Yes
Price Breaks Allowed: No
Allow Alternate Responses: No

Add On Charges Allowed: No

Line 61: Furnish and Install Lighting at Playground

Description: Furnish and Install Lighting at Playground

Item: HOLIDAY PARK PLAYGROUND LIGHTING Furnish and Install Lighting at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 11.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 62: Furnish and Install GFCI Receptacle at Playground

Description: Furnish and Install GFCI Receptacle at Playground

Item: HOLIDAY PARK PLAYGROUND GFCI REC Furnish and Install GFCI Receptacle at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges No

Allowed:

Line 63: Furnish and Install 1" Conduit at Playground

Description: Furnish and Install 1" Conduit at Playground

Item: HOLIDAY PARK PLAYGROUND 1" CONDU Furnish and Install 1" Conduit at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 893.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 64: Furnish and Install Pull Box at Holiday Park Playground

Description: Furnish and Install Pull Box at Holiday Park Playground

Item: HOLIDAY PARK PLAYGROUND PULL BOX Furnish and Install Pull Box at Holiday Park Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 65: Furnish and Install Non-metallic sheathed cable, copper

Description: Furnish and Install Non-metallic sheathed cable, copper with ground wire at Playground

Item: HOLIDAY PARK PLAYGROUND NON-META Furnish and Install Non-metallic sheathed cable, copper

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 893.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 66: Prepare site and install Footers at Playground

Description: Prepare site and install Footers at Playground

Item: HOLIDAY PARK PLAYGROUND PREP Prepare site and install Footers at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 67: Furnish and Install Play Surfacing - PIP at Playground

Description: Furnish and Install Play Surfacing - PIP at Playground

Item: HOLIDAY PARK PLAYGROUND SURFACIN Furnish and Install Play Surfacing - PIP at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 17,125.0000 **Unit of Measure:** SF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 68: Furnish and Install Turf mound system at Playground

Description: Furnish and Install Turf mound system at Playground

Item: HOLIDAY PARK PLAYGROUND TURF MOU Furnish and Install Turf mound system at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 400.0000 **Unit of Measure:** SF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 69: Furnish and Install Curb

Description: Furnish and Install Curb

Item: HOLIDAY PARK PLAYGROUND CURB Furnish and Install Curb

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 614.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 70: Root Pruning at Playground Area

Description: Root Pruning at Playground Area

Item: HOLIDAY PARK PLAYGROUND ROOT PRU Root Pruning at Playground Area

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 71: Furnish and Install Root Removal at Playground Area

Description: Furnish and Install Root Removal at Playground Area

Item: HOLIDAY PARK PLAYGROUND ROOT REM Furnish and Install Root Removal at Playground Area

Commodity 925 ENGINEERING SERVICES, PROFESSIONAL

Code:

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 72: Furnish and Install Irrigation at Playground

Description: Furnish and Install Irrigation at Playground

Item: HOLIDAY PARK PLAYGROUND IRRIGATI Furnish and Install Irrigation at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 73: Furnish and Install Aluminum Picket Fencing at Playground

Description: Furnish and Install Aluminum Picket Fencing at Playground

Item: HOLIDAY PARK PLAYGROUND ALUMINUM Furnish and Install Aluminum Picket Fencing at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer MFC **Division:** DIV

Code:

Quantity: 715.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 74: Furnish and Install Entry Gate - Single at Playground

Description: Furnish and Install Entry Gate - Single at Playground

Item: HOLIDAY PARK PLAYGROUND ENTRY-SI Furnish and Install Entry Gate - Single at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 3.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 75: Furnish and Install Entry Gate - Double at Playground

Description: Furnish and Install Entry Gate - Double at Playground

Item: HOLIDAY PARK PLAYGROUND ENTRY-DO Furnish and Install Entry Gate - Double at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of** EA

Measure:

Requested Delivery Date: 12/05/2025

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 76: Furnish and Install Drinking Fountain at Playground

Description: Furnish and Install Drinking Fountain at Playground

Item: HOLIDAY PARK PLAYGROUND DRINKING Furnish and Install Drinking Fountain at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 1.0000 | **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 77: Furnish and Install Seatwall Type 1 with skateboard deterren

Description: Furnish and Install Seatwall Type 1 with skateboard deterrents at Playground

Item: HOLIDAY PARKPLAYGROUND SEATWALL Furnish and Install Seatwall Type 1 with skateboard deterren

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 66.0000 | **Unit of Measure:** LF

Requested 12/05/2025

Delivery Date:

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 78: Furnish and Install FDOT Gravity Wall at Playground

Description: Furnish and Install FDOT Gravity Wall at Playground

Item: HOLIDAY PARK PLAYGROUND FDOT WAL Furnish and Install FDOT Gravity Wall at Playground

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 210.0000 | **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 79: Powerwash, sand and paint the existing playground shelter

Description: Powerwash, sand and paint the existing playground shelter, varnish exposed wood, and remove park signs and return to the parks department

Item: HOLIDAY PARK PLAYGROUND SHELTER Powerwash, sand and paint the existing playground shelter

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 1.0000 | **Unit of Measure:** LS

Requested Delivery 12/05/2025

Date:

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 80: Furnish and Install Paving Type A - 4" Concrete Finish 1 at

Description: Furnish and Install Paving Type A - 4" Concrete Finish 1 at Dog Park

Item: HOLIDAY PARK DOG PARK PAVING 4" Furnish and Install Paving Type A - 4" Concrete Finish 1 at

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 222.0000 | **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Response: Yes | **Price Breaks Allowed:** No | **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 81: Furnish and Install Paving Type C - 6" at Dog Park

Description: Furnish and Install Paving Type C - 6" at Dog Park

Item: HOLIDAY PARK DOG PARK PAVING 6" Furnish and Install Paving Type C - 6" at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC | **Division:** DIV

Quantity: 256.0000 | **Unit of Measure:** SY

Requested Delivery Date: 12/05/2025

Require Yes | **Price Breaks** No | **Allow Alternate** No

Response: **Allowed:** **Responses:**

Add On Charges Allowed: No

Line 82: Furnish and Install Benches at Dog Park

Description: Furnish and Install Benches at Dog Park

Item: HOLIDAY PARK DOG PARK BENCHES Furnish and Install Benches at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 83: Furnish and Install Picnic Tables at Dog Park

Description: Furnish and Install Picnic Tables at Dog Park

Item: HOLIDAY PARK DOG PARK PICNIC TAB Furnish and Install Picnic Tables at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 8.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On No

Charges Allowed:

Line 84: Furnish and Install Trash and Recycling Receptacles at Dog P

Description: Furnish and Install Trash and Recycling Receptacles at Dog Park

Item: HOLIDAY PARK DOG PARK TRASH & RE Furnish and Install Trash and Recycling Receptacles at Dog P

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 85: Furnish and Install Fencing at Dog Park

Description: Furnish and Install Fencing at Dog Park

Item: HOLIDAY PARK DOG PARK FENCING Furnish and Install Fencing at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 888.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 86: Furnish and Install Irrigation at Dog Park

Description: Furnish and Install Irrigation at Dog Park

Item: HOLIDAY PARK DOG PARK IRRIGATION Furnish and Install Irrigation at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 87: Furnish and Install Seating Shelter Type D at Dog Park

Description: Furnish and Install Seating Shelter Type D at Dog Park

Item: HOLIDAY PARK DOG PARK SEATING Furnish and Install Seating Shelter Type D at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 88: Furnish and Install Pet Station at Dog Park

Description: Furnish and Install Pet Station at Dog Park

Item: HOLIDAY PARK DOG PARK PETSTATION Furnish and Install Pet Station at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 2.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 89: Furnish and Install Water Fountains at Dog Park

Description: Furnish and Install Water Fountains at Dog Park

Item: HOLIDAY PARK DOG PARK WATER FOUN Furnish and Install Water Fountains at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 2.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 90: Deleted - should not be included in bid pricing.

Description: Deleted - should not be included in bid pricing.

Item: HOLIDAY PARK DOG PARK 4' GATE Deleted - should not be included in bid pricing.

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 91: Furnish and Install Large Cantilever Shade Structure B-3

Description: Furnish and Install Large Cantilever Shade Structure B-3 at Baseball Complex

Item: HOLIDAY PARK BASEBALL COMPLEX B3 Furnish and Install Large Cantilever Shade Structure B-3

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 6.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 92: Furnish and Install Large Cantilever Shade Structure B-4

Description: Furnish and Install Large Cantilever Shade Structure B-4 at Baseball Complex

Item: HOLIDAY PARK BASEBALL COMPLEX B4 Furnish and Install Large Cantilever Shade Structure B-4

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 2.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 93: Furnish and Install Medium Cantilever Shade Structure B-2

Description: Furnish and Install Medium Cantilever Shade Structure B-2 at Baseball Complex

Item: HOLIDAY PARK BASEBALL COMPLEX B2 Furnish and Install Medium Cantilever Shade Structure B-2

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 94: Furnish and Install Small Cantilever Shade Structure B-1

Description: Furnish and Install Small Cantilever Shade Structure B-1 at Baseball Complex

Item: HOLIDAY PARK BASEBALL COMPLEX B1 Furnish and Install Small Cantilever Shade Structure B-1

Commodity 925 ENGINEERING SERVICES, PROFESSIONAL

Code:

Manufacturer Code: MFC **Division:** DIV

Quantity: 3.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 96: Furnish and install 18" SD at Holiday Park

Description: Furnish and install 18" SD at Holiday Park

Item: HOLIDAY PARK 18" SD Furnish and install 18" SD at Holiday Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 58.0000 **Unit of Measure:** LF

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 96 Distributions

Event Company	Distribution Account	Percent
10	CORE•10•353•6999•572•60-6599•P12633•••	100.000%

Line 97: Furnish and Install 6' Gate at Dog Park

Description: Furnish and Install 6' Gate at Dog Park

Item: HOLIDAY PARK DOG PARK 6' GATE Furnish and Install 6' Gate at Dog Park

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 4.0000 **Unit of Measure:** EA

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Line 97 Distributions

Event Company	Distribution Account	Percent
10	CORE•10•353•6999•572•60-6599•P12633•••	100.000%

Line 98: Furnish and install new electrical panel

Description: Furnish and install new electrical panel and all associated components per plans at Holiday Park.

Item: HOLIDAY PARK NEW ELECTRICAL PANE Furnish and install new electrical panel

Commodity Code: 925 ENGINEERING SERVICES, PROFESSIONAL

Manufacturer Code: MFC **Division:** DIV

Quantity: 1.0000 **Unit of Measure:** LS

Requested Delivery Date: 12/05/2025

Require Response: Yes **Price Breaks Allowed:** No **Allow Alternate Responses:** No

Add On Charges Allowed: No

Event # 518-4: Holiday Park Improvements - Phase II

Line 98 Distributions

Event Company	Distribution Account	Percent
10	CORE•10•353•6999•572•60-6599•P12633•••	100.000%

Executive Summary Report

Of

Event: 518-4 - Holiday Park Improvements - Phase II

Buyer: LESLEY WILLIAMS

Date Range: 09/08/2025 02:00:00 PM - 10/27/2025 02:00:00 PM

Suppliers Notified: 482

Notified Suppliers Responding: 5

All Suppliers Responding: 7

Suppliers Responding

Supplier	Contact	Phone Number	E Mail	City	State Or Province	Total Bid Amount	Total Awarded	Response Attachment Exists
Shiff Construction & Development, Inc.	Jacob Shiff	9545242575	jhs@shiff.com	Pompano Beach	FL	7,100,275.53	0.00	Yes
West Construction, Inc.	Matthew F. West	561-588-2027	rbarrett@westconstructioninc.net	Lantana	FL	8,310,061.03	0.00	Yes
MBR Construction, Inc	Ed Broccoli	954-486-8404	BidNotifications@mbrconstruction.com	Fort Lauderdale	FL	7,428,683.71	0.00	Yes
Lunacon Engineering Group, Corp.	Abigail Cosme	(786) 220-2698	acosme@lunaconcorp.com	Palmetto Bay	FL	6,648,417.49	0.00	Yes
Di Pompeo Construction Corp.	Estimating Department	9549175252	estimating@dipompeoconstruction.com	Pompano Beach	FL	7,446,803.32	0.00	Yes
Home Express Corp. dba HE-Builders	Matias Otero	9543194058	agustin@he-builders.com	Weston	FL	8,579,926.14	0.00	Yes
Waypoint Contracting, Inc	Manny Vecin	7866081406	info@waypointci.com	Doral	FL	6,952,892.45	0.00	Yes

Event Lines And Responses

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SILT FENCE-	Furnish and Install Silt Fence for Holiday Park	LF	6,387.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	6,387.0000	LF	1.723	0.00
West Construction, Inc.	6,387.0000	LF	5.090	0.00
MBR Construction, Inc	6,387.0000	LF	1.570	0.00
Lunacon Engineering Group, Corp.	6,387.0000	LF	9.318	0.00
Di Pompeo Construction Corp.	6,387.0000	LF	5.020	0.00
Home Express Corp. dba HE-Builders	6,387.0000	LF	16.250	0.00
Waypoint Contracting, Inc	6,387.0000	LF	2.850	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK INLET PROJECTION-	Furnish and Install Inlet Projection at existing inlets	EA	5.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	5.0000	EA	124.050	0.00
West Construction, Inc.	5.0000	EA	636.000	0.00
MBR Construction, Inc	5.0000	EA	238.470	0.00
Lunacon Engineering Group, Corp.	5.0000	EA	3,699.910	0.00
Di Pompeo Construction Corp.	5.0000	EA	113.040	0.00
Home Express Corp. dba HE-Builders	5.0000	EA	8,854.570	0.00
Waypoint Contracting, Inc	5.0000	EA	450.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TREE PROTECTION-	Furnish and Install Tree Protection Barrier for Holiday Park	LF	9,745.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	9,745.0000	LF	6.619	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
West Construction, Inc.	9,745.0000	LF	4.450	0.00
MBR Construction, Inc	9,745.0000	LF	7.520	0.00
Lunacon Engineering Group, Corp.	9,745.0000	LF	2.234	0.00
Di Pompeo Construction Corp.	9,745.0000	LF	6.280	0.00
Home Express Corp. dba HE-Builders	9,745.0000	LF	26.590	0.00
Waypoint Contracting, Inc	9,745.0000	LF	7.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TEMPORARY CONST ENT-	Furnish and Install Temporary Construction Entrance	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	6,202.559	0.00
West Construction, Inc.	1.0000	EA	6,357.000	0.00
MBR Construction, Inc	1.0000	EA	3,920.040	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	18,219.230	0.00
Di Pompeo Construction Corp.	1.0000	EA	10,500.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	44,959.240	0.00
Waypoint Contracting, Inc	1.0000	EA	8,750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK CLEAR, GRUB & STRIP-	Clear, grub and stripping for Holiday Park	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	71,769.813	0.00
West Construction, Inc.	1.0000	LS	15,240.000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
MBR Construction, Inc	1.0000	LS	13,300.700	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	55,498.590	0.00
Di Pompeo Construction Corp.	1.0000	LS	37,680.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	106,392.100	0.00
Waypoint Contracting, Inc	1.0000	LS	359,425.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK CUT & FILL GRADING-	Cut &Fill Grading for Holiday Park	SY	3,872.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	3,872.0000	SY	3.722	0.00
West Construction, Inc.	3,872.0000	SY	21.750	0.00
MBR Construction, Inc	3,872.0000	SY	13.070	0.00
Lunacon Engineering Group, Corp.	3,872.0000	SY	23.889	0.00
Di Pompeo Construction Corp.	3,872.0000	SY	50.240	0.00
Home Express Corp. dba HE-Builders	3,872.0000	SY	51.190	0.00
Waypoint Contracting, Inc	3,872.0000	SY	45.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK REGULAR EXCAVATION-	Regular Excavation for Holiday Park	CY	573.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	573.0000	CY	38.456	0.00
West Construction, Inc.	573.0000	CY	25.400	0.00
MBR Construction, Inc	573.0000	CY	34.210	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lunacon Engineering Group, Corp.	573.0000	CY	64.570	0.00
Di Pompeo Construction Corp.	573.0000	CY	50.240	0.00
Home Express Corp. dba HE-Builders	573.0000	CY	249.310	0.00
Waypoint Contracting, Inc	573.0000	CY	18.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 18" FRENCH DRAIN-	Furnish and Install 18" French Drain	LF	296.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	296.0000	LF	273.731	0.00
West Construction, Inc.	296.0000	LF	404.250	0.00
MBR Construction, Inc	296.0000	LF	209.070	0.00
Lunacon Engineering Group, Corp.	296.0000	LF	156.250	0.00
Di Pompeo Construction Corp.	296.0000	LF	163.280	0.00
Home Express Corp. dba HE-Builders	296.0000	LF	86.960	0.00
Waypoint Contracting, Inc	296.0000	LF	305.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TYPE C INLET-	Furnish and Install Type C Inlet	EA	8.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	8.0000	EA	7,753.199	0.00
West Construction, Inc.	8.0000	EA	7,892.000	0.00
MBR Construction, Inc	8.0000	EA	4,573.380	0.00
Lunacon Engineering Group, Corp.	8.0000	EA	4,624.880	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Di Pompeo Construction Corp.	8.0000	EA	12,811.200	0.00
Home Express Corp. dba HE-Builders	8.0000	EA	12,226.510	0.00
Waypoint Contracting, Inc	8.0000	EA	4,900.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK WATER METER-	Furnish and Install Water Meter	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	2,053.047	0.00
West Construction, Inc.	4.0000	EA	3,017.000	0.00
MBR Construction, Inc	4.0000	EA	4,266.970	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	4,624.880	0.00
Di Pompeo Construction Corp.	4.0000	EA	2,512.000	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	7,614.760	0.00
Waypoint Contracting, Inc	4.0000	EA	4,200.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK VALVE ASSEMBLY-	Furnish and Install Valve Assembly/Pressure Reducer	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	2,549.252	0.00
West Construction, Inc.	4.0000	EA	5,379.000	0.00
MBR Construction, Inc	4.0000	EA	1,176.020	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	6,937.320	0.00
Di Pompeo Construction Corp.	4.0000	EA	5,024.000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	4.0000	EA	7,722.010	0.00
Waypoint Contracting, Inc	4.0000	EA	3,200.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 1/2" PVC IRRIGATION-	Furnish and Install 1/2" PVC Irrigation	LF	130.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	130.0000	LF	9.924	0.00
West Construction, Inc.	130.0000	LF	33.460	0.00
MBR Construction, Inc	130.0000	LF	17.340	0.00
Lunacon Engineering Group, Corp.	130.0000	LF	143.020	0.00
Di Pompeo Construction Corp.	130.0000	LF	50.240	0.00
Home Express Corp. dba HE-Builders	130.0000	LF	72.600	0.00
Waypoint Contracting, Inc	130.0000	LF	28.950	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 1" HDPE WATER-	Furnish and Install 1" HDPE Water Service Line (Includes Corp Stop, Meter and Backflow)	LF	536.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	536.0000	LF	43.418	0.00
West Construction, Inc.	536.0000	LF	27.430	0.00
MBR Construction, Inc	536.0000	LF	22.770	0.00
Lunacon Engineering Group, Corp.	536.0000	LF	128.820	0.00
Di Pompeo Construction Corp.	536.0000	LF	70.340	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	536.0000	LF	68.830	0.00
Waypoint Contracting, Inc	536.0000	LF	45.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 2" HDPE WATER SERV-	Furnish and Install 2" HDPE Water Service Line (Includes Corp Stop, Meter and Backflow)	LF	364.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	364.0000	LF	81.874	0.00
West Construction, Inc.	364.0000	LF	49.860	0.00
MBR Construction, Inc	364.0000	LF	49.540	0.00
Lunacon Engineering Group, Corp.	364.0000	LF	101.650	0.00
Di Pompeo Construction Corp.	364.0000	LF	94.200	0.00
Home Express Corp. dba HE-Builders	364.0000	LF	96.640	0.00
Waypoint Contracting, Inc	364.0000	LF	50.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE A1-	Furnish and Install Park Sign Type A1	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	27,607.591	0.00
West Construction, Inc.	1.0000	EA	52,190.000	0.00
MBR Construction, Inc	1.0000	EA	50,756.410	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	64,771.330	0.00
Di Pompeo Construction Corp.	1.0000	EA	47,728.000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	1.0000	EA	54,912.050	0.00
Waypoint Contracting, Inc	1.0000	EA	39,750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE B1-	Furnish and Install Park Sign Type B1	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	3,963.435	0.00
West Construction, Inc.	1.0000	EA	11,293.000	0.00
MBR Construction, Inc	1.0000	EA	12,807.480	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	10,795.220	0.00
Di Pompeo Construction Corp.	1.0000	EA	15,072.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	15,444.010	0.00
Waypoint Contracting, Inc	1.0000	EA	10,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE C1-	Furnish and Install Park Sign Type C1	EA	7.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	7.0000	EA	6,793.575	0.00
West Construction, Inc.	7.0000	EA	11,417.000	0.00
MBR Construction, Inc	7.0000	EA	12,772.740	0.00
Lunacon Engineering Group, Corp.	7.0000	EA	13,046.800	0.00
Di Pompeo Construction Corp.	7.0000	EA	17,584.000	0.00
Home Express Corp. dba HE-Builders	7.0000	EA	25,862.600	0.00

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Waypoint Contracting, Inc	7.0000	EA	12,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE E1-	Furnish and Install Park Sign Type E1	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	3,604.927	0.00
West Construction, Inc.	4.0000	EA	13,675.000	0.00
MBR Construction, Inc	4.0000	EA	5,650.720	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	4,318.090	0.00
Di Pompeo Construction Corp.	4.0000	EA	6,782.400	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	6,220.510	0.00
Waypoint Contracting, Inc	4.0000	EA	9,850.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE E2-	Furnish and Install Park Sign Type E2	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	2,621.202	0.00
West Construction, Inc.	1.0000	EA	4,899.000	0.00
MBR Construction, Inc	1.0000	EA	4,903.750	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	4,318.090	0.00
Di Pompeo Construction Corp.	1.0000	EA	6,280.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	6,006.010	0.00
Waypoint Contracting, Inc	1.0000	EA	7,800.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE F1-	Furnish and Install Park Sign Type F1	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	9,501.080	0.00
West Construction, Inc.	1.0000	EA	21,605.000	0.00
MBR Construction, Inc	1.0000	EA	22,524.610	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	25,908.530	0.00
Di Pompeo Construction Corp.	1.0000	EA	30,144.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	44,616.040	0.00
Waypoint Contracting, Inc	1.0000	EA	17,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE H1-	Furnish and Install Park Sign Type H1	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	654.990	0.00
West Construction, Inc.	1.0000	EA	1,529.000	0.00
MBR Construction, Inc	1.0000	EA	1,264.370	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	755.670	0.00
Di Pompeo Construction Corp.	1.0000	EA	1,507.200	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	772.200	0.00
Waypoint Contracting, Inc	1.0000	EA	1,050.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PARK SIGN TYPE H2-	Furnish and Install Park Sign Type H2	EA	2.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2.0000	EA	313.229	0.00
West Construction, Inc.	2.0000	EA	1,529.000	0.00
MBR Construction, Inc	2.0000	EA	824.660	0.00
Lunacon Engineering Group, Corp.	2.0000	EA	377.830	0.00
Di Pompeo Construction Corp.	2.0000	EA	1,507.200	0.00
Home Express Corp. dba HE-Builders	2.0000	EA	171.600	0.00
Waypoint Contracting, Inc	2.0000	EA	1,930.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DEMOLITION-	Demolition at Holiday Park (Includes fencing, existing utilities, etc.)	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	31,212.928	0.00
West Construction, Inc.	1.0000	LS	86,739.000	0.00
MBR Construction, Inc	1.0000	LS	53,001.560	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	83,175.580	0.00
Di Pompeo Construction Corp.	1.0000	LS	59,032.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	410,982.380	0.00
Waypoint Contracting, Inc	1.0000	LS	96,320.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SIDEWALK DEMO-	Demolish Existing Asphalt Sidewalk	SF	16,688.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	16,688.0000	SF	0.930	0.00
West Construction, Inc.	16,688.0000	SF	2.980	0.00
MBR Construction, Inc	16,688.0000	SF	3.930	0.00
Lunacon Engineering Group, Corp.	16,688.0000	SF	1.851	0.00
Di Pompeo Construction Corp.	16,688.0000	SF	3.140	0.00
Home Express Corp. dba HE-Builders	16,688.0000	SF	14.600	0.00
Waypoint Contracting, Inc	16,688.0000	SF	3.500	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PAV TYPE A - 4" F1-	Furnish and Install Paving Type A - 4" Concrete Finish 1	SY	1,260.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1,260.0000	SY	89.317	0.00
West Construction, Inc.	1,260.0000	SY	67.280	0.00
MBR Construction, Inc	1,260.0000	SY	50.440	0.00
Lunacon Engineering Group, Corp.	1,260.0000	SY	80.678	0.00
Di Pompeo Construction Corp.	1,260.0000	SY	56.520	0.00
Home Express Corp. dba HE-Builders	1,260.0000	SY	74.900	0.00
Waypoint Contracting, Inc	1,260.0000	SY	125.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PAV TYPE A - 4" F2-	Furnish and Install Paving Type A - 4" Concrete Finish 2	SY	25.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	25.0000	SY	136.208	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
West Construction, Inc.	25.0000	SY	101.700	0.00
MBR Construction, Inc	25.0000	SY	167.550	0.00
Lunacon Engineering Group, Corp.	25.0000	SY	1,479.960	0.00
Di Pompeo Construction Corp.	25.0000	SY	56.520	0.00
Home Express Corp. dba HE-Builders	25.0000	SY	68.640	0.00
Waypoint Contracting, Inc	25.0000	SY	245.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PRECAS CONCRETE PAV-	Furnish and Install Precast Concrete Pavers	SY	35.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	35.0000	SY	279.115	0.00
West Construction, Inc.	35.0000	SY	180.000	0.00
MBR Construction, Inc	35.0000	SY	112.080	0.00
Lunacon Engineering Group, Corp.	35.0000	SY	214.230	0.00
Di Pompeo Construction Corp.	35.0000	SY	332.840	0.00
Home Express Corp. dba HE-Builders	35.0000	SY	245.140	0.00
Waypoint Contracting, Inc	35.0000	SY	250.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK RICE ROCK-	Furnish and Install Rice Rock	CY	250.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	250.0000	CY	235.697	0.00
West Construction, Inc.	250.0000	CY	118.200	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
MBR Construction, Inc	250.0000	CY	151.660	0.00
Lunacon Engineering Group, Corp.	250.0000	CY	186.860	0.00
Di Pompeo Construction Corp.	250.0000	CY	100.480	0.00
Home Express Corp. dba HE-Builders	250.0000	CY	164.740	0.00
Waypoint Contracting, Inc	250.0000	CY	395.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK HEADER CURB PAVERS-	Furnish and Install Header Curb Pavers	LF	1,352.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1,352.0000	LF	39.696	0.00
West Construction, Inc.	1,352.0000	LF	45.770	0.00
MBR Construction, Inc	1,352.0000	LF	36.590	0.00
Lunacon Engineering Group, Corp.	1,352.0000	LF	37.115	0.00
Di Pompeo Construction Corp.	1,352.0000	LF	40.190	0.00
Home Express Corp. dba HE-Builders	1,352.0000	LF	20.940	0.00
Waypoint Contracting, Inc	1,352.0000	LF	30.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TRASH AND RECYCLING-	Furnish and Install Trash and Recycling Receptables	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	4,910.334	0.00
West Construction, Inc.	4.0000	EA	5,038.000	0.00
MBR Construction, Inc	4.0000	EA	5,173.150	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lunacon Engineering Group, Corp.	4.0000	EA	3,655.180	0.00
Di Pompeo Construction Corp.	4.0000	EA	3,014.000	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	3,217.500	0.00
Waypoint Contracting, Inc	4.0000	EA	6,800.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BENCHES-	Furnish and Install Benches	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	5,230.823	0.00
West Construction, Inc.	4.0000	EA	5,315.000	0.00
MBR Construction, Inc	4.0000	EA	5,514.190	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	5,931.830	0.00
Di Pompeo Construction Corp.	4.0000	EA	2,512.000	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	5,148.010	0.00
Waypoint Contracting, Inc	4.0000	EA	5,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BIKE RACKS-	Furnish and Install Bike Racks	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	1,288.111	0.00
West Construction, Inc.	4.0000	EA	929.000	0.00
MBR Construction, Inc	4.0000	EA	1,300.150	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	696.220	0.00

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Di Pompeo Construction Corp.	4.0000	EA	753.600	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	858.000	0.00
Waypoint Contracting, Inc	4.0000	EA	1,020.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 2" CONDUIT-	Furnish and Install 2" Conduit at Holiday Park Site	LF	33.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	33.0000	LF	45.561	0.00
West Construction, Inc.	33.0000	LF	15.250	0.00
MBR Construction, Inc	33.0000	LF	48.000	0.00
Lunacon Engineering Group, Corp.	33.0000	LF	175.520	0.00
Di Pompeo Construction Corp.	33.0000	LF	82.900	0.00
Home Express Corp. dba HE-Builders	33.0000	LF	91.000	0.00
Waypoint Contracting, Inc	33.0000	LF	15.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 2-1/2" CONDUIT-	Furnish and Install 2-1/2" Conduit at Holiday Park Site	LF	2,698.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2,698.0000	LF	36.559	0.00
West Construction, Inc.	2,698.0000	LF	10.160	0.00
MBR Construction, Inc	2,698.0000	LF	23.980	0.00
Lunacon Engineering Group, Corp.	2,698.0000	LF	16.102	0.00
Di Pompeo Construction Corp.	2,698.0000	LF	59.030	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	2,698.0000	LF	61.780	0.00
Waypoint Contracting, Inc	2,698.0000	LF	22.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PULL BOX-	Furnish and Install Pull Box at Holiday Park Site	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	1,968.692	0.00
West Construction, Inc.	4.0000	EA	1,905.000	0.00
MBR Construction, Inc	4.0000	EA	2,073.710	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	3,620.160	0.00
Di Pompeo Construction Corp.	4.0000	EA	1,906.610	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	2,574.000	0.00
Waypoint Contracting, Inc	4.0000	EA	1,050.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK NON-METALLIC SHEAT-	Furnish and Install Non-metallic sheathed cable, copper with ground wire at Holiday Park Site	LF	2,254.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2,254.0000	LF	51.591	0.00
West Construction, Inc.	2,254.0000	LF	38.100	0.00
MBR Construction, Inc	2,254.0000	LF	54.350	0.00
Lunacon Engineering Group, Corp.	2,254.0000	LF	21.843	0.00
Di Pompeo Construction Corp.	2,254.0000	LF	13.820	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	2,254.0000	LF	24.740	0.00
Waypoint Contracting, Inc	2,254.0000	LF	8.500	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SIGN ASSEMBLIES-	Furnish and Install Sign Assemblies	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	1,240.512	0.00
West Construction, Inc.	4.0000	EA	547.000	0.00
MBR Construction, Inc	4.0000	EA	1,110.680	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	2,312.440	0.00
Di Pompeo Construction Corp.	4.0000	EA	816.400	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	4,290.010	0.00
Waypoint Contracting, Inc	4.0000	EA	1,050.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PAVEMENT MARKINGS-	Furnish and Install Pavement Markings	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	12,623.449	0.00
West Construction, Inc.	1.0000	LS	6,357.000	0.00
MBR Construction, Inc	1.0000	LS	30,733.120	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	4,671.600	0.00
Di Pompeo Construction Corp.	1.0000	LS	6,280.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	10,296.010	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Waypoint Contracting, Inc	1.0000	LS	12,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK EXISTING TREES/PALM-	Remove Existing Trees/ Palms and Grind Stumps w Root Removal	EA	65.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	65.0000	EA	515.290	0.00
West Construction, Inc.	65.0000	EA	1,201.000	0.00
MBR Construction, Inc	65.0000	EA	1,045.350	0.00
Lunacon Engineering Group, Corp.	65.0000	EA	751.810	0.00
Di Pompeo Construction Corp.	65.0000	EA	879.200	0.00
Home Express Corp. dba HE-Builders	65.0000	EA	699.600	0.00
Waypoint Contracting, Inc	65.0000	EA	1,350.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK RELOCATE EXISTING-	Relocate Existing Trees/ Palms	EA	2.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2.0000	EA	1,860.768	0.00
West Construction, Inc.	2.0000	EA	699.000	0.00
MBR Construction, Inc	2.0000	EA	9,146.760	0.00
Lunacon Engineering Group, Corp.	2.0000	EA	2,874.550	0.00
Di Pompeo Construction Corp.	2.0000	EA	8,792.000	0.00
Home Express Corp. dba HE-Builders	2.0000	EA	1,287.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Waypoint Contracting, Inc	2.0000	EA	6,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK ROOT PRUNING-	Root Pruning at Holiday Park	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	4,962.047	0.00
West Construction, Inc.	1.0000	LS	25,425.000	0.00
MBR Construction, Inc	1.0000	LS	86,240.880	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	3,738.540	0.00
Di Pompeo Construction Corp.	1.0000	LS	54,008.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	13,728.010	0.00
Waypoint Contracting, Inc	1.0000	LS	5,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TREES -AVG. 2.5" DB-	Furnish and Install Trees (Avg. 2.5" DBH)	EA	151.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	151.0000	EA	918.472	0.00
West Construction, Inc.	151.0000	EA	1,178.000	0.00
MBR Construction, Inc	151.0000	EA	1,194.310	0.00
Lunacon Engineering Group, Corp.	151.0000	EA	937.820	0.00
Di Pompeo Construction Corp.	151.0000	EA	1,371.550	0.00
Home Express Corp. dba HE-Builders	151.0000	EA	846.640	0.00
Waypoint Contracting, Inc	151.0000	EA	750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PALMS-	Furnish and Install Palms	EA	21.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	21.0000	EA	623.210	0.00
West Construction, Inc.	21.0000	EA	705.000	0.00
MBR Construction, Inc	21.0000	EA	1,664.720	0.00
Lunacon Engineering Group, Corp.	21.0000	EA	4,495.570	0.00
Di Pompeo Construction Corp.	21.0000	EA	867.900	0.00
Home Express Corp. dba HE-Builders	21.0000	EA	572.000	0.00
Waypoint Contracting, Inc	21.0000	EA	1,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SHRUBS-	Furnish and Install Shrubs	EA	14.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	14.0000	EA	2,253.124	0.00
West Construction, Inc.	14.0000	EA	79.000	0.00
MBR Construction, Inc	14.0000	EA	105.470	0.00
Lunacon Engineering Group, Corp.	14.0000	EA	2,912.150	0.00
Di Pompeo Construction Corp.	14.0000	EA	151.980	0.00
Home Express Corp. dba HE-Builders	14.0000	EA	122.570	0.00
Waypoint Contracting, Inc	14.0000	EA	35.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SHRUBS AREAS-	Furnish and Install Shrubs for Shrub Areas	EA	1,151.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1,151.0000	EA	1.207	0.00
West Construction, Inc.	1,151.0000	EA	21.750	0.00
MBR Construction, Inc	1,151.0000	EA	60.110	0.00
Lunacon Engineering Group, Corp.	1,151.0000	EA	17.710	0.00
Di Pompeo Construction Corp.	1,151.0000	EA	37.680	0.00
Home Express Corp. dba HE-Builders	1,151.0000	EA	22.360	0.00
Waypoint Contracting, Inc	1,151.0000	EA	18.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK GROUNDCOVERS &GRASS-	Furnish and Install Groundcovers and Grasses	EA	1,346.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1,346.0000	EA	10.226	0.00
West Construction, Inc.	1,346.0000	EA	26.100	0.00
MBR Construction, Inc	1,346.0000	EA	25.250	0.00
Lunacon Engineering Group, Corp.	1,346.0000	EA	5.050	0.00
Di Pompeo Construction Corp.	1,346.0000	EA	15.070	0.00
Home Express Corp. dba HE-Builders	1,346.0000	EA	29.320	0.00
Waypoint Contracting, Inc	1,346.0000	EA	13.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK SOD AREA /LAWN AREA-	Furnish and Install SOD area / Lawn Areas	SY	3,982.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	3,982.0000	SY	18.863	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
West Construction, Inc.	3,982.0000	SY	7.620	0.00
MBR Construction, Inc	3,982.0000	SY	8.970	0.00
Lunacon Engineering Group, Corp.	3,982.0000	SY	8.640	0.00
Di Pompeo Construction Corp.	3,982.0000	SY	7.540	0.00
Home Express Corp. dba HE-Builders	3,982.0000	SY	7.540	0.00
Waypoint Contracting, Inc	3,982.0000	SY	7.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK TREE DIAPER-	Furnish and Install Tree Diapers for Non-Irrigated Trees	EA	86.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	86.0000	EA	55.823	0.00
West Construction, Inc.	86.0000	EA	125.000	0.00
MBR Construction, Inc	86.0000	EA	121.810	0.00
Lunacon Engineering Group, Corp.	86.0000	EA	75.930	0.00
Di Pompeo Construction Corp.	86.0000	EA	50.240	0.00
Home Express Corp. dba HE-Builders	86.0000	EA	99.770	0.00
Waypoint Contracting, Inc	86.0000	EA	100.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK EXISTING PLAYGROUND-	Demolition existing playground at Holiday Park	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	31,212.928	0.00
West Construction, Inc.	1.0000	LS	16,526.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
MBR Construction, Inc	1.0000	LS	26,133.600	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	118,822.250	0.00
Di Pompeo Construction Corp.	1.0000	LS	43,960.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	12,870.010	0.00
Waypoint Contracting, Inc	1.0000	LS	29,750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PAV F1-	Furnish and Install Paving Type A - 4" Concrete Finish 1 at Playground	SY	78.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	78.0000	SY	89.317	0.00
West Construction, Inc.	78.0000	SY	67.280	0.00
MBR Construction, Inc	78.0000	SY	49.410	0.00
Lunacon Engineering Group, Corp.	78.0000	SY	356.960	0.00
Di Pompeo Construction Corp.	78.0000	SY	42.700	0.00
Home Express Corp. dba HE-Builders	78.0000	SY	77.000	0.00
Waypoint Contracting, Inc	78.0000	SY	130.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PAV F2-	Furnish and Install Paving Type A - 4" Concrete Finish 2 at Playground	SY	27.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	27.0000	SY	135.951	0.00
West Construction, Inc.	27.0000	SY	101.700	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
MBR Construction, Inc	27.0000	SY	191.760	0.00
Lunacon Engineering Group, Corp.	27.0000	SY	342.580	0.00
Di Pompeo Construction Corp.	27.0000	SY	40.190	0.00
Home Express Corp. dba HE-Builders	27.0000	SY	63.560	0.00
Waypoint Contracting, Inc	27.0000	SY	275.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PAV C-6-	Furnish and Install Paving Type C - 6" at Playground	SY	55.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	55.0000	SY	99.241	0.00
West Construction, Inc.	55.0000	SY	101.700	0.00
MBR Construction, Inc	55.0000	SY	80.720	0.00
Lunacon Engineering Group, Corp.	55.0000	SY	676.110	0.00
Di Pompeo Construction Corp.	55.0000	SY	50.240	0.00
Home Express Corp. dba HE-Builders	55.0000	SY	78.000	0.00
Waypoint Contracting, Inc	55.0000	SY	175.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND EQUIP-	Furnish and Install Playground Equipment at Playground	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	2,059,056.008	0.00
West Construction, Inc.	1.0000	LS	2,994,000.000	0.00
MBR Construction, Inc	1.0000	LS	2,634,390.840	0.00

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Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lunacon Engineering Group, Corp.	1.0000	LS	2,340,642.780	0.00
Di Pompeo Construction Corp.	1.0000	LS	2,512,000.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	2,131,188.160	0.00
Waypoint Contracting, Inc	1.0000	LS	2,295,560.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND SHADE ST-	Furnish and Install Playground Shade Structures	LS	1.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	740,836.335	0.00
West Construction, Inc.	1.0000	LS	863,400.000	0.00
MBR Construction, Inc	1.0000	LS	751,065.990	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	192,098.080	0.00
Di Pompeo Construction Corp.	1.0000	LS	502,400.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	756,756.700	0.00
Waypoint Contracting, Inc	1.0000	LS	395,550.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND LAKESIDE-	Furnish and Install Lakeside Backed Bench at Playgound	EA	6.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	6.0000	EA	5,088.369	0.00
West Construction, Inc.	6.0000	EA	5,314.000	0.00
MBR Construction, Inc	6.0000	EA	5,269.850	0.00
Lunacon Engineering Group, Corp.	6.0000	EA	4,604.360	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Di Pompeo Construction Corp.	6.0000	EA	2,763.200	0.00
Home Express Corp. dba HE-Builders	6.0000	EA	4,719.010	0.00
Waypoint Contracting, Inc	6.0000	EA	7,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGOUND GLIDE BAC-	Furnish and Install Glide Backed Bench at Playground	EA	6.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	6.0000	EA	4,862.269	0.00
West Construction, Inc.	6.0000	EA	5,314.000	0.00
MBR Construction, Inc	6.0000	EA	5,191.440	0.00
Lunacon Engineering Group, Corp.	6.0000	EA	4,831.790	0.00
Di Pompeo Construction Corp.	6.0000	EA	2,135.200	0.00
Home Express Corp. dba HE-Builders	6.0000	EA	4,433.000	0.00
Waypoint Contracting, Inc	6.0000	EA	7,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND TRASH RE-	Furnish and Install Trash Receptacles at Playground	EA	6.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	6.0000	EA	2,985.415	0.00
West Construction, Inc.	6.0000	EA	5,153.000	0.00
MBR Construction, Inc	6.0000	EA	3,249.720	0.00
Lunacon Engineering Group, Corp.	6.0000	EA	1,789.530	0.00
Di Pompeo Construction Corp.	6.0000	EA	3,893.600	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	6.0000	EA	3,289.000	0.00
Waypoint Contracting, Inc	6.0000	EA	3,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUNDRECYCLING-	Furnish and Install Recycling Receptacles at Playground	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	2,985.416	0.00
West Construction, Inc.	4.0000	EA	4,947.000	0.00
MBR Construction, Inc	4.0000	EA	3,249.720	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	2,196.240	0.00
Di Pompeo Construction Corp.	4.0000	EA	3,893.600	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	12,012.010	0.00
Waypoint Contracting, Inc	4.0000	EA	3,450.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PICNIC-	Furnish and Install Picnic Tables at Playground	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	4,651.244	0.00
West Construction, Inc.	4.0000	EA	5,770.000	0.00
MBR Construction, Inc	4.0000	EA	4,864.770	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	11,585.170	0.00
Di Pompeo Construction Corp.	4.0000	EA	3,014.400	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	5,577.010	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Waypoint Contracting, Inc	4.0000	EA	7,200.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK LIGHTING DEMO-	Demotion existing lighting at Playground	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	31,212.928	0.00
West Construction, Inc.	1.0000	LS	6,350.000	0.00
MBR Construction, Inc	1.0000	LS	6,533.400	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	14,480.640	0.00
Di Pompeo Construction Corp.	1.0000	LS	21,352.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	68,640.060	0.00
Waypoint Contracting, Inc	1.0000	LS	11,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND LIGHTING-	Furnish and Install Lighting at Playground	EA	11.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	11.0000	EA	7,243.191	0.00
West Construction, Inc.	11.0000	EA	10,795.000	0.00
MBR Construction, Inc	11.0000	EA	7,187.410	0.00
Lunacon Engineering Group, Corp.	11.0000	EA	5,265.690	0.00
Di Pompeo Construction Corp.	11.0000	EA	10,961.110	0.00
Home Express Corp. dba HE-Builders	11.0000	EA	12,090.010	0.00
Waypoint Contracting, Inc	11.0000	EA	15,575.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND GFCI REC-	Furnish and Install GFCI Receptacle at Playground	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	279.115	0.00
West Construction, Inc.	1.0000	EA	3,445.000	0.00
MBR Construction, Inc	1.0000	EA	294.010	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	5,792.260	0.00
Di Pompeo Construction Corp.	1.0000	EA	1,507.200	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	1,716.000	0.00
Waypoint Contracting, Inc	1.0000	EA	985.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND 1" CONDU-	Furnish and Install 1" Conduit at Playground	LF	893.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	893.0000	LF	6.291	0.00
West Construction, Inc.	893.0000	LF	6.350	0.00
MBR Construction, Inc	893.0000	LF	6.630	0.00
Lunacon Engineering Group, Corp.	893.0000	LF	38.920	0.00
Di Pompeo Construction Corp.	893.0000	LF	31.400	0.00
Home Express Corp. dba HE-Builders	893.0000	LF	52.840	0.00
Waypoint Contracting, Inc	893.0000	LF	10.500	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PULL BOX-	Furnish and Install Pull Box at Holiday Park Playground	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	1,968.692	0.00
West Construction, Inc.	1.0000	EA	1,587.000	0.00
MBR Construction, Inc	1.0000	EA	2,073.710	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	8,688.380	0.00
Di Pompeo Construction Corp.	1.0000	EA	1,909.120	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	1,716.000	0.00
Waypoint Contracting, Inc	1.0000	EA	1,050.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND NON-META-	Furnish and Install Non-metallic sheathed cable, copper with ground wire at Playground	LF	893.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	893.0000	LF	12.363	0.00
West Construction, Inc.	893.0000	LF	6.350	0.00
MBR Construction, Inc	893.0000	LF	8.640	0.00
Lunacon Engineering Group, Corp.	893.0000	LF	32.430	0.00
Di Pompeo Construction Corp.	893.0000	LF	13.820	0.00
Home Express Corp. dba HE-Builders	893.0000	LF	2.880	0.00
Waypoint Contracting, Inc	893.0000	LF	8.500	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND PREP-	Prepare site and install Footers at Playground	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	741,570.231	0.00
West Construction, Inc.	1.0000	LS	54,000.000	0.00
MBR Construction, Inc	1.0000	LS	154,188.240	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	44,500.070	0.00
Di Pompeo Construction Corp.	1.0000	LS	45,216.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	30,030.030	0.00
Waypoint Contracting, Inc	1.0000	LS	91,280.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND SURFACIN-	Furnish and Install Play Surfacing - PIP at Playground	SF	17,125.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	17,125.0000	SF	32.875	0.00
West Construction, Inc.	17,125.0000	SF	44.430	0.00
MBR Construction, Inc	17,125.0000	SF	30.990	0.00
Lunacon Engineering Group, Corp.	17,125.0000	SF	41.951	0.00
Di Pompeo Construction Corp.	17,125.0000	SF	47.730	0.00
Home Express Corp. dba HE-Builders	17,125.0000	SF	44.190	0.00
Waypoint Contracting, Inc	17,125.0000	SF	25.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND TURF MOU-	Furnish and Install Turf mound system at Playground	SF	400.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	400.0000	SF	153.112	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
West Construction, Inc.	400.0000	SF	441.000	0.00
MBR Construction, Inc	400.0000	SF	385.480	0.00
Lunacon Engineering Group, Corp.	400.0000	SF	160.200	0.00
Di Pompeo Construction Corp.	400.0000	SF	92.940	0.00
Home Express Corp. dba HE-Builders	400.0000	SF	429.000	0.00
Waypoint Contracting, Inc	400.0000	SF	95.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND CURB-	Furnish and Install Curb	LF	614.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	614.0000	LF	42.177	0.00
West Construction, Inc.	614.0000	LF	33.690	0.00
MBR Construction, Inc	614.0000	LF	36.590	0.00
Lunacon Engineering Group, Corp.	614.0000	LF	102.630	0.00
Di Pompeo Construction Corp.	614.0000	LF	40.190	0.00
Home Express Corp. dba HE-Builders	614.0000	LF	20.960	0.00
Waypoint Contracting, Inc	614.0000	LF	35.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND ROOT PRU-	Root Pruning at Playground Area	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	4,962.047	0.00
West Construction, Inc.	1.0000	LS	12,713.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
MBR Construction, Inc	1.0000	LS	21,168.220	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	3,068.100	0.00
Di Pompeo Construction Corp.	1.0000	LS	15,072.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	1,973.400	0.00
Waypoint Contracting, Inc	1.0000	LS	5,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND ROOT REM-	Furnish and Install Root Removal at Playground Area	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	7,381.046	0.00
West Construction, Inc.	1.0000	LS	12,713.000	0.00
MBR Construction, Inc	1.0000	LS	130.670	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	2,874.550	0.00
Di Pompeo Construction Corp.	1.0000	LS	15,072.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	4,290.000	0.00
Waypoint Contracting, Inc	1.0000	LS	6,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND IRRIGATI-	Furnish and Install Irrigation at Playground	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	21,086.220	0.00
West Construction, Inc.	1.0000	LS	42,513.000	0.00
MBR Construction, Inc	1.0000	LS	28,746.960	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Lunacon Engineering Group, Corp.	1.0000	LS	26,186.390	0.00
Di Pompeo Construction Corp.	1.0000	LS	31,400.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	27,456.030	0.00
Waypoint Contracting, Inc	1.0000	LS	29,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND ALUMINUM-	Furnish and Install Aluminum Picket Fencing at Playground	LF	715.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	715.0000	LF	111.490	0.00
West Construction, Inc.	715.0000	LF	113.140	0.00
MBR Construction, Inc	715.0000	LF	252.190	0.00
Lunacon Engineering Group, Corp.	715.0000	LF	84.040	0.00
Di Pompeo Construction Corp.	715.0000	LF	178.980	0.00
Home Express Corp. dba HE-Builders	715.0000	LF	218.400	0.00
Waypoint Contracting, Inc	715.0000	LF	145.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND ENTRY-SI-	Furnish and Install Entry Gate - Single at Playground	EA	3.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	3.0000	EA	1,860.768	0.00
West Construction, Inc.	3.0000	EA	4,449.000	0.00
MBR Construction, Inc	3.0000	EA	3,512.360	0.00
Lunacon Engineering Group, Corp.	3.0000	EA	4,240.130	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Di Pompeo Construction Corp.	3.0000	EA	1,884.000	0.00
Home Express Corp. dba HE-Builders	3.0000	EA	5,720.010	0.00
Waypoint Contracting, Inc	3.0000	EA	4,750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND ENTRY-DO-	Furnish and Install Entry Gate - Double at Playground	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	2,481.024	0.00
West Construction, Inc.	1.0000	EA	8,898.000	0.00
MBR Construction, Inc	1.0000	EA	6,146.630	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	4,542.990	0.00
Di Pompeo Construction Corp.	1.0000	EA	2,512.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	8,580.010	0.00
Waypoint Contracting, Inc	1.0000	EA	11,200.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND DRINKING-	Furnish and Install Drinking Fountain at Playground	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	10,825.947	0.00
West Construction, Inc.	1.0000	EA	19,068.000	0.00
MBR Construction, Inc	1.0000	EA	18,671.160	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	22,971.920	0.00
Di Pompeo Construction Corp.	1.0000	EA	13,816.000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	1.0000	EA	35,178.030	0.00
Waypoint Contracting, Inc	1.0000	EA	15,030.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARKPLAYGROUND SEATWALL-	Furnish and Install Seatwall Type 1 with skateboard deterrents at Playground	LF	66.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	66.0000	LF	541.972	0.00
West Construction, Inc.	66.0000	LF	666.580	0.00
MBR Construction, Inc	66.0000	LF	257.380	0.00
Lunacon Engineering Group, Corp.	66.0000	LF	393.580	0.00
Di Pompeo Construction Corp.	66.0000	LF	502.400	0.00
Home Express Corp. dba HE-Builders	66.0000	LF	117.000	0.00
Waypoint Contracting, Inc	66.0000	LF	575.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND FDOT WAL-	Furnish and Install FDOT Gravity Wall at Playground	LF	210.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	210.0000	LF	117.849	0.00
West Construction, Inc.	210.0000	LF	254.250	0.00
MBR Construction, Inc	210.0000	LF	93.340	0.00
Lunacon Engineering Group, Corp.	210.0000	LF	185.540	0.00
Di Pompeo Construction Corp.	210.0000	LF	138.160	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	210.0000	LF	167.510	0.00
Waypoint Contracting, Inc	210.0000	LF	350.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK PLAYGROUND SHELTER-	Powerwash, sand and paint the existing playground shelter, varnish exposed wood, and remove park signs and return to the parks department	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	19,848.190	0.00
West Construction, Inc.	1.0000	LS	18,194.000	0.00
MBR Construction, Inc	1.0000	LS	12,609.470	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	4,752.890	0.00
Di Pompeo Construction Corp.	1.0000	LS	32,656.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	3,432.000	0.00
Waypoint Contracting, Inc	1.0000	LS	17,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK PAVING 4"-	Furnish and Install Paving Type A - 4" Concrete Finish 1 at Dog Park	SY	222.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	222.0000	SY	89.317	0.00
West Construction, Inc.	222.0000	SY	67.280	0.00
MBR Construction, Inc	222.0000	SY	50.840	0.00
Lunacon Engineering Group, Corp.	222.0000	SY	166.660	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Di Pompeo Construction Corp.	222.0000	SY	42.700	0.00
Home Express Corp. dba HE-Builders	222.0000	SY	73.430	0.00
Waypoint Contracting, Inc	222.0000	SY	130.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK PAVING 6"-	Furnish and Install Paving Type C - 6" at Dog Park	SY	256.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	256.0000	SY	99.241	0.00
West Construction, Inc.	256.0000	SY	101.700	0.00
MBR Construction, Inc	256.0000	SY	82.020	0.00
Lunacon Engineering Group, Corp.	256.0000	SY	254.020	0.00
Di Pompeo Construction Corp.	256.0000	SY	52.750	0.00
Home Express Corp. dba HE-Builders	256.0000	SY	83.790	0.00
Waypoint Contracting, Inc	256.0000	SY	175.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK BENCHES-	Furnish and Install Benches at Dog Park	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	5,230.823	0.00
West Construction, Inc.	4.0000	EA	5,314.000	0.00
MBR Construction, Inc	4.0000	EA	5,514.190	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	5,931.830	0.00
Di Pompeo Construction Corp.	4.0000	EA	2,512.000	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	4.0000	EA	5,148.010	0.00
Waypoint Contracting, Inc	4.0000	EA	5,400.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK PICNIC TAB-	Furnish and Install Picnic Tables at Dog Park	EA	8.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	8.0000	EA	5,742.091	0.00
West Construction, Inc.	8.0000	EA	5,771.000	0.00
MBR Construction, Inc	8.0000	EA	6,244.630	0.00
Lunacon Engineering Group, Corp.	8.0000	EA	8,991.730	0.00
Di Pompeo Construction Corp.	8.0000	EA	3,014.400	0.00
Home Express Corp. dba HE-Builders	8.0000	EA	5,684.260	0.00
Waypoint Contracting, Inc	8.0000	EA	7,200.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK TRASH & RE-	Furnish and Install Trash and Recycling Receptacles at Dog Park	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	4,910.334	0.00
West Construction, Inc.	4.0000	EA	5,158.000	0.00
MBR Construction, Inc	4.0000	EA	5,173.150	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	3,662.140	0.00
Di Pompeo Construction Corp.	4.0000	EA	2,763.200	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Home Express Corp. dba HE-Builders	4.0000	EA	12,012.010	0.00
Waypoint Contracting, Inc	4.0000	EA	6,800.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK FENCING-	Furnish and Install Fencing at Dog Park	LF	888.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	888.0000	LF	62.689	0.00
West Construction, Inc.	888.0000	LF	80.560	0.00
MBR Construction, Inc	888.0000	LF	52.270	0.00
Lunacon Engineering Group, Corp.	888.0000	LF	104.051	0.00
Di Pompeo Construction Corp.	888.0000	LF	52.750	0.00
Home Express Corp. dba HE-Builders	888.0000	LF	83.090	0.00
Waypoint Contracting, Inc	888.0000	LF	57.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK IRRIGATION-	Furnish and Install Irrigation at Dog Park	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	23,614.384	0.00
West Construction, Inc.	1.0000	LS	20,883.000	0.00
MBR Construction, Inc	1.0000	LS	17,248.180	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	21,425.220	0.00
Di Pompeo Construction Corp.	1.0000	LS	18,840.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	36,036.030	0.00

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Waypoint Contracting, Inc	1.0000	LS	22,750.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK SEATING-	Furnish and Install Seating Shelter Type D at Dog Park	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	120,118.292	0.00
West Construction, Inc.	4.0000	EA	128,905.000	0.00
MBR Construction, Inc	4.0000	EA	126,525.330	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	53,488.240	0.00
Di Pompeo Construction Corp.	4.0000	EA	94,200.000	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	67,782.060	0.00
Waypoint Contracting, Inc	4.0000	EA	78,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK PETSTATION-	Furnish and Install Pet Station at Dog Park	EA	2.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2.0000	EA	1,162.714	0.00
West Construction, Inc.	2.0000	EA	1,401.000	0.00
MBR Construction, Inc	2.0000	EA	1,483.090	0.00
Lunacon Engineering Group, Corp.	2.0000	EA	2,283.610	0.00
Di Pompeo Construction Corp.	2.0000	EA	1,004.800	0.00
Home Express Corp. dba HE-Builders	2.0000	EA	18,018.020	0.00
Waypoint Contracting, Inc	2.0000	EA	2,100.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK WATER FOUN-	Furnish and Install Water Fountains at Dog Park	EA	2.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2.0000	EA	9,392.535	0.00
West Construction, Inc.	2.0000	EA	19,069.000	0.00
MBR Construction, Inc	2.0000	EA	18,671.160	0.00
Lunacon Engineering Group, Corp.	2.0000	EA	6,184.750	0.00
Di Pompeo Construction Corp.	2.0000	EA	13,816.000	0.00
Home Express Corp. dba HE-Builders	2.0000	EA	4,290.010	0.00
Waypoint Contracting, Inc	2.0000	EA	9,785.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK 4' GATE-	Deleted - should not be included in bid pricing.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	0.000	0.00
West Construction, Inc.	1.0000	EA	0.000	0.00
MBR Construction, Inc	1.0000	EA	0.010	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	0.000	0.00
Di Pompeo Construction Corp.	1.0000	EA	1.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	0.000	0.00
Waypoint Contracting, Inc	1.0000	EA	1.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BASEBALL COMPLEX B3-	Furnish and Install Large Cantilever Shade Structure B-3 at Baseball Complex	EA	6.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	6.0000	EA	21,267.571	0.00
West Construction, Inc.	6.0000	EA	35,125.000	0.00
MBR Construction, Inc	6.0000	EA	16,809.140	0.00
Lunacon Engineering Group, Corp.	6.0000	EA	20,374.040	0.00
Di Pompeo Construction Corp.	6.0000	EA	42,704.000	0.00
Home Express Corp. dba HE-Builders	6.0000	EA	19,591.020	0.00
Waypoint Contracting, Inc	6.0000	EA	28,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BASEBALL COMPLEX B4-	Furnish and Install Large Cantilever Shade Structure B-4 at Baseball Complex	EA	2.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	2.0000	EA	25,566.395	0.00
West Construction, Inc.	2.0000	EA	45,811.000	0.00
MBR Construction, Inc	2.0000	EA	18,871.080	0.00
Lunacon Engineering Group, Corp.	2.0000	EA	20,366.760	0.00
Di Pompeo Construction Corp.	2.0000	EA	50,240.000	0.00
Home Express Corp. dba HE-Builders	2.0000	EA	50,193.050	0.00
Waypoint Contracting, Inc	2.0000	EA	39,500.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BASEBALL COMPLEX B2-	Furnish and Install Medium Cantilever Shade Structure B-2 at Baseball Complex	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	EA	22,775.010	0.00
West Construction, Inc.	1.0000	EA	36,868.000	0.00
MBR Construction, Inc	1.0000	EA	18,628.040	0.00
Lunacon Engineering Group, Corp.	1.0000	EA	20,388.590	0.00
Di Pompeo Construction Corp.	1.0000	EA	37,680.000	0.00
Home Express Corp. dba HE-Builders	1.0000	EA	107,250.100	0.00
Waypoint Contracting, Inc	1.0000	EA	24,785.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK BASEBALL COMPLEX B1-	Furnish and Install Small Cantilever Shade Structure B-1 at Baseball Complex	EA	3.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	3.0000	EA	17,216.667	0.00
West Construction, Inc.	3.0000	EA	35,515.000	0.00
MBR Construction, Inc	3.0000	EA	15,421.440	0.00
Lunacon Engineering Group, Corp.	3.0000	EA	20,374.040	0.00
Di Pompeo Construction Corp.	3.0000	EA	27,632.000	0.00
Home Express Corp. dba HE-Builders	3.0000	EA	41,470.040	0.00
Waypoint Contracting, Inc	3.0000	EA	21,650.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK 18" SD-	Furnish and install 18" SD at Holiday Park	LF	58.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	58.0000	LF	68.228	0.00
West Construction, Inc.	58.0000	LF	139.820	0.00
MBR Construction, Inc	58.0000	LF	102.700	0.00
Lunacon Engineering Group, Corp.	58.0000	LF	402.720	0.00
Di Pompeo Construction Corp.	58.0000	LF	138.160	0.00
Home Express Corp. dba HE-Builders	58.0000	LF	369.830	0.00
Waypoint Contracting, Inc	58.0000	LF	85.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK DOG PARK 6' GATE-	Furnish and Install 6' Gate at Dog Park	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	4.0000	EA	620.256	0.00
West Construction, Inc.	4.0000	EA	2,554.000	0.00
MBR Construction, Inc	4.0000	EA	1,317.140	0.00
Lunacon Engineering Group, Corp.	4.0000	EA	1,240.590	0.00
Di Pompeo Construction Corp.	4.0000	EA	1,130.400	0.00
Home Express Corp. dba HE-Builders	4.0000	EA	3,217.500	0.00
Waypoint Contracting, Inc	4.0000	EA	3,600.000	0.00

Item	Description	Unit of Measure	Quantity
HOLIDAY PARK NEW ELECTRICAL PANE-	Furnish and install new electrical panel and all associated components per plans at Holiday Park.	LS	1.0000

Responses				
Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Shiff Construction & Development, Inc.	1.0000	LS	32,278.185	0.00
West Construction, Inc.	1.0000	LS	5,000.000	0.00
MBR Construction, Inc	1.0000	LS	34,001.130	0.00
Lunacon Engineering Group, Corp.	1.0000	LS	26,065.150	0.00
Di Pompeo Construction Corp.	1.0000	LS	10,676.000	0.00
Home Express Corp. dba HE-Builders	1.0000	LS	7,500.000	0.00
Waypoint Contracting, Inc	1.0000	LS	7,750.000	0.00

Header Questions And Responses

QUESTION

Required Forms: Did you complete and attach the required forms?

Question Responses		
Supplier	Name	Answer
668	Shiff Construction & Development, Inc.	Yes
1456	West Construction, Inc.	Yes
1619	MBR Construction, Inc	Yes
1739	Lunacon Engineering Group, Corp.	Yes
2084	Di Pompeo Construction Corp.	Yes
2722	Home Express Corp. dba HE-Builders	Yes
4047	Waypoint Contracting, Inc	Yes

QUESTION

The attached Anti-Human Trafficking Affidavit is provided for reference and will be required from the awarded bidder. It is not necessary to include this document with your initial bid submission.

Question Responses		
Supplier	Name	Answer
668	Shiff Construction & Development, Inc.	No
1456	West Construction, Inc.	Yes
1619	MBR Construction, Inc	Yes
1739	Lunacon Engineering Group, Corp.	No
2084	Di Pompeo Construction Corp.	Yes
2722	Home Express Corp. dba HE-Builders	Yes
4047	Waypoint Contracting, Inc	Yes

Contacts

Name	Email
LESLEY WILLIAMS	lwilliams@fortlauderdale.gov

Q And A

Supplier	Question	Answer
Shiff Construction & Development, Inc.	Please confirm where general conditions, mobilization, insurance, bonds, etc. should be accounted for in the provided bid line items. Thank you.	There are no separate pay items for General Conditions, mobilization, insurance, or bonds in this solicitation. All such indirect costs should be included in the unit pricing provided. Certificates of Insurance and the required Payment and Performance Bonds are post-award submittals and are not priced as bid items.
Shiff Construction & Development, Inc.	Holiday Park Phase 2 was previously issued for bid and subsequently cancelled before the due date. Please confirm what, if any, changes in scope, specifications, or drawings have been made between the prior solicitation and Event No. 518-0.	Certain line item quantities have been updated, and no changes were made to the specifications. All prospective bidders are strongly encouraged to carefully review the plans, specifications, and bid documents in their entirety when preparing their submissions.

Supplier	Question	Answer
West Construction, Inc.	What is the estimated or set budget for this project?	The estimated budget for this project is $7,416,364. This estimate is provided for informational purposes only and does not guarantee the award amount or contact value.
Shiff Construction & Development, Inc.	What is the City's anticipated/allotted budget for this project? Thank you.	The estimated budget for this project is $7,416,364. This estimate is provided for informational purposes only and does not guarantee the award amount or contact value.
Signalite, Inc	PRE VISIT MEETING IS SCHEDULE FOR SEPTEMBER 15TH, BUT IT IS SAID TO BE THURSDAY SEPTEMBER 15TH, WHICH ACTUALLY IS ON A MONDAY. PLEASE CONFIRM CORRECT DAY OF MEETING	The pre-bid/site visit is scheduled for Monday, September 15, 2025 at 2:00 pm. The reference to "Thursday" in the description section was a clerical error. Please refer to the corrected day moving forward.
Gulf Building LLC	The requirement in the ITB to perform at least 40% of work with our own forces is unusual for this type and size of project. Can you confirm that this requirement is applicable to this Project? And if so, explain why.	Yes, the requirement applies to this solicitation. Please refer to INSTRUCTIONS TO BIDDERS, Page 4: CONCERNING SUB-CONTRACTORS, SUPPLIERS, AND OTHERS for reference.
Shiff Construction & Development, Inc.	Please confirm if both Prop. Type C Inlets & the full 72LF of 18" FD that are just below the NIC Proposed Restroom on C109 are in scope. One of the inlets is in the shaded NIC area. I assume it is in scope, but please confirm.	Yes, per note 11 on all Civil sheets: All drainage improvements are to be built under this contract, including drainage improvements shown within NIC hatched areas.
Shiff Construction & Development, Inc.	Please confirm whether the (4) gates at the Dog Park are to be 4' wide or 6' wide. The bid form notes 4', but Sheet L110 shows 6' Gate Typ. Thank you.	Sheet L110 is correct, please refer to Addendum #2.
Shiff Construction & Development, Inc.	1.In the Baseball area can the shade widths be expanded to meet manufacturer’s ratios for length and width of shade? 2.Would you consider using standard cantilever shade for the Baseball area instead of the T-Cantilever?	Basis of design is T-Cantilever by Shade Systems or approved equal.
Shiff Construction & Development, Inc.	1. The DL sheets for tree and palm removal show 65 total, but the bid form states 177. Please advise the correct quantity to bid for. 2. I also only see 2 labeled for relocation while the bid form states 27. Please advise the correct quantity.	1. The DL sheets show the correct totals. 2. The DL sheets show the correct totals. Refer to Addendum #2.
Shiff Construction & Development, Inc.	Has the project already received outside agency approvals?	Yes, Surface water license has been approved. Building department comments are pending contractor items.

Supplier	Question	Answer
Signalite, Inc	Can we bid on this project as an specialty company for items 15 to 22 and 37 as licensed electrical Sign Company?	Bidders are required to submit proposals for the full scope of work as outlined in the solicitation. Specialty contractors, such as licensed electrical sign companies, may participate as sub-contractors under a prime contractor's bid. It is recommended not to submit as the prime bidder for selected line items only.
Shiff Construction & Development, Inc.	Are there any CBE, MBE, or the like requirements for this project?	There are no specific CBE, MBE, or similar participation requirements established for this solicitation.
Di Pompeo Construction Corp.	THE Electrical Schedule shows a new Panel DP 600 Amp on a Unistrut rack. Can you help with locating this panel as the electrical plans do not show this panel or where it is fed from.	Please see updated sheet 602 in PDF titled P12655-RFI 001. Refer to Addendum #2.
Di Pompeo Construction Corp.	CAN YOU PLEASE CONFIRM THE MUSCO LIGHTING IS NOT PART OF THIS BID	Musco lighting is not part of this bid.
Di Pompeo Construction Corp.	Can you Show and label the Social Media Center Electrical room 10 Location and feeder length for panel C to panel DP.	The Social Media Center Electrical Room 10 is located on the west side of the building. The feeder length from the panel DP and panel C is approximate 260'-0", routed around the building.
Di Pompeo Construction Corp.	IS PANEL DP AN EXISTING PANEL?	The panel DP is new.
Di Pompeo Construction Corp.	IS THE 100A DISCONNECT SWITCH FOR THE SPLASH PAD PART OF THIS PACKAGE	The disconnect is not part of this package. However trenching of the conduit shall be part of this package.
Di Pompeo Construction Corp.	THE IRRIGATION SCHEDULE SHOWS 2 IRRIGATION CONTROLLERS AND 2 RAIN SENSORS, THE PLANS SHOW ONL 1 FOR DOG PARK AND PLAYGROUND CONTROLLER B	Correct, there is only 1 automatic controller and 1 rain sensor for Phase 2.
Di Pompeo Construction Corp.	THE IRRIGATION SCHEDULE SHOWS THE WRONG QUANTITIES FOR THE SOLENOID VALVES RAINBIRD SOLENOID VALVE 1" B4, B6, B8, QTY=3 RAINBIRD SOLENOID VALVE 1.5" B1, B2, B3, B5, B7, B9, B10, B11, QTY=8	Correct, three 1" and eight 1 1/2" are the correct quantities for Phase 2.
Di Pompeo Construction Corp.	Sheets ES109 and ES113. Show circuit conduits and pull-boxes run in NIC areas. Are we to provide and install pull-boxes and empty specified conduits w/ pull-strings as shown. Or just leave a J-box just outside NIC area?	The NIC pullboxes in NIC areas are not included. Refer to sheet E602 for clarity. Refer to Addendum #2.

Supplier	Question	Answer
MBR Construction, Inc	C109 FD between SD-10 and SD-11 crosses into NIC. Confirm F&I both structures and complete FD.	Yes, per note 11 on all Civil sheets: All drainage improvements are to be built under this contract, including drainage improvements shown within NIC hatched areas.
MBR Construction, Inc	Type A Paving with Type 2 finish is drawn differently on L105 than on L305 & LF102. Which is correct?	L105 is correct.
MBR Construction, Inc	ES109 Please confirm that Keynote 4 is NIC.	The keynote #4 is NIC.
MBR Construction, Inc	ES113 Please confirm that Keynotes 2, 3 & 4 are NIC.	The keynotes #2,3 and 4 are NIC.
MBR Construction, Inc	DL201 - Tree Protection Barrier - Detail 1/DL201 - Please confirm this lumber construction design is the only approved Tree Protection Barrier design for this project.	Tree protection barriers to be per detail 1 on sheet DL201.
MBR Construction, Inc	ED109 – Keynote 1 – Please confirm conduits are to be abandoned in place.	Remove conductors and abandon conduit in place.
Shiff Construction & Development, Inc.	Please be advised that the quantity provided in the bid form for the playground surfacing appears to be total of the PIP & turf. However, you also have a separate line item for the playground turf. Please advise.	The total surfacing takeoff quantities are as follows: PIP 17,125 SF Turf Mounds 400SF.See updated Sheet LF103. Refer to Addendum #2.
Shiff Construction & Development, Inc.	Please be advised that when scaling to 3/32" = 1'0" on Sheet LF-103, my quantities and my subcontractor's takeoffs get different than what is stated in the left side of the sheet. Please clarify/advise on quantities to bid with for each PIP color.	The total surfacing quantities are as follows: PIP color 17,125 SF Turf Mounds 400SF (PIP color break down: Yellow - 4630 SF, Blue - 5745 SF, Green 5750 SF, Alligator 1020 SF, Gold/Orange - 280SF, Brown - 100SF) (Tuft color break down: Green - 120SF, Gold/Orange 280SF). See updated Sheet LF103. Refer to Addendum #2.
HG Construction Development & Investment, Inc	I am writing to respectfully request a three-week extension for this bid, currently due on 10/13/25, due to it's large-scope and the need of coordinate with key subcontractors, which would allow us to provide the best possible value.	The bid due date has been extended to October 27, 2025, at 2:00 pm. through Addendum No. 1. No further extensions are anticipated at this time.
MBR Construction, Inc	Is the 30 LF 8" SD in contract?	No, 8" SD is for future phase connection.
MBR Construction, Inc	Where would you like the costs for the 18" and other SD drainage pipe coded? There is no apparent line item.	See line item number 96 for 58 LF of 18" SD. Refer to Addendum #2.
MBR Construction, Inc	For bidding purposes, if the measurements/counts on the plans differ from those in the Line Items, which prevail?	For bidding purposes, the line items should prevail.
MBR Construction, Inc	Are water meters to be sourced or acquired from the City? If the City, please provide details so we can quote.	Water meters are acquired from the City. Please see detail on sheet C213 in the original plan set.

continued...

Supplier	Question	Answer
MBR Construction, Inc	L505 shows POC as 1 1/2" City Water Meter and BP. Is this an existing Meter/BP or proposed as it is not shown on utility plans.	Vendor requested withdrawal of this question on 9/23/2025. Question retained for recordkeeping per public record requested requirements.
MBR Construction, Inc	L510 Please confirm that the POC 1 1/2" City Water Meter and BP is the same Meter/BP shown on C206.	Confirmed.
HG Construction Development & Investment, Inc	Our quantities differ from those indicated in the bid form. Please confirm if the quantities in the bid form do not include Phase 3.	Quantities on the bid form do not include Phase 3.
HG Construction Development & Investment, Inc	The plans don't clearly show the start and end of the gravity wall. Could you indicate the quantity or show the start and end of the wall on the drawing?	Sheet LF102 shows the extents of the wall with a dashed line and is called out in the drawing. As mentioned by Civil the wall length is approximately 210LF.
HG Construction Development & Investment, Inc	Will alternatives be allowed for playground equipment and site furniture?	Yes. See sheet L001 for instructions for as equal to basis-of-design equipment.
HG Construction Development & Investment, Inc	The survey key map (sheet V002) does not match the key plan shown in the (sheets DL) Landscape demolition and tree protection plan.	The survey key map is prepared by PDS and is separate from the key maps shown in the plans.
HG Construction Development & Investment, Inc	Survey key map V002 does not match the key plan sheet number G101.	The survey key map is prepared by PDS and is separate from the key maps shown in the plans.
HG Construction Development & Investment, Inc	SHOULD WE PROVIDE TEMPORARY FENCING AND SILT FENCING FOR THE DEMOLITION SPECIFIED IN SHEETS DL101 TO D119?	Silt fencing locations are specified in the Erosion Control Plan sheets (C401-C406). Tree protection fencing locations are specified in the Landscape Demolition and Tree Protection sheets (DL101-DL119). There are no other temporary fences specified.
HG Construction Development & Investment, Inc	WHO IS THE MANUFACTURER FOR THE PIP SURFACE IN THE PLAYGROUND AREA?	BASIS OF DESIGN: TOTTURF SUPREME WITH TPV SUPREME WEAR COURSE, AND SBR CUSHION LAYER OR APPROVED EQUAL. Refer to sheet LF201 for full basis-of-design. Manufacturer is Robertson Recreational Surfaces.
HG Construction Development & Investment, Inc	Can you show the location of the silt fence in the erosion control plan? The drawings don't show the locations.	Silt fencing within contract is specified in the Erosion Control Plan sheets C401-C406 using the "V" line type symbol.
HG Construction Development & Investment, Inc	Drawing DL110: The existing dog fence that needs to be removed has two concrete columns at the entrance. Should we demolish both columns?	Yes, remove both columns per sheet DL110
HG Construction Development & Investment, Inc	Will an orange plastic fence be acceptable to protect the trees instead of a 2x4 fence?	Tree protection barriers to be per detail 1 on sheet DL201.

continued...

Supplier	Question	Answer
HG Construction Development & Investment, Inc	Can you provide the specifications for the paving types: A-4" concrete?	See Sheet L201 for details and notes regarding this material.
HG Construction Development & Investment, Inc	Can you provide the specifications for the paving types: C-6" concrete?	See Sheet L201 for details and notes regarding this material.
HG Construction Development & Investment, Inc	Can you provide the specifications for the paving types: F- Asphalt -vehicular use?	See Sheet L201 for details and notes regarding this material.
HG Construction Development & Investment, Inc	Can you provide the specifications for the paving type: S-Rice Rock?	See Sheet L201 for details and notes regarding this material.
HG Construction Development & Investment, Inc	SHEET L103 SHOWS A GRAY ROAD, IS THIS AREA AN EXISTING ASPHALT?	That is an existing asphalt trail to be striped to be part of the loop trail. No new asphalt.
HG Construction Development & Investment, Inc	Sheet L109 shows a new sign next to the circle with pavers. Is this sign part of the phase 2 or NIC?	This sign, Type C1, is included.
HG Construction Development & Investment, Inc	DOES THE ESTIMATED BUDGET OF $7,416,364 INCLUDE PHASE 3 OF THIS PROJECT OR NOT?	No, the budget only includes Phase 2 work.
HG Construction Development & Investment, Inc	Do you recommend any specific suppliers/manufacturers for the signs requested for this project?	It is the contractor's responsibility to select suppliers/manufacturers based on the basis of design.
Home Express Corp. dba HE-Builders	Could you please provide the Site visit Signing sheet?	Please see the attached site visit sign in sheet on 9/15/2025.
HG Construction Development & Investment, Inc	SHEET 109 SHOWS PART OF THE EXFILTRATION TRENCH AND INLET STRUCTURE SD11 WITHIN PHASE 3-NIC. Do we have to include this part of the drainage in phase 2?	Yes, per note 11 on all Civil sheets: All drainage improvements are to be built under this contract, including drainage improvements shown within NIC hatched areas.
HG Construction Development & Investment, Inc	WHAT IS THE DEPTH OF THE PROPOSED EXFILTRATION TRENCH?	Please refer to the Exfiltration Trench Table on Sheet C121.
HG Construction Development & Investment, Inc	The civil plans don't show a water service line to the misting poles. Please advise?	Details for the misters and pump are on sheet LF203 details #3 and 4. A water line should be provided to the pump which distributes water to the misters.
HG Construction Development & Investment, Inc	Sheet LF104 identifies only one misting pole, but there are five similar symbols. How many misting poles are in the project?	There are 7 misters. Three on the south side of the playground, two in the bed to the east near the entrance just south of the swings, and then two additional in the island between the swings and the tree hut towers.

Supplier	Question	Answer
HG Construction Development & Investment, Inc	According to sheet LF204, there is a 4 inch concrete slab below the surface of the PIP on the hill, but sheet LF103 does not show the boundaries of the concrete slab on the hill.Could you indicate the size or boundaries of the concrete slab on sheet?	There is a concrete curb that is installed at the bottom of the mound, and then another at the top of the mound. The curb at the bottom is to keep the product from sliding off the hill, and the curb at the top is top is an edge for the PIP. See attached updated 2D exhibit with additional information. Refer to Addendum #2.
MBR Construction, Inc	W110 Sign HP-C1-C-6-S is drawn in the NIC area however, Sign Matrix on W001 and quantity on bid sheet imply it's in contract. Please confirm.	This sign, Type C1, is included.
HG Construction Development & Investment, Inc	Can you provide the bid form with all line items in Excel format?	Please see attached.
HG Construction Development & Investment, Inc	Will the line items specified in this project be paid per unit price or in a lump sum?	Payment for the work under this solicitation will be made per the unit prices specified in the bid schedule. Quantities listed are estimates for bidding purposes. Actual payment will be based on the measured and verified quantities of work performed in accordance with the contract.
MBR Construction, Inc	Is there a geotech report? if yes, please provide.	Yes, Geotech report provided. Refer to Addendum #2.
MBR Construction, Inc	Please confirm Builders Risk is NOT required for this project.	Confirmed, no Builders Risk insurance required for this project.
MBR Construction, Inc	General Conditions GC-22 - Florida East Coast Right-Of-Way insurance requirements. Please confirm there are NO FEC right of ways on this project.	Confirmed, no FEC right-of-way involved, or insurance required for this project.
Di Pompeo Construction Corp.	Good afternoon, I have questions regarding the Riser Diagram and Feeder Schedules on drawing E602 and the Panel Schedules on drawing E701:	Please see updated sheet 701 in PDF titled P12655-RFI 001. Refer to Addendum #2.
Di Pompeo Construction Corp.	Where is the Location of the DP Panel, how are we feeding this new panel? panel C or a relocated lighting panel	See attached electrical exhibit and updated sheets. Refer to Addendum #2.
Wet Outdoors Inc	Are there any specific irrigation plans for the dog park?	Please see sheet L510 and L511. Refer to Addendum #2.
HG Construction Development & Investment, Inc	Item 86 of the bid form requests irrigation at a dog park, but the set of plans doesn't show a dog park anywhere. Please advise.	Sheet G101 and L110 indicate the locations of the dog parks. See revised updated L510 and L511 with corrected titles for irrigation areas. Refer to Addendum #2.
HG Construction Development & Investment, Inc	The project does not include a dog park in the plans. What should we do with the items(from item 81 to 90) that reference to the dog park?	Sheet G101 and L110 indicate the locations of the dog parks.

Supplier	Question	Answer
HG Construction Development & Investment, Inc	The scale of the irrigation plans (L505, 509, 510, 511) is incorrect. Please check and correct it.	Scale of the irrigation drawings is 1:20 scale. See attached updated sheets. Refer to Addendum #2.
Lunacon Engineering Group, Corp.	Please confirm the specific phasing plan for the project, including any sequencing constraints or critical milestones that must be adhered to during construction.	No phasing is anticipated for the work shown on the plans within the limits of work.
Lunacon Engineering Group, Corp.	Kindly specify the approved working hours for the project, including any restrictions on start and end times, weekend or holiday work allowances, and requirements for after-hours or overtime activities.	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.
Lunacon Engineering Group, Corp.	Please provide details on any mandated noise mitigation measures or temporary protection protocols that must be implemented to minimize disruption to adjacent areas and maintain site safety	The contractor is responsible for implementing all mandated mitigation measures and protection protocols as outlined in the project plans and specifications. Contractor is also responsible for regularly monitoring site safety conditions, adjusting as necessary to remain in compliance with City standards throughout the course of the work.
Lunacon Engineering Group, Corp.	Confirm the designated staging and laydown area(s) for materials and equipment storage, including any access limitations or site security requirements associated with these locations.	Designated staging and laydown area(s) for materials and equipment storage, and access limitations or site security requirements shall be determined during coordination with the City and the contractor upon award.
Lunacon Engineering Group, Corp.	Should provide temporary protection? If so, please specify what type of temporary protection to be included.	This information is on the sheet DL101-DL119 and C401-C406 in the original plans. Any other temporary protection shall be determined during coordination with the City and the contractor upon award.
Lunacon Engineering Group, Corp.	Do workers need to go with any background verification?	In accordance with the solicitation and contract requirements, the Contractor is responsible for providing the City with a list of all personnel and subcontractors assigned to the project, including required identifying information per GC-17, page 14. All personnel and subcontractors must carry company photo-ID at the worksite. Additionally, the Contractor and subcontractors must comply with Florida Statutes Section 448.095 (E-Verify) prior to commencement of work. No additional City-administered background verification is required on site. The Contractor remains responsible for ensuring that all subcontractors and personnel meet the requirements at all times.

Supplier	Question	Answer
Lunacon Engineering Group, Corp.	Please confirm if the bid due date for this project can be extended to allow sufficient time for pricing and proposal preparation.	The bid due date has been extended to October 27, 2025, at 2:00 pm. through Addendum No. 1. No further extensions are anticipated at this time.
Lunacon Engineering Group, Corp.	I was looking over the drawings and saw on Page. L101-L119, it's giving a color-coded legend indicating a 10, 6, and 4'H fence, but they are nowhere to be found on any of the pages I previously mentioned. Can you please clear this up?	Disregard colors and refer to the labels on these sheets for fence heights. Dog park fencing is 6' tall.
Lunacon Engineering Group, Corp.	Are there any specific irrigation plans for the dog park?	Please see sheet L510 and L511. Refer to Addendum #2.

CITY OF FORT LAUDERDALE

CONTRACT AND SPECIFICATIONS PACKAGE

BID/EVENT NO. 518

PROJECT NO. P12633

Holiday Park Improvements Phase II

Lesley Williams
Procurement Specialist
Telephone: (954) 828-6176 E-mail: lwilliams@fortlauderdale.gov

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265619 LED EXTERIOR LIGHTING TS-117
265668 EXTERIOR ATHLETIC LIGHTING TS-126

DIVISION 32 - EXTERIOR IMPROVEMENTS

321724 PAVEMENT MARKINGS TS-167

DIVISION 33 - UTILITIES

330501 TRENCHING TS-169
330502 BURIED PIPING INSTALLATION TS-189
330503 VALVES AND MISCELENAOUS WATER SERVICE TS-200
334101 STORM DRAINAGE FACILITIES TS-204
334102 EXFILTRATION TRENCH DRAINS TS-210

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
Questionnaire Sheet
City of Fort Lauderdale Construction Bid Certification
Non-Collusion Statement
Contractor's Certificate of Compliance with Non-Discrimination Provisions of the Contract
Trench Safety
E-Verify Affirmation Statement
Drug-Free Work Place Certification
Specific References Form

INVITATION TO BID

Sealed bids will be received electronically until **2:00 p.m.**, local time, on **October 13, 2025,** and opened online immediately thereafter for **BID/EVENT NO. 518, PROJECT NO. P12633, Holiday Park Improvements - Phase II.**

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.

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction services located at Holiday Park, 1150 G. Harold Martin Drive, Fort Lauderdale, FL 33304, for the City's Parks and Recreation Department, in accordance with the terms, conditions, and specifications contained in this Invitation to Bid (ITB).

This Project includes but is not limited to demolition, grading, drainage improvements, irrigation, erosion control, tree protection, site enhancements, and new installations throughout the park. The Work also includes demolition, removal of the existing playground, lighting, root removal, fence, utilities, asphalt sidewalks, signage, and wayfinding structures, as well as the removal and relocation of existing trees and palms, grubbing, stump grinding, and root pruning. In addition, grading and drainage improvements will be performed, including cut and fill operations, excavation, and adjustments to storm drainage structures such as inlets, water meter, sanitary lateral, and manholes. Irrigation and landscaping work includes the installation of a new site irrigation system, planting of new trees, palms, shrubs, sod, and tree diapers. Park enhancements involve the construction of a new playground area with footers, site preparation, play surfacing, playground equipment, shade structures, benches, tables, trash receptacles, turf system, curbs, fencing, gates, drinking fountain, seat walls, gravity walls, playground irrigation, and lighting. Dog park improvements include concrete pads, benches, picnic tables, trash receptacles, fencing, dog park irrigation, seating shelter, pet station, water fountain, and gates. Additional park complex improvements consist of new concrete sidewalks, precast concrete pavers, rice rock, and header curb pavers, along with new signage, wayfinding structures, trash receptacles, benches, pavement markings, and shade structures for baseball, tee-ball, and multipurpose fields.

THE FOLLOWING IS APPLICABLE TO THIS SOLICITATION IF CHECKED:

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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.

Drawing Plans: This Project consists of **two hundred one (201)** drawing sheets. Drawing plans may be obtained **free of charge** at the City's online strategic sourcing platform.

Licensing Requirements: Possession of a State of Florida Certified General Contractor License, or a State of Florida Certified Building Contractor License 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 is required for this Project. Contractor must possess all licensing prior to submitting bid, proof of such licensing must be submitted with 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 Check

Pre-Bid Conference/Site Visit: A pre-bid conference and site visit will be held on the 15th of September 2025, at 2:00 pm local time, at:

Holiday Park Social Center
1150 G. Harold Martin Drive
Fort Lauderdale, Florida 33304

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 deem 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 submitted electronically; bids shall include prices for all items specified in the bid documents for which a price is requested. Partial bids, omissions, or inclusion of prices for items not requested may result in the bid being deemed non-responsive. 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 **–** Not applicable.

DISADVANTAGED BUSINESS ENTERPRISE PREFERENCE - Not applicable.

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 one (1) 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** - GC - 05 - 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, conflicts, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such 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 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 ONE HUNDRED THOUSAND DOLLARS ($100,000.00) 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 twenty-four (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 (FORTY-EIGHT) 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 - E-VERIFY - As a condition precedent to the commencement of any Work under this Agreement, pursuant to Section 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 Section 448.09(1), Florida Statutes (2024), as may be amended or revised, shall terminate the Agreement with the person or entity.

3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Section 448.095(5), Florida Statutes (2024), as may be amended or revised, but that the Contractor otherwise complied with Section 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. An Agreement terminated under Sections 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 Agreement under Section448.095(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 Agreement 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 Section 448.095(1)(e), Florida Statutes (2024), as maybe amended or revised, to include all of the requirements of this Section in its subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Section 448.095(1)(e), Florida Statutes (2024), as maybe amended or revised, with the requirements of Section 448.095, Florida Statutes (2024), as may be amended or revised.

GC - 35 - 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 confidentiality. 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 (2024), 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 - 36 - 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.

-END OF SECTION-

SPECIAL CONDITIONS

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide construction services located at Holiday Park, 1150 G. Harold Martin Drive, Fort Lauderdale, FL 33304, for the City's Parks and Recreation Department, 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 Procurement Specialist Lesley Williams at (954) 828-6167 or email at lwilliams@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 fourteen (14) calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within four hundred fifty-nine (459) 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 four hundred eighty-nine (489) 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

Possession of a State of Florida Certified General Contractor License, or a State of Florida Certified Building Contractor License 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 is required for this Project. Contractor must possess all licensing prior to submitting bid, proof of such licensing must be submitted with 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 the State of Florida. Bidder shall submit proof of 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 NOT INCLUDE MORE THAN ONE (1) REFERENCE FROM THE CITY OF FORT LAUDERDALE. THE CITY IS PARTICULARLY INTERESTED IN VENDORS' WORK EXPERIENCE AND REFERENCES FROM OTHER ENTITIES.

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

09. BID ALLOWANCE

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.

ALLOWANCE	AMOUNT
Permit and Testing Fees	$60,000.00
TOTAL:	$60,000.00

CONTINGENCY	AMOUNT
Unforeseen Conditions	$300,000.00
TOTAL:	$300,000.00

GRAND TOTAL: $360,000.00

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

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.

Pollution and Remediation Legal Liability (Hazardous Materials)
For the purpose of this section, the term "hazardous materials" includes all materials and substances that are designated or defined as hazardous by Florida or federal law or by the rules or regulations of Florida or any federal agency. If Work being performed involves hazardous materials, Contractor shall procure and maintain any or all of the following coverages (which will be specifically addressed upon review of exposure):

Contractors Pollution Liability Coverage
For sudden and gradual occurrences and in an amount not less than $1,000,000 per claim arising out of this Agreement, including but not limited to, all hazardous materials identified under the Agreement.

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.

<u>The Certificate Holder should read as follows:</u>
City of Fort Lauderdale
c/o Procurement 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 Marc Isaac whose address is 701 S. Andrews Avenue, Fort Lauderdale, FL 33316, telephone number: (954) 828-5230, and e-mail address is MIsaac@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 **one thousand dollars ($1,000.00)** 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.

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

Payment on this Contract will be made by check.

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 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. 518, Project Number P12633 which was opened on _____; and

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

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.

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, volunteers, successors and assigns, 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 Work.

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.

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 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:

Holiday Park Improvements – Phase II
ITB #518 PROJECT #P12633

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

PROJECT DESCRIPTION

This Project includes but is not limited to demolition, grading, drainage improvements, irrigation, erosion control, tree protection, site enhancements, and new installations throughout the park. The Work also includes demolition, removal of the existing playground, lighting, root removal, fence, utilities, asphalt sidewalks, signage, and wayfinding structures, as well as the removal and relocation of existing trees and palms, grubbing, stump grinding, and root pruning. In addition, grading and drainage improvements will be performed, including cut and fill operations, excavation, and adjustments to storm drainage structures such as inlets, water meter, sanitary lateral, and manholes. Irrigation and landscaping work includes the installation of a new site irrigation system, planting of new trees, palms, shrubs, sod, and tree diapers. Park enhancements involve the construction of a new playground area with footers, site preparation, play surfacing, playground equipment, shade structures, benches, tables, trash receptacles, turf system, curbs, fencing, gates, drinking fountain, seat walls, gravity walls, playground irrigation, and lighting. Dog park improvements include concrete pads, benches, picnic tables, trash receptacles, fencing, dog park irrigation, seating shelter, pet station, water fountain, and gates. Additional park complex improvements consist of new concrete sidewalks, precast concrete pavers, rice rock, and header curb pavers, along with new signage, wayfinding structures, trash receptacles, benches, pavement markings, and shade structures for baseball, tee-ball, and multipurpose fields.

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 Marc Isaac, whose address is 701 S. Andrews Avenue, Fort Lauderdale, FL 33316, telephone number: (954) 828-5230 and email address is MIssac@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, which comprise the entire Agreement between the City and Contractor, are incorporated herein and attached to this Agreement, and 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.

4.11 Invitation to Bid Event No. 518, Instructions to Bidders, and Bid Bond.

4.12 Contractor's response to the City's Invitation to Invitation to Bid Event No. 518, 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.

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 Event No. 518, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid Event No. 518, 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 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 fourteen (14) calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within four hundred fifty-nine (459) 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 four hundred eighty-nine (489) calendar days after 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 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 by check.

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 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 <u>Labor</u>

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.

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 8:00 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 one hundred dollars ($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. 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, 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.
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 a CD of the electronic drawings files created in AutoCAD 2014 or later. 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 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, 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 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 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 City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are due as provided in Article 7.

9.2 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, with reasonable promptness, such 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 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.

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.

Pollution and Remediation Legal Liability (Hazardous Materials)
For the purpose of this section, the term "hazardous materials" includes all materials and substances that are designated or defined as hazardous by Florida or federal law or by the rules or regulations of Florida or any federal agency. If work being performed involves hazardous materials, Contractor shall procure and maintain any or all of the following coverages (which will be specifically addressed upon review of exposure):

Contractors Pollution Liability Coverage
For sudden and gradual occurrences and in an amount not less than $1,000,000 per claim arising out of this Agreement, including but not limited to, all hazardous materials identified under the Agreement.

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 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.

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 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.

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 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, 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 officers, agents and employees, 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.

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 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.

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.

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 (1) 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 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 **one thousand dollars ($1,000.00)** 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 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 (1) 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 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 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 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.

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:

Marc Isaac
Project Manager
City of Fort Lauderdale
701 S. Andrews Avenue
Fort Lauderdale, FL 33301-1016
Telephone: (954) 828-5230
E-mail: MIssac@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 one thousand dollars ($1,000.00). 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 one thousand dollars ($1,000.00), 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. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the 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 revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.2 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 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. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY OF 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 IN ADJUDICATING THE MOTION.**

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.

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 the Iran Petroleum Energy Sector List, 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 the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or 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.

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: If City or Contractor incurs any expense in enforcing the terms of this Agreement through litigation, the prevailing Party in that litigation shall be reimbursed for all such costs and expenses, including but not limited to court costs, and reasonable attorney fees incurred during litigation.

22.10 Public Records: Not applicable.

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.

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.

22.11 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, (2024), 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

22.12 E-Verify

As a condition precedent to the effectiveness of this Agreement, pursuant to Section 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

22.13 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.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

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: _____
SUSAN GRANT
Acting City Manager

Date: _____

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

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

By:_____
PATRICIA SAINTVIL-JOSEPH
Assistant City Attorney

SAMPLE CONSTRUCTION AGREEMENT

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: _____

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'S PROJECT MANAGER, 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, sewage transmission 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.

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 Manufacturer's 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.

No work shall commence without express consent of the CITY'S ENGINEER.

D. 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 coordinate 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 interfacing and 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 the work 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 site conditions, 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 other utility 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.

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

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

3. 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 in order 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 messenger to 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 manner as 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, 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 the Contractor to submit and obtain Permit:
   1. Need to start dry run process and input master permit number.

B. Permits to be obtained by the Contractor include, but are not limited to the following:
   1. Local, County, and State contracting licenses as required.
   2. MOT approval from local, county, and state agencies as required.
   3. Broward County Planning and Environmental Regulation Division (BCPERD): Dewatering permit, including National Pollution Discharge Elimination System (NPDES) permit if required.
   4. Environmental Recourse Permit if necessary.

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

END OF SECTION 01001

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 N.A.V.D. 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 involved in 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 in order 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.

1. 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.

2. 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 of testing 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 1.17, 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 labor performed 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 situation, 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 to the 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 operating condition. 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 for Mobilization 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 determine if 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01005

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SCOPE

A. Section Includes:

1. Project information.
2. Notice to Bidders.
3. Site Investigation.
4. Work By Others.
5. Work Sequence.
6. Work Schedule.
7. Computation Of Contract Time.
8. Contractor Use of Premises.
9. Pre-Construction Conference.
10. Utility Locations.
11. Line And Grade.
12. Protection And Restoration of Survey Monuments.
13. Equipment.
14. Storage Sites.
15. Ownership Of Existing Materials.
16. Excess Material.
17. Audio-Visual Preconstruction Record.
18. Environmental Protection.
19. Maintenance And Protection of Traffic
20. Maintenance And Protection of Existing Drainage System
21. Application For Payment for Stored Materials
22. Special Conditions for Construction by Other Agencies.
23. Specification and Drawing conventions.

1.2 PROJECT INFORMATION

A. Project Identification: Parks Bond and Parks Master Plan Design Implementation Services.

1. AECOM Project No. 60667503 Task Order No.6 - for the following parks:

   a. Bayview (P12645).
   b. Florence Hardy (P12651).
   c. Mills Pond(P12663).

2. AECOM Project No. 60667539 - Task Order No.7 for the following parks:

   a. Bass (P12644).
   b. Hortt (P12655).
   c. Riverside (P12668).

3. AECOM Project No. 60672854 – Task Order No. 8 - for the following parks:

   a. Annie Beck (P12643).
   b. Dottie Mancini (P12649).
   c. Warfield (P12680).

4. AECOM Project No. 60672929 – Task Order No.12 – for Carter Park.
5. AECOM Project No. 60686375 – Task Order No.13 - Holiday Park Design (P12633).

B. Owner: Fort Lauderdale Public Works Department.

1. Owner's Representative: Marc Isaac.

C. Architect: AECOM Technical Services, Inc..

1. Architect's Representative: Maria Rivera and John Crumpton.

D. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:

1. HAMMOND & ASSOCIATES.
2. BCC ENGINEERING.
3. CURTIS+ROGERS.
4. PDS.
5. GEOSOL.
6. CORRADINO GROUP.

1.3 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.

1.4 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 storage of 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 not be 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.

1.5 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 so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.6 WORK SEQUENCE

A. The CONTRACTOR shall schedule and perform the work in such a manner as to result in the least possible disruption to the public's use of the parking 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, ARCHITECT 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.

1.7 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 to complete 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/ARCHITECT determines that the CONTRACTOR does not meet the Critical Path Method (CPM) as specified in Section 01311 “Construction Progress Documentation”, 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

1. 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 the site 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 of holidays, 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 4th of July, Labor Day, Thanksgiving Day and the day after Thanksgiving Day, Christmas Eve and Christmas.

2. The CONTRACTOR shall include these provisions in the schedule required in 01311 “Construction Progress Documentation” and there shall be no additional time granted for these work suspensions.

3. No additional compensation shall be granted for demobilization, cleaning and remobilization as a result of these work suspensions.

4. During the work suspensions, the CONTRACTOR shall remain liable for 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

1. CONTRACTOR shall submit scheduling information for the work as required in Section 01311 "Construction Progress Documentation".

2. 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 8:00 a.m. to 5:00 p.m., Monday through Friday. Also, contractor must be aware of both residential and commercial surroundings (traffic and operations).

1.8 COMPUTATION OF CONTRACT TIME

A. It is the CONTRACTOR'S responsibility to provide clear and convincing documentation to the ENGINEER/ARCHITECT 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/ARCHITECT 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.

1.9 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/ARCHITECT.

1.10 PRE-CONSTRUCTION CONFERENCE

A. After the award of Contract, a Pre-construction Work Conference will be held between the CONTRACTOR, the ENGINEER/ARCHITECT, the CITY, other interested Agencies, representatives of Utility Companies and others affected by the work. The ENGINEER/ARCHITECT will set the time and place of this conference. The CONTRACTOR shall bring to the conference a copy of the proposed work schedule for the approval by the ENGINEER/ARCHITECT 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.

1.11 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 to the 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.

   1. TBD

G. Permits to be obtained by the CONTRACTOR include, but are not limited to the following:

   1. Local, county and State contracting licenses.

1.12 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.

1.13 PROTECTION AND RESTORATION OF SURVEY MONUMENTS

A. The CONTRACTOR shall carefully protect from disturbance all survey monuments, stakes and bench marks, 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.

1.14 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.

1.15 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.

1.16 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/ARCHITECT.

1.17 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 a designated area within a 5-mile radius of the project, at no extra cost to the CITY.

1.18 AUDIO-VISUAL PRECONSTRUCTION RECORD

A. General

1. Prior to beginning the work, the CONTRACTOR shall have a continuous color audio-video recording taken along the entire length of the project to 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/ARCHITECT. The ENGINEER/ARCHITECT 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/ARCHITECT shall designate those areas, if any, to be omitted from or added to the audio-video coverage.

1.19 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.

1.20 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.

1. Construction Phasing Requirements

a. Contractor shall arrange the schedule to maintain minimum of 11’ travel lane for each direction at all time.

B. TRAFFIC CONTROL

1. 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 to starting construction of any phase.
2. 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.
3. The CONTRACTOR, at all times, shall conduct the work in such a manner as to insure 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.
4. 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.

5. All existing stop and street name signs will be maintained as long as deemed necessary by the ENGINEER.
6. 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.
7. 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.

1.21 MAINTENANCE AND PROTECTION OF EXISTING DRAINAGE SYSTEM

A. It shall be the responsibility of the contractor to maintain positive drainage on the 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.

1.22 APPLICATION FOR PAYMENT FOR STORED MATERIALS

A. Application for payment for stored materials may not be made by the CONTRACTOR.

1.23 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 workers and marina visitors.

1.24 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: 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:

1. Imperative mood and streamlined language are generally used in the Specifications. 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.
2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

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:

1. Schedule of Values: Submit schedule on OWNER's form.
2. Application for Payment.
3. Final Application for Payment.

1.2 SCHEDULE OF VALUES

A. Prepare a schedule of values for the Work.

B. Lump Sum Work:

1. Contractor to provide a detailed schedule of values (SOV) included in conformed Bid Form.
2. List Bonds and insurance premiums, mobilization, demobilization, facility startup, and contract closeout separately.
3. Break down by Divisions 2 through 33 with appropriate subdivision of each Specification.

C. An unbalanced or front-end loaded schedule will not be acceptable.

D. The owner's representative will review and provide comments on the SOV. Contractor must complete changes to SOV as per comments provided and no pay app shall be submitted for payment until final approval of SOV as approved by the owner.

E. Lump sum line items on the approved SOV must be provided separately and with detailed descriptions to justify monthly requirements. The descriptions must be quantifiable for tracking and validation purposes. These line items do not release the contractor from the overall lump sum contract.

F. 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:

1. Round values to nearest dollar.
2. 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.
3. 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 point of 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:

1. Progress payments will be made monthly.
2. 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:

1. Loading, hauling, and disposing of rejected or unused material.
2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
3. 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.
4. Material not unloaded from transporting vehicle.
5. Defective Work not accepted by OWNER.
6. Material remaining on hand after completion of Work.

1.7 MOBILIZATION

A. See Section 01505 "Mobilization", for payment limitations. All environmental compliance matters except for erosion control system shall be included in Mobilization.

B. Payment for mobilization will be made at an allowance price named in the Bid Schedule. Payment for mobilization will be made in equal monthly amounts during the duration of the original contract time.

1.8 MAINTENANCE OF TRAFFIC (M.O.T.)

A. 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.

B. Payment for maintenance of traffic will be made at an allowance price named in the Bid Schedule. Payment for maintenance of traffic and parking activities will be made in equal monthly amounts during the duration of the original contract time.

1.9 DEMOLITION

A. Measurement for payment to remove and dispose of existing hardscape and landscape elements will be based on a lump sum inclusive of all work on the Demolition drawings.

B. This lump sum for removal and disposal of existing hardscape elements as indicated on the Design Drawings shall constitute full compensation for the removal and disposal of all concrete, asphalt or structures. This includes, but is not limited to sidewalks, curbs, aprons, concrete collars, brick pavers, and all other miscellaneous concrete as directed by the ENGINEER/LANDSCAPE ARCHITECT. Existing structures will not be compensated under this line item.

1.10 PAVING AND DRAINAGE

A. Measurement for payment to furnish and install drainage structures, inlets or top slabs, connections, and paving in addition to all required connections, modifications and cleaning of drainage facilities will be based on the line items provided for each item of work for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing, modifying or cleaning all drainage appurtenances in the design drawings which price shall constitute full compensation for the completed installation of the structure including but not limited to excavation, backfill, compaction, modifications, disposal, cleaning, all required dewatering and full compliance with the Trench Safety Act.

1.11 WATER AND SEWER

A. Measurement for payment to furnish and install all water and sewer items will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all water and sewer items shall constitute full compensation for the completed installation of the structure including but not limited to excavation, backfill, compaction, modifications, disposal, cleaning, all required dewatering and full compliance with the Trench Safety Act.

1.12 STRUCTURES

A. Measurement for payment to furnish and install all shade structures and other structures, will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing shade structures and other structures shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.13 AMENITIES

A. Measurement for payment to furnish and install all amenities will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all amenities shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.14 LANDSCAPING

A. Measurement for payment to furnish and install but not limited to the following: trees, sod, groundcover and irrigations. These items will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all trees, sod, groundcover and irrigations, shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.15 ELECTRICAL

A. Measurement for payment to furnish and install all electrical equipment and conduits will be lump sum for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

B. Payment for furnishing and installing all electrical equipment and conduits shall constitute full compensation for the completed installation of the structure including but not limited to excavation, dewatering, backfill, compaction, modifications, disposal and cleaning.

1.16 PERMIT FEES

A. Measurement for payment for permit fees will be based upon the actual permit fees required by the CONTRACTOR from the various agencies having jurisdiction for construction of the project, all in accordance with the Contract Documents. The allowance for permit fee amounts shown on the bid schedule is an estimate of permit fees required for the project and is a cost pass through item. The permit fees are based on allowances and OWNER will reconcile the actual cost with the CONTRACTOR by change order. The CONTRACTOR shall produce documentation upon request verifying actual cost. Only permit fees substantiated and approved by the ENGINEER will be paid as part of this bid item.

B. Because payment for permit fees will be paid as part of this bid item, payment for permit fees will not be paid as part of mobilization.

1.17 CONSIDERATION FOR INDEMNIFICATION (OWNER/ENGINEER)

A. Measurement for payment for indemnification of the OWNER and ENGINEER/ARCHITECT will be based upon the sum named for such work, all in accordance with the requirements of the contract documents.

B. Payment will be twenty-five dollars for consideration for indemnification named in the bid schedule and shall constitute full compensation for indemnifying the OWNER and ENGINEER as specified in the contract documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01025

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 to proceed. Include such items as:

1. Repair or removal of hazardous or unsanitary conditions.
2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.
3. 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.
4. Cleaning of surfaces and removal of surface finished as needed to install new work and finishes.
5. Protection as required for existing trees to remain.
6. For purposes of all existing underground utilities work, coordinate as required by use of special telephone number shown on engineering drawings.
7. 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 of construction.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 DEFINITIONS

A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.

B. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

C. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.

D. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

E. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

F. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

G. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

H. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

I. Retain: To keep an element or detail secure and intact.

J. Strip: To remove existing finish down to base material unless otherwise indicated.

1.4 COORDINATION

A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.

1. Schedule construction operations in sequence required to obtain best Work results.
2. Coordinate sequence of alteration work activities to accommodate the following:
    a. Owner's continuing occupancy of portions of existing building.
    b. Owner's partial occupancy of completed Work.
    c. Other known work in progress.
    d. Tests and inspections.
3. Detail sequence of alteration work, with start and end dates.
4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
5. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

1.5 PROJECT MEETINGS FOR ALTERATION WORK

A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site.

1. Attendees: In addition to representatives of Owner, Architect, and Contractor, testing service representative, specialists, and chemical-cleaner manufacturer(s) shall be represented at the meeting.
2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
    a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Fire-prevention plan.

c. Governing regulations.
d. Areas where existing construction is to remain and the required protection.
e. Hauling routes.
f. Sequence of alteration work operations.
g. Storage, protection, and accounting for salvaged and specially fabricated items.
h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
i. Qualifications of personnel assigned to alteration work and assigned duties.
j. Requirements for extent and quality of work, tolerances, and required clearances.
k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.

3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

1.6 MATERIALS OWNERSHIP

A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed at Project site.

1.7 INFORMATIONAL SUBMITTALS

A. Alteration Work Subschedule:

1. Submit alteration work subschedule within 30 days of date established for commencement of alteration work.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

C. Alteration Work Program: Submit 30 days before work begins.

D. Fire-Prevention Plan: Submit 30 days before work begins.

1.8 QUALITY ASSURANCE

A. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.

1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.

2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

B. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

C. Safety and Health Standard: Comply with ANSI/ASSP A10.6.

1.9 STORAGE AND HANDLING OF SALVAGED MATERIALS

A. Salvaged Materials:

1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.
2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

1.10 FIELD CONDITIONS

A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of measured drawings and preconstruction photographs.

1. Comply with requirements specified in Section 01380 "Construction Photographs."

B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

1.11 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.

1. 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 “Cutting and Patching”.

D. Protect existing finishes, equipment, and adjacent work which are scheduled to remain, from damage.

1. 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:

1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.

a. 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.

2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed as necessary to make work complete and consistent to existing identical standards of quality.

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.

1. Use only proven protection methods, appropriate to each area and surface being protected.
2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.

3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
3. If combustible material cannot be removed, provide fire blankets to cover such materials.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 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.

3.5 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.

1. Provide adequate support of substrate prior to patching the finish.

2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.

3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

3.6 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.

1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.7 CLEANING

A. Perform periodic and final cleaning as specified in Section 01710.

1. Clean Owner-occupied areas daily.
2. 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.

3.8 GENERAL ALTERATION WORK

A. Have specialty work performed only by qualified specialists.

B. Ensure that supervisory personnel are present when work begins and during its progress.

C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs. Comply with requirements in Section 01380 "Construction Photographs."

D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.

E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.

1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 01031

SECTION 01040 - COORDINATION

PART 1 - GENERAL

1.1 SUBMITTALS

A. Informational

1. Statement of Qualification (SOQ) for land surveyor or civil engineer.
2. Statement of Qualification (SOQ) for professional videographer.

B. Photographs

1. Color Prints
    a. Submit two copies within 5 days of being taken.
2. Video Recordings
    a. 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.

1. Electricity Company: Florida Power and Light.
    a. Contact Person: Trouble Center (or police/fire – 911).
    b. Telephone: (954)321-2056
2. Telephone Company: AT&T Distribution
    a. Contact Person: Otis Keeve
    b. Telephone: 954-723-2540
3. Water and Sewer Department: Fort Lauderdale Public Services Department.
    a. Contact Person: Emergency Hotline.
    b. Telephone: 954-828-8000
4. Gas Company: TECO Peoples Gas
    a. Contact Person: Danny Rivera / Max Chamorro
    b. Telephone: (954)931-9742 / (954)453-0812
5. Telecom: Comcast.
    a. Contact: John Matonti
    b. Telephone: 954-447-8486

6. Telecom: Hotwire
    a. Contact: Walter Sancho-Davila
    b. Telephone: 954-699-0900
7. Broward County Traffic Engineering Division (For Traffic SignalCommunications Systems Underground Cable and Traffic Loops):
    a. Contact: Tony Casas
    b. Telephone: (954)847-2752

1.3 PROJECT MEETINGS

A. General

1. 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.
2. Representatives of City/Construction Manager, Contractor, and Subcontractors shall attend meetings as needed.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner/Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
    a. Responsibilities and personnel assignments.
    b. Tentative construction schedule.
    c. Critical work sequencing and long lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Use of web-based Project software.
    g. Procedures for processing field decisions and Change Orders.
    h. Procedures for RFIs.
    i. Procedures for testing and inspecting.
    j. Procedures for processing Applications for Payment.
    k. Distribution of the Contract Documents.
    l. Submittal procedures.
    m. Preparation of Record Documents.
    n. Use of the premises and existing building.
    o. Work restrictions.
    p. Working hours.
    q. Owner's occupancy requirements.
    r. Responsibility for temporary facilities and controls.

s. Procedures for moisture and mold control.
t. Procedures for disruptions and shutdowns.
u. Construction waste management and recycling.
v. Parking availability.
w. Office, work, and storage areas.
x. Equipment deliveries and priorities.
y. First aid.
z. Security.
aa. Progress cleaning.

1) Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect/Construction Manager of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Possible conflicts.
i. Compatibility requirements.
j. Time schedules.
k. Weather limitations.
l. Manufacturer's written instructions.
m. Warranty requirements.
n. Compatibility of materials.
o. Acceptability of substrates.
p. Temporary facilities and controls.
q. Space and access limitations.
r. Regulations of authorities having jurisdiction.
s. Testing and inspecting requirements.
t. Installation procedures.
u. Coordination with other work.
v. Required performance results.
w. Protection of adjacent work.
x. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner/Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

    a. Preparation of Record Documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Submittal of written warranties.
    d. Requirements for preparing operations and maintenance data.
    e. Requirements for delivery of material samples, attic stock, and spare parts.
    f. Requirements for demonstration and training.
    g. Preparation of Contractor's punch list.
    h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    i. Submittal procedures.
    j. Owner's partial occupancy requirements.
    k. Installation of Owner's furniture, fixtures, and equipment.
    l. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at weekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner/ Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required

to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site use.
8) Temporary facilities and controls.
9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of Proposal Requests.
15) Pending changes.
16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Coordination Meetings: Conduct Project coordination meetings at monthly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner/ Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss

whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site use.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of RFIs.
14) Proposal Requests.
15) Change Orders.
16) Pending changes.

G. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

H. Other Meetings

1. In accordance with the Contract Documents and as may be required by the City and Engineer/Architect.

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:

1. During construction, it is expected that minor relocations of Work will be necessary.

2. 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.

3. 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.

4. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.

5. Perform relocations to minimize downtime of existing facilities.

6. 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

1. 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-existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

2. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.

B. Documentation

1. Record and submit documentation of observations made on examination inspections in accordance with paragraphs Construction Photographs and Audio-Video Recordings.

2. Upon receipt, Engineer will review, sign, and return one record copy of documentation to Contractor to be kept on file in field office.

3. 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

1. Photographically demonstrate progress of construction, showing every aspect of site and adjacent properties as well as interior and exterior of new or impacted structures.

2. Monthly: Take 24 exposures digital photographs of comparable quality, unless otherwise approved by the PCM.

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, videotape 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

1. Video

a. Produce bright, sharp, and clear images with accurate colors, free of distortion and other forms of picture imperfections.

b. Electronically, and accurately display the month, day, year, and time of day of the recording.

2. Audio

a. Audio documentation shall be done clearly, precisely, and at a moderate pace.

b. Indicate date, Project name, and a brief description of the location of taping, including

1) Facility name;
2) Street names or easements;
3) Addresses of private property; and
4) Direction of coverage, including engineering stationing, if applicable.

G. The Following Shall be Included with the Video Documentation

1. Coverage is required within and adjacent to the rights-of-way, easements, storage, and staging areas where the work is being constructed.

2. Documentation of the conditions of the adjacent properties or any affected structures as a result of the impending construction.

3. Certification as to date work done and by whom.

4. All videos shall be keyed to the construction drawings, provided with an index and a written narrative.

H. Preconstruction and Post-Construction Videos Shall be Submitted as follows:

1. Preconstruction videos shall be presented to the City at the preconstruction conference.

2. Post-construction videos shall be submitted prior to final project closeout. This submittal is contingent to final payment.

I. 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:

1. Provide all survey efforts required to layout the Work.
2. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.
3. In event of discrepancy in data or benchmarks, request clarification before proceeding with Work.
4. 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.
5. Maintain complete accurate log of survey Work as it progresses as a Record Document. The Contractor is responsible for the quality control of horizontal location and vertical elevations of the installed project.
6. On request of City/Construction Manager, submit documentation.
7. Provide competent employee(s), tools, stakes, and other equipment and materials as City/Construction Manager may require to:

a. Establish control points, lines, and easement boundaries.

b. Check layout, survey, and measurement Work performed by others.

c. 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:

1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.

2. Weather **-** or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Work of others.

C. Refinish surfaces to provide an even finish.

1. Refinish continuous surfaces to nearest intersection.
2. Refinish entire assemblies.
3. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and Work is evident in finished surfaces.
    a. 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.
    b. 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 01040

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:

1. Make its several parts fit together properly.
2. Uncover portions of the work to provide for installation of ill-timed work.
3. Remove and replace defective work.
4. Remove and replace work not conforming to requirements of Contract Documents.
5. Remove samples of installed work as specified for testing.
6. 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 any cutting or alteration, which affects:

1. Work of the OWNER or any separate CONTRACTOR.
2. Structural value of integrity of any element of the project.
3. Integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.
4. Efficiency, operational life, maintenance or safety of operational elements.
5. Visual qualities of sight-exposed elements.

B. Request shall include:

1. Identification of the project.
2. Description of the affected work.
3. The necessity for cutting, alteration or excavation.
4. Effect on work of OWNER or any separate CONTRACTOR, or on structural or weatherproof integrity of project.
5. Description of proposed work

    a. Scope of cutting, patching, alteration, or excavation.
    b. Trades who will execute the work.
    c. Products proposed to be used.
    d. Extent of refinishing to be done.

6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. 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 “Material and Equipment”.

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 from water.

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:

1. Weather-exposed or moisture-resistant elements.
2. 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:

1. For continuous surfaces, refinish to nearest intersection.
2. For an assembly, refinish entire unit.

END OF SECTION 01045

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:

1. Coordination Drawings.
2. Special Project Procedures
3. Administrative and supervisory personnel.
4. Requests for Information (RFIs).

B. Related Sections include the following:

1. Section 01200, “Project Meetings”
2. Section 01311, "Construction Progress Documentation"
3. Section 01340, "Submittal Procedures"
4. 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.

1. 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.
2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. 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:

1. 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.

    a. Prepare similar memoranda for City and separate contractors if coordination of their Work is required.

C. Administrative Procedures:

1. 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:

    a. Preparation of Contractor's Construction Schedule.

    b. Preparation of the Schedule of Values.

    c. Installation and removal of temporary facilities and controls.

    d. Delivery and processing of submittals.

    e. Progress meetings.

    f. Project closeout activities.

1.5 SUBMITTALS

A. Key Personnel Names

1. 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:

    a. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers.

    b. 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

1. 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 the City before proceeding with the work.

2. 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

1. 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.

2. 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.

3. 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:

1. 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.

a. 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.

b. 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

1. All Subcontractors and Suppliers must submit, through the General Contractor to the City's Engineer, a statement on their individual letterhead stationary, 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:

a. Has received or reviewed a FULL set of approved plans and specifications for the project,

b. 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

c. 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 and specifications, 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 COORDINATION DRAWINGS

A. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

1. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
2. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
3. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
4. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
5. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
6. Indicate required installation sequences.
7. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms, showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:

    a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
    b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
    c. Fire-rated enclosures around ductwork.

7. Electrical Work: Show the following:
    a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
    b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
    c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor-control center locations.
    d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire-Protection System: Show the following:
    a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
9. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 01340 "Submittal Procedures."

C. Coordination Drawing Process: Prepare coordination drawings in the following manner:

1. Schedule submittal and review of Fire Sprinkler, Plumbing, HVAC, and Electrical Shop Drawings to make required changes prior to preparation of coordination drawings.
2. Commence routing of coordination drawing files with HVAC Installer, who will provide drawing plan files denoting approved ductwork. HVAC Installer will locate ductwork and piping on a single layer, using orange color. Forward drawings to Plumbing Installer.
3. Plumbing Installer will locate plumbing and equipment on a single layer, using blue color.
4. Fire Sprinkler Installer will locate piping and equipment, using red color. Fire Sprinkler Installer shall forward drawing files to Electrical Installer.
5. Electrical Installer will indicate service and feeder conduit runs and equipment in green color. Electrical Installer shall forward drawing files to Communications and Electronic Safety and Security Installer.
6. Communications and Electronic Safety and Security Installer will indicate cable trays and cabling runs and equipment in purple color. Communications and Electronic Safety and Security Installer shall forward completed drawing files to Contractor.
7. Contractor shall perform the final coordination review. As each coordination drawing is completed, Contractor will meet with Architect to review and resolve conflicts on the coordination drawings.

1.8 REQUESTS FOR INTERPRETATION (RFIs)

A. General:

1. 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.

a. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
b. 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:

1. Include a detailed, legible description of item needing interpretation and the following:

a. City Project Number
b. City Project Name.
c. Date.
d. Name of Contractor.
e. RFI number, numbered sequentially.
f. Specification Section number and title and related paragraphs, as appropriate.
g. Drawing number and detail references, as appropriate.
h. Field dimensions and conditions, as appropriate.
i. 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.
j. Contractor's signature.
k. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

1) Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

l. Identify each page of attachments with the RFI number and sequential page number.

C. Software-Generated RFIs

1. Software-generated form with substantially the same content as indicated above.

a. Word Template is available upon request from the City's Engineer's Office.
b. 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.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Engineer's actions on submittals.
f. Incomplete RFIs or RFIs with numerous errors.

2. Engineer's action may include a request for additional information, in which case Engineer's time for response will start again.

3. 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."

    a. 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.

1. Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:

    a. Project name.
    b. Name and address of Contractor.
    c. RFI number including RFIs that were dropped and not submitted.
    d. RFI description.
    e. Date the RFI was submitted.
    f. Date Engineer's response was received.
    g. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01050

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:

1. National Electric Code.
2. 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 County Planning and Environmental Regulation Division license(s), Florida Department of Environmental Protection, 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01060

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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01070

SECTION 01090 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 GENERAL

A. Titles of Sections and Paragraphs

1. Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

B. Applicable Publications

1. 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 standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

C. Specialists, Assignments

1. 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 has no 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," "Plumbing Code" 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/ARCHITECT 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.

1. Section Identification

a. 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.

2. Division 01

a. Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content

1. 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:

a. 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.

b. 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 Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

1) 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 petroleum product piping and storage in underground locations must be installed with double containment piping and tanks, or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the OWNER.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01090

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:

1. Division 01 Section "Alteration Project Procedures" for administrative procedures for handling changes to the Contract.
2. 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.

1. 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.
2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
3. 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.
    a. Differentiate between items stored on-site and items stored off-site. For items stored off-site include evidence of insurance or bonded warehousing.
4. 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.
5. 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.
6. 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.

7. 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.

8. 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 and Architect 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 copy will 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.

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.

1. 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.

2. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

3. 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.

1. Submit partial release of lien on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit final release of lien.
3. 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:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor's Construction Schedule (preliminary if not final).
4. Products list.
5. Submittals Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. Copies of building permits.
8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
9. Initial progress report.
10. 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:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Evidence that claims have been settled.
5. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01152

SECTION 01230 - ALTERNATES

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the PROCUREMENT AND CONTRACTING REQUIREMENTS and all Sections within DIVISION 01, GENERAL REQUIREMENTS, which are made a part of this Section of the Specifications.

1.2 SUMMARY

A. A. For each of the alternates Scheduled at the end of this Section, state the amount in the proposal to be added to or deducted from the Contract Sum for the work.

1.3 ALTERNATES

A. Definition: "Alternates" are alternate products, materials, equipment, systems, methods, units of work or major elements of the construction, which may, at the Owner's option and under the terms established by the Contract or Agreement, be selected for the work in lieu of the corresponding requirements of the Contract Documents. Selection may occur prior to the Contract Date, or may, by the Agreement, be deferred for possible selection at a subsequent date.

B. Alternate Requirements: A Schedule of Alternates is included at the end of this Section. Each alternate is defined using abbreviated language, recognizing that the Contract Documents define the requirements. Coordinate related work to ensure that work affected by each alternate is complete and properly interfaced with work of each selected alternate.

C. Provide written proposals for each alternate on the Form of Proposal for Owner's consideration. Each proposal amount shall include the entire cost of the alternate portion of the work including overhead, profit, and other costs including cost of interfacing and coordinating the alternate with related and adjacent work.

D. Selection of Alternates: Selection of alternates to be included in the work will be by the Owner.

E. Notification: Immediately following award of Contract, prepare and distribute to each entity a notification of status of each alternate. Indicate which alternates have been accepted, rejected, or deferred for consideration at a later date. Include full description of negotiated modifications to alternates, if any.

1.4 DESCRIPTION OF ALTERNATES

A. Alternates shall include the following:

1. TBD.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01230

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:

1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. Material location reports.
6. Field condition reports.
7. Special reports.

B. Related Sections include the following:

1. Section 01152 – Applications for Payment
2. Section 01050 – Project Management
3. Section 01340 – Submittal Procedures
4. Section 01380 – Construction Photographs
5. 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.

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
2. Predecessor Activity. An activity that precedes another activity in the network.
3. 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.

1. 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.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Fragment. 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:

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Engineer's final release or approval.

B. Preliminary Construction Schedule. Submit three opaque copies.

1. 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 to show 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 reports shall 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.

1. Activity Report. List of all activities sorted by activity number and then early start date, or actual start date if known.
2. 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.
3. 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.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. 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.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. 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.

a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

3. 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.

1. 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.
2. All activities with a time duration exceeding five (5) days shall be shown as separate items.
3. 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.

4. 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.
5. 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.

1. 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.
2. Work Restrictions. Show the effect of the following items on the schedule:

    a. Use of premises restrictions.
    b. Environmental control.

3. Work Stages. Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Fabrication.
    e. Sample testing.
    f. Deliveries.
    g. Installation.
    h. Tests and inspections.
    i. Adjusting.
    j. 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. General conditions activities included on the schedule of values paid upfront by the contractor such as bonds and insurances can be requested for payment after the SOV has been approved as described in 01025. Receipts and backup should be provided to match the requested amounts.

G. The total dollar amount of additional general conditions activities included on the schedule of values such as MOT, mobilization(s), erosion control should up to 10% of the total contract amount. Any other dollar amount should be applied to each individual construction activity within the schedule of values. Active general conditions activities throughout the life of the project should be paid proportionately monthly, if applicable.

H. The contractor must provide a detailed base-line time schedule to be reviewed, and subsequent revised monthly schedules showing at minimum: tied predecessors, tied successors, order within the critical or non-critical path, and floating time, when applicable. Construction general conditions activities such as MOT, mobilizations, erosion control activities included on the schedule of values should also be part of the of the time schedule.

I. Review. The schedule shall be reviewed by owner's representative and comments will be provided. Contractor to complete revisions to the schedule as per comments. No pay app to be submitted for payment before owner's final approval of the schedule.

J.

K. 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.

L. Computer Software. Prepare schedules using a program that has been developed specifically to manage construction schedules.

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:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Emergency procedures.
12. Orders and requests of authorities having jurisdiction.
13. Change Orders received and implemented.
14. Construction Change Directives received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial Completions and occupancies.
18. 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.

1. 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.
2. 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.
3. 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.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties 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 01311

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 line corner 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:

1. 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.

1. Make no changes or relocations without prior written notice to CITY PROJECT MANAGER.
2. Report to CITY PROJECT MANAGER when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
3. CONTRACTOR's surveyor shall replace project control points which may be lost or destroyed.

a. 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 construction staking by instrumentation and similar appropriate means:

1. Stakes for grading and fill placement.
2. 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 2017 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01312

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:

1. Section 01152, Applications for Payment
2. Section 01050, Project Management
3. Section 01311, Construction Progress Documentation
4. Section 01380, Construction Photographs
5. Section 01400, Quality Control
6. Section 01720, Project Record Documents
7. Section 01780, Contract Closeout
8. Divisions 02 through 33 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that requires Engineer's/Architect's responsive action.

B. Informational Submittals. Written and graphic information and physical samples that does not require Engineer's/Architect'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.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. 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.

a. 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.

1. 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.
2. Intermediate Review. If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review. Allow 10 days for review of each resubmittal.

D. Identification. Place a permanent label or title block on each submittal for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. 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.
3. Include the following information on label for processing and recording action taken:

    a. Project name.
    b. Date
    c. Name and address of Contractor.
    d. Name and address of subcontractor.
    e. Name and address of supplier.
    f. Name of manufacturer.
    g. Submittal number or other unique identifier, including revision identifier.

        1) 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).

    h. Number and title of appropriate Specification Section.
    i. Drawing number and detail references, as appropriate.
    j. Location(s) where product is to be installed, as appropriate.
    k. 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.

1. Transmittal Form: Provide locations on form for the following information:

    a. Project name.
    b. Date.
    c. Destination (To:).
    d. Source (From:).
    e. Names of subcontractor, manufacturer, and supplier.
    f. Category and type of submittal.

g. Submittal purpose and description.
h. Specification Section number and title.
i. Drawing number and detail references, as appropriate.
j. Transmittal number, numbered consecutively.
k. Remarks.
l. Signature of transmitter.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. 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.

1. 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.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

a. Manufacturer's written recommendations.
b. Manufacturer's product specifications.
c. Manufacturer's installation instructions.
d. Standard color charts.
e. Manufacturer's catalog cuts.
f. Wiring diagrams showing factory-installed wiring.
g. Printed performance curves.
h. Operational range diagrams.
i. Mill reports.
j. Standard product operation and maintenance manuals.
k. Compliance with specified referenced standards.
l. Testing by recognized testing agency.
m. Application of testing agency labels and seals.
n. Notation of coordination requirements.

4. Submit Product Data before or concurrent with Samples.

5. 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.

1. Preparation. Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Dimensions.
b. Identification of products.
c. Fabrication and installation drawings.
d. Roughing-in and setting diagrams.
e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
f. Shopwork manufacturing instructions.
g. Templates and patterns.
h. Schedules.
i. Design calculations.
j. Compliance with specified standards.
k. Notation of coordination requirements.
l. Notation of dimensions established by field measurement.
m. Relationship to adjoining construction clearly indicated.
n. Seal and signature of professional engineer if specified.
o. Wiring Diagrams. Differentiate between manufacturer-installed and field-installed wiring.

2. 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).

3. 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.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification. Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of appropriate Specification Section.

3. 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.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
b. Samples not incorporated into the Work, or otherwise designated as City's property, are the property of Contractor.

4. 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.

   a. 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.

5. 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.

   a. 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.

      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) 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:

1. Type of product. Include unique identifier for each product.
2. Number and name of room or space.
3. Location within room or space.
4. Number of Copies. Submit five copies of product schedule or list, unless otherwise indicated. City will return two copies.

   a. 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:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number of Copies. Submit four copies of subcontractor list, unless otherwise indicated. City will return two copies.

    a. 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.

1. Number of Copies. Submit two copies of each submittal, unless otherwise indicated. City will not return copies.
2. 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.
3. 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/ARCHITECT'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:

1. Approved as submitted
2. Approved as noted
3. Revise and resubmit
4. Rejected.

C. Informational Submittals. Engineer/Architect 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 01340

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.

1.4 COSTS OF PHOTOGRAPHY

A. CONTRACTOR shall pay costs for specified photography and prints.

1. Parties requiring additional photography or prints will pay photographer directly.

1.5 DIGITAL PHOTOGRAPHY

A. At OWNER and ENGINEER's/ARCHITECT's discretion, digital photography may be used for all construction photographs except aerial progress photographs.

PART 2 - PRODUCTS

2.1 PRINTS

A. Resolution:

1. Minimum 5.0 Megapixels.

PART 3 - EXECUTION

3.1 TECHNIQUE

A. Factual presentation.

B. Correct exposure and focus.

1. High resolution and sharpness.
2. Maximum depth-of-field.
3. 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.

C.

END OF SECTION 01380

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, City or authorities having jurisdiction are not limited by provisions of this Section.

1.2 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 manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

B. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

C. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

D. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).

E. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.

1. Mockups are used for one or more of the following:

a. Verify selections made under Sample submittals.
b. Demonstrate aesthetic effects.
c. Demonstrate the qualities of products and workmanship.
d. Demonstrate successful installation of interfaces between components and systems.
e. Perform preconstruction testing to determine system performance.

2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.

F. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.

G. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

H. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).

I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."

J. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

K. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect or Construction Manager.

1.3 DELEGATED DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to

Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Reports: Prepare and submit certified written reports and documents as specified.

D. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement of whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement of whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.7 QUALITY ASSURANCE

A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.

1. Requirements of authorities having jurisdiction supersede requirements for specialists.

G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.8 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
2. Payment for these services will be made from testing and inspection allowances specified in Section 012100 "Allowances," as authorized by Change Orders.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Engage a qualified testing agency to perform quality-control services.

a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Testing Agency Responsibilities: Cooperate with Architect, or Construction Manager, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect, or Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform duties of Contractor.

D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01340 "Submittal Procedures."

E. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

F. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.

5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspection equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.9 INSPECTION AT PLACE OF MANUFACTURE

A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER/ARCHITECT at the place of manufacture.

B. The presence of the ENGINEER/ARCHITECT 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 shall not be avoided by any act or omission on the part of the ENGINEER/ARCHITECT.

1.10 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/ARCHITECT 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/ARCHITECT to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.11 INSPECTION AND TESTING LABORATORY SERVICE

A. Inspection and testing laboratory service shall comply with the following:

1. CONTRACTOR shall appoint, employ, and pay for services of an independent firm to perform inspection and testing.
2. The independent testing firm will perform inspections, testings and other services specified in individual specification sections and as required by the ENGINEER/ARCHITECT or OWNER.

3. Reports will be submitted to the ENGINEER/ARCHITECT in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
4. 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.
5. The CONTRACTOR shall notify ENGINEER/ARCHITECT 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
6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER/ARCHITECT. The CONTRACTOR shall bear all costs from such retesting at no additional cost to the OWNER.
7. 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.
8. CONTRACTOR shall bear all costs incurred should the materials for testing not be ready for testing at time specified/scheduled by CONTRACTOR for test.

PART 2 - PRODUCTS (Not Used)

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.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01045 “Cutting and Patching."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

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.

1. CONTRACTOR shall cooperate with the laboratory to facilitate the execution of its required services.

2. 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.

3. The tests to be provided by the CONTRACTOR shall include, but not be limited to, the following

   a. Density
   b. Proctor
   c. Limerock Bearing Ratio (LBR)
   d. Carbonate Content
   e. Gradation
   f. Plastic Index and Liquid Limit
   g. Organic Content
   h. Concrete Compressive Strength and Slump
   i. Asphalt Extraction
   j. Any other tests as required to satisfy an permitting agency 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

1. Calibrated at reasonable intervals by devices of accuracy traceable to either:

a. National Bureau of Standards.

b. 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:

1. Comply with specified standards.
2. 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:

1. Date issued.
2. Project title, OWNER'S project number and Parcel number.
3. Testing laboratory name, address and telephone number.
4. Name and signature of laboratory inspector.
5. Date and time of sampling or inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of fill product and specification section.
9. Location of sample or test in the project area (i.e. station and offset or other relevant dimensioning).
10. Type of inspection or test.
11. Results of tests and compliance with Contract Documents.
12. 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:

1. Release, revoke, alter or enlarge on requirements of Contract documents.
2. Approve or accept any portion of the work.
3. 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:

1. To provide access to work to be tested.
2. To obtain and handle samples at the project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01410

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:

1. Moving on to the site of all CONTRACTOR's equipment required for first month operations.
2. Installing temporary construction power, wiring, and lighting facilities.
3. Developing construction water supply.
4. Providing field office trailers for the CONTRACTOR, complete with all specified furnishings and utility services including telephones, telephone appurtenances, and copying machine.
5. Providing all on-site communication facilities, including telephones and radio pagers.
6. Providing on-site sanitary facilities and potable water facilities.
7. Arranging for and erection of CONTRACTOR's work, site access, and storage.
8. Obtaining all required permits (including Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) permits as needed).
9. Having all OSHA required notices and establishment of safety programs.
10. Having the CONTRACTOR's superintendent at the job site full time.
11. Submitting initial submittals.
12. Audio-Visual preconstruction record as described in Section 01010.
13. Project identification and signs.

PART 2 - PRODUCTS (Not Used)

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 1.01.A. above have been completed as specified.

END OF SECTION 01505

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:

1. Water service (potable for certain uses)
2. Storm sewer
3. Sanitary sewer
4. Electric power service
5. 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/ARCHITECT change over from use of temporary utility service to permanent service.

PART 2 - PRODUCTS (Not Used)

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 insure 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 by the 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 furnished in 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 their original 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 be disposed 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/ARCHITECT, 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/ARCHITECT, 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.

END OF SECTION 01510

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.

1. Refer to respective sections for particular requirements for each trade.

2. 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 Contractors employer at the site.

3.3 REMOVAL

A. Completely remove temporary materials, equipment and services:

1. When construction needs can be met by use of permanent construction.

2. At completion of project.

B. Clean, repair damage caused by installation or by use of temporary facilities.

1. Remove foundations and underground installations for construction aids.

2. 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.

END OF SECTION 01520

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 that on 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 other reasonable 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 without proper 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 thickness to 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 period of 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 to be 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 their property 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 excavation and 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 of the 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 the tree 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; all traffic 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 must not 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.

1. Employ qualified tree surgeon to remove branches, and to treat cuts.

C. Protect root zones of trees and plants.

1. Do not allow vehicular traffic and parking.
2. Do not store materials or products.
3. Prevent dumping of refuse or chemically injurious materials or liquids.
4. 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.

END OF SECTION 01530

SECTION 01550 - SITE ACCESS AND STORAGE

PART 1 - GENERAL

A. HIGHWAY LIMITATIONS:

B. 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

1. For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the

requirements of 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).

2. The CONTRACTOR shall take all necessary precautions for the protection of the WORK and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the Florida Department of Transportation.

3. 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.

4. 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 explain to 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 this Contract.

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 for hazardous materials used in constructing the WORK.

1. 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.
2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.

4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the site.
5. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
6. 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:

1. Provide temporary parking areas for ENGINEER/ARCHITECT and OWNER's use.
2. The CONTRACTOR shall direct its employees to park in designated areas secured by the CONTRACTOR.
3. 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01550

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 evidence of 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 construction period.

1. Noise procedures shall conform to all applicable OSHA requirements and local ordinances having jurisdiction on the work.
2. Noise levels during nighttime hours shall not exceed 55 db measured at 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.

1. 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.

1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
2. 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:

a. The area or areas to be treated.
b. The pesticide to be used, with a copy of the manufacturer's printed instructions.
c. 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.

1. Employ methods and use materials, which will not adversely affect conditions at the site or on adjoining properties

2. 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:

a. the area or areas to be treated.

b. the rodenticide to be used, with a copy of the manufacturer's printed instructions.

c. 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.

1. Provide containers for deposit of debris as specified in Section 01710 - Cleaning.
2. Prohibit overloading of trucks to prevent spillage on access and haul routes.
3. Provide periodic inspection of traffic areas to enforce requirements.

C. Schedule periodic collections and disposal of debris as specified in Section 01710 - Cleaning.

1. 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.

1. 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.

1. 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.

1. Prevent toxic concentrations of chemicals.
2. 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.

1. Hold the areas of bare soil exposed at one time to a minimum
2. Provide temporary control measures such as berms, dikes and drains.
3. 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).

1.11 TEMPORARY TREE AND PLANT PROTECTION

1.12 GENERAL PROVISIONS

A. Attention is directed to the PROCUREMENT AND CONTRACTING REQUIREMENTS and all Sections within DIVISION 01, GENERAL REQUIREMENTS, which are made a part of this Section of the Specifications.

1.13 WORK INCLUDED

A. Protection of existing trees and plants from damage as a result of the Construction Manager's operations including, but not limited to:

1. Tree protection fencing.
2. Root pruning and construction pruning.
3. Fencing of areas designated for tree removals by the Owner.

B. Refer to “Tree Protection and Relocation Notes” included on the Drawings.

1.14 RELATED REQUIREMENTS

A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:

1. Section 02200, SITE PREPARATION.
2. Section 311300, SELECTIVE TREE REMOVAL AND TRIMMING’ Includes stump removal of trees removed by the Owner in designated fenced areas.

3. Section 312300, SITE EXCAVATING, BACKFILLING ANDCOMPACTING: Excavation and backfill.
4. Section 329300, PLANTING: New plant material.
5. Section 329600, TRANSPLANTING.

1.15 REFERENCED STANDARDS

A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

1. American National Standards Institute (ANSI): Z133.1
2. Safety Requirements for Pruning, Trimming, Repairing, Maintaining and Removing Trees, and for Cutting Brush.
3. International Society of Arboriculture (ISA): Guide for Establishing Values of Trees and Other Plants
4. National Arborist Association (NAA): Ref. 1
5. Pruning Standards for Shade Trees

1.16 SUBMITTALS

A. Prepare and submit drawings indicating the extent of tree protection fencing required.

B. Proposed methods, and schedule for effecting tree and plant protection shall be submitted for approval.

C. Proposed methods, materials, and schedule for root pruning, construction pruning, and tree fertilization by Certified Arborist shall be submitted for approval.

D. Certified Arborist Qualifications shall be submitted for Architect's review and approval.

1.17 QUALITY ASSURANCE

A. Work of this section shall be completed by a professional ISA Certified Arborist with a minimum five years experience, who has successfully completed an exam and education program equal to the International Society of Arboriculture (ISA) Certification Program, sponsored by the International Society of Arboriculture 2009, P.O. Box 3129, Champaign, IL 61826 (217) 355-9411; Email: isa@isa-arbor.com.

B. Arborist shall have the following minimum qualifications:

1. Membership in:
   a. NAA – National Arborist Association
   b. ISA – International Society of Arborists
2. Meet state requirements for insurance.
3. Licenses for application and use of pesticides.

1.18 DAMAGE PENALTIES

A. Certain specimen trees within the construction areas and in other key locations will be identified by the Owner and the Architect, and marked with red tags. Loss of any of these trees will result in fines assessed at $10,000 per tree. Damage to all other trees on the property will be assessed at the rate of $200 per inch caliper of the tree.

B. A fine of $1,000 will be levied against the Construction Manager for each incident of construction inside tree protection areas.

C. Damages to trees, shrubs, and other vegetation will be assessed by the Architect and Owner in accordance with the ISA Guide.

D. Trees or roots visibly damaged will cause the Owner to withhold from the Construction Manager an assessed amount conforming to the requirements stipulated above for a period of two years. After that period the impact of the damage to any tree will be assessed accordingly.

E. If any trees or shrubs designated to be saved are damaged and replacement is required, a number and diameter of trees or shrubs of the same species and variety, as specified by the Owner and Architect, shall be furnished and planted by the Construction Manager. The total inch diameter of the replacement trees or shrubs shall equal the diameter of the tree or shrub to be replaced.

PART 2 - PRODUCTS

2.1 TREE PROTECTION FENCING

A. Tree protection fencing, including fencing of areas designated for tree removals by the Owner, shall be the following:

1. Polyethylene mesh fencing, chain link fencing, or other Owner approved material; height as indicated on the Drawings.

2. Fabric shall be fluorescent orange, high density polyethylene 1-1/2 in. square mesh.

3. Stakes shall be pressure treated pine.

B. Stakes for fencing shall be driven into the ground, except above utility locations where surface anchors shall be used. Posts shall be spaced 16 ft. on center maximum.

C. For fencing within the drip line of trees, surface mounted post anchors may be acceptable. Review with Architect and arborist and obtain written approval prior to installing. Post installation shall not damage tree root systems.

2.2 ROOT PRUNING

A. Peat moss and mulch materials shall be as specified under Section 329300, PLANTING.

B. Liquid fertilizer to be applied to root pruned and construction pruned trees shall be Peters M-77 Sequestered-Chelated Soluble Fertilizer manufactured by W.R. Grace and Co., Cambridge, MA 02140, Gold Start Liquid Fertilizer, manufactured by Nutra-Flo Company, 1919 Grand Ave, Sioux City, IA 51106-5708; Phone: 712-277-2011; 800-831-4815; Fax: 712-279-1946; Agro- Culture Liquid Fertilizer, manufactured by

Agro-Culture Liquid Fertilizers, 3055 W. M-21, P.O. Box 150, St. Johns, Michigan 48879; 1-800-678-9029, or approved equal. Liquid fertilizer shall be approved by Certified Arborist.

C. Dormant oil spray shall be a dormant miscible spray equal to Sunspray, Scalecide, or Volck Oil.

D. Insecticide shall be Isotox manufactured by Ortho; QuickPRO, manufactureed by Monsanto; LESCO Sevin Brand SL, #019106, manufactured by LESCO, or approved equal. Insecticide shall be approved by Certified Arborist.

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.

3.2 PROTECTION FOR EXISTING TREES TO BE PRESERVED:

A. All trees to be preserved on the property shall be protected against damage from construction operations.

1. Includes associated understory.

B. Only those trees located within the limits of improvements to be constructed as indicated, shall be removed.

1. All trees to remain shall be flagged for review after the location of improvements to be constructed are staked in the field.

2. Any tree to be removed shall be reviewed by the Architect and Owner for approval prior to removal.

3. Trees to be preserved are represented by a solid line. Trees to be removed are represented by a dashed or ghosted line. Trees to be planted are graphically differentiated from existing trees.

4. Obtain approval of installation of tree barricade fencing from Owner and Architect prior to the initiation of any removal of vegetation and construction.

C. Erect fencing and armor protection prior to beginning any clearing, demolition or construction activity, and unless otherwise instructed, maintain in place until construction is completed.

1. Tree protection barricade shall be erected at the edge of the dripline where possible; in extreme circumstances and with the approval of the Architect, fencing may be located at the edge of the root protection zone.

a. For trees 10-inch caliper and less, the minimum distance the barrier shall be erected is ten (10) feet from the trunk of tree or clump of trees.

2. Trees immediately adjacent to and within one hundred feet (100) of any construction activities are to be protected by barricade fencing; subject to approval of the Architect and Owner.

3. Trees exposed to construction activity within the dripline or within twenty-five (25) feet of any construction activity are to have trunks protected with tree armor in addition to barricade fencing.
4. The tree protection barricade shall be placed before any excavating or grading is begun and maintained in repair for the duration of the construction work unless otherwise directed.
5. No material shall be stored or construction operation shall be carried on within the tree protection barricade.
6. Tree protection barricade shall remain until all work is completed.
7. Remove tree protection barricade at commencement of finish grading.
8. Remove tree armor immediately prior to Substantial Completion.

D. Protect tree trunk with tree armor to a height of 8' or to the limits of lower branching (when exposed to construction activity within the drip line) with 2x4's butted side to side completely around trunk.

1. Wire wrap do not nail, around trees.

E. Protect trees that are to remain, whether within barricade fencing or not, from the following:

1. Compaction of root area by equipment or material storage; construction materials shall not be stored closer to trees than the farthest extension of their limbs (dripline).
2. The proposed finished grade within the root protection zone of any preserved tree shall not be raised or lowered more than three (3) inches.
    a. Retaining methods can be used to protect and/or provide lateral support to the area outside the root protection zone.
3. Trunk damage by moving equipment, material storage, nailing or bolting.
4. Strangling by tying ropes or guy wires to trunks or large branches.
5. Poisoning by pouring solvents, gas, paint, etc., on or around trees and roots.
6. Cutting on roots by excavating, ditching, etc.
    a. Prior to excavation within the tree drip lines or the removal of trees adjacent to other trees that are to remain, make a clean cut between the disturbed and undisturbed root zones with a rock saw or similar equipment to minimize root damage.
    b. Refer to EXCAVATION AROUND TREES for additional information.
7. Damage of branches by improper pruning.
8. Drought from failure to water or by cutting or changing normal drainage pattern past roots. Construction Manager shall provide means as necessary to ensure positive drainage.
9. Changes of soil pH factor by disposal of lime base materials such as concrete, plaster, lime treatment at pavement subgrade, etc. When installing concrete adjacent to the root zone of a tree, use a minimum 6 mil. plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil.

10. Do not cut roots 3/4" in diameter or over without approval of Owner's Representative. All excavation and earthwork within the PRZ of trees shall be done by hand.
11. Protect all existing trees near areas to be stabilized from underground contaminations by placing a 6 mil. Plastic film barrier along exposed vertical cut extending a minimum 12" into undisturbed subgrade below depth of stabilization.
12. No vehicular traffic shall occur within the drip line of any tree; including parking of vehicles.
13. No soil shall be spread, spoiled or otherwise disposed of under any tree within the PRZ.

F. Any damage done to existing tree crowns or root systems shall be repaired by the Arborist to the satisfaction of the Architect and Owner's Representative.
1. Broken branches shall be cut cleanly.
2. Any roots cut shall be cut cleanly with a saw other means approved by the Architect and Owner's Representative.

G. Damages to trees caused through negligence of Construction Manager or his employees will be assessed by Owner and Project Arborist as described in Paragraph 1.06.

3.3 PROTECTED ROOT ZONE:

A. The PROTECTED ROOT ZONE (PRZ).
1. No disturbance shall occur closer to the tree than one-half the radius of the PRZ or within five (5) feet of the tree whichever is greater.

3.4 PROTECTED ROOT ZONE IMPACTS:

A. Those trees to remain which have some encroachment on their protected root zone shall have the following maximum allowable impacts:
1. Minimum Protection Criteria 'A': No disturbance of natural grade, e.g. trenching or excavation, can occur closer to the tree than one-half the radius of the PRZ or within five (5) feet of the tree whichever is greater.
2. Minimum Protection Criteria 'B': No cut or fill greater than three (3) inches will be located closer to the tree trunk than ½ the PRZ radius distance.

B. Trees impacted shall have a minimum of a six (6) inch layer of mulch placed and maintained over the root protection zone and the undisturbed area within the dripline.
1. Immediate pruning and fertilization shall occur per the pruning and fertilization sections of this specification.
2. Provide water in a slow drip manner to impacted trees as approved by the Architect and Owner's Representative.
3. Provide water to apply equivalent to 1 inch once per week to deeply soak in over the area within the dripline of the tree during periods of hot, dry weather.
4. Spray tree crowns periodically to reduce dust accumulation on the leaves.

3.5 EXCAVATING AROUND TREES

A. Excavate within the dripline of trees only where required and when absolutely necessary.

1. Any excavation within the PRZ of trees shall be under the direction of the Arborist.
2. Arborist shall be at site at all times while excavation is occurring within the PRZ.
3. Air spade all removals within the PRZ.
4. Refer to PROTECTED ROOT ZONE.

B. When excavating for new construction is required within the PRZ, air spade and hand excavate to minimize damage to root systems.

1. Use narrow tine spading forks and comb soil to expose roots.
2. Relocate roots back into backfill areas wherever possible.
3. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking.
4. If root relocation is not practical, clean cut roots approximately three (3) inches back from new construction.

C. Where existing grade is above new finish grade, carefully excavate within the dripline to the new finish grade.

1. Carefully hand excavate an additional six (6) inches below the finish grade.
2. Use narrow tine spading forks to comb the soil to expose the roots, and prune the exposed root structure as recommended by the Arborist.
3. Keep the exposed roots damp.
4. Treat the cut roots as specified and as recommended by the Arborist.
5. After pruning and treatment of the root structure is complete, backfill to finish grade with eight (8) inches of approved plant mix, or structural soil.

D. Where noted on plan, use airspade to expose roots for required cutting to accommodate hardscape elements. Architect to verify all cuts prior to proceeding.

E. Temporarily support and protect roots against damage until permanently relocated and covered with recommended landscape material.

3.6 INSTALLATION OF FENCING

A. Prior to start of demolition work and clearing and grubbing operations, tree protection fencing shall be installed in accordance with the following:

1. Fencing shall be installed at the tree protection areas indicated on the Drawings.
2. Fencing shall be installed a minimum of 15 ft. beyond the drip line of trees to be protected, unless otherwise approved by the Architect.

B. Tree protection fencing to be installed over utility locations shall be installed using surface anchors. No poles or stakes shall be driven into the ground at these locations.

3.7 ROOT PRUNING

A. Where construction will within drip line of existing trees designated to remain, roots shall be pruned.

B. All root pruning shall be done by Certified Arborist only. Air spade is the preferred tool for root pruning. Trenching, vibrating plow, and stump grinding are NOT suitable means for root pruning.

C. Roots greater than 1 in. diameter shall be pruned by means of a hand saw, or other approved means.

D. Install root protection measures as prescribed by Certified Arborist.

3.8 CONSTRUCTION PRUNING

A. Construction pruning shall conform to NAA Ref.1 for Class IV - Crown Reduction Pruning. Work shall conform to the requirements of ANSI Z133.1, and shall be reviewed in the field with the Architect and Certified Arborist prior to start of work.

3.9 FERTILIZATION AND INSECT SPRAYING

A. Root pruned and construction pruned tree shall be treated with liquid fertilizer, dormant oil spray, and insecticide as prescribed by Certified Arborist.

B. Liquid fertilizer shall be applied at a rate recommended by the manufacturer and as required by NAA Ref. 2.

C. Dormant oil spray shall be applied in early spring before buds begin to swell at a rate recommended by the manufacturer.

D. Insecticide spray shall be applied twice to root pruned trees following application of dormant oil spray. Spray insecticide at rates recommended by spray manufacturer at intervals appropriate for effective insect control.

3.10 REMOVAL OF PROTECTION

A. All protection shall remain in place throughout the construction period. Remove protection devices only after written permission has been granted by the Architect.

END OF SECTION 01560

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:

1. To clearly delineate traffic lanes and to guide traffic.
2. For use of flag-person in directing traffic.

B. Provide illumination of critical traffic and parking areas.

1. Maintain free vehicular access to and through parking areas.
2. 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 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 of Fort Lauderdale and FDOT 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'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 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 of the 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 Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01570

SECTION 01590 - PROJECT SIGN

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall furnish two 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 01590

Construction Sign Request Form

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:

1. Conform to applicable specifications and standards.
2. Comply with size, make, type and quality specified, or as specifically approved in writing by the OWNER's Representative.
3. Manufactured and fabricated products:

    a. Design, fabricate and assemble in accord with the best engineering and shop practices.
    b. Manufacture like parts of duplicate units to standard sizes and gauges to be interchangeable.
    c. Two or more items of the same kind shall be identical, by the same manufacturer.
    d. Products shall be suitable for service conditions.
    e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

4. 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 such instructions 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.

1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with OWNER's Representative for further instructions.
2. 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.

1. Deliver products in undamaged condition, in manufacturers' original containers or packaging, with identifying labels intact with legible markings.
2. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
3. 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:

1. Work of other contractors, or OWNER.
2. Limitations of storage space.
3. Availability of equipment and personnel for handling products.
4. 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:

1. Product complies with requirements of Contract Documents and reviewed submittals.
2. Quantities are correct.
3. Containers and packages are intact, labels are legible.
4. 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.

1. Store products subject to damage by the elements in weather-tight enclosures.
2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.

B. Exterior Storage

1. Provide substantial platforms, blocking or skids to support fabricating products above ground, prevent soiling or staining.

   a. Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.

2. Store loose granular materials on solid surface such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.

   a. Provide surface drainage to prevent flow or ponding of rainwater.
   b. 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:

1. State of storage facilities is adequate to provide required conditions.
2. Required environmental conditions are maintained on continuing basis.
3. Surfaces of products exposed to elements are not adversely affected.

   a. 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.

1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
2. Protect finished floors and stairs from dirt and damage.

   a. In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.
   b. For movement of heavy products, lay planking or similar materials in place.
   c. Cover wall and floor surfaces in the vicinity of construction personnel activities and all finished surfaces used by construction personnel.

D. Waterproofed surfaces

1. Prohibit use of surfaces for traffic of any kind, and for storage of any products.
2. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.

   a. Install recommended protection; remove on completion of that activity.
   b. Restrict use of adjacent unprotected areas.

E. Lawns and landscaping

1. 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.

1. During bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this section.
2. 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.
3. Substitute products shall not be ordered or installed without written acceptance.
4. Only one (1) request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

B. Products List

1. Within 15 days after Contract Date submit to ENGINEER/Architect a complete list of major products proposed to be used, with the name of the manufacturer and the installing Subcontractor.

C. Contractors Options

1. For products specified only by reference standard, select any product meeting that standard.
2. 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.
3. 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 for Cause:

1. For a period of 15 days after Contract Date, ENGINEER/Architect will consider written request from CONTRACTOR for substitution of products.
2. 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.
3. List similar projects using product, dates of installation, and names of ENGINEER/Architect and OWNER.
4. List availability of maintenance services and replacement materials.
5. Submit a separate request for each product, supported with complete data, with drawings and samples as appropriate, including:

    a. Comparison of the qualities and performance of the proposed substitution with that specified.
    b. Changes required in other elements of the work because of the substitution.
    c. Effect on the construction schedule.
    d. Cost data comparing the proposed substitution with the product specified.
    e. Any required license fees or royalties.

f. Availability of maintenance services, and source of replacement materials.

6. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the CONTRACTOR.
7. The ENGINEER/Architect 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.
8. The ENGINEER/Architect may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute.
9. 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.
10. Acceptance by the ENGINEER/Architect of a substitute item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
11. 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. Substitutions for Convenience: Not allowed unless otherwise indicated.

F. Contractors Representation:

1. A request for a substitution constitutes a representation that CONTRACTOR:

a. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
b. Will provide the same guarantees or bonds for the substitution as for the product specified.
c. 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.
d. Waives all claims for additional costs, under CONTRACTOR'S responsibility, which may subsequently become apparent.

G. Submittal Procedures:

1. Submit three (3) copies of request for substitution.
2. ENGINEER/Architect will review requests for substitutions with reasonable promptness, and notify CONTRACTOR, in writing, of the decision to accept or reject the requested substitution.
3. During the bidding period, ENGINEER/Architect will record acceptable substitutions in Addenda.
4. After award of Contract, ENGINEER/Architect will notify CONTRACTOR, in writing, of decision to accept or reject requested substitutions in Addenda.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

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.

D. The OWNER's Representative reserves the right to direct the CONTRACTOR to remove waste materials

E. 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 from Construction 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 conduct an 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.

END OF SECTION 01710

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:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

1.3 SUBMITTALS

A. Record Drawings. Comply with the following:

1. 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.

1. 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.

1. 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.
2. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
3. Accurately record information in an understandable drawing technique.
4. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

    a. Document with photographs.

5. Content. Types of items requiring marking include, but are not limited to, the following:

    a. Dimensional changes to Drawings.

b. Revisions to details shown on Drawings.
c. Depths of foundations.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Changes made by Change Order or Work Change Directive.
i. Changes made following Engineer's written orders.
j. Details not on the original Contract Drawings.
k. Field records for variable and concealed conditions.
l. Record information on the Work that is shown only schematically.

6. 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 Contract Drawings.
7. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
8. Mark important additional information that was either shown schematically or omitted from original Drawings.
9. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
10. 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.

1. Record Prints. Organize Record Prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Identification. As follows:

a. Project number.
b. Project name.
c. Date.
d. Designation "PROJECT RECORD DRAWINGS."
e. 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.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

5. 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.

1. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
2. 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 of the 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 01720

SECTION 01780 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUBMITTALS

A. Informational Submittals:

1. Submit prior to application for final payment.

    a. Record Documents.
    b. As-built drawings (signed and sealed hardcopies and electronic format – PDF and CAD files)
    c. Special Bonds, Special Guarantees, and Service Agreements.
    d. Consent of Surety to Final Payment.
    e. Releases or Waivers of Liens and Claims.
    f. Releases from Agreements.
    g. Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 01025 “Measurement and Payment”.
    h. Spare Parts, Special Tools and Extra Materials: As required by individual Specification sections.

B. Subcontractor Identification Form:

1. Submit form with final pay request.
2. Submit a separate form for each subcontractor used.
3. For Capital Improvement Projects, submit form along with final pay request to the PCM.
4. Form is attached as a Supplement to this Section.

1.2 RECORD DOCUMENTS

A. Quality Assurance:

1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.
2. Accuracy of Records:

    a. 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.
    b. 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.

3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.
4. 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:

1. Inform PCM of the reasons.
2. 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.
3. 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.
4. 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:

a. 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
b. Contractor is unable to contact or has had undue hardship in contacting grantor.

1.4 AS-BUILT DRAWINGS

A. Quality Assurance:

1. 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.
2. As-built drawings will be submitted in both electronic and hard copy forms as follow:

a. 3 hard copy sets of as-builts will be submitted on 24x36 paper signed, sealed, and dated by a Florida Professional Licensed Surveyor (PLS).
b. 1 CD or jump drive which will include both DWG files for the package and a PDF document including the surveyors signature and seal.

3. As-built drawings will include the following:

a. PLS name, business name, license numbers, address, and telephone number
b. The following statement must be included:

1) “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-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.

d. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 MAINTENANCE OF RECORD DOCUMENTS

A. General:

1. 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.
2. Delete Engineer title block and seal from all documents.
3. Label or stamp each record document with title, “RECORD DOCUMENTS,” in neat large printed letters.
4. 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.
5. 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:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
2. Make documents and Samples available at all times for observation by PCM or Engineer.

C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.

a. Color Coding:

1) Green when showing information deleted from Drawings.
2) Red when showing information added to Drawings.

3) Blue and circled in blue to show notes.

2. Date entries.
3. Call attention to entry by “cloud” drawn around area or areas affected.
4. Legibly mark to record actual changes made during construction, including, but not limited to:

   a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
   b. 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.
   c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
   d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
   e. 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.

5. 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.
   a. Clearly identify the item by accurate notes such as “cast iron drain,” “galv. water,” and the like.
   b. Show, by symbol or note, vertical location of item (“under slab,” “in ceiling plenum,” “exposed,” and the like).
   c. Make identification so descriptive that it may be related reliably to Specifications.

D. Coordination with Florida Licensed surveyor:

1. 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.
2. 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.

1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner and PCM.
2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
4. Clean all windows.

5. Clean and wax wood, vinyl, or painted floors.
6. Broom clean exterior paved driveways and parking areas.
7. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
8. Rake clean all other surfaces.
9. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.
10. 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.

1. Subcontractor Identification Form (See next page).

END OF SECTION 01780

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 form is to be completed and submitted for each subcontractor. Please telephone (954) 761-5057 or 761-5083, if you have any questions regarding this form.ee

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 03 2000 – CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Reinforcement for cast-in-place concrete.
2. Mechanical splices.

B. Extent of cast-in-place concrete Work is shown on the Drawings. Provide all materials, labor, hardware, equipment, transportation, and services required to fabricate and place all reinforcement for cast-in-place concrete.

C. Cooperation with Work of other Sections:

1. Review Contract Drawings and Specifications for requirements of other sections which affect the installation of reinforcement.
2. Examine the Drawings and Specifications for all Contracts to determine nature of proposed construction. Perform work in a manner which will not interfere or delay work of other Contractors. Cooperate with other trades regarding installation of embedded items. Templates and instructions will be provided for setting items placed in forms.
3. Inform those performing Work of other Sections, in writing or by schedules, of requirements for services, materials, and built-in terms prepared or supplied by other Sections which affect Work of this Section.

D. Related Sections: The following sections contain requirements that relate to this Section:

1. Division 01 Section “Submittal Procedures” for submittal requirements.
2. Division 01 Section "Quality Requirements" for testing requirements.
3. Division 03 Section "Cast-in-Place Concrete."

1.3 SUBMITTALS

A. Shop Drawings - Submit shop drawings and product data to include all information necessary for fabrication and placement of reinforcement as follows:

1. Detail and placement Drawings shall be prepared in accordance with CRSI Standards to define and establish the location, size, spacing, length, and shape of reinforcing and all other pertinent information required. Indicate grades of reinforcing steel. Detail wall reinforcing on wall elevations. Clearly indicate the

splice length for every size and type of bar used. Include all other project requirements affecting reinforcing details and placing, such as openings, curbs, and depressions.

2. Drawings indicating the type, size, and location of all accessories required for the proper assembly, placement, and support of the reinforcement.
3. Clearly indicate additional reinforcement added at joints.

B. Mill Test Reports:

1. Submit certified copies of mill test reports for reinforcing steel, including statement of compliance with specified ASTM Standards.

C. Samples:

1. Submit duplicate samples of accessories for reinforcement prior to actual use in the product.

1.4 QUALITY ASSURANCE

A. Codes and Standards: Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations of the latest editions of the following:

1. ASTM International (ASTM) A 36: Standard Specification for Carbon Structural Steel.
2. ASTM A 82: Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
3. ASTM A 496: Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
4. ASTM A 497: Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
5. ASTM A 576: Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality.
6. ASTM A 615: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
7. ASTM A 820: Standard Specification for Steel Fibers for Fiber-Reinforced Concrete.
8. ASTM A 1064: Standard Specification for Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
9. ASTM C 1116: Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
10. ASTM C 1399: Test Method for Obtaining Average Residual-Strength of Fiber-Reinforced Concrete.
11. American Concrete Institute (ACI) 117: Specifications for Tolerances for Concrete Construction and Materials and Commentary.
12. ACI 301: Specifications for Structural Concrete.
13. ACI 315: Standard Practice for Detailing Reinforced Concrete Structures.
14. ACI 318: Building Code Requirements for Structural Concrete and Commentary.
15. American Welding Society (AWS) D 1.4: Structural Welding Code – Reinforcing Steel.

16. Concrete Reinforcing Steel Institute (CRSI): Manual of Standard Practice.
17. CRSI: Placing Reinforcement Bars.

B. In case of conflict between specified codes and standards, the most stringent requirements shall govern. In case of conflict between specified codes and standards and project specifications, project specifications shall govern.

C. Preconstruction Conference: The Reinforcing-Placing subcontractor shall attend the Preconstruction Conference conducted by the Concrete Contractor as described in Division 03 Section "Cast-in-Place Concrete."

1.5 DELIVERY, STORAGE AND HANDLING

A. Bundle reinforcement and tag with suitable identification to facilitate sorting and placing.

B. Sequence the shipments of material to the site to minimize field handling and storage.

C. Store the reinforcing steel on premises in a neat and orderly manner under cover and off ground. Protect the reinforcement from damage, dirt, and corrosion. Provide proper drainage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Recycled Content of Steel Reinforcement Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is 60 percent.

B. Regional Materials: Provide products that have been produced within 500 miles of Project Site.

C. Bar Reinforcement - Newly-rolled billet steel conforming to the following:
1. All Reinforcing Bars: ASTM A 615-Grade 60 unless otherwise noted on the Drawings.

D. Welded Wire Reinforcement: ASTM A 1064 with a yield strength of 65,000 PSI. Deliver in sheets, not rolls.

E. Reinforcement Accessories:

1. Provide all spacers, chairs, ties, slab bolsters, clips, chair bars, and other devices for properly assembling, placing, spacing, supporting, and fastening the reinforcement.
2. Use annealed tie wire of not less than #18 gauge. Use epoxy-coated tie wire with epoxy coated reinforcing bars.
3. Use individual and continuous slab bolsters and chairs of a type to suit the various conditions encountered. The chairs and bolsters must be capable of supporting a 300-lb concentrated load without measurable permanent

deformation of the reinforcement or supports or indentation of the supporting surface.

4. Use accessories which conform to CRSI Bar Support Specifications, Class 1 or Class 2, in contact with surfaces exposed to view in the finished work.
5. Support reinforcement for slabs on ground on plastic or steel supports designed for the purpose or precast concrete bricks of a type acceptable to the Architect/Engineer. Use sand plates or other means to support chairs at proper elevation on base material. Wood blocks, stones, brick chips, etc., are not acceptable.

PART 3 - EXECUTION

3.1 DETAILING OF REINFORCING STEEL

A. Detail reinforcing bars in accordance with the requirements of ACI 315.

B. Avoid splicing reinforcement at points of maximum stress.

C. Detail reinforcing to allow clearance for intersecting reinforcing bar layers with minimum specified cover.

3.2 FABRICATION OF REINFORCEMENT

A. Do not commence fabrication until the shop drawings, details, and schedules have been reviewed by the Architect/Engineer.

B. Accurately fabricate reinforcement to dimensions on the reviewed shop drawings, details, and schedules.

C. Cold bend all reinforcement. Do not heat reinforcing for any purpose.

D. Do not fabricate bars in a manner injurious to the bars. Bars with kinks or bends not shown on the Drawings and bars reduced in section will be rejected.

3.3 INSTALLATION OF REINFORCEMENT

A. Install reinforcing only from Shop Drawings which have been reviewed by the Architect/Engineer.

B. Accurately place and rigidly secure reinforcing in position in accordance with the requirements of Chapter 8, Recommended Industry Practice for Placing Reinforcing Bars, of CRSI Manual of Standard Practice, requirements specified herein, and on the Drawings.

C. Tie reinforcing with specified tie wire and bend all wire back beyond general plane of reinforcing.

D. Provide continuous welded wire reinforcement where shown in slabs with joints lapped at least one full mesh or two full mesh at construction joints, but not less than 6 inches. Tie securely and support reinforcement at the proper elevation by accessories.

Stagger laps of sheets to avoid a continuous lap in either direction. Provide supports to maintain the reinforcement in its proper position during placement of the concrete.

E. Bending, tack welding, cutting or substituting reinforcement in the field, other than that shown on the Drawings is prohibited unless specific approval for each case is given by the Architect/Engineer.

F. Remove excessive rust, scale, or other foreign substances from the reinforcement which might destroy or reduce bond prior to placing concrete.

G. Avoid exposure of reinforcement to the weather for any considerable length of time before placing of concrete. Where this is unavoidable, paint reinforcement with a heavy coat of cement grout. Protect the exposed concrete and any other materials against staining from exposed reinforcement.

H. Before the concrete is cast, check all reinforcement after it is placed to insure that reinforcement conforms to Contract Drawings, shop detail drawings, and Specification requirements. Use only qualified experienced personnel to check. Notify the Architect/Engineer at least 36 hours (excluding weekends and holidays) prior to the concrete placement to give the opportunity to observe the completed reinforcement and formwork before concrete placement.

I. Remove and replace damaged bars.

J. Splice the reinforcing only as shown on the Drawings or as approved by the Architect/Engineer. All lap splices shall be contact lap splices.

K. Do not tack welded wire reinforcement around structural steel members to be encased in concrete. Use tie wires and lap to securely hold in position.

L. Mechanical, Electrical, and Plumbing Requirements:

1. Refer to mechanical, electrical, and plumbing drawings for formed concrete requiring reinforcement steel.

3.4 FIELD QUALITY CONTROL

A. Owner's Testing Agency: Refer to Division 03 Section "Cast-in-Place Concrete" for reinforcement inspection and test requirements.

END OF SECTION 03 2000

SECTION 033000 – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Cast-in-place concrete, including the following:

a. Foundations.
b. Slabs on ground.

2. Testing and inspections for cast-in-place concrete.
3. Curing compound.
4. Sealer.
5. Hardeners.
6. Vapor retarder.

B. Extent of cast-in-place concrete Work is shown on the drawings. Provide all materials, labor, services, equipment, transportation, and hardware required for all cast-in-place concrete. Include additional concrete required to compensate for deflection of support framing by other trades.

C. Cooperation with Work of other Sections:

1. Review Contract Drawings and Specifications for requirements of other Sections which affect the placement of cast-in-place concrete.
2. Perform work in a manner which will not interfere or delay work of other Contractors. Cooperate with other trades regarding installation of embedded items. Templates and instructions will be provided for setting items placed in forms.
3. Inform those performing Work of other Sections, in writing or by schedules, of requirements for services, materials, or other items prepared by or supplied by other Sections which affect Work of this Section.

D. Related Sections: The following sections contain requirements that relate to this Section:

1. Division 01 Section “Submittal Procedures” for submittal requirements.
2. Division 01 Section "Quality Requirements" for testing requirements.
3. Division 03 sections for related concrete formwork and reinforcing.

4. Division 03 Section “Cast-In-Place Architectural Concrete” for architecturally exposed concrete.
5. Division 07 sections for related insulation and waterproofing systems.
6. Division 09 sections for restrictions on concrete finishing and curing to assure compatibility with finish materials.
7. All Divisions for sleeves, anchors, inserts, etc., that will be furnished by others and installed under this Section.
8. Division 31 sections for concrete work related to sitework.

E. Responsibility of the Contractor: The design, strength, safety and adequacy of all methods of construction, and the strength, slump, consistency, finish and general quality of concrete are the responsibility of the Contractor. No action by the Architect/Engineer will eliminate, lessen or restrict this responsibility in any manner.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast furnace slag, and silica fume; subject to compliance with the requirements.

1.4 SUBMITTALS

A. Manufacturer's Data: For standard factory-manufactured materials, including specifications for application and installation of proprietary items and materials such as bonding agents, admixtures, curing and sealing compounds, patching compounds, hardeners, epoxies, and dryshake finish materials.

B. Evidence that concrete supplier is certified by the National Ready Mixed Concrete Association.

C. Concrete design mixes and backup data on the attached form: Refer to Part 2 Article “Concrete Mix Design” in this Section for requirements. Include test reports on the following:

1. Gradation analysis and soundness tests for coarse and fine aggregate. Identify sources of aggregate.
2. Mill test reports on cement, including brand, type and source of supply.
3. Compression tests on trial cylinders.
4. Slump and air content of trial batches.
5. Admixture certification, including chloride ion content.

D. Complete test reports on splitting tensile strength (F_{CT}) of lightweight concrete.

E. Samples to Testing Agency: Concrete constituents including admixtures.

F. Shop drawings showing locations of all sleeves, depressions, and curbs.

G. Materials and methods for curing concrete.

H. Methods proposed for hot weather and cold weather curing and protection of concrete; submit prior to commencement of any concrete work.

I. Method of developing bond at joints.

1. Qualification Data: For concrete installer and surveyor.

J. Field quality-control reports.

1. Owner's Testing Agency Reports: Submit directly to the Architect/Engineer, with copies to the Contractor and others as indicated. Document all of the certifications, tests, and inspections specified.
2. Field quality-control reports shall clearly indicate all pertinent data, including but not limited to the following: date; time; weather conditions; name and qualifications of inspector; certifications, tests, and/or inspections performed; equipment used; location of structural member or assembly within the building; whether or not the test results indicate compliance with the Contract Documents; etc.

K. Survey report for anchor rods and reinforcing steel dowels.

1.5 QUALITY ASSURANCE

A. Codes and Standards: Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations of the latest editions of the following:

1. ASTM International (ASTM) C 33: Standard Specification for Concrete Aggregates.
2. ASTM C 39: Test Method for Compressive Strength of Cylindrical Concrete Specimens.
3. ASTM C 94: Specification for Ready Mixed Concrete.
4. ASTM C 150: Specification for Portland Cement.
5. ASTM C 157: Test Method for Length Changes of Hardened Hydraulic – Cement Mortar and Concrete.
6. ASTM C 171: Standard Specification for Sheet Materials for Curing Concrete.
7. ASTM C 192: Practice for Making and Curing Concrete Test Specimens in the Laboratory.
8. ASTM C 227: Standard Test Method for Potential Alkali Reactivity of Cement Aggregate Combinations (Mortar Bar Method)
9. ASTM C 295: Standard Guide for Petrographic Examination of Aggregates for Concrete.
10. ASTM C 260: Specification for Air-Entraining Admixtures for Concrete.
11. ASTM C 330: Standard Specification for Lightweight Aggregates for Structural Concrete.
12. ASTM C 494: Standard Specification for Chemical Admixtures for Concrete.
13. ASTM C 595: Standard Specification for Blended Hydraulic Cements.
14. ASTM C 618: Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete."
15. ASTM C 881: Specification for Epoxy-Resin-Base Bonding Systems for Concrete.

16. ASTM C 989: Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
17. ASTM C 1059: Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.
18. ASTM C 1116: Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
19. ASTM C 1218: Test Method for Water-Soluble Chloride in Mortar and Concrete.
20. ASTM C 1240: Standard Specification for Silica Fume for Use as a Mineral Admixture in Hydraulic-Cement Concrete, Mortar, and Grout.
21. ASTM C 1315: Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
22. ASTM C 1602: Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
23. ASTM D 1751: Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
24. ASTM D 1752: Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
25. ASTM D 2240: Test Method for Rubber Property – Durometer Hardness.
26. ASTM D 4397: Standard Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications.
27. ASTM D 6817: Standard Specification for Rigid, Cellular Polystyrene Geofoam.
28. ASTM E 154: Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Wall, or as Ground Cover.
29. ASTM E 1155: Standard Test Method for Determining Floor Flatness and Levelness Using the F-Number System.
30. ASTM E 1643: Standard Practice for Installation of Water Vapor Retarders used in Contact with Earth or Granular Fill Under Concrete Slabs.
31. ASTM E 1745: Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
32. American Concrete Institute (ACI) 211.1: Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
33. ACI 211.2: Standard Practice for Selecting Proportions for Structural Lightweight Concrete.
34. ACI 214R: Guide to Evaluation of Strength Test Results of Concrete.
35. ACI 301: Specifications for Structural Concrete.
36. ACI 302.1R: Guide for Concrete Floor and Slab Construction.
37. ACI 304R: Guide for Measuring, Mixing, Transporting, and Placing Concrete.
38. ACI 305.1: Specification for Hot Weather Concreting.
39. ACI 305R: Guide to Hot Weather Concreting.
40. ACI 306.1: Standard Specification for Cold Weather Concreting.
41. ACI 306R: Guide for Cold Weather Concreting.
42. ACI 309R: Guide for Consolidation of Concrete.
43. ACI 318: Building Code Requirements for Structural Concrete.
44. American Welding Standard (AWS) D1.4: Structural Welding Code – Reinforcing Steel.
45. National Ready Mixed Concrete Association (NRMCA): Concrete Plant Standards and Truck Mixer and Agitator Standards.
46. Concrete Reinforcing Steel Institute (CRSI): Manual of Standard Practice.
47. CRSI: Placing Reinforcement Bars.

B. In case of conflict between specified codes and standards, the most stringent requirements shall govern. In case of conflict between specified codes and standards and project Specifications, project Specifications shall govern. In case of conflicts between Contract Documents, immediately notify Architect/Engineer for resolution.

C. Preinstallation Conference:

1. At least 30 days prior to submitting the concrete mix designs for approval, conduct a meeting to review the detailed requirements for preparing the concrete mix designs and to determine the procedures for producing proper concrete construction within the specified tolerances and required quality.
2. Responsible representatives from all concerned parties are required to attend the conference including, but not limited to, the following:

    a. Owner’s representative.
    b. Construction Manager’s superintendent.
    c. Contractor's superintendent.
    d. Architect/Engineer.
    e. Laboratory responsible for concrete mix designs.
    f. Owner's Testing Agency.
    g. Concrete subcontractor.
    h. Formwork subcontractor.
    i. Reinforcement-placement subcontractor.
    j. Ready-mix concrete supplier.
    k. Admixture manufacturer(s).
    l. Concrete pumping equipment operator.

3. Review requirements for submittals, status of coordinating work, and availability of materials.
4. Establish proposed work progress schedule and testing procedures.

1.6 DELIVERY, STORAGE AND HANDLING

A. Comply with ACI 301 and with ACI 304.

1.7 QUALIFICATIONS

A. Installer Qualifications: The concrete Installer shall have a minimum of five years of experience with installation of concrete similar in material, design and extent to that indicated for this Project and whose work has resulted in construction with a record of successful-service performance.

B. Supplier Qualifications: The concrete Supplier shall have a minimum of five years of experience in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment. The supplier must be certified according to the National Ready Mixed Concrete Association’s Certification of Ready Mixed Concrete Production Facilities.

C. Inspection and Testing of the Work: Materials and installed work may require testing and retesting, as directed by the Architect/Engineer, at any time during progress of work. Allow free access to material stockpiles and facilities. Tests, not specifically

indicated to be done at the Owner's expense, including retesting of rejected materials and installed work, shall be done at the Contractor's expense. See "Field Quality Control" section of the Specifications.

1. Inspection or testing by the Owner does not relieve the Contractor of his responsibility to perform the Work in accordance with the Contract Documents.

D. Acceptance Criteria for Concrete Strength: The strength level of an individual class of concrete shall be considered satisfactory if the following requirements are met:

1. The average of all sets of three consecutive strength tests equals or exceeds the required compressive strength (f'c).
2. No individual strength test falls below the required compressive strength (f'c) by more than 10 percent of the concrete compressive strength or 500 psi, whichever is greater.
3. A strength test shall be defined as the average strength of two cylinder breaks tested at the strength age indicated on the drawings for that class of concrete.

E. Responsibility for Selection and Use of Concrete Admixtures and Chemical Treatments: The Contractor is responsible for selecting admixtures and surface treatments that are compatible with the intended use of the concrete including all final surface treatments called for within the Contract Documents. The Contractor is responsible for following the manufacturer's instructions for the use of their products including abiding by any limitations placed by the manufacturer on the use of any of its products.

PART 2 - PRODUCTS

2.1 GENERAL

A. Use materials from the same source from the start to the finish of the project, unless a change is accepted in writing by the Architect/Engineer.

2.2 CONCRETE MIX MATERIALS

A. Portland Cement: American-made Portland Cement, ASTM C 150 Type I or III. For concrete exposed to salt air or salt water, provide Type II or Type V cement.

1. Do not exceed an alkali content of 0.6% unless the manufacturer certifies that no alkali reactivity is produced with the proposed combination of materials when tested in accordance with ASTM C 227.

B. Fine aggregate (normal weight): Washed, inert, non-reactive natural sand conforming to ASTM C 33. Fineness modulus of 2.3 to 3.1. For pumped concrete, 15 to 30 percent passing Number 50 sieve and 5 to 10 percent passing a Number 100 sieve. Comply with the following:

Sieve size	Percent passing
3/8 inch	100
No. 4	95-100

No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	5-30
No. 100	0-10

C. Coarse aggregate (normal weight): Washed, non-reactive, well-graded, crushed stone or gravel conforming to ASTM C 33. Refer to Part 2 paragraph “Concrete Mix Designs" for additional requirements.

D. Lightweight fine and coarse aggregates: Rotary kiln expanded clay, slate, or shale conforming to ASTM C 330. Use lightweight fines only as necessary to attain specified unit weight concrete. Subject to compliance with requirements, the following are acceptable:

1. Norlite.
2. Solite.
3. Haydite.

E. Water: ASTM C 1602; potable, clean and free from deleterious substances.

F. Air Entraining Agent: Comply with ASTM C 260. Agent shall be fully compatible with all other concrete mix materials. Subject to compliance with project requirements, the following are acceptable:

1. Darex AEA or Daravair by W.R. Grace Co.
2. Euclid AEA 92 by The Euclid Chemical Co.
3. Sika AER by Sika Corp.
4. MB AE90 or Microair by BASF Construction Chemicals, LLC.

G. Water reducing and plasticizing admixtures: Comply with ASTM C 494, Type A. Subject to compliance with project requirements, the following are acceptable:

1. Eucon WR-75 by The Euclid Chemical Co.
2. WRDA with Hycol by W.R. Grace Co.
3. Pozzolith 322N or 200N by BASF Construction Chemicals, LLC.
4. Plastocrete 161 by Sika Corp.

H. Mid-range water reducing admixture: Comply with ASTM C 494, Type A or F. Subject to compliance with project requirements, the following are acceptable:

1. Eucon MR by The Euclid Chemical Co.
2. Daracem 55 by W.R. Grace Co.
3. Polyheed 997 or 1025 by BASF Construction Chemicals, LLC.

I. High-range water reducing (HRWR) admixture (superplasticizer): Comply with ASTM C 494, Type F or G. Subject to compliance with project requirements, the following are acceptable:

1. Daracem 100 by W.R. Grace Co.
2. Eucon 37 by The Euclid Chemical Co.

3. Rheobuild 1000 by BASF Construction Chemicals, LLC.
4. Sikament 300 by Sika Corp.

J. Accelerating Agent: Non-corrosive, containing no chloride; conform to ASTM C 494, Type C or E. Subject to compliance with project requirements, the following are acceptable:

1. Accelguard 80 by The Euclid Chemical Co.
2. Polarset by W.R. Grace Co.
3. Pozzutec 20+ or Pozzolith NC534 by BASF Construction Chemicals, LLC
4. Plastocrete 161FL by Sika Corp.

K. Retarding admixtures: For use in hot weather concreting. Comply with ASTM C 494, Type D water-reducing and retarding. Subject to compliance with project requirements, the following are acceptable:

1. Plastiment by Sika Chemical Corp.
2. Pozzolith 100XR by BASF Construction Chemicals, LLC
3. Eucon Retarder-75 by The Euclid Chemical Co.

L. Fly Ash: ASTM C 618, Type C or F. Maximum 3 percent loss on ignition with no soda ash content allowed. Use only with prior review and acceptance of Architect/Engineer. Fly ash shall not exceed 20% of the total cementitious materials by weight nor 150 pounds per cubic yard. Do not use fly ash in conjunction with ground granulated blast furnace slag.

M. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120. Use only with prior review and acceptance of Architect/Engineer. Ground granulate blast-furnace slag shall not exceed 30% of the total cementitious materials by weight. Do not use ground granulated blast furnace slag in conjunction with fly ash.

N. Calcium Nitrite corrosion inhibitor: Comply with ASTM C 494 Type C. Dosage rate 2 to 6 gallons per cubic yard. Subject to compliance with project requirements, the following are acceptable:

1. DCI by W.R. Grace & Co
2. Eucon CIA by The Euclid Chemical Co.
3. Rheocrete CNI by BASF Construction Chemicals, LLC.

O. Calcium Chloride and Chloride Ion Content:

1. Calcium chloride or admixtures containing more than 0.5% chloride ions by weight of the admixture are not permitted.
2. The maximum water soluble chloride ion concentration in hardened concrete at ages from 28 to 42 days contributed from all ingredients including water, aggregates, cementitious materials, and admixtures shall not exceed the limits specified below. Water-soluble chloride ion tests shall conform to ASTM C 1218.

Construction type	Chloride limit, % by mass
Prestressed concrete	0.06
Reinforced concrete, wet in service	0.08

Reinforced Concrete, dry in service 0.15

3. The Concrete Supplier shall certify that the chloride ion content in all concrete mix designs used on the project will not exceed limits stated above.

2.3 VAPOR RETARDERS

A. Plastic Vapor Retarder: Comply with ASTM E 1745, Class A. Subject to compliance with project requirements, the following are acceptable:

1. Moistop Ultra 15 by Fortifiber Building Systems Group.
2. VaporBlock VB15 by Raven Industries Inc.
3. Griffolyn 15 Mil by Griffolyn, A Division of Reef Industries, Inc.
4. Stego Wrap 15-Mil by Stego Industries, LLC.

2.4 CURING MATERIALS

A. Concrete Curing Materials: Use where moist curing is indicated on Contract Documents. Use where bonded toppings, overlays, applied surface treatments or other applied finishes are incompatible with liquid membrane forming curing compounds.

1. Waterproof Paper: ASTM C 171.
2. Polyethylene Film: ASTM C 171.
3. Burlap: Federal Spec CC-C-467A.

B. Concrete Curing and Sealing Compound (Water Based): Liquid-membrane-forming type conforming to ASTM C 1315. Clear non-yellowing acrylic; minimum solid content of 30%; moisture vapor transmission rate less than 0.40 kg/sq.m for 72 hours when applied at coverage of 300 sq. ft. per gallon. Manufacturer's certification required. Sodium silicate compounds and rubber-based products are prohibited. Verify that material used is compatible with any finish material subsequently applied to the concrete surface. Subject to compliance with project requirements, the following are acceptable:

1. Dress & Seal WB30 by L & M Construction Chemicals.
2. Super Diamond Clear VOX by The Euclid Chemical Company.
3. Cure & Seal 1315 EF by Dayton Superior.

2.5 MISCELLANEOUS RELATED MATERIALS

A. Epoxy Joint Filler: Moisture insensitive, flexible epoxy resin material. Minimum Shore A hardness of 80 where measured in accordance with ASTM D 2240. Use in control and construction joints for areas indicated on Contract Documents. Acceptable products are:

1. Euco 700 by The Euclid Chemical Co.
2. Sikadur 51 SL by Sika Corporation.
3. MM80 by Metzer-McGuire.
4. Epoflex SL by L&M Construction Chemicals, Inc.

B. Non-Reemulsifiable Latex: Not less than 48 percent solids. Subject to compliance with project requirements, the following are acceptable:

1. SBR Latex by The Euclid Chemical Co.
2. Sikalatex by Sika Corp.
3. Everbond by L & M Construction Chemicals.

C. Epoxy Resin Bonding Agent: ASTM C 881 two-component 100 percent solids mineral filled epoxy-polysulfide polymer. Subject to compliance with project requirements, the following are acceptable:

1. Sikadur 32 Hi-Mod by Sika Corporation.
2. Euco Epoxy No. 452MV by The Euclid Chemical Company.
3. Epobond by L&M Construction Chemicals, Inc.
4. Concresive 1090 by BASF Construction Chemicals, LLC.

D. Non-shrink patching mixture: Specially-formulated, high-bond package mixture. Subject to compliance with project requirements, the following are acceptable:

1. Euco-Speed by The Euclid Chemical Co.
2. Durapatch by L & M Construction Chemicals.
3. Sika Set Roadway Patch 2000 by Sika Corp.

E. Polymer Patching Mortar: Free-flowing, polymer-modified cementitious mortar. Subject to compliance with project requirements, the following are acceptable:

1. Sikatop 121 Plus or 122 Plus (horizontal repairs); Sikatop 123 Plus (vertical and overhead repairs) by Sika Corporation.
2. Thin-Top Supreme or Concrete-Top Supreme (horizontal repairs); Verticoat or Verticoat Supreme (vertical and overhead repairs) by The Euclid Chemical Company.

2.6 CONCRETE MIX DESIGN

A. Engage a Technical Agency familiar with local construction conditions and materials to design concrete mixes.

B. Prior to the formulation of design mixes, review with the Technical Agency the concrete mix requirements relative to strength, slump, air content, seasonal adjustments required due to temperatures and anticipated job use, and placement conditions.

C. Provide separate design mixes for each anticipated and/or actual changes in type of mix materials including changes in admixtures, in proportion of basic materials, in slump limits and in placement methods, especially pumping. Identify the proposed use for each mix.

D. Prepare the mix designs with sufficient lead time to allow testing and adjustment of the mix. Establish the concrete mix design proportions to provide the required average strength using the procedures defined in Chapter 5 of ACI 318. Whenever possible, use appropriate field test data (30 consecutive tests) to establish a standard deviation for the mixes. When an acceptable record of field test results is not available, establish

the concrete proportions based on 3 point curves from laboratory trial batch mixtures. When a standard deviation cannot be properly established for the mix design, proportion concrete to provide an average strength of f'c plus 1200 psi. For concrete strengths above 5,000 psi, proportion concrete to provide an average strength of 1.1*f'c plus 700 psi.

E. Submit the complete proposed design mix on the attached form along with the appropriate test data and technical data to the Architect/Engineer for review at least 15 days prior to use. For each mix design, identify the cement type; proportions of each constituent; water-cement ratio; and brand, type, and proportion of each admixture. Include the measured slump, air content, unit weight, and compressive strength test results for each mix design.

F. Concrete mix design submittals that are incomplete, that are not on the attached submittal form, or do not satisfy the requirements of the Specifications will be rejected. Additional testing and/or revisions to the mix design may be required to achieve compliance. Do not place any concrete until design mix submittal(s) have been reviewed and accepted by the Architect/Engineer. Keep a copy of the reviewed mix designs on file in the field office.

G. For slabs on ground, formulate the concrete mix design to minimize the amount of cement and water necessary to produce the required slump and workability. Utilize properly graded aggregates to minimize water and cement demand.

H. In addition to the concrete mix design requirements listed above, limit the water/cement ratio to the following maximums in accordance with the following:

1. 0.40 for reinforced concrete exposed to deicing salts, brackish water, or salt spray.
2. 0.45 for concrete required to be watertight and/or subject to cycles of freezing and thawing (including basement walls).
3. 0.50 for all concrete not otherwise specified.
4. For interior slabs on ground, limit the cement content to a maximum of 540 pounds per cubic yard.

I. Provide air entrainment for all lightweight concrete, and for all exterior concrete or concrete otherwise exposed to cycles of freezing and thawing. Comply with air content percentages listed below for amount of air entrainment in concrete at point of deposit. Adjust admixture dosages as necessary to account for climatic conditions, method of placement and other constituents of mix. Do not use air entraining admixtures for interior normal weight concrete flatwork requiring a smooth troweled finish.

Nominal max. aggregate size	Air content percentage
3/8 inch	7.5 +/- 1.5
1/2 inch	7 +/- 1.5
3/4 inch	6 +/- 1.5
1 inch	6 +/- 1.5
1-1/2 inch	5.5 +/- 1.5
2 inch	5 +/- 1.5
3 inch	4.5 +/- 1.5

J. Provide a water reducing (plasticizer) or high-range water-reducing (superplasticizer) admixture for all structural concrete.

K. All concrete containing a high-range water reducing admixture (superplasticizer) shall have a maximum slump of 9 inches unless otherwise approved by the Architect/Engineer. Proportion design mixes of all other concrete to result in concrete with the following slumps measured at the point of placement:

1. Slabs on ground: 4 inches +/- 1 inch.
2. Footings, massive sections: 3 inches +/- 1 inch.
3. Reinforced slabs and beams: 3 inches +/- 1 inch.
4. Reinforced walls and columns: 4 inches +/- 1 inch.
5. Lightweight concrete slabs: 3 inches +/- 1 inch.
6. All other concrete: 3 inches +/- 1 inch.

L. Use the following maximum coarse aggregate sizes, per ASTM C 33:

1. Size 67 for all concrete not otherwise specified.
2. Size 57 for beams, slabs and walls.
3. Size 7 for tight pours and thin sections.
4. Size 467 for standard slabs on ground and foundations.
5. Industrial Slabs on Ground: Blend fine and coarse aggregates to achieve a smooth gradation of aggregate sizes. A minimum of 8 percent and a maximum of 18 percent of the total aggregate weight is to be retained on each sieve below 1-1/2 inch and above the No. 100 sieve size.

M. Maintain an air-dry unit weight for lightweight concrete between 100 pcf and 115 pcf. Adjust the proportion of lightweight coarse aggregate and/or substitute lightweight fines for sand as necessary to obtain the proper unit weight. Determine the air-dry unit weight of the concrete in accordance with ASTM C 567. Limit drying shrinkage at 28 days to 0.03 percent.

N. Specifically identify those concrete mixes which are intended to be placed by pumping. Indicate the modifications made to the basic mix to aid in pumping, including changes in slump, air content, fly ash content, cement paste vs. aggregate content, and admixtures such as superplasticizers. Pre-soak all lightweight aggregates in pumped concrete per the lightweight aggregate manufacturer's recommendations. Carefully control the gradation of the coarse and fine aggregates, keeping the grading as close to the middle of the ASTM C 33 or C 330 range as possible. Review pumping techniques with the Architect/Engineer prior to placement.

1. Make one test of each concrete design mix to verify that the total chloride ion(Cl-) content is less than 0.10% of the weight of the cement, that the total sulfate (as SO_3) content of the mix is less than 0.05% of the weight of the mix, per ASTM C 114, and that the thiocyanate ion (as SCN-) content is less than 0.15% of the weight of the cement.

O. Adjust mix designs that do not prove to be satisfactory in use, subject to the Architect/Engineer's review. Concrete that does not consistently exhibit the specified control characteristics will be considered unsatisfactory. Any additional costs incurred due to changes required in the mix design shall be borne by the Contractor.

P. Provide additional mix designs and appropriate test data for any revisions to the approved concrete mix designs requested by the Contractor during the course of work. Do not use the revised mix until reviewed and accepted by the Architect/Engineer.

2.7 MIXING AND DELIVERY OF CONCRETE

A. Supply all concrete from a ready-mix plant acceptable to the Architect/Engineer. Batch all constituents, including admixtures, at the central batch plant, except for HRWRs which may be added at the job site.

B. Comply with ACI 304 recommendations. Accurately weigh all materials. Mix, dispense, and use admixtures in accordance with the specific manufacturer's written instructions.

C. Conform with Truck Mixer and Agitator Standard of the Truck Mixer Manufacturer's Bureau of the National Ready-Mixed Concrete Association, as well as ASTM C 94. Do not load trucks in excess of NRMCA ratings for normal-weight aggregate concrete.

D. For lightweight aggregate concrete, do not load trucks to more than 75 percent of their capacity. (This requirement is intended to reduce possibility of segregation of constituents.)

E. Water may be added initially to concrete which arrives at the site with a slump below the specified slump if, after the addition of water, neither the maximum permissible water/cement ratio nor the maximum slump is exceeded. Provide thorough additional mixing. The Owner's Testing Agency will observe the adding of water and mixing. Retempering after initial slump adjustment is not permitted. Redosage with the specified super-plasticizer may be done with the prior approval of the Architect/Engineer.

F. Discharge of Materials: Discharge concrete without segregation of the ingredients. Incorporate all concrete in the work in its final shape and location within 90 minutes after the introduction of water to the mix or within a shorter time period as the Testing Agency may direct during hot weather. Immediately remove all concrete materials from the construction site not incorporated into the Work within the specified time limits.

G. Cold Weather Requirements: Comply with ACI 306 whenever ambient air temperatures are below 40 F. Heat the mixing water and, if necessary, the aggregates to produce concrete at the temperature listed below when placed. If the mixing water is heated, do not exceed a temperature of 140 F at the time it is added to the cement and aggregates.

Least dimension of section	Minimum temperature of concrete
Less than 12 inches	55 Deg. F.
12 inches to less than 36 inches	50 Deg. F.
36 to 72 inches	45 Deg. F.
Greater than 72 inches	40 Deg. F.

H. Hot Weather Requirements: Comply with ACI 305 whenever conditions of high air temperature, low relative humidity and/or wind exist. Provide crushed ice in lieu of

equal weight of mixing water if necessary to provide concrete of the proper temperature. Ice must be completely dissolved before placing concrete.

PART 3 - EXECUTION

3.1 INSTALLATION OF EMBEDDED ITEMS AND COORDINATION WITH OTHER TRADES

A. Install all embedded items to conform to the requirements of ACI 318, Chapter 6, Paragraph 6.3, "Conduits and Pipes Embedded in Concrete," and as specified below. Do not install any accessories until their type and location have been verified by the affected trades.

B. Coordinate the installation of all inserts required by other trades prior to the placing of reinforcing steel.

C. Install anchor rods, etc., furnished by other Sections. Accurately locate anchor rods and secure with templates to prevent displacement during concreting operations.

D. Provide steel sleeves for pipes passing through concrete.

E. Non-aluminum electrical conduit is the only piping which may be embedded in structural concrete. Place conduit by the following guidelines:

1. Do not cut or displace any reinforcement.
2. Do not place conduit between concrete surfaces and reinforcement.
3. Solid slabs - restrict outside diameter of conduit to 1/3 of slab thickness. Keep within the middle half of that thickness.
4. Conduit in slabs on metal deck: Restrict outside diameter of conduit to 1/3 of the thickness of the concrete above the metal deck flute. Where conduit runs perpendicular to span of metal deck, place conduit directly on top of metal deck. Where conduit runs parallel to span of metal deck, place conduit in low flute of metal deck, with one conduit maximum permitted per flute. Where conduit runs parallel to shear connectors, maintain 18-inches minimum spacing between conduit and closest shear connector.
5. Place conduit larger than 1/6 of the slab thickness approximately parallel to or at right angles to the slab reinforcing, not diagonally.
6. Place nearly parallel conduits apart at least 6 times the outside diameter of conduit being used.
7. Do not embed conduit in concrete beams or concrete ribs unless specifically shown on the Structural Drawings.

3.2 VAPOR RETARDERS

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.

B. Ensure there is no moisture entrapment by vapor retarder due to rainfall or ground water intrusion.

C. Place, protect, and repair vapor-retarder sheets according to ASTM E 1643 and manufacturer's written instructions.

D. Install vapor retarders in largest practical widths.

E. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape by splicing and extending vapor retarder to top of concrete floor slab.

F. Extend vapor retarder to top of concrete floor slab at perimeter of foundation walls and seal to concrete with a compatible mastic or double sided mastic tape as recommended by the manufacturer. Lap joints 6 inches and seal with pressure-sensitive tape.

G. No penetration of the vapor retarder is allowed except for reinforcing steel and permanent utilities. Repair damaged areas with vapor retarder material patches and overlapping damaged area 6 inches and taping all four sides with pressure sensitive tape.

3.3 PLACING CONCRETE

A. Comply with ACI 301, Section 5 - Handling, Placing, and Constructing, and as modified below.

B. Do not place concrete until the Owner's Testing Agency has reviewed and approved the work and all reported deficiencies have been corrected. Concrete placed prior to approval is subject to removal.

C. Transport concrete mixes to place of final deposit as rapidly as practical by methods which prevent segregation of the ingredients and displacement of reinforcement. Avoid rehandling. Do not deposit any partially-hardened concrete. Provide a baffle plate or spout at the discharge end of the chute to prevent segregation. Use a downpipe, elephant trunk, spout, or other appropriate method to prevent concrete from falling freely through a height of more than 3 feet. When the operation is intermittent, discharge the chute into a hopper. Do not allow concrete to flow horizontally within forms over a distance exceeding 5 feet. Do not move concrete horizontally with vibrators. Provide runways to allow wheeled equipment to move over reinforcement. Do not support runways on reinforcement.

D. Protect exposed-to-view walls and columns from concrete spatter when placing slabs.

E. Do not place any concrete into any form or excavation containing trash, free water, frost, ice or frozen ground.

F. Provide adequate protection against frost action during freezing weather.

G. Do not place concrete flatwork in the rain. Protect exposed concrete surfaces from rain until final set occurs.

H. Do not use calcium chloride in any concrete.

I. Deposit concrete continuously in layers of a thickness that will prevent new concrete from being deposited on partially-hardened concrete. Limit height of vertical lifts to 24-inches. Do not allow formation of seams and planes of weakness within the section. Vibrate through successive lifts to avoid pour lines, stone pockets, honeycombing and segregation. Immediately notify the Architect/Engineer, if due to emergency conditions, a section cannot be placed continuously between planned construction joints. If approved, create a field joint and provide additional reinforcement as necessary to preserve the structural continuity of the member.

J. Thoroughly compact concrete by means of internal mechanical vibrators to produce required quality of finish. Use experienced operators under close supervision to produce homogeneity and optimum consolidation in the concrete without permitting segregation of the constituents. Comply with ACI 309.

K. When placing exposed concrete vertical surfaces, strike corners of forms rapidly and repeatedly from the outside along the full height while depositing concrete and vibrating.

L. Thoroughly clean chutes, hoppers, spouts, adjacent work, etc., before and after each run. Discharge the water and debris outside the form.

M. Finish all structural slabs and slabs on ground to the elevations shown on the Contract Documents. Provide additional concrete as necessary to compensate for all settlements and deflection due to the weight of the wet concrete.

N. For 2-course pours, clean and thoroughly moisten the base slab prior to placing the concrete fill. Remove any visible water left on the base slab just prior to placing the concrete fill. Use the specified epoxy resin bonding agent.

3.4 FINISHING OF FORMED CONCRETE SURFACES

A. Comply with ACI 301 and as modified below.

B. Finish formed concrete surfaces as follows:

1. Knock off fins and grind if necessary. Provide rough form finish for surfaces not exposed to public view and smooth form finish for all concrete surfaces exposed to public view.
2. Smooth rubbed finish - Where noted on Contract Documents, provide smooth formed finish treatment no later than 1 day after form removal. Moisten concrete surface and rub with carborundum brick to produce uniform color and texture on surface.

3.5 FINISHING FLATWORK

A. Preliminary Slab Finishing: For all slabs regardless of final finish:

1. Rough Finishing: Accurately strike off the top surface of the flatwork to provide a true and level surface within the required tolerances.

2. Use a magnesium darby or highway bull float for lightweight concrete slabs.

B. Floated Finish: After preliminary slab finishing, float the slab immediately at least twice using a wood float to produce uniform smooth granular texture. Use a magnesium float for lightweight concrete. Provide on the following surfaces:

1. Slabs to receive membrane or elastomeric roofing or membrane waterproofing.
2. Slabs to receive sand bed terrazzo.
3. Top surfaces of walls, curbs, or other surfaces not requiring a steel troweled surface.
4. Exterior slabs not specified to receive broom finish.

C. Steel Troweled Finish: Perform additional hand troweling as soon as the surface has hardened sufficiently to produce a ringing sound as the trowel is moved over the surface. Produce a uniform, smooth, glossy surface free of trowel marks or other defects. Grind smooth any defects which would telegraph through the applied floor covering. Equipment pads shall receive a dense, hard, but not burnished surface. Provide steel troweled finish on the following surfaces:

1. Slabs to receive carpeting.
2. Slabs to receive seamless floor finish.
3. Slabs to receive resilient flooring, quarry tile or ceramic tile. Lightly scarify surface with fine broom if finish material is installed with thin set mortar.
4. Roof surfaces scheduled to become future floors.
5. Slabs to be left exposed and not specified to receive another finish.
6. Top surfaces of equipment pads.

D. Sealed Finish: Just prior to the completion of the project, apply a second coat of the specified concrete curing and sealing compound where indicated on the Drawings to the following surfaces:

1. All exposed concrete floors within the building not receiving another finished material and subject only to pedestrian traffic as called for in the Contract Documents.

E. Non-slip aggregate application: Apply to concrete stairs, ramps and to concrete floors where indicated on the Contract Documents.

1. Soak non-slip aggregate in water and allow to drain thoroughly.
2. Finish the floor as for a steel trowel finish except that immediately prior to final troweling, apply the non-slip aggregate uniformly over the surface at the rate of 25 lbs./100 sq. ft. Embed the non-slip aggregate into the concrete surface by the final light troweling operation.
3. After curing, lightly work surface with steel wire brush to expose non-slip aggregate.

F. Mineral aggregate surface hardener application: Apply to concrete floors where indicated on the Contract Documents. Apply mineral aggregate hardener at the rate of 1.2 psf to all slabs in areas noted on the drawings. Apply the hardener in two applications by mechanical spreader. The first shake shall comprise 2/3 of the specified amount of hardener. Make this application after the preliminary slab finishing

operation unless climatic conditions dictate earlier application. Float the hardener in and make the second application. Float the surface again to properly bond the hardener to the base concrete slab. Trowel the surface at least twice to a smooth, dense finish.

G. Broomed Finish: After preliminary slab finishing as specified above, and just prior to final set, broom the entire surface uniformly with a stiff broom to remove all scum, laitance, etc. without muddying the surface. Prepare a sample panel and obtain approval from the Architect before finishing broom finish slabs to be exposed to view. Provide broomed finish on the following surfaces:

1. Slabs to receive floor fill concrete or bonded topping.
2. Exterior walkways.

H. Sawcutting: Begin sawcutting as soon as the saw will not dislodge the aggregate or ravel the edge of the sawcut. If a "Soff-Cut" saw is used, begin immediately after final finishing. If a conventional saw is used, begin no later than 12 hours after the slab is placed. Provide sufficient personnel and equipment to complete sawcutting operations within 18 hours after the slab is placed. Sawcut a minimum of one quarter of the slab depth leaving a clean, sharp edge in the pattern shown on the Contract Documents. If no pattern is shown, space joints a maximum of 15-feet on center in each direction and located to conform to column spacing (half-bays etc.).

I. Semi-rigid epoxy application: Pack the sawcut with backer rod immediately after sawcutting is completed to keep the joint clean and free of debris. Delay the installation of semi-rigid epoxy for as long as is practical - at least 28 days after slabs are cast, preferably 90 days. Remove the backer rod and promptly prepare and fill the sawcut full depth with semi-rigid epoxy according to the manufacturer's printed instructions.

J. Maintaining floor flatness: For slabs on ground that initially meet the specified floor flatness and levelness requirements but become out of tolerance due to curling, grind the surface to adjust flatwork to within tolerance requirements.

3.6 ALLOWABLE TOLERANCES

A. Formed surfaces: Refer to Division 03 Section "Concrete Formwork and Accessories" for tolerances related to formwork, shoring and cambering, including Architectural concrete.

B. Flatwork: Finish concrete flatwork to the following surface profile tolerances when measured in accordance with ASTM E 1155:

1. F_F = Face floor flatness number.
2. F_L = Face floor levelness number.
3. Slabs on ground:

    a. All slabs on ground not otherwise specified: overall F_F 25/F_L 20; local F_F 17/F_L 13.

3.7 CURING, PROTECTION AND FORM REMOVAL

A. General:

1. Comply with ACI 301 and as modified below.
2. Protect freshly-placed concrete from premature drying, mechanical damage and excessively cold or hot temperatures and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete.
3. Start initial curing as soon as free moisture has disappeared from the concrete surface after placing and finishing.

B. Curing-Moisture Retention: Maintain the concrete in a continually moist condition for a minimum of 7 days. Avoid rapid drying at end of curing period.

1. Formed surfaces - Keep the forms continuously wet by periodic spraying with water. After the forms are removed, continue moist curing by one of the methods described for unformed surfaces.
2. Unformed surfaces - Where moist curing is indicated on the Contract Documents, use only methods a, b, or c below. Retain moisture in the concrete by immediate application of one of the following methods:

    a. Ponding or continuous fog spray (mist) of water; periodic sprinkling is expressly prohibited.
    b. Apply an absorptive cover and keep continuously wet.
    c. Apply continuous waterproof sheets; lap and seal seams and repair any holes or tears.
    d. Apply a specified liquid membrane forming curing and sealing compound at the manufacturer's specified rate and method of application to comply with specified water retention. Apply as soon as possible after final finishing operations are complete. Apply in two (2) directions, the second application perpendicular to the first. Do not use if liquid membrane is incompatible with future applied finishes or if a bonded concrete overlay will be placed over slab.

C. Curing-Temperature: Keep the concrete temperature as uniform as possible and protect from rapid atmospheric temperature changes.

1. Cold Weather Concreting:

    a. Comply with ACI 306R whenever the average daily temperature is less than 40 F.
    b. Heat the formwork, reinforcing and underlying subgrades with live steam or hot air jets to raise the temperature of each well above freezing prior to placing concrete. Heat, insulate, cover, enclose and protect the concrete as necessary to continuously maintain the concrete temperature for the entire curing period as follows:

Least dimension in section	Minimum temperature of concrete
Less than 12 inches	55 Deg. F
12 inches to less than 36 inches	50 Deg. F.
36 inches to less than 72 inches	45 Deg. F.
Greater than 72 inches	40 Deg. F.

c. The maximum gradual temperature drop in the concrete in the first 24 hours after the end of the curing period shall not exceed the following:

Least dimension in section	Maximum temperature drop in concrete
Less than 12 inches	50 Deg. F
12 inches to less than 36 inches	40 Deg. F
36 inches to less than 72 inches	30 Deg. F
Greater than 72 inches	20 Deg. F

d. Regardless of the minimum dimension, the maximum temperature drop in the concrete shall not exceed 5 F in any hour in the first 24 hours after the end of the curing period.

e. Do not allow temporary heaters to exhaust combustion gases into the enclosed space containing the concrete.

f. Only non-corrosive, non-chloride accelerators may be used in cold weather, subject to prior review and acceptance by the Architect/Engineer. Calcium chloride, thiocyanates or admixtures containing more than 0.05 percent chloride ions are not permitted.

2. Hot Weather Concreting:

a. Comply with ACI 305R whenever the atmospheric temperature or the form surface temperature is at or above 90 F, or climatic conditions of wind and/or low humidity will cause premature drying of the concrete.

b. Cool the formwork and underlying subgrades to a maximum of 80 F and keep moist. Cool reinforcing by covering with water-soaked burlap if it is too hot. Cool the temperature of the concrete to 75 F by substituting ice for mixing water or by other methods.

c. Take precautions before placing concrete to prevent rapid moisture loss from the concrete surface. Erect sunshades and windbreaks, provide continuous fog spray of water and/or other protection as necessary to prevent premature drying of the concrete surface.

d. Suitable retarders may be added to the concrete, subject to prior review and acceptance by the Architect/Engineer.

D. Protection of Concrete During Curing Period: Protect concrete from damaging mechanical disturbances including load stresses, heavy shock, excessive vibration, and from damage caused by rain or flowing water. Protect finished concrete surfaces from damage by subsequent construction operations.

E. Wait a minimum of 48 hours after finishing slab before allowing foot traffic on slab. Do not allow construction traffic or loads to be applied to slab until the concrete is 7 days old.

F. Temperature Records: Maintain a set of record drawings on site on which the progress of work is shown. Indicate the day, time, and ambient temperature at time of placement for each concrete pour. Keep a permanent log showing the date and the outside and concrete temperatures during all concreting operations (including curing). Take thermometer readings at the start of work in the morning, at noon, and again late in the afternoon. Record the locations of all concrete placed and cured during these

periods, in a manner which will show any effect the temperature may have had on the construction.

G. Removal of Forms: Refer to Division 03 Section "Concrete Forms and Accessories."

3.8 REPAIR OF DEFECTIVE CONCRETE SURFACES

A. Comply with ACI 301 and as modified below.

B. Identify those areas requiring repair, and review locations with Architect/Engineer and Owner's Testing Agency on a case by case basis. Refer to Section "Corrective Work" where it is determined by the Architect/Engineer that the load-carrying capacity of the concrete may be jeopardized. If it is determined that only surface repairs are necessary, submit a proposed repair procedure, outlining a description of materials, sequencing, preparation, etc. for review.

1. Exercise care to avoid damaging virgin skin of surrounding parent concrete.
2. Cut out defective concrete down to sound concrete leaving neat, square-cut edges.
3. Where reinforcement is exposed by removal of defective concrete, cut around reinforcement to provide a clear space not less than 3/8 inch wide on all sides of the bar.
4. If so directed by the Architect/Engineer, provide 2 by 2 inch stainless steel mesh reinforcement securely attached to existing reinforcement with stainless steel wire.
5. Thoroughly saturate the concrete surface to receive the patch for several hours prior to application of patching materials. Remove excess water to obtain saturated, surface dry substrate. Apply primer or scrubcoat of bonding agent according to the manufacturer's instructions.
6. Use the specified polymer patching mortar where a color match to the adjacent concrete is not required.
7. Do not mix more patching mortar than can be placed in 20 minutes. Apply in layers according to the manufacturer's instructions. Leave all layers except the final layer in a rough condition to receive the succeeding layer.
8. Finish the final layer to match the existing concrete surface in color and texture. Where the concrete surface is to be visible in finished work, add colored aggregates and/or cements as required to provide a mixture which will exactly match the color of the parent concrete after hardening and curing. Provide test patches in an inconspicuous location to verify the color and texture match before proceeding with remainder of patching. If necessary, rub the surface lightly with a fine Carborundum stone at 1 to 5 days age.

C. Provide repairs with the strength, elasticity and durability equal to the parent material being repaired. Remove and replace patches which become crazed, cracked, sound hollow upon tapping, or, which in the opinion of the Architect/ Engineer do not exactly match the surrounding concrete surfaces or otherwise do not satisfy the requirements of the Contract Documents.

D. When flatness and levelness testing indicates concrete flatwork that does not comply with the specified tolerances:

1. Grind the surface to adjust flatwork to within tolerance requirements. Perform grinding as soon as possible after the concrete is strong enough to prevent dislodging of the coarse aggregate, preferably within three (3) days.
2. Patch the surface to adjust flatwork to within tolerance requirements.

E. All patching and repairs shall be performed at the Contractor's expense.

3.9 CORRECTIVE WORK

A. Concrete in place will be considered defective and may be rejected if cylinder strength test results do not meet the requirements of ACI 318 Section 5.6. Additional causes for rejecting concrete include, but are not limited to, the following:

1. Excessive slump
2. Insufficient air content.
3. Beyond specified time limits.
4. Unauthorized retempering.
5. Without proper supervision or inspection.
6. Improper curing or protection.
7. If there is visible evidence of scaling, cracking, voids or excessive deflection.
8. If the finished concrete surface does not meet the specified flatness and/or levelness requirements.

B. If, in the Architect/Engineer's opinion, the strength, stiffness, or durability of the structure may be compromised, test specimens may be taken from the structure at locations designated by the Architect/Engineer. Obtain and test the specimens in accordance with ASTM C 42 and/or perform petrographic analysis in accordance with ASTM C 856. Test results which indicate non-compliance with the Specifications are cause for rejection. Alternatively, at the Architect/Engineer's discretion, load tests may be performed and evaluated in accordance with ACI 318, Chapter 20.

C. Remove and replace concrete that, in the Architect/Engineer's opinion, does not satisfy the performance requirements of this Specification if repairs cannot be accomplished to the Architect/Engineer's satisfaction.

D. Where it is determined that repairs may be attempted, submit a complete repair procedure to the Architect/Engineer for review. Include all necessary information on proposed products, preparation, and sequence of repair including manufacturer's specifications and installation instructions. Do not proceed with repairs until this procedure has been reviewed and accepted by the Architect/Engineer. The repair must account for the strength, stiffness and long term durability of the entire structural element under repair.

E. The costs of all tests, additional services required of the Architect/Engineer, and for repair or removal and replacement are at the expense of the Contractor.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: The Owner will engage a Testing Agency, acceptable to the Architect/Engineer, to perform detailed concrete quality control, testing and inspection. Provide the Testing Agency with the following:

1. Materials, samples, and access to materials as required for testing.
2. Minimum one day's advance notice when concrete is to be placed.
3. Incidental labor required to facilitate testing.
4. Approved on-site storage facilities for concrete test cylinders.
5. Copies of the delivery ticket of each load of concrete as it arrives at the jobsite. Identify the concrete strength, water/cement ratio, type and size of coarse aggregate, batch plant of origin and time cement was discharged into the delivery truck.
6. Copy of the most current reinforcing steel shop drawings which have been reviewed by the Architect/Engineer, and access to the Contract Documents.

B. Testing Agency Responsibilities:

1. Conduct the tests and inspections required herein, interpret and evaluate the results for compliance with the Contract Documents, and promptly furnish reports of the results to the Owner, Architect/Engineer, Contractor, and Authority Having Jurisdiction.
2. At the start of the project, check the concrete constituents, including admixtures, for compliance with the Contract Documents. Test the dry-rodded weight of the coarse aggregate whenever a sieve analysis is made and when it appears there has been a change in the aggregate.
3. At the start of the job, perform inspections of the batch plant and its operation. Observe the batching equipment, the condition of materials used, and check for conformance with the design mix proportions.
4. Perform concrete compression strength testing in accordance with ASTM C 31 and C 39. Sample concrete for test specimens at the point of deposit in accordance with ASTM C 172. General concrete strength testing will consist of one (1) set of four (4) cylinders made from a single sampling for each 50 cubic yards (or fraction) thereof or for each 5000 square feet (or fraction thereof) of surface area of each class of concrete placed each day. All test specimens are to be laboratory-cured. Test as follows:

    a. One (1) 7-day break.
    b. Two (2) 28-day breaks.
    c. One (1) 56-day break. Hold in reserve for testing if 28-day breaks do not comply.
    d. Immediately notify the Contractor and Architect/Engineer if 7-day strengths are less than 70% of design strength.

5. The above frequencies assume that one batch plant will be used for each pour. If more than one batch plant is used, the frequencies cited above shall apply for each plant used.
6. Determine the air content of concrete per ASTM C 173 or ASTM C 231 (normal weight concrete only). For concrete required to be air-entrained, test the first truck, test trucks from which test cylinders are made, and at every 25 cubic yards thereafter each day. For concrete not required to be air-entrained, test trucks from which test cylinders are made and at every 100 cubic yards at random. For pumped concrete, initially test concrete at both the hopper and the discharge end of the hose to determine change in air content.
7. Perform slump tests in accordance with ASTM C 143. Test the first truck each day, and every time test cylinders are made. Test pumped concrete at the

hopper and at the discharge end of the hose at the beginning of each day's pumping operations to determine change in slump.

8. Perform unit weight tests in compliance with ASTM C 138 for normal weight concrete and ASTM C567 for lightweight concrete. Test first truck and each time cylinders are made.
9. Determine the temperature per ASTM C 1064 each time test cylinders are made and for each truckload of concrete during hot weather and cold weather concreting operations.
10. Observe the placement of all concrete. Inspect the formwork and the reinforcing steel placement, including bar size, spacing and grade of steel prior to concrete placement. Submit detailed report of observations.
11. Immediately notify the Contractor of any items which do not comply with the requirements of the Contract Documents. If satisfactory corrections are not made, contact the Architect/Engineer for direction before the concrete is placed.
12. Review the delivery tickets of every ready-mix concrete truck arriving on-site. Notify the Contractor if the concrete cannot be placed within the specified time limits or if the type of concrete delivered is incorrect.

C. Contractor shall reimburse all costs for testing and inspection resulting from any of the following:

1. Work not in compliance with the Contract Documents.
2. Testing requested by the Contractor or Subcontractor such as additional cylinders for early breaks, form removal, etc.
3. Testing to confirm the adequacy of work performed without prior notice, without proper supervision, or contrary to standard construction practice.
4. Changes in source, quality, or characteristics of materials.
5. Wasted time of inspectors because of cancellations or delays of concrete placement or other work

D. Standard of Strength Control

1. The Owner's Testing Agency will establish a coefficient of variation for the statistical evaluation of concrete for the Project. The Contractor shall be fully acquainted with all provisions relative to coefficient of variation as specified herein and fully comply with the applicable requirements.
2. The coefficient of variation will be established for the project on the basis of not less than 30 test results from any one class of concrete. Once established, the Testing Agency will maintain the coefficient of variation as a moving average based on the 10 latest test results to check compliance with specification requirements. Maintain a continuous up to date log at the job site in both graphical and tabulated form for each class of concrete. Report results weekly to the Architect/Engineer.
3. The coefficient of variation shall be assumed as 20% unless another value has been determined from current similar tests, or until it may be calculated from the results of 30 or more job tests. This computation is described in ACI 214.
4. Strength Requirements and Compliance Therewith: Concrete will be considered to meet strength requirements of the Specifications when in compliance with ACI 318 Section 5.6.

END OF SECTION 033000

SECTION 2601 00 - ELECTRICAL, GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The General Requirements, Division 01, are made a part of this section as fully as if repeated herein.

B. This section applies to all sections of Division 26 - Electrical, Division 27 - Communications, and Division 28 - Electronic Safety and Security.

1.2 QUALITY ASSURANCE

A. Criteria:

1. Reference Standards: Comply with standards referenced in each section for design, manufacture, method of installation, and testing of all materials, apparatus, and equipment unless specified otherwise herein and following standards:

a. National Electrical Code (NEC) (2017).

b. National Fire Alarm Code (2016).

c. Florida Building Code (2020).

d. Florida Fire Protection Code (2020).

e. Florida Building Code Energy Conservation (2020).

f. NECA (INST) - Standard of Installation; National Electrical Contractors Association.

g. National Electrical Manufacturers Association (NEMA) Standards.

h. Institute of Electrical and Electronics Engineers (IEEE) Standards.

i. All applicable codes and standards adopted by the Authority Having Jurisdiction.

1.3 DEFINITIONS

A. Furnish, Install, and Provide:

1. Furnish: Purchase and deliver to the jobsite.

2. Install: Mount, connect, complete, and leave ready for operation.

3. Provide: Furnish and install.

B. Products: Items obtained for incorporating into the work, whether purchased for project or taken from previously purchased stock. The term “product” includes the terms “material,” “equipment,” “system,” and terms of similar intent.

C. Named Products: Items identified by manufacturer’s product name, including make or model number or other designation shown or listed in manufacturer’s published product literature that is current as of date of the Contract Documents.

D. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.

E. Comparable Product (or Approved Equal): Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

F. Basis-of-Design Product: A specification or drawing in which a specific manufacturer’s product is named and accompanied by the words “basis-of-design product,” including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

G. Action Submittals: Written and graphic information and physical samples that require Engineer’s responsive action. Action submittals are those submittals indicated in individual specification sections as “action submittals” and are required submittals.

H. Informational Submittals: Written and graphic information and physical samples that do not require Engineer’s responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual specification sections as “informational submittals” and are not required submittals for approvals, but serve to confirm Subcontractor or Vendor proposed product or procedure, and/or are required for Operation and Maintenance Manuals.

1.4 SUBSTITUTIONS

A. Where allowed by these specifications, substitutions may be offered by the Subcontractor for material and/or installation methods, for consideration by the Engineer as an approved equal. For all substitutions, the burden of proof of equality is upon the Subcontractor and his Vendors/suppliers. Submit adequate documentation to allow verification of characteristics of the product specified as well as the substitution. If the documentation provided for the substitution is inadequate for analysis, this may be grounds for rejection of the substitution.

1.5 SUBMITTALS

A. Mark submittals to clearly indicate exact proposed product and applicable options and accessories. Submittals too general and with multiple products, options and/or accessories shown but not marked to be job specific will be REJECTED.

C. Provide ½" scale dimensioned plan view layout of submitted electrical gear for each electrical room. Dimensioned plan view layouts shall indicate all NEC clearances. Hand drawn sketches on graph paper will be acceptable. Any deviations from the contract documents of gear due to physical constraints shall be subject to engineer approval. Submittals that do not contain dimensioned plan view layouts of electrical rooms including items, whether electrical or provided by others, may require resubmission of shop drawings

1.6 RECORD DOCUMENTS

A. Prepare record documents in accordance with the requirements in General and Supplementary Conditions and Division 01. In addition to the requirements specified in Division 01, indicate installed conditions for:

1. Major Raceway Systems: Size and locations, for both exterior and interior; locations of control devices; distribution and branch electrical circuitry, including match-up of panel schedules circuits numbers and plan circuits numbers; and fuse and circuit breaker size and arrangements.

2. Equipment Locations (Exposed and Concealed): Dimensioned from prominent building lines.

3. Approved Substitutions: Contract Modifications and actual equipment and materials installed.

1.7 RECORD DRAWINGS/DIGITAL DATA FILES:

A. Immediately before inspection for Certificate of Final Acceptance, review marked-up record prints with Engineer and Construction Manager. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

B. Format: DWG, Version 2008 or later AutoCad, operating system.

C. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.

D. Refer instances of uncertainty to Engineer through Construction Manager for resolution.

1.8 OPERATION AND MAINTENANCE MANUAL

A. Furnish three (3) complete manuals covering entire electrical system, including following:

1. General:

a. Equipment function.

b. Normal operating characteristics.

c. Limiting conditions.

d. Engineering data and tests.

2. Installation Instructions:

a. Assembly.

b. Installation.

c. Adjustment.

d. Checking.

3. Operation Instructions:

a. Sequence of operation.

b. Control diagrams.

c. Start-up.

d. Routine and normal operation.

e. Regulation and control.

f. Stopping.

g. Shutdown.

h. Emergency.

4. Maintenance Instructions:

a. Routine.

b. Preventative.

c. Troubleshooting.

d. Disassembly.

e. Repair.

f. Reassembly.

g. Adjusting.

h. Servicing instructions.

i. Lubrication charts and schedules.

5. Parts List: Complete nomenclature and commercial numbers of replacement.

6. Shop Drawings:

a. Outlines.

b. Cross sections.

c. Wiring diagrams.
d. Assemblies.

e. Manufacturer's warranties.

1.9 JOB CONDITIONS

A. Drawings: Architectural and structural drawings take precedence over electrical drawings for building construction, dimensions, and specific locations. Electrical drawings are diagrammatic and schematic and show approximate locations and orientations. Refer to details, specifications, and other drawings for exact placement.

B. Where headroom or space conditions appear inadequate, notify Engineer before proceeding with installation.

C. Do not attach or suspend items from joist bridging or roof decking.

D. Do not install any electrical raceway of cable within 6 inches of the roof deck.

E. Perform all excavation, trenching, and backfill to install electrical components in accordance with sections referenced in specification sections.

1.10 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Carefully handle, properly store, and adequately protect all equipment and materials from damage before and during installation.

B. Repair or replace damaged or defective items as directed by Engineer.

C. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 COORDINATION WITH OTHER TRADES

A. General: Sequence, coordinate, and integrate the various elements of electrical systems, materials, and equipment.

B. Unless otherwise shown or specified, furnish and install all electrical equipment shown on drawings and/or specified in Division 26 - Electrical and referenced other division specifications.

C. Conform to following procedure for making power connections to all mechanical equipment shown on drawings and/or specified in Division 22 - Plumbing and Division 23 - Heating, Ventilating, and Air-Conditioning.

1. Electrical Subcontractor: Make all connections and provide and/or install starters and disconnect switches where indicated.

2. Mechanical Subcontractor: Provide motor starters (where not indicated as being provided under this division), disconnect switches (where not indicated as being provided under this division), control power, 120V from panelboard (except where indicated on drawings as provided under this division), wiring diagrams and supervise all connections.

D. Coordinate the wiring lugs of all equipment with the conductors connected to the equipment supplied by either electrical divisions or other divisions.

E. Furnish and install all 120V power for control supply, where shown on drawings, for all mechanical control equipment and dampers.

F. Coordinate electrical testing of electrical, mechanical, and architectural items, so equipment and systems that are functionally interdependent are tested to demonstrate successful interoperability.

3.2 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

A. Comply with NECA 1.

1. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

2. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

3. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity. Install

raceways, wireways, cable trays, busways, and cables in a manner to maintain working areas and access areas around equipment clear of obstructions.

4. Right-of-Way: Give to raceways and piping systems installed at a required slope.

3.4 ROUGH-IN

A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.

B. Refer to equipment specifications in all other divisions for rough-in requirements.

C. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for electrical installations.

D. Coordinate the installation of required supporting devices and set sleeves in poured-in-place concrete, masonry and other structural components, as they are constructed.

E. Sequence, coordinate, and integrate installations of electrical materials and equipment for efficient flow of the work. Give particular attention to large equipment requiring positioning prior to closing in the building.

F. Coordinate connection of electrical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

G. Install systems, materials, and equipment to conform with approved submittal data, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, refer conflict to the Engineer.

H. Install systems, materials and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished areas.

I. Install systems, materials, and equipment giving a right-of-way priority to systems required to be installed at a specified slope.

3.5 CUTTING AND PATCHING

A. General: Perform cutting and patching in accordance with Division 01 - Section 01 73 00, “Execution; Cutting and Patching.” In addition to the requirements specified in Division 01, the following requirements apply:

1. Performing cutting, fitting, and patching of electrical equipment and

materials required to:

a. Uncover work to provide for installation of ill-timed work.

b. Remove and replace defective work.

c. Remove and replace work not conforming to requirements of the Contract Documents.

d. Remove samples of installed work as specified for testing.

e. Install equipment and materials in existing structures.

f. Upon written instructions from the Engineer, uncover and restore work to provide for Engineer observation of concealed work.

2. Cut, remove, and legally dispose of selected electrical equipment, components, and materials as indicated, including but not limited to removal of electrical items indicated to be removed and items made obsolete by the new work.

B. Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed.

C. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.

D. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.

E. Patch existing finished surfaces and building components using new materials matching existing materials and using experienced installers. Installers' qualifications refer to the materials and methods required for the surface and building components being patched.

1. Refer to Division 01 sections for definition of experienced "installer."

3.7 MULTI-BONDED NEUTRAL TEST

A. Perform multi-bonded neutral test to verify no downstream connections of neutrals and grounds:

1. Test the resistance between the neutral bus and the ground bus by disconnecting the neutral bonding jumper.

2. If the utility transformer neutral is bonded, disconnect the service neutral prior to testing.

3. Perform the test at two intervals during the course of construction:

4. Test #1 - Before the power system is energized and prior to any branch circuit wiring being terminated in the panel(s).

5. Test #2 - After service is energized and after branch circuit wiring is complete.

6. In buildings with step-down transformers provide a similar test at the secondary of each transformer.

7. If infinite resistance is NOT obtained in each test, lift one neutral at a time until the measured resistance becomes infinite. Once the “problem” neutral(s) is found, trace out that circuit(s) until the problem is found. Fix all shorted or miswired neutrals and retest.

8. Reinstall bonding jumper at completion of each test.

3.8 SUBSTANTIAL AND FINAL COMPLETION

A. Submit record documents.

B. Submit Operation and Maintenance manuals.

C. Clean all electrical/electronic items/components/equipment/devices inside and outside prior to inspection.

D. Certify that all punch list items are complete.

E. Certify that all testing requirements are complete.

END OF SECTION 260100

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Copper building wire rated 600 V or less.
2. Connectors, splices, and terminations rated 600 V and less.

1.3 DEFINITIONS

A. RoHS: Restriction of Hazardous Substances.

B. VFC: Variable-frequency controller.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Product Schedule: Indicate type, use, location, and termination locations.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer’s authorized service representative.

B. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA.

1. Testing Agency’s Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.

B. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

C. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

D. Conductor Insulation:
1. Type RHW: Comply with UL 44.
2. Type THHN and Type THWN: Comply with UL 83.
3. Type XHHW: Comply with UL 44.

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.

C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper, Aluminum, or Bronze.
2. Type: One or Two hole with standard or long barrels.
3. Termination: Compression or Crimp.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

B. Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger. Conductors shall be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

C. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

D. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

E. VFC Output Circuits Cable: Extra-flexible stranded for all sizes.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type XHHW, single conductors in raceway.

B. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.

B. Complete raceway installation between conductor and cable termination points according to “Raceways and Boxes for Electrical Systems” prior to pulling conductors and cables.

C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer’s recommended maximum pulling tensions and sidewall pressure values.

D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer’s published torque-tightening values. If manufacturer’s torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 IDENTIFICATION

A. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

3.7 FIRESTOPPING

A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.

2. Perform each of the following visual and electrical tests:

    a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
    b. Test bolted connections for high resistance using one of the following:

        1) A low-resistance ohmmeter.
        2) Calibrated torque wrench.
        3) Thermographic survey.

    c. Inspect compression-applied connectors for correct cable match and indentation.
    d. Inspect for correct identification.
    e. Inspect cable jacket and condition.
    f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.

g. Continuity test on each conductor and cable.
h. Uniform resistance of parallel conductors.

3. Initial Infrared Scanning: After Substantial Completion, but before Final Acceptance, perform an infrared scan of each splice in conductors No. 3 AWG and larger. Remove box and equipment covers so splices are accessible to portable scanner. Correct deficiencies determined during the scan.

   a. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
   b. Record of Infrared Scanning: Prepare a certified report that identifies switches checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

4. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switch 11 months after date of Substantial Completion.

E. Cables will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports to record the following:

1. Procedures used.
2. Results that comply with requirements.
3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes grounding and bonding systems and equipment.

B. Section includes grounding and bonding systems and equipment, plus the following special applications:

1. Underground distribution grounding.
2. Ground bonding common with lightning protection system.
3. Foundation steel electrodes.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans showing dimensioned locations of grounding features specified in “Field Quality Control” Article, including the following:

1. Test wells.
2. Ground rods.
3. Ground rings.
4. Grounding arrangements and connections for separately derived systems.

B. Qualification Data: For testing agency and testing agency’s field supervisor.

C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 “Operation and Maintenance Data,” include the following:

    a. Plans showing as-built, dimensioned locations of system described in “Field Quality Control” Article, including the following:

        1) Test wells.
        2) Ground rods.
        3) Ground rings.
        4) Grounding arrangements and connections for separately derived systems.

    b. Instructions for periodic testing and inspection of grounding features based on NETA MTS.

        1) Tests shall determine if ground-resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if values do not.
        2) Include recommended testing intervals.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors:

1. Solid Conductors: ASTM B3.
2. Stranded Conductors: ASTM B8.
3. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
4. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.

5. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

C. Grounding Bus: Predrilled rectangular bars of annealed copper. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.3 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

C. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

D. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.

E. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

F. Cable Tray Ground Clamp: Mechanical type, zinc-plated malleable iron.

G. Conduit Hubs: Mechanical type, terminal with threaded hub.

H. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

I. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.

J. Service Post Connectors: Mechanical type, bronze alloy terminal, in short- and long-stud lengths, capable of single and double conductor connections.

K. Signal Reference Grid Clamp: Mechanical type, stamped-steel terminal with hex head screw.

L. Straps: Solid copper. Rated for 600 A.

M. Tower Ground Clamps: Mechanical type, copper or copper alloy, terminal two-piece clamp.

N. U-Bolt Clamps: Mechanical type, copper or copper alloy, terminal listed for direct burial.

O. Water Pipe Clamps:

1. Mechanical type, two pieces with zinc-plated bolts.

a. Material: Die-cast zinc alloy.
b. Listed for direct burial.

2. U-bolt type with malleable-iron clamp and copper ground connector rated for direct burial.

2.4 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad steel; 3/4 inch by 10 feet (19 mm by 3 m).

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

B. Underground Grounding Conductors: Install bare No. 2/0 AWG minimum.

1. Bury at least 30 inches (750 mm) below grade.
2. Duct-Bank Grounding Conductor: Bury 12 inches (300 mm) above duct bank when indicated as part of duct-bank installation.

C. Grounding Conductors: Green-colored insulation.

D. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.

E. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.

1. Install bus horizontally, on insulated spacers 2 inches (50 mm) minimum from wall, 6 inches (150 mm) above finished floor unless otherwise indicated.
2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down; connect to horizontal bus.

F. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING AT THE SERVICE

A. Equipment grounding conductors and grounding electrode conductors shall be connected to the ground bus. Install a main bonding jumper between the neutral and ground buses.

3.3 GROUNDING SEPARATELY DERIVED SYSTEMS

A. Generator: Install grounding electrode(s) at the generator location. The electrode shall be connected to the equipment grounding conductor and to the frame of the generator.

3.4 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

A. Comply with IEEE C2 grounding requirements.

B. Pad-Mounted Transformers and Switches: Install two ground rods and ground ring around the pad. Ground pad-mounted equipment and noncurrent-carrying metal items associated with substations by connecting them to underground cable and grounding electrodes. Install tinned-copper conductor not less than No. 2 AWG for ground ring and for taps to equipment grounding terminals. Bury ground ring not less than 6 inches (150 mm) from the foundation.

3.5 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.6 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Ground Bonding Common with Lightning Protection System: Comply with NFPA 780 and UL 96 when interconnecting with lightning protection system. Bond electrical power system ground directly to lightning protection system grounding conductor at closest point to electrical service grounding electrode. Use bonding conductor sized same as system grounding electrode conductor, and install in conduit.

C. Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade unless otherwise indicated.

1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
2. Use exothermic welds for all below-grade connections.
3. For grounding electrode system, install at least three rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.

D. Test Wells: Ground rod driven through drilled hole in bottom of handhole. Handholes are specified in Section 260543 “Underground Ducts and Raceways for Electrical Systems,” and shall be at least 12 inches (300 mm) deep, with cover.

1. Install at least one test well for each service unless otherwise indicated. Install at the ground rod electrically closest to service entrance. Set top of test well flush with finished grade or floor.

E. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.

F. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building’s main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

G. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install tinned bonding jumper to bond across flexible duct connections to achieve continuity.

H. Grounding for Steel Building Structure: Install a driven ground rod at base of each corner column and at intermediate exterior columns at distances not more than 60 feet (18 m) apart.

I. Concrete-Encased Grounding Electrode (Ufer Ground): Fabricate according to NFPA 70; use a minimum of 20 feet (6 m) of bare copper conductor not smaller than No. 4 AWG.

J. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.7 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

D. Perform tests and inspections with the assistance of a factory-authorized service representative.

E. Tests and Inspections:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
3. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods. Make tests at ground rods before any conductors are connected.

a. Measure ground resistance no fewer than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.

b. Perform tests by fall-of-potential method according to IEEE 81.

4. Prepare dimensioned Drawings locating each test well, ground rod and ground-rod assembly, and other grounding electrodes. Identify each by letter in alphabetical order, and key to the record of tests and observations. Include the number of rods driven and their depth at each location, and include observations of weather and other phenomena that may affect test results. Describe measures taken to improve test results.

F. Grounding system will be considered defective if it does not pass tests and inspections.

G. Prepare test and inspection reports.

H. Report measured ground resistances that exceed the following values:

1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 10 ohms.
2. Power and Lighting Equipment or System with Capacity of 500 to 1000 kVA: 5 ohms.
3. Power and Lighting Equipment or System with Capacity More Than 1000 kVA: 3 ohms.
4. Power Distribution Units or Panelboards Serving Electronic Equipment: 3 ohms.

I. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Support, anchorage, and attachment components.
2. Fabricated metal equipment support assemblies.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

a. Slotted support systems, hardware, and accessories.
b. Clamps.
c. Hangers.
d. Sockets.
e. Eye nuts.
f. Fasteners.
g. Anchors.
h. Saddles.
i. Brackets.

2. Include rated capacities and furnished specialties and accessories.

B. Shop Drawings: Signed and sealed by a qualified professional engineer**.** For fabrication and installation details for electrical hangers and support systems.

1. Hangers. Include product data for components.
2. Slotted support systems.
3. Equipment supports.
4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

C. Delegated Design Submittals: For hangers and supports for electrical systems.

1. Include design calculations and details of hangers.
2. Include design calculations for seismic restraints.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified structural professional engineer to design hanger and support system.

B. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame Rating: Class 1.
2. Self-extinguishing according to ASTM D635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32 inch (10 mm) diameter holes at a maximum of 8 inch (200 mm) on center in at least one surface.
1. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
Material for Channel, Fittings, and Accessories: Stainless steel.
2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
3. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
4. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
5. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Aluminum Slotted Support Systems: Extruded-aluminum channels and angles with minimum 13/32 inch (10 mm) diameter holes at a maximum of 8 inch (200 mm) on center in at least one surface.
1. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
2. Channel Material: 6063-T5 aluminum alloy.
3. Fittings and Accessories Material: 5052-H32 aluminum alloy.
4. Channel Width: Selected for applicable load criteria.
5. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.

6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Nonmetallic Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels and angles with minimum 13/32 inch (10 mm) diameter holes at a maximum of 8 inch (200 mm) on center, in at least one surface.
1. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
2. Channel Width: 1-5/8 inch (41.25 mm).
3. Fittings and Accessories: Products provided by channel and angle manufacturer and designed for use with those items.
4. Fitting and Accessory Materials: Same as those for channels and angles**,** except metal items may be stainless steel.
5. Rated Strength: Selected to suit applicable load criteria.
6. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

D. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

E. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs must have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body must be made of malleable iron.

F. Structural Steel for Fabricated Supports and Restraints: ASTM A36/A36M steel plates, shapes, and bars; black and galvanized.

G. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325 (Grade A325M).
6. Toggle Bolts: Stainless steel springhead type.
7. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

B. Materials: Comply with requirements in Section 055000 "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.1 SELECTION

A. Comply with the following standards for selection and installation of hangers and supports, except where requirements on Drawings or in this Section are stricter:

1. NECA NEIS 101
2. NECA NEIS 102.
3. NECA NEIS 105.
4. NECA NEIS 111.

B. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping materials and installation for penetrations through fire-rated walls, ceilings, and assemblies.

C. Comply with requirements for raceways specified in Section 260533.13 "Conduits for Electrical Systems."

D. Comply with requirements for boxes specified in Section 260533.16 "Boxes and Covers for Electrical Systems."

E. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, IMC, and ERMC as required by NFPA 70. Minimum rod size must be 1/4 inch (6 mm) in diameter.

F. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with single-bolt conduit clamps using spring friction action for retention in support channel.

3.2 INSTALLATION OF SUPPORTS

A. Comply with NECA NEIS 101 for installation requirements except as specified in this article.

B. Raceway Support Methods: In addition to methods described in NECA NEIS 1, EMT and ERMC may be supported by openings through structure members, in accordance with NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination must be weight of supported components plus 200 lb (90 kg).

D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Expansion anchor fasteners.

E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Comply with installation requirements in Section 055000 "Metal Fabrications" for site-fabricated metal supports.

B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

END OF SECTION 260529

SECTION 260533.13 - CONDUITS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Type EMT-A and Type EMT-SS duct raceways and elbows.
2. Type EMT-S duct raceways and elbows.
3. Type ENT duct raceways and fittings.
4. Type ERMC-A and Type ERMC-SS duct raceways, elbows, couplings, and nipples.
5. Type ERMC-S duct raceways, elbows, couplings, and nipples.
6. Type FMC-S and Type FMC-A duct raceways.
7. Type PVC duct raceways and fittings.
8. Type RTRC-AG duct raceways and fittings.
9. Type RTRC-BG duct raceways and fittings.
10. Fittings for conduit, tubing, and cable.
11. Electrically conductive corrosion-resistant compounds for threaded conduit.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260519 "Low-Voltage for Electrical Power Conductors and Cables" for nonmetallic underground conduit with conductors (Type NUCC).
3. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior duct banks, manholes, and underground utility construction.

1.2 DEFINITIONS

A. Conduit: A structure containing one or more duct raceways.

B. Duct Raceway: A single enclosed raceway for conductors or cable.

C. Duct Bank: An arrangement of conduit providing one or more continuous duct raceways between two points.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Type EMT-A and Type EMT-SS duct raceways and elbows.
2. Type EMT-S duct raceways and elbows.
3. Type ENT duct raceways and fittings.

4. Type ERMC-A and Type ERMC-SS duct raceways, elbows, couplings, and nipples.
5. Type ERMC-S duct raceways, elbows, couplings, and nipples.
6. Type FMC-S and Type FMC-A duct raceways.
7. Type PVC duct raceways and fittings.
8. Type RTRC-AG duct raceways and fittings.
9. Type RTRC-BG duct raceways and fittings.
10. Fittings for conduit, tubing, and cable.
11. Electrically conductive corrosion-resistant compounds for threaded conduit.

1.4 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions:

1. Type EMT-A and Type EMT-SS duct raceways and elbows.
2. Type EMT-S duct raceways and elbows.
3. Type ENT duct raceways and fittings.
4. Type ERMC-A and Type ERMC-SS duct raceways, elbows, couplings, and nipples.
5. Type ERMC-S duct raceways, elbows, couplings, and nipples.
6. Type FMC-S and Type FMC-A duct raceways.
7. Type PVC duct raceways and fittings.
8. Type RTRC-AG duct raceways and fittings.
9. Type RTRC-BG duct raceways and fittings.
10. Fittings for conduit, tubing, and cable.
11. Electrically conductive corrosion-resistant compounds for threaded conduit.

PART 2 - PRODUCTS

2.1 TYPE EMT-A AND TYPE EMT-SS DUCT RACEWAYS AND ELBOWS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN FJMX; including UL 797A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
b. Colors: As indicated on Drawings.

2.2 TYPE EMT-S DUCT RACEWAYS AND ELBOWS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN FJMX; including UL 797.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

2.3 TYPE ENT DUCT RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN FKHU; including UL 1653.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL FKHU - Electrical Nonmetallic Tubing (ENT) and Fittings:
1. Options:

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
b. Fittings:

1) Mechanically Attached Fittings: UL 1653.
2) Solvent-Attached Fittings: UL 651.

2.4 TYPE ERMC-A AND TYPE ERMC-SS DUCT RACEWAYS, ELBOWS, COUPLINGS, AND NIPPLES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN DYWV; including UL 6A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL DYIX - Galvanized-Steel Electrical Rigid Metal Conduit (ERMC-S-G), Elbows, Couplings, and Nipples:
1. Exterior Coating: Zinc.
2. Options:

a. Interior Coating: Zinc.
b. Minimum Trade Size: Metric designator 21 (trade size 3/4).
c. Colors: As indicated on Drawings.

D. UL DYIX - PVC-Coated-Steel Electrical Rigid Metal Conduit (ERMC-S-PVC), Elbows, Couplings, and Nipples:
1. Options:

a. Exterior Coating: PVC complying with NEMA RN 1.
b. Interior Coating: Zinc.
c. Minimum Trade Size: Metric designator 21 (trade size 3/4.
d. Colors: As indicated on Drawings.
e. Conduit Fittings for Hazardous (Classified) Locations: UL 1203.
f. Expansion and Deflection Fittings: UL 651 with flexible bonding jumper.

2.5 TYPE FMC-S AND TYPE FMC-A DUCT RACEWAYS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN DXUZ; including UL 1.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL DXUZ - Steel Flexible Metal Conduit (FMC-S):
1. Material: Steel.
2. Options:

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
b. Colors: As indicated on Drawings.

D. UL DXUZ - Aluminum Flexible Metal Conduit (FMC-A):
   1. Options:

      a. Minimum Trade Size: Metric designator 16 (trade size 1/2).
      b. Colors: As indicated on Drawings.

2.6 TYPE FMT DUCT RACEWAYS

A. Performance Criteria:

   1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
   2. Listing Criteria: UL CCN ILJW; including UL Subject 1652.

B. Source Quality Control:

   1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
   2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL ILJW - Steel Flexible Metallic Tubing (FMT):
   1. Options:

      a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
      b. Colors: As indicated on Drawings.

2.7 TYPE IMC DUCT RACEWAYS

A. Performance Criteria:

   1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
   2. Listing Criteria: UL CCN DYBY; including UL 1242.

B. Source Quality Control:

   1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
   2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. Source Quality Control:

   1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
   2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

2.8 TYPE PVC DUCT RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN DZYR; including UL 651.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL DZYR - Schedule 40 Rigid PVC Conduit (PVC-40) and Fittings:
1. Dimensional Specifications: Schedule 40.
2. Options:

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
b. Markings: For use with maximum 90 deg C wire.

D. UL DZYR - Schedule 80 Rigid PVC Conduit (PVC-80) and Fittings:
1. Dimensional Specifications: Schedule 80.
2. Options:

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).
b. Markings: For use with maximum 90 deg C wire.

E. UL DZYR - Type A Rigid PVC Concrete-Encased Conduit (PVC-A) and Fittings:
1. Dimensional Specifications: Type A.
2. Options:

a. Minimum Trade Size: Metric designator 21 (trade size 3/4).

F. UL DZYR - Type EB Rigid PVC Concrete-Encased Underground Conduit (PVC-EB) and Fittings:
1. Dimensional Specifications: Type EB.
2. Options:

a. Minimum Trade Size: [\Metric designator 53 (trade size 2).

2.9 TYPE RTRC-AG DUCT RACEWAYS AND FITTINGS`

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria:

a. Aboveground RTRC: UL CCN DZKT; including UL 2515.
b. Extra Heavy Wall RTRC: UL 2515A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

2.10 TYPE RTRC-BG DUCT RACEWAYS AND FITTINGS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN DZKT; including UL 2420.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

2.11 FITTINGS FOR CONDUIT, TUBING, AND CABLE

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL DWTT - Fittings for Type ERMC, Type IMC, Type PVC, Type HDPE, Type EPEC, and Type RTRC Duct Raceways:
1. Listing Criteria: UL CCN DWTT; including UL 514B.
2. Options:

a. Material: Steel.
b. Coupling Method: Compression coupling.
c. Expansion and Deflection Fittings: UL 651 with flexible bonding jumper.

D. UL FKAV - Fittings for Type EMT Duct Raceways:
   1. Listing Criteria: UL CCN FKAV; including UL 514B.
   2. Options:

      a. Material: Steel
      b. Coupling Method: Compression coupling.
      c. Expansion and Deflection Fittings: UL 651 with flexible bonding jumper.

E. UL ILNR - Fittings for Type FMC Duct Raceways:
   1. Listing Criteria: UL CCN ILNR; including UL 514B.

2.12 ELECTRICALLY CONDUCTIVE CORROSION-RESISTANT COMPOUNDS FOR THREADED CONDUIT

A. Performance Criteria:

   1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
   2. Listing Criteria: UL CCN FOIZ; including UL Subject 2419.

B. Source Quality Control:

   1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
   2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

2.13 NTS

A. Performance Criteria:

   1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
   2. Listing Criteria: UL CCN DWTT; including UL 514B.

B. Source Quality Control:

   1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.

   2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

PART 3 - EXECUTION

3.1 SELECTION OF CONDUITS FOR ELECTRICAL SYSTEMS

A. Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NFPA 70 for selection of duct raceways. Consult Architect for resolution of conflicting requirements.

B. Outdoors:

1. Exposed and Subject to Severe Physical Damage: PVC Schedule 80.
2. Exposed and Subject to Physical Damage: PVC Schedule 80.

    a. Locations less than 2.5 m (8 ft) above finished floor.

3. Exposed and Not Subject to Physical Damage: EMT or PVC-40.
4. Concealed Aboveground: EMT.
5. Direct Buried: PVC-40.
6. Concrete Encased Not in Trench: PVC-4.
7. Concrete Encased in Trench: PVC-40.

C. Indoors:

1. Exposed and Subject to Severe Physical Damage: ERMC. Locations include the following:

    a. Loading docks.
    b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    c. Mechanical rooms.
    d. Gymnasiums.

2. Exposed and Subject to Physical Damage: EMT. Locations include the following:

    a. Locations less than 2.5 m (8 ft) above finished floor.
    b. Stub-ups to above suspended ceilings.

3. Exposed and Not Subject to Physical Damage: PVC-80.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Damp or Wet Locations: ERM.

D. Duct Fittings: Select fittings in accordance with NEMA FB 2.10 guidelines.

1. ERMC and IMC: Provide threaded-type fittings unless otherwise indicated.

3.2 INSTALLATION OF CONDUITS FOR ELECTRICAL SYSTEMS

A. Comply with manufacturer's published instructions.

B. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:

1. Type EMT-A: Article 358 of NFPA 70 and NECA NEIS 102.
2. Type EMT-S: Article 358 of NFPA 70 and NECA NEIS 101.
3. Type ENT: Article 362 of NFPA 70 and NECA NEIS 102.
4. Type ERMC-A: Article 344 of NFPA 70 and NECA NEIS 102.
5. Type ERMC-SS: Article 344 of NFPA 70 and NECA NEIS 101.
6. Type ERMC-S: Article 344 of NFPA 70 and NECA NEIS 101.
7. Type FMC-S: Article 348 of NFPA 70 and NECA NEIS 101.
8. Type FMC-A: Article 348 of NFPA 70 and NECA NEIS 102.
9. Type FMT: Article 360 of NFPA 70 and NECA NEIS 101.
10. Type IMC: Article 342 of NFPA 70 and NECA NEIS 101.
11. Type PVC: Article 356 of NFPA 70 and NECA NEIS 111.
12. Type RTRC: Article 355 of NFPA 70 and NECA NEIS 111.
13. Expansion Fittings: NEMA FB 2.40.
14. Consult Architect for resolution of conflicting requirements.

C. Special Installation Techniques:

1. General Requirements for Installation of Duct Raceways:

    a. Complete duct raceway installation before starting conductor installation.
    b. Provide stub-ups through floors with coupling threaded inside for plugs, set flush with finished floor. Plug coupling until conduit is extended above floor to final destination or a minimum of 2 ft (0.6 m) above finished floor.
    c. Install no more than equivalent of three 90-degree bends in conduit run except for control wiring conduits, for which no more than equivalent of two 90-degree fewer bends are permitted. Support within 12 inch (300 mm) of changes in direction.
    d. Make bends in duct raceway using large-radius preformed ells except for parallel bends. Field bending must be in accordance with NFPA 70 minimum radii requirements. Provide only equipment specifically designed for material and size involved.
    e. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
    f. Support conduit within 12 inch (300 mm) of enclosures to which attached.
    g. Install duct sealing fittings at accessible locations in accordance with NFPA 70 and fill them with listed sealing compound. For concealed duct raceways, install fitting in flush steel box with blank cover plate having finish similar to that of adjacent plates or surfaces. Install duct sealing fittings in accordance with NFPA 70.
    h. Install devices to seal duct raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal interior of duct raceways at the following points:

        1) Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.

2) Where an underground service duct raceway enters a building or structure.
3) Conduit extending from interior to exterior of building.
4) Conduit extending into pressurized duct raceway and equipment.
5) Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
6) Where otherwise required by NFPA 70.

i. Do not install conduits within 2 inch (50 mm) of the bottom side of a metal deck roof.
j. Keep duct raceways at least 6 inch (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal duct raceway runs above water and steam piping.
k. Cut conduit perpendicular to the length. For conduits metric designator 53 (trade size 2) and larger, use roll cutter or a guide to make cut straight and perpendicular to the length. Ream inside of conduit to remove burrs.
l. Install pull wires in empty duct raceways. Provide polypropylene or monofilament plastic line with not less than 200 lb (90 kg) tensile strength. Leave at least 12 inch (300 mm) of slack at both ends of pull wire. Cap underground duct raceways designated as spare above grade alongside duct raceways in use.
m. Install duct raceways square to the enclosure and terminate at enclosures without hubs with locknuts on both sides of enclosure wall. Install locknuts hand tight, plus one-quarter turn more.

1) Termination fittings with shoulders do not require two locknuts.

n. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to metric designator 35 (trade size 1-1/4) and insulated throat metal bushings on metric designator 41 (trade size 1-1/2) and larger conduits terminated with locknuts.

2. Types EMT-A, ERMC-A, and FMC-A: Do not install aluminum duct raceways or fittings in contact with concrete or earth.
3. Types ERMC and IMC:

a. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound that maintains electrical conductivity to threads of duct raceway and fittings before making up joints. Follow compound manufacturer's published instructions.

4. Type ERMC-S-PVC:

a. Follow manufacturer's installation instructions for clamping, cutting, threading, bending, and assembly.
b. Provide PVC-coated sealing locknut for exposed male threads transitioning into female NPT threads that do not have sealing sleeves, including transitions from PVC couplings/female adapters to Type ERMC-S-PVC elbows in direct-burial applications. PVC-coated sealing locknuts must not be used in place of conduit hub. PVC-coated sealing locknut must cover exposed threads on Type ERMC-S-PVC duct raceway.

c. Coat field-cut threads on PVC-coated duct raceway with manufacturer-approved corrosion-preventing conductive compound prior to assembly.

5. Types FMC:

a. Provide a maximum of 36 inch (915 mm) of flexible conduit for recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

6. Types PVC, HDPE, and EPEC:

a. Do not install Type PVC, Type HDPE, or Type EPEC conduit where ambient temperature exceeds 122 deg F (50 deg C). Conductor ratings must be limited to 75 deg C except where installed in a trench outside buildings with concrete encasement, where 90 deg C conductors are permitted.
b. Comply with manufacturer's published instructions for solvent welding and fittings.

7. Type RTRC: Do not install Type RTRC conduit where ambient temperature exceeds 230 deg F (110 deg C).
8. Duct Raceways Embedded in Slabs:

a. Run duct raceways larger than metric designator 27 (trade size 1) below concrete slab] [Run duct raceways larger than metric designator 27 (trade size 1) parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place duct raceway close to slab support. Secure duct raceways to reinforcement at maximum 10 ft (3 m) intervals.
b. Arrange duct raceways to cross building expansion joints with expansion fittings at right angles to the joint.
c. Arrange duct raceways to ensure that each is surrounded by minimum of 1 inch (25 mm)] [2 inch (50 mm) of concrete without voids.
d. Do not embed threadless fittings in concrete unless locations have been specifically approved by Architect.
e. Change from ENT to PVC-80 before rising above floor.

9. Stub-ups to Above Recessed Ceilings:

a. Provide EMT, IMC, or ERMC for duct raceways.
b. Provide a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

10. Duct Raceway Terminations at Locations Subject to Moisture or Vibration:

a. Provide insulating bushings to protect conductors, including conductors smaller than 4 AWG. Install insulated throat metal grounding bushings on service conduits.

11. Duct Fittings: Install fittings in accordance with NEMA FB 2.10 guidelines.

a. ERMC-S-PVC: Provide only fittings listed for use with this type of conduit. Patch and seal joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Provide sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
b. EMT: Provide steel fittings. Comply with NEMA FB 2.10.
c. Flexible Conduit: Provide only fittings listed for use with flexible conduit type. Comply with NEMA FB 2.20.

12. Expansion-Joint Fittings:

a. Install in runs of aboveground PVC that are located where environmental temperature change may exceed 30 deg F (17 deg C) and that have straight-run length that exceeds 25 ft (7.6 m). Install in runs of aboveground ERMC and EMT conduit that are located where environmental temperature change may exceed 100 deg F (55 deg C) and that have straight-run length that exceeds 100 ft (30 m).
b. Install type and quantity of fittings that accommodate temperature change listed for the following locations:

1) Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change.
2) Outdoor Locations Exposed to Direct Sunlight: 155 deg F (86 deg C) temperature change.
3) Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change.
4) Attics: 135 deg F (75 deg C) temperature change.

c. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F (0.06 mm per meter of length of straight run per deg C) of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F (0.0115 mm per meter of length of straight run per deg C) of temperature change for metal conduits.
d. Install expansion fittings at locations where conduits cross building or structure expansion joints.
e. Install expansion-joint fitting with position, mounting, and piston setting selected in accordance with manufacturer's published instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

13. Duct Raceways Penetrating Rooms or Walls with Acoustical Requirements: Seal duct raceway openings on both sides of rooms or walls with acoustically rated putty or firestopping.
14. Identification: Provide labels for conduit assemblies, duct raceways, and associated electrical equipment.

a. Provide warning signs.

D. Interfaces with Other Work:

1. Coordinate with Section 078413 "Penetration Firestopping" for installation of firestopping at penetrations of fire-rated floor and wall assemblies.
2. Coordinate with Section 260529 "Hangers and Supports for Electrical Systems" for installation of conduit hangers and supports.

3.3 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 260533.13

SECTION 260533.16 - BOXES AND COVERS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.
4. Cover plates for device boxes.
5. Hoods for outlet boxes.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.
4. Cover plates for device boxes.
5. Hoods for outlet boxes.

B. Shop Drawings:

1. Shop drawings for floor boxes.

C. Sustainable design submittals.

1. Nonmetallic outlet boxes, device boxes, rings, and covers.
2. Junction boxes and pull boxes.
3. Cover plates for device boxes.

1.3 INFORMATIONAL SUBMITTALS

A. Manufacturers' Published Instructions:

1. Metallic outlet boxes, device boxes, rings, and covers.
2. Nonmetallic outlet boxes, device boxes, rings, and covers.
3. Junction boxes and pull boxes.

4. Cover plates for device boxes.
5. Hoods for outlet boxes.

PART 2 - PRODUCTS

2.1 METALLIC OUTLET BOXES, DEVICE BOXES, RINGS, AND COVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN QCIT; including UL 514A.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
3. Samples:

a. Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
b. Raised Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
c. Recessed Access-Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
d. Concrete Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.

C. UL QCIT - Metallic Outlet Boxes and Covers:

1. Description: Box having pryout openings, knockouts, threaded entries, or hubs in either the sides of the back, or both, for entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting outlet box cover, but without provisions for mounting wiring device directly to box.
2. Options:

a. Material: Sheet steel**.**
b. Sheet Metal Depth: Minimum 2 inch (50 mm).
c. Luminaire Outlet Boxes and Covers: Nonadjustable, listed and labeled for attachment of luminaire weighing up to 50 lb (23 kg).
d. Paddle Fan Outlet Boxes and Covers: Nonadjustable, designed for attachment of paddle fan weighing up to 70 lb (32 kg).

D. UL QCIT - Metallic Conduit Bodies:

1. Description: Means for providing access to interior of conduit or tubing system through one or more removable covers at junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.

E. UL QCIT - Metallic Device Boxes:

1. Description: Box with provisions for mounting wiring device directly to box.
2. Options:

a. Material: Sheet steel.
b. Sheet Metal Depth: minimum 2 inch (50 mm).

F. UL QCIT - Metallic Extension Rings:

1. Description: Ring intended to extend sides of outlet box or device box to increase box depth, volume, or both.

G. UL QCIT - Metallic Floor Boxes and Floor Box Covers:

1. Description: Box mounted in floor with floor box cover and other components to complete floor box enclosure.

H. UL QCIT - Metallic Raised-Floor Boxes and Floor Box Covers:

1. Description: Box mounted in raised-floor with floor box cover and other components to complete floor box enclosure.

I. UL QCIT - Metallic Recessed Access-Floor Boxes and Recessed Floor Box Covers:

1. Description: Floor box with provisions for mounting wiring devices below floor surface and floor box cover with provisions for passage of cords to recessed wiring devices mounted within floor box.

J. UL QCIT - Metallic Concrete Boxes and Covers:

1. Description: Box intended for use in poured concrete.

2.2 NONMETALLIC OUTLET BOXES, DEVICE BOXES, RINGS, AND COVERS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.

2. Listing Criteria: UL CCN QCMZ; including UL 514C.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Sustainable Design Submittals: Prepare and submit the following documentation for adhesive solvents:

3. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.
4. Samples:

    a. Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
    b. Raised Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
    c. Recessed Access-Floor Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.
    d. Concrete Box Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors and flooring inserts for each type of floor box.

C. UL QCMZ - Nonmetallic Outlet Boxes and Covers:

1. Description: Box having pryout openings, knockouts, threaded entries, or hubs in either the sides or the back, or both, for entrance of conduit, conduit or cable fittings, or cables, with provisions for mounting outlet box cover, but without provisions for mounting wiring device directly to box.

D. UL QCMZ - Nonmetallic Conduit Bodies:

1. Description: Means for providing access to interior of conduit or tubing system through one or more removable covers at junction or terminal point. In the United States, conduit bodies are listed in accordance with outlet box requirements.

E. UL QCMZ - Nonmetallic Device Boxes:

1. Description: Box with provisions for mounting wiring device directly to box.

F. UL QCMZ - Nonmetallic Extension Rings:

1. Description: Ring intended to extend sides of outlet box or device box to increase box depth, volume, or both.

G. UL QCMZ - Nonmetallic Floor Boxes and Floor Box Covers:

1. Description: Box mounted in floor with floor box cover and other components to complete floor box enclosure.

H. UL QCMZ - Nonmetallic Raised-Floor Boxes and Floor Box Covers:

1. Description: Box mounted in raised-floor with floor box cover and other components to complete floor box enclosure.

I. UL QCMZ - Nonmetallic Recessed Access-Floor Boxes and Recessed Floor Box Covers:

1. Description: Floor box with provisions for mounting wiring devices below floor surface and floor box cover with provisions for passage of cords to recessed wiring devices mounted within floor box.

J. UL QCMZ - Nonmetallic Floor Nozzles:

1. Description: Enclosure intended primarily as housing for receptacle, provided with means, such as collar, for surface-mounting on floor, which may or may not include stem to support it above floor level, and is sealed against the entrance of scrub water at floor level.

K. UL QCMZ - Nonmetallic Concrete Boxes and Covers:

1. Description: Box intended for use in poured concrete.

2.3 JUNCTION BOXES AND PULL BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria: UL CCN BGUZ; including UL 50 and UL 50E.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Sustainable Design Submittals: Prepare and submit the following documentation for adhesive solvents:

3. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL BGUZ - Indoor Sheet Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Options:

a. Degree of Protection: Type 1.

D. UL BGUZ - Indoor Cast-Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.

2. Options:

    a. Degree of Protection: Type 1.

E. UL BGUZ - Indoor Polymeric Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Options:

    a. Degree of Protection: Type 1.

F. UL BGUZ - Outdoor Sheet Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Options:

    a. Degree of Protection: Type 3.

G. UL BGUZ - Outdoor Cast-Metal Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Options:

    a. Degree of Protection: Type 3.

H. UL BGUZ - Outdoor Polymeric Junction and Pull Boxes:

1. Description: Box with a blank cover that serves the purpose of joining different runs of raceway or cable.
2. Options:

    a. Degree of Protection: Type 3.

2.4 COVER PLATES FOR DEVICES BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria: UL CCN QCIT or UL CCN QCMZ; including UL 514D.
3. Wallplate-Securing Screws: Metal with head color to match wallplate finish.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Sustainable Design Submittals: Prepare and submit the following documentation for adhesive solvents:

3. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL QCIT or QCMZ - Metallic Cover Plates for Device Boxes:
1. Options:

a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.
b. Wallplate Material: 0.032 inch (0.8 mm) thick, Type 302/304 non-magnetic stainless steel with brushed finish.

D. UL QCIT or QCMZ - Nonmetallic Cover Plates for Device Boxes:
1. Options:

a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.
b. Wallplate Material: 0.060 inch (1.5 mm) thick, high-impact thermoplastic (nylon) with smooth finish and color matching wiring device.
c. Color: As indicated on architectural Drawings.

E. UL QCIT or QCMZ - Illuminating Cover Plates for Device Boxes:
1. Options:

a. Damp and Wet Locations: Listed, labeled, and marked for location and use. Provide gaskets and accessories necessary for compliance with listing.
b. Wallplate Material: 0.060 inch (1.5 mm) thick, high-impact thermoplastic (nylon) with smooth finish and color matching wiring device.
c. Color: As indicated on architectural Drawings.

2.5 HOODS FOR OUTLET BOXES

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70 and marked for intended location and use.
2. Listing Criteria:

a. UL CCN QCIT or UL CCN QCMZ; including UL 514D.
b. Receptacle, Hood, Cover Plate, Gaskets, and Seals: UL 498 Supplement SA when mated with box or enclosure complying with UL 514A, UL 514C, or UL 50E.

3. Mounts to box using fasteners different from wiring device.

B. Source Quality Control:

1. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.
2. Manufacturer's Published Instructions: Prepare and submit installation, testing, and operating instructions for product.

C. UL QCIT or QCMZ - Retractable or Reattachable Hoods for Outlet Boxes:
   1. Options:.

      a. Provides gray weatherproof, "while-in-use" cover.

D. UL QCIT or QCMZ - Extra-Duty, While-in-Use Hoods for Outlet Boxes:
   1. Additional Characteristics: Marked "Extra-Duty" in accordance with UL 514D.
   2. Options:

      a. Provides gray weatherproof, "while-in-use" cover.
      b. Manufacturer may combine nonmetallic device box with hood as extra-duty rated assembly.

PART 3 - EXECUTION

3.1 PREPARATION

A. Shop Drawings: Prepare and submit the following:

   1. Shop Drawings for Floor Boxes: Show that floor boxes are located to avoid interferences and are structurally allowable. Indicate floor thickness at location where boxes are embedded in concrete floors and underfloor clearances where boxes are installed in raised floors.

3.2 SELECTION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

A. Unless more stringent requirements are specified in Contract Documents or manufacturers' published instructions, comply with NFPA 70 for selection of boxes and enclosures. Consult Architect for resolution of conflicting requirements.

B. Degree of Protection:

   1. Outdoors:

      a. Type 3R unless otherwise indicated.
      b. Locations Exposed to Hosedown: Type 4.
      c. Locations Subject to Potential Flooding: Type 6P.
      d. Locations Aboveground Where Mechanism Must Operate When Ice Covered: Type 3S.

   2. Indoors:

      a. Type 1 unless otherwise indicated.
      b. Damp or Dusty Locations: Type 4.
      c. Surface Mounted in Kitchens and Other Locations Exposed to Oil or Coolants: Type 12.
      d. Flush Mounted in Kitchens and Other Locations Exposed to Oil or Coolants: Type 12K.
      e. Locations Exposed to Airborne Dust, Lint, Fibers, or Flyings: Type 4.

f. Locations Exposed to Hosedown: Type 4.

C. Exposed Boxes Installed Less Than 2.5 m (8 ft) Above Floor:

1. Provide cast-metal boxes.
2. Provide exposed cover. Flat covers with angled mounting slots or knockouts are prohibited.

3.3 INSTALLATION OF BOXES AND COVERS FOR ELECTRICAL SYSTEMS

A. Comply with manufacturer's published instructions.

B. Reference Standards for Installation: Unless more stringent installation requirements are specified in Contract Documents or manufacturers' published instructions, comply with the following:

1. Outlet, Device, Pull, and Junction Boxes: Article 314 of NFPA 70.
2. Consult Architect for resolution of conflicting requirements.

C. Special Installation Techniques:

1. Provide boxes in wiring and raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures.
2. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to top of box unless otherwise indicated.
3. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box, whether installed indoors or outdoors.
4. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
5. Locate boxes so that cover or plate will not span different building finishes.
6. Support boxes in recessed ceilings independent of ceiling tiles and ceiling grid.
7. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for purpose.
8. Fasten junction and pull boxes to, or support from, building structure. Do not support boxes by conduits.
9. Set metal floor boxes level and flush with finished floor surface.
10. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.
11. Do not install aluminum boxes, enclosures, or fittings in contact with concrete or earth.
12. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to ensure a continuous ground path.
13. Boxes and Enclosures in Areas or Walls with Acoustical Requirements:

    a. Seal openings and knockouts in back and sides of boxes and enclosures with acoustically rated putty.

b. Provide gaskets for wallplates and covers.

14. Identification: Provide labels for boxes and associated electrical equipment.

a. Identify field-installed conductors, interconnecting wiring, and components.
b. Provide warning signs.
c. Label each box with engraved metal or laminated-plastic nameplate.

D. Interfaces with Other Work:

1. Coordinate installation of new products for electrical systems with existing conditions.

2. Coordinate with Section 260573.13 "Short-Circuit Studies" for determining available fault current on input feeder.

3.4 CLEANING

A. Remove construction dust and debris from boxes before installing wallplates, covers, and hoods.

3.5 PROTECTION

A. After installation, protect boxes from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION 260533.16

SECTION 260543 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

PART 2 - RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

2.2 SUMMARY

A. Section Includes:

1. Metal conduits and fittings, including GRC and PVC-coated steel conduit.
2. Precast concrete handholes.
3. Polymer concrete handholes and boxes with polymer concrete cover.

2.3 DEFINITIONS

A. Direct Buried: Duct or a duct bank that is buried in the ground, without any additional casing materials such as concrete.

B. GRC: Galvanized rigid (steel) conduit.

2.4 ACTION SUBMITTALS

A. Shop Drawings:

1. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:

a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
b. Include duct entry provisions, including locations and duct sizes.
c. Include cover design.
d. Include grounding details.
e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

2.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: For duct and duct bank. Show duct profiles and coordination with other utilities and underground structures.

1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
2. Drawings shall be signed and sealed by a qualified professional engineer.

B. Qualification Data: For professional engineer and testing agency responsible for testing nonconcrete handholes and boxes.

C. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C858.

D. Source quality-control reports.

E. Field quality-control reports.

2.6 MAINTENANCE MATERIALS SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

B. Furnish cable-support stanchions, arms, and associated fasteners in quantities equal to 5 percent of quantity of each item installed.

2.7 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

2.8 FIELD CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions, and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify Construction Manager no fewer than two days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Construction Manager’s written permission.

B. Ground Water: Assume ground-water level is at grade level unless a lower water table is noted on Drawings.

C. Ground Water: Assume ground-water level is 36 inches (900 mm) below ground surface unless a higher water table is noted on Drawings.

PART 3 - PRODUCTS

3.1 METAL CONDUIT AND FITTINGS

A. GRC: Comply with ANSI C80.1 and UL 6.

B. Coated Steel Conduit: PVC-coated GRC.

1. Comply with NEMA RN 1.
2. Coating Thickness: 0.040 inch (1 mm), minimum.

C. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.

3.2 RIGID NONMETALLIC DUCT

A. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.

B. Solvents and Adhesives: As recommended by conduit manufacturer.

3.3 PRECAST CONCRETE HANDHOLES AND BOXES

A. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.

B. Comply with ASTM C858 for design and manufacturing processes.

C. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.

D. Frame and Cover: Weatherproof steel frame, with steel cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing bolts.

E. Frame and Cover: Weatherproof steel frame, with hinged steel access door assembly with tamper-resistant, captive, cover-securing bolts.

1. Cover Hinges: Concealed, with hold-open ratchet assembly.
2. Cover Handle: Recessed.

F. Frame and Cover: Weatherproof aluminum frame with hinged aluminum access door assembly with tamper-resistant, captive, cover-securing bolts.

1. Cover Hinges: Concealed, with hold-open ratchet assembly.
2. Cover Handle: Recessed.

G. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

H. Cover Legend: Molded lettering, “ELECTRIC” “FIBER” “COMMUNICATIONS” or similar.

I. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.

J. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.

1. Extension shall provide increased depth of 12 inches (300 mm).
2. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.

K. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.

L. Knockout Panels: Precast openings in walls, arranged to match dimensions and elevations of approaching duct, plus an additional 12 inches (300 mm) vertically and horizontally to accommodate alignment variations.

1. Center window location.
2. Knockout panels shall be located no less than 6 inches (150 mm) from interior surfaces of walls, floors, or frames and covers of handholes, but close enough to corners to facilitate racking of cables on walls.
3. Knockout panel opening shall have cast-in-place, welded-wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct.
4. Knockout panels shall be framed with at least two additional No. 3 steel reinforcing bars in concrete around each opening.
5. Knockout panels shall be 1-1/2 to 2 inches (38 to 50 mm) thick.

M. Handholes 12 inches wide by 24 inches long (300 mm wide by 600 mm long) and larger shall have inserts for cable racks and pulling-in irons installed before concrete is poured.

3.4 POLYMER CONCRETE HANDHOLES AND BOXES WITH POLYMER CONCRETE COVER

A. Description: Molded of sand and aggregate, bound together with a polymer resin, and reinforced with steel or fiberglass or a combination of the two.

B. Standard: Comply with SCTE 77. Comply with tier requirements in “Underground Enclosure Application” Article.

C. Configuration: Units shall be designed for flush burial and have open bottom unless otherwise indicated.

D. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.

E. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.

F. Cover Legend: Molded lettering, “ELECTRIC” “FIBER” “COMMUNICATIONS” or similar.

G. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.

H. Handholes 12 inches wide by 24 inches long (300 mm wide by 600 mm long) and larger shall have factory-installed inserts for cable racks and pulling-in irons.

3.5 SOURCE QUALITY CONTROL

A. Test and inspect precast concrete utility structures according to ASTM C1037.

B. Nonconcrete Handhole and Pull-Box Prototype Test: Test prototypes of manholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.

1. Tests of materials shall be performed by an independent testing agency.
2. Strength tests of complete boxes and covers shall be by an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
3. Testing machine pressure gages shall have current calibration certification, complying with ISO 9000 and ISO 10012, and traceable to NIST standards.

PART 4 - EXECUTION

4.1 PREPARATION

A. Coordinate layout and installation of duct, duct bank, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.

B. Coordinate elevations of duct and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of duct and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct and duct bank will drain to manholes and handholes, and as approved by Architect.

4.2 EARTHWORK

A. Excavation and Backfill: do not use heavy-duty, hydraulic-operated, compaction equipment.

B. Restore surface features at areas disturbed by excavation, and re-establish original grades unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching.

D. Cut and patch existing pavement in the path of underground duct, duct bank, and underground structures.

4.3 INSTALLATION OF HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting duct, to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of duct, and seal joint between box and extension as recommended by manufacturer.

B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.

C. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables, but short enough to preserve adequate working clearances in enclosure.

D. Field cut openings for duct according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

4.4 GROUNDING

A. Ground underground ducts and utility structures.

4.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Demonstrate capability and compliance with requirements on completion of installation of underground duct, duct bank, and utility structures.
2. Pull solid aluminum or wood test mandrel through duct to prove joint integrity and adequate bend radii, and test for out-of-round duct. Provide a minimum 12-inch-(300-mm-) long mandrel equal to duct size minus 1/4 inch (6 mm). If obstructions are indicated, remove obstructions and retest.

B. Correct deficiencies and retest as specified above to demonstrate compliance.

C. Prepare test and inspection reports.

4.6 CLEANING

A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of duct until duct cleaner indicates that duct is clear of dirt and debris. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.

B. Clean internal surfaces of manholes, including sump.

1. Sweep floor, removing dirt and debris.
2. Remove foreign material.

END OF SECTION 260543

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Color and legend requirements for raceways, conductors, and warning labels and signs.
2. Labels.
3. Bands and tubes.
4. Tapes and stencils.
5. Tags.
6. Signs.
7. Cable ties.
8. Paint for identification.
9. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.

B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.

C. Identification Schedule: For each piece of electrical equipment and electrical system components to be an index of nomenclature for electrical equipment and system components used in identification signs and labels. Use same designations indicated on Drawings.

D. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with ASME A13.1[and IEEE C2].

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

2.2 COLOR AND LEGEND REQUIREMENTS

A. Color-Coding for 600 V or Less:
   1. Colors for 208/120-V Circuits:

      a. Phase A: Black.
      b. Phase B: Red.
      c. Phase C: Blue.
      d. Neutral: White
      e. Ground: Green

   2. Colors for 240-V Circuits:

      a. Phase A: Black.
      b. Phase B: Red.
      c. Neutral: White
      d. Ground: Green

   3. Colors for 480/277-V Circuits:

      a. Phase A: Brown.
      b. Phase B: Orange.
      c. Phase C: Yellow.
      d. Neutral: Gray
      e. Ground: Green

   4. Colors for Isolated Grounds: Green with yellow stripe.

B. Warning labels and signs shall include, but are not limited to, the following legends:

   1. Multiple Power Source Warning: “DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES.”
   2. Workspace Clearance Warning: “WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM).”

C. Equipment Identification Labels:

   1. Black letters on a white field.

2.3 LABELS

A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters and that stay in place by gripping action.

C. Self-Adhesive Wraparound Labels: Preprinted, 3-mil- (0.08-mm-) thick, vinyl flexible label with acrylic pressure-sensitive adhesive.
   1. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
   2. Marker for Labels: Permanent, waterproof, black ink marker recommended by tag manufacturer.
   3. Marker for Labels: Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.

D. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3-mil- (0.08-mm-) thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
   1. Minimum Nominal Size:

      a. 1-1/2 by 6 inches (37 by 150 mm) for raceway and conductors.
      b. 3-1/2 by 5 inches (76 by 127 mm) for equipment.
      c. As required by authorities having jurisdiction.

2.4 TAPES AND STENCILS

A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide; compounded for outdoor use.

C. Underground-Line Warning Tape:
   1. Tape:

      a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications lines.
      b. Printing on tape shall be permanent and shall not be damaged by burial operations.
      c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.

   2. Color and Printing:

      a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
      b. Inscriptions for Red-Colored Tapes: “ELECTRIC LINE, HIGH VOLTAGE”
      c. Inscriptions for Orange-Colored Tapes: “TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE”.

2.5 TAGS

A. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch (50 by 50 by 1.3 mm), with stamped legend, punched for use with self-locking cable tie fastener.

B. Nonmetallic Preprinted Tags: Polyethylene tags, 0.015 inch (0.38 mm) thick, color-coded for phase and voltage level, with factory printed permanent designations; punched for use with self-locking cable tie fastener.

2.6 SIGNS

A. Laminated Acrylic or Melamine Plastic Signs:
   1. Engraved legend.
   2. Thickness:

      a. For signs up to 20 sq. in. (129 sq. cm), minimum 1/16 inch (1.6 mm) thick.
      b. For signs larger than 20 sq. in. (129 sq. cm), 1/8 inch (3.2 mm) thick.
      c. Engraved legend with white letters on a black background.
      d. Punched or drilled for mechanical fasteners with 1/4-inch (6.4-mm) grommets in corners for mounting or Self-adhesive.
      e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.7 CABLE TIES

A. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.

B. UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.

C. Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, and self-locking.
   1. UL 94 Flame Rating: 94V-0.

2.8 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

B. Install identifying devices before installing acoustical ceilings and similar concealment.

C. Verify identity of each item before installing identification products.

D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.

E. Apply identification devices to surfaces that require finish after completing finish work.

F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.

G. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.

1. Secure tight to surface of conductor, cable, or raceway.

H. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.

1. Secure tight to surface of conductor, cable, or raceway.

I. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

J. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.

1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.

K. Underground Line Warning Tape:

1. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches (400 mm) overall.
2. Limit use of underground-line warning tape to direct-buried cables.
3. Install underground-line warning tape for direct-buried cables and cables in raceways.

L. Metal Tags:

1. Place in a location with high visibility and accessibility.
2. Secure using cable ties.

M. Nonmetallic Preprinted Tags:

1. Place in a location with high visibility and accessibility.
2. Secure using cable ties.

N. Laminated Acrylic or Melamine Plastic Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.

2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use labels 2 inches (50 mm) high.

O. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.
2. In Spaces Handling Environmental Air: Plenum rated.

END OF SECTION 260553

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. GFCI receptacles, 125 V, 20 A.

1.3 DEFINITIONS

A. AFCI: Arc-fault circuit interrupter.

B. BAS: Building automation system.

C. EMI: Electromagnetic interference.

D. GFCI: Ground-fault circuit interrupter.

E. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

F. RFI: Radio-frequency interference.

G. SPD: Surge protective device.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing-label warnings and instruction manuals that include labeling conditions.

PART 2 - PRODUCTS

2.1 GENERAL WIRING-DEVICE REQUIREMENTS

A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Comply with NFPA 70.

C. RoHS compliant.

D. Comply with NEMA WD 1.

E. Device Color:

1. Wiring Devices Connected to Normal Power System: As selected by Architect unless otherwise indicated or required by NFPA 70 or device listing.
2. Wiring Devices Connected to Essential Electrical System: Red.
3. SPD Devices: Blue.
4. Isolated-Ground Receptacles: Orange.

F. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

G. Weather-Resistant Duplex Receptacle, 125 V, 20 A:

1. Description: Two pole, three wire, and self-grounding. Integral shutters that operate only when a plug is inserted in the receptacle. Square face.
2. Configuration: NEMA WD 6, Configuration 5-20R.
3. Standards: Comply with UL 498.
4. Marking: Listed and labeled as complying with NFPA 70, “Receptacles in Damp or Wet Locations” Article.

2.2 GFCI RECEPTACLES, 125 V, 20 A

A. Duplex GFCI Receptacles, 125 V, 20 A:

1. Description: Integral GFCI with “Test” and “Reset” buttons and LED indicator light. Two pole, three wire, and self-grounding.
2. Configuration: NEMA WD 6, Configuration 5-20R.
3. Standards: Comply with UL 498, UL 943 Class A, and FS W-C-596.

2.3 WALL PLATES

A. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with lockable cover.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.

B. Coordination with Other Trades:

1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes, and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors:

1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall comply with NFPA 70, Article 300, without pigtails.
4. Existing Conductors:

    a. Cut back and pigtail, or replace all damaged conductors.
    b. Straighten conductors that remain and remove corrosion and foreign matter.
    c. Pigtailing existing conductors is permitted, provided the outlet box is large enough.

D. Device Installation:

1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.

6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the left.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top.

3.2 IDENTIFICATION

A. Identify each receptacle with panelboard identification and circuit number. Use hot, stamped, or engraved machine printing with black lettering on face of plate.

3.3 FIELD QUALITY CONTROL

A. Tests for Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault-current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

END OF SECTION 262726

SECTION 262813 - FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cartridge fuses rated 600 V ac and less for use in the following:
   a. Enclosed switches.

2. Spare-fuse cabinets.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for spare-fuse cabinets. Include the following for each fuse type indicated:

1. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.

   a. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
   b. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.

2. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
3. Current-limitation curves for fuses with current-limiting characteristics.
4. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse. Submit in PDF format.
5. Coordination charts and tables and related data.
6. Fuse sizes for elevator feeders and elevator disconnect switches.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals, include the following:

1. Ambient temperature adjustment information.
2. Current-limitation curves for fuses with current-limiting characteristics.
3. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse used on the Project. Submit in PDF format.
4. Coordination charts and tables and related data.

1.5 FIELD CONDITIONS

A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F (5 deg C) or more than 100 deg F (38 deg C), apply manufacturer's ambient temperature adjustment factors to fuse ratings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer.

2.2 CARTRIDGE FUSES

A. Characteristics: NEMA FU 1, current-limiting, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.

1. Service Entrance and Feeders:
   a. Type L, time delay for 800 amps and greater.
   b. Type RK1, time delay for 600 amps or less.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Comply with NEMA FU 1 for cartridge fuses.

D. Comply with NFPA 70.

E. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

2.3 SPARE-FUSE CABINET

A. Characteristics: Wall-mounted steel unit with full-length, recessed piano-hinged door and key-coded cam lock and pull.

1. Size: Adequate for storage of (3) spare fuses of each type and amperage installed.
2. Finish: Gray, baked enamel.
3. Identification: “SPARE FUSES” in 1-1/2-inch- (38-mm-) high letters on exterior of door.
4. Fuse Pullers: For each size of fuse, where applicable and available, from fuse manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged.

B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features.

C. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.

D. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

B. Install spare-fuse cabinet(s) in location shown on the Drawings or as indicated in the field by Owner.

3.3 IDENTIFICATION

A. Install labels complying with requirements for identification specified in Section 260553 “Identification for Electrical Systems” and indicating fuse replacement information inside of door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 262813

SECTION 26 2816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

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. Section Includes:

1. Fusible switches.
2. Nonfusible switches.
3. Enclosures.

1.3 DEFINITIONS

A. NC: Normally closed.

B. NO: Normally open.

C. SPDT: Single pole, double throw.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.
2. Current and voltage ratings.
3. Short-circuit current ratings (interrupting and withstand, as appropriate).
4. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.

B. Shop Drawings: For enclosed switches and circuit breakers.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include wiring diagrams for power, signal, and control wiring.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals:

a. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
b. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.

B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

D. Comply with NFPA 70.

2.2 FUSIBLE SWITCHES

A. Type HD, Heavy Duty:

1. Single or Double throw.
2. Three pole.
3. 600-V ac.
4. 1200 A and smaller.

B. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
4. Auxiliary Contact Kit: One NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open. Contact rating as required to integrate with equipment provided by other divisions.

5. Lugs: suitable for number, size, and conductor material.
6. Service-Rated Switches: Labeled for use as service equipment.

2.3 NONFUSIBLE SWITCHES

A. Type HD, Heavy Duty, Three Pole, Single Throw, 600-V ac, 200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.

B. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Lugs: type, suitable for number, size, and conductor material.

2.4 ENCLOSURES

A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.

B. Enclosure Finish: The enclosure shall be:
1. Gray baked enamel paint, electrodeposited on cleaned, phosphatized steel (NEMA 250 Type 1).
2. Gray baked enamel paint, electrodeposited on cleaned, phosphatized galvannealed steel (NEMA 250 Types 3R, 12)
3. A brush finish on Type 304 stainless steel (NEMA 250 Type 4-4X stainless steel).

C. Conduit Entry: NEMA 250 Types 4, 4X, and 12 enclosures shall contain no knockouts..

D. Enclosures designated as NEMA 250 Type 4, 4X stainless steel, 12, or 12K shall have a dual cover interlock mechanism to prevent unintentional opening of the enclosure cover when the circuit breaker is ON and to prevent turning the circuit breaker ON when the enclosure cover is open.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory.

3.2 PREPARATION

3.3 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

A. Enclosed Switches and Circuit Breakers: Provide enclosures at installed locations with the following environmental ratings.

1. Indoor, Dry and Clean Locations: NEMA 250, Type 1.
2. Outdoor Locations: NEMA 250, Type 3R or Type 4X.
3. Kitchen and Wash-Down Areas: NEMA 250, Type 4X.

3.4 INSTALLATION

A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

B. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.

C. Install fuses in fusible devices.

D. Comply with NFPA 70 and NECA 1.

3.5 IDENTIFICATION

A. Comply with requirements of "Identification for Electrical Systems."

1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
2. Label each enclosure with engraved metal or laminated-plastic nameplate.

END OF SECTION 26 2816

SECTION 265119 - LED INTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Downlight.
   2. Recessed, linear.
   3. Strip light.
   4. Surface mount, nonlinear.
   5. Materials.
   6. Luminaire support.

B. Related Requirements:

   1. Section 260923 "Lighting Control Devices" for automatic control of lighting, including time switches, photoelectric relays, occupancy sensors, and multipole lighting relays and contactors.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color Rendering Index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. LED: Light-emitting diode.

F. Lumen: Measured output of lamp and luminaire, or both.

G. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Arrange in order of luminaire designation.
2. Include data on features, accessories, and finishes.
3. Include physical description and dimensions of luminaires.
4. Include emergency lighting units, including batteries and chargers.
5. Include life, output (lumens, CCT, and CRI), and energy-efficiency data.
6. Photometric data and adjustment factors based on laboratory tests IES LM-79 and IES LM-80.

    a. Manufacturers' Certified Data: Photometric data certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
    b. Testing Agency Certified Data: For indicated luminaires, photometric data certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Samples: For each luminaire and for each color and texture with standard factory-applied finish.

D. Samples for Initial Selection: For each type of luminaire with custom factory-applied finishes.

1. Include Samples of luminaires and accessories involving color and finish selection.

E. Samples for Verification: For each type of luminaire.

1. Include Samples of luminaires and accessories to verify finish selection.

F. Product Schedule: For luminaires and lamps: see lighting fixture schedule on drawing.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Luminaires.
2. Suspended ceiling components.
3. Partitions and millwork that penetrate the ceiling or extend to within 12 inches (300 mm) of the plane of the luminaires.
4. Structural members to which luminaires will be attached.
5. Initial access modules for acoustical tile, including size and locations.

6. Items penetrating finished ceiling, including the following:

    a. Other luminaires.
    b. Air outlets and inlets.
    c. Speakers.
    d. Sprinklers.
    e. Access panels.
    f. Ceiling-mounted projectors.

7. Moldings.

B. Qualification Data: For testing laboratory providing photometric data for luminaires.

C. Product Certificates: For each type of luminaire.

D. Product Test Reports: For each type of luminaire, for tests performed by manufacturer and witnessed by a qualified testing agency.

E. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires and lighting systems to include in operation and maintenance manuals.

1. Provide a list of all lamp types used on Project; use ANSI and manufacturers' codes.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Lamps: Ten for every 100 of each type and rating installed. Furnish at least one of each type.
2. Diffusers and Lenses: One for every 100 of each type and rating installed. Furnish at least one of each type.
3. Globes and Guards: One for every 20 of each type and rating installed. Furnish at least one of each type.

1.8 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications:
1. Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7, accredited under the NVLAP for Energy Efficient Lighting Products, and complying with the applicable IES testing standards.

B. Provide luminaires from a single manufacturer for each luminaire type.

C. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering before shipping.

1.10 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

B. Warranty Period: Five year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Ambient Temperature: 41 to 104 deg F (5 to 40 deg C).

1. Relative Humidity: Zero to 95 percent.

B. Altitude: Sea level to 1000 feet (300 m).

2.2 LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Locate labels where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

1. Label shall include the following lamp characteristics:

a. "USE ONLY" and include specific lamp type.
b. Lamp diameter, shape, size, wattage, and coating.
c. CCT and CRI.

C. Recessed luminaires shall comply with NEMA LE 4.

2.3 DOWNLIGHT, SEE DRAWING E301.

A. Nominal Operating Voltage: 120 V ac

B. Lamp:

1. Minimum 1000 lm.
2. Minimum allowable efficacy of 80 lm/W.
3. CRI of minimum 80. CCT of 4100 K.
4. Rated lamp life of 50,000 hours to L70.
5. Dimmable from 100 percent to zero percent of maximum light output.
6. Internal driver.
7. User-Replaceable Lamps:

    a. Bulb shape complying with ANSI C78.79.
    b. Lamp base complying with ANSI C81.61.

8. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

C. Housings:

1. Extruded-aluminum housing and heat sink.
2. Powder-coat finish.
3. Universal mounting bracket.
4. Integral junction box with conduit fittings.

D. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

E. Diffusers and Globes:

1. Prismatic acrylic
2. Acrylic Diffusers: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
3. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

F. Standards:

1. ENERGY STAR certified.
2. RoHS compliant.
3. UL Listing: Listed for damp location.
4. Recessed luminaires shall comply with NEMA LE 4.
5. Dimmable from 100 percent to zero percent of maximum light output.
6. Internal driver.

7. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

2.4 SURFACE MOUNT, LINEAR, SEE DRAWING E301.

A. Nominal Operating Voltage: 120 V ac.

B. Lamp:

1. Minimum 750 lm.
2. Minimum allowable efficacy of 80 lm/W.
3. CRI of minimum 80. CCT of 4100 K.
4. Rated lamp life of 50,000 hours to L70.
5. Dimmable from 100 percent to zero percent of maximum light output.
6. Internal driver.

7. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

C. Housings:

1. Extruded-aluminum housing and heat sink.
2. White powder-coat finish.
3. With integral mounting provisions.

D. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Components are designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

E. Diffusers and Globes:

1. Prismatic acrylic.
2. Acrylic Diffusers: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
3. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

F. Standards:

1. ENERGY STAR certified.
2. RoHS compliant.
3. UL Listing: Listed for damp location.

2.5 SUSPENDED, LINEAR, SEE DRAWING E301.

A. Nominal Operating Voltage: 120 V ac.

B. Lamp:

1. Minimum 1,500 lm.
2. Minimum allowable efficacy of 85 lm/W.
3. CRI of minimum 80. CCT of 4100 K.

4. Rated lamp life of 50,000 hours to L70.
5. Dimmable from 100 percent to zero percent of maximum light output.
6. Internal driver.

7. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

C. Housings:

1. Extruded-aluminum housing and heat sink.
2. Powder-coat finish.
3. With integral mounting provisions.

D. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Components are designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

E. Diffusers and Globes:

1. Prismatic acrylic.
2. Acrylic Diffusers: One hundred percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
3. Glass: Annealed crystal glass unless otherwise indicated.
4. Lens Thickness: At least 0.125-inch (3.175-mm) minimum unless otherwise indicated.

F. Standards:

1. ENERGY STAR certified.
2. RoHS compliant.
3. UL Listing: Listed for damp location.

2.6 MATERIALS

A. Metal Parts:

1. Free of burrs and sharp corners and edges.
2. Sheet metal components shall be steel unless otherwise indicated.
3. Form and support to prevent warping and sagging.

B. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for sheet steel.

C. Stainless Steel:

1. Manufacturer's standard grade.
2. Manufacturer's standard type, ASTM A240/240M.

D. Galvanized Steel: ASTM A653/A653M.

E. Aluminum: ASTM B209.

2.7 METAL FINISHES

A. Variations in finishes are unacceptable in the same piece. Variations in finishes of adjoining components are acceptable if they are within the range of approved Samples and if they can be and are assembled or installed to minimize contrast.

2.8 LUMINAIRE SUPPORT

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

B. Single-Stem Hangers: 1/2-inch (13-mm) steel tubing with swivel ball fittings and ceiling canopy. Finish same as luminaire.

C. Wires: ASTM A641/A641M, Class 3, soft temper, zinc-coated steel, 12 gage (2.68 mm).

D. Rod Hangers: 3/16-inch (5-mm) minimum diameter, cadmium-plated, threaded steel rod.

E. Hook Hangers: Integrated assembly matched to luminaire, line voltage, and equipment with threaded attachment, cord, and locking-type plug.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for luminaire to verify actual locations of luminaire and electrical connections before luminaire installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 TEMPORARY LIGHTING

A. If approved by the Architect, use selected permanent luminaires for temporary lighting. When construction is sufficiently complete, clean luminaires used for temporary lighting and install new lamps.

3.3 INSTALLATION

A. Comply with NECA 1.

B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

C. Install lamps in each luminaire.

D. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Provide support for luminaire without causing deflection of ceiling or wall.
4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

E. Flush-Mounted Luminaires:

1. Secured to outlet box.
2. Attached to ceiling structural members at four points equally spaced around circumference of luminaire.
3. Trim ring flush with finished surface.

F. Wall-Mounted Luminaires:

1. Attached to a minimum 20 gauge backing plate attached to wall structural members.
2. Do not attach luminaires directly to gypsum board.

G. Suspended Luminaires:

1. Ceiling Mount:
   a. Pendant mount with 5/32-inch- (4-mm-) diameter aircraft cable supports adjustable to 10 feet (3 m) in length.
2. Pendants and Rods: Where longer than 48 inches (1200 mm), brace to limit swinging.
3. Stem-Mounted, Single-Unit Luminaires: Suspend with twin-stem hangers. Support with approved outlet box and accessories that hold stem and provide damping of luminaire oscillations. Support outlet box vertically to building structure using approved devices.
4. Continuous Rows of Luminaires: Use tubing or stem for wiring at one point and wire support for suspension for each unit length of luminaire chassis, including one at each end.
5. Do not use ceiling grid as support for pendant luminaires. Connect support wires or rods to building structure.

H. Ceiling-Grid-Mounted Luminaires:

1. Secure to any required outlet box.
2. Secure luminaire to the luminaire opening using approved fasteners in a minimum of four locations, spaced near corners of luminaire.
3. Use approved devices and support components to connect luminaire to ceiling grid and building structure in a minimum of four locations, spaced near corners of luminaire.

I. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" for wiring connections.

3.4 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery power and retransfer to normal.

B. Luminaire will be considered defective if it does not pass operation tests and inspections.

C. Prepare test and inspection reports.

END OF SECTION 265119

SECTION 265619 - LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Exterior solid-state luminaires that are designed for and exclusively use LED lamp technology.
2. Luminaire supports.
3. Luminaire-mounted photoelectric relays.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color rendering index.

C. Fixture: See "Luminaire."

D. IP: International Protection or Ingress Protection Rating.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of luminaire.

1. Arrange in order of luminaire designation.
2. Include data on features, accessories, and finishes.
3. Include physical description and dimensions of luminaire.
4. Lamps, include life, output (lumens, CCT, and CRI), and energy-efficiency data.
5. Photometric data and adjustment factors based on laboratory tests, complying with IES Lighting Measurements Testing and Calculation Guides, of each luminaire type. The adjustment factors shall be for lamps and accessories identical to those indicated for the luminaire as applied in this Project IES LM-79

a. Manufacturer's Certified Data: Photometric data certified by manufacturer's laboratory with a current accreditation under the NVLAP for Energy Efficient Lighting Products.
b. Testing Agency Certified Data: For indicated luminaires, photometric data certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.

6. Wiring diagrams for power, control, and signal wiring.
7. Photoelectric relays.
8. Means of attaching luminaires to supports and indication that the attachment is suitable for components involved.

B. Shop Drawings: For nonstandard or custom luminaires.

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Product Schedule: For luminaires and lamps. Use same designations indicated on Drawings.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Luminaires.
2. Structural members to which luminaires will be attached.
3. Underground utilities and structures.
4. Existing underground utilities and structures.
5. Above-grade utilities and structures.
6. Existing above-grade utilities and structures.
7. Building features.
8. Vertical and horizontal information.

B. Qualification Data: For testing laboratory providing photometric data for luminaires.

C. Product Certificates: For each type of the following:

1. Luminaire.

D. Product Test Reports: For each luminaire, for tests performed by manufacturer and witnessed by a qualified testing agency.

E. Source quality-control reports.

F. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires to include in operation and maintenance manuals.

1. Provide a list of all lamp types used on Project. Use ANSI and manufacturers' codes.
2. Provide a list of all photoelectric relay types used on Project; use manufacturers' codes.

1.7 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Luminaire manufacturers' laboratory that is accredited under the NVLAP for Energy Efficient Lighting Products.

B. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7, accredited under the NVLAP for Energy Efficient Lighting Products and complying with applicable IES testing standards.

C. Provide luminaires from a single manufacturer for each luminaire type.

D. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

E. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

F. Mockups: For exterior luminaires, complete with power and control connections.

1. Obtain Architect's approval of luminaires in mockups before starting installations.
2. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed work.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering prior to shipping.

1.9 FIELD CONDITIONS

A. Verify existing and proposed utility structures prior to the start of work associated with luminaire installation.

B. Mark locations of exterior luminaires for approval by Architect prior to the start of luminaire installation.

1.10 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures, including luminaire support components.
b. Faulty operation of luminaires and accessories.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: 2 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

2.2 LUMINAIRE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Luminaires shall be listed and labeled for indicated class and division of hazard by an NRTL.

C. FM Global Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by FM Global.

D. UL Compliance: Comply with UL 1598 and listed for wet location.

E. Lamp base complying with ANSI C81.61.

F. Bulb shape complying with ANSI C79.1.

G. CRI of minimum 80 CCT of 4100 K.

H. L70 lamp life of 50,000 hours.

I. Lamps dimmable from 100 percent to 0 percent of maximum light output.

J. Internal driver.

K. Nominal Operating Voltage: As shown in drawings.

L. In-line Fusing: On the primary for each luminaire Lamp Rating: Lamp marked for outdoor use.

M. Source Limitations: Obtain luminaires from single source from a single manufacturer.

2.3 LUMINAIRE-MOUNTED PHOTOELECTRIC RELAYS

A. Comply with UL 773 or UL 773A.

B. Contact Relays: Factory mounted, single throw, designed to fail in the on position, and factory set to turn light unit on at 1.5 to 3 fc (16 to 32 lx) and off at 4.5 to 10 fc (48 to 108 lx) with 15-second minimum time delay. Relay shall have directional lens in front of photocell to prevent artificial light sources from causing false turnoff.

1. Relay with locking-type receptacle shall comply with ANSI C136.10.
2. Adjustable window slide for adjusting on-off set points.

2.4 MATERIALS

A. Metal Parts: Free of burrs and sharp corners and edges.

B. Sheet Metal Components: Corrosion-resistant aluminum Form and support to prevent warping and sagging.

C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.

1. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless otherwise indicated.

D. Lens and Refractor Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

E. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.

F. Housings:

1. Rigidly formed, weather- and light-tight enclosure that will not warp, sag, or deform in use.
2. Provide filter/breather for enclosed luminaires.

G. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

1. Label shall include the following lamp characteristics:

a. "USE ONLY" and include specific lamp type.
b. Lamp diameter, shape, size, wattage and coating.
c. CCT and CRI for all luminaires.

2.5 FINISHES

A. Variations in Finishes: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

B. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

C. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
2. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20 requirements; and seal aluminum surfaces with clear, hard-coat wax.
3. Class I, Clear-Anodic Finish: AA-M32C22A41 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.
4. Class I, Color-Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker), complying with AAMA 611.

a. Color: By Architect.

D. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1 or SSPC-SP 8.
2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
   a. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for luminaire electrical conduit to verify actual locations of conduit connections before luminaire installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Comply with NECA 1.

B. Install lamps in each luminaire.

C. Fasten luminaire to structural support.

D. Supports:

1. Sized and rated for luminaire weight.
2. Able to maintain luminaire position after cleaning and relamping.
3. Support luminaires without causing deflection of finished surface.
4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.

E. Wiring Method: Install cables in raceways. Conceal raceways and cables.

F. Install luminaires at height and aiming angle as indicated on Drawings.

G. Coordinate layout and installation of luminaires with other construction.

H. Adjust luminaires that require field adjustment or aiming. Include adjustment of photoelectric device to prevent false operation of relay by artificial light sources, favoring a north orientation.

I. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" and Section 260533 "Raceways and Boxes for Electrical Systems" for wiring connections and wiring methods.

3.3 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.4 FIELD QUALITY CONTROL

A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.

B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
2. Verify operation of photoelectric controls.

C. Illumination Tests:

1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IES testing guide(s):

   a. IES LM-5.
   b. IES LM-50.
   c. IES LM-52.
   d. IES LM-64.
   e. IES LM-72.

2. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

D. Luminaire will be considered defective if it does not pass tests and inspections.

E. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.5 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaires and photocell relays.

3.6 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting the direction of aim of luminaires to suit occupied conditions. Make up to two visits to Project during other-than-normal hours for this purpose. Some of this work may be required during hours of darkness.

1. During adjustment visits, inspect all luminaires. Replace lamps or luminaires that are defective.
2. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
3. Adjust the aim of luminaires in the presence of the Architect.

END OF SECTION 26 5619

SECTION 26 56 68 – EXTERIOR ATHLETIC LIGHTING

LIGHTING SYSTEM WITH LED LIGHT SOURCE

PART 1 – GENERAL

1.1 SUMMARY

A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.

B. The purpose of these specifications is to define the lighting system performance and design standards for the City of Fort Lauderdale using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.

C. The sports lighting will be for the following venues:

1. (20) Tennis Courts

D. The primary goals of this sports lighting project are:

1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed to not drop below specified target values for a period of 25 years.
2. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors.
3. Cost of Ownership: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.

1.2 LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period.

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Tennis Per Court	75 FC	2.0:1.0	72	12' x 12'
Stadium Court #3	125	1.5:1.0	72	12' x 12'

B. Color: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.

C. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum of 10 degrees below horizontal.

# of Poles	Pole Designation	Pole Height
10	T1 – T6, T11 – T14	40'
24	T7 – T10, T15 - 34	50'

1.3 ENVIRONMENTAL LIGHT CONTROL

A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are accepted.

Lighting designs shall also meet the beam distributions standards set forth by the IES RP-6-15 in Section 5.4.1. Beam Types Figure 14: NEMA Sports Lighting Luminaire Classification.

B. A technical document addressing the issue of lighting in the vertical plane above the playing surface for aerial sports while achieving desired glare control requirements will be required for approval.

C. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

Holiday Park	Maximum
Western Property Line – Vertical Footcandles	2.5
Western Property Line – Candela	13,600
Southern Property Line – Vertical Footcandles	2.2
Southern Property Line – Candela	9,000

If a manufacturer's engineered lighting scan indicates that the above criteria cannot be met, then an increase in pole mounting heights would be acceptable provided that these specified values are achieved.

D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights. Illumination level shall be measured in accordance with the IESNA LM-5-04 after 1 hour warm up.

E. The efficacy for field aimed fixtures must meet DLC requirement of 105 lumens per watt.

F. The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.

G. Upper Beam Definition

Fixtures shall not exceed the candlepower at the specified degrees above the center of the beam in the vertical plane as specified in the following table.

NEMA Classification of Vertical Beam	Candela	Degrees Above the Center of the Beam in the Vertical Plane
4	10,000	13.0 degrees

PART 2 – PRODUCT

2.1 SPORTS LIGHTING SYSTEM CONSTRUCTION

A. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.

C. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and cross-arm assembly.
2. Non-approved pole technology:
    a. Square static cast concrete poles will not be accepted.
    b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long-term performance concerns.
3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
    a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole

erection; actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.

b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.

4. Manufacturer will supply all drivers and supporting electrical equipment

   a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be in the enclosure. Integral drivers are not allowed.

   b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.

      If active cooling fans are utilized in the remote driver enclosure, then these are required to be wired for the control system to self-monitor and automatically report any failure or issue to the manufacturer and/or owner. Technical cutsheets (not illustrative) detailing this function would be a required inclusion in the mandatory pre-bid submittal detailed in Section 4.

      Integral drivers are not acceptable.

5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.

6. All luminaires, visors, and cross-arm assemblies shall withstand 170 mi/h winds and maintain luminaire aiming alignment.

7. Control cabinet to provide remote on-off control, monitoring, of the lighting system. See Section 2.3 for further details.

8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.

   a. Integrated grounding via concrete encased electrode grounding system.

   b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780.The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

D. Safety: All system components shall be UL listed for the appropriate application.

2.2 ELECTRICAL

A. Electric Power Requirements for the Sports Lighting Equipment:
   1. Maximum total voltage drops: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

B. Energy Consumption: The kW consumption for the field lighting system shall be 106 kw or less

2.3 CONTROL

A. Lights shall be turned on / off primarily using contactors. Under no circumstances shall the owner need to switch lights on / off using breakers.

B. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.

C. Lighting contactor cabinet(s) with electrically-held contactors, constructed of NEMA Type 4 aluminum and designed for easy installation with contactors labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.

D. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, fax, email)

E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute “early off” commands by phone. Scheduling tool shall be capable of setting curfew limits.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

F. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).

G. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and Blackberry devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

1. Cumulative hours: shall be tracked to show the total hours used by the facility
2. Report hours saved by using early off and push buttons by users.

H. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.

I. Communication with luminaire drivers: Control system shall interface with drivers in pole-mounted enclosures by means of powerline communication through the underground conductors.

Control systems utilizing a wireless line-of-sight communication pathway to the luminaire

drivers where power is fed directly from circuit breaker to light pole, and in which power distribution to the pole is constant regardless of on/off luminaire status -- are not acceptable due to long-term performance reliability risks.

2.4 STRUCTURAL PARAMETERS

A. Wind Loads: Wind loads shall be based on the 2023 Florida Building Code. Wind loads to be calculated using ASCE 7-10, an ultimate design wind speed of 170, High Velocity Hurricane Zone, and exposure category C.

PART 3 – EXECUTION

3.1 SOIL QUALITY CONTROL

A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of FL for soils other than specified soil conditions;
2. Additional materials required to achieve alternate foundation;
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.2 DELIVERY TIMING

A. Delivery Timing Equipment On-Site: The equipment must be on-site 8-12 weeks from receipt of approved submittals and receipt of complete order information.

3.3 FIELD QUALITY CONTROL

A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.

B. Field Light Level Accountability

1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.

C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed

Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.4 WARRANTY AND GUARANTEE

A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.

B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.0 PRE-BID SUBMITTAL REQUIREMENTS

A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.0.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.

B. Basis of Design Product: Musco's Light-Structure System™ with TLC for LED™ is the approved product or equal. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.

C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.

D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner's representative. Bids received that do not utilize an approved system/design, will be rejected.

PART 5 – DESIGN APPROVAL

5.0 POST BID SUBMITTAL

A. In the event that a manufacturer provides a submittal that is deemed to be incomplete, that manufacturer has 2 weeks maximum to provide all requested information. If the manufacturer does not comply with this timeline, they will be deemed non-compliant and the submittals will be rejected.

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. Submit checklist below with submittal.

Yes/ No	Tab	Item	Description
	A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaries, total kilowatts, average tilt factor; light loss factor. f. Technical document addressing the issue of lighting in the vertical plane above the playing surface for aerial sports while achieving the desired glare control requirements.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience. No partial wattage fixture reports or ISO Polar curve reports are acceptable.

	F	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period.
	G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of FL, if required by owner. (May be supplied upon award).
	H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of FL.
	I	Electrical Distribution Plans	Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of FL.
	J	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10) references of customers currently under specified warranty in the state of FL.
	K	Project References	Manufacturer to provide a list of 10 projects where the technology and specific fixture proposed for this project has been installed in the state of FL. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
	L	Product Information	Complete bill of material and current brochures/ cut sheets for all product being provided. Cut sheets shall be technical (and illustrative) and provide specific detail on fixtures, remote driver cabinets, drivers, surge protection, fusing, controls, poles, and foundations. All certifications including UL and DLC shall be shown on the technical cut sheets.
	M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
	N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
	O	Cost of Ownership	Document cost of ownership as defined in the specification. Identify energy costs for operating the luminaires. Maintenance cost for the system must be included. All costs should be based on 25 Years
	P	Environmental Light Control Design	Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area.

Holiday Park Tennis and Pickleball

Lighting System

Pole/Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
T1-T4	40'	40'	1	TLC-LED-550	0.54 kW	A
		40'	1	TLC-LED-900	0.88 kW	A
T5-T6	40'	40'	1	TLC-LED-550	0.54 kW	B
		40'	1	TLC-LED-900	0.88 kW	B
T7-T8	50'	50'	2	TLC-LED-900	1.76 kW	B
		50'	3	TLC-LED-900	2.64 kW	C
T9-T10	50'	50'	3	TLC-LED-900	2.64 kW	C
T11-T14	40'	40'	1	TLC-LED-550	0.54 kW	D
		40'	1	TLC-LED-900	0.88 kW	D
T15	50'	50'	4	TLC-LED-900	3.52 kW	E
T16	50'	50'	2	TLC-LED-1200	2.34 kW	F
		50'	3	TLC-LED-1200	3.51 kW	E
T17	50'	50'	4	TLC-LED-1200	4.68 kW	F
T18	50'	50'	3	TLC-LED-900	2.64 kW	F
T19	50'	50'	4	TLC-LED-900	3.52 kW	E
T20	50'	50'	2	TLC-LED-1200	2.34 kW	F
		50'	3	TLC-LED-1200	3.51 kW	E
T21	50'	50'	4	TLC-LED-1200	4.68 kW	F
T22	50'	50'	3	TLC-LED-900	2.64 kW	F
T23	50'	50'	4	TLC-LED-900	3.52 kW	G
T24	50'	50'	2	TLC-LED-1200	2.34 kW	H
		50'	3	TLC-LED-1200	3.51 kW	G
T25	50'	50'	4	TLC-LED-1200	4.68 kW	H
T26	50'	50'	3	TLC-LED-900	2.64 kW	H
T27	50'	50'	4	TLC-LED-900	3.52 kW	G
T28	50'	50'	2	TLC-LED-1200	2.34 kW	H
		50'	3	TLC-LED-1200	3.51 kW	G
T29	50'	50'	4	TLC-LED-1200	4.68 kW	H
T30	50'	50'	3	TLC-LED-900	2.64 kW	H
T31-T34	50'	50'	3	TLC-LED-900	2.64 kW	I
34			**112**		**105.60 kW**	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	Tennis 1	5.68 kW	8
B	Tennis 2	6.36 kW	8
C	Tennis 3	10.56 kW	12
D	Tennis 4	5.68 kW	8
E	Tennis 5-7	14.06 kW	14
F	Tennis 8-11	19.32 kW	18
G	Tennis 12-14	14.06 kW	14
H	Tennis 15-18	19.32 kW	18
I	Tennis 19-20	10.56 kW	12

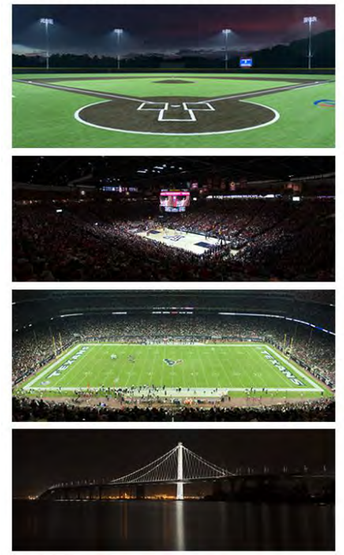
Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	150,000	>120,000	>120,000	>120,000	36
TLC-LED-550	LED 5700K - 75 CRI	540W	67,000	>120,000	>120,000	>120,000	10
TLC-LED-900	LED 5700K - 75 CRI	880W	104,000	>120,000	>120,000	>120,000	66

Single Luminaire Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200	6.9	6.5	6.0	5.2	4.2	3.8	3.0
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3

From Hometown to Professional



ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

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Holiday Park Tennis and Pickleball

Light Level Summary

Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Court 1	Horizontal	75.96	54.7	91.5	1.67	1.39	A	8
Court 10	Horizontal	72.31	65.2	87.5	1.34	1.11	F	18
Court 11	Horizontal	78.95	60.6	89.5	1.48	1.30	F	18
Court 12	Horizontal	75.45	57.2	89.2	1.56	1.32	G	14
Court 13	Horizontal	77.61	60.3	95.1	1.58	1.29	G	14
Court 14	Horizontal	77.44	58.3	92.5	1.59	1.33	G	14
Court 15	Horizontal	82.58	62.6	96.0	1.53	1.32	H	18
Court 16	Horizontal	82.47	71.5	96.7	1.35	1.15	H	18
Court 17	Horizontal	76.76	59.2	96.5	1.63	1.30	H	18
Court 18	Horizontal	76.31	62.8	87.0	1.39	1.22	H	18
Court 19	Horizontal	82.04	64.5	96.2	1.49	1.27	I	12
Court 2	Horizontal	75.78	57.2	95.1	1.66	1.33	B	8
Court 20	Horizontal	82.04	64.5	96.2	1.49	1.27	I	12
Court 3	Horizontal	126.71	103.6	153.5	1.48	1.22	C	12
Court 4	Horizontal	79.62	57.7	94.5	1.64	1.38	D	8
Court 5	Horizontal	77.29	56.3	91.3	1.62	1.37	E	14
Court 6	Horizontal	75.31	59.8	87.1	1.46	1.26	E	14
Court 7	Horizontal	77.07	59.7	88.5	1.48	1.29	E	14
Court 8	Horizontal	75.96	60.2	97.3	1.61	1.26	F	18
Court 9	Horizontal	84.58	71.2	97.4	1.37	1.19	F	18
Property Line Spill	Horizontal	0.88	0.0	3.8	-	-	A,B,C,D,E,F,G	112
Property Line Spill	Max Vertical Illuminance Metric	0.96	0.0	3.3	23323.57	6883.38	A,B,C,D,E,F,G	112
Property Line Spill (cd)	Max Candela (by Light Bank)	4894.99	6.1	18583.1	3069.36	808.50	A,B,C,D,E,F,G	112
Tennis-10-11	Horizontal Illuminance	74.63	64.3	85.7	1.33	1.16	F	18
Tennis-12	Horizontal Illuminance	73.38	59.7	87.8	1.47	1.23	G	14
Tennis-13-14	Horizontal Illuminance	76.91	61.1	95.1	1.56	1.26	G	14
Tennis-15-16	Horizontal Illuminance	83.21	66.1	97.5	1.48	1.26	H	18
Tennis-17-18	Horizontal Illuminance	75.18	64.1	95.3	1.49	1.17	H	18
Tennis-19-20	Horizontal Illuminance	79.76	67.0	89.8	1.34	1.19	I	12
Tennis-2	Horizontal Illuminance	73.26	57.1	94.6	1.66	1.28	B	8
Tennis-3	Horizontal Illuminance	122.02	104.8	150.4	1.44	1.16	C	12
Tennis-4	Horizontal Illuminance	76.74	66.2	97.9	1.48	1.16	D	8
Tennis-5	Horizontal Illuminance	75.26	56.3	88.2	1.57	1.34	E	14
Tennis-6-7	Horizontal Illuminance	75.73	60.3	88.1	1.46	1.26	E	14
Tennis-8-9	Horizontal Illuminance	80.76	62.1	96.7	1.56	1.30	F	18

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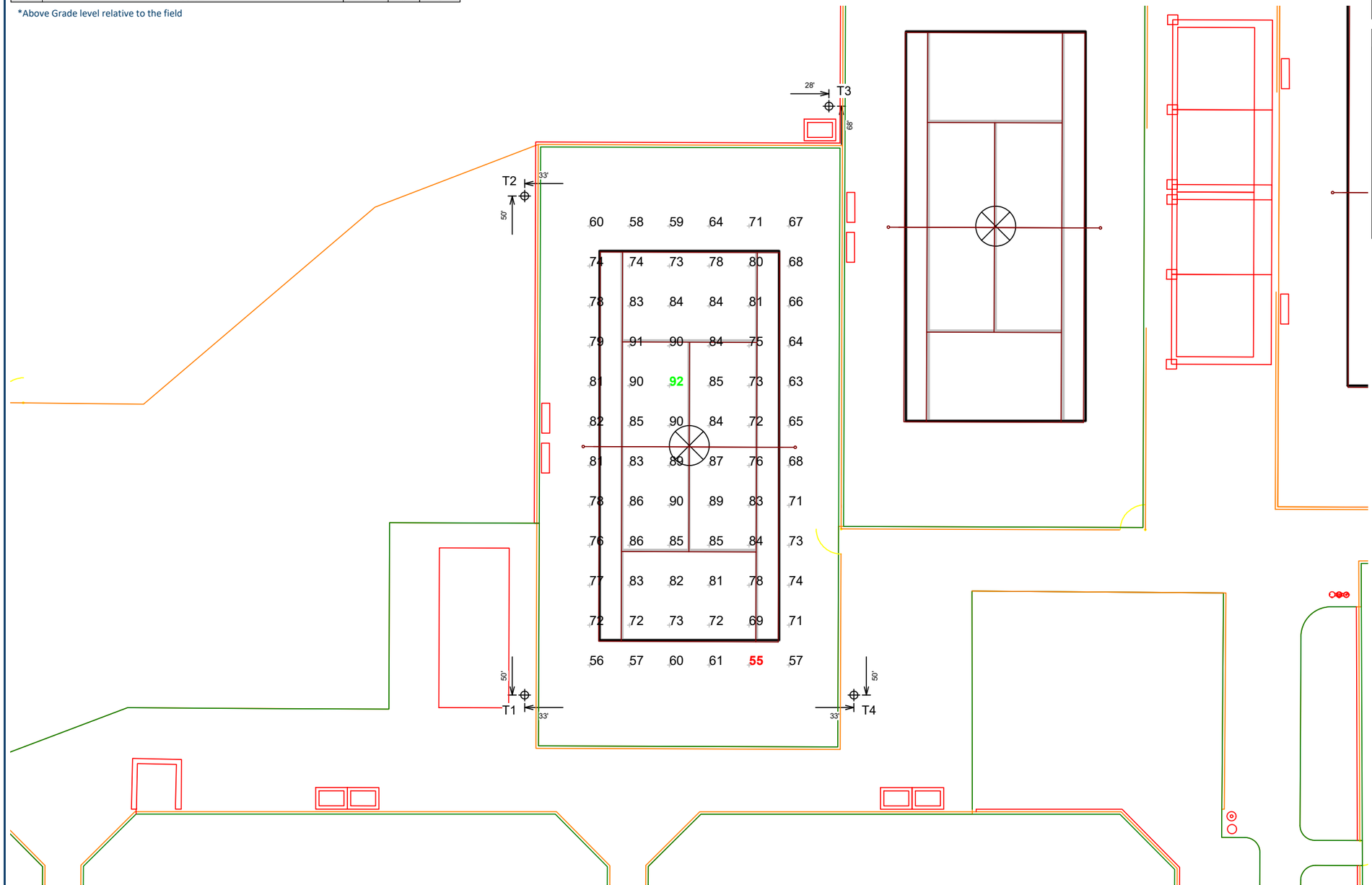
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Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	T1-T4	40'	-	40'	TLC-LED-550	1	1	0
				40'	TLC-LED-900	1	1	0
4	Totals					8	8	0

*Above Grade level relative to the field



Grid Summary

Name	**Court 1**
Size	1 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	75.96
Maximum	91.5
Minimum	54.7
Avg/Min	1.39
Guaranteed Max/Min	**1.7**
Max/Min	1.67
UG (adjacent pts)	1.28
CU	0.55
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	A
No. of Luminaires	**8**
Total Load	5.68 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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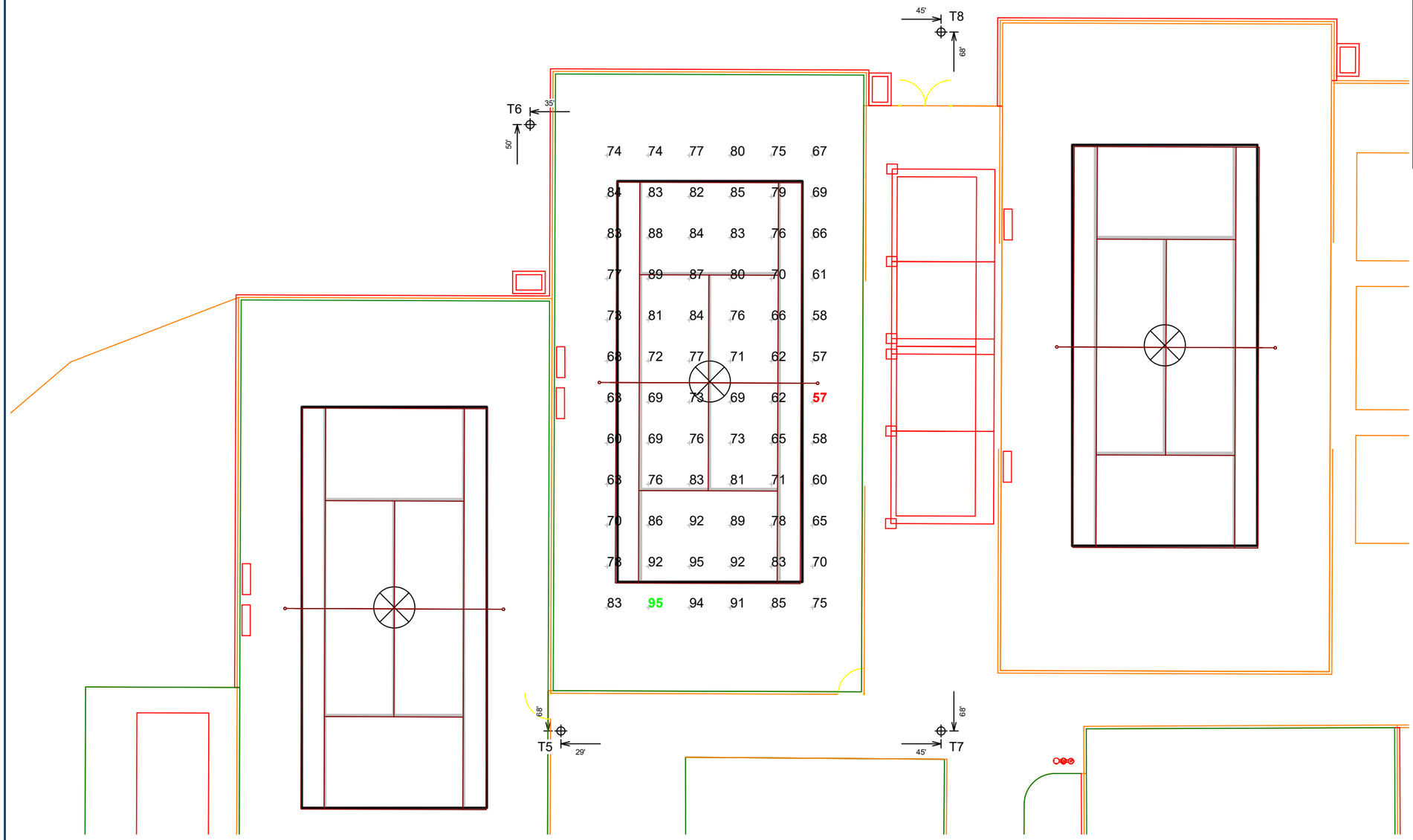
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Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T5-T6	40'	-	40'	TLC-LED-550	1	1	0
				40'	TLC-LED-900	1	1	0
2	T7-T8	50'	-	50'	TLC-LED-900	5	2	3
4	Totals					14	8	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 2**
Size	1 Court - 28' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	75.78
Maximum	95.1
Minimum	57.2
Avg/Min	1.33
Guaranteed Max/Min	**1.7**
Max/Min	1.66
UG (adjacent pts)	1.23
CU	0.47
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	B
No. of Luminaires	**8**
Total Load	6.36 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

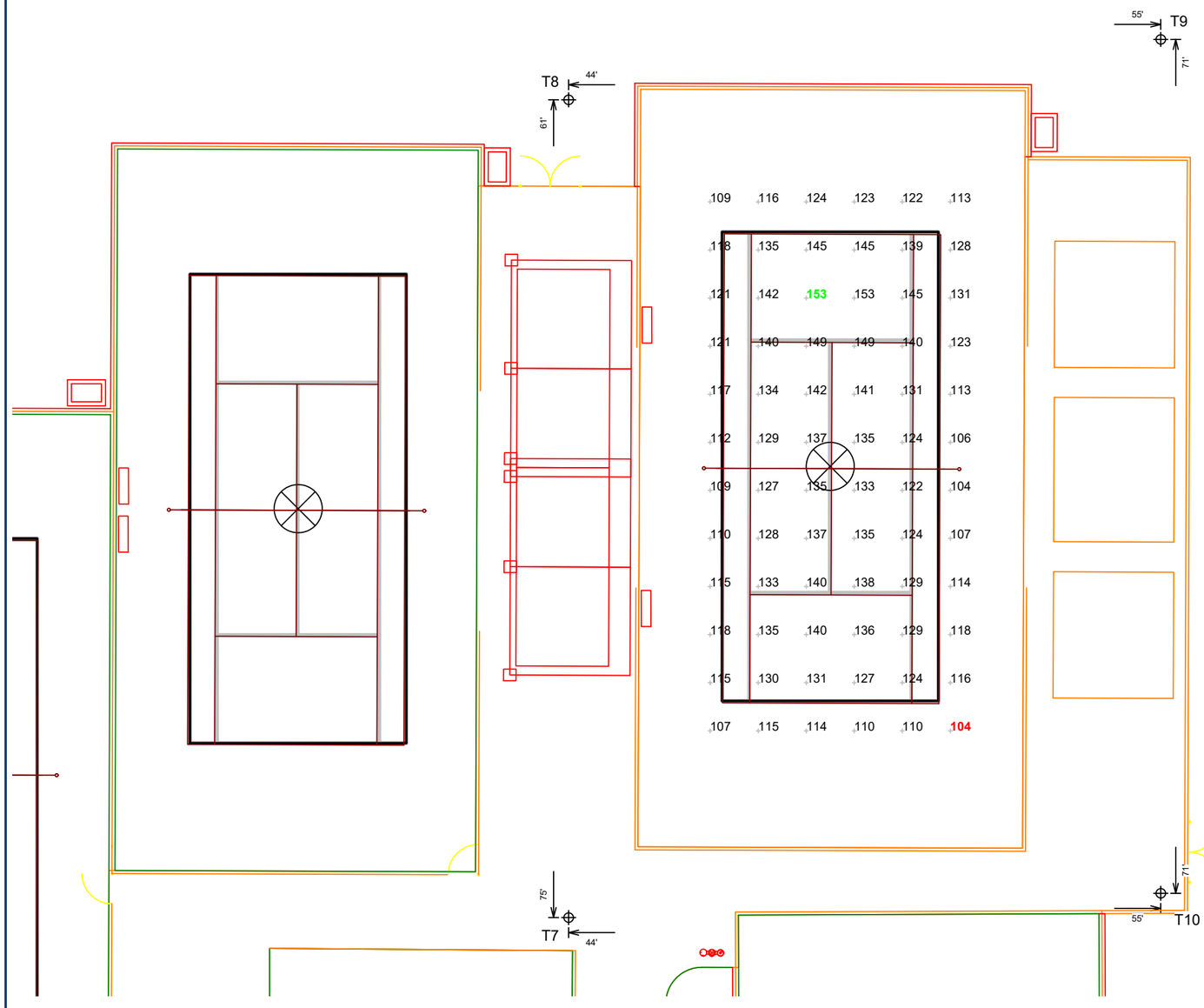
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T7-T8	50'	-	50'	TLC-LED-900	5	3	2
2	T9-T10	50'	-	50'	TLC-LED-900	3	3	0
4	Totals					16	12	4

*Above Grade level relative to the field



SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

Holiday Park Tennis and Pickleball

Grid Summary

Name	**Court 3**
Size	1 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**125**
Scan Average	126.71
Maximum	153.5
Minimum	103.6
Avg/Min	1.22
Guaranteed Max/Min	**1.5**
Max/Min	1.48
UG (adjacent pts)	1.18
CU	0.47
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	C
No. of Luminaires	**12**
Total Load	10.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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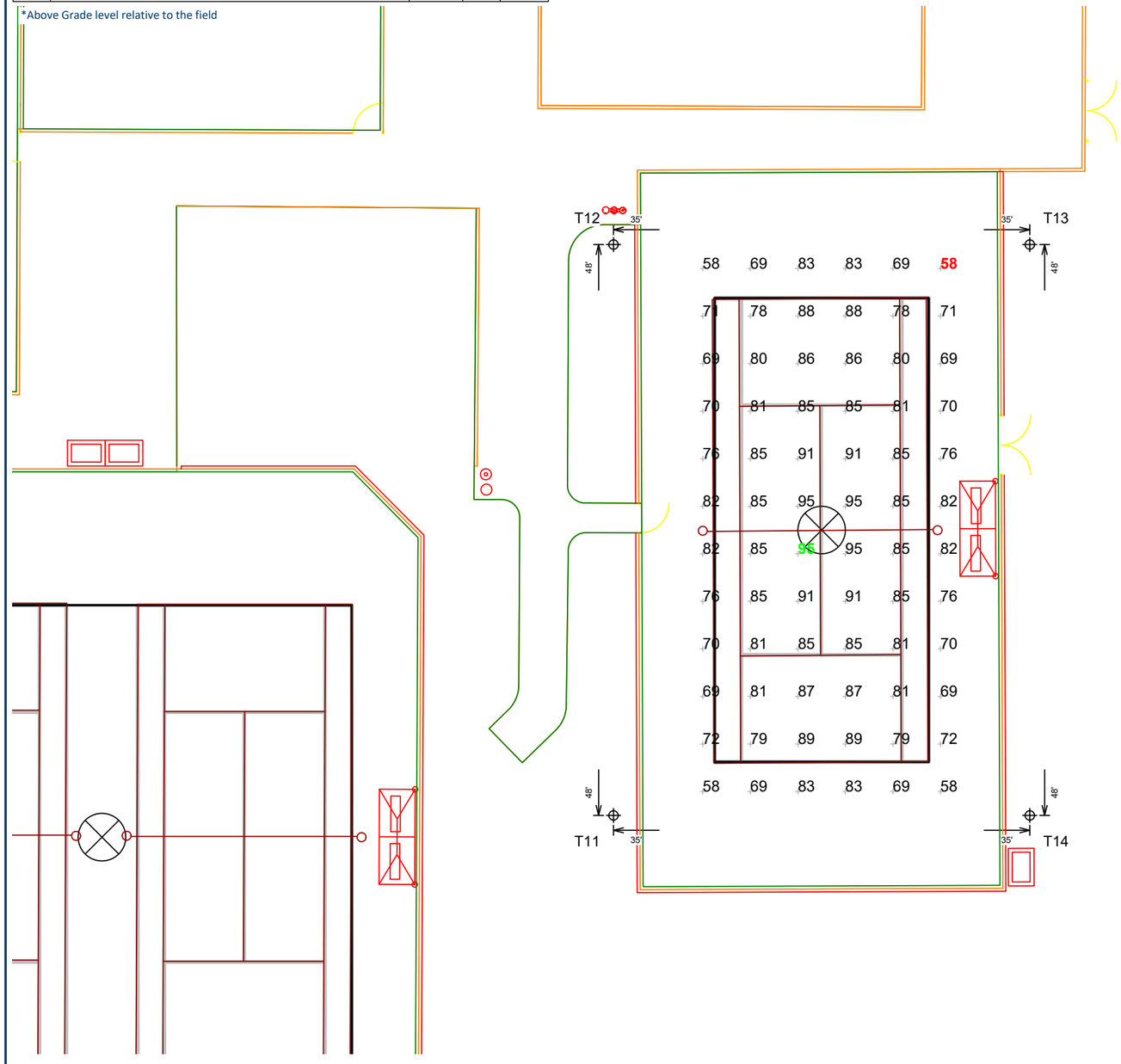
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	T11-T14	40'	-	40'	TLC-LED-550	1	1	0
				40'	TLC-LED-900	1	1	0
4	Totals					8	8	0

*Above Grade level relative to the field



SCALE IN FEET 1 : 20
0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

Holiday Park Tennis and Pickleball

Grid Summary

Name	**Court 4**
Size	1 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	79.62
Maximum	94.5
Minimum	57.7
Avg/Min	1.38
Guaranteed Max/Min	**1.7**
Max/Min	1.64
UG (adjacent pts)	1.23
CU	0.57
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	D
No. of Luminaires	**8**
Total Load	5.68 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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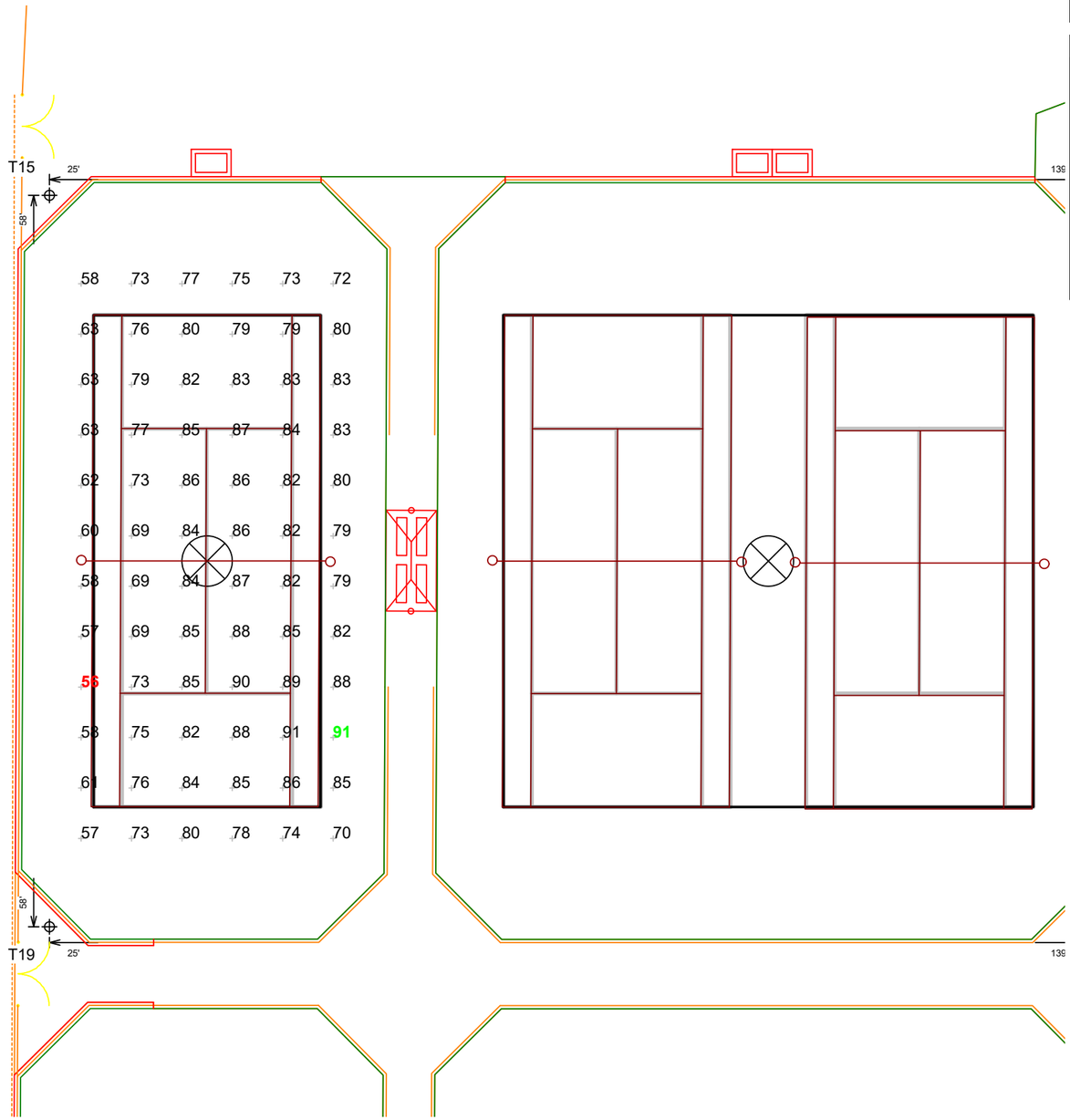
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Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T15 T19	50'	-	50'	TLC-LED-900	4	4	0
2	T16 T20	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

*Above Grade level relative to the field



Grid Summary

Name	**Court 5**
Size	1 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	77.29
Maximum	91.3
Minimum	56.3
Avg/Min	1.37
Guaranteed Max/Min	**1.7**
Max/Min	1.62
UG (adjacent pts)	1.30
CU	0.21
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	E
No. of Luminaires	**14**
Total Load	14.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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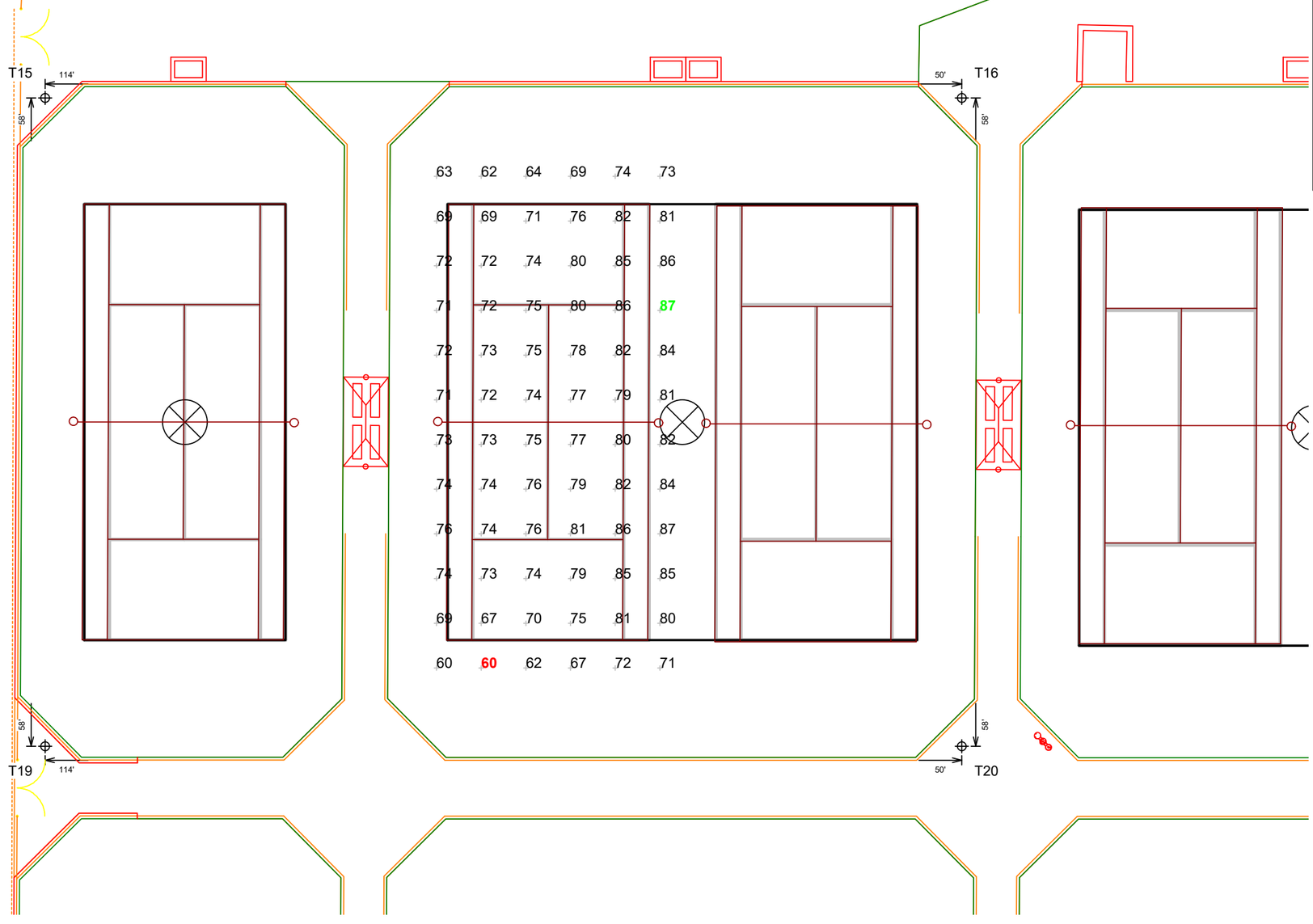
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T15 T19	50'	-	50'	TLC-LED-900	4	4	0
2	T16 T20	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

*Above Grade level relative to the field



Grid Summary

Name	**Court 6**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	75.31
Maximum	87.1
Minimum	59.8
Avg/Min	1.26
Guaranteed Max/Min	**1.7**
Max/Min	1.46
UG (adjacent pts)	1.14
CU	0.20
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	E
No. of Luminaires	**14**
Total Load	14.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T15 T19	50'	-	50'	TLC-LED-900	4	4	0
2	T16 T20	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

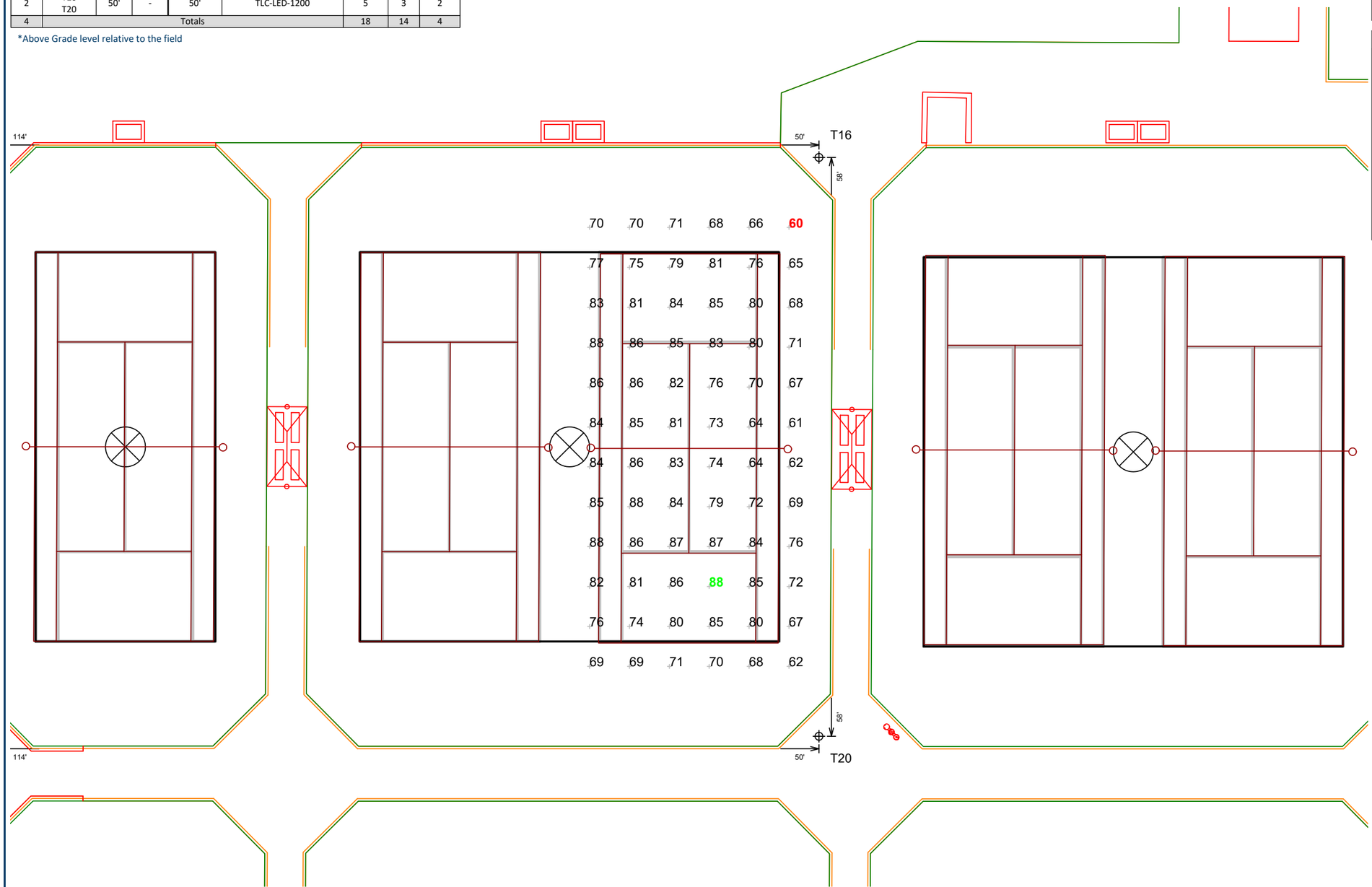
*Above Grade level relative to the field

Grid Summary

Name	**Court 7**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	77.07
Maximum	88.5
Minimum	59.7
Avg/Min	1.29
Guaranteed Max/Min	**1.7**
Max/Min	1.48
UG (adjacent pts)	1.22
CU	0.20
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	E
No. of Luminaires	**14**
Total Load	14.06 kW



Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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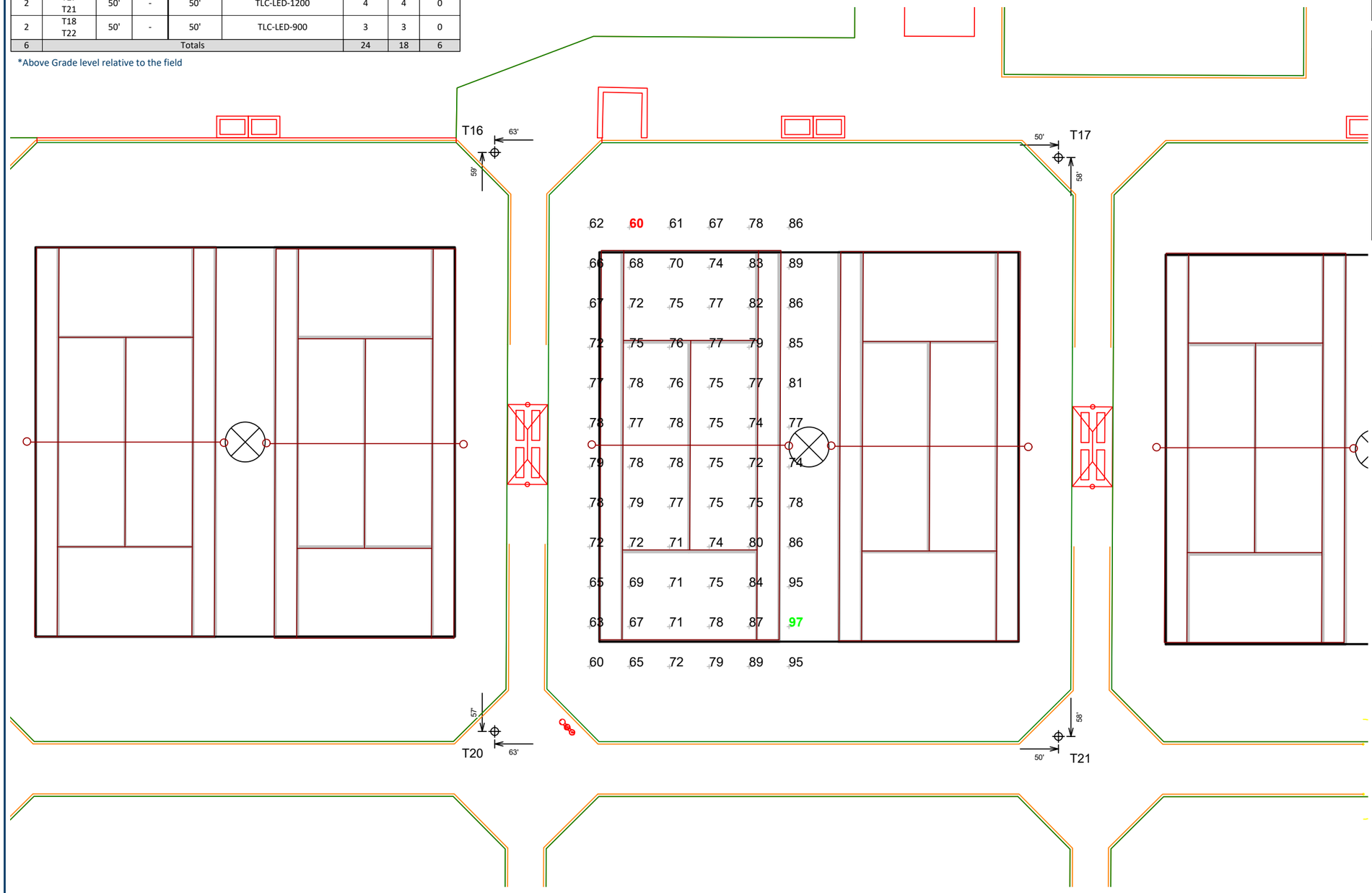
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T16 T20	50'	-	50'	TLC-LED-1200	5	2	3
2	T17 T21	50'	-	50'	TLC-LED-1200	4	4	0
2	T18 T22	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 8**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	75.96
Maximum	97.3
Minimum	60.2
Avg/Min	1.26
Guaranteed Max/Min	**1.7**
Max/Min	1.61
UG (adjacent pts)	1.16
CU	0.15
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	F
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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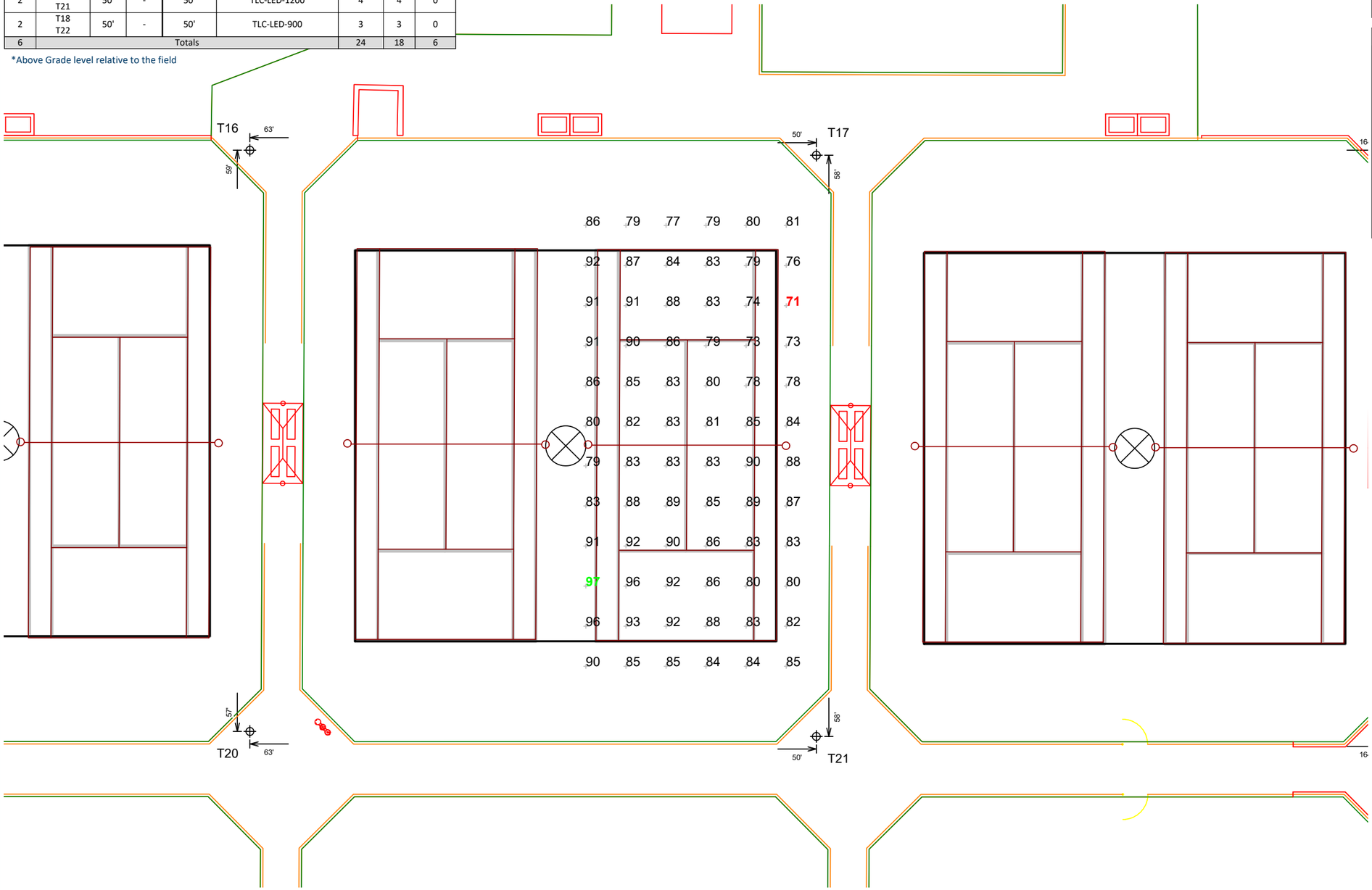
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T16 T20	50'	-	50'	TLC-LED-1200	5	2	3
2	T17 T21	50'	-	50'	TLC-LED-1200	4	4	0
2	T18 T22	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 9**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	84.58
Maximum	97.4
Minimum	71.2
Avg/Min	1.19
Guaranteed Max/Min	**1.7**
Max/Min	1.37
UG (adjacent pts)	1.11
CU	0.16
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	F
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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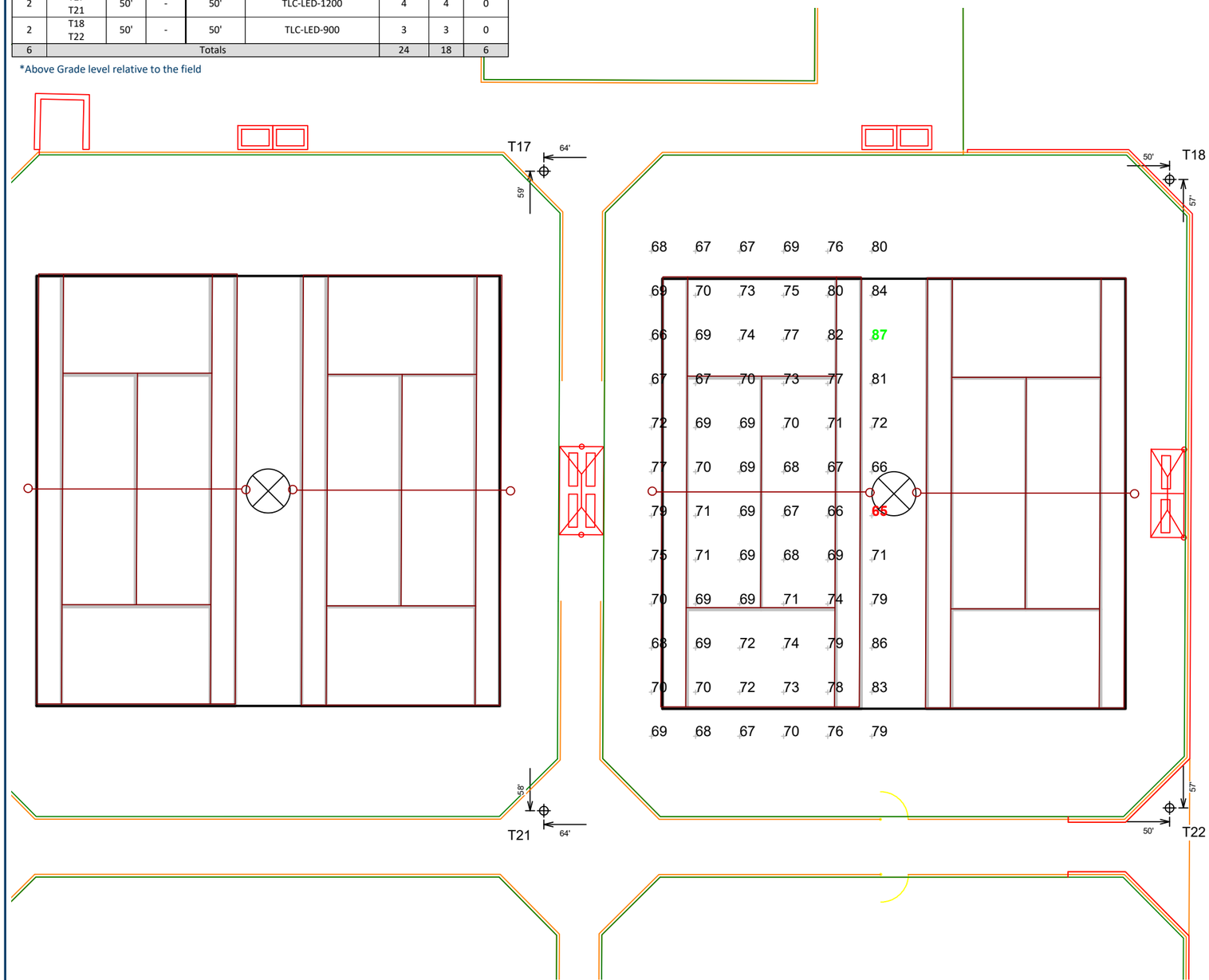
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T16 T20	50'	-	50'	TLC-LED-1200	5	2	3
2	T17 T21	50'	-	50'	TLC-LED-1200	4	4	0
2	T18 T22	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 10**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	72.31
Maximum	87.5
Minimum	65.2
Avg/Min	1.11
Guaranteed Max/Min	**1.7**
Max/Min	1.34
UG (adjacent pts)	1.13
CU	0.14
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	F
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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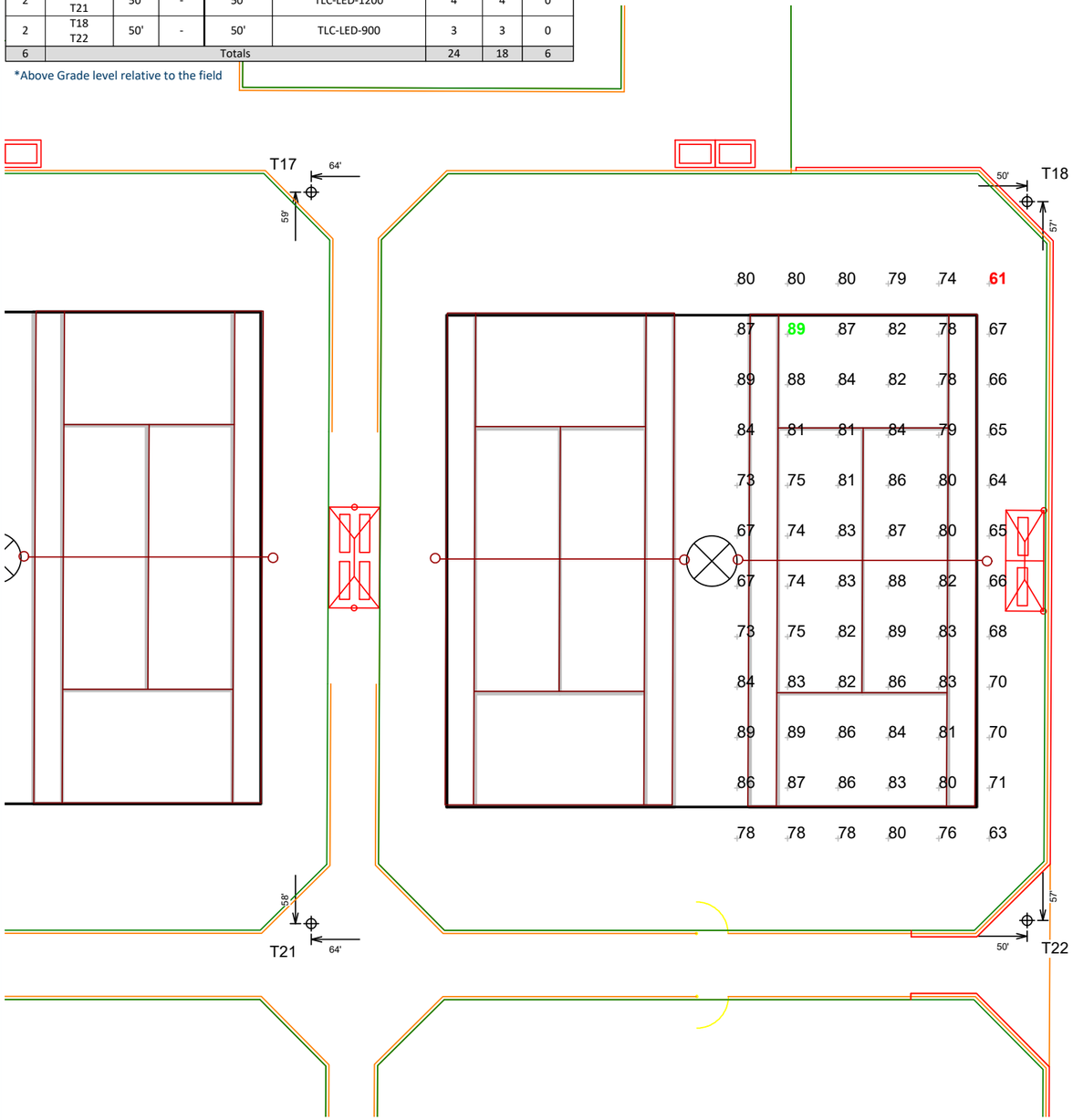
ILLUMINATION SUMMARY

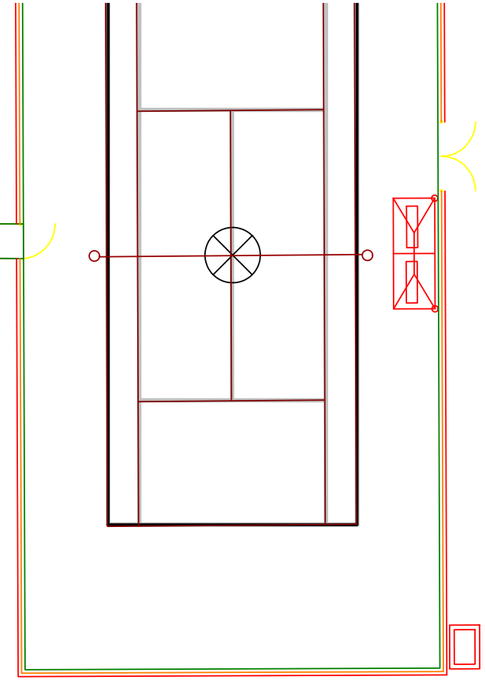
Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T16 T20	50'	-	50'	TLC-LED-1200	5	2	3
2	T17 T21	50'	-	50'	TLC-LED-1200	4	4	0
2	T18 T22	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field





SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

Grid Summary

Name	Court 11
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	78.95
Maximum	89.5
Minimum	60.6
Avg/Min	1.30
Guaranteed Max/Min	**1.7**
Max/Min	1.48
UG (adjacent pts)	1.24
CU	0.15
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	F
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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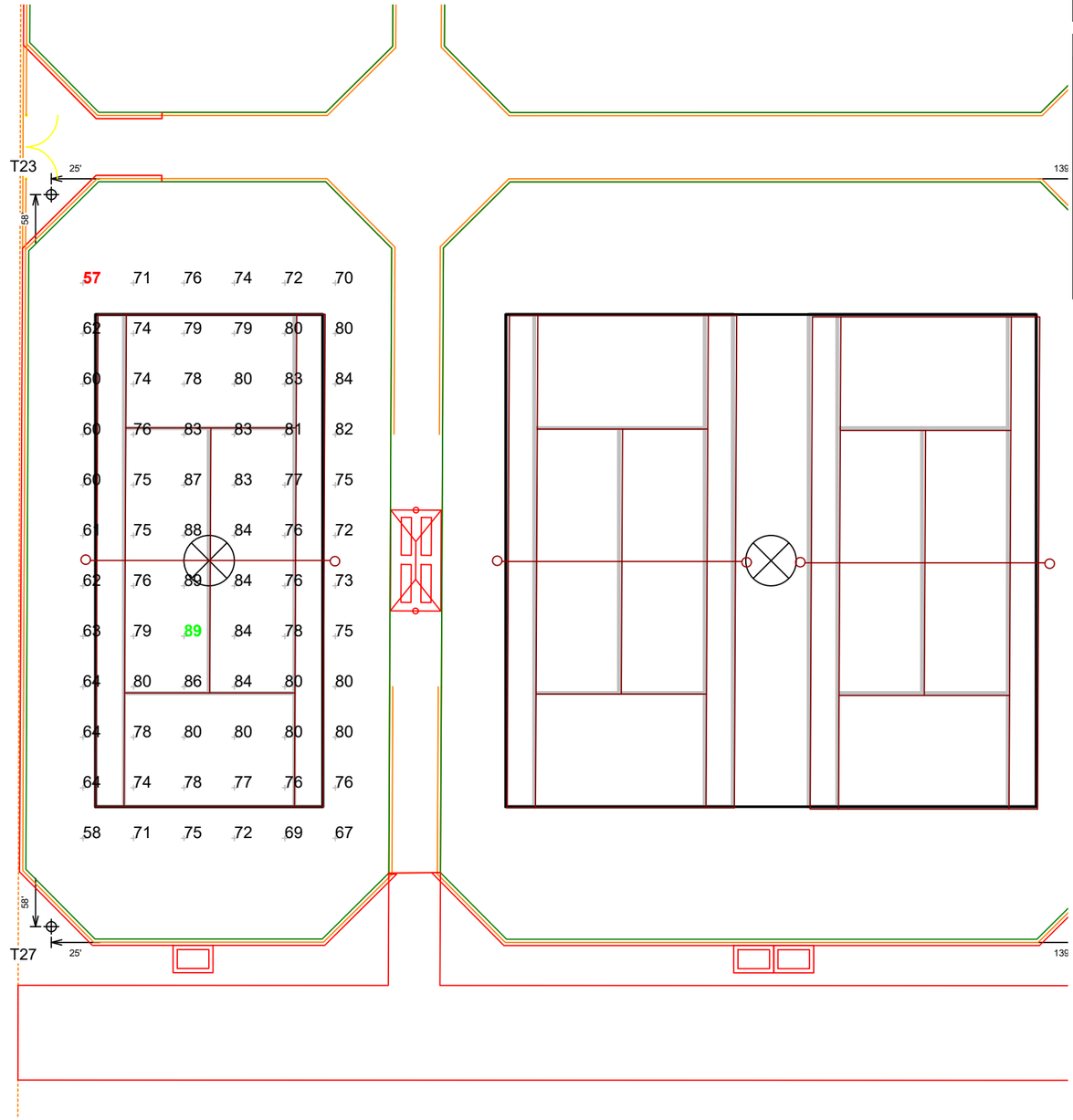
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T23 T27	50'	-	50'	TLC-LED-900	4	4	0
2	T24 T28	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

*Above Grade level relative to the field



Grid Summary

Name	**Court 12**
Size	1 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	75.45
Maximum	89.2
Minimum	57.2
Avg/Min	1.32
Guaranteed Max/Min	**1.7**
Max/Min	1.56
UG (adjacent pts)	1.28
CU	0.20
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	G
No. of Luminaires	**14**
Total Load	14.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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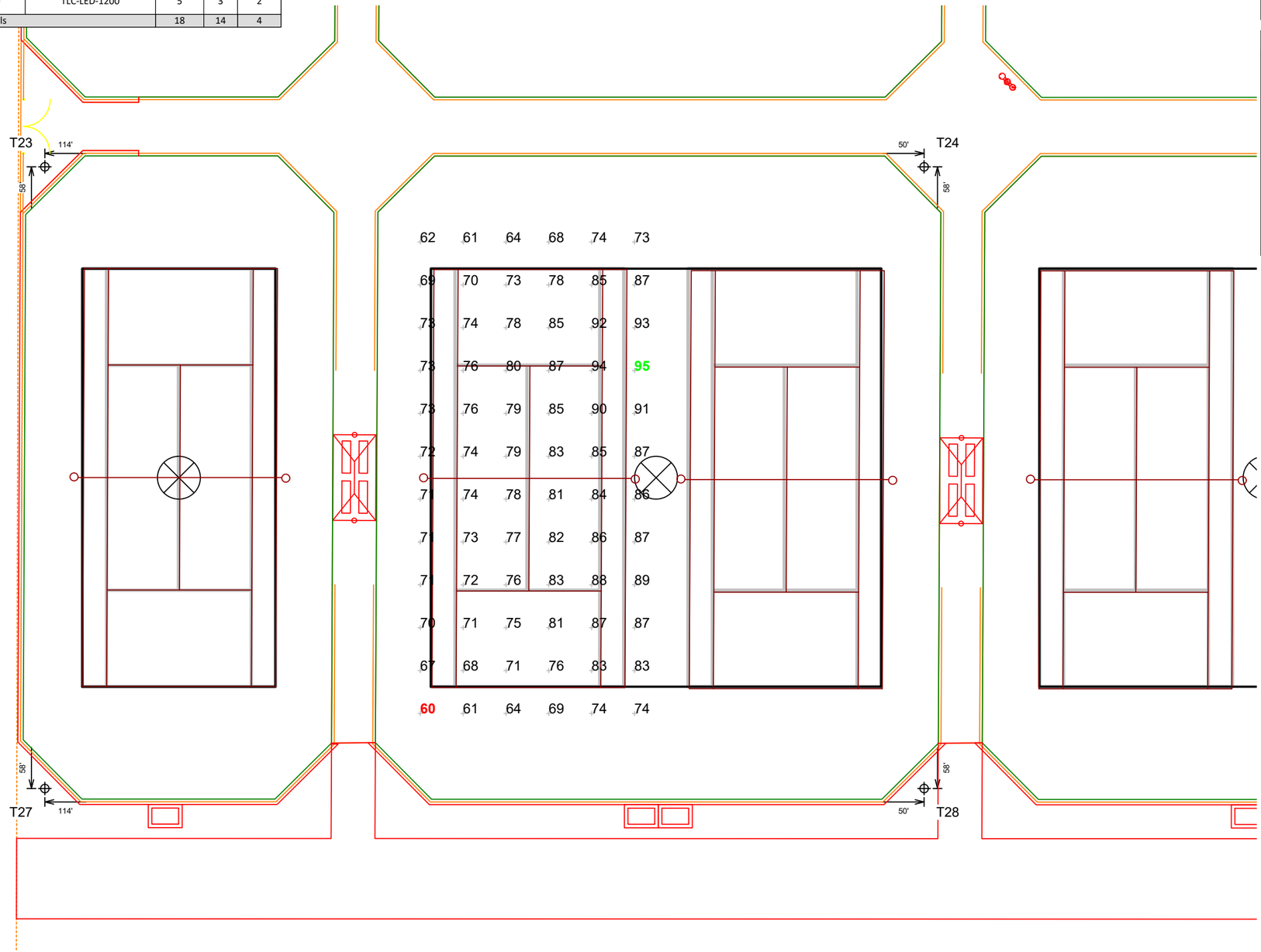
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T23 T27	50'	-	50'	TLC-LED-900	4	4	0
2	T24 T28	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

*Above Grade level relative to the field



Grid Summary

Name	**Court 13**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	77.61
Maximum	95.1
Minimum	60.3
Avg/Min	1.29
Guaranteed Max/Min	**1.7**
Max/Min	1.58
UG (adjacent pts)	1.19
CU	0.21
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	G
No. of Luminaires	**14**
Total Load	14.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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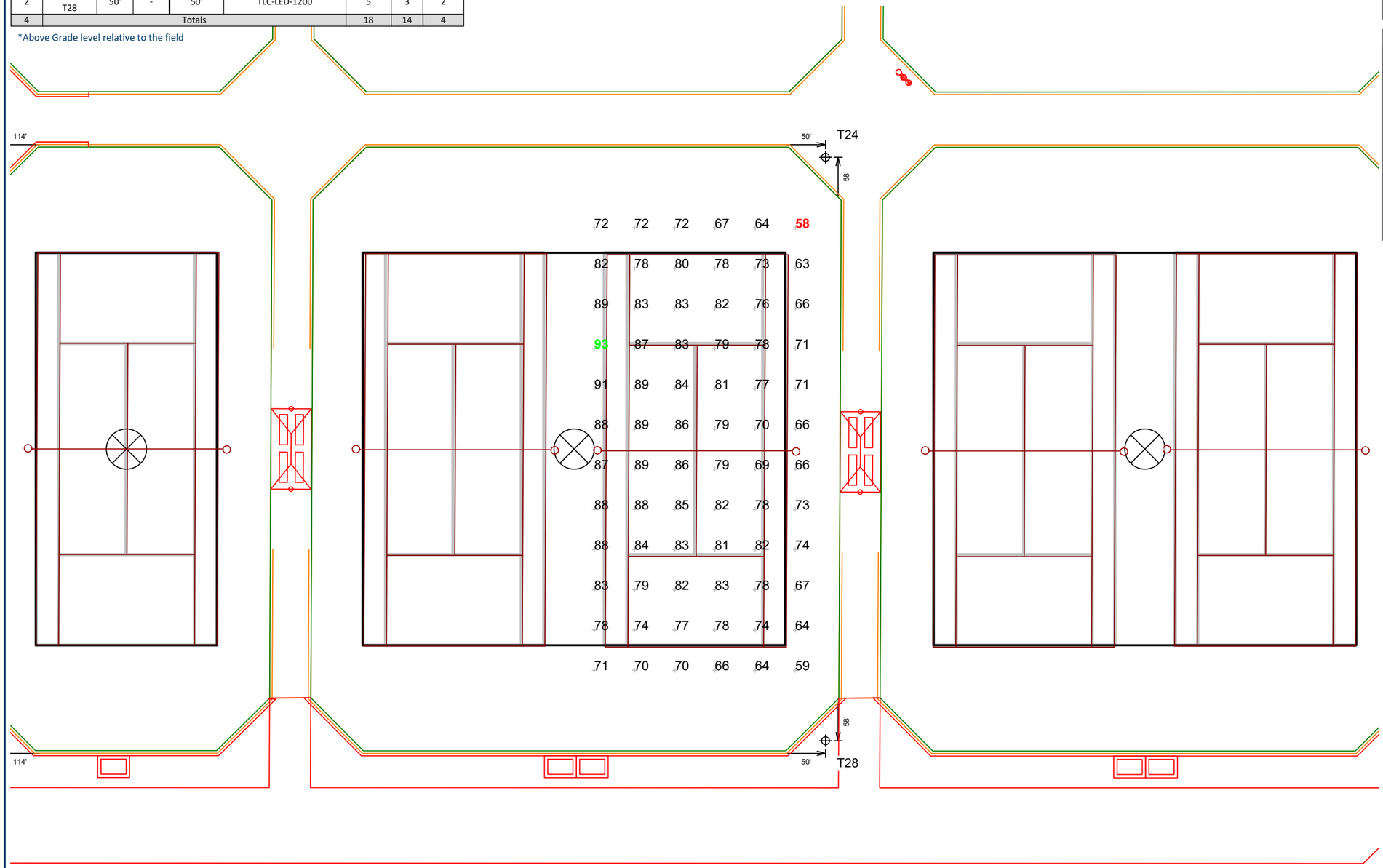
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T23 T27	50'	-	50'	TLC-LED-900	4	4	0
2	T24 T28	50'	-	50'	TLC-LED-1200	5	3	2
4	Totals					18	14	4

*Above Grade level relative to the field



Grid Summary

Name	**Court 14**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	77.44
Maximum	92.5
Minimum	58.3
Avg/Min	1.33
Guaranteed Max/Min	**1.7**
Max/Min	1.59
UG (adjacent pts)	1.18
CU	0.21
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	G
No. of Luminaires	**14**
Total Load	14.06 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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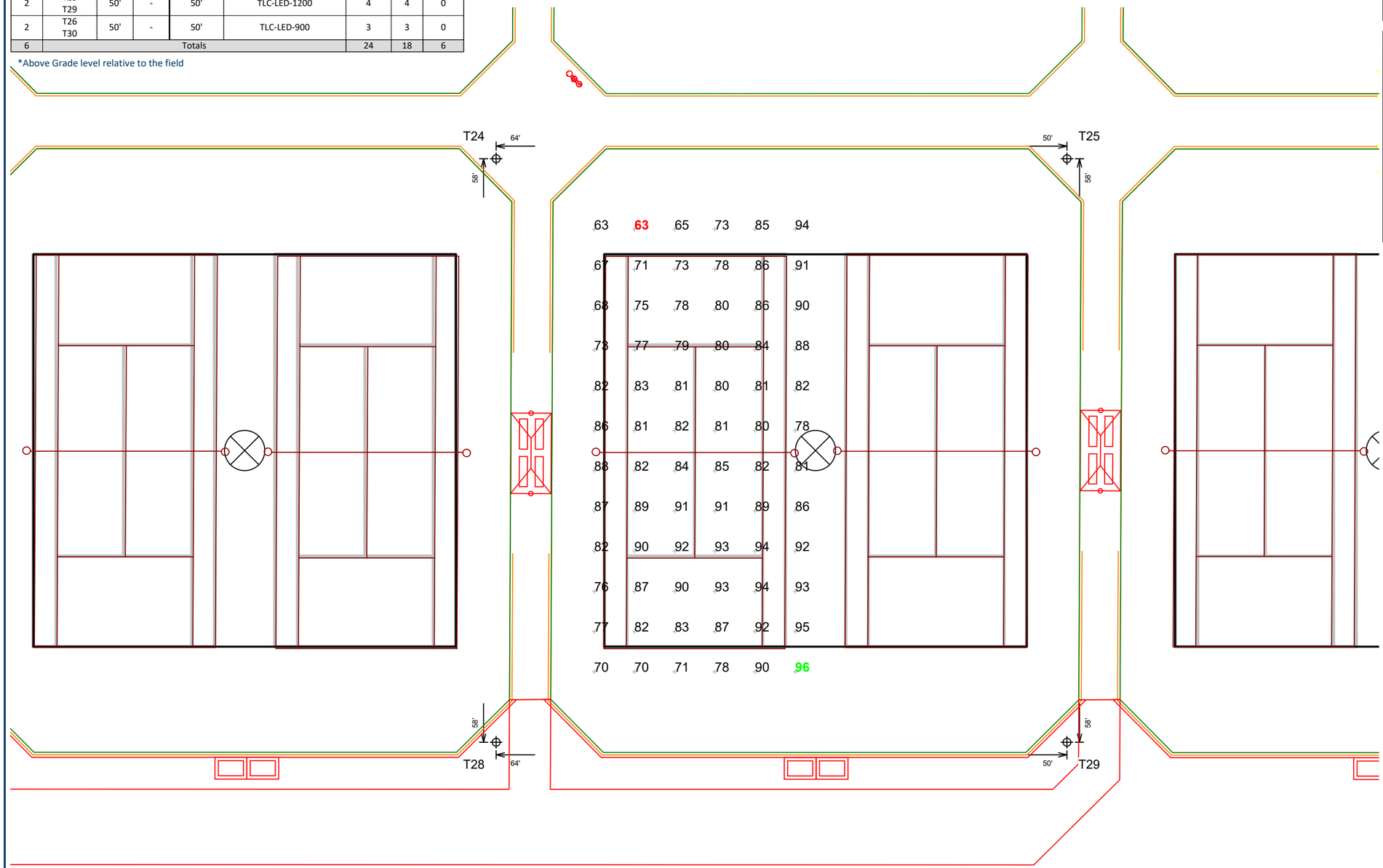
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T24 T28	50'	-	50'	TLC-LED-1200	5	2	3
2	T25 T29	50'	-	50'	TLC-LED-1200	4	4	0
2	T26 T30	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 15**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	82.58
Maximum	96.0
Minimum	62.6
Avg/Min	1.32
Guaranteed Max/Min	**1.7**
Max/Min	1.53
UG (adjacent pts)	1.18
CU	0.16
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	H
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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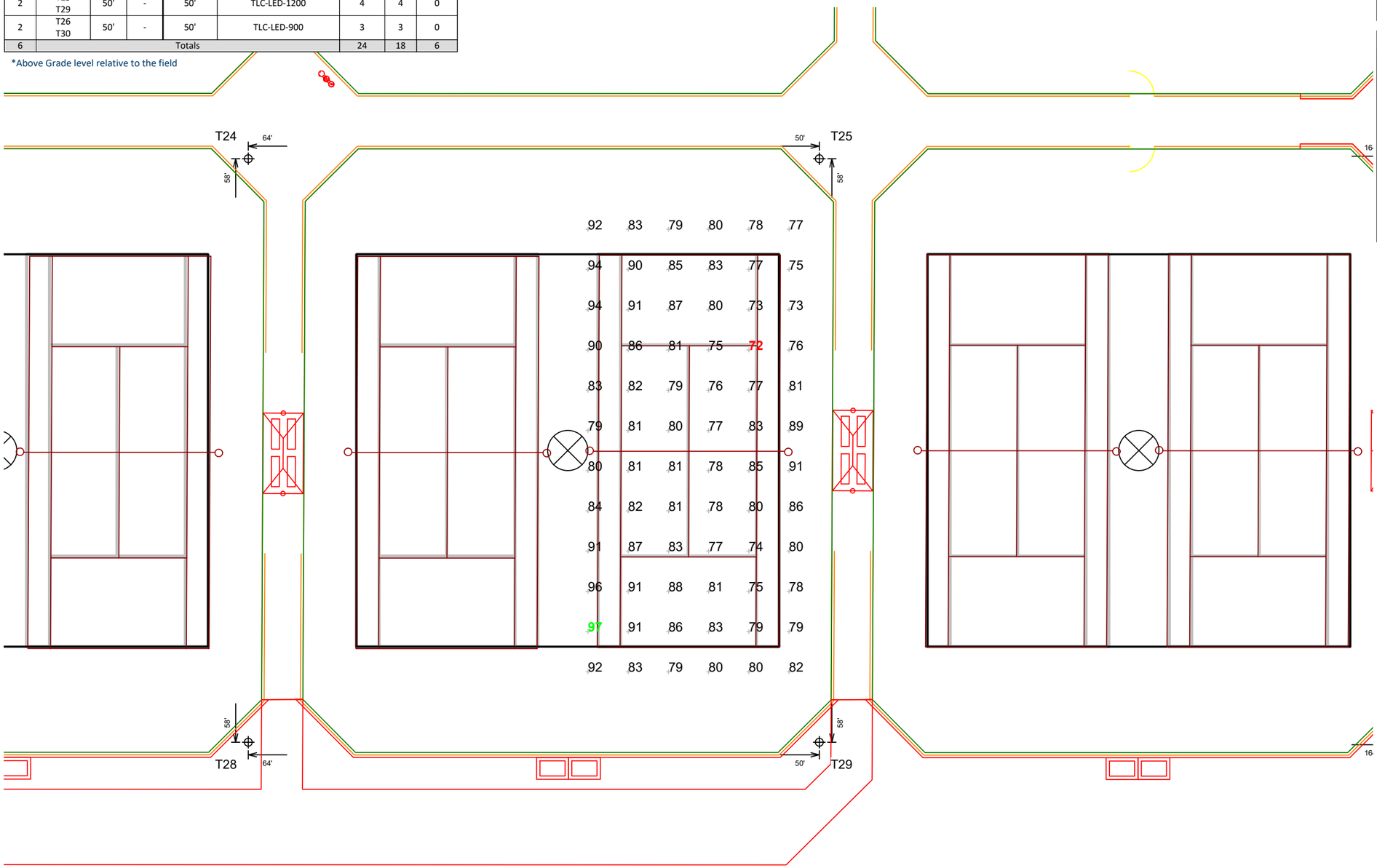
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T24 T28	50'	-	50'	TLC-LED-1200	5	2	3
2	T25 T29	50'	-	50'	TLC-LED-1200	4	4	0
2	T26 T30	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Grid Summary

Name	**Court 16**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	82.47
Maximum	96.7
Minimum	71.5
Avg/Min	1.15
Guaranteed Max/Min	**1.7**
Max/Min	1.35
UG (adjacent pts)	1.11
CU	0.16
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	H
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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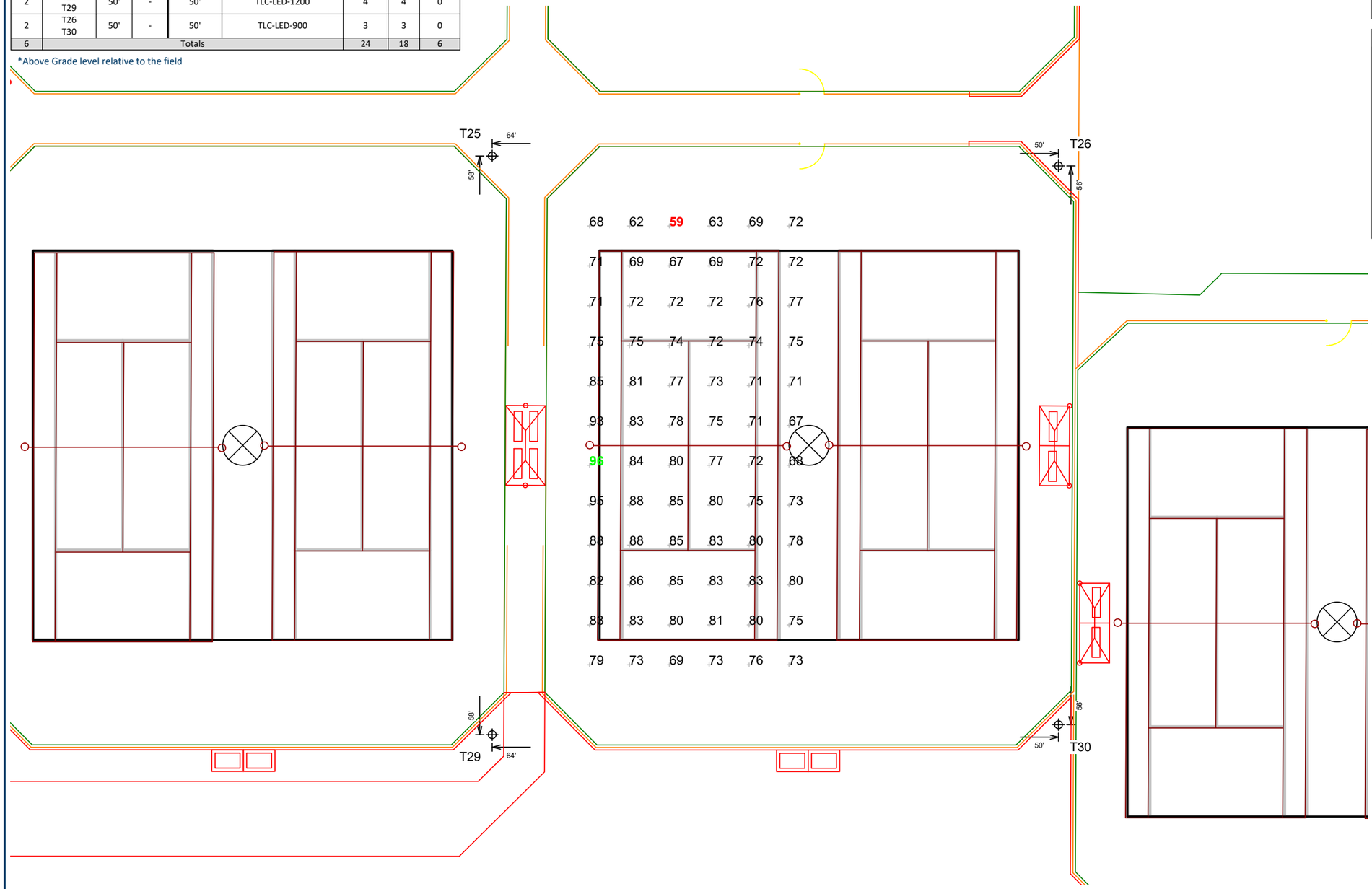
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T24 T28	50'	-	50'	TLC-LED-1200	5	2	3
2	T25 T29	50'	-	50'	TLC-LED-1200	4	4	0
2	T26 T30	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



Holiday Park Tennis and Pickleball

Grid Summary

Name	**Court 17**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	76.76
Maximum	96.5
Minimum	59.2
Avg/Min	1.30
Guaranteed Max/Min	**1.7**
Max/Min	1.63
UG (adjacent pts)	1.15
CU	0.15
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	H
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

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Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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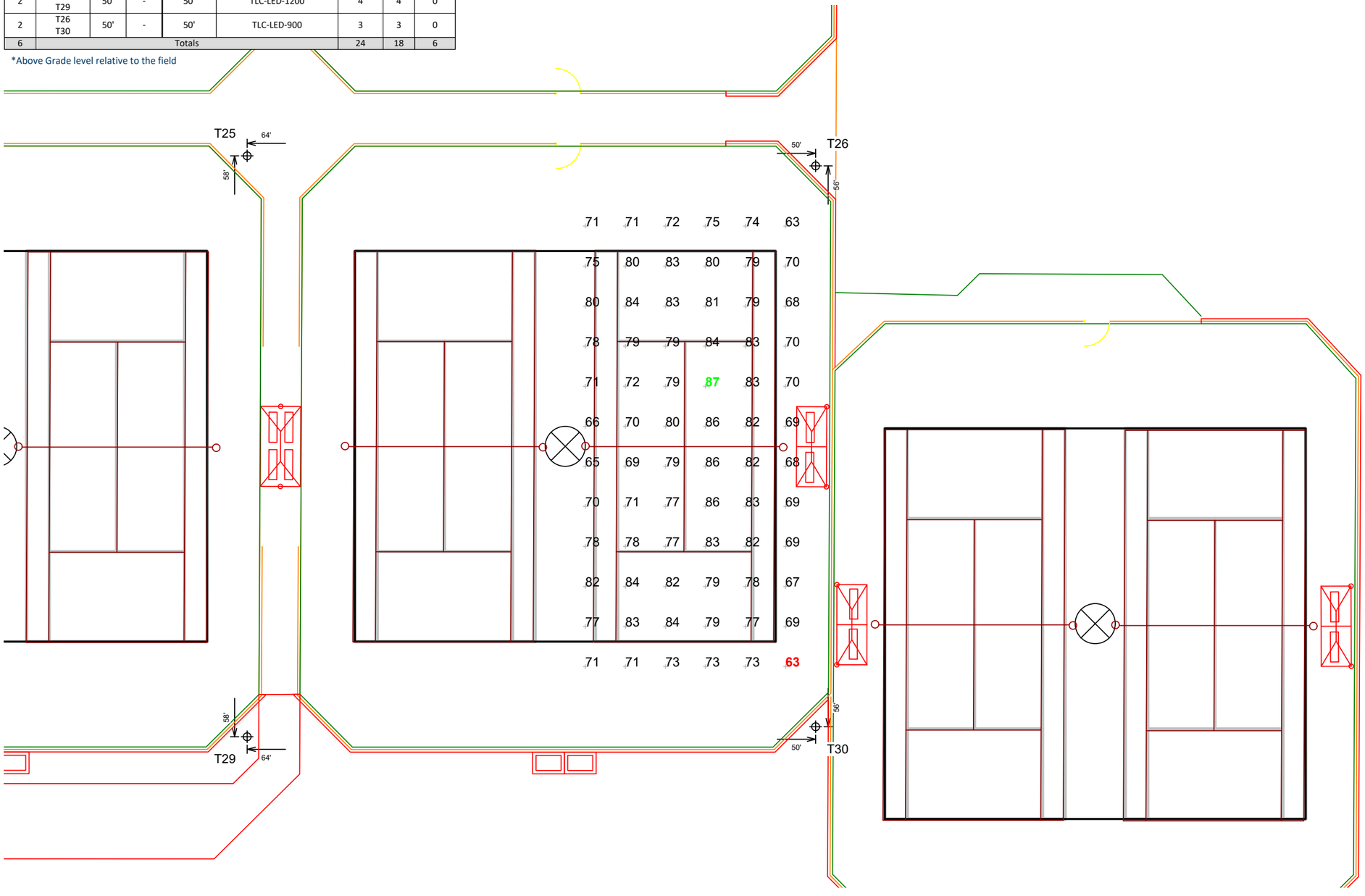
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ILLUMINATION SUMMARY

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
2	T24 T28	50'	-	50'	TLC-LED-1200	5	2	3
2	T25 T29	50'	-	50'	TLC-LED-1200	4	4	0
2	T26 T30	50'	-	50'	TLC-LED-900	3	3	0
6	Totals					24	18	6

*Above Grade level relative to the field



SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

Holiday Park Tennis and Pickleball

Grid Summary

Name	**Court 18**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	76.31
Maximum	87.0
Minimum	62.8
Avg/Min	1.22
Guaranteed Max/Min	**1.7**
Max/Min	1.39
UG (adjacent pts)	1.20
CU	0.15
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	H
No. of Luminaires	**18**
Total Load	19.32 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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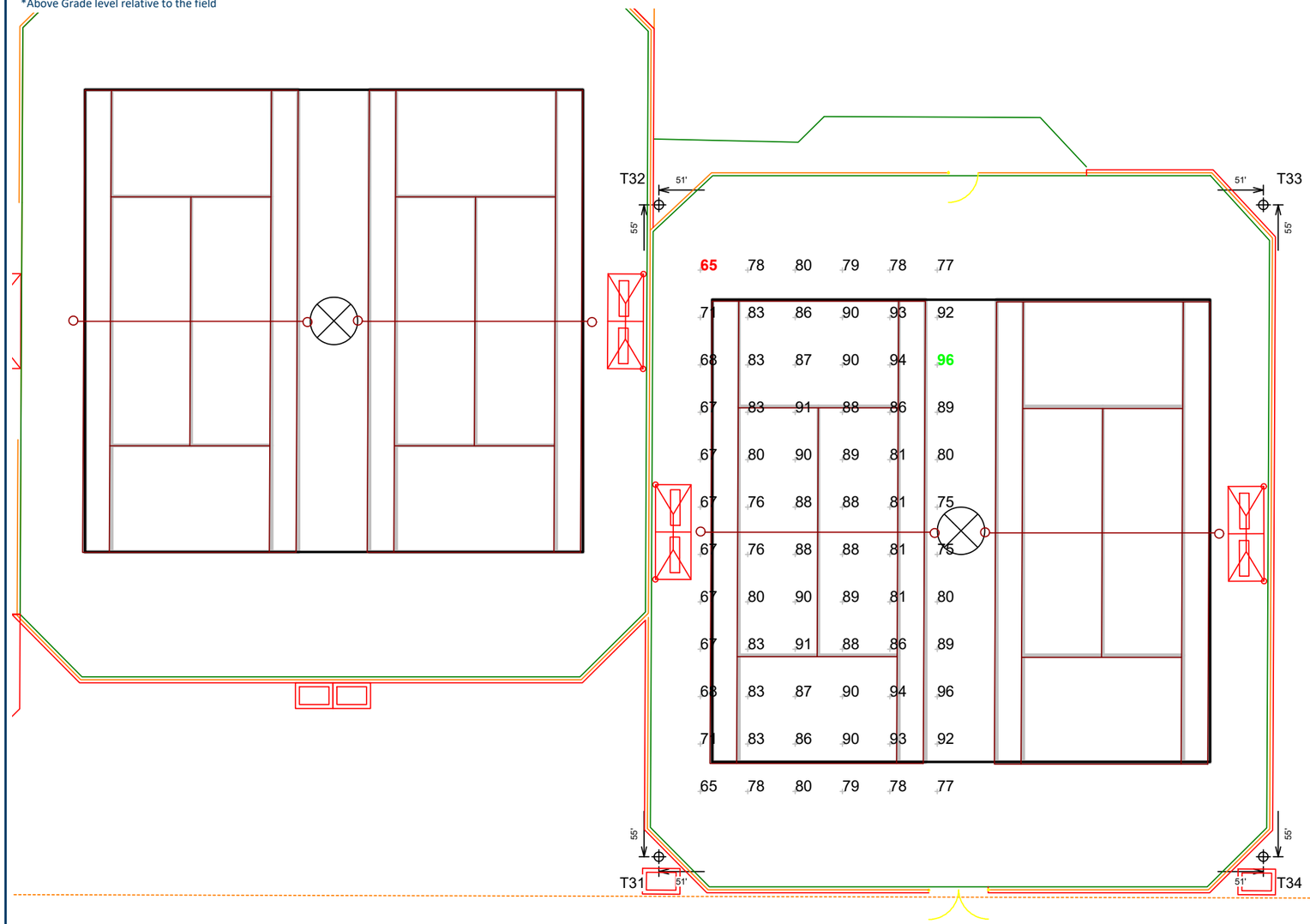
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	T31-T34	50'	-	50'	TLC-LED-900	3	3	0
4	Totals					12	12	0

*Above Grade level relative to the field



Grid Summary

Name	**Court 19**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	82.04
Maximum	96.2
Minimum	64.5
Avg/Min	1.27
Guaranteed Max/Min	**1.7**
Max/Min	1.49
UG (adjacent pts)	1.24
CU	0.33
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	I
No. of Luminaires	**12**
Total Load	10.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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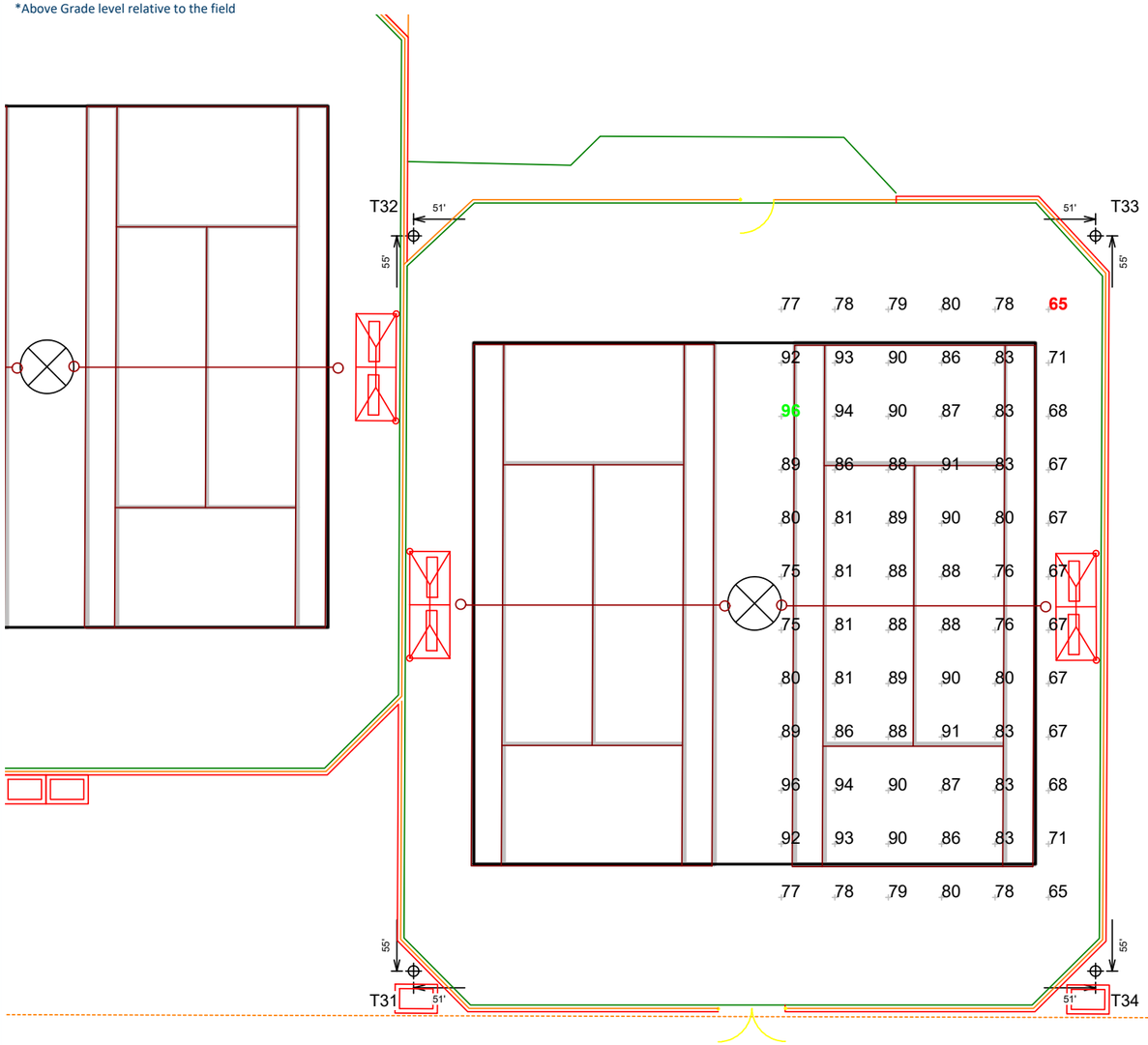
ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball

Equipment List For Areas Shown

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE	THIS GRID	OTHER GRIDS
4	T31-T34	50'	-	50'	TLC-LED-900	3	3	0
4	Totals					12	12	0

*Above Grade level relative to the field



SCALE IN FEET 1 : 20

0' 20' 40'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

Grid Summary

Name	**Court 20**
Size	2 Court - 12' Spacing
Spacing	8.0' x 8.0'
Height	3.0' above grade

Illumination Summary

	MAINTAINED HORIZONTAL FOOTCANDLES
	Entire Grid
Guaranteed Average	**75**
Scan Average	82.04
Maximum	96.2
Minimum	64.5
Avg/Min	1.27
Guaranteed Max/Min	**1.7**
Max/Min	1.49
UG (adjacent pts)	1.24
CU	0.33
No. of Points	72
LUMINAIRE INFORMATION	
Applied Circuits	I
No. of Luminaires	**12**
Total Load	10.56 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

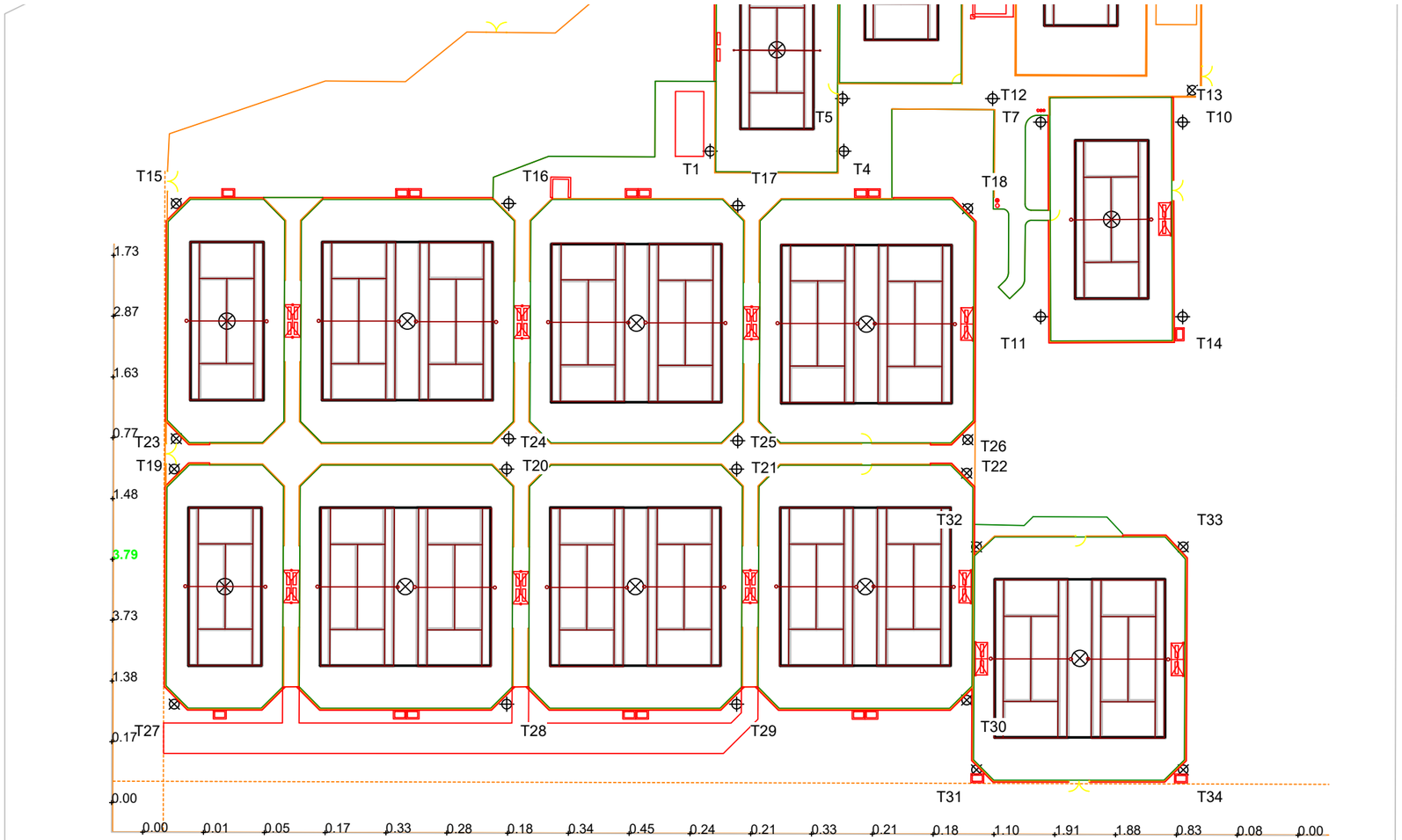
Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

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Holiday Park Tennis and Pickleball



Grid Summary

Name	**Property Line Spill**
Spacing	30.0' x 10.0'
Height	3.0' above grade

Illumination Summary

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average	**0.88**
Maximum	3.8
Minimum	0.0
Avg/Min	-
Max/Min	**-**
UG (adjacent pts)	0.00
CU	0.00
No. of Points	30
LUMINAIRE INFORMATION	
Applied Circuits	A,B,C,D,E,F,G,H,I
No. of Luminaires	**112**
Total Load	105.60 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 60

0' 60' 120'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

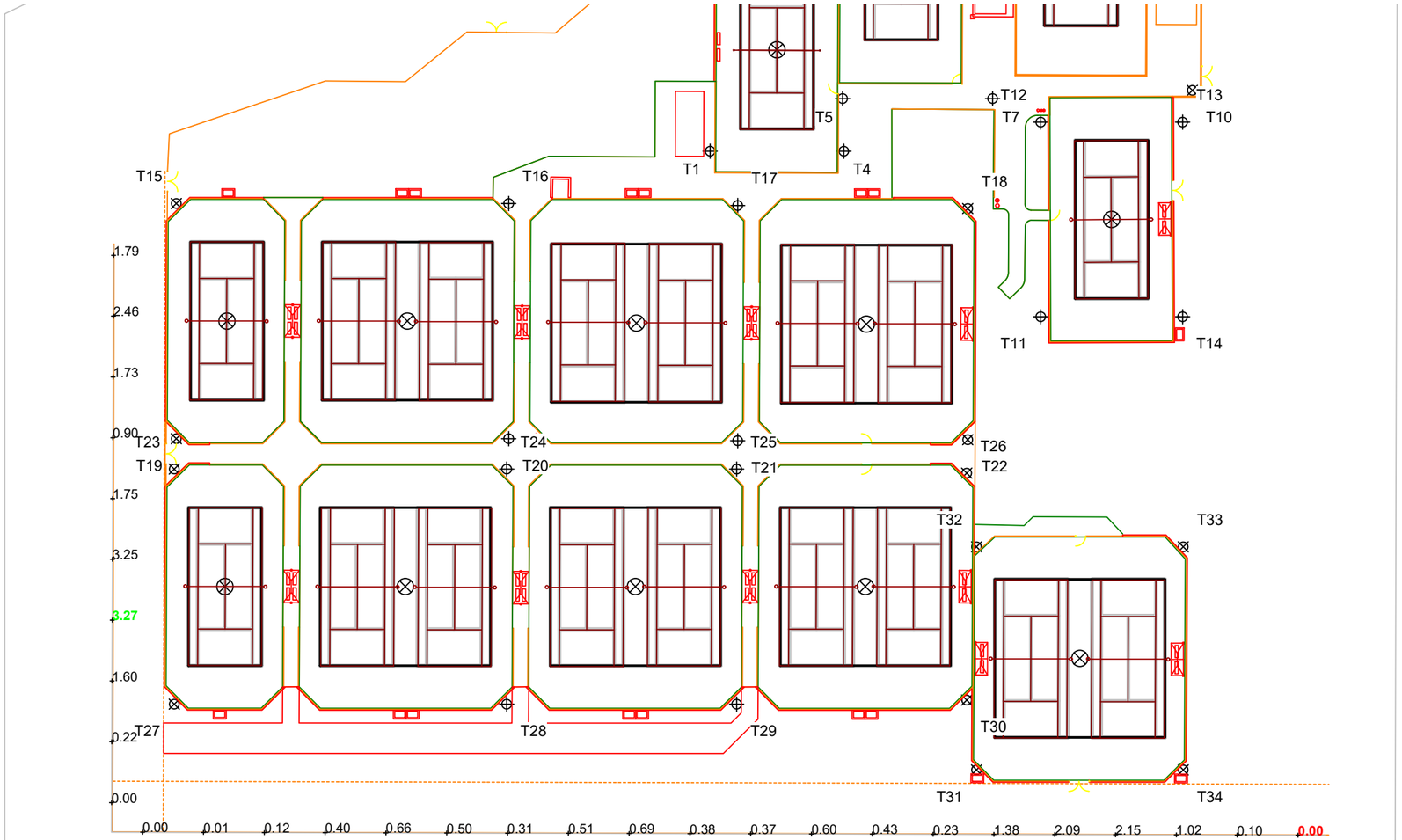
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball



Grid Summary

Name	**Property Line Spill**
Spacing	30.0' x 10.0'
Height	3.0' above grade

Illumination Summary

MAINTAINED MAX VERTICAL FOOTCANDLES

	Entire Grid
Scan Average	**0.96**
Maximum	3.3
Minimum	0.0
Avg/Min	6883.38
Max/Min	**23323.57**
UG (adjacent pts)	0.00
CU	0.00
No. of Points	30
LUMINAIRE INFORMATION	
Applied Circuits	A,B,C,D,E,F,G,H,I
No. of Luminaires	**112**
Total Load	105.60 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 60

0' 60' 120'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

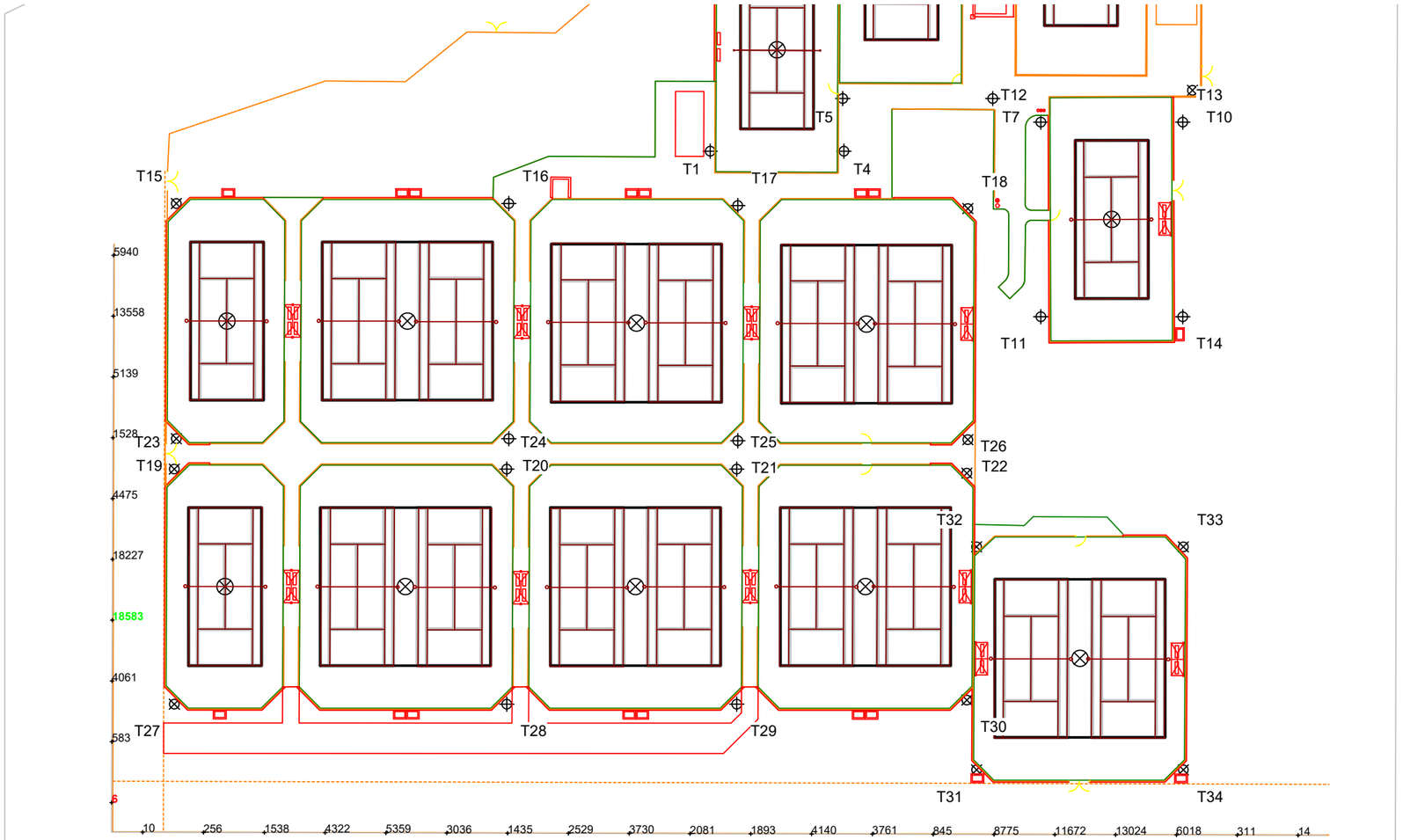
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball



Grid Summary

Name	**Property Line Spill (cd)**
Spacing	30.0' x 10.0'
Height	5.0' above grade

Illumination Summary

	MAINTAINED MAX CANDELA (PER LIGHTBANK)
	Entire Grid
Scan Average	**4894.99**
Maximum	18583.1
Minimum	6.1
Avg/Min	808.50
Max/Min	**3069.36**
UG (adjacent pts)	0.00
CU	0.00
No. of Points	30
LUMINAIRE INFORMATION	
Applied Circuits	A,B,C,D,E,F,G,H,I
No. of Luminaires	**112**
Total Load	105.60 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

SCALE IN FEET 1 : 60

0' 60' 120'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

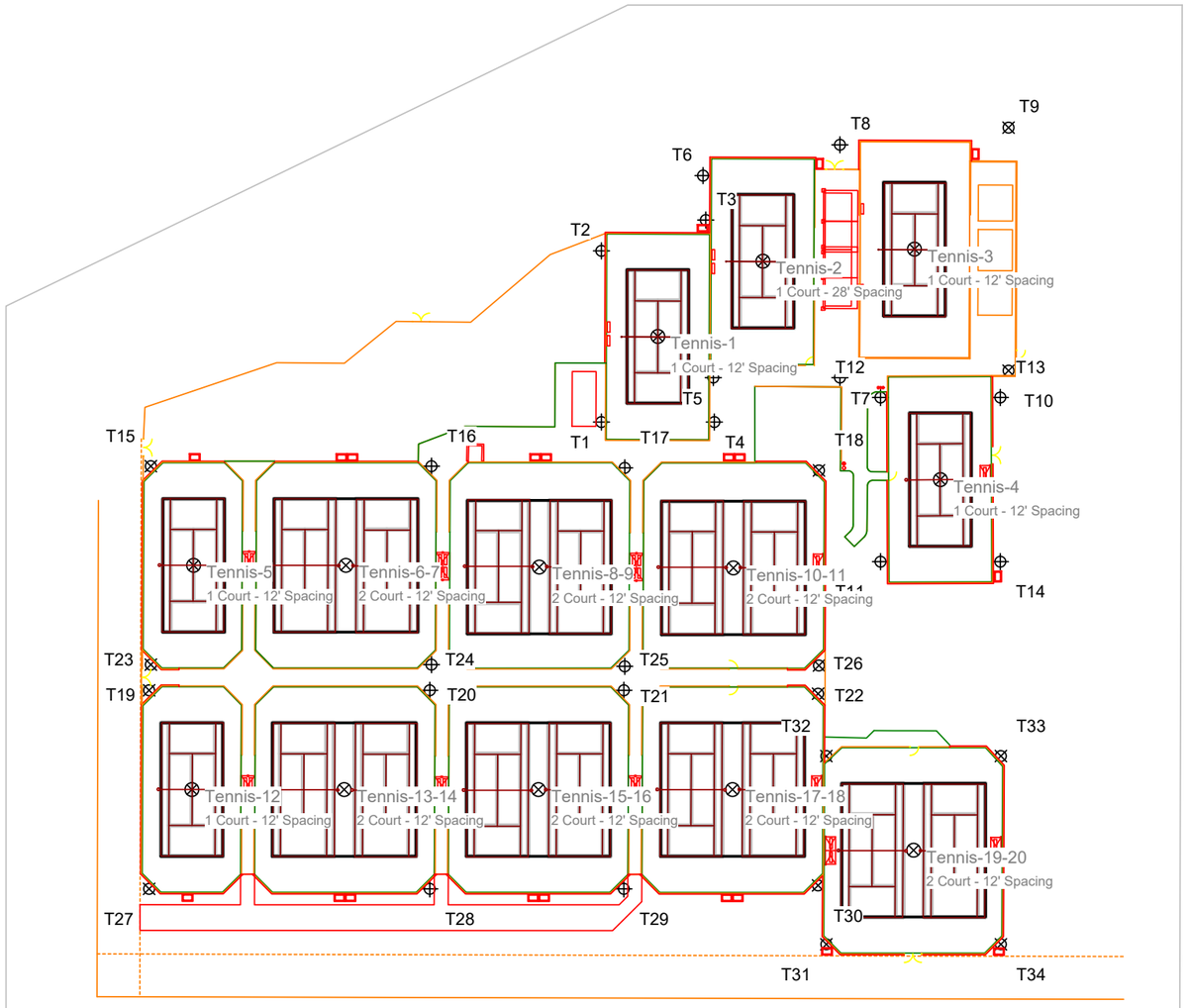
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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ILLUMINATION SUMMARY

Holiday Park Tennis and Pickleball



Equipment Layout

INCLUDES:
- Tennis-1
- Tennis-10-11
- Tennis-12
- Tennis-13-14
- Tennis-15-16
- Tennis-17-18
- Tennis-19-20
- Tennis-2
- Tennis-3
- Tennis-4
- Tennis-5
- Tennis-6-7
- Tennis-8-9

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Equipment List For Areas Shown

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	ABOVE GRADE LEVEL	LUMINAIRE TYPE	QTY/POLE
10	T1-T6 T11-T14	40'	-	40'	TLC-LED-550	1
				40'	TLC-LED-900	1
2	T7-T8	50'	-	50'	TLC-LED-900	5
10	T9-T10 T18 T22 T26 T30-T34	50'	-	50'	TLC-LED-900	3
4	T15 T19 T23 T27	50'	-	50'	TLC-LED-900	4
4	T16 T20 T24 T28	50'	-	50'	TLC-LED-1200	5
4	T17 T21 T25 T29	50'	-	50'	TLC-LED-1200	4
34	Totals					112

Single Luminaire Amperage Draw Chart

Driver Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200	6.9	6.5	6.0	5.2	4.2	3.8	3.0
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3

SCALE IN FEET 1 : 80

0' 80' 160'

ENGINEERED DESIGN By: Drew Jacobson • File #227818G • 01-Aug-24

Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊠

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System Requirements: Control System Summary

Preliminary Plans: Confirm all details - see Note 1

Project Information

Control System

Control System ID:	1 of 2
Control System Type:	Control-Link ® Control and Monitoring System
Communication Type:	PowerLine-ST

Power Requirements

Control cabinet(s):	
Control voltage (phase to neutral)	120/60
VA loading - Inrush	3023.0
VA loading - Sealed	336.0
Lighting Circuits:	
Voltage/Hertz/Phase	240/60/1

Project Notes:

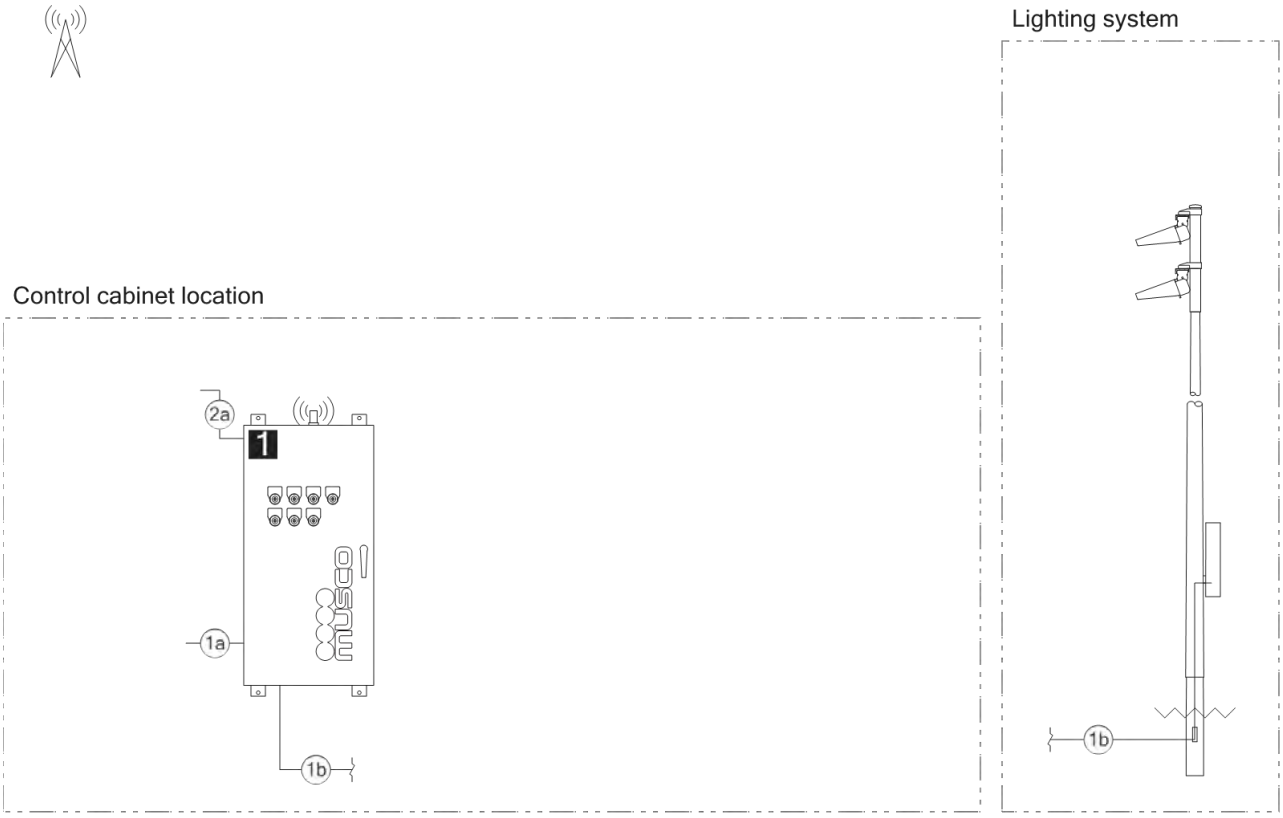
Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 72
Contactors, 30 amperes	10	-
Off/On/Auto switches	5	-

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

Equipment Layout and Connection Details



Connection Details	
ID	**Description**
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.

Equipment	
ID	**Description**
1	Control and monitoring cabinet - primary

Circuit Summary

Switching Schedule	
Field/Switch Description	**Switches**
Tennis-1	1
Tennis-2	2
Tennis-3	3
Tennis-4	4
Tennis-19-20	5

Control Module ID: 1

Lighting Circuit Voltage: 240/60/1

Circuit Summary by Switch							
Switch	**Zone Description**	**Pole ID**	**Qty of Fixtures**	**Full load amperes**	**Contactor Size (Amps)**	**Cabinet #**	**Contactor ID**
1	Court 1	T1, T2	4	14.58	30	1	C1
	Court 1	T3, T4	4	14.58	30	1	C2
2	Court 2	T5, T6	4	14.58	30	1	C3
	Court 2	T7, T8	4	18.08	30	1	C4
3	Court 3	T7, T8	6	27.12	30	1	C5
	Court 3	T10, T9	6	27.12	30	1	C6
4	Court 4	T11, T12	4	14.58	30	1	C7
	Court 4	T13, T14	4	14.58	30	1	C8
5	Court 19-20	T31, T32	6	27.12	30	1	C9
	Court 19-20	T33, T34	6	27.12	30	1	C10

System Requirements: Control System Summary

Preliminary Plans: Confirm all details - see Note 1

Project Information

Control System

Control System ID:	2 of 2
Control System Type:	Control-Link ® Control and Monitoring System
Communication Type:	PowerLine-ST

Power Requirements

Control cabinet(s):	
Control voltage (phase to neutral)	120/60
VA loading - Inrush	3513.0
VA loading - Sealed	388.0
Lighting Circuits:	
Voltage/Hertz/Phase	240/60/1

Project Notes:

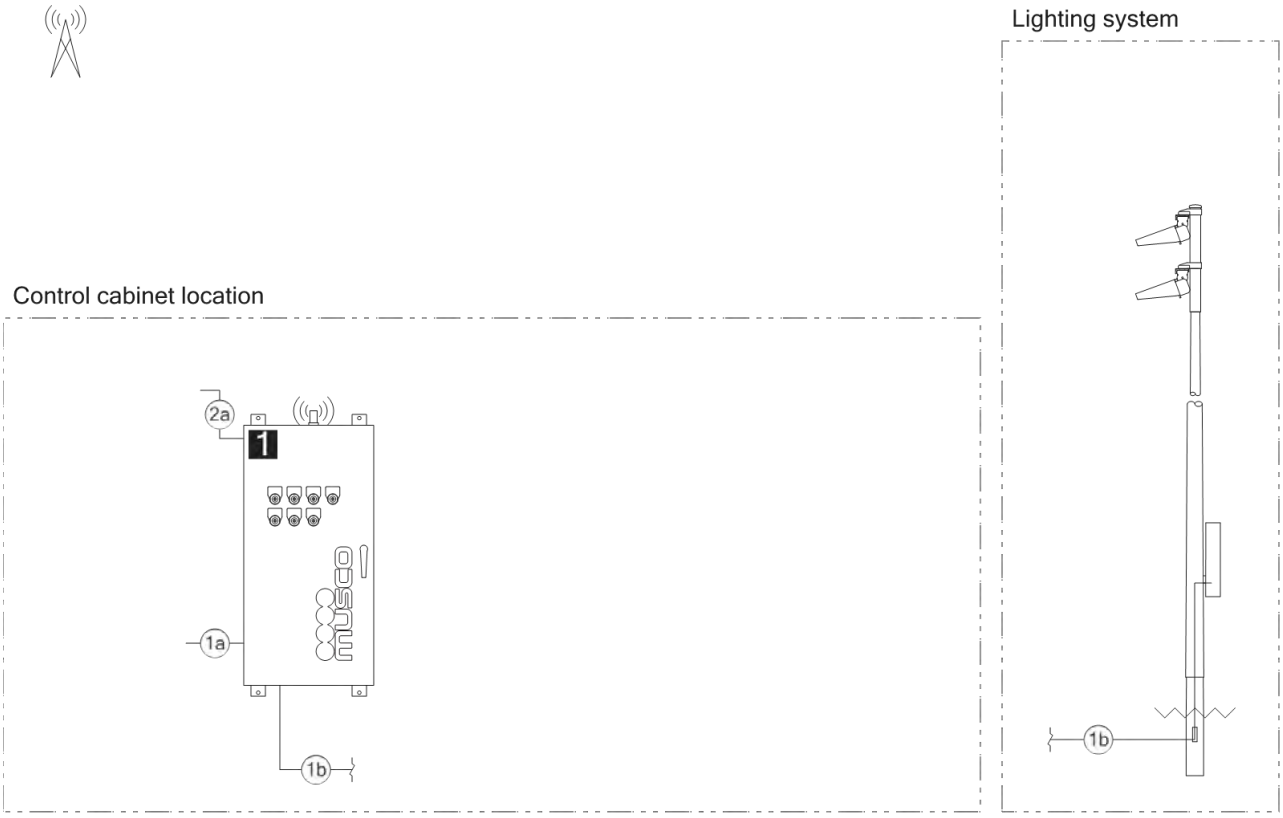
Equipment Listing

Description	Qty	Size (in)
Control and monitoring cabinet - primary	1	24 X 72
Contactors, 30 amperes	8	-
Contactors, 60 amperes	4	-
Off/On/Auto switches	6	-

Important Notes:

1. Please confirm that the lighting circuit voltage listed above is accurate for this facility. This is the voltage/phase being connected and utilized at each lighting pole's electrical components enclosure disconnect. Inaccurate voltage/phase can result in additional costs and delays. Contact your Musco sales representative to confirm this item.
2. In a 3 phase design, all 3 phases are to be run to each pole location. Musco's single phase luminaires come pre-wired to utilize all 3 phases across the entire facility.
3. One contactor is required for each circuit at each pole location. Contactors are 3 pole and 100% rated for the published continuous load.
4. If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact your Musco sales representative.
5. Size overcurrent devices using the full load amps column of the Circuit Summary by Switch chart (Minimum power factor is 0.9). Size conduit per code unless otherwise specified as larger to allow for harness connectors.
6. Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to prevent leakage current.
7. Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring.
8. Refer to Installation Instructions for more details on equipment information and the installation requirements.

Equipment Layout and Connection Details



Connection Details	
ID	**Description**
1a	Line power to contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
1b	Load power from contactors, and equipment grounding conductor. Requires one circuit per contactor, size wiring per load and voltage drop.
2a	Control power with equipment ground to control cabinet. Requires dedicated 20 A circuit. Provide transformer if control voltage not present.

Equipment	
ID	**Description**
1	Control and monitoring cabinet - primary

Circuit Summary

Switching Schedule	
Field/Switch Description	**Switches**
Tennis-5-7	6
Tennis-8-9	7
Tennis-10-11	8
Tennis-12-14	9
Tennis-15-16	10
Tennis-17-18	11

Control Module ID: 2

Lighting Circuit Voltage: 240/60/1

Circuit Summary by Switch							
Switch	**Zone Description**	**Pole ID**	**Qty of Fixtures**	**Full load amperes**	**Contactor Size (Amps)**	**Cabinet #**	**Contactor ID**
6	Court 5-7	T15, T16	7	36.08	60	2	C1
	Court 5-7	T19, T20	7	36.08	60	2	C2
7	Court 8-9	T16, T17	4	24	30	2	C3
	Court 8-9	T20, T21	4	24	30	2	C4
8	Court 10-11	T17, T18	5	25.56	30	2	C5
	Court 10-11	T21, T22	5	25.56	30	2	C6
9	Court 12-14	T23, T24	7	36.08	60	2	C7
	Court 12-14	T27, T28	7	36.08	60	2	C8
10	Court 15-16	T24, T25	4	24	30	2	C9
	Court 15-16	T28, T29	4	24	30	2	C10
11	Court 17-18	T25, T26	5	25.56	30	2	C11
	Court 17-18	T29, T30	5	25.56	30	2	C12

SECTION 321724 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Pavement markings required in proposed parking lot area

B. Quality Assurance

1. Safety data sheets shall be submitted for each product utilized.

2. Volatile organic content (VOC) of pavement markings used must conform to federal, state and local regulations.

C. Delivery and Storage

1. All paint materials shall be delivered to the site in original sealed containers that plainly show the designated name, specification number, batch number, color, date of manufacture, manufacturer's directions, and name of manufacturer.

2. The Contractor shall provide any necessary storage areas at the site for maintaining materials at temperatures recommend by the manufacturer.

PART 2 - PRODUCTS

2.1 STANDARD PAINT

A. Standard paints shall include water reducible products that are single packaged and ready mixed. The paint shall have the capability of being cleaned and flushed from the pavement marking machines using regular tap water and any required rust inhibitors.

B. Refer to FDOT Section 971-3.2 for composition and 971-3.3 for physical requirements of paint.

PART 3 - EXECUTION

3.1 GENERAL

A. All pavement markings shall be applied in conformance with FDOT Section 710 Painted Pavement Markings.

B. Pavement markings shall be applied to clean, dry surfaces, and unless otherwise approved by the City. All pavement surfaces must be dry such as after water has been used for cleaning or rainfall has occurred prior to striping or marking.

C. Standard paint shall be applied when the ambient air and surface temperature is at least 40ºF and rising.

D. Painted pavement markings shall not be applied when winds are sufficient to cause spray dust.

E. The Contractor shall utilize equipment which produces continuous uniform dimensions of pavement markings of varying widths and meets the following requirements:

1. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of paint and capable of following straight lines and making normal curves in a true arc.

2. Capable of spraying paint to the required thickness and width without thinning of the paint. Equip the paint tank with nozzles equipped with cut-off valves, which will apply broken or skip lines automatically.

F. Paint shall be mixed thoroughly prior to pouring into the painting machine. Apply paint to the pavement by spray or other means approved by the Engineer.

G. Apply all pavement markings prior to opening of road traffic. The Contractor shall ensure that all newly applied pavement markings are sufficiently dry before any traffic or vehicles pass over markings. The Contractor shall remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the City.

H. The Contractor shall notify the City prior to placement of marking or striping.

I. Apply standard paint to attain a minimum wet film thickness in accordance with the manufacturer's recommendations.

END OF SECTION 321724

SECTION 330501 – TRENCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Trenching related to pipeline installation.

B. Related Work

1. Section 330502 – Buried Piping Installation

C. Work Includes

1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals required to perform all excavating, filling, and grading, and disposing of earth materials as shown, specified, and required for construction of underground utilities and related construction required to complete the Work.

2. Preparation of subgrade is included under this Section.

3. Classification of excavated materials as to the material being classified as suitable or unsuitable material shall be made jointly with the CONTRACTOR and ENGINEER. Excavation includes all materials regardless of type, character, composition, moisture, or condition thereof.

4. CONTRACTOR shall be responsible for providing all required suitable backfill material and shall be responsible for removing and disposing of all unsuitable material.

1.2 REFERENCES

A. Standards referenced in this Section are:

1. ASTM D422, Test Method for Particle-Size Analysis of Soils.

2. ASTM D698, Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3)).

3. ASTM D1556, Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.

4. ASTM D1557, Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).

5. ASTM D2216, Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.

6. ASTM D4253, Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

7. ASTM D4254, Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

8. ASTM D4318, Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

9. ASTM D4832, Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.

10. ASTM D6023, Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material (CLSM).

11. ASTM D6103, Test Method for Flow Consistency of Controlled Low Strength Material (CLSM).

12. ASTM D6938, Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

13. ASTM E329, Specification for Agencies Engaged in Construction Inspection and/or Testing.

1.3 TERMINOLOGY

A. The following words or terms are not defined but, when used in this Section, have the following meaning:

1. “Subgrade” is the uppermost surface of native soil material unmoved from cuts; the bottom of excavation.

1.4 QUALITY CONTROL

A. Qualifications

1. CONTRACTOR’s Testing Laboratory

a. Retain the services of independent testing laboratory to perform testing and determine compliance with the Contract Documents of the materials specified in this Section.
b. Do not employ the same laboratory hired by OWNER for field quality control testing under the field quality control Article of this Section.
c. Testing laboratory shall comply with ASTM E329.
d. Testing laboratory shall be experienced in the types of testing required.
e. Selection of testing laboratory is subject to ENGINEER's acceptance.

B. Quality Control Testing

1. Quality control testing is in addition to field quality control testing required under Part 3 of this Section.

2. Materials used in the Work may require testing and retesting, as directed by ENGINEER, during the Project. Allow free access to material stockpiles and facilities at all times. Tests not specifically indicated to be performed at OWNER's expense, including retesting of rejected materials and installed Work, shall be performed at CONTRACTOR's expense.

3. CONTRACTOR's Testing Laboratory Scope

   a. Collect samples and perform testing of proposed fill materials in the laboratory and in the field to demonstrate compliance of the Work with the Contract Documents.
   b. Testing laboratory shall perform testing required to obtain data for selecting moisture content for placing and compacting fill materials.
   c. Design controlled low-strength material (CLSM) mixes in accordance with requirements of CLSM Article in Part 2 of this Section. Perform concrete materials evaluation tests and testing of CLSM mixes.
   d. Submit to ENGINEER and CONTRACTOR written report results of each test.

4. Required Quality Assurance Material Testing by CONTRACTOR's Testing Laboratory

   a. Gradation in accordance with ASTM D422. Perform one test for every 1,000 cubic yards of each of the following types of material incorporated into the Work: select fill, general fill, subbase material, drainage fill, and pipe bedding material.
   b. Atterberg limits in accordance with ASTM D4318. Perform one test for every 1,000 cubic yards of the following types of materials incorporated into the Work: general fill, and pipe bedding material.
   c. Moisture/density relations in accordance with ASTM D698, ASTM D1557, ASTM D4253, or ASTM D4254, as applicable. Perform one test for every 5,000 cubic yards of the following types of materials incorporated into the Work: select fill, general fill, subbase material, drainage fill, and pipe bedding material.
   d. Moisture content of stockpiled or borrow material in accordance with ASTM D2216. Perform one test for every 1,000 cubic yards of the following types of material incorporated into the Work: select fill, general fill, subbase material, drainage fill, and pipe bedding material.

C. Regulatory Requirements

1. Perform excavation work in compliance with requirements of authorities having jurisdiction and Laws and Regulations, including:

   a. OSHA, 29 CFR Part 1926, Section .650 (Subpart P – Excavations), Existing Utilities

1.5 SUBMITTALS

A. Action Submittals: Submit the following:

1. Shop Drawings

a. Modifications to the Work proposed due to design of sheeting, shoring, bracing, cofferdams, and similar excavation supports.

B. Informational Submittals: Submit the following:

1. Procedure Submittals

a. Excavation Plan: Prior to starting excavation operations, submit written plan to demonstrate compliance with OSHA 29 CFR Part 1926.650. As a minimum, excavation plan shall include:

1) Name of CONTRACTOR's "competent person" in responsible charge of excavation and fill Work.
2) Copies of "manufacturer's data" or other tabulated data if protective system(s) are designed on the basis of such data.
3) Copies of required permits and approvals, from authorities having jurisdiction and affected utility owners, for excavation methods proposed.

b. Proposed compaction procedure and compaction equipment proposed for use. Where different procedures or equipment will be used for compacting different types of material or at different locations at the Site, indicate where each procedure and equipment item will be used.

2. Delivery Tickets

a. Copy of delivery ticket for each load of aggregate and borrow material delivered to the Site. Each delivery ticket shall indicate project and contract by name and number, date, material type, department of transportation item number when applicable, and quantity delivered.

3. Quality Assurance Test Results Submittals

a. Submit results of quality assurance testing performed by in accordance with Paragraph 1.4.B of this Section, unless included as part of another submittal under this Section. Submit results for the following quality assurance testing:

1) Tests on borrow fill material.
2) Optimum moisture – maximum dry density curve for each type of fill material.

4. Field Quality Control Submittals

a. Submit results of testing and inspection performed in accordance with the field quality control Article in Part 3 of this Section, including:

1) Field density testing.

5. Qualifications Statements

a. Quality Assurance Testing laboratory. Submit name and qualifications of testing laboratory to be employed, and qualifications of testing laboratory's personnel that will perform quality assurance testing required in this Section.
b. Field Quality Control Testing Laboratory: Names and qualifications of testing laboratory employed, and qualifications of testing laboratory's personnel that will perform field quality control testing as required under this Section.

1.6 SITE CONDITIONS

A. Existing Structures & Underground Utilities:

1. The Contract Documents show or indicate certain structures and underground utilities adjacent to the Work. Such information was obtained from existing records and is not guaranteed to be correct or complete. CONTRACTOR shall explore ahead of the excavation to determine the exact location of all existing structures and underground utilities. Existing structures and underground utilities shall be supported and protected from damage by CONTRACTOR. Immediately repair and restore existing structures and underground utilities damaged by CONTRACTOR without additional cost to OWNER.

2. Movement or operation of construction equipment over underground utilities shall be at CONTRACTOR's sole risk and only after CONTRACTOR has prepared and submitted to ENGINEER and utility owners (as applicable), and received acceptance therefrom, a plan describing CONTRACTOR's analysis of the loads to be imparted and CONTRACTOR's proposed measures to protect structures and underground utilities during the Project.

3. Coordinate with utility owners for shut-off of services in active piping and conduits. Completely remove buried piping and conduits indicated for removal and not otherwise indicated as being abandoned or to remain in place.

4. In general, existing water service lines and sanitary sewer laterals to individual houses and businesses are not shown; however, CONTRACTOR shall assume that a service exists for each utility owner to each house, business, and property.

5. Do not interrupt existing utilities serving facilities occupied and used by OWNER or others, except when such interruption is indicated in the Contract Documents or when allowed in writing by ENGINEER after acceptable temporary utility services are provided by CONTRACTOR for the affected structure or property.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Select Fill:

1. Material shall be well-graded, crushed aggregate, free of organic material, complying with the following:

Sieve Sizes (Square Openings)	Percentage by Weight Passing Sieve
1.25-inch	100
No. 4	38 to 65
No. 8	25 to 60
No. 30	10 to 40
No. 200	3 to 12

B. General Fill:

1. Material shall be free of rock and gravel larger than three inches in any dimension, debris, waste, frozen materials, organic material, and other deleterious matter.

2. Fill shall have a liquid limit not greater than 45, and plasticity index not greater than 25.

3. Previously-excavated materials complying with the Contract Documents requirements for general fill may be used for general fill.

4. When on-Site materials are found unsuitable for use as general fill, provide select fill or approved off-Site general fill materials. Prior to using off-Site material as general fill, furnish submittal for and obtain ENGINEER's approval of the material proposed for use.

C. Subbase Material:

1. Material shall be naturally- or artificially-graded mixture of natural or crushed gravel, crushed stone, or natural or crushed sand, complying with the gradation requirements below. Crushed slag is unacceptable.

Sieve Sizes (Square Openings)	Percentage by Weight Passing Sieve
2-inch	100
1-inch	70 to 100
3/4-inch	50 to 90
No. 4	30 to 60
No. 30	9 to 33
No. 200	0 to 15

2. Material shall be naturally- or artificially-graded mixture of natural or crushed gravel, crushed stone, or natural or crushed sand. Crushed slag is unacceptable. Material shall be in accordance with FDOT guidance.

D. Drainage Fill:

1. Material shall be washed, uniformly-graded mixture of crushed stone, or crushed or uncrushed gravel, with 100 percent passing 1.5-inch sieve and not more than five percent passing a No. 4 sieve.

E. Pipe Bedding Material:

1. Aggregate material shall be crushed stone and gravel, free of rock or gravel larger than one-inch in any dimension, debris, waste, frozen materials, organic material and other deleterious matter. Material shall comply with gradation requirements below in addition to FDOT guidance:

Sieve Sizes (Square Openings)	Percentage by Weight Passing Sieve
1-inch	100
3/8-inch	30 to 65
No. 4	25 to 55
No. 10	15 to 40
No. 40	8 to 20
No. 200	2 to 8

2. Sand material, where required, shall consist of natural or manufactured granular material and shall contain no organic material. Sand shall be non- plastic, when tested in accordance with ASTM D4318, 100 percent shall pass a 1/2-inch screen and not more than five percent shall pass a No. 200 screen.

2.2 SOURCE QUALITY CONTROL

A. Perform quality assurance testing, and submit results to ENGINEER, in accordance with the ‘Quality Assurance” Article in Part 1 of this Section.

PART 3 - EXECUTION

3.1 INSPECTION

A. Provide ENGINEER with sufficient notice and with means to examine areas and conditions under which excavating, filling, and grading will be performed. ENGINEER will advise CONTRACTOR in writing when ENGINEER is aware of conditions that may be detrimental to proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions are corrected.

3.2 TEST PITS

A. General:

1. In advance of the construction, excavate, make observations, determine soil type and possible groundwater table elevations, and measurements, and fill test pits to determine conditions or location of the existing underground utilities and structures. Perform all work required in connection with excavating, stockpiling, maintaining, sheeting, shoring, filling, and replacing pavement for test pits. CONTRACTOR shall be responsible for the definite location of each existing underground utility involved within the area of excavation for the Work. Exercise care during such location work to avoid damaging and disrupting the affected underground utility or structure. CONTRACTOR shall be responsible for repairing, at his expense, damage to underground utility or structure caused during the Work.

3.3 PREPARATION

A. Site Preparation:

1. Clear areas to be occupied by permanent construction of all trees, brush, roots, stumps, logs, wood and other materials and debris. Clean and strip vegetation, sod, topsoil, and organic matter from subgrades where fills will be placed, and from areas where structures will be constructed. Remove from the Site and properly dispose of all waste materials.

2. Burning is not allowed at the Site.

B. Use of Explosives:

1. Use of explosives is not allowed.

3.4 DEWATERING

A. Dewatering – General:

1. The CONTRACTOR shall be responsible to provide all dewatering required for the complete installation of the water distribution system shown within the plans and shall make their own onsite investigations as to the elevations of the existing groundwater table to satisfy their dewatering requirements. No additional payments shall be made for any seasonal water table fluctuations that may require additional dewatering in order to keep a dry trench.

2. Provide and maintain all necessary dewatering equipment to remove and dispose of all surface water and ground water entering excavations, or other parts of the Work and work areas. Keep all excavations dry during excavation, and continually thereafter until the underground utilities to be built therein are acceptable to ENGINEER/OWNER and backfilling operations are completed and acceptable to ENGINEER/OWNER.

3. Keep all working areas at the Site free of surface water at all times. Provide temporary drainage ditches and temporary dikes, and provide required temporary pumping and other work necessary for diverting or removing rainfall and all other accumulations of surface water from excavations and fill areas impacted by the work. Perform diversion and removal of surface water in manner that prevents accumulation of water behind permanent or temporary structures and at any other locations in the construction area where such accumulations may be detrimental.

4. CONTRACTOR shall be responsible for condition of existing piping, catch basins/manholes, and channels used for surface water control (drainage) and such piping shall be clean and free of sediment upon completion of the work.

5. Remove water from excavations as fast as water collects.

B. Temporary Dewatering System:

1. CONTRACTOR shall design, provide, and operate dewatering system to include sufficient trenches, sumps, pumps, hose, piping, well points, deep wells, and similar facilities, necessary to depress and maintain groundwater level no less than five-inches below the base of each excavation during all stages of construction operations.

2. Design and operate dewatering system to avoid settlement and damage to existing structures and underground utilities.

3. Groundwater table shall be lowered in advance of excavation for a sufficient period of time to allow dewatering of fine grain soils.

4. Maintain groundwater level at excavations two feet below lowest subgrade excavation until the structure or underground utility, as applicable, has sufficient strength and weight to withstand horizontal and vertical soil and water pressures from natural groundwater.

5. Operate dewatering system continuously, 24 hours per day, seven days per week. Provide standby pumping facilities and personnel to maintain the continued effectiveness of the system. Do not discontinue dewatering operations without first obtaining ENGINEER's acceptance for such discontinuation.

6. If, in ENGINEER's opinion, the water levels are not being lowered or maintained as required, provide additional or alternate temporary dewatering devices as necessary, at no additional cost to OWNER.

7. Locate elements of temporary dewatering system to allow continuous dewatering operation without interfering with the Work to the extent practicable.

8. Where portions of dewatering system are located in the area of permanent construction, submit to and obtain ENGINEER's acceptance of details of proposed methods of constructing the Work at such location. Control of ground water shall continue until the permanent construction provides sufficient dead load to withstand hydrostatic uplift of the normal groundwater, until concrete has attained sufficient strength to withstand earth and hydrostatic loads.

9. Perform pumping of water from excavations in a manner that prevents carrying away of unsolidified concrete materials, and that avoids damaging the subgrade.

10. Before discontinuing dewatering operations or permanently allowing rise of groundwater level, prepare computations to demonstrate that structures affected by the water level rise are protected by fill or other means to sustain uplift. Use a safety factor of 1.25 when preparing such calculations.

C. Disposal of Water Removed by Dewatering System:

1. CONTRACTOR's dewatering system shall discharge to suitable location acceptable to OWNER and owners of other properties potentially affected by water discharge, including owners adjacent to and downstream of dewatering system discharge. Operation dewatering system and disposal of water shall be in accordance with Laws and Regulations.

2. Convey water from excavations in closed conduits. Do not use trench excavations as temporary drainage ditches.

3. Dispose of water removed from excavations in a manner that does not endanger health and safety, property, the Work, and other portions of the Project.

4. Dispose of water in manner that causes no inconvenience to OWNER, others involved in the Project, and adjacent and downstream properties.

3.5 EXCAVATION

A. Perform all excavation required to complete the Work as shown, specified, and required. Excavations shall include removing and handling of earth, sand, clay, gravel, hardpan, soft, weathered or decomposed rock, pavements, rubbish, and other materials within the excavation limits.

B. Excavation Protection:

1. Provide excavation protection system(s) in accordance with Laws and Regulations to prevent injury to persons and property, including underground utilities.

2. Excavation Less Than Five Feet Deep: Excavations in stable rock or in soil conditions where there is no potential for a cave-in may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.

3. Excavations Greater Than Five Feet Deep: Excavations in stable rock may be made with vertical sides. Under all other conditions, excavations shall be sloped and benched, shielded, or shored and braced.

4. Provide and maintain excavation protection system(s) in accordance with submittals accepted by ENGINEER and required under Paragraph 1.5.B of this Section.

C. Maintain excavations in dry condition in accordance with "Dewatering" Article in Part 3 of this Section.

D. Elevations of piping, conduit, and similar other underground utilities shall be as shown or indicated on the Contract Documents.

E. When excavations are made below required grades without written order of ENGINEER, fill such excavations with compacted select fill material, as directed by ENGINEER, at CONTRACTOR's expense.

F. Extend excavations sufficiently on each side of structures, footings, and similar construction to allow setting of forms, installation of shoring and bracing, and the safe sloping of banks, as necessary.

G. Subgrades – General:

1. Subgrades shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud, muck, and other soft or unsuitable materials; and shall remain firm and intact under all construction operations. Subgrades that are otherwise solid but become soft or mucky on top due to construction operations shall be reinforced. Finished elevation of stabilized subgrades shall not be above subgrade elevations shown.

2. If, in ENGINEER's opinion, subgrade becomes softened or mucky because of construction delays, failure to dewater properly, or other cause within CONTRACTOR's control, subgrade shall be excavated to firm material, trimmed, and backfilled with select fill material at CONTRACTOR's expense.

H. Pipe Trench Preparation:

1. Not more than 150 feet of trench may be opened in advance of installing pipe in trench.

2. Trench width shall be minimized to greatest extent practical, and shall comply with the following:

   a. Trench width shall be sufficient to provide space for installing, jointing and inspecting piping. Refer to Drawings for trench requirements. In no case should trench be wider at top of pipe than pipe barrel OD plus two feet, unless otherwise shown or indicated.
   b. Enlargement of trench width at pipe joints may be made when required and approved by ENGINEER.
   c. Trench width shall be sufficient for shoring and bracing, or shielding and dewatering.
   d. Trench width shall be sufficient to allow thorough compaction of fill adjacent to bottom half of pipe.
   e. Do not use excavating equipment that requires the trench to be excavated to excessive width.

3. Depth of trench shall be as shown or indicated. If required and approved by ENGINEER in writing, depths may be revised.

4. Where ENGINEER considers existing material beneath bedding material unsuitable, remove and replace such unsuitable material with select fill material.

I. Excavated Materials to be Used as Fill:

1. Stockpile excavated materials that are acceptable for use as fill.

2. As excavation proceeds, keep stockpiles of excavated materials suitable for use as fill separate from unsuitable materials and waste materials.

3. Place, grade, and shape stockpiles for proper drainage.

4. Locate and retain soil materials away from edge of excavations.

5. Dispose of excess soil material and waste materials as specified in this Section.

6. Stockpiled excavated soils for use as select fill or general fill shall be tested and classified by laboratory as on-Site select fill or on-Site general fill. Perform required quality assurance testing for material verification on stockpiled materials as soon as possible to demonstrate compliance of excavated materials with the Contract Documents.

7. When all excavated material cannot be stored in the right-of-way or other lands provided by OWNER in such manner as to maintain traffic conditions as specified, remove surplus material from the Site and store such material appropriately. After laying pipe or completing the underground utility or structure being built in the trench, bring back to trench sufficient quantity of suitable excavated material required for backfilling the trench.

8. In built-up work areas and in streets where traffic conditions require, remove material excavated from initial opening of excavation as soon as the material is excavated; use suitable material subsequently excavated to backfill trenches in which underground utilities have been installed or structures built. Do not store excavated material or construction materials on streets or sidewalks.

3.6 UNAUTHORIZED EXCAVATION

A. All excavations outside lines and grades shown or indicated and that are not approved by ENGINEER, together with removing and disposing of the associated material, shall be at CONTRACTOR's expense. Fill unauthorized excavations with properly-compacted select fill material at CONTRACTOR’s expense.

3.7 EROSION AND SEDIMENT CONTROLS

A. Provide temporary erosion and sediment controls in accordance with the Drawings. When applicable, also comply with requirements of the erosion and sediment control plan approved by authorities having jurisdiction.

3.8 SHEETING, SHORING, AND BRACING

A. General:

1. Design and provide sheeting, shoring, bracing, cofferdams, and similar excavation supports as shown, specified, and required for the Work.

2. Clearances and types of temporary sheeting, shoring, bracing, and similar excavation supports, insofar as they may affect the finished character of the Work and the design of sheeting to be left in place, will be subject to the ENGINEER's approval; but CONTRACTOR is responsible for adequacy of all sheeting, shoring, bracing, cofferdams, and similar excavation supports.

3. Materials:

   a. Previously-used materials shall be in good condition, and shall not be damaged or excessively pitted. All steel or wood sheeting designated to remain in place shall be new. New or used sheeting may be used for temporary sheeting, shoring, and bracing.
   b. All steel work for sheeting, shoring, bracing, cofferdams and other excavation supports, shall be in accordance with ANSI/AISC 360, except that field welding will be allowed.
   c. Provide permanent steel sheet piling or pressure-creosoted timber sheet piling where subsequent removal of sheet piling might allow lateral movement of soil under adjacent structures

4. As excavation progresses, carry down shoring, bracing, cofferdams, and similar excavation supports to required elevation at bottom of excavation.

5. Comply with Laws and Regulations regarding sheeting, shoring, bracing, cofferdams, and similar excavation supports.

6. Maintain sheeting, shoring, bracing, bracing, and other excavation supports in excavations regardless of time period excavations will be open.

7. Unless otherwise shown, specified, or directed, remove materials used for temporary construction when the Work is completed. Perform such removal in manner not injurious to the structures and underground utilities, their appearance, and adjacent construction.

B. Removal of Sheeting and Bracing

1. Remove sheeting and bracing from excavations, unless otherwise directed by ENGINEER in writing. Perform removal to avoid damaging the Work and adjacent construction. Removal shall be equal on both sides of excavation to ensure no unequal loads on structures and underground utilities.

2. Defer removal of sheeting and bracing, where removal may cause soil to come into contact with concrete, until concrete has cured for not less than seven days.

3.9 TRENCH SHIELDS

A. Excavation of earth material below bottom of trench shield shall not exceed the limits established in Laws and Regulations.

B. When using a shield for installing piping

1. Portions of trench shield extending below the mid-diameter of an installed, rigid pipe, such as prestressed concrete pipe and other types of rigid pipe, shall be raised above the pipe's mid-diameter elevation prior to moving the shield along the trench for further construction.

2. Bottom of shield shall not at any time extend below mid-diameter of installed pipe that is flexible or has flexing capability, such as steel, ductile iron, PVC, CPVC, polyethylene, and other pipe that has flexing capability.

C. When using a shield for installing structures, including structures that are underground utilities, bottom of the shield shall not extend below the top of the bedding for the structures.

D. When removing the shield or moving the shield ahead, exercise extreme care to prevent moving piping, structures, and other underground utilities, and prevent disturbance of bedding material for piping, structures, and other underground utilities. When piping, structures, or other underground utilities are disturbed, remove and reinstall the disturbed items in accordance with the Contract Documents.

3.10 FILL AND COMPACTION – GENERAL PROVISIONS

A. Provide and compact all fill required for the finished grades as shown and as specified in this Section.

B. Place fill in excavations as promptly as progress of the Work allows, but not until completing the following:

1. ENGINEER's authorization after observation of construction below finish grade.

2. Inspection, testing, approval, and recording of locations of underground utilities.

3. Removal of formwork.

4. Removal of shoring and bracing, and filling of voids with satisfactory materials.

5. Removal of trash and debris.

6. Field testing of underground utilities including piping and conduits, in accordance with Section 330502, Buried Piping Installation, when nature of the test requires observation of pipe exterior during testing.

C. Fill that includes organic materials or other unacceptable material shall be removed and replaced with approved fill material in accordance with the Contract Documents.

D. Placement – General:

1. Place fill to the grades shown or indicated. Bring up evenly on all sides fill around structures and underground utilities.

2. Place fill materials at moisture content and density as specified in this Article's requirements on compaction density. Furnish and use equipment capable of adding measured amounts of water to the fill materials to bring fill materials to a condition within required moisture content range. Furnish and use equipment capable of discing, aerating, and mixing the fill materials to ensure reasonable uniformity of moisture content throughout the fill materials, and to reduce moisture content of borrow materials by air drying, when necessary. When subgrade or lift of fill materials requires moisture-conditioning before compaction, fill material shall be sufficiently mixed or worked on the subgrade to ensure uniform moisture content throughout the lift of material to be compacted. Materials at moisture content in excess of specified limit shall be dried by aeration or stockpiled for drying.

3. Perform compaction with equipment suitable for the type of fill material placed. Select and use equipment capable of providing the minimum density required in the Contract Documents. Use light compaction equipment, with equipment gross weight not exceeding 7,000 pounds within horizontal distance of ten feet from the wall of completed, below-grade structures. Furnish and use equipment capable of compacting in restricted areas next to structures and around piping and other underground utilities. Effectiveness of the equipment selected by CONTRACTOR shall be tested at start of compacted fill Work by constructing a small section of fill within the area where fill will be placed. If tests on the test section of fill indicate that required compaction is not obtained, do one or more of the following: increase the amount of coverages, decrease the lift thicknesses, or use different compactor equipment.

4. Place fill materials in horizontal, loose lifts, not exceeding specified uncompacted thickness. Place fill in a manner ensuring uniform lift thickness after placing. Mechanically compact each lift, by not less than two complete coverages of the compactor. One coverage is defined as the conditions reached when all portions of the fill lift have been subjected to the direct contact of compactor's compacting surface. Compaction of fill materials by inundation with water is unacceptable.

5. Do not place fill materials when standing water is present on surface of the area where fill will be placed. Do not compact fill when standing water is present on the fill to be compacted. Do not place or compact fill in a frozen condition or on top of frozen material. Fill containing organic materials or other unacceptable material previously described shall be removed and replaced prior to compaction.

6. If required densities are not obtained because of improper control of placement or compaction procedures, or because of inadequate or improperly-functioning compaction equipment, CONTRACTOR shall perform all work required to provide the required densities. Such work shall include, at no additional cost to OWNER, complete removal of unacceptable fill areas and replacement and re-compaction until acceptable fill is provided.

7. Repair, at CONTRACTOR's expense, observed or measured settlement. Make repairs and replacements as required within 30 days after being so advised by ENGINEER.

E. Fill in Pipe Trenches:

1. Piping trenches will be backfilled prior to testing of piping.

2. Pipe Bedding: Pipe bettering material shall be as follows:

    a. Install all water main piping on a 6-inch layer of ¾" aggregate or #57 stone as denoted on the plan details.
    b. Unless otherwise shown, install other types of piping, such as water services/casings on not less than a two-inch layer of clean sand. The clean sand pipe bedding material shall extend 12 inches above top of the pipe/casing. Refer to the plan detail.

3. Placing and Compacting Pipe Trench Fill: Unless otherwise shown, placement and compaction of pipe trench fill materials shall comply with the following:

    a. Pipe bedding material shall be spread and the surface graded to provide a uniform and continuous support beneath piping at all points between bell holes or pipe joints. Slight disturbance of installed pipe bedding material surface during withdrawal of pipe slings or other lifting tackle is acceptable.
    b. After each pipe's bedding material has been graded, and the piping has been aligned, joined in accordance with the Contract Documents, and placed in final position on bedding material, provide and compact sufficient pipe trench fill material under and around each side of the pipe and back of the bell or end thereof to hold piping in proper position and maintain alignment during subsequent pipe jointing and embedment operations. Deposit and compact pipe trench fill material uniformly and simultaneously on each side of piping to prevent lateral displacement of piping. Place and compact pipe trench fill material to an elevation 12 inches above top of pipe, unless otherwise shown or specified.
    c. Each layer of pipe trench fill material shall be compacted by at least two complete coverages of all portions of surface of each lift using appropriate compaction equipment.
    d. Method of compaction and compaction equipment used shall be appropriate for material to be compacted and shall not transmit damaging shocks to the piping.

F. Drainage Fill Placement:

1. Provide drainage fill material where shown to the limits shown or indicated.

2. Place drainage fill material in compacted layers of uniform thickness not exceeding depth of six inches each. Compact lifts of drainage fill using suitable compaction equipment.

G. Compaction Density Requirements:

1. Minimum density for fill materials shall be 100 percent of maximum density obtained in the laboratory in accordance with ASTM D698. Compaction of fill materials less than five feet below final grade, behind concrete walls, and pipe bedding materials when not located below structures or pavement shall be 95 percent of maximum density.

2. Place fill in trenches below piping or paved areas in horizontal uncompacted layers not greater than eight inches deep, and thoroughly compact each layer before next layer is placed. In other pipe trenches, horizontal uncompacted layers shall not be greater than six inches deep.

3. Fill shall be wetted and thoroughly mixed to achieve optimum moisture content plus-or-minus three percent, with the following exceptions:

   a. On-site clayey soils: Optimum to plus three percent.

4. Replace natural, undisturbed soils or compacted soil subsequently disturbed or removed by construction operations with materials compacted as indicated.

5. Field quality control testing for density to verify that specified density was obtained, will be performed during each day of compaction Work. Responsibility for field quality control testing is specified in the “Field Quality Control” Article in Part 3 of this Section.

6. When field quality control testing indicates unsatisfactory compaction, provide additional compaction necessary to obtain the specified compaction. Perform additional compaction Work at no additional cost to OWNER until specified compaction is obtained. Such work includes complete removal of unacceptable (as determined by ENGINEER) fill areas and replacement and re-compaction until acceptable fill is provided in accordance with the Contract Documents.

H. Replacement of Unacceptable Excavated Materials: In cases where over- excavation to replace unacceptable soil materials is required, backfill the excavation to required subgrade with select fill material and thoroughly compact in accordance with “Compaction Density Requirements” of this Article and the associated “Compaction Density Requirements” in this Article. Slope the sides of excavation in accordance with the maximum inclinations specified for each structure location.

3.11 GRADING

A. General:

1. Uniformly grade areas within limits of grading under this Section, including adjacent transition areas.

2. Smooth subgrade surfaces within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

3. Blend grading over trench to elevations shown or indicated; where elevations are not shown or indicated, blend finished grade with existing grade on each side of trench.

B. Compaction:

1. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.12 DISPOSAL OF EXCAVATED MATERIALS

A. General:

1. CONTRACTOR shall haul away material removed from excavations that does not comply with requirements for fill, or is in excess of the quantity required for fill.

2. Disposal of materials shall be in compliance with Laws and Regulations, at no additional cost to OWNER.

3. All refuse/other material to be removed/hauled away shall be done by the CONTRACTORS equipment/personnel or through the City's contracted refuse service, if available and as coordinated in advance with the City.

3.13 TEMPORARY BARRIERS

A. General:

1. Provide temporary barrier surrounding excavations and excavation work areas for protection of persons and property.

2. Provide temporary barriers where shown or indicated, and where necessary to protect persons and property. At minimum, provide temporary barriers for all excavations that remain open overnight or longer.

3.14 FIELD QUALITY CONTROL

A. Site Tests: CONTRACTOR will employ a testing laboratory to perform field quality control testing.

1. Testing Laboratory Scope

   a. Perform field moisture content and density tests to ensure that the specified compaction of fill materials has been obtained.
   b. Tests of actual unconfined compressive strength or bearing tests on each stratum.
   c. Report results of each test to ENGINEER and CONTRACTOR.

2. Required Material Tests

   a. Compaction: Comply with ASTM D1556 and ASTM D6938, as applicable.

3. Authority and Duties of Testing Laboratory

   a. Technicians representing the testing laboratory shall inspect the materials in the field, perform testing, and report findings to ENGINEER and CONTRACTOR. When materials furnished or the Work performed does not comply with the Contract Documents, technician will direct attention of ENGINEER and CONTRACTOR to such failure.

b. Technician will not act as foreman or perform other duties for CONTRACTOR. Work will be checked as it progresses, but failure to detect defective Work or non-complying materials shall not in any way prevent later rejection when defect is discovered, nor shall it obligate ENGINEER for Substantial Completion or final acceptance. Technicians are not authorized to revoke, alter, relax, enlarge, or release requirements of the Contract Documents, or to approve or accept any portion of the Work.

4. Responsibilities and Duties of CONTRACTOR

a. Use of testing laboratory shall in no way relieve CONTRACTOR of the responsibility to provide materials and Work in full compliance with the Contract Documents.
b. To facilitate testing laboratory, CONTRACTOR shall advise testing laboratory at least two days in advance of filling operations to allow for completion of field quality control testing and for assignment of personnel.
c. It shall be CONTRACTOR's responsibility to accomplish the specified compaction for fill and other earthwork. CONTRACTOR shall control construction operations by confirmation tests to verify and confirm that CONTRACTOR has complied, and is complying at all times, with the Contract Documents relative to compaction, control.
d. CONTRACTOR shall demonstrate adequacy of compaction equipment and procedures before exceeding one or more of the following quantities of earthwork. Each test location shall include tests for each layer, type, or class of fill to finish grade.

1) 200 linear feet of fill in trenches, except subbase material.
2) 10 cubic yards of select fill other than that placed in trenches.
3) 100 cubic yards of general fill other than that placed in trenches.
4) 50 cubic yards of subbase material.

5. Testing laboratory will inspect and indicate acceptable subgrades and fill layers before construction work is performed thereon. Testing of subgrades and fill layers shall be taken as follows:

a. Trenches for underground utilities

1) In Open Fields: Two locations every 1,000 linear feet.
2) Along Dirt or Gravel Roads or Off Traveled Right-of-Way: Two locations every 500 linear feet.
3) Crossing Paved Roads: Two locations along each crossing.
4) Under Pavement Cuts or Within Two Feet of Pavement Edges: One location every 400 linear feet.

b. Subbase Material: One per 100 linear feet on every compacted lift.

6. Periodic compliance tests will be made by ENGINEER to verify that compaction is complying with the requirements specified, at no cost to CONTRACTOR. CONTRACTOR shall remove the overburden above the level at which ENGINEER wishes to test and shall fill and re-compact the excavation after testing is complete.

7. If testing laboratory reports or inspections indicate subgrade, fills, or bedding compaction below specified density, CONTRACTOR shall remove unacceptable materials as necessary and replace with specified materials and provide additional compaction at CONTRACTOR's expense until subgrades, bedding, and fill are acceptable. Costs for retesting of subgrade, fills, or bedding materials that did not originally comply with specified density shall be paid by CONTRACTOR.

END OF SECTION 330501

SECTION 330502 – BURIED PIPING INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Water service and related components

B. Related Work

1. Section 330501 – Trenching

C. Work Includes

1. CONTRACTOR shall provide all labor, materials, equipment, and incidentals for the Work identified herein and on the Plans as shown, specified, and required to install and test all buried piping, fittings, services and appurtenances. The Work includes but is not limited to the following:

   a. All types and sizes of buried piping as noted on the Plans.
   b. Work on or affecting existing buried piping.
   c. Supports and restraints.
   d. Field quality control, including testing.
   e. Cleaning and disinfecting.
   f. Incorporation of valves, meters, hydrants and appurtenant items shown or specified into piping systems in accordance with the Contract Documents and as required.

D. Coordination:

1. Review installation procedures under this and other Sections and coordinate installation of items to be installed with or before buried piping Work.

1.2 REFERENCES

A. Standards referenced in this Section are:

1. ANSI/AWWA C111, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

2. ANSI/AWWA C600, Installation of Ductile-Iron Water Mains and Their Appurtenances.

3. ANSI/AWWA C651, Disinfecting Water Mains.

4. AWWA M41, Ductile-Iron Pipe and Fittings.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements

1. Comply with requirements and recommendations of authorities having jurisdiction over the Work, including:

   a. City of Fort Lauderdale Utilities Department
   b. City of Fort Lauderdale Engineering Department
   c. Florida Department of Health
   d. Broward County Traffic Engineering Division

2. Obtain required permits for Work in roads, rights-of-way, railroads, and other areas of the Work.

1.4 SUBMITTALS

A. Action Submittals: Submit the following:

1. Shop Drawings:

   a. Details of piping, specials, joints, harnessing and thrust blocks, and connections to piping, structures, equipment, and appurtenances.

2. Product Data:

   a. Manufacturer's literature and specifications, as applicable, for products specified in this Section.

3. Testing Procedures:

   a. Submit proposed testing procedures, methods, apparatus, and sequencing. Obtain ENGINEER's approval prior to commencing testing.

B. Informational Submittals: Submit the following:

1. Certificates:

   a. Certificate signed by manufacturer of each product certifying that product conforms to applicable referenced standards.

2. Field Quality Control Submittals:

   a. Results of each specified field quality control test.

C. Closeout Submittals: Submit the following:

1. Record Documentation:

a. Maintain accurate and up-to-date record documents showing modifications made in the field, in accordance with approved submittals, and other Contract modifications relative to buried piping Work. Submittal shall show actual location of all piping Work and appurtenances at same scale as the Drawings.

b. Show piping with elevations referenced to Project datum and dimensions from permanent structures. For each horizontal bend in piping, include dimensions to at least three permanent structures, when possible. For straight runs of piping provide offset dimensions as required to document piping location.

c. Include profile drawings with buried piping record documents when the Contract Documents include piping profile drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Deliver materials to the Site to ensure uninterrupted progress of the Work.

2. Upon delivery inspect pipe and appurtenances for cracking, gouging, chipping, denting, and other damage and immediately remove from Site and replace with acceptable material.

B. Storage:

1. Store materials to allow convenient access for inspection and identification. Store material off ground using pallets, platforms, or other supports. Protect packaged materials from corrosion and deterioration.

2. Pipe and fittings other than PVC and CPVC may be stored outdoors without cover. Cover polyethylene pipe and fittings stored outdoors.

C. Handling:

1. Handle pipe, fittings, specials, and accessories carefully in accordance with pipe manufacturer's recommendations. Do not drop or roll material off trucks. Do not drop, roll or skid piping.

2. Avoid unnecessary handling of pipe.

3. Keep pipe interiors free from dirt and foreign matter.

4. Protect interior linings and exterior coatings of pipe and fittings from damage. Replace pipe and fittings with damaged lining regardless of cause of damage.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pipe

1. High density polyethylene pipe

a. All pipe and fittings shall conform to ANSI/AWWA C901. Pipe shall use PE4710 and have a minimum cell class of PE 445574C CC3.
b. All fittings shall conform to ASTM D3216.
c. All potable water service piping and fittings shall be NSF 61 certified with a minimum pressure rating of 200 psi.
d. Acceptable manufactures:

1) JM Eagle
2) Or equal

2. Polyvinyl chloride (PVC) pipe

a. Sewer

1) All sewer pipe shall confirm to ASTM D3034.
2) Pipe shall be SDR-35.
3) Acceptable manufactures:

a) JM Eagle
b) Or equal

4) Joints shall conform to ASTM D3212.
5) Gaskets shall conform to ASTM F477

B. General:

1. Pipe Markings:

a. Manufacturer shall cast or paint on each length of pipe and each fitting pipe material, diameter, and pressure or thickness class.
b. All pipe and fitting shall be color coded in accordance with 62- 555.320(21)(b) 3, F.A.C.

2.2 BURIED PIPING IDENTIFICATION

A. Polyethylene Underground Warning Tape for Pipelines:

1. Tracer tape shall be of inert, acid- and alkali-resistant, polyethylene, four mils thick, six inches wide, and suitable for direct burial. Tape shall be capable of stretching to twice its original length.

2. Message shall read, “CAUTION (service type) PIPE BURIED BELOW”, with bold letters approximately two inches high. Messages shall be printed at maximum intervals of two feet.

3. Acceptable manufacturers:

   a. Brady Corporation
   b. Seton Identification Products
   c. Marking Services, Inc.
   d. Or equal.

2.3 WATER SERVICES

A. Service taps shall be of a type approved by the City of Fort Lauderdale in accordance with their typical water services details as shown on the plans.

B. Replacement of all service lines is required with polyethylene tubing in accordance with the City of Fort Lauderdale requirements.

C. All corporation stops, meter stops, couplings and casings shall be in accordance with the City of Fort Lauderdale standards.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General

1. Install piping as shown, specified, and as recommended by pipe and fittings manufacturer.

2. In event of conflict between manufacturer’s recommendations and the Contract Documents, request interpretation from ENGINEER before proceeding.

3. ENGINEER will observe excavations and bedding prior to laying pipe by CONTRACTOR. Notify ENGINEER in advance of excavating, bedding, pipe laying, and backfilling operations.

4. Minimum cover over buried piping shall be 30 inches, unless otherwise shown or approved by ENGINEER.

5. Excavation in excess of that required or shown, and that is not authorized by ENGINEER shall be filled at CONTRACTOR’s expense with granular material furnished, placed, and compacted.

6. Comply with NFPA 24 for “Outside Protection”, where applicable to water piping systems used for fire protection.

7. All PVC piping and fittings shall be installed in accordance with the requirements of ASTM D2321 and the manufacturer's instructions. All PVC pipe joints shall be assembled in accordance with the requirements of ASTM D2321.

8. HDPE piping shall be installed in accordance with AWWA M55, ASTM D2774 and the manufacturer's installation instructions.

9. All plain-end HDPE pipe shall be joined via heat fusion in accordance with ASTM F2620 and comply with comply with AWWA C906, ASTM F3190, and ASTM F2620 for butt and socket fusion. Electrofusion shall be carried out in accordance with AWWA M55 & ASTM F1290. No offset in alignment between adjacent pipe joints or fittings shall be permitted.

B. Separation of Sewers and Potable Water Piping

1. Horizontal Separation

a. Where possible, existing and proposed potable water mains and service lines, and sanitary storm sewers shall be separated horizontally by a clear distance (face to face) of six (6) feet (minimum) with ten (10) feet separation being preferred.

2. Vertical Separation

a. Provide minimum vertical distance of 18 inches between outside of potable water main and outside of sewer when sewer crosses over potable water main.
b. Center a full section of potable water main pipe over sewer so that sewer joints are equidistant from potable water main joints.
c. Provide adequate structural support where potable water main crosses under sewer. At minimum, provide compacted select backfill for ten (10) feet on each side of crossing.
d. The CONTRACTOR shall use the City's standard utility crossing deflection for shallow installation to meet sanitary sewer lateral minimum vertical separation as required by 62-555.314 F.A.C.

C. Plugs

1. Temporarily plug installed pipe at end of each day of work or other interruption of pipe installation to prevent entry of animals, liquids, and persons into pipe, and entrance or insertion of deleterious materials into pipe.

2. Install standard plugs in bells at dead ends, tees, and crosses. Cap spigot and plain ends.

3. Fully secure and block plugs and caps installed for testing to withstand specified test pressure.

4. Where plugging is required for phasing of the Work or subsequent connection of piping, install watertight, permanent type plugs or caps acceptable to ENGINEER.

D. Bedding Pipe

1. Bed pipe as specified and in accordance with details on the Drawings.

2. Where ENGINEER deems existing bedding material unsuitable, remove and replace existing bedding with approved granular material furnished, placed, and compacted.

3. Where pipe is installed in rock excavation, provide minimum of three inches of granular bedding material underneath pipe smaller than four-inch nominal diameter, and minimum of six inches of granular bedding material underneath pipes four-inch nominal diameter and larger.

4. Excavate trenches below bottom of pipe by amount shown and indicated in the Contract Documents. Remove loose and unsuitable material from bottom of trench.

5. Carefully and thoroughly compact pipe bedding with handheld pneumatic compactors.

6. Do not lay pipe until ENGINEER approves bedding condition.

7. Do not bring pipe into position until preceding length of pipe has been bedded and secured in its final position.

E. Laying Pipe:

1. Conform to manufacturer's instructions and requirements of standards and, as applicable:

2. Install pipe accurately to line and grade shown and indicated in the Contract Documents, unless otherwise approved by ENGINEER. Remove and reinstall pipes that are not installed correctly.

3. Slope piping uniformly between elevations shown.

4. Keep groundwater level in trench at least 5-inches inches below bottom of pipe before laying pipe. Do not lay pipe in water. Maintain dry trench conditions until jointing and backfilling are complete. Keep clean and protect interiors of pipe, fittings, valves, and appurtenances.

5. Start laying pipe at lowest point and proceed towards higher elevations, unless otherwise approved by ENGINEER.

6. Place bell and spigot-type pipe so that bells face the direction of laying, unless otherwise approved by ENGINEER.

7. Excavate around joints in bedding and lay pipe so that pipe barrel bears uniformly on trench bottom.

8. Deflections at joints shall not exceed 50 percent of amount allowed by pipe manufacturer, unless otherwise approved by ENGINEER.

9. Carefully examine pipe, fittings, valves, and specials for cracks, damage, and other defects while suspended above trench before installation. Immediately remove defective materials from the Site and replace with acceptable products.

10. Inspect interior of all pipe, fittings, valves, and specials and completely remove all dirt, gravel, sand, debris, and other foreign material from pipe interior and joint recesses before pipe and appurtenances are moved into excavation. Bell and spigot-type mating surfaces shall be thoroughly wire brushed and wiped clean and dry immediately before pipe is laid.

11. Field cut pipe, where required, with machine specially designed for cutting the type of pipe being installed. Make cuts carefully, without damage to pipe, coating or lining, and with smooth end at right angles to axis of pipe. Cut ends on push-on joint type pipe shall be tapered and sharp edges filed off smooth. Do not flame-cut pipe.

12. Do not place blocking under pipe, unless specifically approved by ENGINEER for special conditions.

13. Touch up protective coatings in manner satisfactory to ENGINEER prior to backfilling.

14. Notify ENGINEER in advance of backfilling operations.

15. Thrust Restraint: Where required, provide thrust restraint conforming to Article 3.2 of this Section.

F. Backfilling:

1. Conform to applicable requirements of Section 330501 (Trenching).

2. Place backfill as Work progresses. Backfill by hand and use power tampers until pipe is covered by at least one foot of backfill.

G. Connections to Valves and Hydrants:

1. Install valves and hydrants as shown and indicated in the Contract Documents.

2. Provide suitable adapters when valves or hydrants and piping have different joint types.

3. Provide double thrust restraint at all hydrants and at valves located at pipeline terminations.

H. Transitions from One Type of Pipe to Another

1. Provide necessary adapters, specials, and connection pieces required when connecting different types and sizes of pipe or connecting pipe made by different manufacturers as shown in the plans.

I. Closures

1. Provide closure pieces shown or required to complete the Work.

3.2 THRUST RESTRAINT

A. Provide double thrust restraint on pressure piping systems at all tees, valves and fittings where a change in direction (horizontal/vertical) occurs in accordance with City standards.

B. Thrust restraint may be accomplished by using restrained pipe joints only.

C. Restrained Pipe Joints

1. Pipe joints shall be restrained by means suitable for the type of pipe being installed.

D. Provide double thrust restraint on piping where new mains are tied into existing mains to ensure the integrity of the existing main is not compromised.

3.3 WORK AFFECTING EXISTING PIPING

A. Location of Existing Underground Utilities

1. Locations and elevations of existing Underground Utilities shown on the Drawings should be considered approximate.

2. Determine the true location of existing Underground Utilities to which connections are to be made, crossed, and that could be disturbed, and determine location of Underground Utilities that could be disturbed during excavation and backfilling operations, or that may be affected by the Work.

B. Taking Existing Pipelines and Underground Utilities Out of Service

1. Do not take pipelines or Underground Utilities out of service unless coordinated with Owner's Representative or approved by ENGINEER.

2. Notify Owner's Representative or ENGINEER in writing prior to taking pipeline or Underground Utilities out of service. Shutdown notification shall be provided in advance of the shutdown.

C. Work on Existing Pipelines or Underground Utilities

1. Cut or tap piping or Underground Utilities as shown or required with machines specifically designed for cutting or tapping pipelines or Underground Utilities, as applicable.

2. Install temporary plugs to prevent entry of mud, dirt, water, and debris into pipe.

3. Provide necessary adapters, sleeves, fittings, pipe, and appurtenances required to complete the Work.

3.4 FIELD QUALITY CONTROL

A. General:

1. Test all piping in accordance to City of Fort Lauderdale Standards and Florida Department of Health.

2. When authorities having jurisdiction are to witness tests, notify ENGINEER and authorities having jurisdiction in writing at least 48 hours in advance of testing.

3. Conduct all tests in presence of ENGINEER.

4. Remove or protect pipeline-mounted devices that could be damaged by testing.

5. Provide all apparatus and services required for testing, including:

    a. Test pumps, hoses, calibrated gages, meters, test containers, valves, fittings, and temporary pumping systems required to maintain OWNER's operations.
    b. Temporary bulkheads, bracing, blocking, and thrust restraints.

6. Unless otherwise specified, OWNER will provide fluid required for hydrostatic testing. CONTRACTOR shall provide means to convey fluid for hydrostatic testing into piping being tested. CONTRACTOR shall provide fluid for other types of testing required.

7. Repair observed leaks and repair pipe that fails to meet acceptance criteria. Retest after repair.

B. Disinfection

1. Prior to disinfection, the Contractor shall provide proposed disinfection procedures for review and approval by the City.

2. All new water piping and existing water piping affected by the Contractor's operations shall be disinfected in accordance with AWWA Standard C651.

C. Bacteriological Testing:

1. Provide analysis of treated water to meet standards and received acceptance from the Florida Department of Health.

2. Test samples in accordance with AWWA Standard C651.

3. Quality Assurance: Testing Laboratory: Certified for examination of drinking water in compliance with applicable legislation of the State of Florida.

4. Regulatory Requirements: Conform to Chapter 17-22 of the Florida Administrative Code.

5. Submittals

    a. Submit name of testing laboratory and evidence of qualification.
    b. Submit three copies of reports.

6. Project Record Documents

    a. Submit reports under provisions of Sections entitled "Submittals", "Project Closeout", and "Project Record Documents and Survey".
    b. Bacteriological report; accurately record:
        1) Date issued, project name, and testing laboratory name, address, and telephone number.
        2) Time and date of water sample collection.
        3) Name of person collecting sample.

4) Test locations.
5) Initial and twenty-four- hour disinfectant residuals in ppm for each outlet tested.
6) Coliform bacteria test results for each outlet tested.
7) Certification that water conforms or fails to conform to bacterial standards of State of Florida.
8) Bacteriologist's signature.

D. Flushing

1. All bacteriological tests shall be performed prior to flushing. Flush solution from the system with domestic water until the maximum residual chlorine content is within the range of 0.2 to 0.5 mg/L or the residual chlorine content of the distribution system is matched.

END OF SECTION 330502

SECTION 330503 – VALVES AND MISCELLANEOUS WATER SERVICE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Valves such as gate, air release, and tapping valves.
2. Valve operators
3. Valve boxes
4. Corporation stops
5. Service saddles
6. Back flow preventors

B. Related Work

1. Section 330503 – Buried Piping Installation

C. Work Includes

1. The CONTRACTOR shall furnish and install all valving equipment and other miscellaneous components as shown on the drawings and as specified.

1.2 REFERENCES

A. The WORK under this Contract shall be in strict accordance with the following codes and standards:

1. Local, county and municipal codes
2. American Society for Testing and Materials (ASTM)
3. American National Standards Institute (ANSI)
4. American Water Works Association Standards (AWWA)
5. Florida Department of Transportation Specifications (DOT)
6. Federal Specifications

1.3 MATERIALS AND EQUIPMENT

A. Unless otherwise specified or shown on the drawings, materials and equipment shall be the standard product of a manufacturer and shall comply with the Contract Documents and applicable standards for such materials or equipment.

B. Prior to the start of the WORK, the CONTRACTOR shall submit a list of the manufacturers of all equipment and materials to be incorporated in the WORK that conform a standard, code or as specified.

PART 2 - PRODUCTS

2.1 VALVE OPERATORS

A. General:

1. The rated torque capability of each operator shall be sufficient to seat; unseat and rigidly hold in any intermediate position the valve disc it controls under the test conditions specified. All valves shall be equipped with adjustable mechanical stop-limiting devices to prevent over-travel of the valve disc in the open and closed positions. Operator housings supports and connections to the valve shall be designed with a minimum safety factor of five based on the ultimate strength or based on three on the yield strength of materials used. The rated torque capability of each cylinder portion of a cylinder operator shall be sufficient to seat, unseat and rigidly hold in any intermediate position the valve disc or plug it controls under the operating conditions specified. Operators to be buried shall be watertight. Above grade operators shall be weatherproof. The position of the operator shall be as shown on the shop drawings. The piece mark of the valves, the location, the size, the type of operator, the maximum working head, and the closing time (of pneumatically or electrically actuated valves) shall be tabulated on the shop drawings. Unless otherwise noted, all non-buried valves shall be equipped with handwheel operators unless the valve has an electric operator with manual override. A valve key of suitable length shall be provided for buried operators. The CONTRACTOR shall be responsible for dimensionally confirming the required orientation of the valve operators (both manual and electric). Any required extensions or fabrications necessary to accommodate the installation of the operators in the locations indicated shall be provided and installed subject to the ENGINEER’s approval.

B. Gearing:

1. All gear operators or traveling-nut operators shall be self-locking and designed to transmit twice the required operator torque without damage to the faces or the gear teeth or the contact faces of the screw or nut. Upon request, the manufacturer shall furnish the purchaser with certified copies of reports describing the procedures and results of the tests for each model and torque rating of operator to be furnished.

C. Operators composed of worm gearing shall be totally enclosed in a gear case and shall have worm gears of bronze and worms of hardened steel that operate in a lubricant.

D. Operators of the traveling-nut type shall have threaded reach rods of steel and shall have a bronze or ductile iron nut with internal threads. Operators shall be enclosed.

E. Manual Operators:

1. Manual operators shall have all gearing totally enclosed. Operators shall be designed to produce the specified torque with a maximum pull of 80 lbs on handwheel or chainwheel operators and a maximum input of 150 foot-lb on operating nuts. Stop-limiting devices shall be provided in the operators for the open and closed position. All operator components between the input and these stops shall be designed to withstand, without damage, a pull of 200 lbs for handwheel or chainwheel operators and an input torque of 300 foot-lb for operating nuts. An arrow and the word "open" or "close" shall be cast on the handwheel to indicate the direction to turn said handwheel. All operating nuts shall be designed so that counterclockwise movement of the handwheel will open the valve and clockwise movement of the handwheel will close the valve.

2.2 RESILIENT SEATED GATE VALVES

A. Resilient seated gate valves shall conform to the latest edition of ANSI/AWWA C509 or C515. Valves shall provide bidirectional bubble tight sealing at 150 psi differential. Valves shall be as manufactured by American Flow Products, Mueller, Kennedy Valve/ McWane, M&H or Clow/ McWane.

2.3 AIR RELEASE VALVES

A. Air release valves shall be of the size shown and shall have screwed ends. The body, cover, lever, fame, float, seat and needle linkage shall be Type 316 stainless steel. All other moving/wetted/non-wetted parts shall be of 316 stainless steel. All other moving/wetted/non-wetted parts shall be of 316 stainless steel. Valves shall be designed for not less than 150 psi water working pressure. Pipe nipples and isolation valves connecting the air release valve to the pipe shall be 316 stainless steel. Air release valves shall be as manufactured by Crispin, Val-Matic, or DeZurik/APCO, or Golden Anderson.

2.4 VALVE BOXES

A. Valve boxes shall be cast iron, adjustable, as manufactured by Tyler/ Union/ McWane or Bingham Taylor, with cast iron drop cover. All buried valves shall be equipped with a valve box. Covers shall be marked “Water” for potable systems.

2.5 CORPORATION STOPS

A. Corporation stops shall be Mueller, Ford Meter Box, or AY McDonald, threaded on the inlet side with Mueller threads and the outlet side fitted with connections to suit connecting pipe or tubing. Brass ball valve type conforms to ANSI/ AWWA C800. Iron pipe threads by PJ/110 compression.

2.6 SERVICE SADDLE

A. Saddles shall be Mueller, Ford Meter Box, or AY McDonald. Bronze saddle with brass bales, iron pipe thread.

2.7 TAPPING VALVES AND SLEEVES

A. Tapping valves and sleeves shall be 304SS with 304SS bolts as manufactured by JCM , Mueller, Smith Blair or Ford.

2.8 BACKFLOW PREVENTOR

A. Wetted surface of backflow preventor contacted by consumable water contains less than 0.25% of lead by weight.

B. Backflow preventor shall conform to requirements of ASSE 1015.

C. Approved manufacturers shall be Watts, Apollo, Febco, or equal.

PART 3 - EXECUTION

3.1 Refer to Section 330502, Buried Piping Installation

END OF SECTION 330503

SECTION 334101 – STORM DRAINAGE FACILITIES

1.1 SUMMARY

A. Section Includes

1. French drains/exfiltration trenches.

2. Yard drains/drain basin.

3. Drainage inlets/catch basins.

4. Stormwater manholes.

B. Related Work

1. Section 334102 – Exfiltration Trench Drains

C. Work Includes

1. All labor, materials, necessary equipment, and services to complete the Storm Drainage Facilities work, as indicated on the drawings, as specified herein or both.

2. 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.

D. Existing Utilities

1. 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.

2. 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 ENGINEER.

3. It shall be the responsibility of the CONTRACTOR to notify the owners of existing utilities in the area of construction a minimum of forty-eight (48) hours prior to any excavation adjacent of such utilities, so that field locations of said utilities may be established. CONTRACTOR must comply with Florida Statute 556.101-111, Underground Facility Drainage Prevention and Safety Act, latest edition.

4. It shall be the responsibility of the CONTRACTOR to maintain in working order all existing storm drain lines encountered along the line of the WORK. All such drain lines shall remain continuously in service during all the operations under the contract. All existing storm sewers shall be thoroughly cleaned before final acceptance by the ENGINEER.

PART 2 - PRODUCTS

2.1 PIPE

A. Metal Pipe

1. Pipe material shall be full round or spiral, hy-flo aluminum culvert pipe, as specified in A.S.T.M. B209 and A.A.S.H.T.O. M-196. Aluminum pipe shall be in accordance with FDOT Specification Sections 443 and 945.

2. Metal pipe shall be jointed according to the pipe manufacturer's specifications for the pipe manufacturer's watertight joint. Corrugated metal band or coupling with bolts as recommended and furnished by the pipe manufacturer shall be used for joints. No pipe or pipe fittings which have been dented, scratched, or marred in any way shall be accepted. The CONTRACTOR must receive written approval to backfill before placing any backfill over the pipe. The metal pipe shall be furnished in standard laying lengths of twenty (20) or forty (40) feet.

3. Perforated corrugated metal pipe shall be aluminum full round or spiral pipe as specified in A.S.T.M. B209 and A.A.S.H.T.O. M-196, perforated corrugated metal underdrain pipe shall be referred to as P.C.M.P.

B. Reinforced Concrete Culvert Pipe

1. Pipe shall be in accordance with FDOT Specifications 443 and 449.

2. 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 ENGINEER.

3. Concrete pipe may be either bell and spigot, tongue and groove or modified tongue and groove.

4. Cement grout joints shall be completely watertight and acceptable to the OWNER's Representative. 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 ensure 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 within 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 OWNER's Representative.

C. High Density Polyethylene Pipe

1. High Density Polyethylene Pipe (HDPE) sizes twelve (12) – thirty-six (36) inches, shall be corrugated type, smooth interior, conforming to ASTM F667, AASHTO M252 and AASHTO M294 as manufactured by Advanced Drainage Systems or approved equal. Pipe shall be in accordance with FDOT Specification 443 and 948.

2. Pipe resin shall conform to ASTM D3350 with a minimum cell classification 435400C and be between 2% to 4% carbon black.

3. Basic Material

   a. Extruded Pipe and Blow Molded Fittings: Pipe and fittings shall be made of virgin PE compounds which conform with the requirements for Type III, Category 4 or 5, Grade P33, Class C; or Grade P34, Class C, as defined and described in ASTM D 1248.

   b. Rotational Molded Pipe and Fittings: Pipe and fittings shall be made of virgin PE compounds which conform with the requirements of Type III, Category 3, Grade P33, Class C; or Grade P34, Class C, as defined and described in ASTM D 1248.

4. Corrugated Polyethylene Pipe shall meet the requirements as describe in ASTM D 2412 for pipe stiffness.

5. Fitting Requirements

   a. The fittings shall not reduce or impair the overall integrity or function of the pipeline.

   b. Couplings shall be corrugated to match the pipe corrugations and shall provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints. Couplings shall be bell and spigot, split collar, or screw-on collar. Split collar couplings shall engage at least one full corrugation on each pipe section and screw on collars shall be in width at least one-half the nominal diameter of the pipe.

   c. HDPE pipe joints shall be of a rubber or neoprene gasket designed to secure a soil tight joint.

PART 3 - EXECUTION

3.1 EXCAVATIONS

A. Trenching

1. Trenches shall be kept as nearly vertical as possible and, if required, shall be properly sheeted and braced. Where, in the opinion of the ENGINEER, damage could result from withdrawing sheeting, the sheeting shall be left in place. Not more than one hundred (100) feet of trench shall be opened at any one time or in advance of pipe laying unless permitted by the ENGINEER.

2. 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 over digging occurs, all loosened earth shall be removed, and the trench bottom brought back to grade with granular material.

3. Excavations and trenches in rock shall be carried to a depth of not less than eight (8) inches below the pipe bottom. This space shall be filled with granular material or washed rock.

4. 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 equal to the pipe outside diameter plus two (2) feet.

5. Any unstable soil encountered shall be removed and replaced with gravel, crushed rock or rock and sand suitably compacted.

6. Trench Bottom Preparation

   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 ENGINEER.

   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. Preparation of the trench bottom and placement of the pipe shall be placed in the trench bottom a minimum of eight (8) inches below the bottom of the pipe, and a trough as described above shall be formed to uniformly support the bottom quadrant of the pipe barrel.

B. Drainage Pipe Installation

1. 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.

2. 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 ENGINEER.

3. 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 watertight line. As soon as possible after the joint is made, sufficient backfill material shall be placed along each side of the pipe to prevent movement of pipe offline and grade.

4. 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.

C. Trench Backfilling

1. No trenches or excavations shall be backfilled until the trench and installation has been inspected and written approval given by the OWNER's Representative. 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" until enough fill has been placed to provide a cover of not less than 1' 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 6" layers to 98% maximum A.A.S.H.T.O. T-180 density.

2. 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 or through roadways shall be made as specified above, except that the entire fill above 1' over the pipe shall be deposited in layers not to exceed 8" in thickness, moistened, and compacted to density equal to or greater than that of adjacent material so that pavement can be placed immediately.

D. Concrete Encasement of Drainage Pipe

1. 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.

E. Drainage Structures

1. 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 ENGINEER 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" in depth measured loose and compacted to 98% of the maximum density as determined by the modified proctor, A.A.S.H.T.O. 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, watertight. 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.

F. Infiltration and Exfiltration Tests

1. Tests for watertightness shall be made by the CONTRACTOR. Leakage of completed storm sewer system shall not exceed 500 U.S. gallons per day per inch diameter per mile of pipe under minimum hydrostatic pressure of two (2) feet. Test shall be conducted in a manner satisfactory to the ENGINEER. Any portion of the project not conforming to the above requirements shall be corrected by the CONTRACTOR, at the CONTRACTOR’s own expense, prior to acceptance by the ENGINEER.

A. Restoration of Surfaces and/or Structures

1. 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 ENGINEER. Relative to restoration of surfaces and/or structures, the CONTRACTOR shall comply with all requirements of governing agencies including city, town, county, and state.

END OF SECTION 334101

SECTION 334102 – EXFILTRATION TRENCH DRAINS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. French drains/exfiltration trenches.

B. Related Work

1. Section 334101 – Storm Drainage Facilities

C. Work Includes

1. All labor, materials, necessary equipment, and services to complete the Storm Drainage Facilities work, as indicated on the drawings, as specified herein or both. In addition to the specifications included in this section, exfiltration trench drains shall also conform to FDOT Specification 443.

D. Existing Utilities

1. Locate and stake all existing underground utilities that may be in the area of the Drainage System.

E. Submittals

1. Submit Plan Drawings showing the locations of all piping and underground utilities that may be in conflict with the Drainage System and adding those utilities newly discovered by the subterranean investigation.

2. Submit samples of the 1-1/2" washed rock for exfiltration trenches for approval.

3. Submit samples and product data of filter fabric.

4. Submit shop drawings for the perforated drainage pipe.

PART 2 - PRODUCTS

2.1 DRAINAGE PIPE AND EXFILTRATION ROCK

A. Drainage pipe shall be in conformance with material as specified in Section 334101 (Storm Drainage Facilities) and have the maximum number of perforations allowable per the manufacturer’s recommendations.

B. Exfiltration rock shall be from fresh water and washed free of deleterious matter and shall meet the requirements of FDOT No. 4 coarse aggregate.

C. Trench liner shall be meet the requirements stated in 2.1 below.

2.2 TRENCH LINER

A. Filter fabric shall be a non-woven fabric consisting of polypropylene fibers treated to resist biological degradation.

B. Approved Manufacturers or Equal

1. Mirafi 140 NC

2. Trevira 1115

3. Amoco Propox 4545

PART 3 - EXECUTION

3.1 INSTALLATION

A. Lay out exfiltration trenches as shown on the Plans.

B. The bottom of the trench shall provide a minimum of twelve (12) inches of ballast rock below the drainpipe.

C. Drainpipes shall terminate a minimum of two (2) 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 1/2" x 1/2".

E. Sides and top of trench to be lined with trench lining material with a minimum of two (2) feet of overlap at the top of the trench.

F. A minimum of five (5) feet of solid drain pipe shall be installed between drainage structures and the beginning of the trench.

END OF SECTION 334102

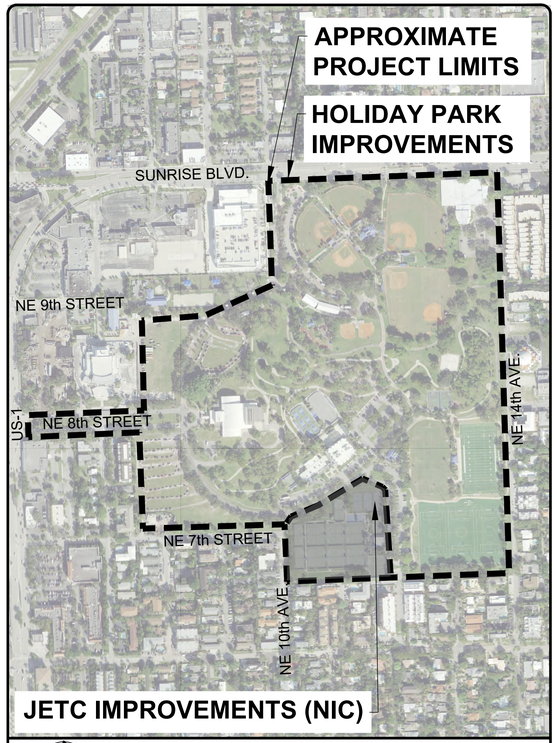
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P12633
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PARK IMPROVEMENTS
1000 E SUNRISE BLVD
FORT LAUDERDALE, FLORIDA

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LOCATION SKETCH

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CITY OF FORT LAUDERDALE
PARKS AND RECREATION DEPARTMENT
701 SOUTH ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA

FORT LAUDERDALE CITY COMMISSION

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JOHN C. HERBST	COMMISSIONER-DISTRICT I / VICE MAYOR
STEVEN GLASSMAN	COMMISSIONER-DISTRICT II
PAMELA BEASLEY-PITTMAN	COMMISSIONER-DISTRICT III
BEN SORENSEN	COMMISSIONER-DISTRICT IV

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PLOT

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PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

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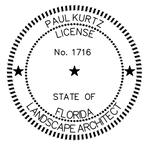
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SHEET TITLE

INDEX SHEET

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G001



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C407	EROSION CONTROL NOTES AND DETAILS



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LF201 - LF205	PLAY AREA SITE DETAILS
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PARKS BOND PROGRAM

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SITE DATA TABLE

PROJECT NAME	HOLIDAY PARK
SITE IDENTIFICATION	504202280010
STREET ADDRESS	1000 E SUNRISE BLVD, FORT LAUDERDALE, FL 33304
ZONING DESIGNATION	P
LAND USE DESIGNATION	PARKS, RECREATION, AND OPEN SPACE
CURRENT PROPERTY USE	82-04 FOREST, PARKS, RECREATIONAL AREAS - MUNICIPAL
FULL LEGAL DESCRIPTION	Holiday Park 24-14 B ALL
FLOOR AREA RATIO	N/A
NUMBER OF EXISTING BUILDINGS	4
NUMBER OF PROPOSED BUILDINGS	1
BUILDING USES	RESTROOMS
BUILDING HEIGHT (FT AND STORIES)	1 STORY, 13'

DEVELOPMENT DATA TABLE

	EXISTING		PROPOSED	
	SF	AC	SF	AC
PROJECT SITE AREA	3808652	87	N/A	N/A
BUILDING GROUND FLOOR AREA	134706	3.0900	896	0.0200
VEHICULAR USE AREA	210142	4.8	N/A	N/A

SETBACK TABLE

	REQUIRED	PROVIDED
MINIMUM PRIMARY FRONTAGE SETBACK	25'	25'
MINIMUM SECONDARY FRONTAGE SETBACK	25'	25'
MINIMUM SIDE SETBACK	25'	25'
MINIMUM REAR SETBACK	N/A	N/A
MINIMUM WATER SETBACK	N/A	N/A

UTILITY PROVIDERS

WATER	CITY OF FORT LAUDERDALE
FIRE PROTECTION	CITY OF FORT LAUDERDALE
SANITARY SEWER	CITY OF FORT LAUDERDALE
POWER	FLORIDA POWER LIGHT
SOLID WASTE	CITY OF FORT LAUDERDALE

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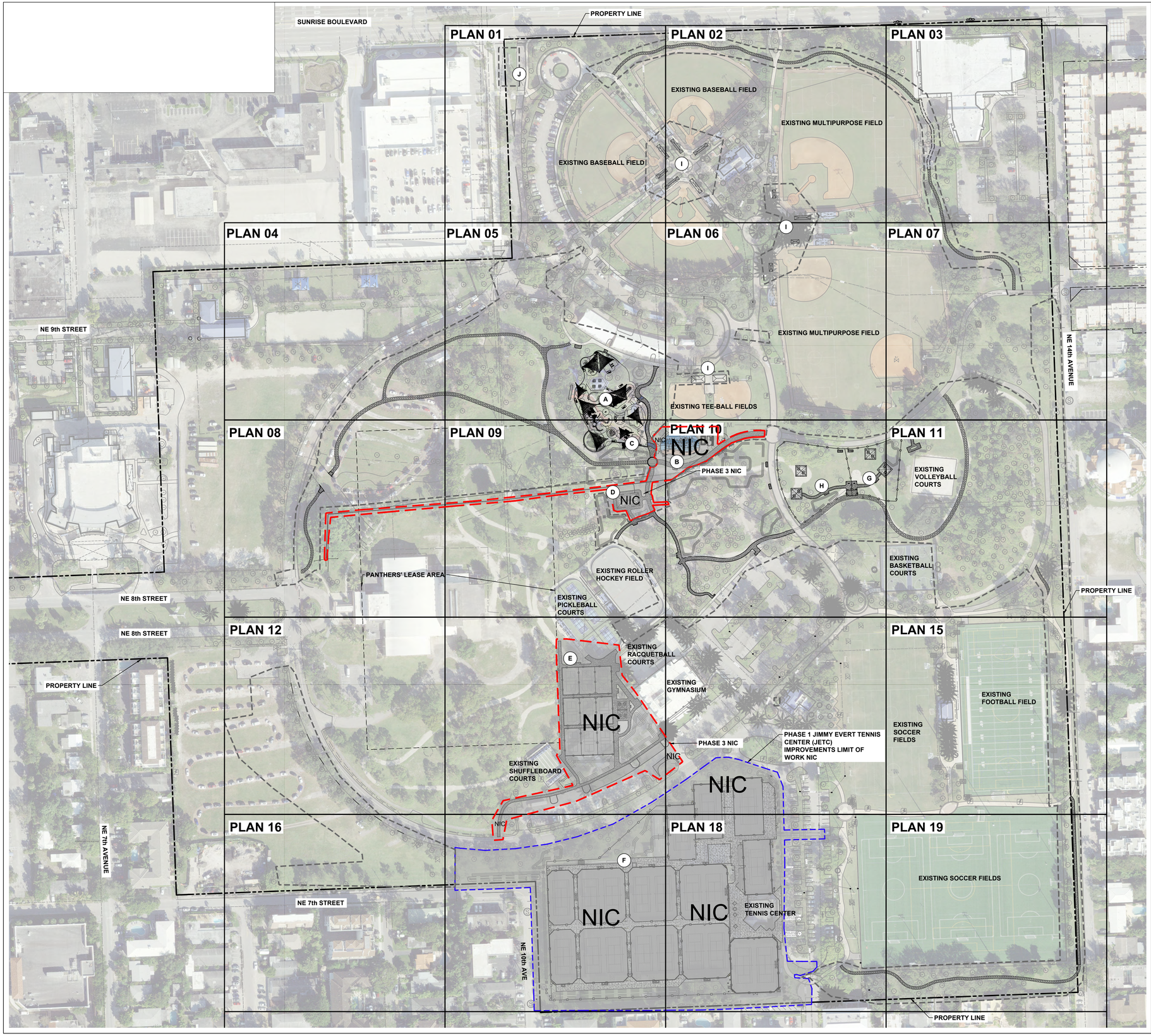
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SHEET TITLE

SITE DATA TABLES

SHEET NUMBER

G003



APPROXIMATE LIMIT OF WORK PHASE 1 JETC NIC

APPROXIMATE LIMIT OF WORK PHASE 2

APPROXIMATE LIMIT OF WORK PHASE 3 NIC

PROPOSED ELEMENTS

- (A) PLAYGROUND
- (B) INTERACTIVE WATER FEATURE, PHASE 3, SEE NOTE 1 BELOW
- (C) MIST AREA
- (D) RESTROOM, PHASE 3, SEE NOTE 1 BELOW
- (E) PICKLEBALL COURTS, PHASE 3; SEE NOTE 1 BELOW
- (F) TENNIS COURTS, PHASE1, SEE NOTE 1 BELOW
- (G) SMALL DOG PARK
- (H) LARGE DOG PARK
- (I) SHADE STRUCTURES
- (J) PARK ENTRANCE SIGN

NOTE:

1. PHASE 1 JIMMY EVERT TENNIS CENTER (JETC) AND PHASE 3 WORK ARE NOT INCLUDED IN THE BID PRICE, WITH THE EXCEPTION OF SOME DRAINAGE, IRRIGATION AND ELECTRICAL IMPROVEMENTS. REFER TO PLANS AND DETAILS FOR WORK INCLUDED IN THIS PHASE THAT MAY BE INSIDE NIC HATCHED AREAS.

N

0 50' 100' 200' 400'
SCALE: 1" = 100'-0"

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HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

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PARKS & RECREATION
City of Fort Lauderdale

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PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PAUL KURTZ, L.A. USING A DIGITAL SIGNATURE AND DATE.

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I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

KEY PLAN

SHEET NUMBER

G101

COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION.
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G10-11.011, F.A.C.

ANSI D 24" x 36"
Approved:
Checked:
Designer:
Project Management Initials:

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BOUNDARY - TOPOGRAPHIC SURVEY

THE HOLIDAY PARK
CITY OF FORT LAUDERDALE PARKS BOND PROGRAM
CITY OF FORT LAUDERDALE, BROWARD COUNTY, FLORIDA 33304

LEGEND AND ABBREVIATIONS:

AT&T	AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AVE.	AVENUE
BM	BENCH MARK
C	CALCULATED
CB	CATCH BASIN
CLF	CHAIN LINK FENCE
CONC	CONCRETE
Ø	DIAMETER
EOP	EDGE OF PAVEMENT
F.D.O.T.	FLORIDA DEPARTMENT OF TRANSPORTATION
FND.	FOUND
GRD	GROUND
ID	IDENTIFICATION
IF	IRON FENCE
INV.	INVERT
IP	IRON PIPE
L/L	LOT LINE
LB	LAND BUSINES
LT	LEFT
M	MEASURED
MDCPR	MIAMI-DADE COUNTY PUBLIC RECORDS
NAD	NORTH AMERICAN DATUM
ND	NAIL & DISC
NGVD	NATIONAL GEODETIC VERTICAL DATUM
O.R.B.	OFFICIAL RECORD BOOK
O/S	OFF SET
PB	PLAT BOOK
P/L	PROPERTY LINE
PC	POINT OF COMMENCE
PDS TBM	PDS TEMPORARY BENCH MARK
PDS	PREMIERE DESIGN SOLUTIONS
PG	PAGE
PI	POINT OF INTERSECTION
PKN	PARKER-KALON COMPANY NAIL
PKND	PARKER-KALON COMPANY NAIL & DISC
PT	POINT OF TERMINANCE
R	RECORD
R/W	RIGHT OF WAY
RB	REBAR
RGE.	RANGE
RT	RIGHT
SEC.	SECTION
SSMH	SANITARY SEWERT MANHOLE
STA.	STATION
STMH	STORM MANHOLE
TBM	TEMPORARY BENCH MARK
TWP.	TOWNSHIP
U.E.	UTILITY EASEMENT
U.S.	UNITED STATES

-BOXES:

- AT&T BOX
- CABLE TELEVISION BOX
- COMMUNICATION UTILITY BOX
- ELECTRIC METER
- ELECTRIC PANEL
- ELECTRIC UTILITY BOX
- FIBER OPTIC UTILITY BOX
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL CONTROL BOX
- UNIDENTIFIED UTILITY BOX
- WATER SERVICE
- WATER METER

-MANHOLES & DRAIN STRUCTURES:

- CATCH BASIN
- DRAINAGE STRUCTURE ID P-6
- BELLSOUTH MANHOLE
- GREASE MANHOLE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- UNIDENTIFIED MANHOLE

-VALVES:

- BACK FLOW PREVENTER
- CLEAN OUT
- FIRE HYDRANT
- IRRIGATION CONTROL VALVE
- SANITARY VALVE
- UNIDENTIFIED VALVE
- WATER VALVE

-POLES:

- CONCRETE LIGHT POLE
- CONCRETE POLE
- CONCRETE POWER POLE
- FLAG POLE
- GUARD POLE
- METAL LIGHT POLE
- METAL TRAFFIC SIGNAL POLE
- WOOD POWER POLE

-OTHER UTILITIES:

- AIR CONDITIONER UNIT
- BENCH
- BIKE RACK
- CALL BOX
- MAIL BOX
- ELECTRIC MOTOR
- PEDESTRIAN POLE
- POINT ELEVATION
- GUY ANCHOR
- SPOT LIGHT
- TEMPORARY BENCH MARK (TBM)
- TRAFFIC SIGN
- TRANSFORMER
- TRASH
- WATER FOUNTAIN
- TREE
- PALM

-TYPES OF LINE:

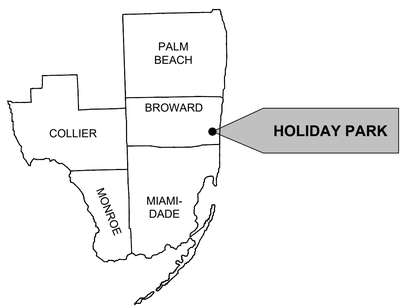
- CENTER LINE
- CHAIN LINK FENCE
- DENSE VEGETATION LINE
- EOP (EDGE OF PAVEMENT LINE)
- IRON FENCE
- OVERHEAD ELECTRIC LINE
- PLAT LIMIT LINE
- R/W (RIGHT OF WAY LINE)
- SECTIONAL LINE

SURVEYOR'S NOTES:

SYMBOLS SHOWN IN SURVEY DRAWINGS ARE NOT TO SCALE AND SHALL NOT BE USED TO SIZE SUCH ELEMENTS.



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

SURVEYOR'S NOTES:

1. NO UNDERGROUND PORTIONS OF FOOTINGS, FOUNDATIONS, UTILITIES OR OTHER IMPROVEMENTS WERE LOCATED.
2. ALL MEASUREMENTS AS SHOWN ARE IN ACCORDANCE WITH UNITED STATES STANDARD USING THE U.S. SURVEY FEET.
3. NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITION OR DELETIONS OR ANY CHANGE ON THE INFORMATION CONTAINED IN THIS SURVEY IS NOT VALID WITHOUT THE CONSENT OF THE SIGNING PARTY.
4. TYPE OF SURVEY: BOUNDARY – TOPOGRAPHIC. NO TITLE SEARCH WAS MADE. EXAMINATION OF TITLE MUST BE MADE TO DETERMINE RECORDED INSTRUMENTS, IF ANY, AFFECTING THE PROPERTY BESIDES THOSE NOTED.
5. ALL DISTANCES AS SHOWN ARE BASED ON THE US SURVEY FOOT.
6. SHOWN ELEVATIONS ARE REFERRED TO NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, AND MEETS THE STANDARDS OF PRACTICES AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS AS CONTAINED IN CHAPTER 5J-17.0.51 THRU 5J-17.0.53. THE VERTICAL ACCURACY OBTAINED ON THIS TOPOGRAPHIC SURVEY EXCEED THE CALCULATED VALUE OF A CLOSURE IN FEET OF PLUS OR MINUS 0.05 TIMES THE SQUARE ROOT OF THE DISTANCE IN MILES A COMMONLY VALUE ACCEPTED IN THE CONSTRUCTION AND SURVEYING INDUSTRY.
   USED BENCHMARK: MB 18766
   -ELEVATION: 5.89 (NGVD-29). CONVERTION FACTOR -1.56
7. THIS BOUNDARY- TOPOGRAPHIC SURVEY IS COVERED UNDER PROFESSIONAL LIABILITY INSURANCE.
8. DATE OF FIELD WORK: 07/16/2021.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY: THAT THE SKETCH OF THIS BOUNDARY-TOPOGRAPHIC SURVEY WAS PREPARED UNDER MY SUPERVISION AND THAT MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17 OF THE FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 475 OF THE FLORIDA STATUTES AND THAT THE SKETCH THEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SUBJECT TO NOTES AND NOTATIONS SHOWN HEREON.

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P12633

SHEET TITLE
SURVEY GENERAL INFORMATION

SHEET NUMBER
V001

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Checked:
Designer:
Project Management Initials:
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SHEET TITLE

SURVEY KEY MAP

SHEET NUMBER

V002

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MATCHLINE SEE SHEET V110

MATCHLINE SEE SHEET V102

CONCRETE SIDEWALK

GROUND

FOOTBALL FIELDS

"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS

CONCRETE

GROUND

EOP

NE 15th TERRACE

50' TOTAL R/W

30.0'

CONCRETE

CB
RIM ELEV=4.30'
INV.(P.R.B.)
BOTTOM=1.30'

4'CLF

T-0595

270.00'

"PROGRESSO"
PLAT BOOK 2 PAGE 18 BLOCK 306
BROWARD COUNTY PUBLIC RECORDS

40.00'

S87°51'11"W 1190.00'

WOOD FENCE

270.00'

"PROGRESSO"
PLAT BOOK 2 PAGE 18 BLOCK 305
BROWARD COUNTY PUBLIC RECORDS

NE 13rd AVENUE

FND BRONZE DISC
LB 4420

P-460

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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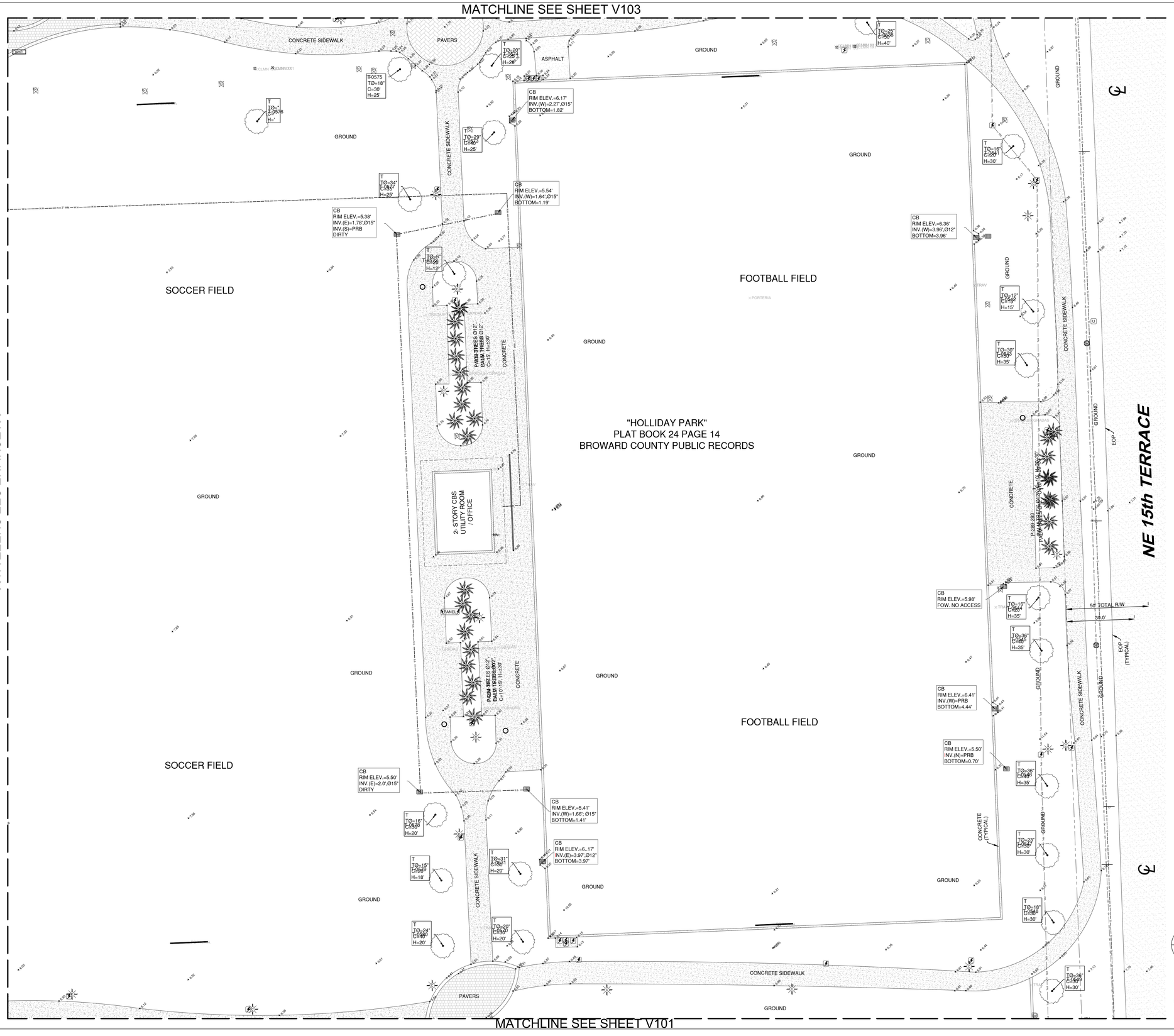
P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V101



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SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V102

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MATCHLINE SEE SHEET V104

MATCHLINE SEE SHEET V108

MATCHLINE SEE SHEET V102

6'CLF

ASPHALT SIDEWALK

METAL BLEACHER
4.85'X15.00'
H=2.00'

METAL BLEACHER
4.85'X15.00'
H=2.60'

BEACH VOLLEYBALL COURT

VOLLEY POLE

"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS

METAL BLEACHER
4.85'X15.00'
H=2.00'

DIRT ROAD

DENSE TREE AREA
TREE DIMENSIONS VARY FROM
C=±6'-0"
B=±8'-0"
H=±25-50'

10.0' F.P.L. EASEMENT
(INSTRUMENT NUMBER 118046396)
B.C.P.R.

BASKET COURT

BASKET COURT

P-280-284
PALM TREES Ø9",
PALM TREES Ø9",
C=10', H=35'

PAVERS

GRADAS

ASPHALT SIDEWALK

CONCRETE SIDEWALK

EOP

EOP (TYPICAL)

TRAV

50' TOTAL R/W

30.0'

NE 15th TERRACE

PDS TBM
N:655178.76
E:941687.74
ELEVATION: 6.69'

P-280-284
PALM TREES Ø14",
PALM TREES Ø14",
C=10', H=35'

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

N

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City of Fort Lauderdale

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PROJECT NUMBER

P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V103

MATCHLINE SEE SHEET V105

MATCHLINE SEE SHEET V107

MATCHLINE SEE SHEET V103

BATTING CAGE

BASEBALL FIELD

"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS

METAL BLEACHER
4.85'X15.00'
H=2.00'

METAL BLEACHER
5.00'X15.00'
H=2.00'

T-0176

T-0518

T-0520

ASPHALT PARKING LOT

ASPHALT SIDEWALK

DIRT ROAD

PAVERS

50' TOTAL R/W

30.0'

NE 15th TERRACE

GROUND

EOP

6'CLF

8'CLF

SSMH
RIM ELEV.=4.92'
INV.(N)=-0.40'@10°
INV.(S)=-0.53'@10°
INV.(E)=-0.48'@90°
INV.(W)=-0.59'@90°

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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I/R	DATE	DESCRIPTION

PROJECT NUMBER

P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V104

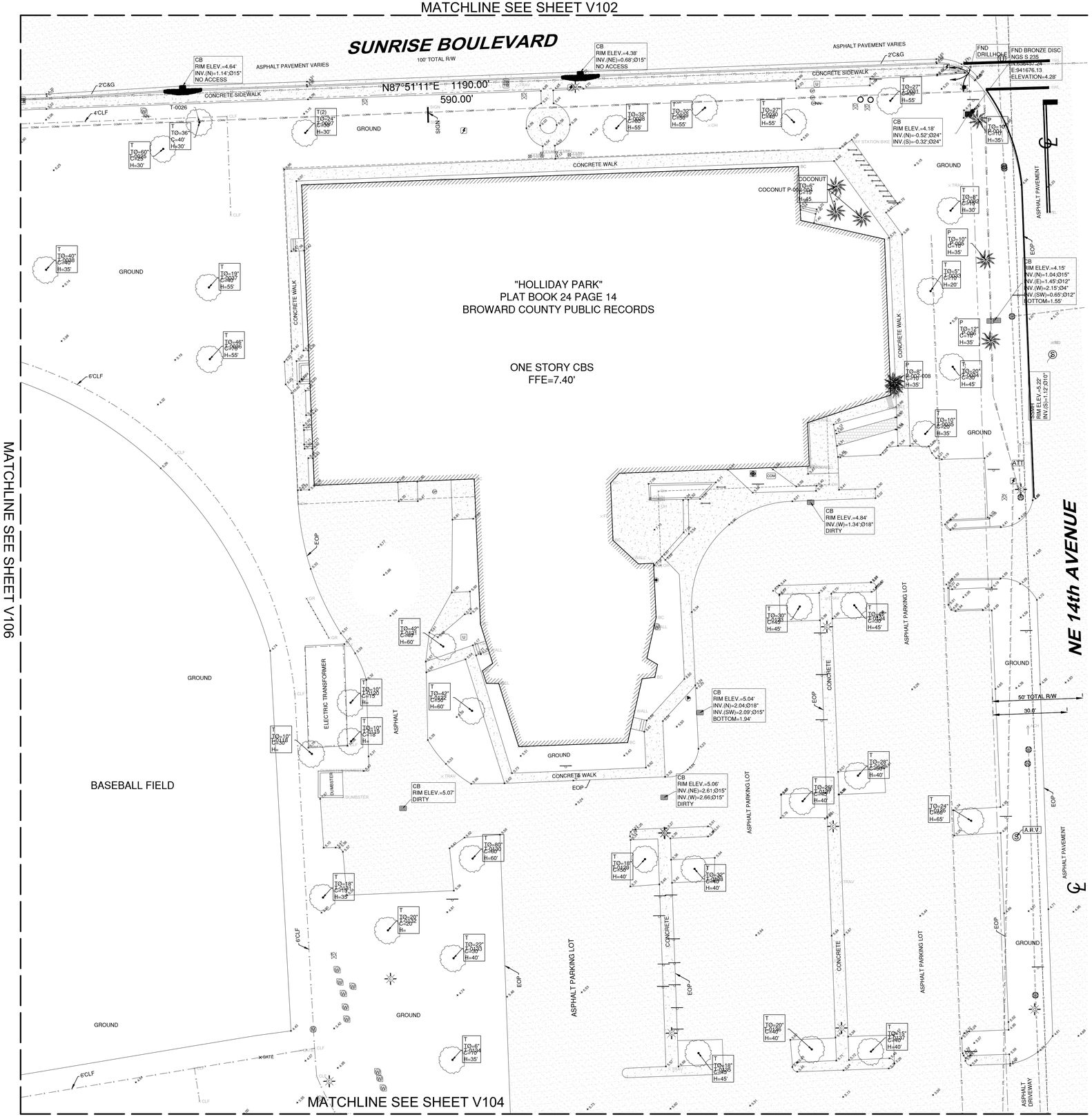
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MATCHLINE SEE SHEET V102

MATCHLINE SEE SHEET V106

MATCHLINE SEE SHEET V104



0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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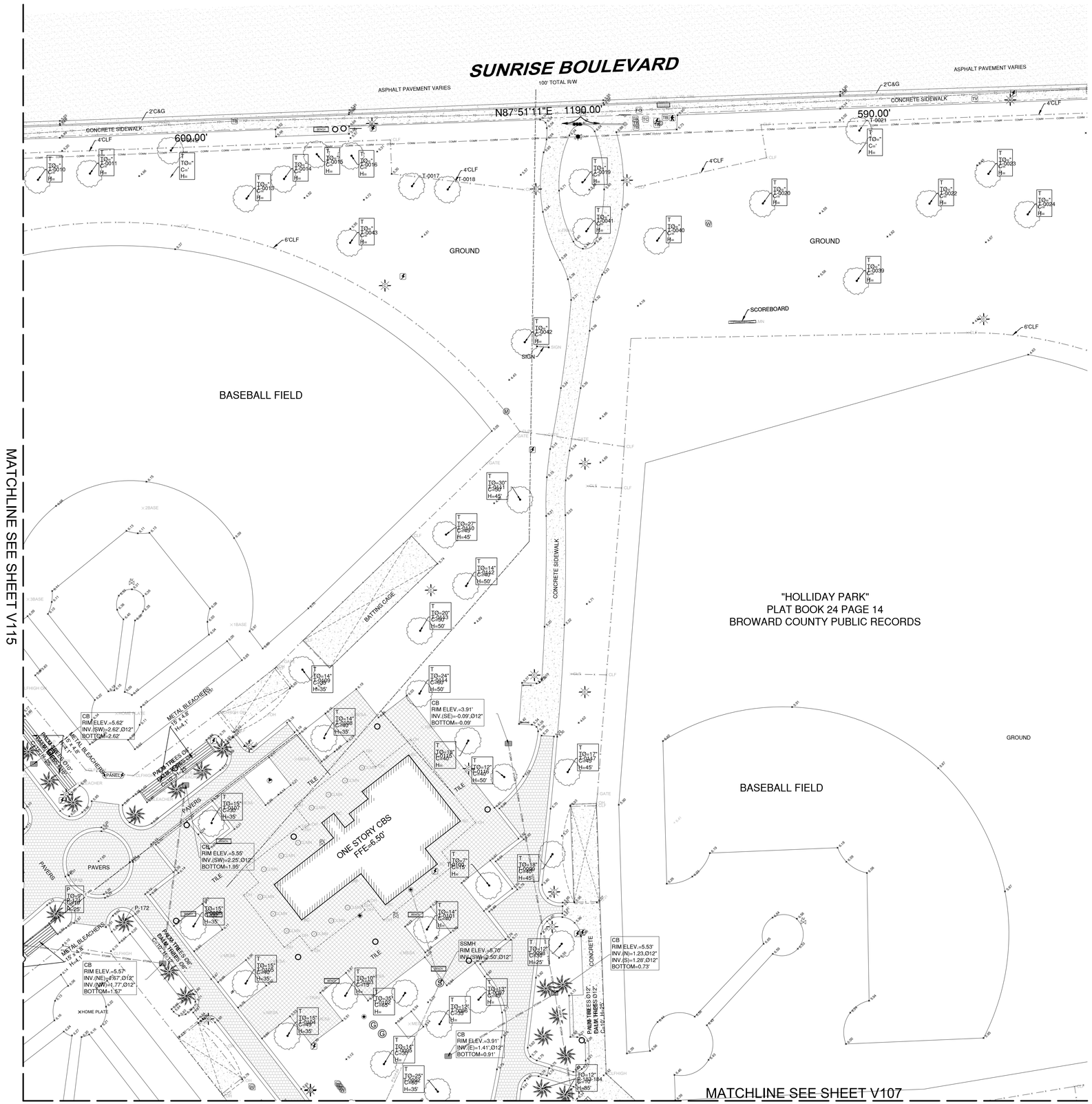
P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V105



"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

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SURVEY SITE PLAN

SHEET NUMBER

V106

CAM #26-0004
Exhibit 1A
Page 543 of 596

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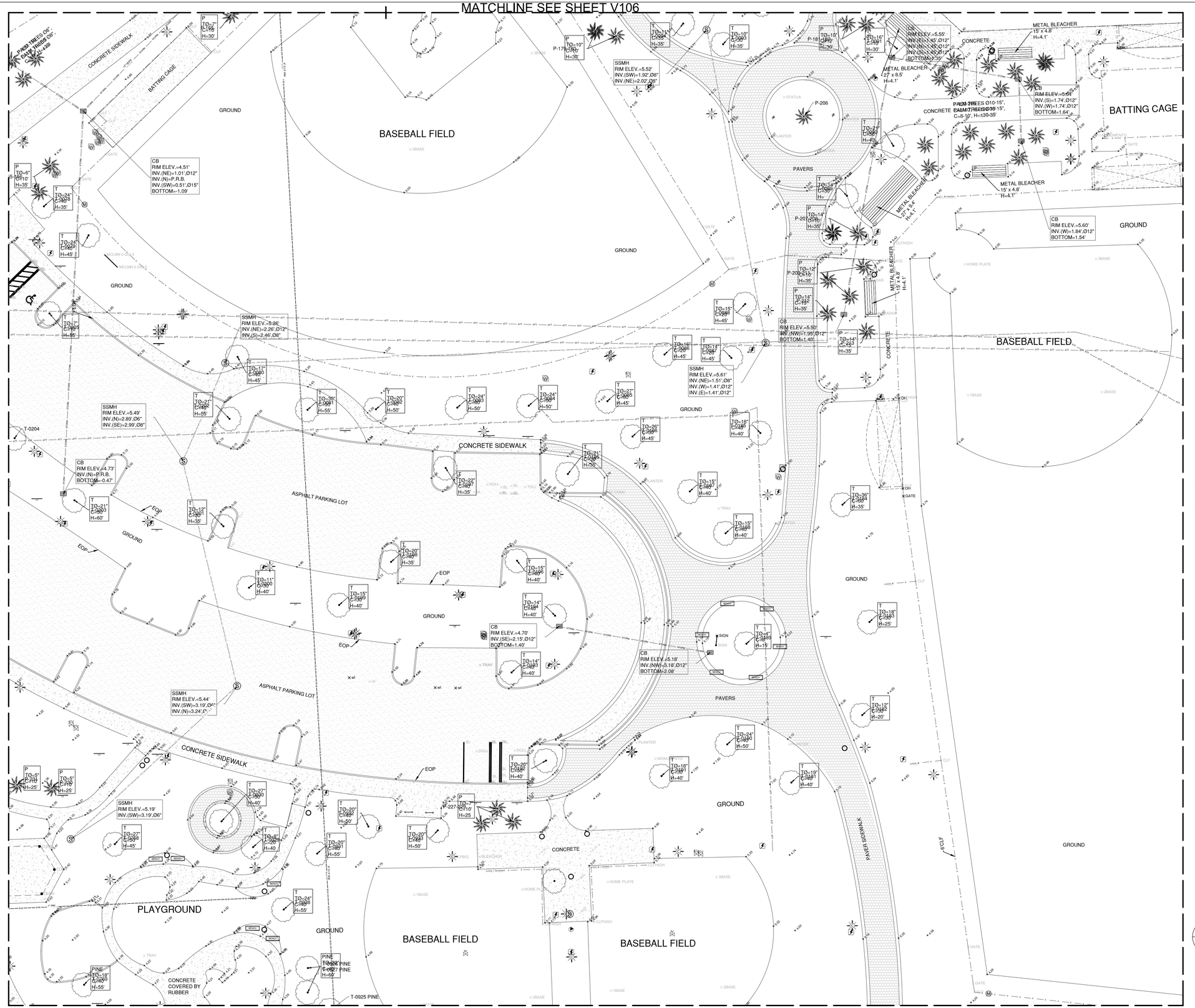
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MATCHLINE SEE SHEET V106

MATCHLINE SEE SHEET V114

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MATCHLINE SEE SHEET V108



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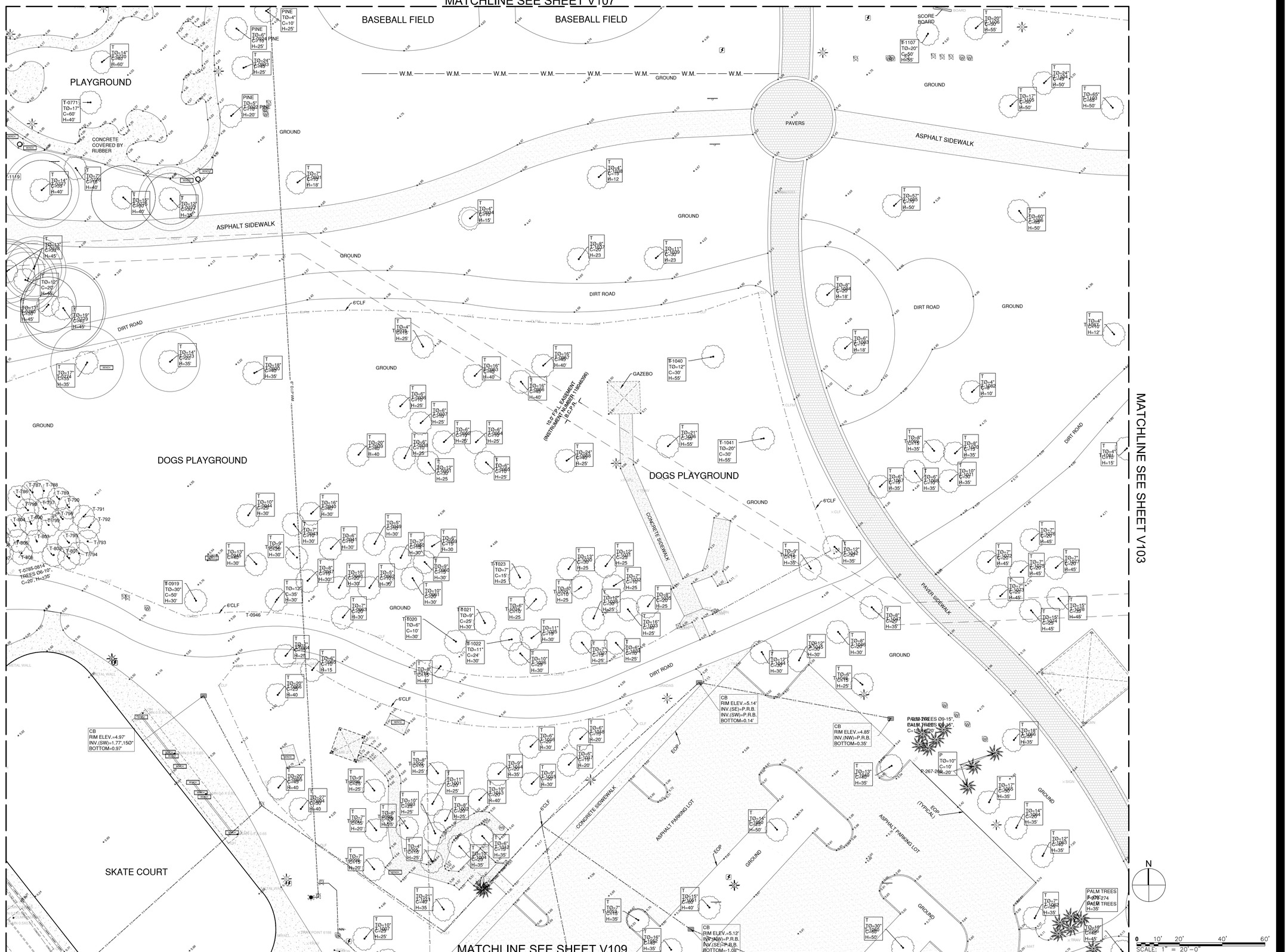
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SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V107



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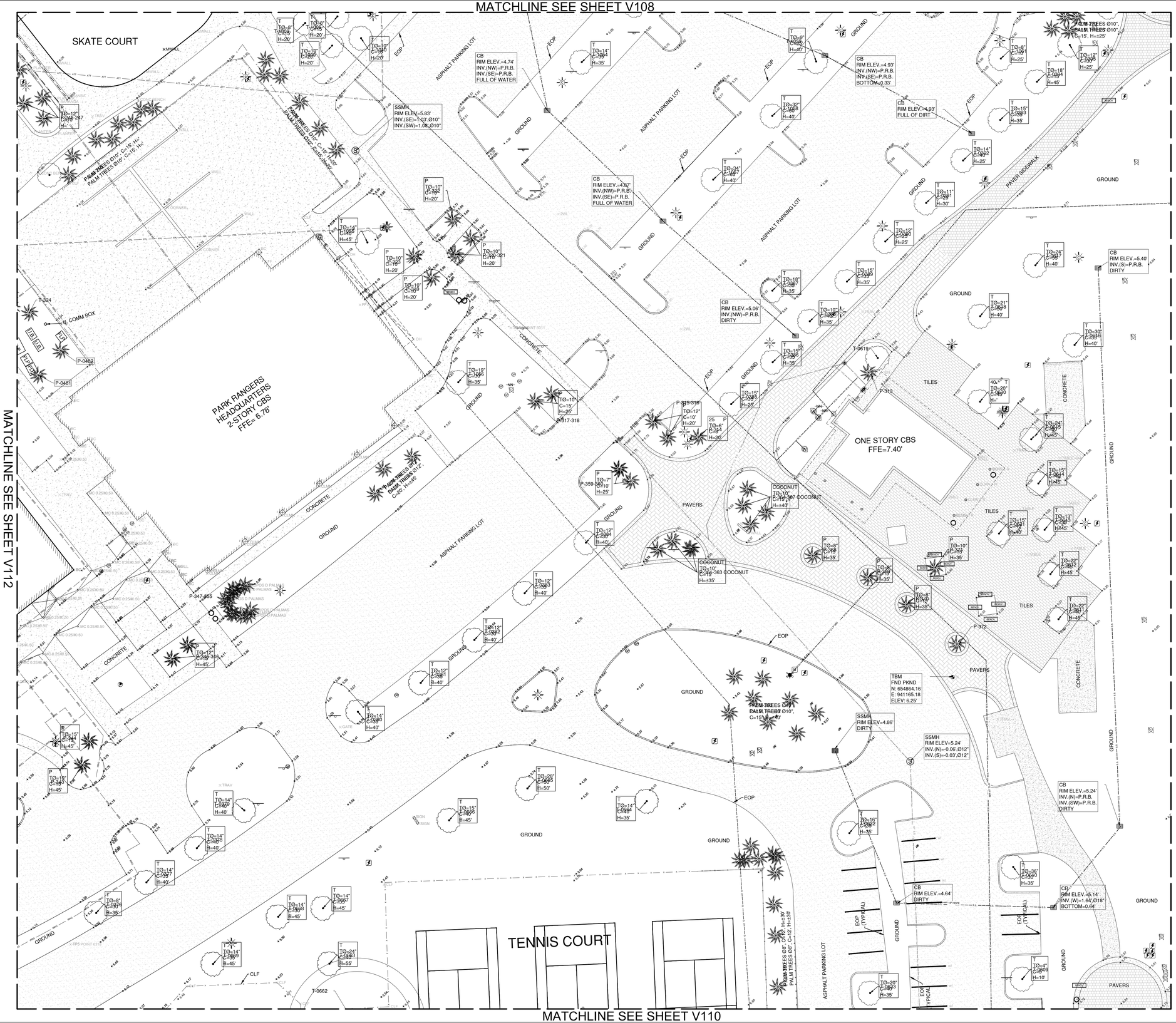
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SURVEY SITE PLAN

SHEET NUMBER

V108



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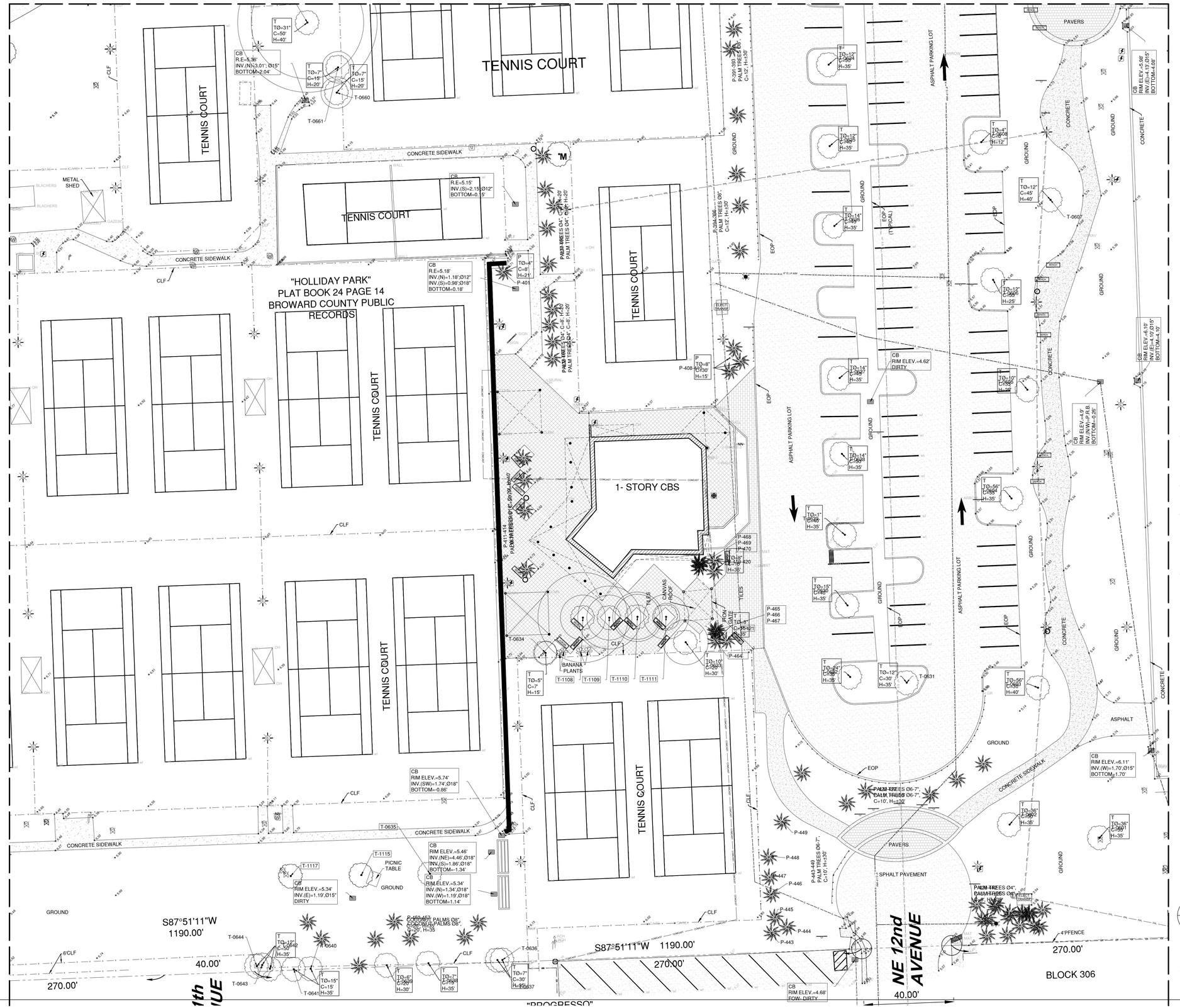
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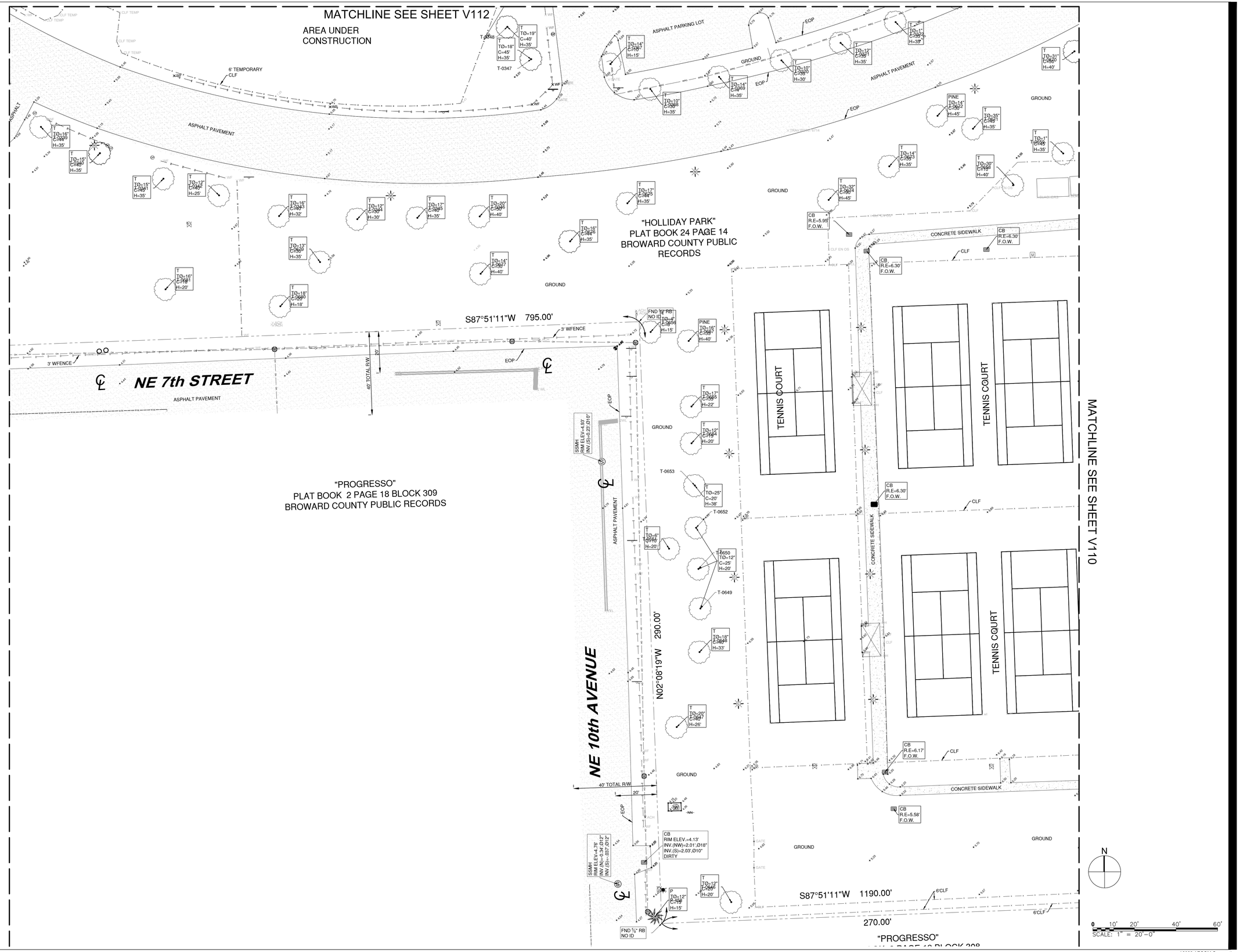
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MATCHLINE SEE SHEET V109

MATCHLINE SEE SHEET V111

MATCHLINE SEE SHEET V101


TENNIS COURT
TENNIS COURT
TENNIS COURT
TENNIS COURT
TENNIS COURT
TENNIS COURT
"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS
1- STORY CBS
METAL SHED
CONCRETE SIDEWALK
CONCRETE SIDEWALK
CONCRETE SIDEWALK
CONCRETE SIDEWALK
ASPHALT PARKING LOT
ASPHALT PARKING LOT
ASPHALT PARKING LOT
PAVERS
PAVERS
SPHALT PAVEMENT
ASPHALT
CONCRETE
CONCRETE
CONCRETE
CONCRETE
GROUND
BANANA PLANTS
PICNIC TABLE
IRON GATE
TILES
CLF
EOP
EOP (TYPICAL)
CB R.E.=5.36' INV.(N)=3.01',Ø15" BOTTOM=2.04'
CB R.E.=5.15' INV.(S)=2.15',Ø12" BOTTOM=0.15'
CB R.E.=5.18' INV.(N)=1.18',Ø12" INV.(S)=0.98',Ø18" BOTTOM=0.18'
CB RIM ELEV.=5.74' INV.(SW)=1.74',Ø18" BOTTOM=-0.86'
CB RIM ELEV.=5.46' INV.(NE)=4.46',Ø18" INV.(S)=1.86',Ø18" BOTTOM=-1.34'
CB RIM ELEV.=5.34' INV.(E)=1.19',Ø15" DIRTY
CB RIM ELEV.=5.34' INV.(N)=1.34',Ø18" INV.(W)=1.19',Ø18" BOTTOM=1.14'
CB RIM ELEV.=4.62' DIRTY
CB RIM ELEV.=4.68' FOW- DIRTY
CB RIM ELEV.=6.11' INV.(W)=1.70',Ø15" BOTTOM=1.70'
CB RIM ELEV.=6.19' INV.(E)=4.10',Ø15" BOTTOM=4.10'
CB RIM ELEV.=5.58' INV.(E)=4.08',Ø15" BOTTOM=4.08'
CB RIM ELEV.=4.9' INV.(N/W)=P.R.B. BOTTOM=4.65'
P-401
P-408
P-411-414
P-415-419
P-420
P-443
P-444
P-445
P-446
P-447
P-448
P-449
P-450-457
P-458-463
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P-469
P-470
P-394-396
P-397-399
P-301-303
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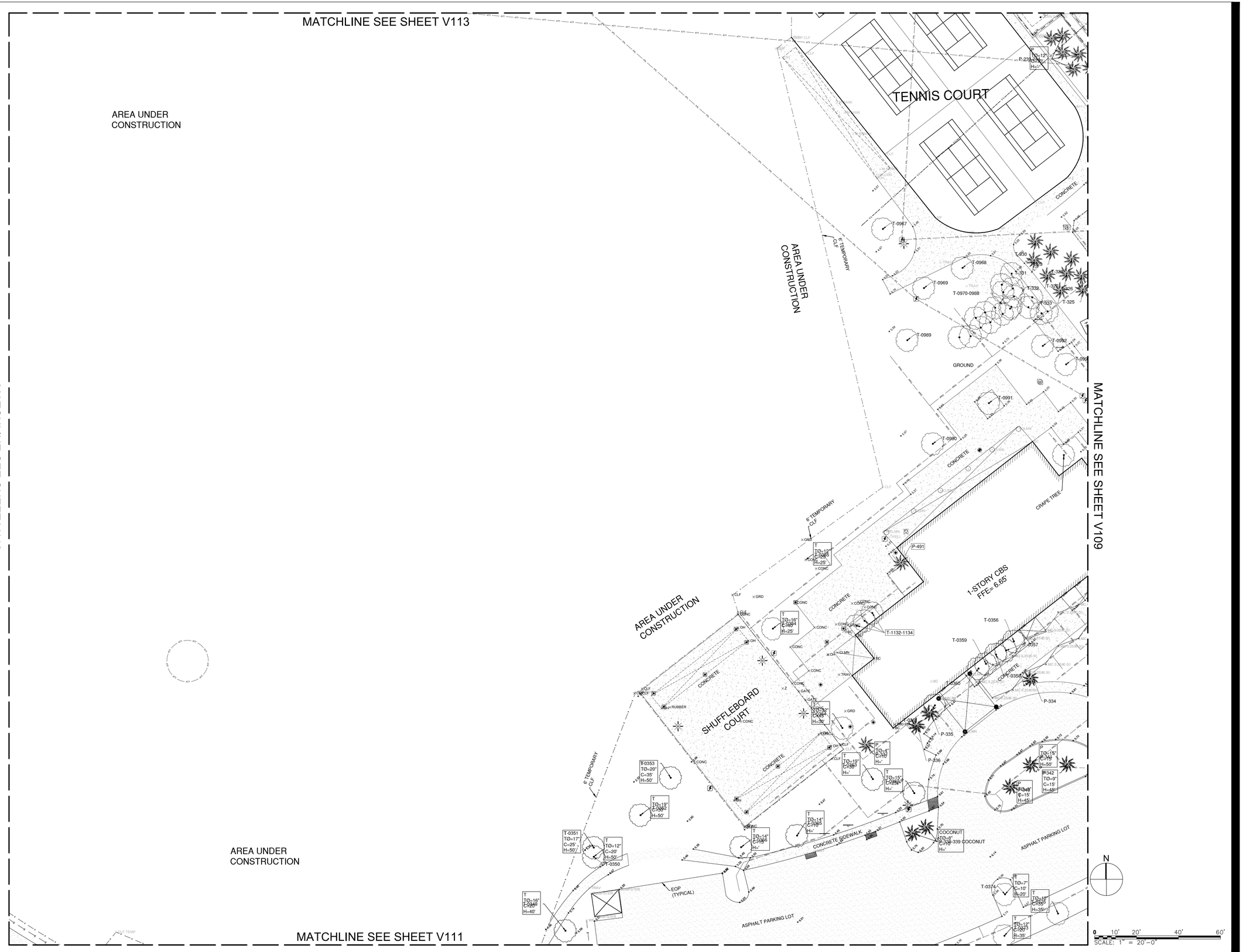
SURVEY SITE PLAN

SHEET NUMBER

V111

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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SURVEY SITE PLAN

SHEET NUMBER

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MATCHLINE SEE SHEET V114

MATCHLINE SEE SHEET V117

MATCHLINE SEE SHEET V108

MATCHLINE SEE SHEET V112

GROUND

10.0' F.P.L. EASEMENT (INSTRUMENT NUMBER 118046396) B.C.P.R.

TEMPORARY 6'CLF

AREA UNDER CONSTRUCTION

ASPHALT SIDEWALK

PLAYGROUND

CONCRETE COVERED BY RUBBER

CONCRETE

SKATE COURT

TENNIS COURT

METAL WALL

GATE

EOP 0.5'C&G

CONC. SWK

T-0815-0841 PINES 06-10', C=20', H=±35'

SCALE: 1" = 20'-0"

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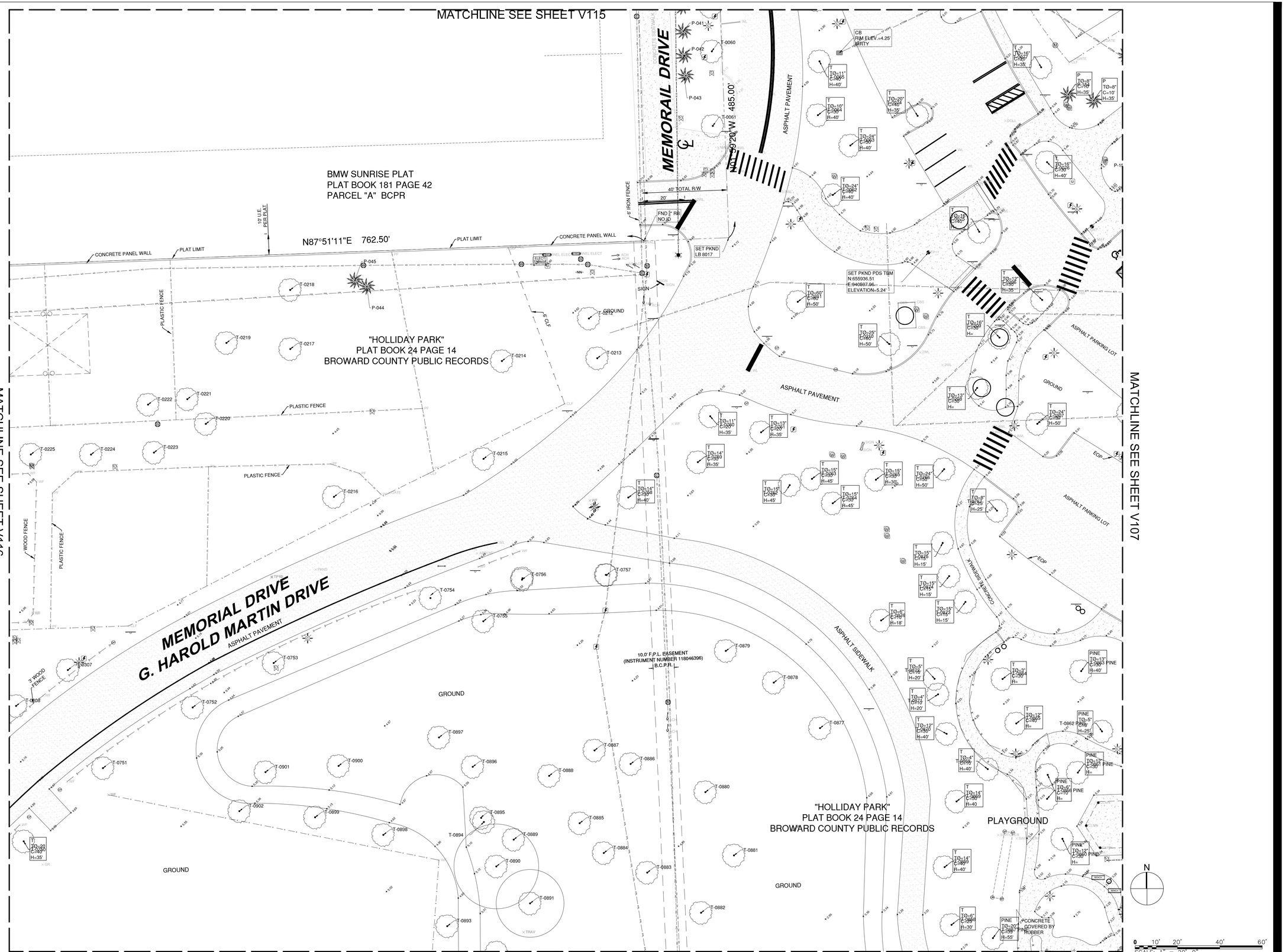
SURVEY SITE PLAN

SHEET NUMBER

V113

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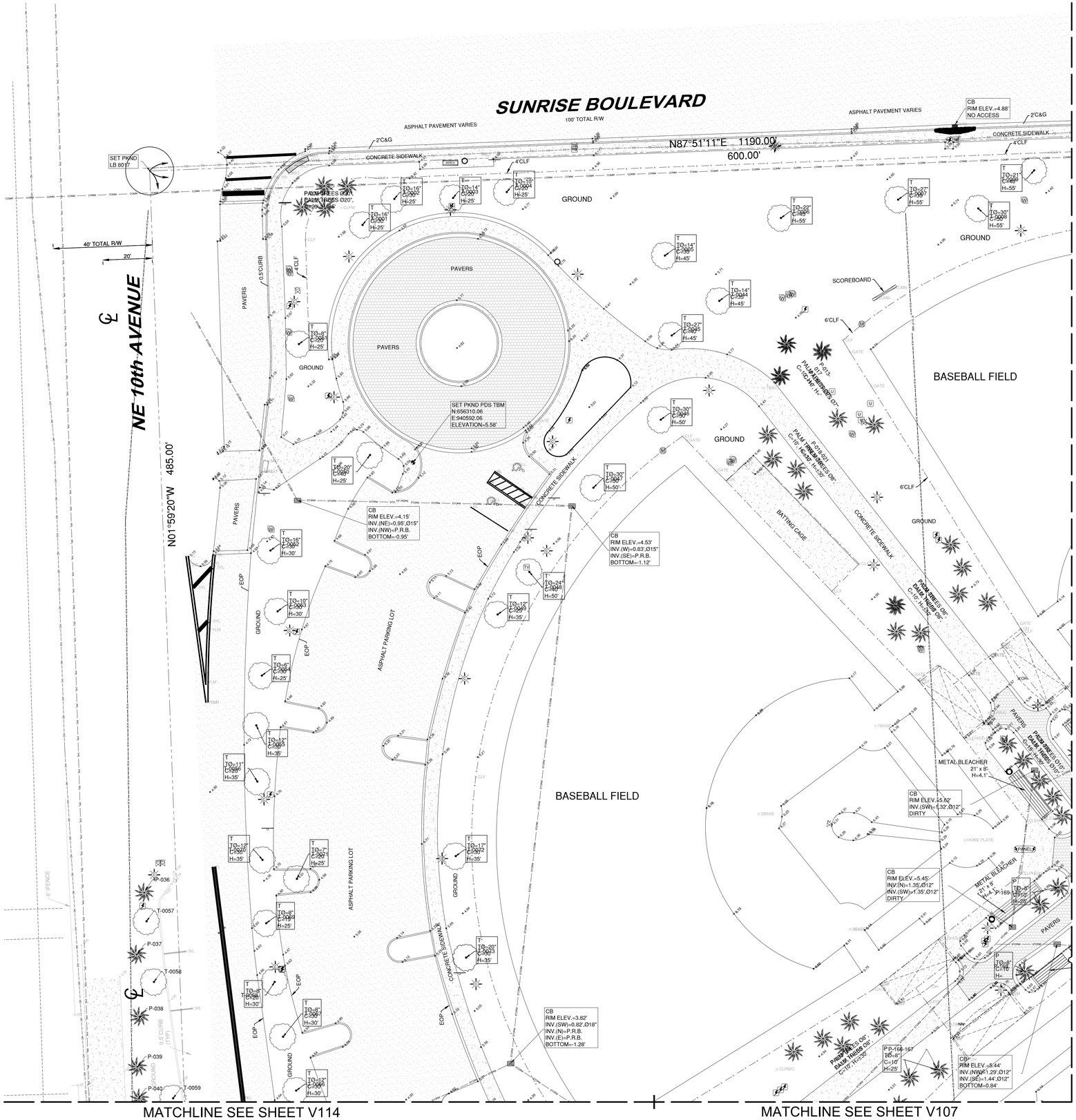
P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V114



N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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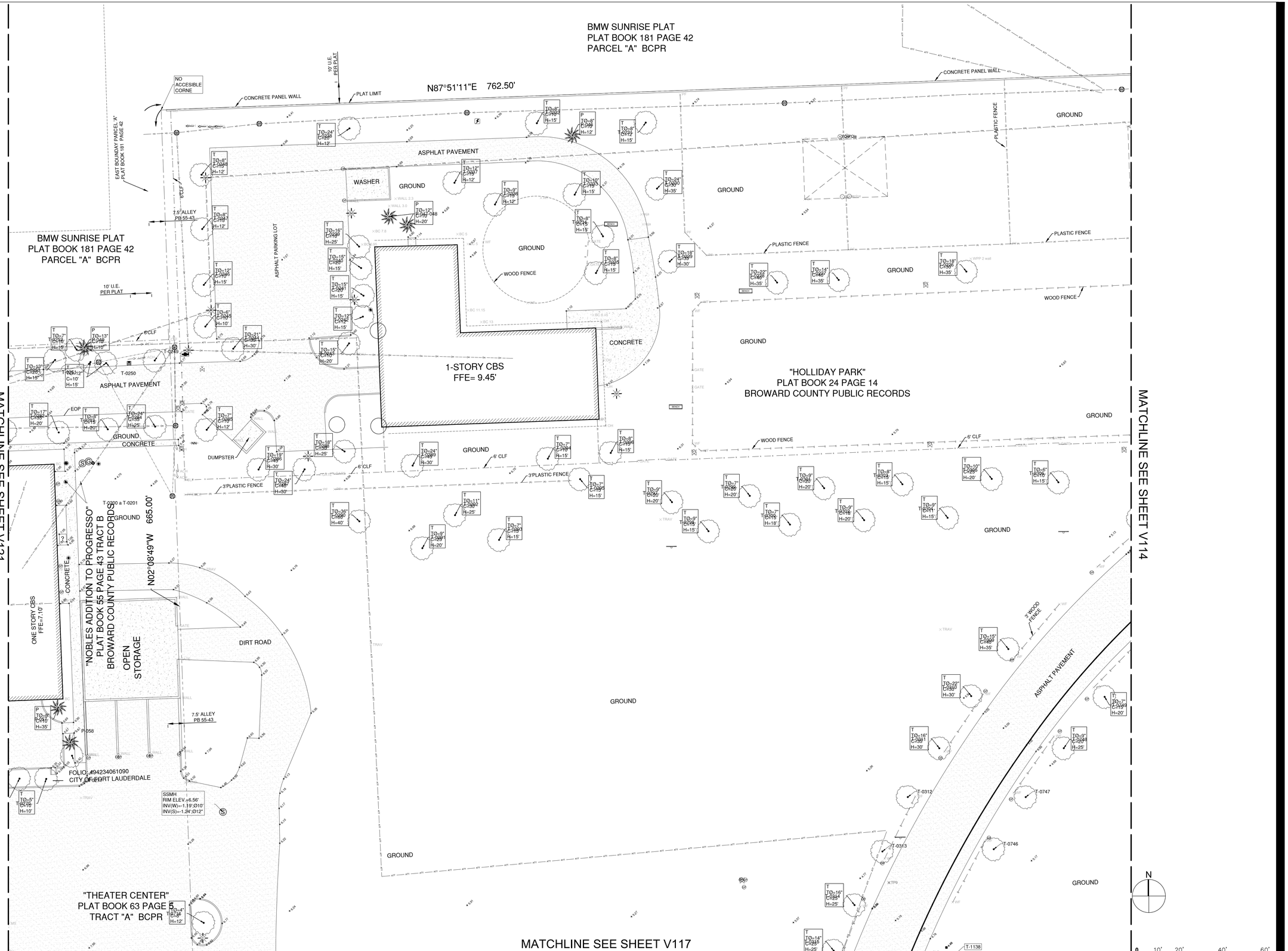
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SHEET NUMBER

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www.hammondengineers.com

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I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

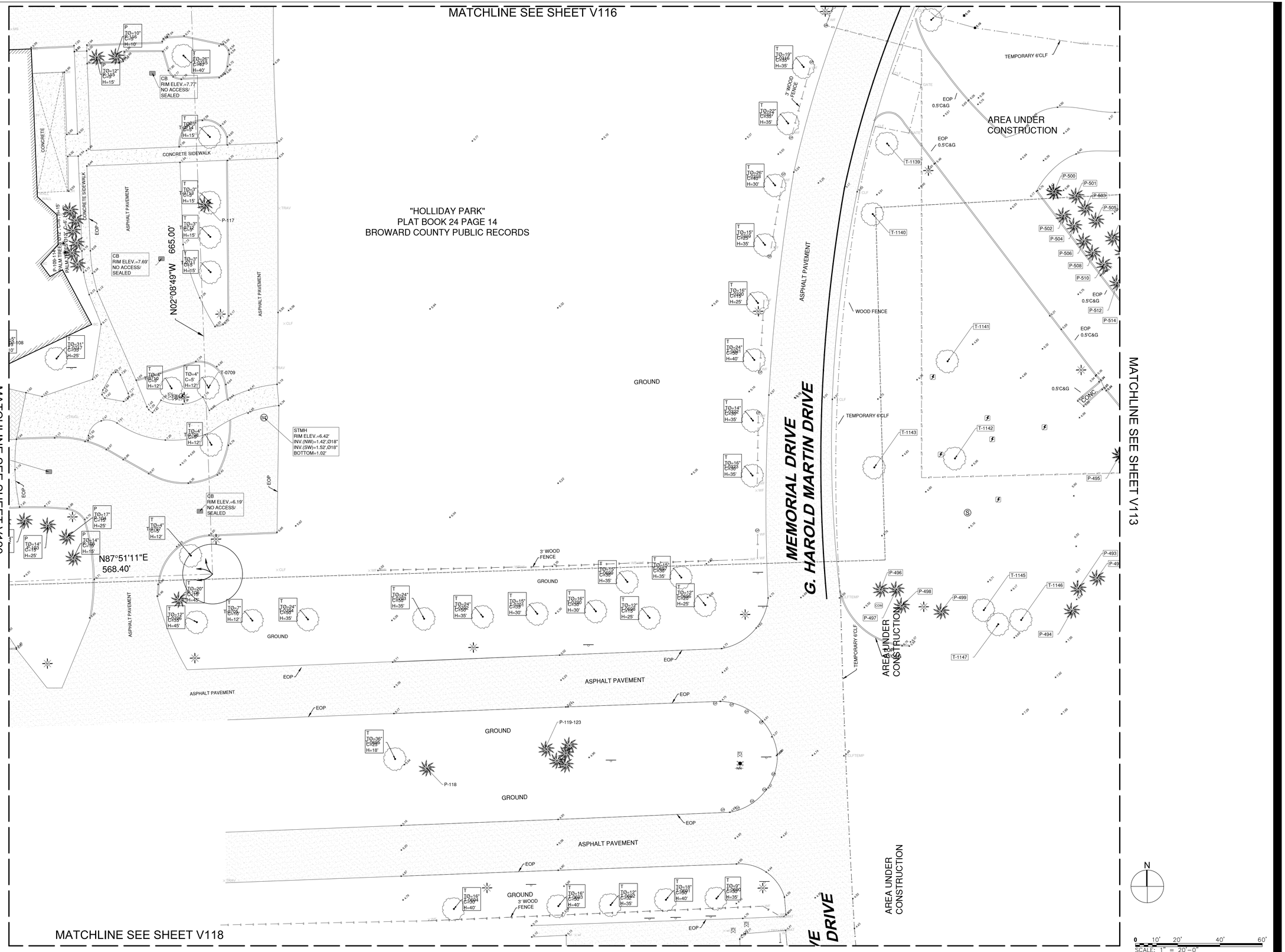
SURVEY SITE PLAN

SHEET NUMBER

V116

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"
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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

CLIENT

PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT

AECOM

7650 W. COURTNEY CAMPBELL CAUSEWAY
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	06/24/2025	PHASE 2 BID DOCUMENTS

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P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V117

Project Management Initials: Designer:____ Checked:____ Approved:____ ANSI D 24" x 36"

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MATCHLINE SEE SHEET V117

MATCHLINE SEE SHEET V112

MATCHLINE SEE SHEET V119

"PROGRESSO"
PLAT BOOK 2 PAGE 18 BLOCK 295
BROWARD COUNTY PUBLIC RECORDS

N02°08'49"W 290.00'

FND ¾" RB
NO ID

P-118

GROUND

EOP

ASPHALT PAVEMENT

TRAV

GROUND
3' WOOD FENCE

ASPHALT PARKING LOT

MEMORIAL DRIVE
G. HAROLD MARTIN DRIVE

AREA UNDER CONSTRUCTION

6' TEMPORARY CLF

ASPHALT

GULFTEMP

TRAILER

DOLPHIN

MAT

BL

ASPHALT

GROUND

EOP

6' TEMPORARY CLF

ASPHALT

GROUND

AREA UNDER CONSTRUCTION

EOP

GROUND

GROUND

EOP

ASPHALT

GROUND

EOP

ASPHALT

GROUND

EOP

ASPHALT

Project Management Initials:____ Designer:____ Checked:____ Approved:____ ANSI D 24" x 36"

MATCHLINE SEE SHEET V118

PLAT BOOK 2 PAGE 18 BLOCK 295
BROWARD COUNTY PUBLIC RECORDS

N02°08'49"W 290.00'

6' WOOD FENCE

COLUMN (TYPICAL)

CONSTRUCTION SITE

6' TEMPORARY CLF

"HOLLIDAY PARK"
PLAT BOOK 24 PAGE 14
BROWARD COUNTY PUBLIC RECORDS

GROUND

ASPHALT

T-0337

FND ⅝" RB
NO ID

S87°51'11"W 795.00'

3' WFENCE

EOP

NE 7th STREET

40' TOTAL R/W

20'

"PROGRESSO"
PLAT BOOK 2 PAGE 18 BLOCK 311
BROWARD COUNTY PUBLIC RECORDS

"PROGRESSO"
PLAT BOOK 2 PAGE 18 BLOCK 310
BROWARD COUNTY PUBLIC RECORDS

MATCHLINE SEE SHEET V111

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

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SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V119

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Project Management Initials:____ Designer:____ Checked:____ Approved:____ ANSI D 24" x 36"

MATCHLINE SEE SHEET V121

N FEDERAL HIGHWAY

ASPHALT PAVEMENT

2'CK&G

CONCRETE SIDEWALK

TEMPORARY 6'CLF

AREA UNDER CONSTRUCTION

TEMPORARY 6'CLF

ELECTRIC PANEL

SIGN

CB
RIM ELEV.=4.37'
INV(E)=2.32';Ø12"
DIRTY

STMH
RIM ELEV.=4.88'
INV.(W)=2.78';Ø12"
DIRTY

GROUND

"PROGRESSO"
PLAT BOOK 2 PAGE 18
LOTS 5 THRU 21 BLOCK 252
BROWARD COUNTY PUBLIC RECORDS

CB
RIM ELEV.=6.32'
INV.(N)=1.97';Ø10"
INV.(SE)=1.92';Ø6"

SSMH
RIM ELEV.=6.32'
INV.(N)=1.97';Ø10"
INV.(SE)=1.92';Ø6"

NE 6th TERRACE

EOP

ASPHALT PAVEMENT

GROUND

"PROGRESSO REPLAT"
PLAT BOOK 47 PAGE 20
LOTS 17 THRU 21
LOTS 28 THRU 31
BLOCK 251
BROWARD COUNTY PUBLIC RECORDS

N87°51'11"E 568.40'

40.00'

GROUND

P-079-081
PALM TREES Ø7",
C=10', H=20'

P-079-081
PALM TREES Ø7",
C=10', H=20'

GROUND

EOP

ASPHALT PAVEMENT

NE 8th STREET

ASPHALT PAVEMENT

CB
RIM ELEV.=5.01'
INV(NE)=4.01';Ø18"
DIRTY

2'VALLEYGUTTER

P-068

P-069

ASPHALT PAVEMENT

P-070-078
PALM TREES Ø5', C=6', H=12'

CB
RIM ELEV.=6.87'
INV(N)=P.R.B.
BOTTOM=-0.33'

1-STORY CBS
FFE= 9.45'

"THEATER CENTER"
PLAT BOOK 63 PAGE 5
TRACT "A" BCPR

EOP

P-089-091

PAVERS

CB
RIM ELEV.=6.87'
NO ACCESS/
SEALED

CONCRETE

CB
RIM ELEV.=7.15'
NO ACCESS/
SEALED

EOP

ASPHALT PAVEMENT

GROUND

CONCRETE

0.5' CURB

NE 8th STREET

ASPHALT PAVEMENT

N01°59'20"W 190.00'

S87°51'11"W 568.90'

MATCHLINE SEE SHEET V117

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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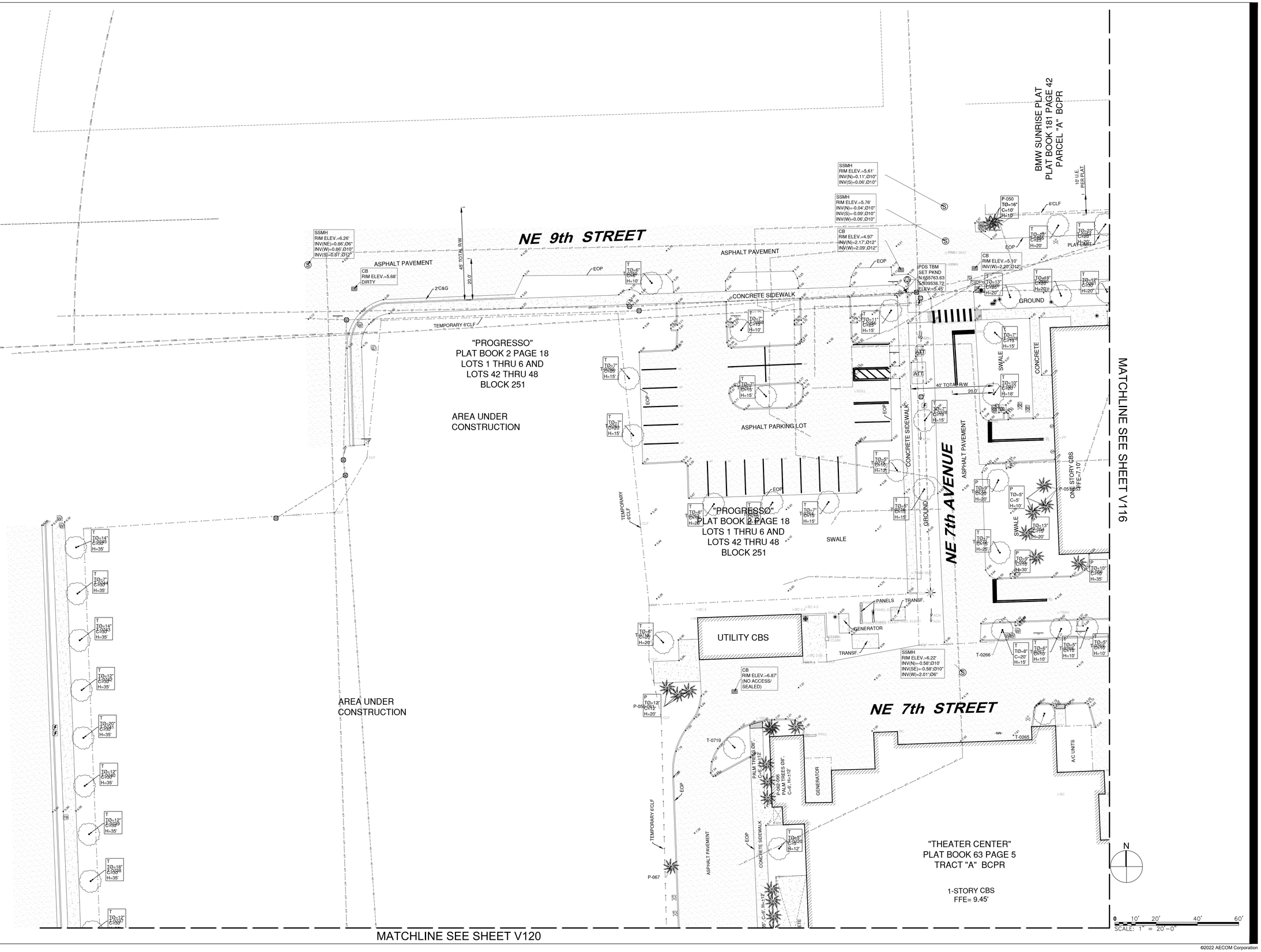
P12633

SHEET TITLE

SURVEY SITE PLAN

SHEET NUMBER

V120


NE 9th STREET
ASPHALT PAVEMENT
45' TOTAL R/W
20.0'
SSMH
RIM ELEV.=6.26'
INV(NE)=0.86',Ø6"
INV(W)=0.86',Ø10"
INV(S)=0.61',Ø12"
CB
RIM ELEV.=5.68'
DIRTY
2'C&G
EOP
TEMPORARY 6'CLF
CONCRETE SIDEWALK
"PROGRESSO"
PLAT BOOK 2 PAGE 18
LOTS 1 THRU 6 AND
LOTS 42 THRU 48
BLOCK 251
AREA UNDER
CONSTRUCTION
ASPHALT PARKING LOT
SSMH
RIM ELEV.=5.61'
INV(N)=0.11',Ø10"
INV(S)=0.06',Ø10"
SSMH
RIM ELEV.=5.76'
INV(N)=-0.04',Ø10"
INV(S)=-0.09',Ø10"
INV(W)=0.06',Ø10"
CB
RIM ELEV.=4.97'
INV(N)=2.17',Ø12"
INV(W)=2.09',Ø12"
PDS TBM
SET PKND
N:555763.63
E:939538.72
ELEV=5.45'
CB
RIM ELEV.=5.10'
INV(W)=2.20',Ø12"
GROUND
BMW SUNRISE PLAT
PLAT BOOK 181 PAGE 42
PARCEL "A" BCPR
P-050
TO=16'
C=10'
H=10'
6'CLF
PLAT LIMIT
NE 7th AVENUE
ASPHALT PAVEMENT
CONCRETE SIDEWALK
40' TOTAL R/W
20.0'
SWALE
CONCRETE
ONE STORY CBS
FFE=7.10'
P-051
P-052
P-053
P-054
P-055
P-056
P-057
P-058
P-059
P-060
P-061
P-062
P-063
P-064
P-065
P-066
P-067
T-0265
T-0266
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T-0751
T-0752
T-0753
T-0754
T-0755
T-0756
T-0757
T-0758

TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
1	16	30	25		**54**	6	30	25		**107**	15	30	35		**160**	15	40	30		**213**	15	22	46
2	16	30	25		**55**	12	30	35		**108**	14	40	35		**161**	14	15	18		**214**	8	13	18
3	14	20	25		**56**	11	20	35		**109**	14	35	35		**162**	12	30	30		**215**	17	30	45
4	10	20	25		**57**	12	21	23		**110**	27	45	45		**163**	12	10	30		**216**	15	30	43
5	14	35	45		**58**	11	21	25		**111**	30	50	45		**164**	12	30	25		**217**	12	11	45
6	22	45	55		**59**	10	21	20		**112**	14	40	50		**165**	32	50	35		**218**	41	16	45
7	27	35	55		**60**	10	18	23		**113**	20	50	50		**166**	10	20	30		**219**	12	14	45
8	30	50	55		**61**	14	32	27		**114**	24	60	50		**167**	26	60	33		**220**	9	20	28
9	21	40	55		**62**	24	40	40		**115**	18	40	50		**168**	6	8	30		**221**	22	25	30
10	16	31	43		**63**	24	50	40		**116**	12	40	50		**169**	10	18	15		**222**	11	22	27
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13	16	33	42		**66**	12	30	30		**119**	10	18	60		**172**	4	10	15		**225**	16	33	33
14	19	36	35		**67**	8	30	30		**120**	10	15	60		**173**	10	20	30		**226**	18	30	35
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PROJECT NUMBER

P12633

SHEET TITLE

SURVEY TREE TABLE

SHEET NUMBER

V122

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI on (2025-06-12) Last Plotted: 2025-06-23
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOM\BP-AMER (USA) 60841343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\02-VP12633-V100-SURVEY.DWG

TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
265	5	10	10		**318**	26	40	30		**371**	12	35	35		**424**	±6-24"	±5-30'	±25-50'		**477**	±6-24"	±5-30'	±25-50'
266	8	20	15		**319**	15	25	35		**372**	10	35	35		**425**	±6-24"	±5-30'	±25-50'		**478**	±6-24"	±5-30'	±25-50'
267	6	10	10		**320**	16	15	25		**373**	12	20	35		**426**	±6-24"	±5-30'	±25-50'		**479**	8	25	30
268	5	10	10		**321**	24	50	40		**374**	7	10	20		**427**	±6-24"	±5-30'	±25-50'		**480**	±6-24"	±5-30'	±25-50'
269	5	10	10		**322**	14	30	35		**375**	12	35	35		**428**	±6-24"	±5-30'	±25-50'		**481**	±6-24"	±5-30'	±25-50'
270	5	10	10		**323**	16	30	35		**376**	8	30	35		**429**	±6-24"	±5-30'	±25-50'		**482**	±6-24"	±5-30'	±25-50'
271	5	10	10		**324**	16	40	40		**377**	14	35	40		**430**	±6-24"	±5-30'	±25-50'		**483**	±6-24"	±5-30'	±25-50'
272	7	15	25		**325**	12	30	40		**378**	14	40	40		**431**	±6-24"	±5-30'	±25-50'		**484**	±6-24"	±5-30'	±25-50'
273	9	20	20		**326**	22	40	40		**379**	14	40	40		**432**	±6-24"	±5-30'	±25-50'		**485**	±6-24"	±5-30'	±25-50'
274	5	15	15		**327**	14	40	40		**380**	14	35	40		**433**	±6-24"	±5-30'	±25-50'		**486**	±6-24"	±5-30'	±25-50'
275	5	10	12		**328**	20	50	50		**381**	12	35	40		**434**	±6-24"	±5-30'	±25-50'		**487**	10	20	30
276	7	15	15		**329**	16	45	40		**382**	12	30	40		**435**	±6-24"	±5-30'	±25-50'		**488**	8	15	30
277	10	20	18		**330**	10	20	30		**383**	12	35	40		**436**	±6-24"	±5-30'	±25-50'		**489**	12	20	30
278	7	15	15		**331**	24	70	50		**384**	12	30	40		**437**	±6-24"	±5-30'	±25-50'		**490**	±6-24"	±5-30'	±25-50'
279	13	20	20		**332**	24	60	50		**385**	15	35	25		**438**	±6-24"	±5-30'	±25-50'		**491**	±6-24"	±5-30'	±25-50'
280	18	20	20		**333**	14	40	50		**386**	15	35	35		**439**	±6-24"	±5-30'	±25-50'		**492**	±6-24"	±5-30'	±25-50'
281	12	30	20		**334**	24	50	50		**387**	18	35	35		**440**	10	20	35		**493**	±6-24"	±5-30'	±25-50'
282	17	35	20		**335**	15	30	50		**388**	20	40	35		**441**	6	20	30		**494**	±6-24"	±5-30'	±25-50'
283	8	15	20		**336**	15	30	45		**389**	15	35	35		**442**	±6-24"	±5-30'	±25-50'		**495**	±6-24"	±5-30'	±25-50'
284	24	35	25		**337**	16	40	40		**390**	12	25	25		**443**	±6-24"	±5-30'	±25-50'		**496**	±6-24"	±5-30'	±25-50'
285	7	10	12		**338**	16	45	45		**391**	11	25	30		**444**	±6-24"	±5-30'	±25-50'		**497**	±6-24"	±5-30'	±25-50'
286	19	45	30		**339**	16	44	35		**392**	14	40	25		**445**	±6-24"	±5-30'	±25-50'		**498**	±6-24"	±5-30'	±25-50'
287	24	40	30		**340**	15	40	35		**393**	15	35	35		**446**	±6-24"	±5-30'	±25-50'		**499**	±6-24"	±5-30'	±25-50'
288	18	30	25		**341**	15	45	35		**394**	18	15	45		**447**	±6-24"	±5-30'	±25-50'		**500**	±6-24"	±5-30'	±25-50'
289	24	45	30		**342**	12	40	25		**395**	12	30	25		**448**	±6-24"	±5-30'	±25-50'		**501**	10	20	30
290	36	60	40		**343**	16	40	32		**396**	19	40	45		**449**	±6-24"	±5-30'	±25-50'		**502**	±6-24"	±5-30'	±25-50'
291	9	25	20		**344**	12	30	30		**397**	20	40	40		**450**	±6-24"	±5-30'	±25-50'		**503**	±6-24"	±5-30'	±25-50'
292	11	30	25		**345**	17	40	35		**398**	19	40	40		**451**	±6-24"	±5-30'	±25-50'		**504**	±6-24"	±5-30'	±25-50'
293	7	15	15		**346**	20	50	40		**399**	16	30	35		**452**	±6-24"	±5-30'	±25-50'		**505**	±6-24"	±5-30'	±25-50'
294	7	10	15		**347**	18	45	35		**400**	16	35	35		**453**	±6-24"	±5-30'	±25-50'		**506**	±6-24"	±5-30'	±25-50'
295	7	15	15		**348**	19	40	35		**401**	8	15	30		**454**	±6-24"	±5-30'	±25-50'		**507**	±6-24"	±5-30'	±25-50'
296	8	15	15		**349**	16	20	40		**402**	18	20	25		**455**	±6-24"	±5-30'	±25-50'		**508**	±6-24"	±5-30'	±25-50'
297	9	20	20		**350**	12	20	50		**403**	12	20	25		**456**	±6-24"	±5-30'	±25-50'		**509**	±6-24"	±5-30'	±25-50'
298	9	15	15		**351**	17	25	50		**404**	12	15	20		**457**	12	20	35		**510**	±6-24"	±5-30'	±25-50'
299	7	20	20		**352**	19	30	50		**405**	20	40	35		**458**	±6-24"	±5-30'	±25-50'		**511**	±6-24"	±5-30'	±25-50'
300	7	15	18		**353**	20	35	50		**406**	12	30	35		**459**	±6-24"	±5-30'	±25-50'		**512**	±6-24"	±5-30'	±25-50'
301	9	20	20		**354**	16	40	25		**407**	12	15	25		**460**	±6-24"	±5-30'	±25-50'		**513**	5	12	30
302	9	18	20		**355**	12	25	25		**408**	±6-24	±5-30	±5-30		**461**	±6-24"	±5-30'	±25-50'		**514**	±6-24"	±5-30'	±25-50'
303	8	15	15		**356**	5	8	16		**409**	±6-24	±5-30	±5-30		**462**	±6-24"	±5-30'	±25-50'		**515**	±6-24"	±5-30'	±25-50'
304	9	11	15		**357**	6	13	15		**410**	±6-24	±5-30	±5-30		**463**	±6-24"	±5-30'	±25-50'		**516**	±6-24"	±5-30'	±25-50'
305	10	25	20		**358**	5	10	15		**411**	±6-24	±5-30	±5-30		**464**	±6-24"	±5-30'	±25-50'		**517**	±6-24"	±5-30'	±25-50'
306	6	10	15		**359**	6	13	17		**412**	±6-24	±5-30	±5-30		**465**	±6-24"	±5-30'	±25-50'		**518**	5	12	30
307	15	28	37		**360**	5	8	16		**413**	±6-24	±5-30	±5-30		**466**	±6-24"	±5-30'	±25-50'		**519**	±6-24"	±5-30'	±25-50'
308	27	57	41		**361**	4	10	23		**414**	±6-24	±5-30	±5-30		**467**	±6-24"	±5-30'	±25-50'		**520**	5	12	30
309	15	40	35		**362**	15	25	35		**415**	±6-24	±5-30	±5-30		**468**	±6-24"	±5-30'	±25-50'		**521**	±6-24"	±5-30'	±25-50'
310	22	30	30		**363**	19	30	35		**416**	±6-24	±5-30	±5-30		**469**	±6-24"	±5-30'	±25-50'		**522**	±6-24"	±5-30'	±25-50'
311	16	35	30		**364**	32	45	30		**417**	4	5	12		**470**	±6-24"	±5-30'	±25-50'		**523**	±6-24"	±5-30'	±25-50'
312	25	40	32		**365**	14	10	30		**418**	5	5	25		**471**	±6-24"	±5-30'	±25-50'		**524**	9	15	30
313	24	42	31		**366**	14	15	30		**419**	7	10	20		**472**	±6-24"	±5-30'	±25-50'		**525**	6	10	15
314	16	25	25		**367**	14	10	15		**420**	±6-24"	±5-30'	±25-50'		**473**	±6-24"	±5-30'	±25-50'		**526**	4	10	12
315	14	25	25		**368**	10	30	35		**421**	±6-24"	±5-30'	±25-50'		**474**	±6-24"	±5-30'	±25-50'		**527**	4	6	12
316	19	35	35		**369**	14	4	35		**422**	±6-24"	±5-30'	±25-50'		**475**	±6-24"	±5-30'	±25-50'		**528**	4	6	12
317	22	35	35		**370**	10	35	30		**423**	±6-24"	±5-30'	±25-50'		**476**	±6-24"	±5-30'	±25-50'					

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Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI (2025-06-12) Last Plotted: 2025-06-23
Filename: C:\USERS\MAIRIN.SUBERVI\DOCACCDOCS\AECOMBP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\02-V\P12633-V100-SURVEY.DWG

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REGISTRATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

SURVEY TREE TABLE

SHEET NUMBER

V123

TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
529	4	6	15		**582**	27	35	40		**635**	18	34	30		**688**	17	25	35		**741**	20	30	35
530	4	6	15		**583**	20	30	40		**636**	7	30	35		**689**	38	5	40		**742**	12	30	35
531	4	6	15		**584**	10	30	35		**637**	7	30	35		**690**	9	30	35		**743**	14	30	35
532	4	6	15		**585**	15	20	35		**638**	7	15	35		**691**	18	50	40		**744**	7	30	35
533	15	30	45		**586**	8	35	35		**639**	6	20	30		**692**	12	32	35		**745**	14	30	35
534	22	25	35		**587**	20	35	35		**640**	15	15	35		**693**	16	50	40		**746**	26	42	20
535	30	15	35		**588**	20	25	35		**641**	15	15	35		**694**	16	30	40		**747**	16	25	17
536	19	40	50		**589**	18	40	40		**642**	12	50	35		**695**	36	25	18		**748**	9	20	25
537	45	24	40		**590**	20	45	40		**643**	12	50	35		**696**	12	20	25		**749**	7	15	20
538	25	50	40		**591**	22	40	40		**644**	12	50	35		**697**	15	30	35		**750**	20	40	35
539	15	30	40		**592**	8	15	45		**646**	12	20	20		**698**	12	15	25		**752**	19	35	36
540	15	30	35		**593**	8	20	35		**647**	20	40	26		**699**	15	30	35		**753**	27	43	42
541	16	20	30		**594**	30	5	35		**648**	18	40	33		**700**	16	30	30		**754**	18	46	44
542	12	15	15		**595**	18	5	35		**649**	12	25	20		**701**	15	35	30		**755**	15	38	28
543	30	50	35		**596**	18	5	35		**650**	12	25	20		**702**	24	50	35		**756**	17	32	28
544	16	20	35		**597**	8	20	30		**651**	6	10	20		**703**	24	50	35		**757**	17	32	30
545	36	40	35		**598**	15	30	30		**652**	12	25	20		**704**	24	50	35		**758**	14	30	40
546	36	40	35		**599**	6	15	20		**653**	25	20	38		**705**	7	10	12		**759**	14	30	35
547	23	30	30		**600**	10	25	20		**654**	12	15	20		**706**	12	35	45		**760**	11	20	35
548	18	30	30		**601**	36	55	35		**655**	17	35	22		**707**	4	5	12		**761**	13	20	35
549	36	30	30		**602**	36	50	35		**656**	4	8	15		**708**	4	5	12		**762**	15	30	45
550	30	25	35		**603**	56	30	40		**657**	16	35	40		**709**	4	5	12		**763**	15	30	45
551	36	25	35		**604**	56	55	35		**658**	30	10	40		**710**	4	5	12		**764**	15	30	45
552	36	30	20		**605**	10	35	25		**659**	10	45	35		**711**	3	5	15		**765**	15	30	30
553	40	45	35		**606**	12	55	25		**660**	7	15	20		**712**	3	5	15		**766**	24	50	50
554	5	15	22		**607**	12	45	40		**661**	7	15	20		**713**	3	5	15		**767**	8	25	25
555	38	30	35		**608**	4	8	12		**662**	31	50	40		**714**	3	5	15		**768**	27	50	45
556	4	10	22		**609**	4	5	10		**663**	24	40	55		**715**	26	40	40		**769**	18	40	55
557	18	20	30		**610**	36	30	35		**664**	14	40	35		**716**	4	8	12		**770**	14	40	60
558	8	15	21		**611**	22	40	45		**665**	28	50	50		**717**	31	35	25		**771**	17	60	40
559	14	30	45		**612**	22	45	45		**666**	15	40	45		**718**	6	20	20		**772**	12	30	35
560	28	45	40		**613**	13	35	45		**667**	14	35	45		**719**	6	20	20		**773**	14	20	35
561	35	25	40		**614**	15	40	45		**668**	14	30	45		**720**	5	5	12		**774**	17	35	35
562	38	40	40		**615**	24	50	45		**669**	14	35	45		**721**	6	12	15		**775**	15	30	40
563	26	35	40		**616**	30	35	40		**670**	31	50	40		**722**	4	6	10		**776**	7	15	40
564	12	25	25		**617**	24	55	40		**671**	35	45	35		**723**	27	50	35		**777**	14	35	40
565	20	35	35		**618**	21	50	40		**672**	14	30	45		**724**	14	25	15		**778**	13	30	45
566	18	35	35		**619**	27	45	32		**673**	14	35	35		**725**	18	35	25		**779**	19	40	45
567	12	20	30		**620**	20	45	45		**674**	32	90	45		**726**	15	25	15		**780**	13	30	45
568	22	40	40		**621**	15	40	40		**675**	17	44	35		**727**	15	25	15		**781**	24	40	40
569	22	30	35		**622**	16	35	35		**676**	16	44	35		**728**	16	35	30		**782**	18	40	40
570	20	30	20		**623**	20	40	35		**677**	14	30	40		**729**	15	20	25		**783**	20	40	40
571	31	30	20		**624**	12	50	35		**678**	12	10	20		**730**	20	40	25		**784**	15	50	40
572	6	20	12		**625**	12	40	35		**679**	13	30	35		**731**	16	30	20		**785**	6-10"	20'	±35'
573	29	40	25		**626**	14	45	35		**680**	18	20	18		**732**	13	30	20		**786**	6-10"	20'	±35'
574	20	25	20		**627**	14	45	35		**681**	16	18	20		**733**	19	35	25		**787**	6-10"	20'	±35'
575	18	30	25		**628**	15	50	35		**682**	18	30	40		**734**	20	45	25		**788**	6-10"	20'	±35'
576	18	30	25		**629**	10	40	35		**683**	12	25	35		**735**	60	60	35		**789**	6-10"	20'	±35'
577	34	35	25		**630**	15	40	35		**684**	22	35	45		**736**	12	30	35		**790**	6-10"	20'	±35'
578	16	30	20		**631**	12	30	35		**685**	6	60	35		**737**	12	30	35		**791**	6-10"	20'	±35'
579	15	20	18		**632**	24	35	35		**686**	22	35	35		**738**	18	30	35		**792**	6-10"	20'	±35'
580	24	40	20		**633**	10	20	30		**687**	20	30	35		**739**	12	30	35					
581	20	40	40												**740**	12	30	35					

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REGISTRATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
SURVEY TREE TABLE

SHEET NUMBER
V124

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI (2025-06-12) Last Plotted: 2025-06-23
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\02-VP12633-V100-SURVEY.DWG

TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
793	6-10"	20'	±35'		**846**	16	40	45		**899**	27	45	42		**952**	6	10	25		**1005**	4	10	25
794	6-10"	20'	±35'		**847**	16	40	40		**900**	23	36	42		**953**	16	45	40		**1006**	8	15	20
795	6-10"	20'	±35'		**848**	15	40	40		**901**	23	50	44		**954**	6	10	25		**1007**	10	25	25
796	6-10"	20'	±35'		**849**	20	40	40		**902**	34	50	43		**955**	6	10	25		**1008**	8	15	20
797	6-10"	20'	±35'		**850**	15	35	60		**903**	14	30	30		**956**	16	45	40		**1009**	10	20	20
798	6-10"	20'	±35'		**851**	11	20	35		**904**	14	30	30		**957**	16	45	40		**1010**	10	15	20
799	6-10"	20'	±35'		**852**	10	15	30		**905**	14	30	30		**958**	24	40	25		**1011**	21	40	35
800	6-10"	20'	±35'		**853**	12	15	30		**906**	24	45	40		**959**	6	15	30		**1012**	6	15	35
801	6-10"	20'	±35'		**854**	7	10	30		**907**	5	10	20		**960**	9	15	30		**1013**	10	20	40
802	6-10"	20'	±35'		**855**	10	15	30		**908**	24	45	40		**961**	10	20	30		**1014**	9	20	35
803	6-10"	20'	±35'		**856**	14	15	30		**909**	36	50	45		**962**	5	10	30		**1015**	9	20	30
804	6-10"	20'	±35'		**857**	20	35	55		**910**	16	40	55		**963**	7	20	30		**1016**	6	20	30
805	6-10"	20'	±35'		**858**	6	25	30		**911**	7	10	25		**964**	7	15	25		**1017**	6	15	20
806	6-10"	20'	±35'		**859**	14	40	40		**912**	22	35	60		**965**	6	10	15		**1018**	6	15	20
807	6-10"	20'	±35'		**860**	12	30	40		**913**	6	10	25		**966**	20	25	40		**1019**	8	15	40
808	6-10"	20'	±35'		**861**	12	30	40		**914**	6	8	25		**967**	14	32	20		**1020**	6	10	30
809	6-10"	20'	±35'		**862**	5	8	25		**915**	7	8	25		**968**	16	35	23		**1021**	9	25	30
810	6-10"	20'	±35'		**863**	13	30	40		**916**	30	8	25		**969**	5	15	18		**1022**	11	24	30
811	6-10"	20'	±35'		**864**	3	30	40		**917**	7	10	25		**970**	12	20	25		**1023**	7	15	25
812	6-10"	20'	±35'		**865**	12	40	40		**918**	5	10	20		**971**	12	20	25		**1024**	6	10	25
813	6-10"	20'	±35'		**866**	6	10	40		**919**	30	50	30		**972**	12	20	25		**1025**	11	15	30
814	6-10"	20'	±35'		**867**	6	10	40		**920**	18	40	35		**973**	12	20	25		**1026**	10	25	30
815	6-10"	20'	±35'		**868**	4	10	40		**921**	7	10	18		**974**	12	20	25		**1027**	7	15	25
816	6-10"	20'	±35'		**869**	14	50	40		**922**	5	10	20		**975**	12	20	25		**1028**	12	30	25
817	6-10"	20'	±35'		**870**	12	30	40		**923**	24	45	25		**976**	12	20	25		**1029**	6	10	25
818	6-10"	20'	±35'		**871**	4	10	20		**924**	6	10	25		**977**	12	20	25		**1030**	13	30	25
819	6-10"	20'	±35'		**872**	5	10	20		**925**	4	10	25		**978**	12	20	25		**1031**	12	25	25
820	6-10"	20'	±35'		**873**	15	15	15		**926**	22	40	60		**979**	12	20	25		**1032**	7	10	25
821	6-10"	20'	±35'		**874**	15	15	15		**927**	22	40	60		**980**	12	20	25		**1033**	16	40	25
822	6-10"	20'	±35'		**875**	15	15	15		**928**	24	40	35		**981**	12	20	25		**1034**	6	10	25
823	6-10"	20'	±35'		**876**	6	10	18		**929**	8	20	40		**982**	12	20	25		**1035**	8	20	25
824	6-10"	20'	±35'		**877**	16	25	46		**930**	27	50	40		**983**	12	20	25		**1036**	21	35	35
825	6-10"	20'	±35'		**878**	25	30	45		**931**	20	40	55		**984**	12	20	25		**1037**	8	20	23
826	6-10"	20'	±35'		**879**	23	40	46		**932**	20	40	50		**985**	12	20	25		**1038**	4	15	12
827	6-10"	20'	±35'		**880**	21	38	40		**933**	20	40	50		**986**	12	20	25		**1039**	11	30	23
828	6-10"	20'	±35'		**881**	19	29	41		**934**	4	10	15		**987**	12	20	25		**1040**	12	30	55
829	6-10"	20'	±35'		**882**	18	28	41		**935**	4	15	25		**988**	12	20	25		**1041**	20	30	55
830	6-10"	20'	±35'		**883**	17	30	46		**936**	6	10	25		**989**	21	17	26		**1042**	12	30	35
831	6-10"	20'	±35'		**884**	19	35	44		**937**	6	10	25		**990**	25	37	35		**1043**	9	15	35
832	6-10"	20'	±35'		**885**	21	27	41		**938**	6	10	25		**991**	20	40	26		**1044**	12	30	30
833	6-10"	20'	±35'		**886**	19	32	44		**939**	20	40	40		**992**	0	0	0		**1045**	12	30	30
834	6-10"	20'	±35'		**887**	16	30	38		**940**	16	40	30		**993**	0	0	0		**1046**	8	20	30
835	6-10"	20'	±35'		**888**	19	20	42		**941**	6	10	30		**994**	27	50	40		**1047**	8	20	35
836	6-10"	20'	±35'		**889**	17	20	43		**942**	9	20	30		**995**	20	45	40		**1048**	6	15	25
837	6-10"	20'	±35'		**890**	20	34	44		**943**	7	10	30		**996**	9	25	25		**1049**	13	40	35
838	6-10"	20'	±35'		**891**	16	35	44		**944**	10	25	30		**997**	7	35	20		**1050**	14	25	50
839	6-10"	20'	±35'		**892**	22	20	40		**945**	13	40	30		**998**	7	15	20		**1051**	15	60	40
840	6-10"	20'	±35'		**893**	21	42	43		**946**	12	35	30		**999**	8	20	25		**1052**	16	40	35
841	6-10"	20'	±35'		**894**	15	25	42		**947**	8	15	30		**1000**	8	15	25		**1053**	7	15	35
842	6-10"	20'	±35'		**895**	13	30	42		**948**	10	20	30		**1001**	11	20	25		**1054**	14	35	35
843	17	40	40		**896**	18	37	42		**949**	5	10	30		**1002**	8	20	25		**1055**	14	40	45
844	22	30	40		**897**	25	55	40		**950**	7	15	30		**1003**	10	25	25		**1056**	19	30	35
845	20	40	40		**898**	14	35	40		**951**	12	30	25		**1004**	10	25	35					

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

SURVEY TREE TABLE

SHEET NUMBER

V125

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

Last saved by: MAIRIN.SUBERVI (2025-06-12) Last Plotted: 2025-06-23
Filename: C:\USERS\MAIRIN.SUBERVI\DOCACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\02-VP12633-V100-SURVEY.DWG

TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		TREE ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
1057	34	65	40		**1105**	17	50	50
1058	32	60	40		**1106**	20	50	55
1059	9	25	40		**1107**	20	50	55
1060	30	60	50		**1108**	20	20	35
1061	8	10	25		**1109**	14	20	35
1062	7	25	35		**1110**	11	20	35
1063	12	40	35		**1111**	6	20	35
1064	14	20	35		**1112**	4	8	18
1065	17	50	35		**1113**	5	11	20
1066	18	55	35		**1114**	5	11	20
1067	6	15	35		**1115**	16	34	25
1068	6	10	35		**1116**	14	34	32
1069	8	15	35		**1117**	7	10	10
1070	8	15	35		**1118**	7	10	10
1071	10	30	35		**1119**	18	20	20
1072	7	20	45		**1120**	14	20	20
1073	7	20	45		**1121**	18	20	20
1074	15	25	45		**1122**	18	20	24
1075	7	20	45		**1123**	5	10	25
1076	7	20	45		**1124**	5	10	25
1077	7	20	45		**1125**	5	10	25
1078	15	35	45		**1126**	5	10	25
1079	66	80	45		**1127**	5	10	25
1080	66	70	50		**1128**	8	15	15
1081	4	10	15		**1129**	12	20	25
1082	4	8	10		**1130**	12	20	25
1083	5	12	20		**1131**	12	20	25
1084	14	30	25		**1132**	3	10	15
1085	57	70	50		**1133**	3	10	15
1086	60	65	50		**1134**	3	10	15
1087	4	10	12		**1135**	18	50	42
1088	4	10	18		**1136**	18	50	38
1089	4	8	18		**1137**	18	40	38
1090	4	8	15		**1138**	7	20	15.2
1091	36	70	50		**1139**	16	35	25
1093	24	60	40		**1140**	24	40	30
1094	20	50	40		**1141**	86	85	45
1095	40	65	40		**1142**	96	70	50
1096	4	8	18		**1143**	72	60	45
1097	4	8	18		**1144**	19	25	30
1098	40	70	60		**1145**	3	10	8
1099	42	90	60		**1146**	3	10	8
1100	15	30	40		**1147**	3	10	8
1101	10	30	35		**1148**	10	20	23
1102	15	40	40					
1103	65	65	50					
1104	24	45	50					

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

Last saved by: MAIRIN.SUBERVI (2025-06-12) Last Plotted: 2025-06-23
Filename: C:\USERS\MAIRIN.SUBERVI\DOCUMENTS\ACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TOPOGRAPHIC SURVEY\V100-SURVEY.DWG

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PROJECT

HOLIDAY PARK
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I/R	DATE	DESCRIPTION
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PROJECT NUMBER

P12633

SHEET TITLE

SURVEY TREE TABLE

SHEET NUMBER

V126

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PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
1	10	10	35		**54**	13	15	20		**107**	5	15	10		**160**	8	10	30		**213**	14	15	35
2	6	15	45		**55**	9	10	30		**108**	5	15	10		**161**	8	10	30		**214**	8	10	30
3	6	15	45		**56**	10	10	35		**109**	12	6	15		**162**	8	10	30		**215**	8	10	30
4	6	15	45		**57**	8	10	35		**110**	12	6	15		**163**	8	10	30		**216**	8	10	30
5	10	10	35		**58**	8	10	35		**111**	12	6	15		**164**	8	10	30		**217**	6	8	30
6	12	10	35		**59**	12	12	20		**112**	12	6	15		**165**	7	10	30		**218**	6	8	30
7	8	10	35		**60**	12	12	20		**113**	12	6	15		**166**	8	10	25		**219**	8	10	30
8	8	10	35		**61**	12	12	20		**114**	12	6	15		**167**	8	10	25		**220**	6	8	30
9	20	20	35		**62**	8	6	12		**115**	12	5	15		**168**	8	10	25		**221**	8	10	30
10	20	20	35		**63**	8	6	12		**116**	10	5	10		**169**	8	10	25		**222**	8	10	30
11	20	20	35		**64**	8	6	12		**117**	6	17	15		**170**	8	10	25		**223**	6	8	30
12	20	20	35		**65**	8	6	12		**118**	16	17	30		**171**	9	10	25		**224**	8	10	30
13	7	10	30		**66**	8	6	12		**119**	4	8	20		**172**	9	10	25		**225**	9	12	30
14	7	10	30		**67**	15	12	26		**120**	4	8	20		**173**	8	10	25		**226**	9	12	30
15	7	10	30		**68**	14	21	40		**121**	4	8	20		**174**	8	10	25		**227**	7	10	25
16	7	10	30		**69**	17	20	38		**122**	4	8	20		**175**	8	10	25		**228**	7	10	25
17	7	10	30		**70**	5	6	12		**123**	4	8	20		**176**	8	10	25		**229**	7	10	25
18	8	10	30		**71**	5	6	12		**124**	Ø6-8"	10-12'	±15-30'		**177**	8	10	12		**230**	5	10	25
19	8	10	30		**72**	5	6	12		**125**	Ø6-8"	10-12'	±15-30'		**178**	8	10	12		**231**	5	10	25
20	8	10	30		**73**	5	6	12		**126**	Ø6-8"	10-12'	±15-30'		**179**	10	10	30		**232**	9	10	22
21	8	10	30		**74**	5	6	12		**127**	Ø6-8"	10-12'	±15-30'		**180**	10	10	30		**233**	9	11	20
22	8	10	30		**75**	5	6	12		**128**	Ø6-8"	10-12'	±15-30'		**181**	10	12	30		**234**	10	12	24
23	8	10	30		**76**	5	6	12		**129**	Ø6-8"	10-12'	±15-30'		**182**	10	12	30		**235**	10	11	19
24	8	10	30		**77**	5	6	12		**130**	Ø6-8"	10-12'	±15-30'		**183**	10	12	35		**236**	20	11	9
25	8	10	30		**78**	5	6	12		**131**	Ø6-8"	10-12'	±15-30'		**184**	10	12	35		**237**	13	10	20
26	8	10	30		**79**	7	10	20		**132**	Ø6-8"	10-12'	±15-30'		**185**	12	10	25		**238**	12	10	19
27	8	10	30		**80**	7	10	20		**133**	Ø6-8"	10-12'	±15-30'		**186**	12	10	25		**239**	12	10	30
28	8	10	30		**81**	7	10	20		**134**	Ø6-8"	10-12'	±15-30'		**187**	12	10	25		**240**	12	10	30
29	10	15	30		**82**	6	15	35		**135**	Ø6-8"	10-12'	±15-30'		**188**	12	10	25		**241**	12	10	30
30	10	15	30		**83**	14	10	15		**136**	Ø6-8"	10-12'	±15-30'		**189**	12	10	25		**242**	12	10	30
31	10	15	30		**84**	22	15	35		**137**	Ø6-8"	10-12'	±15-30'		**190**	Ø10-15"	8-10'	±30-35'		**243**	12	10	30
32	10	15	30		**85**	16	15	35		**138**	Ø6-8"	10-12'	±15-30'		**191**	Ø10-15"	8-10'	±30-35'		**244**	12	10	30
33	10	15	25		**86**	5	8	10		**139**	Ø6-8"	10-12'	±15-30'		**192**	Ø10-15"	8-10'	±30-35'		**245**	12	10	30
34	10	15	25		**87**	5	8	10		**140**	Ø6-8"	10-12'	±15-30'		**193**	Ø10-15"	8-10'	±30-35'		**246**	12	10	30
35	10	15	25		**88**	5	8	10		**141**	Ø6-8"	10-12'	±15-30'		**194**	Ø10-15"	8-10'	±30-35'		**247**	12	10	30
36	8	11	25		**89**	5	8	10		**142**	Ø6-8"	10-12'	±15-30'		**195**	Ø10-15"	8-10'	±30-35'		**248**	12	10	30
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38	16	15	38		**91**	5	8	10		**144**	Ø6-8"	10-12'	±15-30'		**197**	Ø10-15"	8-10'	±30-35'		**250**	10	15	30
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Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

SURVEY PALM TABLE

SHEET NUMBER

V127

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PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)		PALM ID	TRUNK (INCHES)	CANOPY (FEET)	HEIGHT (FEET)
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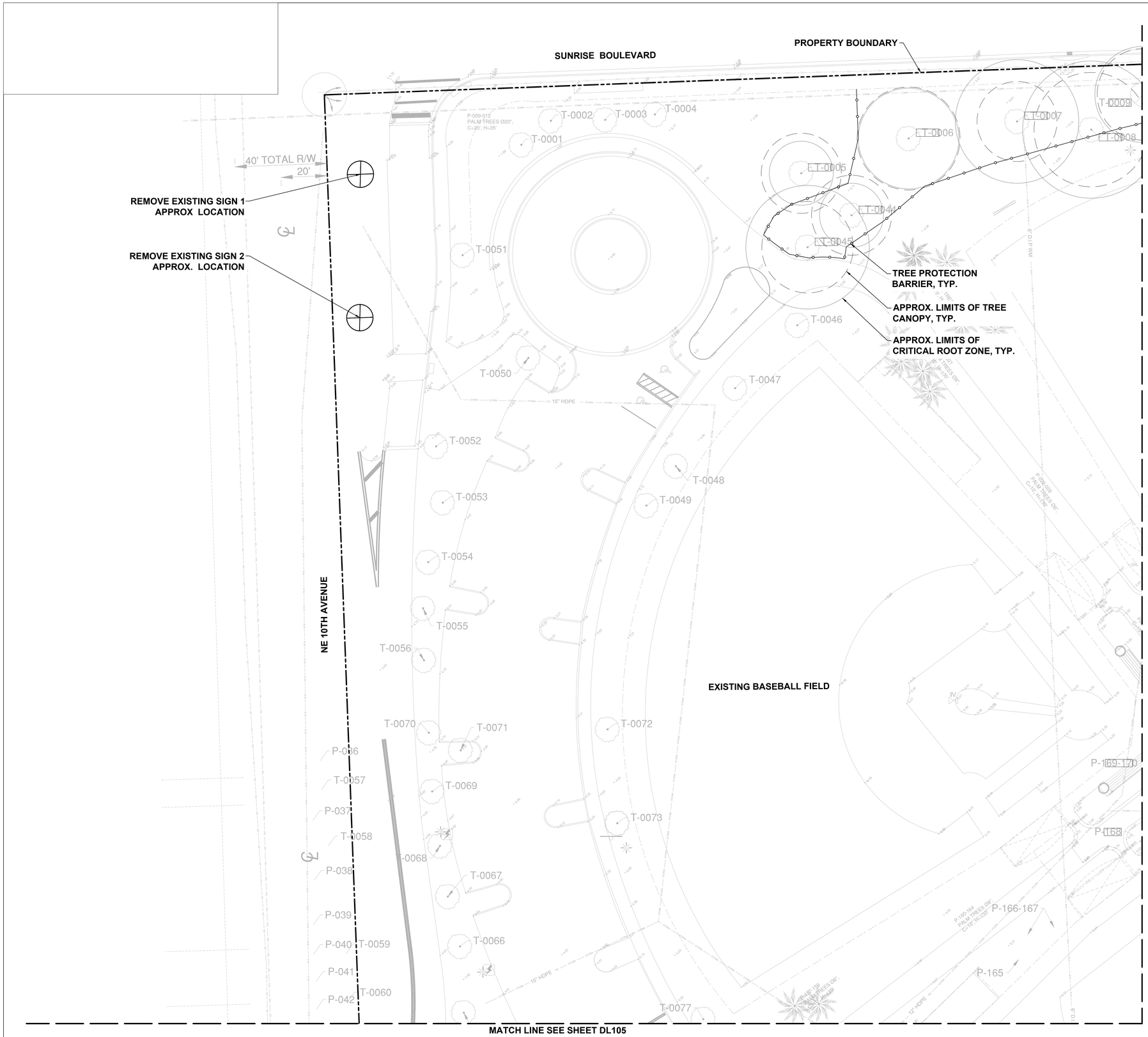
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	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
SURVEY PALM TABLE

SHEET NUMBER
V128

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"
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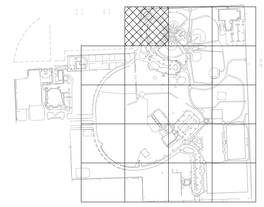
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  - MEMORIAL TREE
  - CANOPY AREA
  - CRITICAL ROOT ZONE
- EXISTING PALM TO REMAIN
- ROOT PRUNING
- TREE PROTECTION BARRIER

DEMOLITION LEGEND

- EXISTING TREE/PALM TO BE REMOVED
- EXISTING TREE/PALM TO BE RELOCATED
- EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
- EXISTING GROUNDCOVER TO BE REMOVED
- EXISTING FENCE TO BE REMOVED
- EXISTING CURB TO BE REMOVED
- EXISTING STRUCTURE TO BE REMOVED
- EXISTING ASPHALT TO BE REMOVED
- EXISTING CONCRETE TO BE REMOVED
- EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
- EXISTING PAVERS TO BE REMOVED
- EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.
2. SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.
3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.



1 KEY PLAN

DL101 — Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'

SCALE: 1" = 20'-0"

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PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

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Tampa, FL 33607-1462

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	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

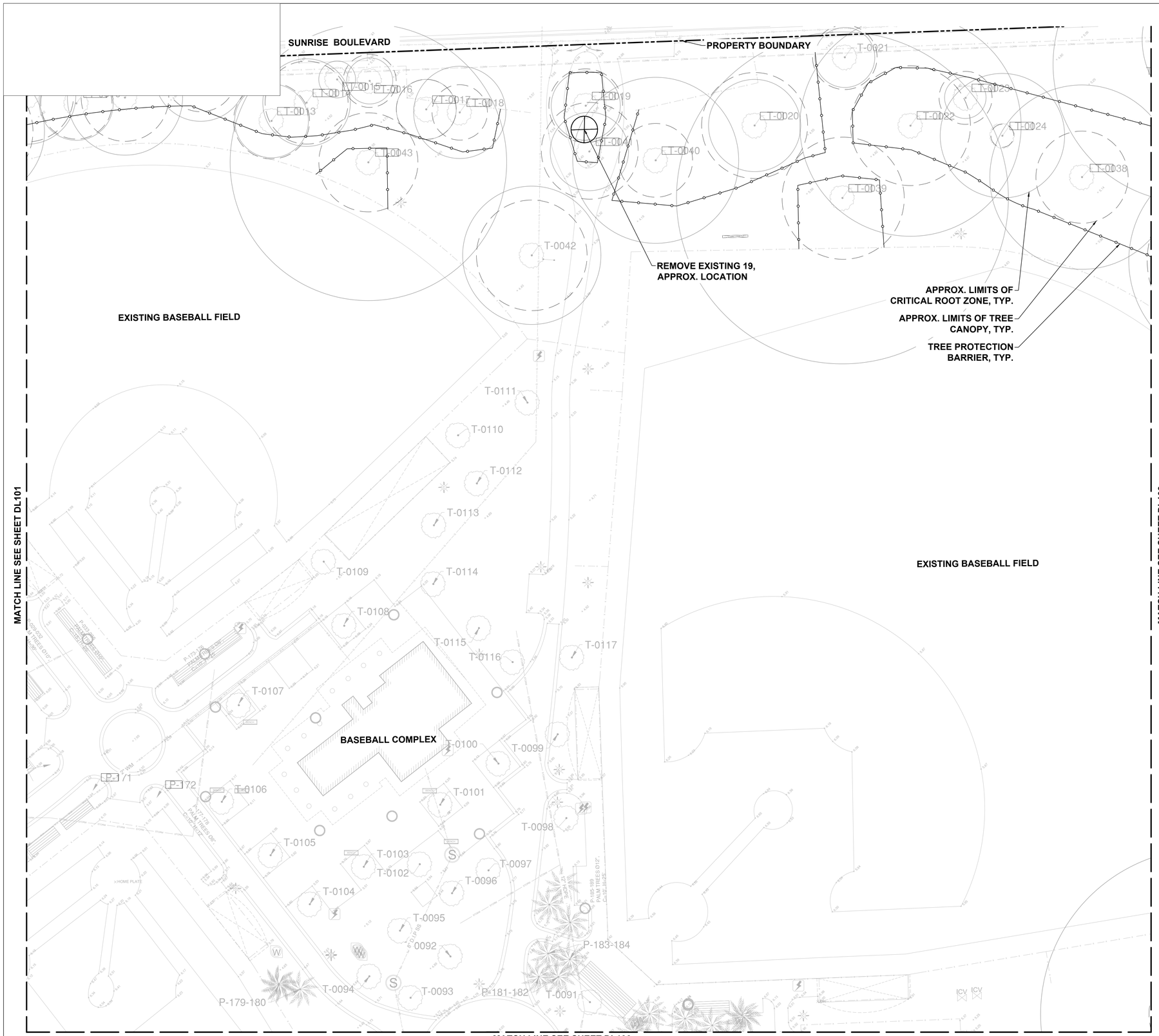
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL101

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI(2025-06-23) Last Plotted: 2025-06-25
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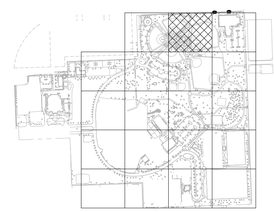
- EXISTING TREE TO REMAIN
- MEMORIAL TREE
- CANOPY AREA
- CRITICAL ROOT ZONE
- EXISTING PALM TO REMAIN
- ROOT PRUNING
- TREE PROTECTION BARRIER

DEMOLITION LEGEND

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- EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
- EXISTING GROUNDCOVER TO BE REMOVED
- EXISTING FENCE TO BE REMOVED
- EXISTING CURB TO BE REMOVED
- EXISTING STRUCTURE TO BE REMOVED
- EXISTING ASPHALT TO BE REMOVED
- EXISTING CONCRETE TO BE REMOVED
- EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
- EXISTING PAVERS TO BE REMOVED
- EXISTING TENNIS COURT TO BE REMOVED

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4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.



2 KEY PLAN

DL102 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'

SCALE: 1" = 20'-0"

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I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL102

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"



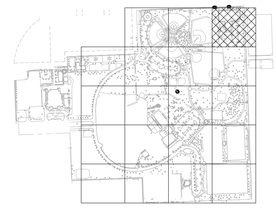
EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
EXISTING FENCE TO BE REMOVED
EXISTING CURB TO BE REMOVED
EXISTING STRUCTURE TO BE REMOVED
EXISTING ASPHALT TO BE REMOVED
EXISTING CONCRETE TO BE REMOVED
EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
EXISTING PAVERS TO BE REMOVED
EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.
2. SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.
3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.



3 KEY PLAN

DL103 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION.
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PARKS BOND PROGRAM

CLIENT

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PROJECT NUMBER

P12633

SHEET TITLE

LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL103

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"



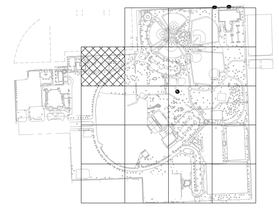
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CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

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4 KEY PLAN

DL104 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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P12633

SHEET TITLE

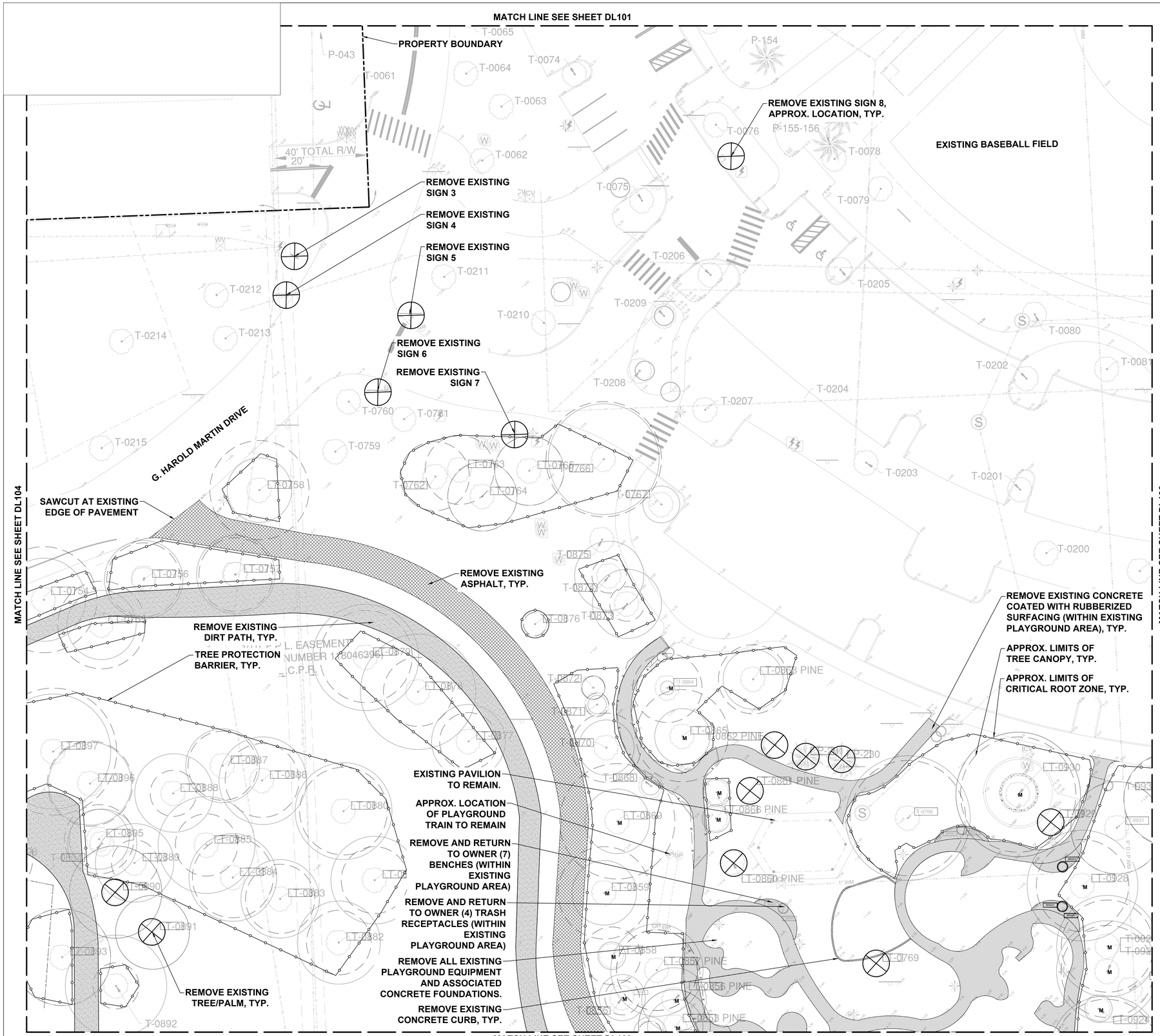
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL104

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"
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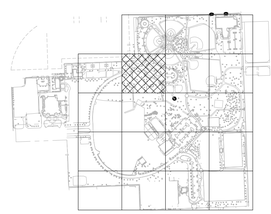
EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
EXISTING FENCE TO BE REMOVED
EXISTING CURB TO BE REMOVED
EXISTING STRUCTURE TO BE REMOVED
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EXISTING TENNIS COURT TO BE REMOVED

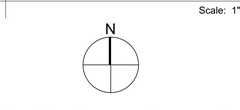
NOTES:

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3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.



5 KEY PLAN

DL105 Scale: 1" = 800'-0"



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P12633

SHEET TITLE

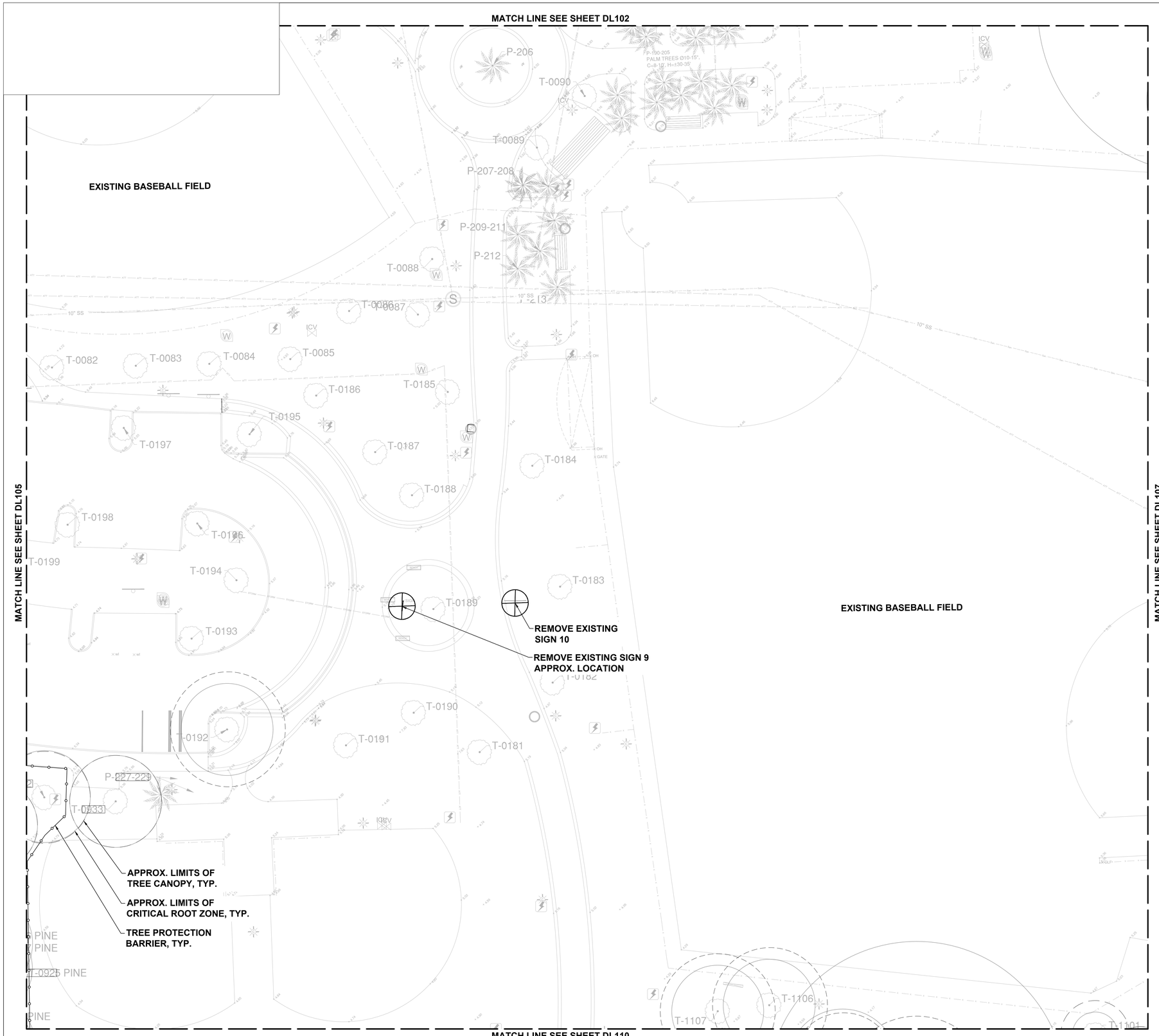
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL105

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

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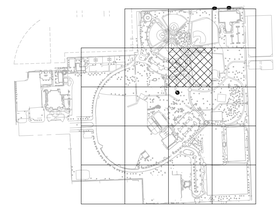
EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
EXISTING FENCE TO BE REMOVED
EXISTING CURB TO BE REMOVED
EXISTING STRUCTURE TO BE REMOVED
EXISTING ASPHALT TO BE REMOVED
EXISTING CONCRETE TO BE REMOVED
EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
EXISTING PAVERS TO BE REMOVED
EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.
2. SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.
3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.



6 KEY PLAN
DL106 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL106

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

MATCH LINE SEE SHEET DL103

MATCH LINE SEE SHEET DL106

MATCH LINE SEE SHEET DL111

NE 14TH AVE

50' TOTAL R/W
30.0'

PROPERTY BOUNDARY

REMOVE AND RETURN TO OWNER (1) BENCH

APPROX. LIMITS OF TREE CANOPY, TYP.

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

TREE PROTECTION BARRIER, TYP.

REMOVE EXISTING DIRT PATH, TYP.

DENSE TREE AREA
T-0408-0517
TREE DIMENSIONS VARY FROM

LEGEND

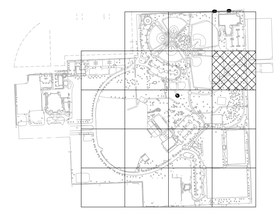
- EXISTING TREE TO REMAIN
- MEMORIAL TREE
- CANOPY AREA
- CRITICAL ROOT ZONE
- EXISTING PALM TO REMAIN
- ROOT PRUNING
- TREE PROTECTION BARRIER

DEMOLITION LEGEND

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7 KEY PLAN
DL107 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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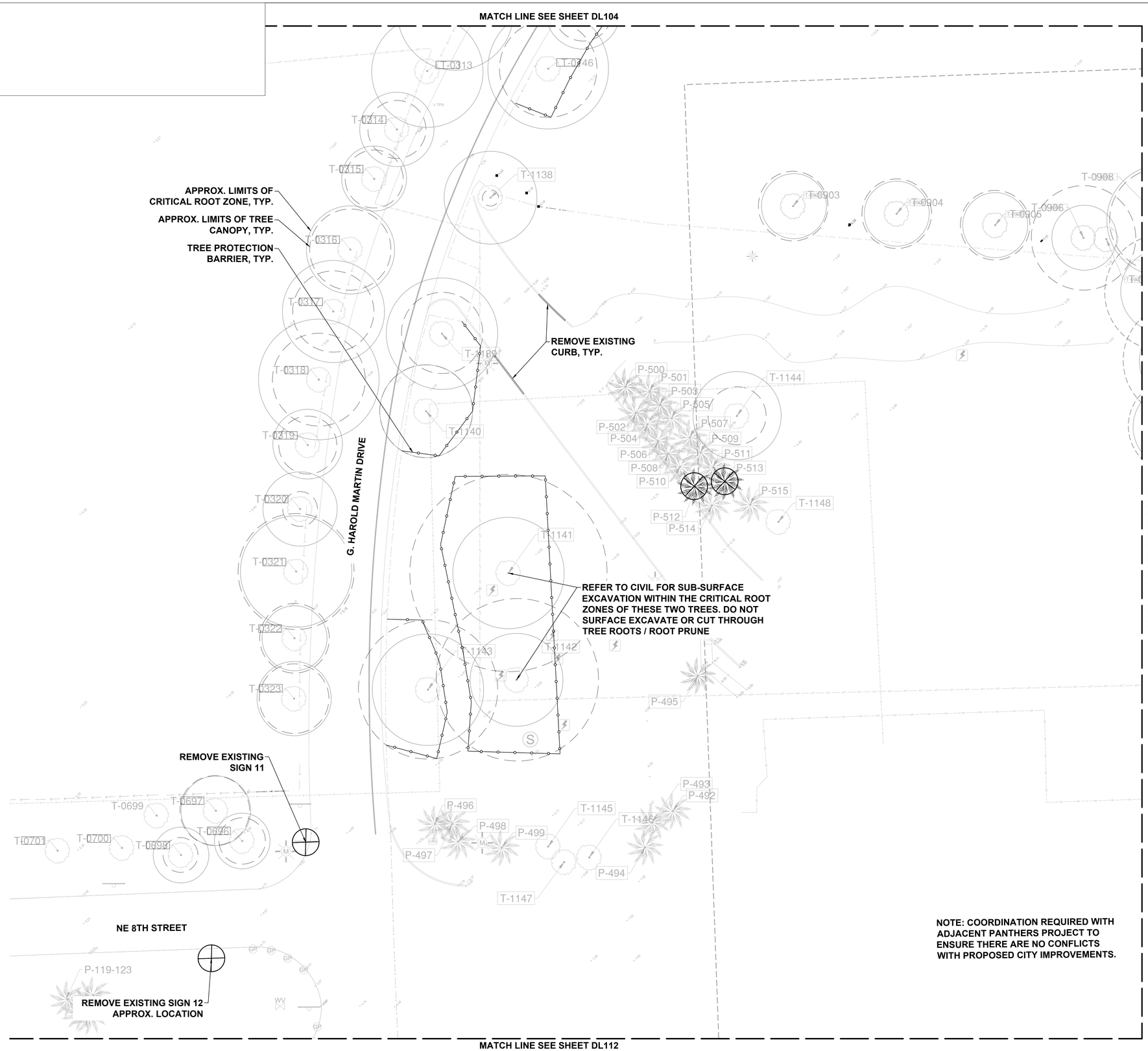
PROJECT NUMBER
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SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL107

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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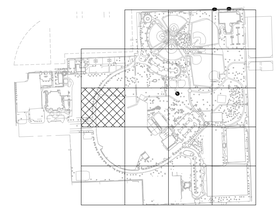
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TREE PROTECTION BARRIER

DEMOLITION LEGEND

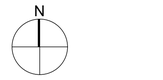
EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
EXISTING FENCE TO BE REMOVED
EXISTING CURB TO BE REMOVED
EXISTING STRUCTURE TO BE REMOVED
EXISTING ASPHALT TO BE REMOVED
EXISTING CONCRETE TO BE REMOVED
EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
EXISTING PAVERS TO BE REMOVED
EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. **SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.**
2. **SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.**
3. **TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.**
4. **THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.**
5. **SEE G101 KEY PLAN FOR NOT IN CONTRACT (NIC) LIMIT OF WORK**



8 KEY PLAN
DL108 Scale: 1" = 800'-0"



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FORT LAUDERDALE
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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL108

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

MATCH LINE SEE SHEET DL105

REMOVE AND RETURN TO OWNER (6) BENCHES (WITHIN EXISTING PLAYGROUND AREA)

REMOVE EXISTING CONCRETE COATED WITH RUBBERIZED SURFACING (WITHIN EXISTING PLAYGROUND AREA), TYP.

REMOVE EXISTING ASPHALT, TYP.

REMOVE ALL EXISTING PLAYGROUND EQUIPMENT AND ASSOCIATED CONCRETE FOUNDATIONS.

REMOVE EXISTING DIRT PATH, TYP.

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

APPROX. LIMITS OF TREE CANOPY, TYP.

TREE PROTECTION BARRIER, TYP.

REMOVE AND RETURN TO OWNER (3) TRASH RECEPTACLES (WITHIN EXISTING PLAYGROUND AREA)

REMOVE EXISTING TREE/PALM, TYP.

REMOVE EXISTING FENCE, TYP.

REMOVE EXISTING DOG PARK FENCE

EXISTING ROLLER HOCKEY COURT

EXISTING PICKLEBALL COURTS

NOTE: COORDINATION REQUIRED WITH ADJACENT PANTHERS PROJECT TO ENSURE THERE ARE NO CONFLICTS WITH PROPOSED CITY IMPROVEMENTS.

MATCH LINE SEE SHEET DL108

MATCH LINE SEE SHEET DL110

MATCH LINE SEE SHEET DL113

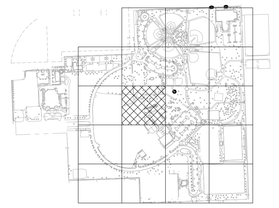
EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

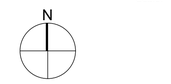
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9 KEY PLAN
DL109 Scale: 1" = 800'-0"



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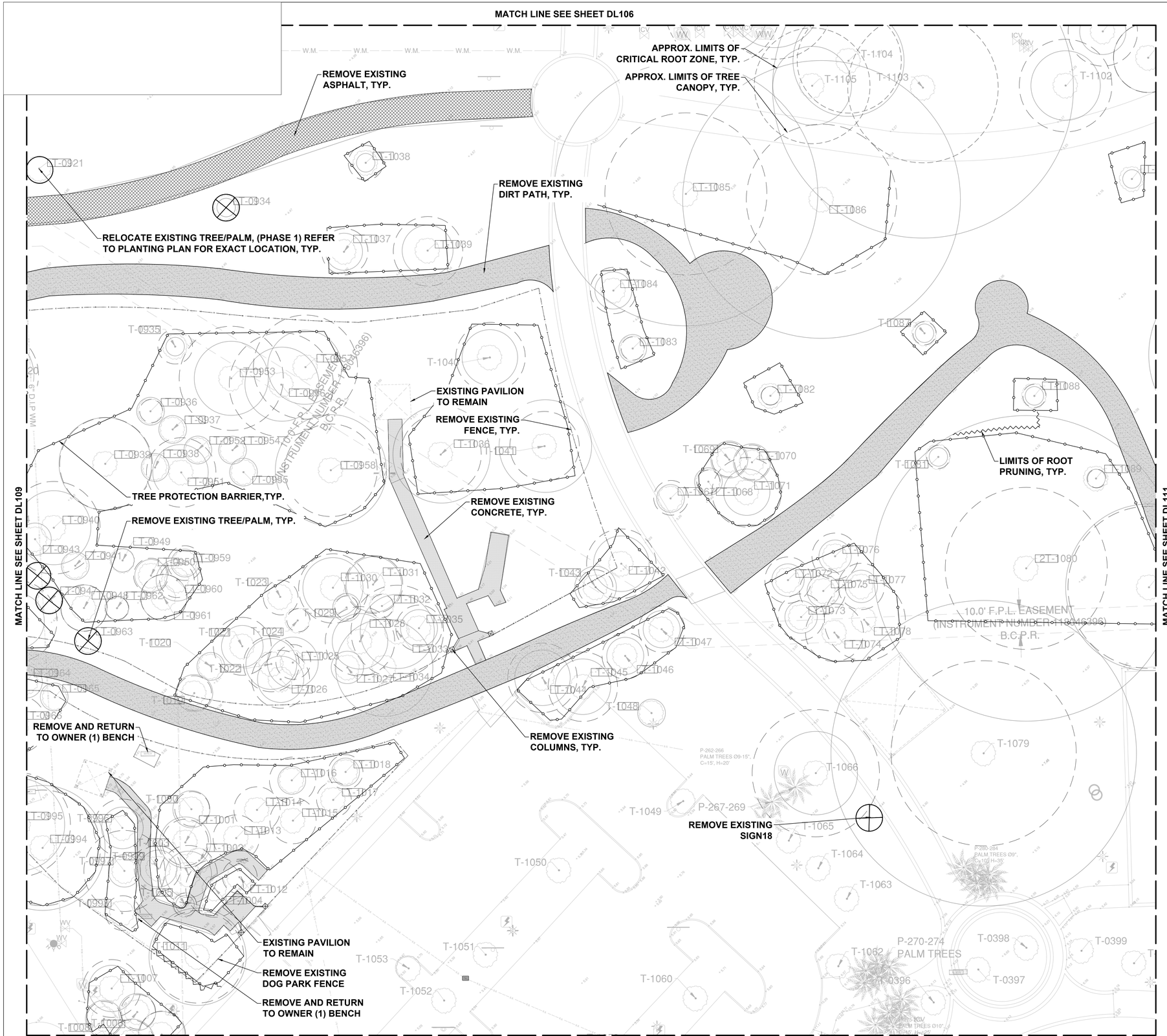
SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL109

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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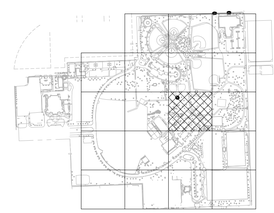
EXISTING TREE TO REMAIN
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CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

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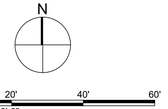
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10 KEY PLAN

DL110 — Scale: 1" = 800'-0"



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Tampa, FL 33607-1462

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PROJECT NUMBER
P12633

SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL110

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

MATCH LINE SEE SHEET DL107

MATCH LINE SEE SHEET DL110

MATCH LINE SEE SHEET DL115

T-1099
T-1097
T-1096
T-1098
T-1095
T-1100
T-1094
T-1093
T-1091
T-1092
T-0403
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T-0400
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T-0479
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T-0529
T-0530
T-0531
T-0532
T-0526

EXISTING BLEACHERS TO REMAIN, TYP.

LIMITS OF ROOT PRUNING, TYP.

SALVAGE AND RELOCATE EXISTING BLEACHERS, TYP.

EXISTING VOLLEYBALL COURT

APPROX. LIMITS OF TREE CANOPY, TYP.

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

REMOVE EXISTING DIRT PATH, TYP.

TREE PROTECTION BARRIER, TYP.

10.0' F.P.L. EASEMENT (INSTRUMENT NUMBER 118046396) B.C.P.R.

DENSE TREE AREA
T-0408-0517
TREE DIMENSIONS VARY FROM
T=±06-24"
C=±5-30'
H=±25-50'

DENSE TREE AREA
T-0408-0517
TREE DIMENSIONS VARY FROM
T=±06-24"
C=±5-30'
H=±25-50'

P-265-288
PALM TREES (4)
C=18, H=30-40'

NE 14TH AVE

50' TOTAL R/W
30.0'

PROPERTY BOUNDARY

GP
ICV
WV

EXISTING TREE TO REMAIN
- MEMORIAL TREE
- CANOPY AREA
- CRITICAL ROOT ZONE

EXISTING PALM TO REMAIN

ROOT PRUNING

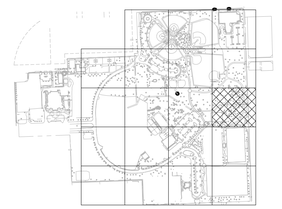
TREE PROTECTION BARRIER

DEMOLITION LEGEND

- EXISTING TREE/PALM TO BE REMOVED
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11 KEY PLAN

DL111 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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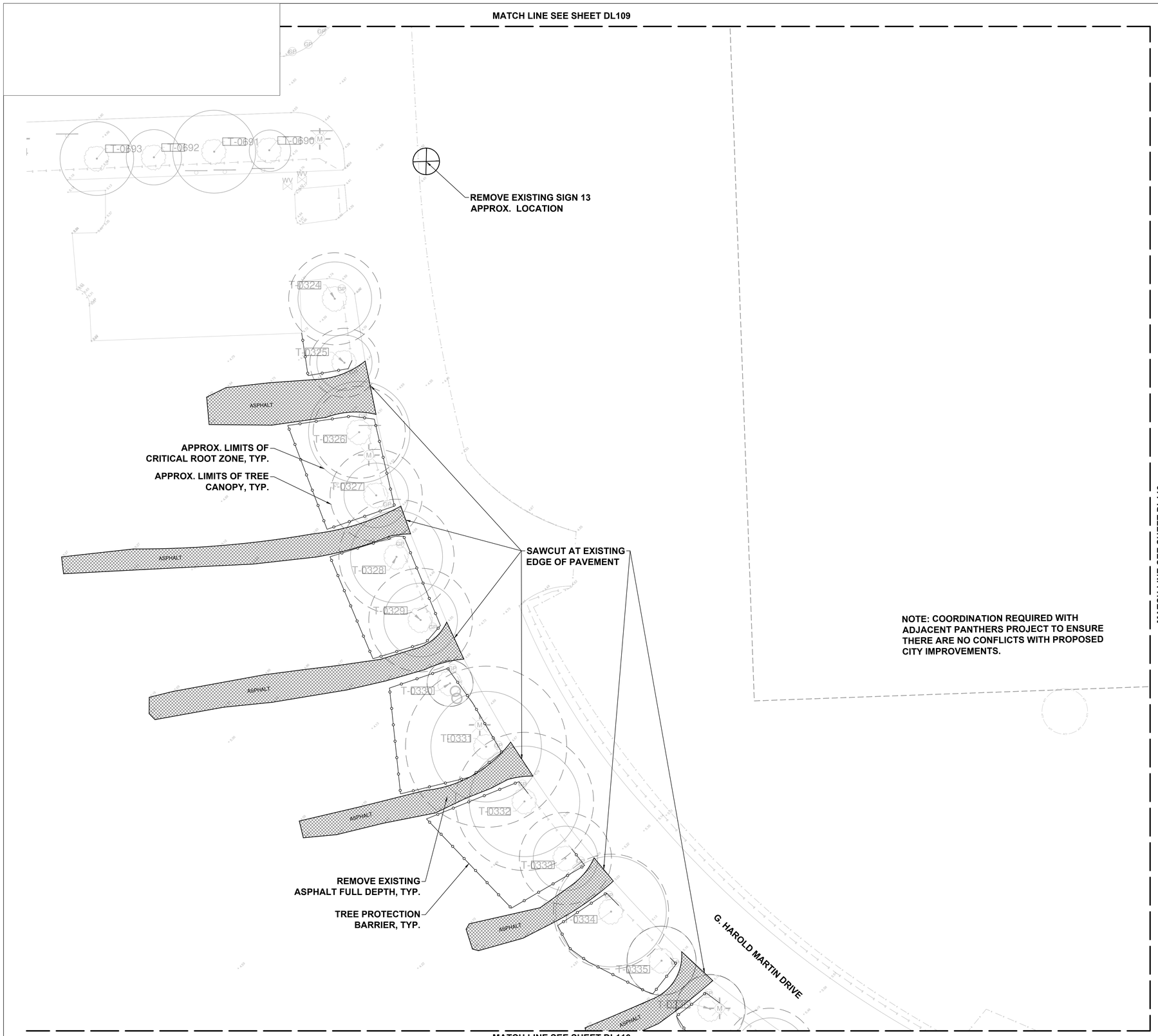
P12633

SHEET TITLE

LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

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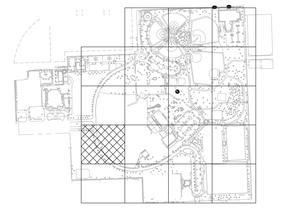
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EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

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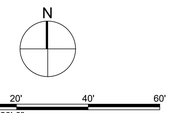
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12 KEY PLAN

DL112 | Scale: 1" = 800'-0"



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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

MATCH LINE SEE SHEET DL109

MATCH LINE SEE SHEET DL112

MATCH LINE SEE SHEET DL114

MATCH LINE SEE SHEET DL117

EXISTING PICKLEBALL COURTS

EXISTING RACQUETBALL COURTS

PHASE 3 NIC

GYMNASIUM

NIC

NOTE: COORDINATION REQUIRED WITH ADJACENT PANTHERS PROJECT TO ENSURE THERE ARE NO CONFLICTS WITH PROPOSED CITY IMPROVEMENTS.

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

APPROX. LIMITS OF TREE CANOPY, TYP.

EXISTING SHUFFLEBOARD COURTS

COORDINATION REQUIRED WITH ADJACENT JETC DEVELOPMENT TO ENSURE THERE ARE NO CONFLICTS WITH PROPOSED PROJECT IMPROVEMENTS

JIMMY EVERT TENNIS CENTER (JETC) IMPROVEMENTS LIMIT OF WORK NIC

EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE

EXISTING PALM TO REMAIN

ROOT PRUNING

TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED

EXISTING TREE/PALM TO BE RELOCATED

EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS

EXISTING GROUNDCOVER TO BE REMOVED

EXISTING FENCE TO BE REMOVED

EXISTING CURB TO BE REMOVED

EXISTING STRUCTURE TO BE REMOVED

EXISTING ASPHALT TO BE REMOVED

EXISTING CONCRETE TO BE REMOVED

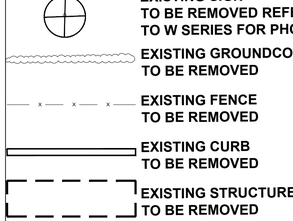
EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA

EXISTING PAVERS TO BE REMOVED

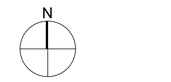
EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.
2. SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.
3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.
5. SEE G101 KEY PLAN FOR NOT IN CONTRACT (NIC) LIMIT OF WORK.



13 KEY PLAN
DL113 Scale: 1" = 800'-0"



0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

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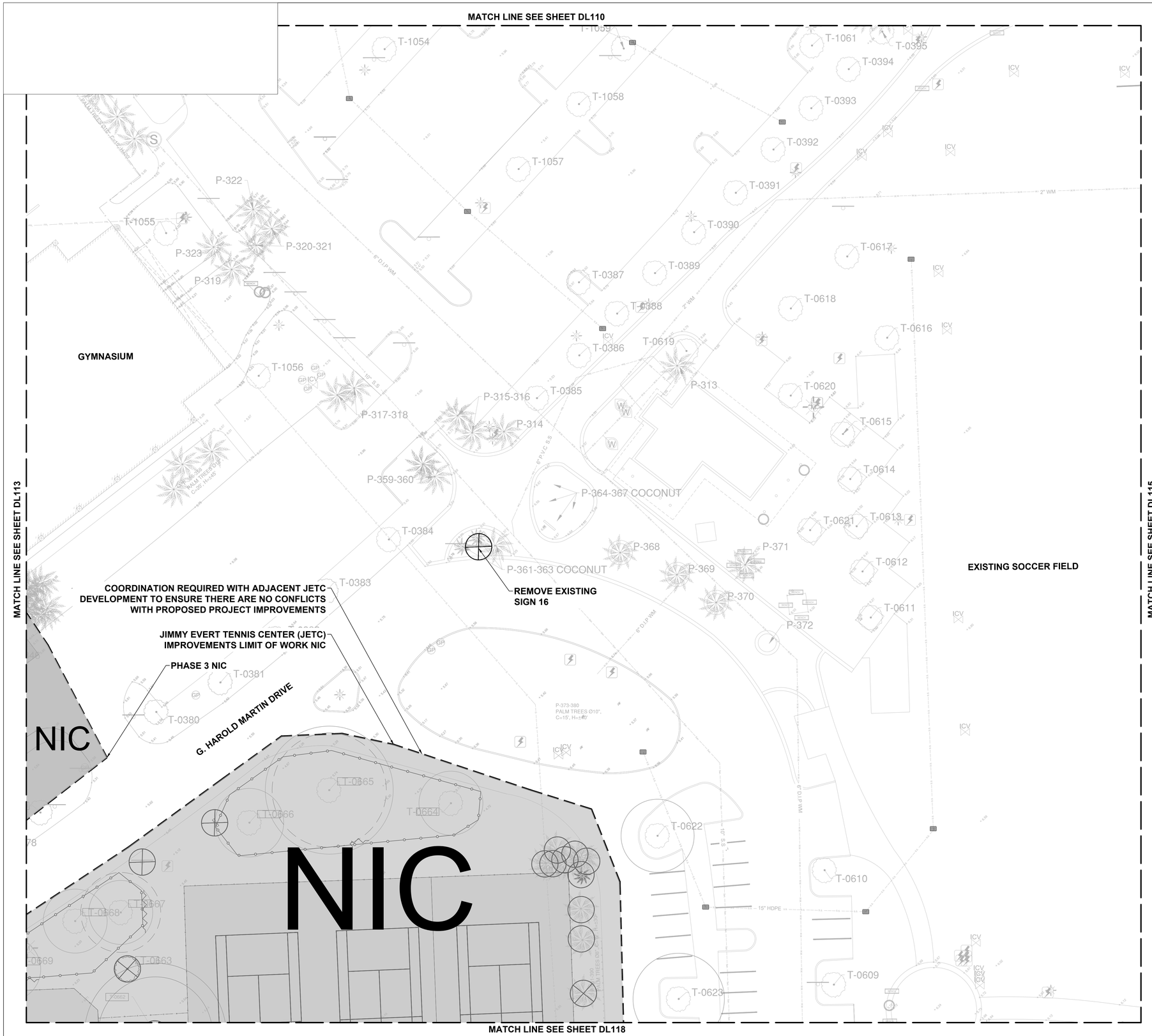
PROJECT NUMBER
P12633

SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL113

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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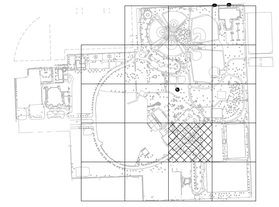


DEMOLITION LEGEND

- EXISTING TREE TO REMAIN
- MEMORIAL TREE
- CANOPY AREA
- CRITICAL ROOT ZONE
- EXISTING PALM TO REMAIN
- ROOT PRUNING
- TREE PROTECTION BARRIER
- EXISTING TREE/PALM TO BE REMOVED
- EXISTING TREE/PALM TO BE RELOCATED
- EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
- EXISTING GROUNDCOVER TO BE REMOVED
- EXISTING FENCE TO BE REMOVED
- EXISTING CURB TO BE REMOVED
- EXISTING STRUCTURE TO BE REMOVED
- EXISTING ASPHALT TO BE REMOVED
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- EXISTING TENNIS COURT TO BE REMOVED

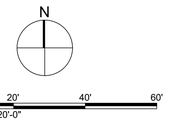
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14 KEY PLAN

DL114 Scale: 1" = 800'-0"



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PROJECT NUMBER

P12633

SHEET TITLE

LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL114



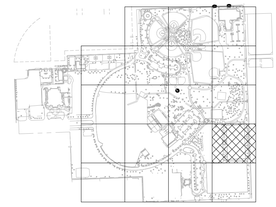
EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
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EXISTING TENNIS COURT TO BE REMOVED

NOTES:

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15 | KEY PLAN
DL115 | Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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P12633

SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL115

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

MATCH LINE SEE SHEET DL112

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

APPROX. LIMITS OF TREE CANOPY, TYP.

SAWCUT AT EXISTING EDGE OF PAVEMENT

G. HAROLD MARTIN DRIVE

REMOVE EXISTING ASPHALT FULL DEPTH, TYP.

TREE PROTECTION BARRIER, TYP.

PROPERTY BOUNDARY

40' TOTAL R/W

20'

T-0337 T-0338 T-0339 T-0340 T-0341 T-0342 T-0681 T-0682 T-0683 T-0684 T-0685

ASPHALT

ICV

GP

MATCH LINE SEE SHEET DL117

EXISTING TREE TO REMAIN

- MEMORIAL TREE
- CANOPY AREA
- CRITICAL ROOT ZONE

EXISTING PALM TO REMAIN

ROOT PRUNING

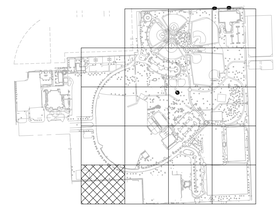
TREE PROTECTION BARRIER

DEMOLITION LEGEND

- EXISTING TREE/PALM TO BE REMOVED
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- EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
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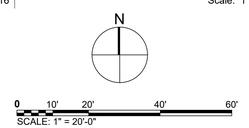
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16 KEY PLAN

DL116 Scale: 1" = 800'-0"



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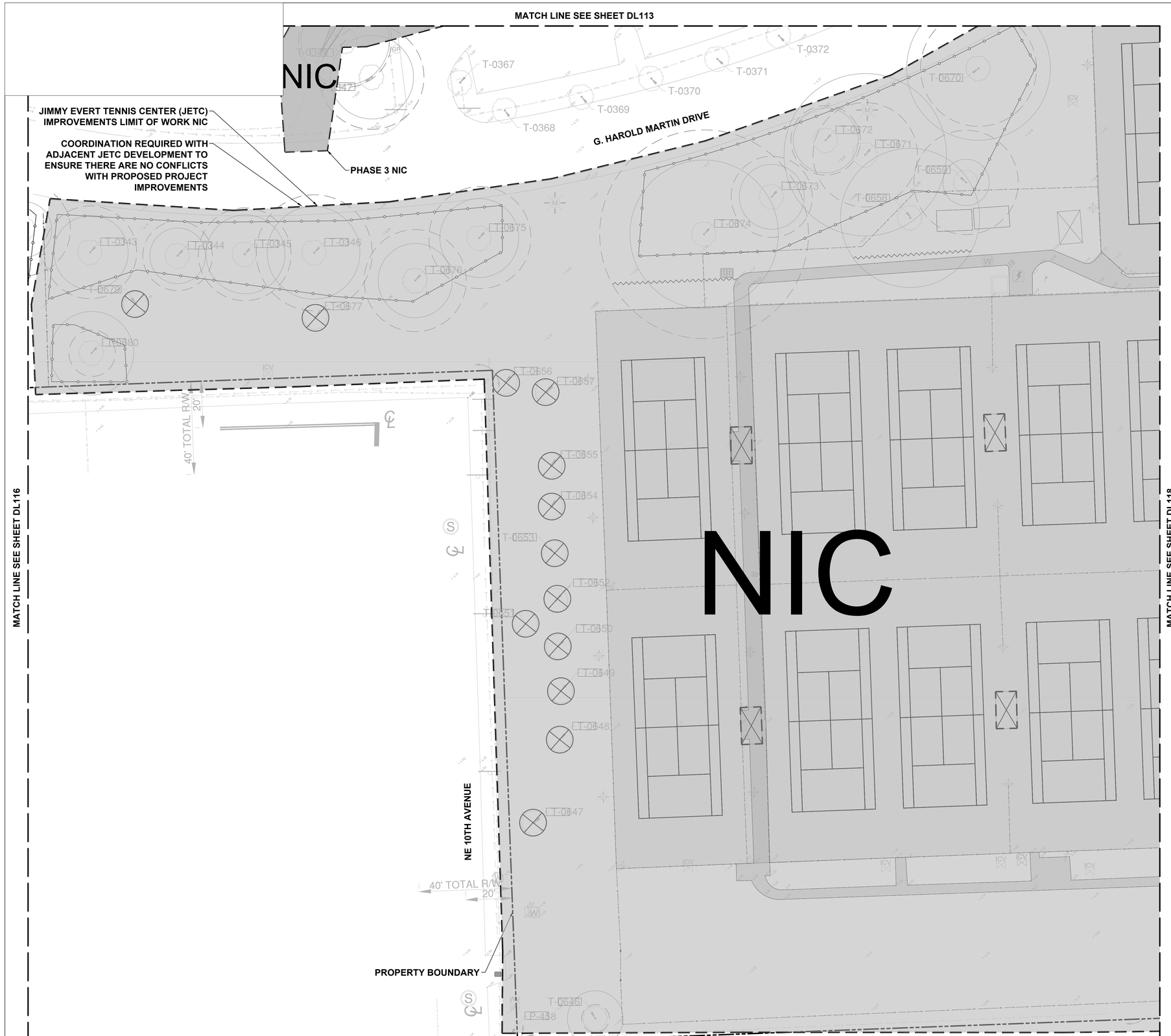
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER

DL116

Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

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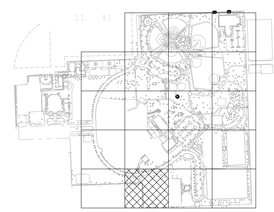
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ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

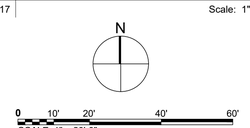
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17 KEY PLAN
DL117 Scale: 1" = 800'-0"



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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
LANDSCAPE DEMOLITION AND TREE PROTECTION PLAN

SHEET NUMBER
DL117

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI(2025-06-23) Last Plotted: 2025-06-25
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MATCH LINE SEE SHEET DL114

MATCH LINE SEE SHEET DL117

MATCH LINE SEE SHEET DL119

NIC

TENNIS COMPLEX

TENNIS COURT

PICNIC TABLE

EXISTING FOOTBALL FIELD

JIMMY EVERT TENNIS CENTER (JETC) IMPROVEMENTS LIMIT OF WORK NIC

COORDINATION REQUIRED WITH ADJACENT JETC DEVELOPMENT TO ENSURE THERE ARE NO CONFLICTS WITH PROPOSED PROJECT IMPROVEMENTS

REMOVE EXISTING PARK SIGN 17

APPROX. LIMITS OF CRITICAL ROOT ZONE, TYP.

APPROX. LIMITS OF TREE CANOPY, TYP.

TREE PROTECTION BARRIER, TYP.

PROPERTY BOUNDARY

EXISTING TREE TO REMAIN
MEMORIAL TREE
CANOPY AREA
CRITICAL ROOT ZONE
EXISTING PALM TO REMAIN
ROOT PRUNING
TREE PROTECTION BARRIER

DEMOLITION LEGEND

EXISTING TREE/PALM TO BE REMOVED
EXISTING TREE/PALM TO BE RELOCATED
EXISTING SIGN TO BE REMOVED REFER TO W SERIES FOR PHOTOS
EXISTING GROUNDCOVER TO BE REMOVED
EXISTING FENCE TO BE REMOVED
EXISTING CURB TO BE REMOVED
EXISTING STRUCTURE TO BE REMOVED
EXISTING ASPHALT TO BE REMOVED
EXISTING CONCRETE TO BE REMOVED
EXISTING DIRT PATH TO BE REMOVED. SODDED WITH BAHIA
EXISTING PAVERS TO BE REMOVED
EXISTING TENNIS COURT TO BE REMOVED

NOTES:

1. SEE NOTES AND DETAIL 1 ON SHEET DL201 FOR TREE PROTECTION BARRIER.
2. SEE NOTES AND DETAIL 2 ON SHEET DL201 FOR ROOT PRUNING.
3. TREE CANOPY AND CRITICAL ROOT ZONE LIMITS SHOWN ARE APPROXIMATE BASED ON SURVEY. FIELD VERIFY TREE CRITICAL ROOT ZONES WHERE AFFECTED BY PROPOSED IMPROVEMENTS.
4. THE CRITICAL ROOT ZONE FOR A TREE IS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER 4'-6" ABOVE THE GROUND.
5. SEE G101 KEY PLAN FOR NOT IN CONTRACT (NIC) LIMIT OF WORK

18 KEY PLAN
DL118 Scale: 1" = 800'-0"

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION.
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AECOM

PROJECT
HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

CLIENT
PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT
AECOM

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REGISTRATION

PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

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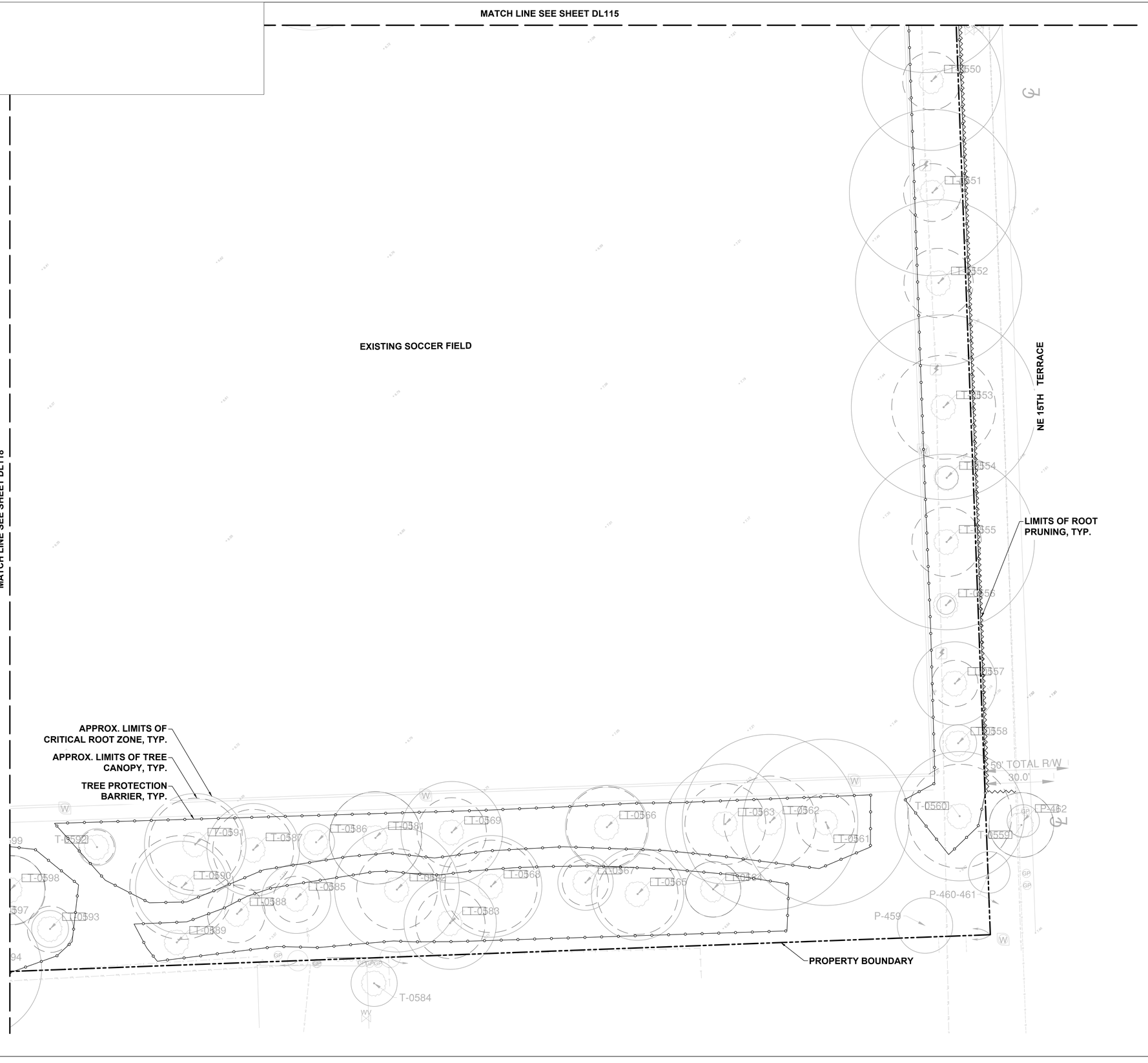
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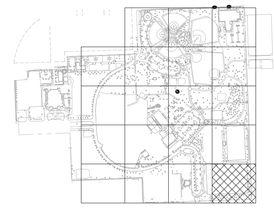
EXISTING TREE TO REMAIN
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19 KEY PLAN

DL119 Scale: 1" = 800'-0"

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Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

TREE PROTECTION NOTES:

1. CONTRACTOR SHALL PROTECT TREES TO BE PRESERVED FROM DAMAGE BY PROVIDING TREE BARRIERS ERECTED PRIOR TO SITE CLEARING OR OTHER CONSTRUCTION ACTIVITIES. TREE BARRIERS SHALL BE INSPECTED BY OWNER'S REPRESENTATIVE. CONTRACTOR SHALL PROVIDE 72 HOURS ADVANCE NOTICE TO OWNER'S REPRESENTATIVE AND PROJECT CERTIFIED ARBORIST TO SCHEDULE AN INSPECTION OF BARRIERS AND ROOT PRUNING. DO NOT ROOT PRUNE OR INSTALL TREE BARRIERS BEYOND THE PROJECT LIMITS.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR ADHERING TO ALL TREE PROTECTION MEASURES REQUIRED BY THE CITY OF FORT LAUDERDALE CODES, ORDINANCES AND STANDARD SPECIFICATIONS. THIS WILL INCLUDE ALL TREE BARRIERS, ROOT PRUNING, AND TREE TRIMMING/PRUNING ACTIVITIES. THESE REQUIREMENTS WILL APPLY WITHIN THE SPECIFIED "LIMITS OF WORK" AND WILL ALSO BE APPLICABLE IN ALL AREAS WHERE THE CONTRACTOR AND/OR HIS SUBCONTRACTORS STAGE, STORE OR PARK VEHICLES, EQUIPMENT, MATERIALS AND DEBRIS.
3. ALL TREE PRUNING AND/OR ROOT PRUNING ON EXISTING TREES TO BE PRESERVED WILL ONLY BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST. CERTIFIED ARBORIST SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE ON SIMILAR PROJECTS. SUBMIT THE CERTIFIED ARBORIST'S CERTIFICATION AND PROJECT EXPERIENCE TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PERFORMING THE WORK. FURTHERMORE, ALL TREE WORK SHALL CONFORM TO THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) 2001, AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS - TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (PRUNING) ANSI A-300.
4. WHERE CALLED FOR ON THE PLANS, INSTALL TREE BARRIERS, EROSION CONTROL/SILT FENCING (ONLY IF REQUIRED TO PROTECT TREE FROM SILT, SILT FENCE IS NOT AN APPROVED TREE PROTECTION MEASURE) OR OTHER APPROVED PROTECTIVE BARRIERS AROUND ALL TREES TO BE PRESERVED, PER DETAIL (1) THIS SHEET. WHERE APPLICABLE, AND SPECIFICALLY APPROVED BY THE OWNER'S REPRESENTATIVE, PROTECTIVE BARRIERS MAY BE PLACED IN ROOT PRUNE TRENCHES.
5. PRIOR TO ANY FIELD CHANGES TAKING PLACE, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE POTENTIAL IMPACTS TO EXISTING TREES WITH HIS CERTIFIED ARBORIST. INCLUDE RECOMMENDED MODIFICATIONS IN A PROPOSAL. THE OWNER'S REPRESENTATIVE MUST APPROVE, IN WRITING, ANY CHANGES TO THE APPROVED DESIGN PRIOR TO IMPLEMENTATION OF SAID CHANGE.
6. THE CONTRACTOR SHALL AVOID ANY OPEN EXCAVATIONS, FILL OR OTHER CONSTRUCTION ACTIVITIES WHENEVER POSSIBLE WITHIN THE DRIPLINE OF ANY EXISTING TREE UNLESS SPECIFIED IN THE PLANS.
7. CONTRACTOR SHALL PROTECT THE ROOT SYSTEMS OF TREES TO BE PRESERVED. DO NOT STORE ANY EQUIPMENT OR ANY MATERIALS WITHIN THE DRIPLINE OF ANY TREE. DO NOT RINSE ANY TOOLS OR EQUIPMENT WITHIN THE DRIPLINE OF ANY TREE. CONSTRUCTION MATERIALS, FILL, DEBRIS, EXCAVATED MATERIALS AND CHEMICALS SHALL NOT BE STORED WITHIN THE TREE BARRIER AREAS. VEHICLES OR EQUIPMENT SHALL NOT BE PARKED NOR OPERATED WITHIN BARRIERS.
8. TEMPORARY ACCESS WITHIN TREE BARRIERS SHALL BE PERMITTED FOR ROOT PRUNING, REMOVAL OF EXISTING PLANT MATERIAL, AND THE INSTALLATION OF PROPOSED PLANT MATERIAL WHERE INDICATED ON THE LANDSCAPE PLANS. HAND REMOVE EXISTING PLANT MATERIAL IN LOCATIONS BENEATH EXISTING, PROTECTED TREES. DO NOT USE MACHINERY OR HEAVY EQUIPMENT TO CLEAR AND GRUB BENEATH EXISTING TREES. IMMEDIATELY RESTORE TREE BARRIERS UPON COMPLETION OF WORK.
9. FOLLOWING COMPLETION OF ROOT PRUNING, CONTRACTOR SHALL BACKFILL THE TRENCH WITH NATIVE SOILS. BACKFILLING SHALL OCCUR AT THE END OF EACH DAY. DO NOT LEAVE ROOTS EXPOSED FOR MORE THAN 8 HOURS. A SOIL DRENCH FUNGICIDE SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE TO THE TRENCH AREAS WITHIN FIVE DAYS FOLLOWING COMPLETION OF ROOT PRUNING OR AS DIRECTED BY ISA CERTIFIED ARBORIST.
10. WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO LAST FOR AN EXTENDED PERIOD OF TIME NEAR EXISTING TREES, THE CONTRACTOR SHALL INSTALL AND MAINTAIN CITY APPROVED TREE BARRIERS AS SHOWN IN THE STANDARD DETAILS AND AS APPROVED BY THE OWNER'S REPRESENTATIVE.
11. WOODCHIPS, MULCH, OR ANOTHER CUSHIONING SURFACE MATERIAL APPROVED BY THE OWNER'S REPRESENTATIVE SHALL BE PLACED TO A MINIMUM DEPTH OF TEN (10) INCHES OVER AREAS WHERE ROOTS ARE PRESENT AND CONSTRUCTION TRAFFIC OCCURS. REMOVE THIS MATERIAL AFTER CONSTRUCTION IS COMPLETED.
12. CONTRACTOR SHALL MONITOR THE CONDITION OF THE BARRIERS DAILY AND REPAIR ANY BREACHES IMMEDIATELY.
13. ALL TREE PROTECTION MEASURES SHALL REMAIN IN PLACE AT ALL TIMES DURING CONSTRUCTION UNTIL THE OWNER'S REPRESENTATIVE AUTHORIZES REMOVAL.
14. PROTECT THE TRUNKS OF TREES EXPOSED TO CONSTRUCTION ACTIVITY WITHIN THE DRIPLINE WITH TREE ARMOR. PROTECT THE TRUNKS OF TREES WITHIN TWENTY-FIVE (25') OF ANY CONSTRUCTION ACTIVITY WITH TREE ARMOR IN ADDITION TO BARRIER IF THE BARRIER WILL BE TEMPORARILY MOVED OR REMOVED TO ALLOW FOR LIMITED APPROVED ACTIVITY INSIDE THE BARRIER. TREE ARMOR TRUNK PROTECTION SHALL BE PER FDOT 110-100 "TREE PROTECTION AND PRESERVATION" TRUNK PROTECTION DETAIL.
15. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO OBTAIN APPROVAL IN ADVANCE OF ANY AND ALL WORK WITHIN THE DRIPLINE OF ANY EXISTING TREE.

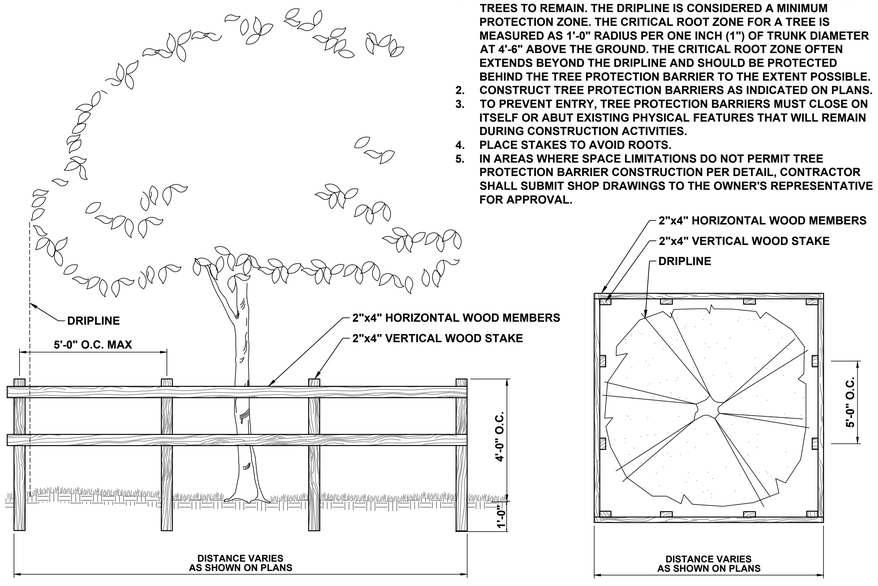
ROOT PRUNING NOTES:

1. THE CONTRACTOR SHALL PROVIDE AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST TO PERFORM ROOT PRUNING. PROVIDE ARBORIST CONTACT INFORMATION TO OWNER'S REPRESENTATIVE.
2. THE CONTRACTOR'S ARBORIST SHALL MEET WITH THE CITY'S ARBORIST AT LEAST 1 DAY PRIOR TO SCHEDULED ROOT PRUNING ACTIVITY TO REVIEW AND AGREE ON PROPOSED ROOT PRUNING. THE ARBORISTS SHOULD RECORD THE AGREEMENT. THE CITY ARBORIST SHALL PROVIDE APPROVAL FOR CONTRACTOR'S ARBORIST TO PERFORM AGREED ROOT PRUNING.
3. ROOT PRUNING SHALL BE PERFORMED AS FAR IN ADVANCE OF OTHER CONSTRUCTION ACTIVITIES AS IS FEASIBLE, BUT AT A MINIMUM SHALL BE PERFORMED PRIOR TO ANY IMPACTS TO THE SOIL. ASSOCIATED TREE PROTECTION MEASURES SHALL BE IMPLEMENTED UPON COMPLETION OF SAID ROOT PRUNING.
4. ROOT PRUNING SHALL BE PERFORMED IN ACCORDANCE WITH ANSI A300 (PART 8) – 2020 ROOT MANAGEMENT, AND THE ISA BMP ROOT MANAGEMENT COMPANION PUBLICATION.
5. IF THERE IS A LIKELIHOOD OF EXCESSIVE WIND AND/OR RAIN, AN EXCEPTIONAL CARE SHALL BE TAKEN ON ANY ROOT PRUNING ACTIVITIES.
6. ROOTS SHALL BE CUT CLEANLY, AS FAR FROM THE TRUNK OF THE TREE AS POSSIBLE. ROOT PRUNING SHALL BE PERFORMED USING A ROOT CUTTING MACHINE DESIGNED SPECIFICALLY FOR THIS PURPOSE. ALTERNATE EQUIPMENT OR TECHNIQUES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE, PRIOR TO ANY WORK ADJACENT TO TREES TO BE PRESERVED.
7. UPON COMPLETION OF THE ROOT PRUNING, THE CONTRACTOR'S ARBORIST MUST NOTIFY CITY ARBORIST AND MEET ON SITE TO INSPECT THE ROOT PRUNING. ROOT PRUNING SHALL BE COMPLETED, INSPECTED, AND ACCEPTED PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION OR OTHER IMPACTS TO THE DRIPLINE OF TREES TO BE PROTECTED.
8. UPON COMPLETION OF INSPECTION, THE CITY'S ARBORIST SHALL RECORD THE RESULTS AND SHARE WITH CONTRACTOR.
9. EXCAVATIONS IN AN AREA WHERE ROOTS ARE PRESENT SHALL NOT CAUSE THE TEARING OR RIPPING OF TREE ROOTS. ROOTS MUST FIRST BE CLEANLY SEVERED PRIOR TO CONTINUING WITH THE EXCAVATION, OR TUNNELED AROUND TO PREVENT DAMAGE TO THE ROOT.
10. TREE ROOTS SHALL NOT BE EXPOSED TO OPEN AIR AND RISK OF DRYING OUT. ROOT ENDS SHALL BE COVERED WITH NATIVE SOIL OR BURLAP AND KEPT MOIST UNTIL FINAL BACKFILL OR FINAL GRADES HAVE BEEN ESTABLISHED.
11. WHEN DEEMED APPROPRIATE (E.G. DURING PERIODS OF DROUGHT) THE OWNER'S REPRESENTATIVE MAY REQUIRE A TEMPORARY IRRIGATION SYSTEM BE UTILIZED WITHIN THE REMAINING DRIPLINES OF ROOT PRUNED TREES.
12. SOIL MOISTURE
    - A. VOLUMETRIC SOIL MOISTURE LEVEL, IN ALL SOILS WITHIN THE TREE BARRIER AREA SHALL BE MAINTAINED ABOVE PERMANENT WILT POINT TO A DEPTH OF AT LEAST 8 INCHES. NO SOIL WORK OR OTHER ACTIVITY SHALL BE PERMITTED WITHIN THE TREE AND PLANT PROTECTION AREA WHEN THE VOLUMETRIC SOIL MOISTURE IS ABOVE FIELD CAPACITY. THE PERMANENT WILT POINT AND FIELD CAPACITY FOR EACH TYPE OF SOIL TEXTURE SHALL BE DEFINED AS FOLLOWS (NUMBERS INDICATE PERCENTAGE VOLUMETRIC SOIL MOISTURE).

SOIL TYPE	PERMANENT WILT POINT	FIELD CAPACITY
SAND, LOAMY SAND, SANDY LOAM	5 - 8%	12 - 18%
LOAM, SANDY CLAY, SANDY CLAY LOAM	14 - 25%	27 - 36%
CLAY LOAM, SILT LOAM	11 - 22%	31 - 36%
SILTY CLAY, SILTY CLAY LOAM	22 - 27%	38 - 41%

    VOLUMETRIC SOIL MOISTURE SHALL BE MEASURED WITH A DIGITAL, ELECTRIC CONDUCTIVITY METER. THE METER SHALL BE THE DIGITAL SOIL MOISTURE METER, DSMM500 BY GENERAL SPECIALTY TOOLS AND INSTRUMENTS, OR APPROVED EQUIVALENT METER.
    - B. THE CONTRACTOR SHALL CONFIRM THE SOIL MOISTURE LEVELS WITH A MOISTURE METER. IF THE MOISTURE IS TOO HIGH, SUSPEND OPERATIONS UNTIL THE SOIL MOISTURE DRAINS TO BELOW FIELD CAPACITY.

NOTE:
1. DESIGN INTENT IS TO PROTECT MAXIMUM AREA AROUND EXISTING TREES TO REMAIN. THE DRIPLINE IS CONSIDERED A MINIMUM PROTECTION ZONE. THE CRITICAL ROOT ZONE FOR A TREE IS MEASURED AS 1'-0" RADIUS PER ONE INCH (1") OF TRUNK DIAMETER AT 4'-6" ABOVE THE GROUND. THE CRITICAL ROOT ZONE OFTEN EXTENDS BEYOND THE DRIPLINE AND SHOULD BE PROTECTED BEHIND THE TREE PROTECTION BARRIER TO THE EXTENT POSSIBLE.
2. CONSTRUCT TREE PROTECTION BARRIERS AS INDICATED ON PLANS.
3. TO PREVENT ENTRY, TREE PROTECTION BARRIERS MUST CLOSE ON ITSELF OR ABUT EXISTING PHYSICAL FEATURES THAT WILL REMAIN DURING CONSTRUCTION ACTIVITIES.
4. PLACE STAKES TO AVOID ROOTS.
5. IN AREAS WHERE SPACE LIMITATIONS DO NOT PERMIT TREE PROTECTION BARRIER CONSTRUCTION PER DETAIL, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.



SECTION

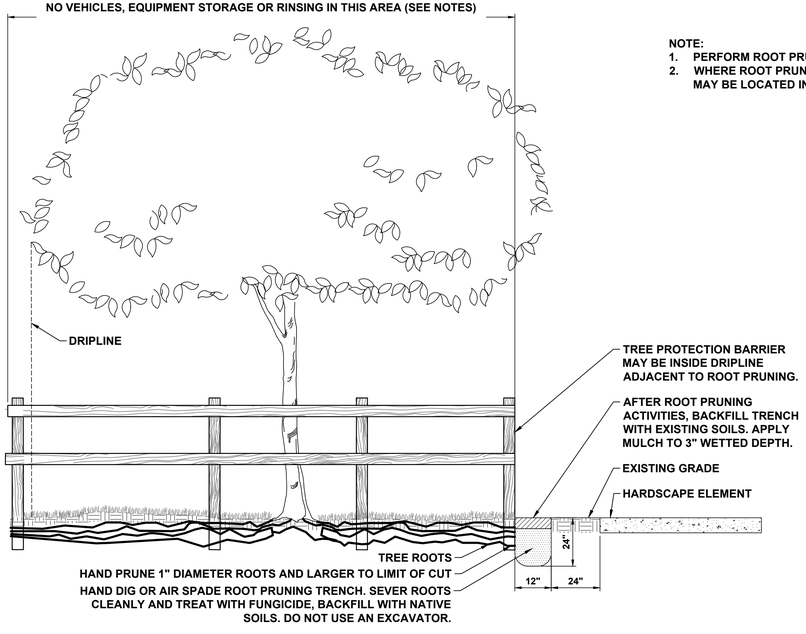
PLAN

1 TREE PROTECTION BARRIER
NTS

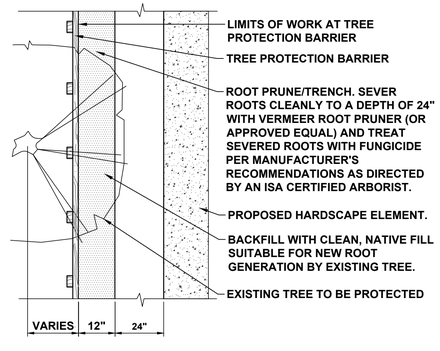
EXISTING TREE TO BE PROTECTED

NO VEHICLES, EQUIPMENT STORAGE OR RINSING IN THIS AREA (SEE NOTES)

NOTE:
1. PERFORM ROOT PRUNING AS INDICATED ON PLANS.
2. WHERE ROOT PRUNING OCCURS, TREE PROTECTION BARRIER MAY BE LOCATED INSIDE THE DRIPLINE.



SECTION



PLAN

2 ROOT PRUNING
NTS

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TREE PROTECTION NOTES AND DETAILS

SHEET NUMBER
DL201

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
6	Phase 2	*Swietenia mahagoni*	Mahogany Tree	A	55.0	22	70%	REMAIN	N/A
7	Phase 2	*Quercus virginiana*	Live Oak	A	55.0	27	70%	REMAIN	N/A
8	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	55.0	30	65%	REMAIN	N/A
9	Phase 2	*Quercus virginiana*	Live Oak	A	55.0	21	75%	REMAIN	N/A
10	Phase 2	*Quercus virginiana*	Live Oak	A	43.0	16	75%	REMAIN	N/A
11	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	25	75%	REMAIN	N/A
12	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	20	75%	REMAIN	N/A
13	Phase 2	*Quercus virginiana*	Live Oak	A	42.0	16	75%	REMAIN	N/A
14	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	19	75%	REMAIN	N/A
15	Phase 2	*Quercus virginiana*	Live Oak	A	26.0	8	75%	REMAIN	N/A
16	Phase 2	*Quercus virginiana*	Live Oak	A	28.0	10	75%	REMAIN	N/A
17	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	13	75%	REMAIN	N/A
18	Phase 2	*Tamarindus indica*	Tamarind	A	38.0	20	75%	REMAIN	N/A
19	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
20	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	20	75%	REMAIN	N/A
22	Phase 2	*Pongamia pinnata*	Pongam	A	40.0	48	75%	REMAIN	N/A
23	Phase 2	*Quercus virginiana*	Live Oak	A	28.0	9	75%	REMAIN	N/A
24	Phase 2	*Quercus virginiana*	Live Oak	A	12.0	27	75%	REMAIN	N/A
36	Phase 2	*Swietenia mahagoni*	Mahogany Tree	A	55.0	46	75%	REMAIN	N/A
37	Phase 2	*Quercus virginiana*	Live Oak	A	55.0	19	75%	REMAIN	N/A
38	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	40	75%	REMAIN	N/A
39	Phase 2	*Pongamia pinnata*	Pongam	A	51.0	72	75%	REMAIN	N/A
40	Phase 2	*Bursera simaruba*	Gumbo	A	30.0	36	75%	REMAIN	N/A
41	Phase 2	*Quercus virginiana*	Live Oak	A	32.0	17	75%	REMAIN	N/A
43	Phase 2	*Podocarpus elatus*	Plum Pine	B	40.0	60	75%	REMAIN	N/A
44	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	14	75%	REMAIN	N/A
45	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	27	75%	REMAIN	N/A
89	Phase 2	*Delonix regia*	Royal Poinciana	B	35.0	14	75%	REMAIN	N/A
90	Phase 2	*Delonix regia*	Royal Poinciana	B	40.0	21	75%	REMAIN	N/A
91	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	30.0	16	75%	REMAIN	N/A
118	Phase 2	*Conocarpus erectus "sericeus"*	Silver buttonwood	A	60.0	10	75%	REMAIN	N/A
119	Phase 2	*Conocarpus erectus "sericeus"*	Silver buttonwood	A	60.0	10	75%	REMAIN	N/A
120	Phase 2	*Conocarpus erectus "sericeus"*	Silver buttonwood	A	60.0	10	75%	REMAIN	N/A
131	Phase 2	*Acer rubrum*	Red Maple	A	35.0	18	75%	REMAIN	N/A
132	Phase 2	*Tabebuia caraiba*	Silver Trumpet Tree	B	40.0	20	75%	REMAIN	N/A
133	Phase 2	*Tabebuia caraiba*	Silver Trumpet Tree	B	40.0	22	75%	REMAIN	N/A
139	Phase 2	*Coccoloba uvifera*	Seagrape	A	40.0	80	70%	REMAIN	N/A
143	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	40	70%	REMAIN	N/A
144	Phase 2	*Coccoloba uvifera*	Seagrape	A	40.0	60	70%	REMAIN	N/A
145	Phase 2	*Coccoloba uvifera*	Seagrape	A	40.0	50	75%	REMAIN	N/A
146	Phase 2	*Bucida buceras*	Black olive	C	30.0	12	75%	REMAIN	N/A
179	Phase 2	*Bucida buceras*	Black olive	C	60.0	19	75%	REMAIN	N/A
314	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	16	75%	REMAIN	N/A
315	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	14	75%	REMAIN	N/A
316	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	19	75%	REMAIN	N/A
317	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	22	75%	REMAIN	N/A
318	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	26	75%	REMAIN	N/A
319	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
320	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	16	75%	REMAIN	N/A
321	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	24	75%	REMAIN	N/A
322	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	14	75%	REMAIN	N/A
323	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMAIN	N/A
324	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	16	75%	REMAIN	N/A
325	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	12	75%	REMAIN	N/A
326	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	22	75%	REMAIN	N/A
327	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	14	75%	REMAIN	N/A
328	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	20	75%	REMAIN	N/A
329	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	16	75%	REMAIN	N/A
330	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	10	75%	REMAIN	N/A
331	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	24	75%	REMAIN	N/A
332	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	24	75%	REMAIN	N/A
333	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	14	75%	REMAIN	N/A
334	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	24	75%	REMAIN	N/A
335	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	15	75%	REMAIN	N/A
336	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	15	75%	REMAIN	N/A
337	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	16	75%	REMAIN	N/A
338	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	16	75%	REMAIN	N/A
339	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMAIN	N/A
340	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
341	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
342	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	12	75%	REMAIN	N/A
343	JETC	*Quercus virginiana*	Live Oak	A	32.0	16	75%	REMAIN	N/A
344	JETC	*Quercus virginiana*	Live Oak	A	30.0	12	75%	REMAIN	N/A
345	JETC	*Quercus virginiana*	Live Oak	A	35.0	17	75%	REMAIN	N/A
346	JETC	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A
347	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	18	75%	REMAIN	N/A
348	Phase 3			A	35.0	19	75%	REMAIN	N/A
349	Phase 3			A	40.0	16	75%	REMAIN	N/A
350	Phase 3	*Pinus elliottii*	Slash Pine	B	50.0	12	75%	REMAIN	N/A
351	Phase 3	*Pinus elliottii*	Slash Pine	B	50.0	17	75%	REMAIN	N/A
352	Phase 3	*Pinus elliottii*	Slash Pine	B	50.0	19	75%	REMAIN	N/A
353	Phase 2	*Pinus elliottii*	Slash Pine	B	50.0	20	75%	REMAIN	N/A
354	Phase 2	*Senna auriculata*	Matura Tea Tree	C	25.0	16	75%	REMAIN	N/A
355	Phase 2	*Senna auriculata*	Matura Tea Tree	C	25.0	12	75%	REMAIN	N/A
356	Phase 3	*Ficus benjamina*	Weeping Fig	C	16.0	5	70%	REMOVE PH3	$195.00
357	Phase 3	*Ficus benjamina*	Weeping Fig	C	15.0	6	70%	REMOVE PH3	$195.00
358	Phase 3	*Ficus benjamina*	Weeping Fig	C	15.0	5	70%	REMOVE PH3	$195.00
359	Phase 3	*Ficus benjamina*	Weeping Fig	C	17.0	6	70%	REMOVE PH3	$195.00
360	Phase 3	*Ficus benjamina*	Weeping Fig	C	15.0	5	70%	REMOVE PH3	$195.00
361	Phase 3	*Ficus benjamina*	Weeping Fig	C	23.0	4	70%	REMOVE PH3	$130.00
362	Phase 3	*Pinus elliottii*	Slash Pine	B	50.0	15	75%	REMOVE PH3	$455.00
363	Phase 3	*Pinus elliottii*	Slash Pine	B	35.0	19	70%	REMOVE PH3	$5,670.57
364	Phase 3	*Senna auriculata*	Matura Tea Tree	C	30.0	32	68%	REMOVE PH3	$12,063.72
365	Phase 3	*Callistemon rigidus*	Rigid Bottlebrush	C	30.0	14	75%	REMAIN	N/A
366	Phase 3	*Callistemon rigidus*	Rigid Bottlebrush	C	30.0	14	75%	REMAIN	N/A
408	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
409	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
410	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
411	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
412	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
413	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
414	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
415	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A
416	Phase 2	*Pinus elliottii*	Slash Pine	B	±5-30	±6-24	75%	REMAIN	N/A

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COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION
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City of Fort Lauderdale

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REGISTRATION

PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

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AECOM Technical Services, INC
7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
TREE DISPOSITION TABLE

SHEET NUMBER
DL202

ANSI D 24" x 36"
Approved:
Checked:
Designer:
Project Management Initials:
Last saved by: MAIRIN.SUBERVI (2025-06-23) Last Plotted: 2025-06-25
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\04-LA\SP12633-DL101-DEMO.DWG

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)	MITIGATION (CALIPER INCH VALUE)
417	Phase 2	*Pinus elliottii*	Slash Pine	B	12.0	4	75%	REMAIN	N/A	N/A
418	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	5	75%	REMAIN	N/A	N/A
419	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	7	75%	REMAIN	N/A	N/A
420	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
421	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
422	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
423	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
424	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
425	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
426	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
427	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
428	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
429	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
430	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
431	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
432	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
433	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
434	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
435	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
436	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
437	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
438	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
439	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
440	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	75%	REMAIN	N/A	N/A
441	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMAIN	N/A	N/A
442	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
443	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
444	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
445	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
446	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
447	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
448	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
449	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
450	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
451	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
452	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
453	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
454	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
455	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
456	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
457	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	12	75%	REMAIN	N/A	N/A
458	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
459	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
460	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
461	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
462	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
463	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
464	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
465	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
466	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
467	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
468	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
469	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
470	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
471	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
472	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
473	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
474	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
475	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
476	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
477	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
478	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
479	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	8	75%	REMAIN	N/A	N/A
480	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
481	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
482	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
483	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
484	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
485	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
486	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
487	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A	N/A
488	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	8	75%	REMAIN	N/A	N/A
489	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	12	75%	REMAIN	N/A	N/A
490	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
491	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
492	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
493	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
494	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
495	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
496	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
497	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
498	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
499	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
500	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A	N/A
501	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A	N/A

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
502	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
503	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
504	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
505	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
506	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
507	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
508	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
509	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
510	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
511	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
512	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
513	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	5	75%	REMAIN	N/A
514	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
515	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
516	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
517	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
518	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	5	75%	REMAIN	N/A
519	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
520	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	5	75%	REMAIN	N/A
521	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
522	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
523	Phase 2	*Pinus elliottii*	Slash Pine	B	±25-50'	±6-24"	75%	REMAIN	N/A
524	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	75%	REMAIN	N/A
534	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	22	75%	REMAIN	N/A
548	Phase 2	*Ponfamia ponnata*	Pongam	A	30.0	18	75%	REMAIN	N/A
549	Phase 2	*Ponfamia ponnata*	Pongam	A	30.0	36	75%	REMAIN	N/A
550	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	30	75%	REMAIN	N/A
551	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	36	75%	REMAIN	N/A
552	Phase 2	*Ponfamia ponnata*	Pongam	A	20.0	36	75%	REMAIN	N/A
553	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	40	75%	REMAIN	N/A
554	Phase 2	*Ponfamia ponnata*	Pongam	A	22.0	5	75%	REMAIN	N/A
555	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	38	75%	REMAIN	N/A
556	Phase 2	*Ponfamia ponnata*	Pongam	A	22.0	4	75%	REMAIN	N/A
557	Phase 2	*Ponfamia ponnata*	Pongam	A	30.0	18	75%	REMAIN	N/A
558	Phase 2	*Ponfamia ponnata*	Pongam	A	21.0	8	75%	REMAIN	N/A
559	Phase 2	*Ponfamia ponnata*	Pongam	A	45.0	14	75%	REMAIN	N/A
560	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	40.0	28	75%	REMAIN	N/A
561	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	40.0	35	75%	REMAIN	N/A
562	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	40.0	38	75%	REMAIN	N/A
563	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	40.0	26	75%	REMAIN	N/A
564	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	25.0	12	75%	REMAIN	N/A
565	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	35.0	20	75%	REMAIN	N/A
566	Phase 2	*Calophyllum inophyllum*	Beauty Leaf	F	35.0	18	75%	REMAIN	N/A
567	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	30.0	12	75%	REMAIN	N/A
568	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	22	75%	REMAIN	N/A
569	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	22	75%	REMAIN	N/A
581	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A
582	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	27	75%	REMAIN	N/A
583	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A
585	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
586	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	8	75%	REMAIN	N/A
587	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	20	75%	REMAIN	N/A
588	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	20	75%	REMAIN	N/A
589	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	18	75%	REMAIN	N/A
590	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A
591	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	22	75%	REMAIN	N/A
592	Phase 2	*Delonix regia*	Royal Poinciana	B	45.0	8	75%	REMAIN	N/A
593	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	8	75%	REMAIN	N/A
597	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	8	75%	REMAIN	N/A
598	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	15	75%	REMAIN	N/A
599	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	6	75%	REMAIN	N/A
600	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	10	75%	REMAIN	N/A
601	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	36	75%	REMAIN	N/A
602	Phase 2	*Ponfamia ponnata*	Pongam	A	35.0	36	75%	REMAIN	N/A
633	JETC	*Filicium decipiens*	Japanese Fern Tree	N/A	30.0	10	75%	REMOVE	N/A
634	JETC	*Filicium decipiens*	Japanese Fern Tree	N/A	15.0	5	75%	REMOVE	N/A
635	JETC	*Swetenia mahagoni*	Mahogany	A	30.0	17	75%	REMAIN	N/A
636	JETC	*Swetenia mahagoni*	Mahogany	A	35.0	7	75%	REMAIN	N/A
637	JETC	*Quercus virginiana*	Live Oak	A	35.0	7	75%	REMAIN	N/A
638	JETC	*Bursera simaruba*	Gumbo Limbo	A	35.0	7	75%	REMAIN	N/A
639	JETC	*Bursera simaruba*	Gumbo Limbo	A	30.0	6	75%	REMAIN	N/A
646	JETC	*Calophyllum inophyllum*	Beauty Leaf	F	20.0	12	75%	REMAIN	N/A
647	JETC	*Delonix regia*	Royal Poinciana	B	26.0	20	100%	REMOVE	$6,283.19
648	JETC	*Bursera simaruba*	Gumbo Limbo	A	33.0	18	100%	REMOVE	$6,361.73
649	JETC	*Bursera simaruba*	Gumbo Limbo	A	20.0	12	75%	REMOVE	$585.00
650	JETC	*Bursera simaruba*	Gumbo Limbo	A	20.0	12	75%	REMOVE	$585.00
651	JETC	*Coccoloba diversifolia*	Pigeon Plum	A	20.0	6	75%	REMOVE	$325.00

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER
P12633

SHEET TITLE
TREE DISPOSITION TABLE

SHEET NUMBER
DL203

Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"
Last saved by: MAIRIN.SUBERVI(2025-06-23) Last Plotted: 2025-06-25
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOM\BP-AMER (USA) 60941343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\04-LAS\P12633-DL101-DEMO.DWG

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
652	JETC	*Bursera simaruba*	Gumbo Limbo	A	20.0	12	75%	REMOVE	$585.00
653	JETC	*Bursera simaruba*	Gumbo Limbo	A	38.0	25	100%	REMOVE	$12,271.85
654	JETC	*Bursera simaruba*	Gumbo Limbo	A	20.0	12	72%	REMOVE	$585.00
655	JETC	*Bursera simaruba*	Gumbo Limbo	A	22.0	17	75%	REMOVE	$845.00
656	JETC	*Coccoloba diversifolia*	Pigeon Plum	A	15.0	4	70%	REMOVE	$195.00
657	JETC	*Pinus elliottii*	Slash Pine	B	40.0	16	70%	REMOVE	$780.00
658	JETC	*Delonix regia*	Royal Poinciana	B	40.0	30	75%	REMAIN	N/A
659	JETC	*Quercus virginiana*	Live Oak	A	35.0	10	75%	REMAIN	N/A
660	JETC	*Plumeria*	Plumeria		20.0	7	75%	REMOVE	N/A
661	JETC	*Plumeria*	Plumeria		20.0	7	75%	REMOVE	N/A
662	JETC	*Bursera simaruba*	Gumbo Limbo	A	40.0	31	88%	REMOVE	$15,095.35
663	JETC	*Pinus elliottii*	Slash Pine	B	55.0	24	100%	REMOVE	$11,309.73
664	JETC	*Quercus virginiana*	Live Oak	A	35.0	14	75%	REMAIN	N/A
665	JETC	*Quercus virginiana*	Live Oak	A	50.0	28	75%	REMAIN	N/A
666	JETC	*Quercus virginiana*	Live Oak	A	45.0	15	75%	REMAIN	N/A
667	JETC	*Quercus virginiana*	Live Oak	A	45.0	14	75%	REMAIN	N/A
668	JETC	*Quercus virginiana*	Live Oak	A	45.0	14	75%	REMAIN	N/A
669	JETC	*Quercus virginiana*	Live Oak	A	45.0	14	75%	REMAIN	N/A
670	JETC	*Quercus virginiana*	Live Oak	A	40.0	31	75%	REMAIN	N/A
671	JETC	*Ficus microcarpa*	Indian Laurel	C	35.0	35	75%	REMAIN	N/A
672	JETC	*Pinus elliottii*	Slash Pine	B	45.0	14	75%	REMAIN	N/A
673	JETC	*Quercus virginiana*	Live Oak	A	35.0	14	75%	REMAIN	N/A
674	JETC	*Quercus virginiana*	Live Oak	A	45.0	32	75%	REMAIN	N/A
675	JETC	*Quercus virginiana*	Live Oak	A	35.0	17	75%	REMAIN	N/A
676	JETC	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMAIN	N/A
677	JETC	*Quercus virginiana*	Live Oak	A	40.0	14	75%	REMOVE	$715.00
679	JETC	*Quercus virginiana*	Live Oak	A	35.0	13	75%	REMOVE	$650.00
680	JETC	*Calophyllum inophyllum*	Beauty Leaf	F	18.0	18	75%	REMAIN	N/A
690	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	9	75%	REMAIN	N/A
691	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	18	75%	REMAIN	N/A
692	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	12	75%	REMAIN	N/A
693	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	16	75%	REMAIN	N/A
696	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	15	75%	REMAIN	N/A
697	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
698	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	12	75%	REMAIN	N/A
699	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	15	75%	REMAIN	N/A
700	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	16	75%	REMAIN	N/A
701	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	15	75%	REMAIN	N/A
702	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	24	75%	REMAIN	N/A
703	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	24	75%	REMAIN	N/A
746	Phase 2	*Quercus virginiana*	Live Oak	A	20.0	26	75%	REMAIN	N/A
747	Phase 2	*Quercus virginiana*	Live Oak	A	17.0	16	75%	REMAIN	N/A
748	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	9	75%	REMAIN	N/A
749	Phase 2	*Quercus virginiana*	Live Oak	A	20.0	7	75%	REMAIN	N/A
750	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	20	75%	REMAIN	N/A
751	Phase 2	*Quercus virginiana*	Live Oak	A	41.0	23	75%	REMAIN	N/A
752	Phase 2	*Quercus virginiana*	Live Oak	A	36.0	19	83%	REMAIN	N/A
753	Phase 2	*Quercus virginiana*	Live Oak	A	42.0	27	73%	REMAIN	N/A
754	Phase 2	*Bucida buceras*	Black Olive	C	44.0	18	75%	REMAIN	N/A
755	Phase 2	*Quercus virginiana*	Live Oak	A	28.0	15	75%	REMAIN	N/A
756	Phase 2	*Bucida buceras*	Black Olive	C	28.0	17	75%	REMAIN	N/A
757	Phase 2	*Bucida buceras*	Black Olive	C	30.0	17	75%	REMAIN	N/A
759	Phase 2	*Bucida buceras*	Black Olive	C	35.0	14	75%	REMAIN	N/A
762	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	45.0	15	75%	REMAIN	N/A
763	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	45.0	15	75%	REMAIN	N/A
764	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	45.0	15	75%	REMAIN	N/A
765	Phase 2	*Lagerstroemia speciosa*	Queens Crape Myrtle	A	30.0	15	75%	REMAIN	N/A
766	Phase 2	*Quercus virginiana*	Live Oak	A	50.0	24	75%	REMAIN	N/A
768	Phase 2	*Quercus virginiana*	Live Oak	A	45.0	27	75%	REMAIN	N/A
769	Phase 2	*Pinus elliottii*	Slash Pine	B	55.0	18	93%	REMOVE	$5,089.38
770	Phase 2	*Pinus elliottii*	Slash Pine	B	60.0	14	70%	REMOVE	$520.00
771	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	17	70%	REMOVE	$650.00
772	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	35.0	12	75%	RELOCATE	N/A
773	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	14	70%	REMOVE	$520.00
774	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	17	70%	REMOVE	$650.00
775	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	40.0	15	75%	RELOCATE	N/A
776	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	7	75%	REMOVE	$325.00
777	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	14	75%	REMOVE	$585.00
778	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	13	75%	REMOVE	$520.00
779	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	19	75%	REMOVE	$5,670.57
780	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	13	75%	REMOVE	$520.00
781	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	24	85%	REMOVE	$9,047.79
782	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	18	100%	REMOVE	$5,089.38
783	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	20	90%	REMOVE	$6,283.19
784	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	15	75%	REMAIN	N/A
785	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
786	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
787	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
788	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
789	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
790	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
791	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
792	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
793	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
794	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00

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POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
795	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
796	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
797	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
798	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
799	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
800	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
801	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
802	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
803	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
804	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
805	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
806	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
807	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
808	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
809	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
810	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
811	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
812	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
813	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	70%	REMOVE	$390.00
814	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
815	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
816	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
817	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
818	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
819	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
820	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
821	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
822	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
823	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
824	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
825	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
826	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
827	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
828	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
829	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
830	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
831	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
832	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
833	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
834	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
835	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
836	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
837	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
838	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
839	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
840	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
841	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
842	Phase 2	*Pinus elliottii*	Slash Pine	B	±35'	6-10"	75%	REMAIN	N/A
848	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	15	75%	REMAIN	N/A
849	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	20	75%	REMAIN	N/A
850	Phase 2	*Pinus elliottii*	Slash Pine	B	60.0	15	75%	REMAIN	N/A
851	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	11	75%	REMAIN	N/A
852	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A
853	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	12	75%	REMAIN	N/A
854	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	7	75%	REMAIN	N/A
855	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	10	75%	REMAIN	N/A
856	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	14	75%	REMAIN	N/A
857	Phase 2	*Pinus elliottii*	Slash Pine	B	55.0	20	75%	REMAIN	N/A
858	Phase 2	*Delonix regia*	Royal Poinciana	A	30.0	6	75%	REMAIN	N/A
859	Phase 2	*Delonix regia*	Royal Poinciana	A	40.0	14	75%	REMAIN	N/A
860	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	12	70%	REMOVE	$455.00
861	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	12	70%	REMOVE	$455.00
862	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	5	70%	REMOVE	$195.00
863	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	13	75%	REMAIN	N/A
864	Phase 2	*Clusia rosea*	Pitchapple	A	40.0	3	75%	REMAIN	N/A
865	Phase 2	*Clusia rosea*	Pitchapple	A	40.0	12	75%	REMAIN	N/A
866	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	6	75%	REMAIN	N/A
867	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	6	75%	REMAIN	N/A
868	Phase 2	*Bulnesia arborea*	Bulnesia	A	40.0	4	75%	REMAIN	N/A
869	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	14	75%	REMAIN	N/A
870	Phase 2	*Swietenia mahagoni*	Mahogany Tree	A	40.0	12	75%	REMAIN	N/A
871	Phase 2	*Bulnesia arborea*	Bulnesia	A	20.0	4	75%	REMAIN	N/A
872	Phase 2	*Bulnesia arborea*	Bulnesia	A	20.0	5	75%	REMAIN	N/A
873	Phase 2	*Bulnesia arborea*	Bulnesia	A	15.0	15	75%	REMAIN	N/A
874	Phase 2	*Bulnesia arborea*	Bulnesia	A	15.0	15	75%	REMAIN	N/A
875	Phase 2	*Bulnesia arborea*	Bulnesia	A	15.0	15	75%	REMAIN	N/A
876	Phase 2	*Quercus virginiana*	Live Oak	A	18.0	6	75%	REMAIN	N/A
877	Phase 2	*Pinus elliottii*	Slash Pine	B	46.0	16	75%	REMAIN	N/A
878	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	25	75%	REMAIN	N/A
879	Phase 2	*Pinus elliottii*	Slash Pine	B	46.0	23	75%	REMAIN	N/A
880	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	21	75%	REMAIN	N/A
881	Phase 2	*Pinus elliottii*	Slash Pine	B	41.0	19	75%	REMAIN	N/A
882	Phase 2	*Pinus elliottii*	Slash Pine	B	41.0	18	75%	REMAIN	N/A
883	Phase 2	*Pinus elliottii*	Slash Pine	B	46.0	17	75%	REMAIN	N/A

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PARKS BOND PROGRAM

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PARKS & RECREATION
City of Fort Lauderdale

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AECOM Technical Services, INC
7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

TREE DISPOSITION TABLE

SHEET NUMBER

DL204

ANSI D 24" x 36"
Approved:
Checked:
Designer:
Project Management Initials:
Last saved by: MAIRIN.SUBERVI (2025-06-23) Last Plotted: 2025-06-25
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\04-LA\SP12633-DL101-DEMO.DWG

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
884	Phase 2	*Pinus elliottii*	Slash Pine	B	44.0	19	75%	REMAIN	N/A
885	Phase 2	*Pinus elliottii*	Slash Pine	B	41.0	21	75%	REMAIN	N/A
886	Phase 2	*Pinus elliottii*	Slash Pine	B	44.0	19	75%	REMAIN	N/A
887	Phase 2	*Pinus elliottii*	Slash Pine	B	38.0	16	75%	REMAIN	N/A
888	Phase 2	*Pinus elliottii*	Slash Pine	B	42.0	19	75%	REMAIN	N/A
889	Phase 2	*Pinus elliottii*	Slash Pine	B	43.0	17	75%	REMAIN	N/A
890	Phase 2	*Pinus elliottii*	Slash Pine	B	44.0	20	100%	REMOVE	$6,283.19
891	Phase 2	*Pinus elliottii*	Slash Pine	B	44.0	16	70%	REMOVE	$585.00
892	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	22	75%	REMAIN	N/A
893	Phase 2	*Pinus elliottii*	Slash Pine	B	43.0	21	75%	REMAIN	N/A
894	Phase 2	*Pinus elliottii*	Slash Pine	B	42.0	15	75%	REMAIN	N/A
895	Phase 2	*Pinus elliottii*	Slash Pine	B	42.0	13	75%	REMAIN	N/A
896	Phase 2	*Pinus elliottii*	Slash Pine	B	42.0	18	75%	REMAIN	N/A
898	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	40.0	14	65%	REMAIN	N/A
899	Phase 2	*Quercus virginiana*	Live Oak	A	42.0	27	75%	REMAIN	N/A
900	Phase 2	*Quercus virginiana*	Live Oak	A	42.0	23	75%	REMAIN	N/A
901	Phase 2	*Quercus virginiana*	Live Oak	A	44.0	23	75%	REMAIN	N/A
902	Phase 2	*Quercus virginiana*	Live Oak	A	43.0	34	75%	REMAIN	N/A
911	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
912	Phase 2	*Pinus elliottii*	Slash Pine	B	60.0	22	75%	REMAIN	N/A
913	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
914	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
915	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
916	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	30	75%	REMAIN	N/A
917	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
918	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	5	75%	REMAIN	N/A
919	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	30	75%	REMAIN	N/A
920	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	18	75%	REMAIN	N/A
921	Phase 2	*Tabebuia heterophylla*	Pink Trumpet	B	18.0	7	75%	RELOCATE	N/A
922	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	5	75%	REMAIN	N/A
923	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	24	75%	REMAIN	N/A
924	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
925	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	4	75%	REMAIN	N/A
926	Phase 2	*Pinus elliottii*	Slash Pine	B	60.0	22	75%	REMAIN	N/A
927	Phase 2	*Pinus elliottii*	Slash Pine	B	60.0	22	75%	REMAIN	N/A
928	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	24	75%	REMAIN	N/A
929	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	8	70%	REMOVE	$390.00
930	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	27	75%	REMAIN	N/A
931	Phase 2	*Tamarindus indica*	Tamarind	A	55.0	20	75%	REMAIN	N/A
932	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	50.0	20	75%	REMAIN	N/A
933	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	50.0	20	75%	REMAIN	N/A
934	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	15.0	4	70%	REMOVE	$195.00
935	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	4	75%	REMAIN	N/A
936	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
937	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
938	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
939	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	20	75%	REMAIN	N/A
940	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	16	75%	REMAIN	N/A
941	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMAIN	N/A
942	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	70%	REMOVE	$390.00
943	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	7	75%	REMAIN	N/A
944	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	70%	REMOVE	$390.00
945	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	13	75%	REMAIN	N/A
946	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	12	75%	REMAIN	N/A
947	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	8	70%	REMOVE	$325.00
948	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A
949	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	5	75%	REMAIN	N/A
950	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	7	75%	REMAIN	N/A
951	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	12	75%	REMAIN	N/A
952	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
953	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	16	75%	REMAIN	N/A
954	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
955	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
956	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	16	75%	REMAIN	N/A
957	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	16	75%	REMAIN	N/A
958	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	24	75%	REMAIN	N/A
959	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMAIN	N/A
960	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	75%	REMAIN	N/A
961	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A
962	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	5	75%	REMAIN	N/A
963	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	7	70%	REMOVE	$260.00
964	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
965	Phase 2	*Pinus elliottii*	Slash Pine	B	15.0	6	75%	REMAIN	N/A
966	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	20	75%	REMAIN	N/A
967	Phase 3	*Quercus virginiana*	Live Oak	A	20.0	14	75%	REMAIN	N/A
968	Phase 3	*Quercus virginiana*	Live Oak	A	23.0	16	70%	REMOVE PH3	$780.00
969	Phase 3	*Quercus virginiana*	Live Oak	A	18.0	5	70%	REMOVE PH3	$260.00
970	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
971	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
972	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
973	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
974	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
975	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
976	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00

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POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
978	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
979	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
980	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
981	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
982	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
983	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
984	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
985	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
986	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
987	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
988	Phase 3	*Pinus elliottii*	Slash Pine	B	25.0	12	70%	REMOVE PH3	$455.00
989	Phase 3	*Quercus virginiana*	Live Oak	A	26.0	21	70%	REMOVE PH3	$8,659.01
990	Phase 3	*Pinus elliottii*	Slash Pine	B	35.0	25	70%	REMOVE PH3	$9,817.48
991	Phase 3	*Quercus virginiana*	Live Oak	A	26.0	20	70%	REMOVE PH3	$7,853.98
992	Phase 3	*Pinus elliottii*	Slash Pine	B	UNKNOWN	UNKNOWN	70%	REMOVE PH3	TBD
993	Phase 3	*Pinus elliottii*	Slash Pine	B	UNKNOWN	UNKNOWN	70%	REMOVE PH3	TBD
994	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	27	75%	REMAIN	N/A
995	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	20	75%	REMAIN	N/A
996	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	9	75%	REMAIN	N/A
997	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	7	75%	REMAIN	N/A
998	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	7	75%	REMAIN	N/A
999	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	8	75%	REMAIN	N/A
1000	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	8	75%	REMAIN	N/A
1001	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	11	75%	REMAIN	N/A
1002	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	8	75%	REMAIN	N/A
1003	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	10	75%	REMAIN	N/A
1004	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	75%	REMAIN	N/A
1005	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	4	75%	REMAIN	N/A
1006	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	8	75%	REMAIN	N/A
1007	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	10	75%	REMAIN	N/A
1008	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	8	75%	REMAIN	N/A
1009	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	10	75%	REMAIN	N/A
1010	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	10	75%	REMAIN	N/A
1011	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	21	75%	REMAIN	N/A
1012	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	6	75%	REMAIN	N/A
1013	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	10	75%	REMAIN	N/A
1014	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	9	75%	REMAIN	N/A
1015	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	75%	REMAIN	N/A
1016	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMAIN	N/A
1017	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	6	75%	REMAIN	N/A
1018	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	6	75%	REMAIN	N/A
1019	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	8	75%	REMAIN	N/A
1020	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMAIN	N/A
1021	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	75%	REMAIN	N/A
1022	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	11	75%	REMAIN	N/A
1023	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
1024	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
1025	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	11	75%	REMAIN	N/A
1026	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMAIN	N/A
1027	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
1028	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	12	75%	REMAIN	N/A
1029	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
1030	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	13	75%	REMAIN	N/A
1031	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	12	75%	REMAIN	N/A
1032	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMAIN	N/A
1033	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	16	75%	REMAIN	N/A
1034	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
1035	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	8	75%	REMAIN	N/A
1036	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	21	75%	REMAIN	N/A
1037	Phase 2	*Quercus virginiana*	Live Oak	A	23.0	8	75%	REMAIN	N/A
1038	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	12.0	4	75%	REMAIN	N/A
1039	Phase 2	*Quercus virginiana*	Live Oak	A	23.0	11	75%	REMAIN	N/A
1040	Phase 2	*Pinus elliottii*	Slash Pine	B	55.0	12	75%	REMAIN	N/A
1041	Phase 2	*Pinus elliottii*	Slash Pine	B	55.0	20	75%	REMAIN	N/A
1042	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	12	75%	REMAIN	N/A
1043	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	9	75%	REMAIN	N/A
1044	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	12	75%	REMAIN	N/A
1045	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	12	75%	REMAIN	N/A
1046	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	8	75%	REMAIN	N/A
1047	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	8	75%	REMAIN	N/A
1048	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMAIN	N/A
1067	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	6	75%	REMAIN	N/A
1068	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	6	75%	REMAIN	N/A
1069	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	8	75%	REMAIN	N/A
1070	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	8	75%	REMAIN	N/A
1071	Phase 2	*Pinus elliottii*	Slash Pine	B	35.0	10	75%	REMAIN	N/A

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Filename: C:\USERS\MAIRIN.SUBERVI\DOCACCDOCS\AECOM\BP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 13\01-HOLIDAY\04-LA\SP12633-DL101-DEMO.DWG
Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"

AECOM

PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

CLIENT

PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT

AECOM

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REGISTRATION

PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

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AECOM Technical Services, INC
7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

TREE DISPOSITION TABLE

SHEET NUMBER

DL205

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)	MITIGATION (CALIPER INCH VALUE)
1072	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	7	75%	REMAIN	N/A	N/A
1073	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	7	75%	REMAIN	N/A	N/A
1074	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	15	75%	REMAIN	N/A	N/A
1075	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	7	75%	REMAIN	N/A	N/A
1076	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	7	75%	REMAIN	N/A	N/A
1077	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	7	75%	REMAIN	N/A	N/A
1078	Phase 2	*Pinus elliottii*	Slash Pine	B	45.0	15	75%	REMAIN	N/A	N/A
1080	Phase 2	*Swetenia mahagoni*	Mahogany	A	50.0	66	75%	REMAIN	N/A	N/A
1081	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	15.0	4	75%	REMAIN	N/A	N/A
1082	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	10.0	4	75%	REMAIN	N/A	N/A
1083	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	6	75%	REMAIN	N/A	N/A
1084	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	8	75%	REMAIN	N/A	N/A
1085	Phase 2	*Pongamia pinnata*	Pongam	A	50.0	57	75%	REMAIN	N/A	N/A
1086	Phase 2	*Pongamia pinnata*	Pongam	A	50.0	60	75%	REMAIN	N/A	N/A
1087	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	12.0	4	75%	REMAIN	N/A	N/A
1088	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	4	75%	REMAIN	N/A	N/A
1089	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	4	75%	REMAIN	N/A	N/A
1090	Phase 2	*Quercus virginiana*	Live Oak	A	15.0	4	75%	REMAIN	N/A	N/A
1091	Phase 2	*Swetenia mahagoni*	Mahogany	A	50.0	36	75%	REMAIN	N/A	N/A
1092	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A	N/A
1093	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	24	75%	REMAIN	N/A	N/A
1094	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	20	75%	REMAIN	N/A	N/A
1095	Phase 2	*Quercus virginiana*	Live Oak	A	40.0	40	75%	REMAIN	N/A	N/A
1096	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	4	75%	REMAIN	N/A	N/A
1097	Phase 2	*Bursera simaruba*	Gumbo Limbo	A	18.0	4	75%	REMAIN	N/A	N/A
1098	Phase 2	*Bucida Buceras*	Black Olive	C	60.0	40	75%	REMAIN	N/A	N/A
1099	Phase 2	*Bucida Buceras*	Black Olive	C	60.0	42	75%	REMAIN	N/A	N/A
1108	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMOVE	$780.00	12
1109	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMOVE	$780.00	12
1110	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMOVE	$780.00	12
1111	Phase 2	*Quercus virginiana*	Live Oak	A	35.0	16	75%	REMOVE	$780.00	12
1115	JETC	*Swetenia mahagoni*	Mahogany	A	55.0	16	75%	REMAIN	N/A	N/A
1117	JETC	*Swetenia mahagoni*	Mahogany	A	50.0	16	75%	REMAIN	N/A	N/A
1118	Phase 2	*Pinus elliottii*	Slash Pine	B	20.0	6	75%	REMAIN	N/A	N/A
1119	Phase 2	*Pinus elliottii*	Slash Pine	B	40.0	8	75%	REMOVE	$325.00	5
1120	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	6	75%	REMOVE	$260.00	4
1121	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	9	75%	REMOVE	$390.00	6
1122	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	11	75%	REMAIN	N/A	N/A
1123	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMOVE	$325.00	5
1124	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	6	75%	REMOVE	$260.00	4
1125	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	11	75%	REMOVE	$455.00	7
1126	Phase 2	*Pinus elliottii*	Slash Pine	B	30.0	10	75%	REMOVE	$390.00	6
1127	Phase 2	*Pinus elliottii*	Slash Pine	B	25.0	7	75%	REMOVE	$325.00	5
1132	Phase 3	*Jatropha integerrima*	Peregrina			3	70%	REMOVE PH3	$130.00	2
1133	Phase 3	*Jatropha integerrima*	Peregrina		5.0	3	70%	REMOVE PH3	$130.00	2
1134	Phase 3	*Jatropha integerrima*	Peregrina			3	70%	REMOVE PH3	$130.00	2
1138	Phase 2	*Quercus virginiana*	Live Oak	A	15.0	20	75%	REMAIN	N/A	N/A
1139	Phase 2	*Quercus virginiana*	Live Oak	A	25.0	24	75%	REMAIN	N/A	N/A
1140	Phase 2	*Quercus virginiana*	Live Oak	A	30.0	20	75%	REMAIN	N/A	N/A
1141	Phase 2	*Ficus aurea*	Strangler fig	B	45.0	24	75%	REMAIN	N/A	N/A
1142	Phase 2	*Ficus aurea*	Strangler fig	B	45.0	20	75%	REMAIN	N/A	N/A
1143	Phase 2	*Ficus aurea*	Strangler fig	B	45.0	24	75%	REMAIN	N/A	N/A
								MITIGATION DOLLAR VALUE FOR ALL TREES PHASE 2		$119,725.34
								MITIGATION DOLLAR VALUE FOR SPECIMEN TREES ONLY REQUIRED TO BE PAID PHASE 2		$93,874.72
								MITIGATION EQUIVALENT (CALIPER INCH) VALUE REQUIRED PHASE 2		476
								TOTAL MITIGATION REQUIRED FOR PHASE 2		
								MITIGATION DOLLAR VALUE FOR ALL TREES PHASE 3		$55,244.76
								MITIGATION DOLLAR VALUE FOR SPECIMEN TREES ONLY REQUIRED TO BE PAID PHASE 3		$44,064.76
								MITIGATION EQUIVALENT (CALIPER INCH) VALUE REQUIRED PHASE 3		172
								TOTAL MITIGATION REQUIRED FOR PHASE 3		0

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NOTE:

1. MITIGATION TABLE SHOWN IS FOR THE ENTIRE PARK AND INCLUDES JETC TREES.
2. SEE SHEET L402 FOR MITIGATION PROVIDED ON SITE.
3. TABLE SHOWN FOR PERMITTING AND COORDINATION PURPOSES.

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Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

CLIENT

PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT

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REGISTRATION

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7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

TREE DISPOSITION TABLE

SHEET NUMBER

DL206

POINT NO.	LOCATION	BOTANICAL NAME	COMMON NAME	SPECIES CLASS	HEIGHT (FT)	CLEAR TRUNK HEIGHT (FT)	DBH (IN)	CONDITION (%)	DISPOSITION	MITIGATION ($ VALUE)
1	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	10	75%	REMAIN	N/A
2	Phase 2	Sabal palmetto	Cabbage Palm	PALM	45	14	6	75%	REMAIN	N/A
3	Phase 2	Sabal palmetto	Cabbage Palm	PALM	45	14	6	75%	REMAIN	N/A
4	Phase 2	Sabal palmetto	Cabbage Palm	PALM	45	14	6	75%	REMAIN	N/A
5	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	10	75%	REMAIN	N/A
6	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	12	75%	REMAIN	N/A
7	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	8	75%	REMAIN	N/A
8	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	8	75%	REMAIN	N/A
29	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
30	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
31	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
32	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
33	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	10	75%	REMAIN	N/A
34	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	10	75%	REMAIN	N/A
35	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	10	75%	REMAIN	N/A
168	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
169	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
170	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
171	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	9	75%	REMAIN	N/A
172	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	9	75%	REMAIN	N/A
173	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
174	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
175	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
176	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	8	75%	REMAIN	N/A
177	Phase 2	Sabal palmetto	Cabbage Palm	PALM	12	14	8	75%	REMAIN	N/A
178	Phase 2	Sabal palmetto	Cabbage Palm	PALM	12	14	8	75%	REMAIN	N/A
179	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
180	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
181	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
182	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	10	75%	REMAIN	N/A
183	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	10	75%	REMAIN	N/A
184	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	10	75%	REMAIN	N/A
185	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	12	75%	REMAIN	N/A
186	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	12	75%	REMAIN	N/A
187	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	12	75%	REMAIN	N/A
188	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	12	75%	REMAIN	N/A
189	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	12	75%	REMAIN	N/A
190	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	12	75%	REMAIN	N/A
191	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
192	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
193	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
194	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
195	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
196	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
197	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
198	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
199	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
200	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
201	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
202	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
203	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
204	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
205	Phase 2	Sabal palmetto	Cabbage Palm	PALM	32	14	12	75%	REMAIN	N/A
207	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	14	75%	REMAIN	N/A
208	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	14	75%	REMAIN	N/A
209	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	12	75%	REMAIN	N/A
210	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	12	75%	REMAIN	N/A
211	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	12	75%	REMAIN	N/A
212	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	14	75%	REMAIN	N/A
213	Phase 2	Sabal palmetto	Cabbage Palm	PALM	35	14	14	75%	REMAIN	N/A
214	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	16	8	75%	REMAIN	N/A
215	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
216	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
217	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	6	75%	REMAIN	N/A
218	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	6	75%	REMAIN	N/A
219	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
220	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	6	75%	REMAIN	N/A
221	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
222	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
223	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	6	75%	REMAIN	N/A
224	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	12	8	75%	REMAIN	N/A
225	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	9	75%	REMAIN	N/A
226	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30	14	9	75%	REMAIN	N/A
227	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25	14	7	75%	REMAIN	N/A
228	Phase 2	Cocos nucifera	Coconut Palm	PALM	25	14	7	75%	REMAIN	N/A
229	Phase 2	Cocos nucifera	Coconut Palm	PALM	25	14	7	75%	REMAIN	N/A
230	Phase 2	Ptychosperma elegans	Alexander Palm	PALM	25	14	5	75%	REMOVE	$180.00
231	Phase 2	Ptychosperma elegans	Alexander Palm	PALM	25	14	5	75%	REMOVE	$180.00
285	Phase 2	Sabal palmetto	Cabage Palm	PALM	35	14	14	70%	REMAIN	N/A
286	Phase 2	Sabal palmetto	Cabage Palm	PALM	35	14	14	70%	REMAIN	N/A
287	Phase 2	Sabal palmetto	Cabage Palm	PALM	35	12	14	70%	REMAIN	N/A
288	Phase 2	Sabal palmetto	Cabage Palm	PALM	35	12	14	70%	REMAIN	N/A
314	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	6	70%	REMAIN	N/A
315	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	12	70%	REMAIN	N/A
316	Phase 2	Sabal palmetto	Cabage Palm	PALM	25	12	10	70%	REMAIN	N/A
317	Phase 2	Sabal palmetto	Cabage Palm	PALM	25	12	10	70%	REMAIN	N/A
318	Phase 2	Sabal palmetto	Cabage Palm	PALM	25	12	10	70%	REMAIN	N/A
319	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	10	70%	REMAIN	N/A
320	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	10	70%	REMAIN	N/A
321	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	10	70%	REMAIN	N/A
322	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	10	70%	REMAIN	N/A
323	Phase 2	Sabal palmetto	Cabage Palm	PALM	20	12	10	70%	REMAIN	N/A
324	Phase 3	Sabal palmetto	Cabage Palm	PALM	21	12	10	70%	REMAIN	N/A
325	Phase 3	Sabal palmetto	Cabage Palm	PALM	25	12	10	70%	REMOVE PH3	$180.00
326	Phase 3	Sabal palmetto	Cabage Palm	PALM	19	12	11	70%	REMOVE PH3	$180.00
327	Phase 3	Sabal palmetto	Cabage Palm	PALM	19	12	13	70%	REMOVE PH3	$180.00
328	Phase 3	Sabal palmetto	Cabage Palm	PALM	21	12	10	70%	REMOVE PH3	$180.00
329	Phase 3	Sabal palmetto	Cabage Palm	PALM	19	12	10	70%	REMOVE PH3	$180.00
330	Phase 3	Sabal palmetto	Cabage Palm	PALM	19	12	9	75%	REMOVE PH3	$180.00
331	Phase 3	Sabal palmetto	Cabbage Palm	PALM	16.0	14.00	11	75%	REMOVE PH3	$180.00
332	Phase 3	Sabal palmetto	Cabbage Palm	PALM	19.0	14.00	11	75%	REMOVE PH3	$180.00
333	Phase 3	Sabal palmetto	Cabbage Palm	PALM	18.0	14.00	12	75%	REMOVE PH3	$180.00
335	Phase 3	Veitchia arecina	Montgomery Palm	PALM	18.0	14.00	4	75%	REMOVE PH3	$180.00
336	Phase 3	Veitchia arecina	Montgomery Palm	PALM	18.0	14.00	4	75%	REMOVE PH3	$180.00
337	Phase 3	Veitchia arecina	Montgomery Palm	PALM	18.0	14.00	4	75%	RELOCATE PH3	N/A
340	Phase 3	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	15	75%	RELOCATE PH3	N/A
341	Phase 3	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	15	75%	RELOCATE PH3	N/A
342	Phase 3	Cocos nucifera	Coconut Palm	PALM	25.0	14.00	12	75%	RELOCATE PH3	N/A
343	Phase 3	Cocos nucifera	Coconut Palm	PALM	32.0	14.00	16	75%	RELOCATE PH3	N/A
344	Phase 3	Cocos nucifera	Coconut Palm	PALM	30.0	14.00	12	75%	RELOCATE PH3	N/A
345	Phase 3	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	17	75%	RELOCATE PH3	N/A
346	Phase 3	Cocos nucifera	Coconut Palm	PALM	40.0	14.00	20	75%	RELOCATE PH3	N/A
361	Phase 2	Cocos nucifera	Coconut Palm	PALM	23.0	14.00	4	75%	REMAIN	N/A
362	Phase 2	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	15	75%	REMAIN	N/A
363	Phase 2	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	19	75%	REMAIN	N/A
381	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
382	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
383	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
384	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
385	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
386	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
387	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
388	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
389	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	8	75%	CITY RELOCATE	N/A
390	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	14.00	8	75%	REMOVE	N/A
391	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	14.00	8	75%	REMAIN	N/A
392	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	14.00	8	75%	REMAIN	N/A
393	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	14.00	8	75%	REMAIN	N/A
394	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	8.00	8	75%	REMAIN	N/A
395	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	8.00	8	75%	REMAIN	N/A
396	JETC	Cocos nucifera	Coconut Palm	PALM	30.0	8.00	8	75%	REMAIN	N/A
397	JETC	Ptychosperma elegans	Alexander Palm	PALM	20.0	14.00	4	75%	REMAIN	N/A
401	JETC	Thrinax radiata	Thatch Palm	PALM	21.0	14.00	4	75%	RELOCATE	N/A
408	JETC	Cocos nucifera	Coconut Palm	PALM	15.0	8.00	8	75%	REMOVE	N/A
409	JETC	Cocos nucifera	Coconut Palm	PALM	15.0	8.00	8	75%	REMOVE	N/A
410	JETC	Cocos nucifera	Coconut Palm	PALM	15.0	8.00	8	75%	REMOVE	N/A
411	JETC	Phoenix dactylifera	Date Palm	PALM	40.0	16.00	16	75%	REMAIN	N/A
412	JETC	Phoenix dactylifera	Date Palm	PALM	40.0	16.00	16	75%	REMAIN	N/A
413	JETC	Phoenix dactylifera	Date Palm	PALM	40.0	16.00	16	75%	REMAIN	N/A
414	JETC	Phoenix dactylifera	Date Palm	PALM	40.0	16.00	16	75%	REMAIN	N/A
419	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	8.00	8	75%	REMAIN	N/A
420	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	8.00	8	75%	REMAIN	N/A
421	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	8.00	8	75%	REMOVE	$240.00
443	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	7	75%	RELOCATE	N/A
444	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	7	75%	RELOCATE	N/A
445	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	14.00	7	75%	RELOCATE	N/A
446	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	7.00	7	75%	RELOCATE	N/A
447	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	7.00	7	75%	RELOCATE	N/A
448	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	7.00	7	75%	RELOCATE	N/A
449	JETC	Thrinax radiata	Thatch Palm	PALM	30.0	7.00	7	75%	REMAIN	N/A
450	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
451	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
452	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
453	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
454	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
455	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
456	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
457	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	14.00	8	75%	REMAIN	N/A
464	JETC	Cocos nucifera	Coconut Palm	PALM	35.0	8.00	8	75%	REMOVE	$240.00
465	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMOVE	N/A
466	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMOVE	N/A
467	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMOVE	N/A
468	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMAIN	N/A
469	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMAIN	N/A
470	JETC	Phoenix roebelenii	Robellini Palm	PALM	15.0	4.00	4	75%	REMAIN	N/A
481	Phase 3	Sabal palmetto	Cabbage Palm	PALM	15.0	12.00	12	75%	REMAIN	N/A
482	Phase 3	Sabal palmetto	Cabbage Palm	PALM	15.0	12.00	12	75%	REMAIN	N/A
491	Phase 3	Sabal palmetto	Cabbage Palm	PALM	10.0	10.00	10	75%	REMOVE PH3	$180.00
496	Phase 2	Sabal palmetto	Cabbage Palm	PALM	43.0	12.00	12	75%	REMAIN	N/A
500	Phase 2	Sabal palmetto	Cabbage Palm	PALM	23.0	11.00	11.00	70%	REMAIN	N/A
501	Phase 2	Sabal palmetto	Cabbage Palm	PALM	15.0	11.00	11.00	70%	REMAIN	N/A
502	Phase 2	Sabal palmetto	Cabbage Palm	PALM	23.0	11.00	11.00	70%	REMAIN	N/A
503	Phase 2	Sabal palmetto	Cabbage Palm	PALM	15.0	11.00	11.00	70%	REMAIN	N/A
504	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30.0	10.00	10.00	70%	REMAIN	N/A
505	Phase 2	Sabal palmetto	Cabbage Palm	PALM	28.0	8.00	8.00	70%	REMAIN	N/A
506	Phase 2	Sabal palmetto	Cabbage Palm	PALM	30.0	8.00	8.00	70%	REMAIN	N/A
507	Phase 2	Sabal palmetto	Cabbage Palm	PALM	28.0	10.00	10.00	70%	REMAIN	N/A
508	Phase 2	Sabal palmetto	Cabbage Palm	PALM	22.0	11.00	11.00	70%	REMAIN	N/A
509	Phase 2	Sabal palmetto	Cabbage Palm	PALM	23.0	11.00	11.00	70%	REMAIN	N/A
510	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25.0	11.00	11.00	70%	REMAIN	N/A
511	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25.0	13.00	13.00	70%	REMAIN	N/A
512	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25.0	12.00	12.00	70%	REMOVE	$180.00
513	Phase 2	Sabal palmetto	Cabbage Palm	PALM	25.0	12.00	12.00	70%	REMOVE	$180.00
514	Phase 2	Sabal palmetto	Cabbage Palm	PALM	23.0	13.00	13.00	70%	REMAIN	N/A
515	Phase 2	Sabal palmetto	Cabbage Palm	PALM	18.0	12.00	12.00	70%	REMAIN	N/A

MITIGATION DOLLAR VALUE PHASE 2	$1,200.00
MITIGATION DOLLAR VALUE TO BE PAID PHASE 2	$0.00
TOTAL MITIGATION EQUIVALENT VALUE REQUIRED(1:1 REPLACEMENT) PHASE 2	6
MITIGATION DOLLAR VALUE PHASE 3	$2,160.00
MITIGATION DOLLAR VALUE TO BE PAID PHASE 3	$0.00
TOTAL MITIGATION EQUIVALENT VALUE REQUIRED (1:1 REPLACEMENT) PHASE 3	12

NOTE:

1. MITIGATION TABLE SHOWN IS FOR THE ENTIRE PARK AND INCLUDES JETC PALMS.
2. SEE SHEET L402 FOR MITIGATION PROVIDED ON SITE.
3. TABLE SHOWN FOR PERMITTING AND COORDINATION PURPOSES.

NIC

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COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION
NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G10-11.011, F.A.C.

AECOM

PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

CLIENT

PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT

AECOM

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REGISTRATION

PAUL KURTZ LICENSE No. 1716 STATE OF FLORIDA LANDSCAPE ARCHITECT

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PAUL KURTZ, L.A. USING A DIGITAL SIGNATURE AND DATE.

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AECOM Technical Services, INC
7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

PALM DISPOSITION TABLE

SHEET NUMBER

DL207

Last saved by: MAIRIN.SUBERVI(2025-06-23) Last Plotted: 2025-06-25
Filename: C:\USERS\MAIRIN.SUBERVI\DC\ACCDOCS\AECOMBP-AMER (USA) 60641343-FTL PBP DESIGN SERVICES\PROJECT FILES\900 DESIGN COLLABORATION\910_TO 1301-HOLIDAY\04-L\HOLIDAY104-LASIP12633-DL101-DEMO.DWG
Project Management Initials: Designer:_____ Checked:_____ Approved:_____ ANSI D 24" x 36"

ANSI D 24" x 36"
Approved:_____
Checked:_____
Designer:_____
Project Management Initials:

GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES.
2. SITE INFORMATION HAS BEEN PROVIDED BY SITE SURVEY PREPARED BY PREMIERE DESIGN SOLUTION (PDS) INC. DATED 01/19/2021.
3. 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 1988 (NAVD 88).
4. 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.
5. CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
6. ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL AND/OR DAMAGE.
7. 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, ELEVATION AND MATERIAL OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
8. 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.
9. 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.
10. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, STRUCTURES, LANDSCAPING, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, STRUCTURES, LANDSCAPING, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. IF CONTRACTOR MUST REPAIR DAMAGED IRRIGATION SYSTEMS INCLUDING CONTROL WIRES ANY PIPE REPAIRED OR REPLACED MUST BE SCHEDULE 40 PVC. ADDITIONALLY ANY DAMAGED COMPONENTS MUST BE REPLACED WITH THE ORIGINAL EQUIPMENT. IF ORIGINAL EQUIPMENT IS NOT AVAILABLE, A CITY APPROVED REPLACEMENT WILL SUFFICE.
11. 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.
12. 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.
13. 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.
14. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
15. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
16. 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.
17. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE RIGHT-OF-WAY WHERE THE PROJECT IS CONSTRUCTED.
18. CONTRACTOR SHALL REPAIR OR REPLACE ALL TRAFFIC SIGNAL LOOPS DETECTORS, COMMUNICATION CABLES AND CONDUITS, IF DAMAGED BY THE CONTRACTOR ACTIVITIES PER BCTED AND FDOT REQUIREMENTS. EXISTING TRAFFIC SIGNS SHALL BE RESET UPON COMPLETION PER BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS. COST SHALL BE CONSIDERED INCIDENTAL.
19. PIPING, FITTINGS, AND APPURTENANCES FOR DUCTILE IRON PIPE SHALL BE RESTRAINED JOINT WHERE SHOWN ON THE PLANS.
20. RESILIENT SEATED GATE VALVES WITH BEVEL TYPE GEAR SHALL BE INSTALLED IN HORIZONTAL ORIENTATION WHEN LESS THAN 7-FEET OF COVER FROM TOP OF PIPE IS PRESENT.
21. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE.
22. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, MOVING AND RELOCATING OR REPLACING ALL WATER SERVICES OR SEWER LATERALS WHICH ARE ENCOUNTERED DURING EXCAVATION. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN FOR WATER SERVICE AND WASTEWATER SERVICE DISRUPTION FOR APPROVAL 7 (SEVEN) CALENDAR DAYS PRIOR TO THE ANTICIPATED DISRUPTION. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS 48 HOURS IN ADVANCE OF ANY WORK ON THEIR SERVICES. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
23. 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.
24. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE UTILITIES DEPARTMENT OF THE CITY OF FORT LAUDERDALE AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE TO COORDINATE ANY ACTIVITY TO BE PERFORMED BY THE CITY'S UTILITIES DEPARTMENT.
25. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHT-OF-WAY.
26. ALL WORK WITHIN STATE DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAY SHALL BE IN CONFORMANCE WITH FDOT SPECIFICATIONS AND PERMIT REQUIREMENTS.
27. ALL WORK WITHIN BROWARD COUNTY RIGHT-OF-WAY SHALL BE IN CONFORMANCE WITH THE BROWARD COUNTY MINIMUM STANDARDS AND/OR REQUIREMENTS.
28. CONTRACTOR SHALL COMPLY WITH ALL LOCAL CITY, COUNTY AND STATE REGULATIONS PERTAINING TO THE CLOSING OF PUBLIC STREETS FOR USE OF TRAFFIC DURING CONSTRUCTION.
29. CONTRACTOR SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC (MOT) PLANS FOR APPROVAL TO FDOT, CITY OF FORT LAUDERDALE, BROWARD COUNTY AS REQUIRED FOR WORK TO BE DONE WITHIN THEIR RIGHT-OF-WAY PRIOR TO COMMENCEMENT OF WORK. SPECIFIC AGENCY MOT REQUIREMENTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
30. 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.
31. TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS SHALL NOT BE LEFT OPEN DURING NON-WORKING HOURS WITHOUT ADEQUATE PROTECTION.
32. CONTRACTOR SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLER LINES, CONDUIT, CABLES, ETC., PAVEMENT MARKINGS/SIGNATURE AND LANDSCAPE AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO ORIGINAL PRE-CONSTRUCTION CONDITION OR AS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
33. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AS REQUIRED BY AGENCIES HAVING JURISDICTION OVER THE PROJECT AND/OR WHEN REQUIRED FOR PUBLIC SAFETY.
34. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF WORK, FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
35. CONTRACTOR SHALL FIELD ADJUST LOCATION OF AIR RELEASE VALVES AS NECESSARY WHEN DIRECTED BY THE ENGINEER OR CITY OF FORT LAUDERDALE; COST SHALL BE INCIDENTAL.
36. CONTRACTOR SHALL FIELD 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.
37. ALL CONSTRUCTION WITHIN FDOT RIGHT-OF-WAY MUST CONFORM WITH FDOT SPECIFICATIONS, STANDARDS, AND PERMIT REQUIREMENTS. NO WORK SHALL COMMENCE WITHIN FDOT RIGHT-OF-WAY 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 RIGHT-OF-WAY.
38. THE CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR CITY AND ENGINEER APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.
39. CONTRACTOR TO FOLLOW MANHOLE INSPECTION AND AIR TESTING PER FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) TEST PROCEDURES DESCRIBED IN AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

GENERAL NOTES-BROWARD COUNTY TRAFFIC ENGINEERING DEPT.

1. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED). ALL SYSTEM COMMUNICATIONS EQUIPMENT, CABLING AND RELATED MATERIAL SHALL COMPLY WITH BROWARD COUNTY'S LATEST EDITION OF THE MINIMUM STANDARDS AS EXPRESSED IN THE "STANDARDS AND SPECIFICATIONS - COMMUNICATION INFRASTRUCTURE" DOCUMENT. PLEASE REFER TO (BCTED'S) COMMUNICATIONS POLICIES AND PROCEDURES FOR ADDITIONAL INFORMATION. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION WILL NOT ACCEPT ANY PROJECTS THAT DO NOT MEET THESE STANDARDS AND SPECIFICATIONS. IF FIBER OPTIC PULL BOXES ALREADY EXIST AT AN INTERSECTION, NO ADDITIONAL FIBER OPTIC PULL BOXES WILL NEED TO BE INSTALLED. FOR A COPY OF THESE STANDARDS REFER TO THE BROWARD COUNTY WEB SITE AT WWW.BROWARD.ORG/TRAFFIC UNDER PUBLICATIONS.
2. IF THERE ARE COPPER INTERCONNECT CABLE/S WITHIN YOUR PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
3. IF THERE ARE FIBER OPTIC CABLE/S WITHIN YOUR PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
4. IF THERE ARE CELLULAR COMMUNICATIONS WITHIN YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
5. ALL BCTED COMMUNICATIONS CABLES/CONDUIT SHALL BE LOCATED A MINIMUM OF 48 HOURS IN ADVANCE.

BROWARD COUNTY TRAFFIC ENGINEERING DIVISION PROCEDURE FOR NOTIFICATION OF COMMUNICATION DISRUPTION

COPPER INTERCONNECT CABLE NOTIFICATION CONTACT PERSON:

WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL TO THE TRAFFIC SIGNAL TECHNICIAN III AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00 AM AND ENDING AT 3:00 PM.

FIBER OPTIC CABLE NOTIFICATION CONTACT PERSON:

WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL TO THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00 AM AND ENDING AT 3:00 PM.

UTILITY OWNER CONTACT PERSON:

INTERCONNECT COMMUNICATIONS CABLES - (ROBERT BLOUNT) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2745

DRAINAGE NOTES:

1. DRAINAGE PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) OR REINFORCED CONCRETE PIPE (RCP), THE USE OF RCP FOR PUBLIC ROADWAY CROSSINGS IS PREFERRED.
2. CATCH BASINS, INLETS AND JUNCTION BOXES SHALL NOT BE INSTALLED IN DRIVEWAYS.
3. PRIOR TO BACKFILLING EXFILTRATION TRENCHES, DRAINAGE INLETS OR MANHOLES, THE CONTRACTOR SHALL NOTIFY THE ENGINEERING INSPECTOR FOR AN INSPECTION.
4. DRAINAGE STRUCTURES SHALL BE CLEANED PRIOR TO ACCEPTANCE BY CITY.
5. ALL PIPES SHALL BE LAID IN DRY TRENCH. ALL MUCK OR UNSUITABLE MATERIALS IN TRENCHES, INLETS OR MANHOLES SHALL BE REMOVED AND BACKFILLED WITH SELECTED MATERIAL APPROVED BY THE ENGINEER.
6. MINIMUM COVER FOR HDPE PIPE UNDER ASPHALT SHALL BE 24-INCH COMPACTED LIMEROCK BASE. MINIMUM COVER FOR PIPE UNDER GRASS SHALL BE 18" COMPACTED SUBGRADE.
7. THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS AND PREVENT ADVERSE FLOODING OF THE TRAVEL LANES DURING CONSTRUCTION.
8. MAINTENANCE ACCESS SHALL BE PROVIDED ON BOTH SIDES OF EXFILTRATION TRENCHES IN THE FORM OF MANHOLES OR CATCH BASINS. THE MAXIMUM DISTANCE BETWEEN STORM STRUCTURES SHALL NOT EXCEED THREE HUNDRED (300) FEET).
9. ALL EXFILTRATION SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION DOCUMENT TITLED "DRAINAGE DESIGN GUIDE", LATEST EDITION.
10. GEOTEXTILE MATERIALS USED IN THE CONSTRUCTION OF EXFILTRATION TRENCHES SHALL BE IN ACCORDANCE WITH THE CRITERIA OF FLORIDA DEPARTMENT OF TRANSPORTATION'S DESIGN STANDARDS LATEST EDITION AND CITY OF FORT LAUDERDALE'S SPECIFICATIONS.

GENERAL DEMOLITION NOTES:

1. 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.
2. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE ITSELF WITH THE STRUCTURES TO BE DEMOLISHED.
3. 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.
   - 3.1. 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.
   - 3.2. REMOVAL OF EXISTING ON-SITE ABOVEGROUND AND UNDERGROUND UTILITIES, INCLUDING REMOVAL OR PLUGGING OF EXISTING UTILITIES AS SHOWN ON PLANS.
4. 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.
5. PROTECT AND SAVE ALL UTILITIES, UNLESS OTHERWISE NOTED.
6. ALL THE CONCRETE AND PAVEMENT TO BE REMOVED MUST BE SAW CUT CLEAN PRIOR TO REMOVAL
7. WET DOWN MASONRY WALLS AND DEBRIS DURING DEMOLITION AND LOADING OPERATIONS TO PREVENT THE SPREAD OF DUST (AS APPLICABLE TO PROJECT).
8. WHERE DRAWINGS INDICATE EXISTING STRUCTURES ARE TO BE DEMOLISHED, WORK SHALL INCLUDED DEMOLITION AND REMOVAL OF ALL ASSOCIATED FEATURES OF THE STRUCTURE, INCLUDING BUT NOT LIMIT TO PAVEMENTS, SLABS, FOUNDATIONS AND STEPS.
9. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AT THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. 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.
10. 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.
11. 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.
12. 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 NOT EXCEED SIX (6) INCHES IN LONGEST DIMENSION.
13. REMOVE AND LEGALLY DISPOSE OF ALL OTHER RUBBISH, RUBBLE, AND DEBRIS. COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING DISPOSAL OF WASTES AND DEBRIS.
14. ALL SIGNS OUTSIDE THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.
15. ANY MUCK ENCOUNTERED UNDER PROPOSED STRUCTURES SHALL BE REMOVED TO 5 FT. BEYOND THE FOOTPRINT OF THAT STRUCTURE. BACKFILL WITH APPROVED FILL MATERIAL SATISFYING ALL COMPACTION REQUIREMENTS.
16. ALL EXISTING UTILITIES WITHIN THE DEMOLITION SITE AREA SHALL BE ADJUSTED, REMOVED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. ACTUAL WORK SHALL BE COORDINATED BY THE CONTRACTOR DIRECTLY W/ THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
17. 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.

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 WILL UTILIZE FOR RECYCLING AND DISPOSAL OF SPECIFIC MATERIALS. CONTRACTOR TO SPECIFY 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.

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. IF PETROLEUM PRODUCTS ARE FOUND WHILE DEMOLISHING, PETROLEUM CONTAMINATED MATERIALS SHOULD BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

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 MUTCD AND FDOT.
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.

WASTE MANAGEMENT PLAN

1. IMPLEMENT A WASTE MANAGEMENT PLAN FOR APPROVED 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 OCCURING 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.
   - 2.1. INSPECT CONTAINERS AND BINS FOR CONTAMINATION AND REMOVE CONTAMINATED MATERIALS IF FOUND.
3. STOCKPILE PROCESSED MATERIALS ON-SITE WITHOUT INTERMIXING WITH OTHER MATERIALS. PLACE, GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
4. STOCKPILE MATERIALS AWAY FROM DEMOLITION AREA. DO NOT STORE WITHIN DRIP LINE OF REMAINING TREES.
5. STORE COMPONENTS OFF THE GROUND AND PROTECT FROM THE WEATHER.
6. REMOVE RECYCLABLE WASTE OFF THE OWNER'S PROPERTY AND TRANSPORT TO RECYCLING RECEIVER OR PROCESSOR.
7. ASPHALTIC CONCRETE PAVING: BREAK UP AND TRANSPORT PAVING TO ASPHALT RECYCLING FACILITY.
8. CONCRETE: REMOVE REINFORCEMENT AND OTHER METALS FROM CONCRETE AND SORT WITH OTHER METALS.
9. 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.
10. 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.
    - 10.1. STRUCTURAL STEEL: STACK MEMBERS ACCORDING TO THEIR SIZE, TYPE AND LENGTH.
    - 10.2. REMOVE BOLTS, NUTS, WASHERS AND OTHER ROUGH HARDWARE.
11. SITE-CLEARING WASTE SHALL BE RECYCLED BY CHIPPING BRUSH, BRANCHES AND TREES, THEN HAUL TO NEAREST 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.
   - 1.1. EXCEPT AS OTHERWISE SPECIFIED, DO NOT ALLOW WASTE MATERIALS THAT ARE TO BE DISPOSED OF TO ACCUMULATE ON-SITE.
   - 1.2. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.
2. BURNING: DO NOT BURN WASTE MATERIALS.
3. DISPOSAL: TRANSPORT WASTE MATERIALS OFF THE OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM.

ABBREVIATIONS LEGEND

INV. = PIPE INVERT ELEVATION
E.O.P. = EDGE OF PAVEMENT
NGVD = NATIONAL GEODETIC VERTICAL DATUM
NAVD = NORTH AMERICAN VERTICAL DATUM

COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION.
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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

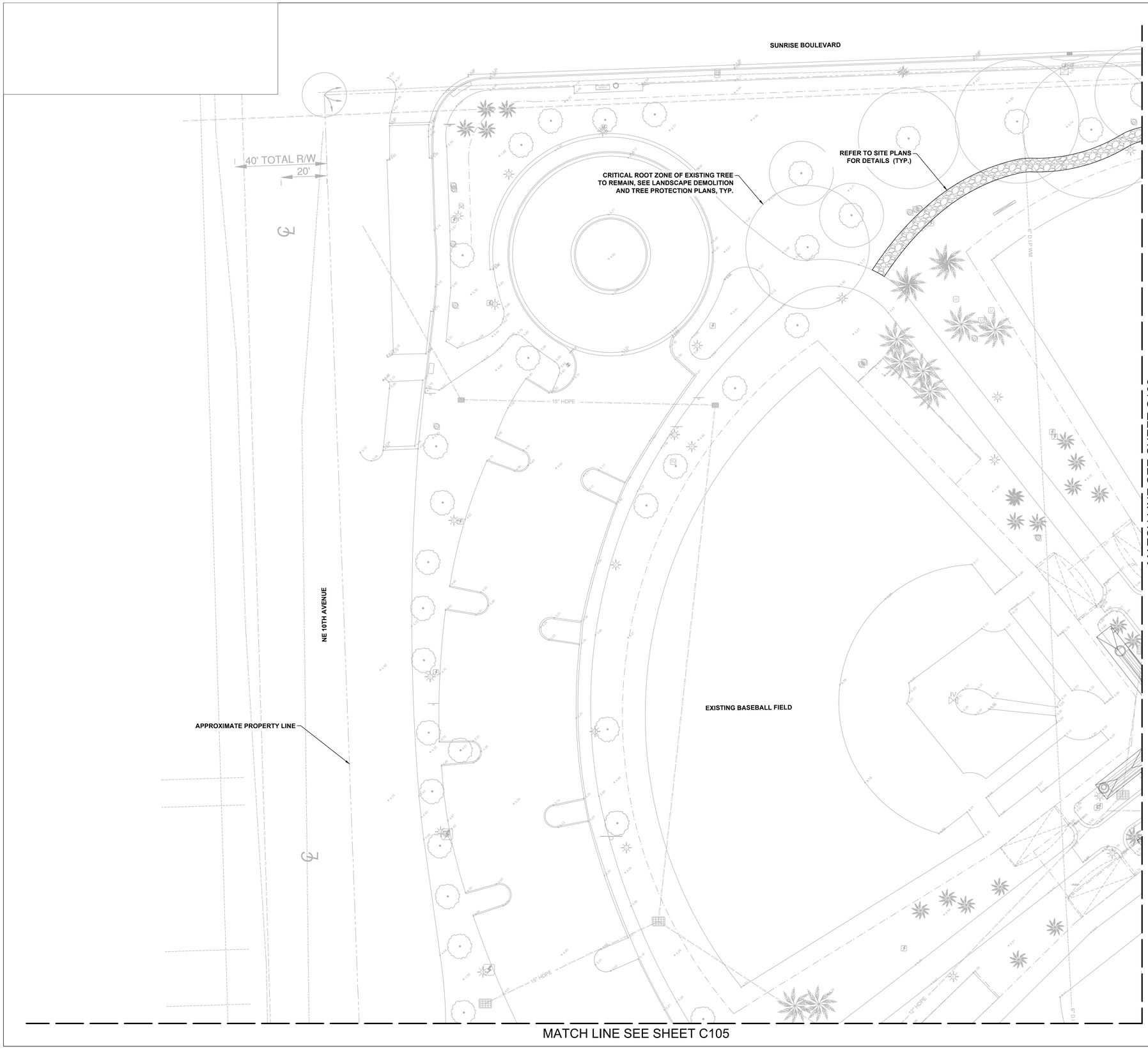
CLIENT

PARKS & RECREATION
City of Fort Lauderdale

PRIME CONSULTANT

AECOM

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TAMPA, FL 33607
813.286.1711 tel 813.287.8591 f



LEGEND

- 3.25 — PROPOSED ELEVATION
- 5.30 MEG — MATCH EXISTING GRADES
- 5.30 TOC — TOP OF CURB
- 5.30 TOW — TOP OF WALL
- 5.30 MEG BOW — MATCH EXISTING GRADES BOTTOM OF WALL
- 1.0% — SLOPE ARROW
- GB — GRADE BREAK
- PROP. SWALE
- PROP. SWALE CENTERLINE
- PROP. BUILDING
- EXISTING OVERHEAD ELECTRIC TO REMAIN
- EXISTING POTABLE WATER LINE TO REMAIN
- EXISTING STORM LINE TO REMAIN
- EXISTING STORM STRUCTURE TO REMAIN
- EXISTING SANITARY SEWER TO REMAIN
- EXISTING IRRIGATION LINE TO REMAIN
- EXISTING BURIED ELECTRIC TO REMAIN
- EXISTING BURIED TELEPHONE TO REMAIN
- EXISTING BURIED COMMUNICATION TO REMAIN
- EXISTING BURIED GAS TO REMAIN

NOTES:

1. **PROPOSED SIDEWALK SHALL NOT EXCEED 2% CROSS-SLOPE AND 5% LONGITUDINAL SLOPE.**
2. **PROPOSED GRASS TO HARMONIZE SIDEWALK IMPROVEMENTS SHALL NOT EXCEED 25% SLOPE.**
3. **PROVIDE POSITIVE DRAINAGE AT SAFETY SURFACING MAXIMUM CROSS-SLOPE SHALL NOT EXCEED 2%.**
4. **THE CONTRACTOR SHALL VERIFY EXISTING GRADES AND STRUCTURE INFORMATION FOR ACCURACY PRIOR TO THE START OF GRADING. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE. REDIRECT WORK TO AVOID DELAY.**
5. **THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING THE WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATE ONLY. ALL DISCREPANCIES WITH WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET OF EXISTING UTILITY DRAWINGS SHALL BE KEPT ON-SITE FOR REFERENCE FOR THE DURATION OF THE PROJECT.**
6. **PROPOSED GRADES SHALL MEET EXISTING GRADES WITH A SMOOTH AND CONTINUOUS TRANSITION SO AS TO AVOID TRAPPING WATER. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IF PUDDLING IS SUSPECTED AND REDIRECT WORK SO AS TO AVOID DELAY WHILE AWAITING RESPONSE.**
7. **REMOVE ALL VEGETATION, ORGANIC MATERIAL, BUILDING MATERIAL, DEMOLITION DEBRIS, AND ALL OTHER DELETERIOUS SUBSTANCES FROM THE AREA OF THE FILL. REMOVE ALL DEBRIS FROM THE SITE AND LEGALLY DISPOSE OFFSITE.**
8. **ALL PROPOSED ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).**
9. **REFER LANDSCAPE DEMOLITION AND TREE PROTECTION PLANS FOR TREE PROTECTION.**
10. **SEE G101 KEY PLAN FOR NOT IN CONTRACT (NIC) LIMIT OF WORK.**
11. **ALL DRAINAGE IMPROVEMENTS ARE TO BE BUILT UNDER THIS CONTRACT, INCLUDING DRAINAGE IMPROVEMENTS SHOWN WITHIN NIC HATCHED AREAS.**

N

0 10' 20' 40' 60'
SCALE: 1" = 20'-0"

COORDINATE WITH AECOM ON LATEST ISSUE OF DRAWINGS BEFORE COMMENCEMENT OF CONSTRUCTION.
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PROJECT

HOLIDAY PARK
FORT LAUDERDALE
PARKS BOND PROGRAM

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PARKS & RECREATION
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REGISTRATION

ROBERTO LA MAZARES LICENSE No. 86416 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY ROBERTO LAMAZARES, P.E. USING A DIGITAL SIGNATURE AND DATE.

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BCC Engineering LLC
6401 SW 87th Avenue, Suite 200
Miami, FL 33173

ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

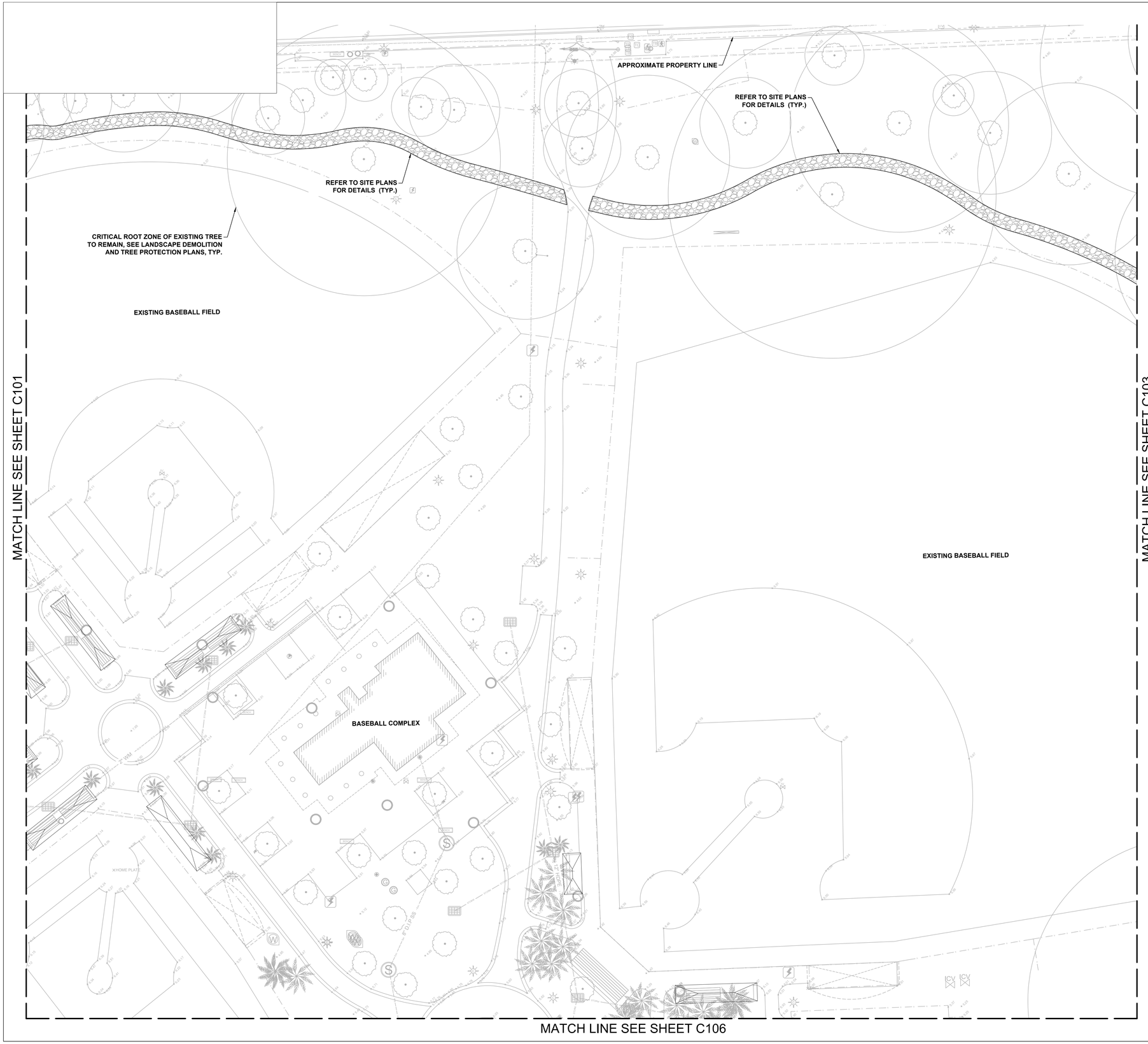
SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

C101

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"



LEGEND

- 3.25 — PROPOSED ELEVATION
- 5.30 MEG — MATCH EXISTING GRADES
- 5.30 TOC — TOP OF CURB
- 5.30 TOW — TOP OF WALL
- 5.30 MEG BOW — MATCH EXISTING GRADES BOTTOM OF WALL
- 1.0% — SLOPE ARROW
- GB — GRADE BREAK
- PROP. SWALE
- PROP. SWALE CENTERLINE
- PROP. BUILDING
- EXISTING OVERHEAD ELECTRIC TO REMAIN
- EXISTING POTABLE WATER LINE TO REMAIN
- EXISTING STORM LINE TO REMAIN
- EXISTING STORM STRUCTURE TO REMAIN
- EXISTING SANITARY SEWER TO REMAIN
- EXISTING IRRIGATION LINE TO REMAIN
- EXISTING BURIED ELECTRIC TO REMAIN
- EXISTING BURIED TELEPHONE TO REMAIN
- EXISTING BURIED COMMUNICATION TO REMAIN
- EXISTING BURIED GAS TO REMAIN

NOTES:

1. **PROPOSED SIDEWALK SHALL NOT EXCEED 2% CROSS-SLOPE AND 5% LONGITUDINAL SLOPE.**
2. **PROPOSED GRASS TO HARMONIZE SIDEWALK IMPROVEMENTS SHALL NOT EXCEED 25% SLOPE.**
3. **PROVIDE POSITIVE DRAINAGE AT SAFETY SURFACING MAXIMUM CROSS-SLOPE SHALL NOT EXCEED 2%.**
4. **THE CONTRACTOR SHALL VERIFY EXISTING GRADES AND STRUCTURE INFORMATION FOR ACCURACY PRIOR TO THE START OF GRADING. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE. REDIRECT WORK TO AVOID DELAY.**
5. **THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING THE WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATE ONLY. ALL DISCREPANCIES WITH WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET OF EXISTING UTILITY DRAWINGS SHALL BE KEPT ON-SITE FOR REFERENCE FOR THE DURATION OF THE PROJECT.**
6. **PROPOSED GRADES SHALL MEET EXISTING GRADES WITH A SMOOTH AND CONTINUOUS TRANSITION SO AS TO AVOID TRAPPING WATER. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IF PUDDLING IS SUSPECTED AND REDIRECT WORK SO AS TO AVOID DELAY WHILE AWAITING RESPONSE.**
7. **REMOVE ALL VEGETATION, ORGANIC MATERIAL, BUILDING MATERIAL, DEMOLITION DEBRIS, AND ALL OTHER DELETERIOUS SUBSTANCES FROM THE AREA OF THE FILL. REMOVE ALL DEBRIS FROM THE SITE AND LEGALLY DISPOSE OFFSITE.**
8. **ALL PROPOSED ELEVATIONS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).**
9. **REFER LANDSCAPE DEMOLITION AND TREE PROTECTION PLANS FOR TREE PROTECTION.**
10. **SEE G101 KEY PLAN FOR NOT IN CONTRACT (NIC) LIMIT OF WORK.**
11. **ALL DRAINAGE IMPROVEMENTS ARE TO BE BUILT UNDER THIS CONTRACT, INCLUDING DRAINAGE IMPROVEMENTS SHOWN WITHIN NIC HATCHED AREAS.**

N

0 10' 20' 40' 60'

SCALE: 1" = 20'-0"

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FORT LAUDERDALE
PARKS BOND PROGRAM

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City of Fort Lauderdale

PRIME CONSULTANT

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ROBERTO LA MAZARES LICENSE No. 86416 STATE OF FLORIDA PROFESSIONAL ENGINEER

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ISSUE/REVISION

I/R	DATE	DESCRIPTION
	06/24/2025	PHASE 2 BID DOCUMENTS

PROJECT NUMBER

P12633

SHEET TITLE

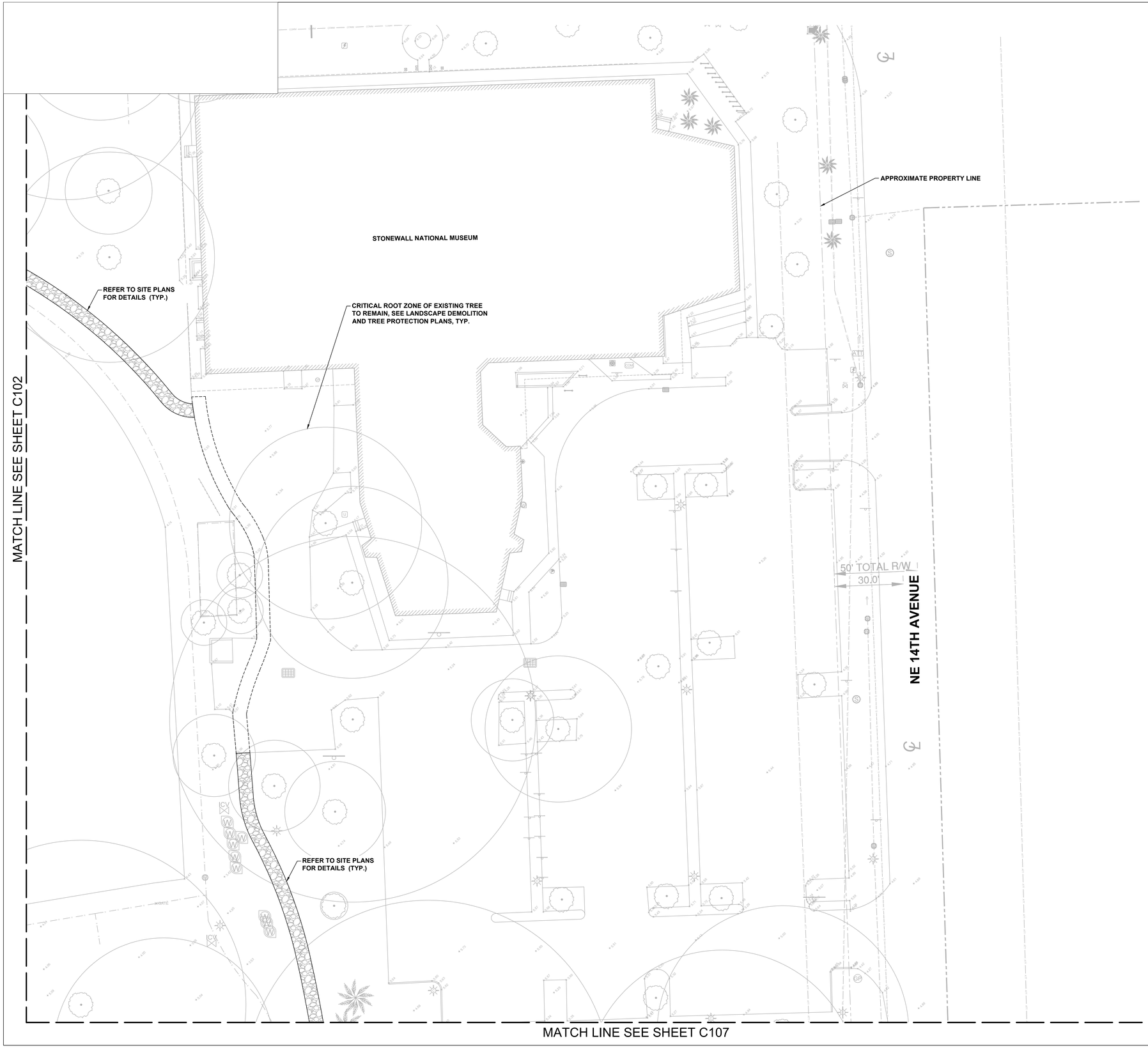
GRADING AND DRAINAGE PLAN

SHEET NUMBER

C102

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Project Management Initials: Designer: Checked: Approved: ANSI D 24" x 36"
Last saved by: JBATISTA (2025-06-25) Last Plotted: 2025-06-25
Filename: H:\PROJECTS\1021220.00 CITY OF FORT LAUDERDALE PARK BOND\1021220.05 TO 13\CAD\01-HOLIDAY_SELECTED_2023-12-22_10-38-40AM03-CIP12633-C-400-DRAINAGE_PLN.DWG



LEGEND

- 3.25 — PROPOSED ELEVATION
- 5.30 MEG — MATCH EXISTING GRADES
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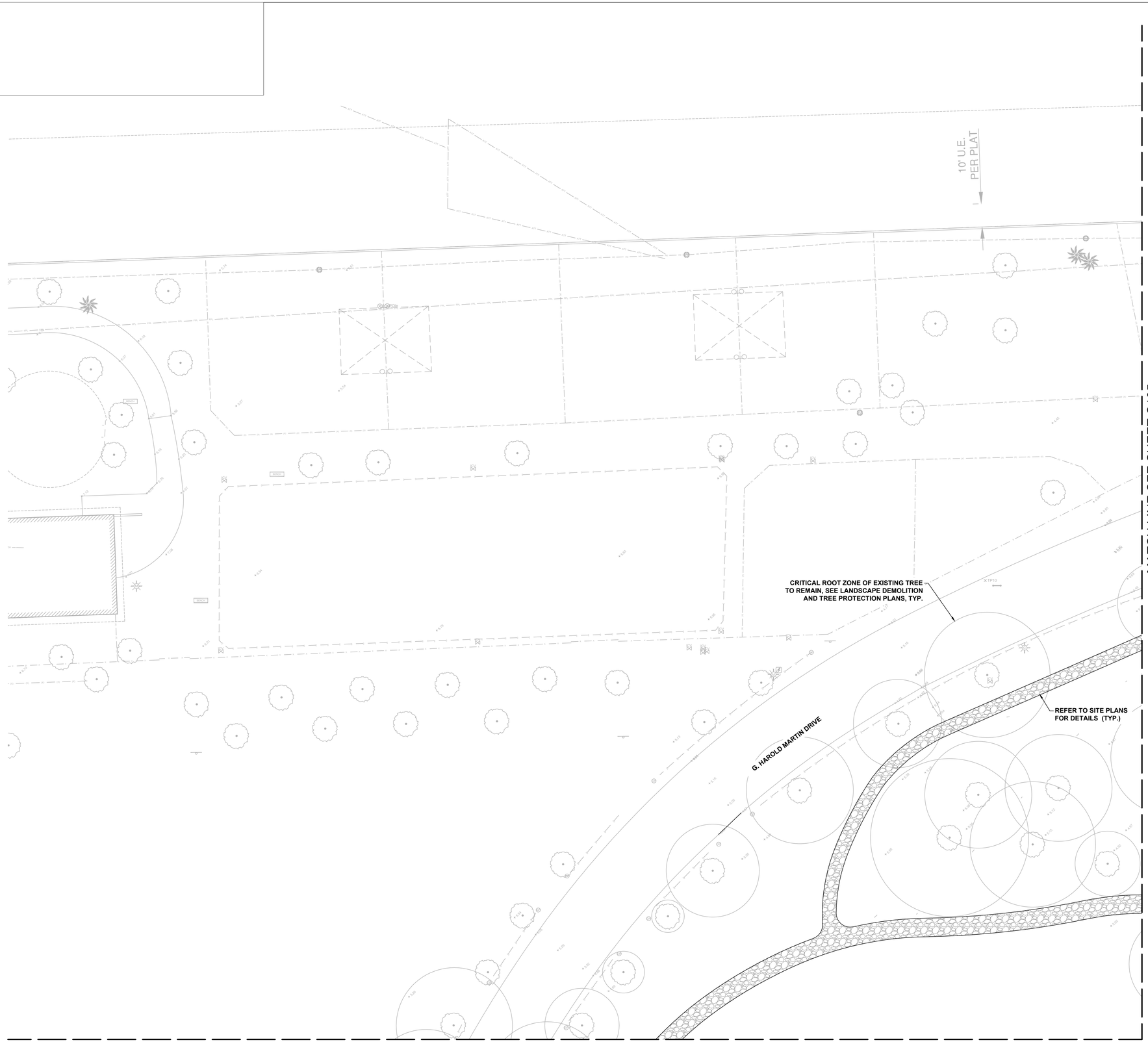
SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

C103

Project Management Initials: Designer:____ Checked:____ Approved:____ ANSI D 24" x 36"
Last saved by: JBATISTA(2025-06-25) Last Plotted: 2025-06-25
Filename: H:\PROJECTS\1021220.00 CITY OF FORT LAUDERDALE PARK BOND\1021220.05 TO 13\CAD\01-HOLIDAY_SELECTED_2023-12-22_10-38-40AM\03-CIP\12633-C-400-DRAINAGE_PLN.DWG



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SHEET NUMBER

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