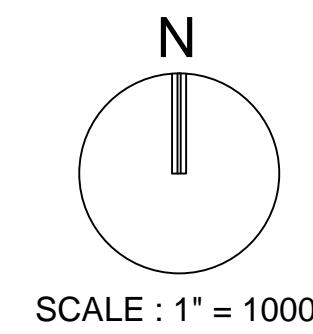


COLONIAL DRIVE ENGINEERING & ROADWAY IMPROVEMENTS

CITY OF MARGATE
BROWARD COUNTY, FLORIDA



SCALE : 1" = 1000'



ALL ELEVATIONS SHOWN ON THESE PLANS
ARE BASED ON NAVD 1988 DATUM

LOCATION MAP

SECTION 24, TOWNSHIP 48 S, RANGE 41 E

PREPARED FOR:
CITY OF MARGATE CRA
5790 MARGATE BOULEVARD

THESE PLANS MAY HAVE BEEN
REDUCED IN SIZE BY REPRODUCTION.
THIS MUST BE CONSIDERED WHEN
OBTAINING SCALED DATA.



INDEX OF SHEETS		
Sheet Sequence No.	Sheet Identification	Sheet Title
	--	COVER
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2	GI-002	LEGEND
3	GI-003	GENERAL NOTES
4	CP-101	ENGINEERING PLAN
5	CP-501	ENGINEERING DETAILS
6	CM-101	PAVEMENT MARKING & SIGNING PLAN
7	LP-101	LANDSCAPE PLAN
8	LN-101	LANDSCAPE NOTES



STEPHEN D. WILLIAMS, P.E.
FLORIDA REG. NO. 32090
(FOR THE FIRM)

PROJECT No. 09359.02 MARCH 2017

General Symbols		
Existing	Proposed	Description
CL	CL	Centerline & Baseline of Survey or Construction
		Building Access (ADA)
		Building Access (NON-ADA)
A-1 24' WIDE	A-1 24' WIDE	Driveway Turnout Identification (Per FDOT Index 515) w/ Drive Width
CR-A	CR-A	Sidewalk Curb Ramp (Per FDOT Index 304)
		Proposed Section Marker
		Flag Pole
		GPS Point
		Hay Bales
		Mail Box
5.00	5.00	Major Contour Elevation
5.20	5.20	Minor Contour Elevation
		Parking Meter
PL	PL	Property Line
+ 10.00	14.48	Grade Elevation
	14.98 14.48	Top Of Curb Elevation/Pavement Elevation
		Soil Test Boring Hole
{ B.M. NO. 112	{ B.M. NO. 112	Survey Bench Mark
Line Types		
Existing	Proposed	Description
-----	-----	County Bound
		Demolition Line
-----	-----	Easement Line
-----	-----	Property Line
		Limited Access Line/Non-Vehicular Access
		Railroad
-----	-----	Right Of Way
...	...	Canal Or Drainage Ditch
◎◎◎	◎◎◎	Shore Line
~~~~~	~~~~~	Tree Line
Cx	C	Aerial Communication Line
Cx	C	Underground Communication Line
SDx	SD	Underground Storm Drain Line (Double Line 24" And Over)
SSx	SS	Underground Sanitary Line
Ex	E	Aerial Electric Line
Ex	E	Underground Electric
Wx	W	Underground Water Line
FMx	FM	Underground Force Main
		Gate
X X	X X	Chain Link Fence
□ □	□ □	Wood Fence
X X	X X	Metal Rail Fence
SF	SF	Silt Fence
~~~~~	~~~~~	Staked Turbidity Barrier
~~~~~	~~~~~	Turbidity Barrier
□ □ □ □ □	□ □ □ □ □	Guard Rail
-----	-----	Roadway Centerline
-----	-----	2 - 4 Skip
-----	-----	3 - 9 Skip
-----	-----	6- 10 Skip
-----	-----	10 - 30 Skip
-----	-----	10 - 10 - 20 Skip
=====	=====	Curb
=====	=====	Curb And Gutter
Landscaping		
Existing	Proposed	Description
		Bush
		Tree
		Palm Tree

Paving and Grading		
Existing	Proposed	Description
		Flow Directional Arrow
		Pavement Marking Arrows
		Stop Bar
		Concrete Sidewalk
		Jogging Path
		Pavement Area
		Existing Pavement/Concrete/ Landscape Removal Area
		Milling And Resurfacing
		Detectable Warning (Truncated Domes) Per Florida Accessibility Code
		Soil Tracking Prevention Device
Drainage / Utilities		
Existing	Proposed	Description
		Catch Basin
		Yard Drain
		Exfiltration Trench
		Catch Basin With Filter Fabric Insert
		Curb Type 5
		Curb Type 6
		Pipe Culvert - Mitered End Section
		Pipe Culvert - Straight Endwall
		Pipe Culvert - U - Type Endwall
		Manhole - Communication, Electric, Gas, Drn, San Sew
		Valve Box - Gas, San. Sew, Water, Non-Potable Water
		22.5 degree Bend
		45 degree Bend
		90 degree Bend
		Utility Crossing
		Fire Hydrant
		Proposed Bacteriological Sampling Point
		Pump Station
		Grease Trap
		Septic Tank
		Drainage Well
		Monitoring Well
		Water Well
		Sanitary Sewer Cleanout
		Back Flow Preventor
		Junction Box
		Electric Handhole
		Electric Meter
		Water Meter
		Gate Valve
		Guy wire
		Light Pole
		Relocated Or Adjusted Light Pole
		Wood Power Pole
		Concrete Utility Pole
		Traffic Signal Pole (Concrete, Wood, Metal)
		Pedestrian Signal Head (Pole Or Pedestal Mounted)
		Post Mounted Sign
		Street Sign
		High Mast Lighting Tower
		Controller Cabinet (Base Mounted)
		Controller Cabinet (Pole Mounted)
		Traffic Signal Head (Span Wire Mounted)
		Traffic Signal Head (Pedestal Mounted)
		Traffic Signal Head (Mast Arm Mounted)
N: 623025.4322		Coordinate values shown on proposed improvements are relative to the coordinate values indicated on the Right-of-Way, property corners or reference monument
E: 850262.1786		

<b>Abbreviations</b>	
<b>General</b>	
AADT	Annual Average Daily Traffic
ABAN	Abandon
ADJ	Adjust
APPROX.	Approximate
A.C.	Asphalt Concrete
ACCM PIPE	Asphalt Coated Corrugated Metal Pipe
BIT.	Bituminous
BC	Back Of Curb
BD.	Bound
BL	Baseline
BLDG	Building
BM	Benchmark
BO	By Others
BOS	Bottom Of Slope
BR.	Bridge
CAP	Corrugated Aluminum Pipe
CB	Catch Basin
CBCI	Catch Basin With Curb Inlet
CC	Cement Concrete
CCM	Cement Concrete Masonry
CEM	Cement
CI	Curb Inlet
CIP	Cast Iron Pipe
CLF	Chain Link Fence
CL	Centerline
CMP	Corrugated Metal Pipe
CO.	County
CONC	Concrete
CONT	Continuous
CONST	Construction
CR GR	Crown Grade
DHV	Design Hourly Volume
DI	Drop Inlet
DIA	Diameter
DIP	Ductile Iron Pipe
DWY	Driveway
ELEV (OR EL.)	Elevation
EMB	Embankment
EOP	Edge Of Pavement
EXIST (OR EX)	Existing
EXC	Excavation
F&C	Frame And Cover
F&G	Frame And Grate
FDN.	Foundation
FLDSTN	Fieldstone
GAR	Garage
GD	Ground
GI	Gutter Inlet
GIP	Galvanized Iron Pipe
GRAN	Granite
GRAV	Gravel
GRD	Guard
GV	Gate Valve
HDW	Headwall
HMA	Hot Mix Asphalt
HOR	Horizontal
HYD	Hydrant
INV	Invert
JCT	Junction
L	Length Of Curve
LB	Leach Basin
LP	Light Pole
LT	Left
MAX	Maximum
MB	Mailbox
MH	Manhole
MIN	Minimum
NIC	Not In Contract
NO.	Number
PC	Point Of Curvature
PCC	Point Of Compound Curvature
P.G.L.	Profile Grade Line

<b>Abbreviations Continued</b>	
	Point Of Intersection
C	Point On Curve
T	Point On Tangent
	Point Of Reverse Curvature
OJ	Project
OP	Proposed
	Point Of Tangency
	Point Of Vertical Curvature
	Point Of Vertical Intersection
	Point Of Vertical Tangency
MT	Pavement
W	Paved Water Way
	Radius Of Curvature
O	Remove And Dispose
	Reinforced Concrete Pipe
	Road
WY	Roadway
M	Remove
	Retain
WALL	Retaining Wall
W	Right Of Way
	Railroad
R	Remove And Reset
	Right
D	Shoulder
H	Sewer Manhole
	Street
	Station
	Stopping Sight Distance
	Sidewalk
	Tangent Distance Of Curve/Truck %
N	Tangent
MP	Temporary
	Top Of Curb
S	Top Of Slope
	Typical
	Utility Pole
R	Varies
T	Vertical
	Vertical Curve
R	Wheel Chair Ramp
W	Wrought Iron Pipe
W	Water Meter/Water Main
ECT	Cross Section
<b>Traffic Signal</b>	
3.	Cabinet
VE	Closed Circuit Video Equipment
	Steady Don't Walk
V	Flashing Don't Walk
	Flashing Circular Red
	Flashing Red Left Arrow
	Flashing Red Right Arrow
	Flashing Circular Amber
	Flashing Amber Left Arrow
	Flashing Amber Right Arrow
	Steady Circular Green
	Steady Green Left Arrow
	Steady Green Right Arrow
	Steady Green Slash Left Arrow
R	Steady Green Slash Right Arrow
	Steady Green Vertical Arrow
	Overlap
	Pedestrian
	Pan, Tile, Zoom
	Steady Circular Red
	Steady Red Left Arrow
	Steady Red Right Arrow
SIG	Traffic Signal
	Traffic Signal Conduit
	Steady Walk
	Steady Circular Amber
	Steady Amber Left Arrow

# COLONIAL DRIVE IMPROVEMENTS CITY OF MARGATE

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 10, 2017
DRAWN BY:	MC
DESIGNED BY:	MC
CHECKED BY:	CM

---

STEPHEN D. WILLIAMS, P.E.  
FLORIDA REG. NO. 32090  
(FOR THE FIRM)

## LEGEND

**SHEET NUMBER**

SHEET of

PROJECT NO. 09359.02

# CONSTRUCTION SPECIFICATIONS

## Section 20 - General Specifications Paving Grading Drainage and Earthwork

### 20. General

20.1. It is the intent of these specifications to describe the minimum acceptable technical requirements for the materials and workmanship for construction of site improvements for this project. Such improvements may generally include, but not to be limited to, clearing, grading, paving, removal of existing pavement storm drainage, water lines and sanitary sewers.

20.2. It is the intent that the Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction: (current edition) together with "Supplemental Specifications to the Standard Specifications for Road and Bridge Construction" (current edition), and the FDOT Roadway and Traffic Design Standards (current edition) be used where applicable for the various work, and that where such wording therein refers to the State of Florida and its Department of Transportation and personnel, such wording is intended to be replaced with the wording which would provide proper terminology; thereby making such "Standard Specifications for Road and Bridge Construction" together with the "FDOT Roadway and Traffic Design Standards" as the "Standard Specifications" for this project. If within a particular section, another section, article or paragraph is referred to, it shall be part of the Standard Specifications also. The Contractor shall abide by all local and State laws, regulations and building codes which have jurisdiction in the area.

20.3. The Contractor shall furnish all labor, materials and equipment and perform all operations required to complete the construction of a paving and drainage system as shown on the plans, specified herein, or both. It is the intent to provide a complete and operating facility in accordance with these specifications and the construction drawings. The material and equipment shown or specified shall not be taken to exclude any other incidentals necessary to complete the work.

20.4. All labor, materials, and methods of construction shall be in strict accordance with the plans and construction specifications and the minimum engineering and construction standards adopted by the unit of government which has jurisdiction and responsibility for the construction. Where conflicts or omissions exist, the jurisdictional government Engineering Department's standards shall govern. Substitutions and deviations from plans and specifications shall be permitted only when written approval has been issued by the Engineer.

20.5. Guarantee - all materials and equipment to be furnished and/or installed by the Contractor under this contract, shall be guaranteed for a period of (i) one year from the date of final acceptance thereof, against defective materials, design and workmanship. Upon receipt of notice from the owner of failure of any part of the guaranteed equipment or materials, during the guarantee period, the affected part or materials shall be replaced promptly with new parts or materials by the contractor, at no expense to the owner. In the event the Contractor fails to make necessary replacement or repairs within (7) seven days after notification by the owner, the owner may accomplish the work at the expense of the contractor.

### 21. Earthwork

21.1. All areas within the project limits shall be cleared and grubbed prior to construction. This shall consist of the complete removal and disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and all other obstructions resting on or protruding through the surface of the existing ground to a depth of 1'. All work shall be in accordance with section 110 of the Standard Specifications.

21.2. None of the existing limerock material from demolished pavement is to be incorporated in the new limerock base, unless noted in plans. The existing limerock material from demolished pavement may be incorporated into the stabilized subgrade / subbase, or stabilized shoulder.

21.3. Fill material shall be classified as A-1, A-3, or A-2-4 in accordance with AASHTO N-145 and shall be free from vegetation and organic material. Not more than 12% by weight of fill material shall pass the no. 200 sieve.

21.4. All fill material in areas not to be paved shall be compacted to 95% of the maximum density as determined by AASHTO T-99.

21.5. All material of construction shall be subject to inspection and testing to establish conformance with the specifications and suitable for the uses intended. The Contractor shall notify the Engineer at least 24 hours prior to the time he will be ready for an inspection or test. The Contractor shall follow City and County inspection procedures. The Contractor shall not proceed with any phase of work dependent on an inspection or test of an earlier phase of work, prior to that test or inspection passing. The Contractor shall be responsible for providing certified material test results to the Engineer of record prior to the release of final certification by the Engineer. Test results must include, but may not be limited to, densities for subgrade and limerock, utilities, excavation, asphalt gradation reports, concrete cylinders, etc.

21.6. When encountered, muck shall be completely removed from the center line (10) ten feet beyond the edge of pavement each side. All such material shall be replaced by approved granular fill.

21.7. When encountered within drainage swales, hardpan shall be removed to full depth for a width of (5) five feet at the invert and replaced with granular materials.

21.8. All underground utilities and drainage installations shall be in place prior to subgrade compaction and pavement construction.

21.9. Ground adjacent to roadway/pavement having runoff shall be graded (2) two inches lower than the edge of pavement to allow for the placement of sod.

21.10. Site grading elevations shall be within 0.1' of the required elevation for non paved areas and all areas shall be graded to drain without ponding.

21.11. The Contractor shall perform all excavation, fill, embankment and grading to achieve the proposed plan grades including typical road sections, side slopes and canal sections. All work shall be in accordance with section 120 of the Standard Specifications. If fill material is required in excess of that generated by the excavation, the Contractor shall supply this material as required from off-site.

21.12. A 2" blanket of top soil shall be placed over all areas to be sodded or seeded and mulched within the project limits unless otherwise indicated

## General Notes

This construction project may or may not include all items covered by these notes and specifications, i.e. paving, grading, drainage lines, water lines, or sanitary sewer lines. See plans for detailed project scope. Notes and specifications on this sheet refer to paving, grading, drainage, water, and sanitary sewer, and are intended for this projects scope of work and for reference purposes for other work items that may be required due to unforeseen existing conditions or required remedial work.

## 1. Specific Site Notes

1. County and "City" in these notes refers to County and City in which project resides.
2. State in these notes refers to the State of Florida.
3. Existing topographic information in the plans is based on survey data and best available information. See project survey and notes on plan sheets regarding the source of the topographic information.

## 2. Applicable Codes

1. All construction and materials shall conform to the standards and specifications of the city, county, and all other jurisdictional, State and national codes where applicable.
2. In the event of a conflict between the general notes and construction specifications in these plans, and the contract documents and specifications in the specification booklet, the contractor shall submit written request for clarification.
3. All construction shall be done in a safe manner and in strict compliance with all the requirements of the Federal occupational safety and health act of 1970, and all State and jurisdictional safety and health regulations.
4. The contractor shall be required to comply with Federal, State, County, and City laws, codes, and regulations.
5. All handicap accessible areas to conform to the requirements of the Americans with Disabilities Act (ADA), State ADA codes, and Florida Building Code ADA codes latest edition.
6. Trench safety act
  1. All trench excavation shall be performed in accordance with chapter 90-96 of the laws of Florida (the trench safety act).
  2. All trench excavation in excess of 5 feet in depth shall be undertaken in accordance with O.S.H.A. standard 29 cfr. Section 1926.650 subpart p.
  3. The contractor shall submit with his contract a completed, signed, and notarized copy of the trench safety act compliance statement. The contractor shall also submit a separate cost item identifying the cost of compliance with the applicable trench safety codes.
  4. A trench safety system, if required, shall be designed by the excavation contractor utilizing a specialty engineer as required.

## 3. Construction Notes:

1. Contractor shall tie existing grade by evenly sloping from closest proposed grade provided to existing grade at limits of construction, unless otherwise noted on the plans. If no limit of work line is indicated, slope to adjacent property line or right-of-way line, as applicable.
2. Unless otherwise indicated on the plans, all existing manholes, catch basins, meters and other structures, whether indicated on the plans or not shall be adjusted to match the new grade, by the contractor.
3. The curb shall be sloped to accommodate the new pavement, catch basin and grate, and the surface flow pattern.
4. The contractor shall use care when cutting the existing asphalt pavement and during excavations, so that the existing catch basins and grates that are to remain will not be damaged.
5. The contractor shall maintain the roadway slope when resurfacing the roadway. The edge of pavement shall match the new gutter lip per FDOT index 300.
6. The new sidewalk shall be constructed in accordance with the given elevations and at the proper slopes depicted in the specifications, details and standards. Existing driveways and other features shall be matched when possible as directed by the engineer.
7. Radii shown are to the edge of pavement.
8. All bench mark monuments within the limits of construction shall be protected and referenced by the contractor in the same way as public land corners.
9. All excess material is to be disposed by the contractor within 72 hours.
10. In areas where the base is exposed by the milling operation, the contractor shall restore the base to its original thickness and structural capacity before paving over such areas. This includes but is not limited

to restoring original degree of compaction, moisture content, composition, stability, and intended slope. If paving will not take place the same day the base is exposed and reworked, the base shall be sealed according to the governing standards and specifications. Any additional work resulting from the contractor's failure to protect the exposed base as stated above in order to restore the original structural capacity shall be the contractor's cost.

11. The contractor is to maintain existing signage during construction operations, in order to facilitate emergency vehicle traffic.

3.12. The topographic survey included with this set of plans reflects pre-demolition conditions and does not reflect the site conditions after demolition. The contractor is fully and solely responsible in determining the required earthwork for the proposed development of the site. This includes, but is not limited to, any excavation/dredge and fill activities required at any phase of the project. The contractor shall use the final approved (released for construction) plans, surveys, geotechnical reports, and any other available information for determining the amount of excavation/dredging and filling required. Any quantities included in the approved permits were estimated by the engineer for purposes of obtaining the permit and under no circumstances shall be used by the contractor in lieu of performing their own earthwork calculations required for cost estimating and bidding the project.

3.13. The contractor shall be responsible for reading and familiarizing themselves with any and all available geotechnical reports prepared by others and/or any recommendations written or implied by the geotechnical engineer for this project. The geotechnical conditions and recommendations outlined in these reports are in force and in full effect as part of the proposed improvements. The contractor is responsible for ensuring that all the work associated with this project is in compliance with the geotechnical engineer's recommendations. Keith and associates, Inc. is not responsible for the suitability or unsuitability of the soils encountered. It is the contractor's responsibility to ensure that the means and methods of construction used can and will allow for the successful completion of the required site improvements.

3.14. The contractor shall ensure that the available geotechnical information is sufficient for his complete understanding of the soil conditions for the site. If additional geotechnical investigation is required by the contractor, this additional work shall be considered incidental to the contract and no additional compensation shall be allowed.

3.15. The contractor shall be responsible for the repair and restoration of existing pavement, pipes, conduits, sprinkler heads, cables, etc., and landscaped areas damaged as a result of the contractor's operations and/or those of his subcontractors and shall restore at no additional cost.

3.16. The contractor shall not bring any hazardous materials onto the project. Should the contractor require such for performing the contracted work, the contractor shall request, in writing, permission from the owner, city and engineer. The contractor shall provide the owner, city and engineer with a copy of the material safety data sheet (MSDS) for each hazardous material proposed for use. The project engineer shall coordinate with the owner and city prior to issuing written approval to the contractor.

3.17. Any known or suspected hazardous material found on the project by the contractor shall be immediately reported to the city and/or engineer, who shall direct the contractor to protect the area of known or suspected contamination from further access. The city and/or engineer are to notify the owner/engineer of the discovery. The owner/engineer will arrange for investigation, identification, and remediation of the hazardous material. The contractor shall not return to the area of contamination until approval is provided by the engineer.

3.18. The contractor shall contact the appropriate city engineering inspector and engineer 48 hours in advance of the event to notify the city of construction start up, or to schedule all required tests and inspections including final walk-throughs.

## 4. Preconstruction Responsibilities

1. All utility / access easements to be secured prior to construction.
2. No construction may commence until the appropriate permits have been obtained from all municipal, State, County, and Federal agencies.
3. All required governmental agency building permits to be obtained by the contractor prior to any construction activity.
4. Contractor to coordinate construction scheduling for

connection to the existing water and sewer lines with the utility department that owns and/or maintains the water and sewer lines.

4.5. Prior to the start of construction, the owner shall submit an NPDES construction general permit (CGP) "notice of intent (N.O.I.) to use Generic Permit for storm water discharge from construction activities form (DEP form 62-621.300(4)(b)) to FDEP notices center. The contractor will be responsible for (1) implementation of the storm water pollution prevention plan (SWPPP) that was required to be developed prior to NOI submittal, and (2) retention of records required by the permit, including retention of a copy of the SWPPP at the construction site from the date of project initiation to the date of final site stabilization. A "notice of termination (N.O.T.) of generic permit coverage" form (DEP form 62-621.300(6)) must be submitted to FDEP to discontinue permit coverage, subsequent to completion of construction. For additional information see FDEP website: <http://www.dep.state.fl.us/water/stormwater/npdes>.

4.6. Contractor shall construct and maintain temporary lighting as required to light the construction project limits at all times, to at least the same lighting intensity levels as the existing conditions.

4.7. The contractor shall maintain access to adjacent properties at all times.

6.4. Contractor shall construct and maintain temporary lighting as required to light the construction project limits at all times, to at least the same lighting intensity levels as the existing conditions.

6.5. The contractor shall maintain access to adjacent properties at all times.

## 7. Project Progress and Closeout

7.1. During construction, the project site and all adjacent areas shall be maintained in a neat and clean manner, and upon final clean-up, the project site shall be left clear of all surplus material or trash. The paved areas shall be broom swept clean.

7.2. The contractor shall restore or replace any public or private property (such as highway, driveway, walkway, and landscaping), damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of construction. Suitable materials and methods shall be used for such restoration.

7.3. Material or debris shall be hauled in accordance with NPDES permit and jurisdictional laws.

7.4. All land survey property monuments or permanent reference markers, removed or destroyed by the contractor during construction shall be restored by a State of Florida registered land surveyor at the contractor's expense.

7.5. All unpaved surfaces disturbed as a result of construction activities shall be graded, sodded, & restored to a condition equal to or better than that which existed before the construction.

## 8. Project record documents:

8.1. Catalogue literature shall be submitted for drainage, water and sewer pipes, fittings, and appurtenances.

8.2. Prior to submitting shop drawings to the engineer, the contractor shall review and approve the drawings, and shall note in red any deviations from the engineer's plans or specifications.

8.3. Individual shop drawings for all precast structures are required. Catalogue literature will not be accepted for precast structures.

8.4. Contractor to submit maintenance of traffic plan(s) in accordance with FDOT and Broward county requirements, and submit for approval prior to beginning construction.

8.5. The contractor shall notify in writing the owner, the County, the engineer of record, & any other governmental agencies having jurisdiction at least 48 hours prior to beginning construction and prior to required inspections of the following items, where applicable:

- Clearing and earthwork
- Storm drainage systems
- Sanitary sewer systems
- Water distribution systems
- Subgrade
- Limerock base
- Asphalt or concrete pavement
- Sidewalks, concrete flatwork/curbing
- Landscaping
- Pavement marking and signage
- Signalization
- Site lighting
- Electrical and communication lines
- Utility conduits
- Irrigation
- Final

5.1. The owner, engineer, and jurisdictional permitting agencies may make inspections of the work at any time. The contractor shall cooperate fully with all inspections.

5.2. Testing - all testing required by the plans and specifications shall be performed by a licensed / FDOT qualified testing company. Required test for asphalt and limerock shall be taken at the direction of the engineer or the jurisdictional governmental agency in accordance with the plans and specifications.

5.3. The contractor shall coordinate the work with other contractors in the area and any other underground utility companies required. The contractor shall coordinate relocation of all existing utilities with applicable utility companies.

5.4. Contractor shall construct temporary fencing to secure construction areas at all times, cost included in mobilization.

5.5. Contractor to obtain a secure staging area and obtain all necessary approvals from the owner.

5.6. Contractor to coordinate construction scheduling for

include a key sheet of the lake for the location of cross sections. Lake and canal bank cross sections shall be plotted at a minimum of every 100 ft, unless otherwise specified. "as-built" drawings shall consist of the location and elevation of the top of bank, edge of water, and the deep cut line, with the distance between each shown on the drawing.

10.4. Incorrectly placed paint or thermoplastic pavement markings over friction course will be removed by milling and replacing the friction course a minimum width of 18 in at the contractor's expense. The engineer may approve an alternative method if it can be demonstrated to completely remove the markings without damaging the asphalt.

10.5. Place all retro-reflective pavement markers in accordance with standard index 17352 and / or as shown in the plans.

10.6. Caution should be exercised while relocating existing signs to prevent unnecessary damage to signs. If the sign is damaged beyond use, as determined by the engineer, signs shall be replaced by the contractor at his expense.

10.7. All existing signs that conflict with construction operations shall be removed, stockpiled, and relocated by the contractor. Sign removal shall be directed by the engineer.

10.8. Relocated sign support system must meet the current design standard.

10.9. The contractor shall provide an inventory of existing signs to remain or to be relocated prior to starting the job and forward this list to the engineer. Contractor shall notify if there are any missing or damage signs that the plans show to remain or to be relocated.

10.10. All roadway pavement markings shall be thermoplastic in accordance with FDOT specifications section 711.

10.11. Hand dig the first four feet of sign foundation.

10.12. All signs shall meet all of the following:

- Meet the criteria outlined in Section 2A.08 of the 2009 MUTCD
- Meet the specifications outlined in Section 700 and 994 of the latest FDOT Standard Specifications.
- Consist of materials certified to meet the retroreflective sheeting requirements outlined in the current version of ASTM D4956 for type-XI retroreflective sheeting materials made with prisms, except for school zone and pedestrian signs which shall be comprised of retroreflective fluorescent yellow-green sheeting certified to meet ASTM D4956 Type IV retroreflective sheeting materials.
- Consist of retroreflective sheeting materials that have a valid FDOT Approved Product List (APL) certification for specification 700 Highway Signing for FDOT sheeting Type XI (or type IV for school and pedestrian signs).

10.13. Patch attachment hardware, such as countersunk screws or rivet heads, with retro reflective buttons that match the color and sheeting material of the finished sign panel including the background, legend or border.

10.14. Ensure the outside corner of sign is concentric with border. Ensure white borders are mounted parallel to the edge of the sign. Ensure black borders are recessed from the edge of the sign.

10.15. Lay out permanent final striping that leaves no visible marks at time of final acceptance.

**KEITH & ASSOCIATES, INC.**  
301 East Atlantic Boulevard  
Pompano Beach, Florida 33060-6643

2160 NW 82nd Avenue  
Doral, Florida 33122

(954) 788-3400 FAX (954) 788-3500

BID / CONTRACT NO.:

REVISIONS  
NO. DESCRIPTION DATE

**PRELIMINARY PLAN  
NOT FOR CONSTRUCTION**  
THESE PLANS ARE NOT FULLY PERMITTED  
AND ARE SUBJECT TO REVISIONS MADE  
DURING THE PERMITTING PROCESS.  
RESPONSIBILITY FOR THE USE OF THESE  
PLANS PRIOR TO OBTAINING PERMITS  
FROM ALL AGENCIES HAVING JURISDICTION  
OVER THE PROJECT WILL FALL SOLELY  
UPON THE USER.

**COLONIAL  
DRIVE  
IMPROVEMENTS  
CITY OF  
MARGATE**

SCALE: AS NOTED  
DATE ISSUED: FEBRUARY10, 2017  
DRAWN BY: MC  
DESIGNED BY: MC  
CHECKED BY: SW

STEPHEN D. WILLIAMS, P.E.  
FLORIDA REG. NO. 32090  
(FOR THE FIRM)

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
GI-003

SHEET of  
PROJECT NO. 09359.02

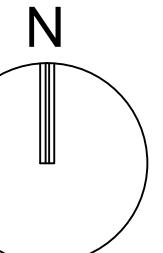
1

2

3

4

5



**KEITH**  
& ASSOCIATES, INC.  
consulting engineers

301 East Atlantic Boulevard  
Pompano Beach, Florida 33060-6643

2160 NW 82nd Avenue  
Doral, Florida 33122

(954) 788-3400 FAX (954) 788-3500

Florida Certificate of  
Authorization # - 7928

GRAPHIC SCALE  
0 30 60  
SCALE: 1"=30'

NOTE: PRINTED DRAWING SIZE MAY HAVE  
CHANGED FROM ORIGINAL.  
VERIFY SCALE USING BAR SCALE ABOVE.

BID / CONTRACT NO.:

REVISIONS

NO. DESCRIPTION DATE

**PRELIMINARY PLAN  
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AND ARE SUBJECT TO REVISIONS MADE  
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RESPONSIBILITY FOR THE USE OF THESE  
PLANS PRIOR TO OBTAINING PERMITS  
FROM ALL AGENCIES HAVING JURISDICTION  
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## COLONIAL DRIVE IMPROVEMENTS CITY OF MARGATE

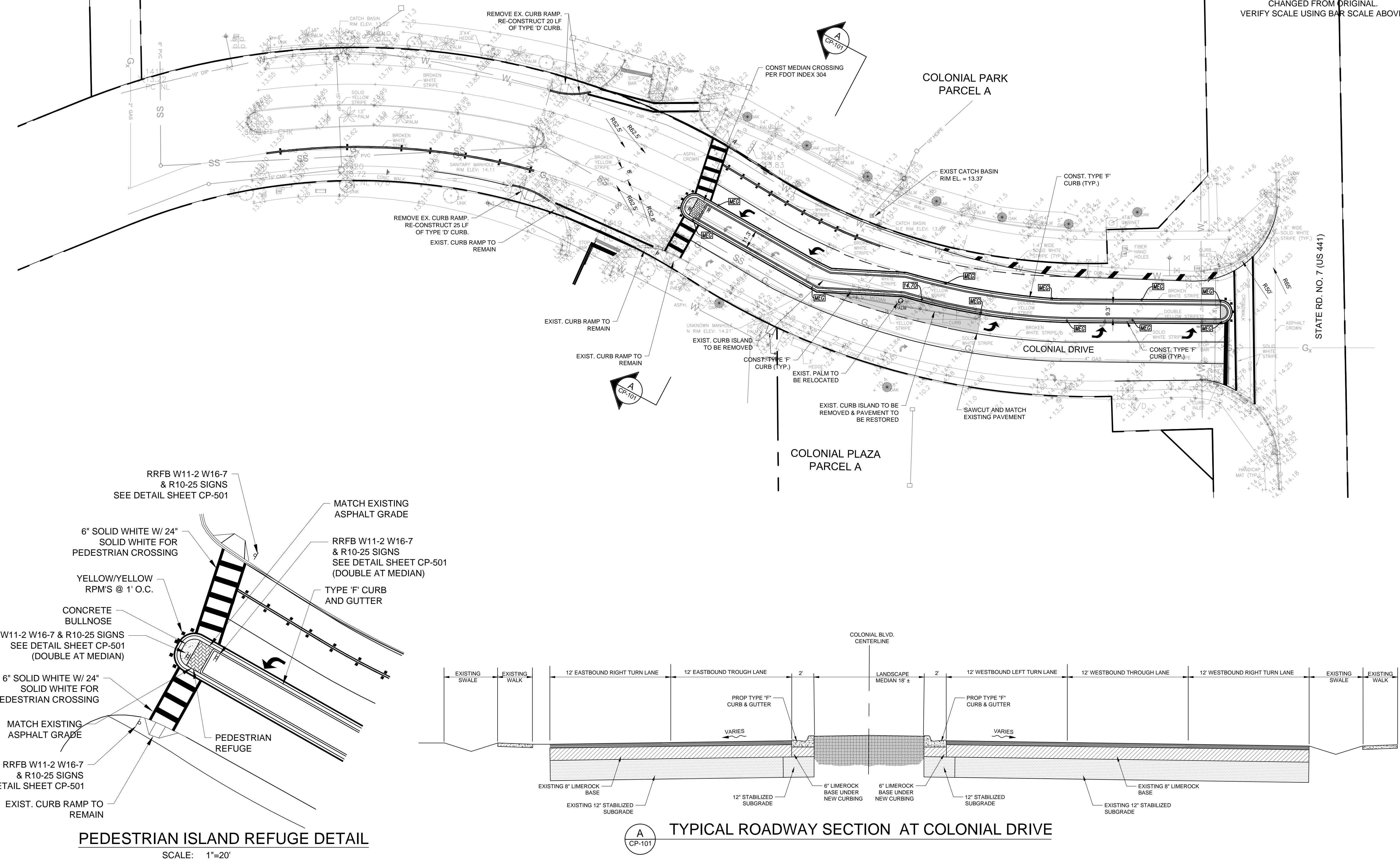
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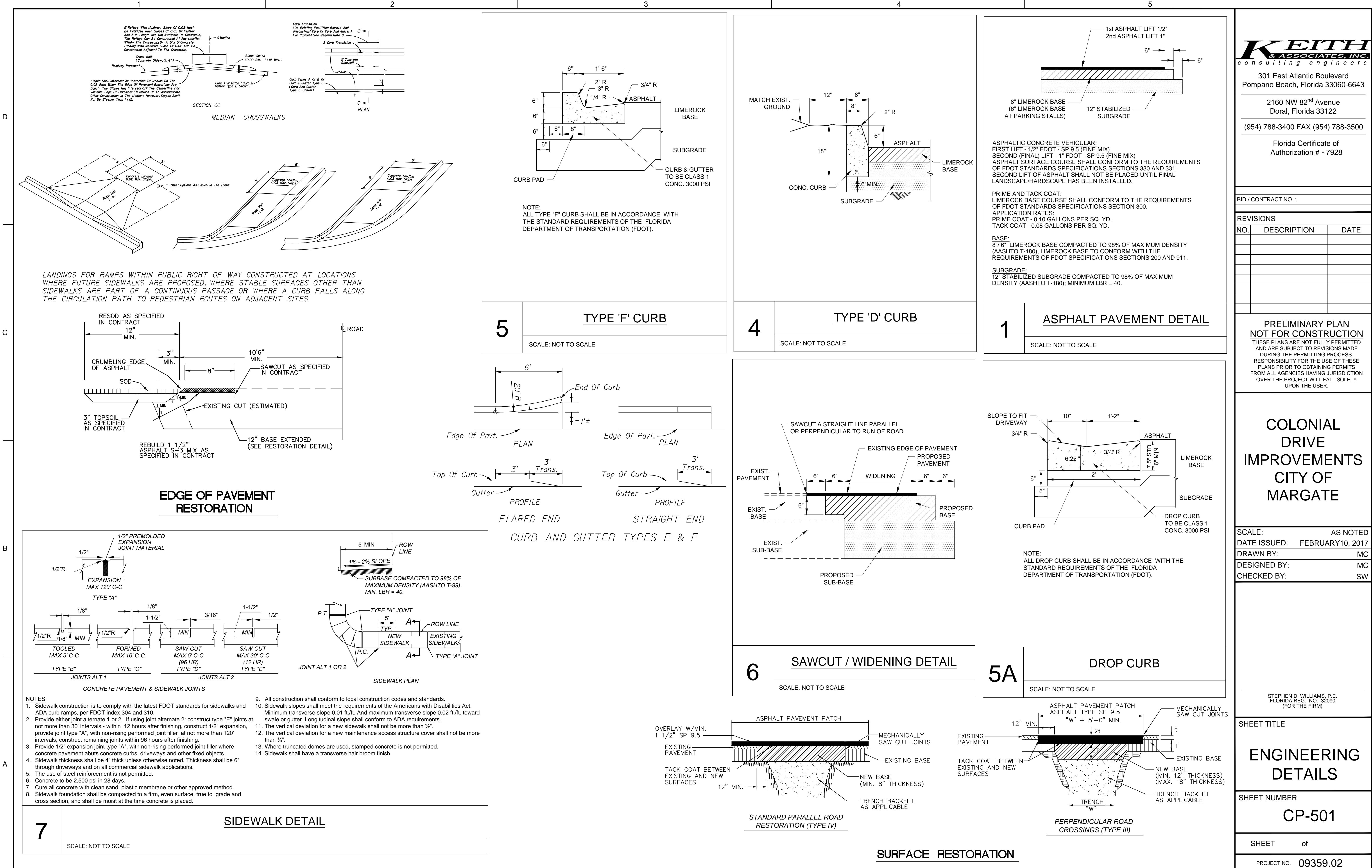
STEPHEN D. WILLIAMS, P.E.  
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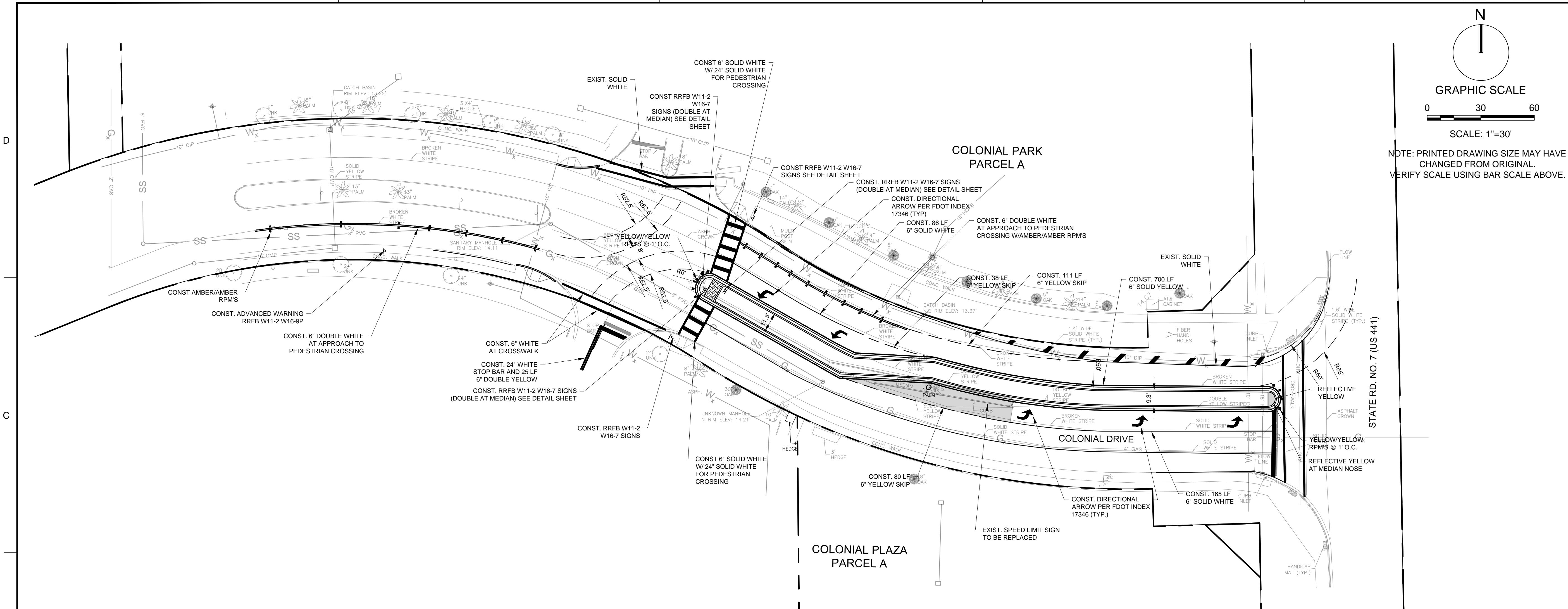
SHEET TITLE  
**ENGINEERING  
DRAWINGS**

SHEET NUMBER  
**CP-101**

SHEET of  
PROJECT NO. 09359.02







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consulting engineers

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SHEET TITLE

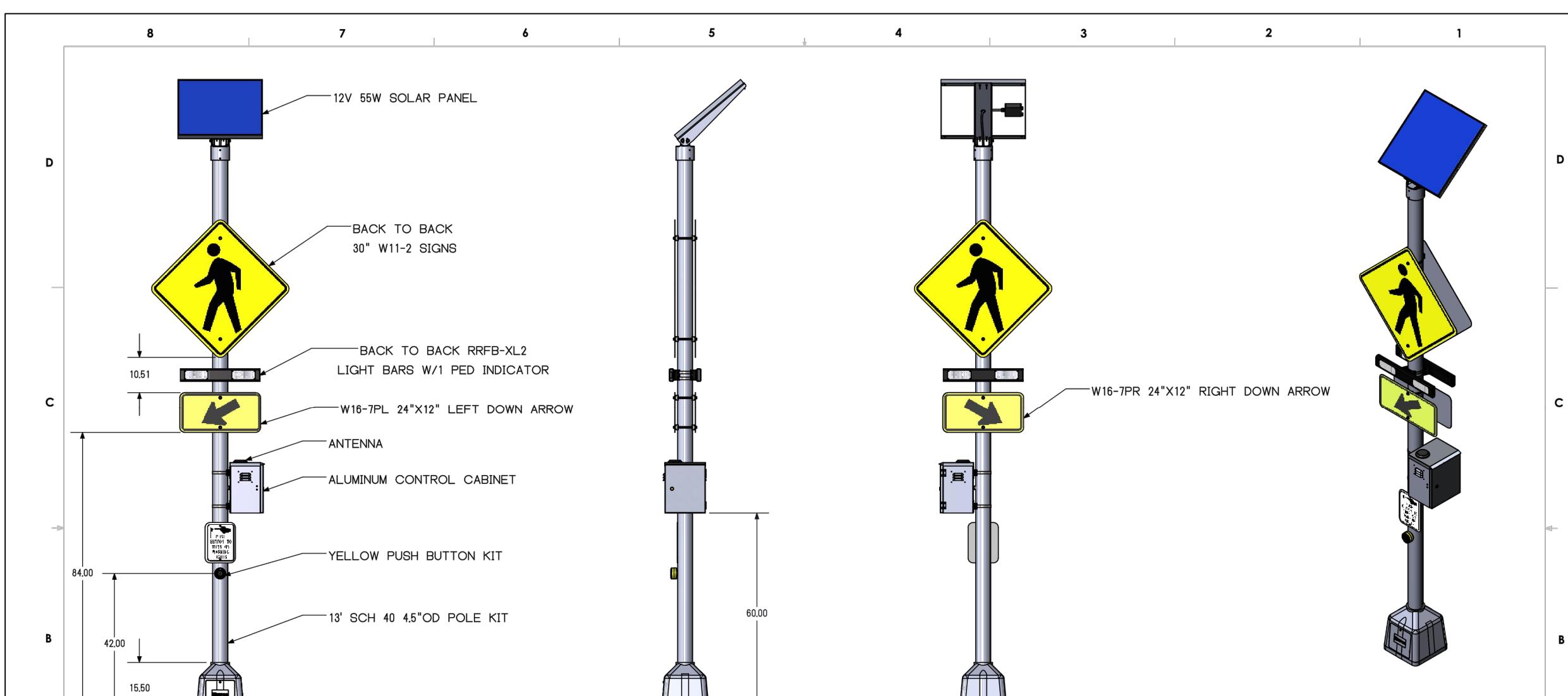
### PAVEMENT MARKING AND SIGNAGE PLANS

SHEET NUMBER

CM-101

SHEET of

PROJECT NO. 09359.02



**TAPCO**  
TRAFFIC & PARKING CONTROL CO., INC.

NOTES:  
1. ORIENT SOLAR PANEL TOWARDS SOUTHERN SKY FOR MAXIMUM SOLAR EXPOSURE  
2. CONTROL CABINET HEIGHT MAY VARY.  
3. SNAP LOCKS ARE PROVIDED, STANDARD 3/4" S/S BANDING IS RECOMMENDED  
4. J-BOLTS NOT SHOWN

MATERIAL VARIET INTERPRET GEOMETRIC TOLERANCING PER ASME Y14.03-2009  
FINISH VARIET REFERENCE

DEG MM INCH  
XX +0.0540 +0.0000  
XXX +0.381 +0.015  
XXXX +0.107 +0.000  
ANGULAR +5°  
CHECKED BY: A. KAVNAUGH  
DESIGNED BY: A. KAVNAUGH  
DRAWN BY: A. KAVNAUGH  
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TAPCO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TAPCO IS PROHIBITED.

TITLE DOUBLE SIDED RRFB-XL2 SLR-55W SOLAR POLE ARRANGEMENT, PUSH BUTTON

REV 2TE-537

SCALE: 1:28

STORAGE SIZE

NOTES:  
1. ORIENT SOLAR PANEL TOWARDS SOUTHERN SKY FOR MAXIMUM SOLAR EXPOSURE  
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4. J-BOLTS NOT SHOWN

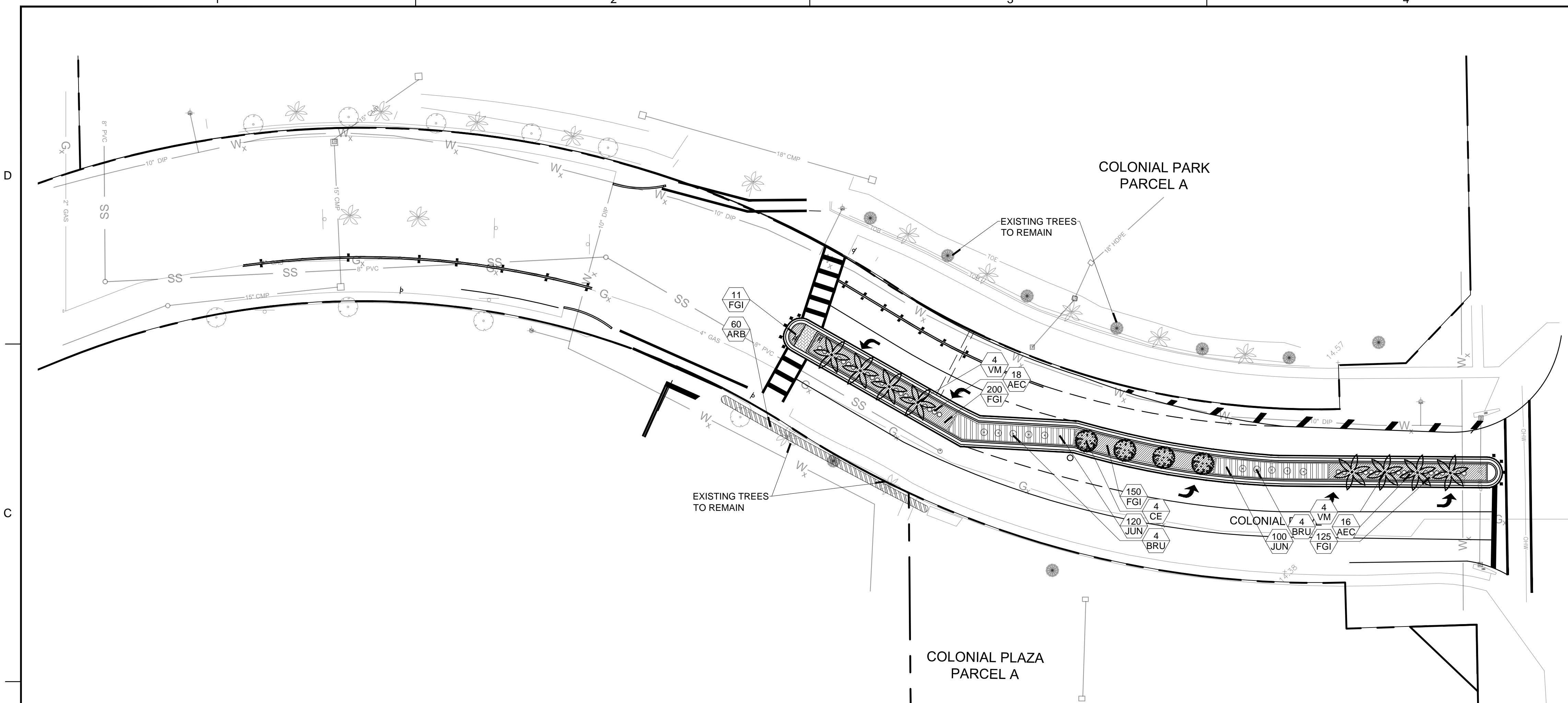
DEG MM INCH  
XX +0.0540 +0.0000  
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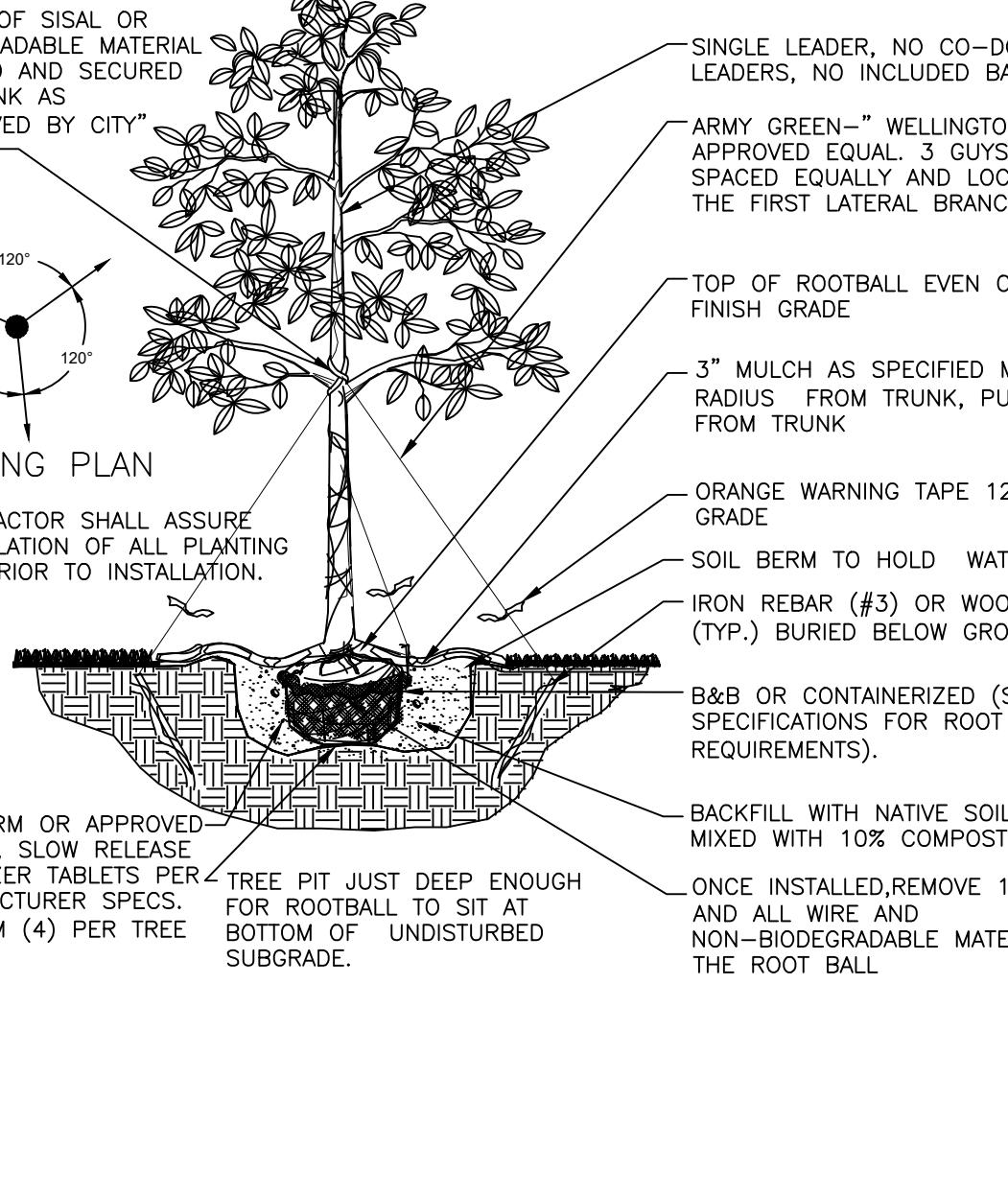
TITLE SINGLE SIDED RRFB-XL2 SLR-55W SOLAR POLE ARRANGEMENT

REV 2TE-537

SCALE: 1:28

STORAGE SIZE



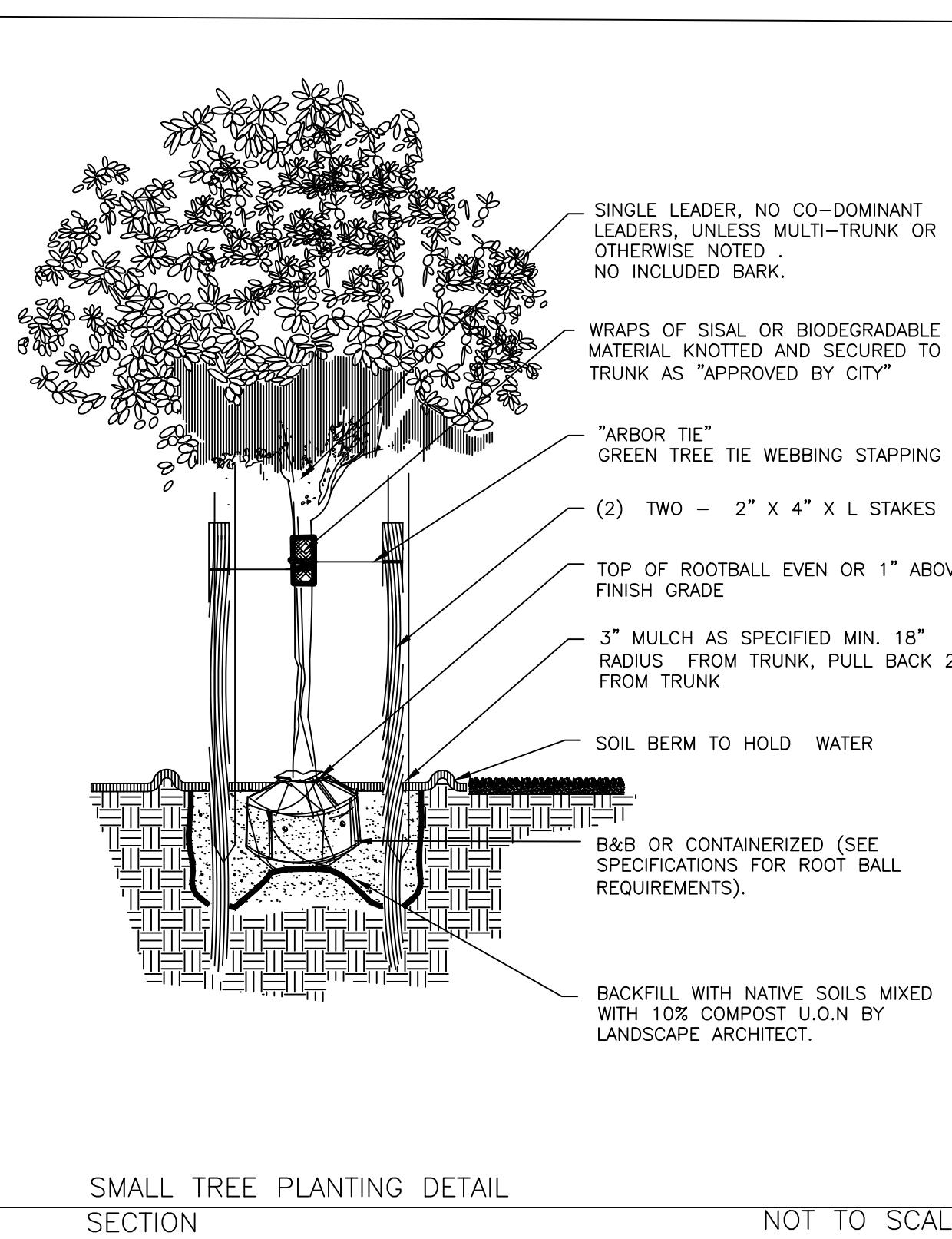


This technical diagram illustrates the proper method for planting a medium-sized tree. It features a cross-section of the tree's root ball and the surrounding planting area. The tree is shown with its trunk, branches, and leaves. The root ball is depicted with a cross-hatch pattern. The planting area is a circular pit with a textured bottom. Several lines with arrows point from text labels to specific parts of the tree or the planting process. The labels include:

- WRAPS OF SISAL OR BIODEGRADABLE MATERIAL KNOTTED AND SECURED TO TRUNK AS "APPROVED BY CITY"
- ARMY GREEN—"WELLINGTON" TAPE OR APPROVED EQUAL. 3 GUYS PER TREE, SPACED EQUALLY AND LOCATED ABOVE THE FIRST LATERAL BRANCHES
- TOP OF ROOTBALL EVEN OR 1" ABOVE FINISH GRADE
- 3" MULCH AS SPECIFIED MIN. 18" RADIUS FROM TRUNK, PULL BACK 2" FROM TRUNK
- ORANGE WARNING TAPE 12" ABOVE GRADE
- SOIL BERM TO HOLD WATER
- IRON REBAR (#3) OR WOODEN STAKES (TYP.) BURIED BELOW GROUND LEVEL.
- B&B OR CONTAINERIZED (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
- BACKFILL WITH NATIVE SOILS MIXED WITH 10% COMPOST
- ONCE INSTALLED, REMOVE 1/3 BURLAP AND ALL WIRE AND NON-BiodeGRADABLE MATERIAL FROM THE ROOT BALL
- AGRIFORM OR APPROVED SIMILAR, SLOW RELEASE FERTILIZER TABLETS PER MANUFACTURER SPECS. MINIMUM (4) PER TREE
- TREE PIT JUST DEEP ENOUGH FOR ROOTBALL TO SIT AT BOTTOM OF UNDISTURBED SUBGRADE.
- BRACING PLAN
- CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

MEDIUM TREE PLANTING DETAIL SECTION

NOT TO SCALE



**SHRUB AND GROUNDCOVER DETAIL SECTION**

**NOT TO SCALE**

**Condition @ Pavement:** Grade towards plant bed-mulch flush or below pavement.

**Setback from edge:** 1'-6" min.

**height per plantlist:** 2" min

**Per specs.:** 2" min

**SPACING PER PLANTING SPECIFICATIONS. REFER TO PLANTLIST:**

- Mulch as specified. Minimum 2"
- Minimum depth of 1'-0" planting soil for groundcover bed.
- Prepared planting soil as specified. When groundcovers and shrubs are used in masses, entire bed area shall be excavated to receive planting soil and plant material - except when specified. Refer to plant list.

**2" SAUCER COLLAR FOR WATER RETENTION:** Top of rootball even or 1" above finish grade.

**NOTE: Contractor shall assure percolation of all planting pits/beds prior to installation.**

**PLANT MATERIAL SHALL NOT BE PRUNED PRIOR TO INSTALLATION, AFTER PLANTS HAVE BEEN INSTALLED, EACH PLANT SHALL BE PRUNED FOR UNIFORMITY OR AT THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT.**

**SHRUB AND GROUNDCOVER DETAIL PLAN**

**NOT TO SCALE**

**Curb, Edge Of Pavement or Building:** 1'-6" setback for shrubs and groundcover planted @ 30" O.C. and greater; 1'-0" setback for shrubs and groundcover planted less than 30" O.C.

**shrub spacing per plantlist:** 1'-6" min.

**MULCH:** 1'-6" min. spacing between different plant types and species.

**SOD:** Mulch as specified. Minimum 3"

**LANDSCAPE BORDER IF SPECIFIED:** If not well defined edge between mulch and sod.

**OUTER ROWS OF PLANTING TO FOLLOW CURVILINEAR PATTERN OR STRAIGHT EDGE PER PLANS:** All shrubs and groundcover masses to use triangular spacing except where noted refer to plant list for individual plant spacing 'X'.

**PLANT MATERIAL SHALL NOT BE PRUNED PRIOR TO INSTALLATION. ONLY DEAD BRANCHES & BROKEN BRANCHES SHALL BE PRUNED:**

**Different species:** Provide 1'-6" min. spacing between different plant types and species.

## PLANT LIST

TREES AND PALMS			
	KEY	QUANTITY	PLANT NAME AND SPECIFICATION
*	N CE	4	<i>Conocarpus e. 'sericeus'</i> (Silver Buttonwood) 10' ht., 5' spr., 2" c., full canopy
*	VM	8	<i>Veitchia montgomeryana</i> (Montgomery Palm) 12' c.t. hts., 20' o.a. hts., heavy, matched

SHRUBS & GROUNDCOVERS			
	KEY	QUANTITY	PLANT NAME AND SPECIFICATION
*	AEC	34	<i>Aechmea</i> spp. (Bromeliades) 18" ht., 18" spr., variety per L.A. & owner
*	ARB	60	<i>Schefflera arboricola</i> (Green Arboricola) 30" ht., 24" spr., full, 20" o.c.
*	BRU	8	<i>Brunfelsia grandifolia</i> (Yesterday Today Tomorrow) 36" ht., 36" spr., full
*	FGI	486	<i>Ficus</i> m. 'Green Island' 12" ht., 14" spr., full, 18" o.c.
*	JUN	220	<i>Juniperus</i> c. 'Parsonii' (Parson's Juniper) 12" ht., 16" spr., full, 20" o.c.

N DENOTES NATIVE SPECIES  
** DENOTES HIGH DROUGHT TOLERANT SPECIES  
- DENOTES MODERATE DROUGHT TOLERANT SPECIES

# **KEITH** **& ASSOCIATES, INC.**

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(954) 788-3400 FAX (954) 788-3500

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**BID / CONTRACT**

## REVISIONS

# PRELIMINARY PLAN NOT FOR CONSTRUCTION

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# COLONIAL DRIVE IMPROVEMENTS CITY OF MARGATE

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 10, 2017
DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	

## SHEET TITLE

SHEET NUMBER  
L P-101

SHEET of

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Drawing name: N:\09\09359.02 - Colonial Drive Traffic Calming - City of Margate\Landscaping\Architecture\Cadd\dwg\09359.02\LP-101 - LANDSCAPE PLAN.dwg Layout Name: LP-101 Plotted by: mrcrompion Plotted on: Mar 24, 2017 - 8:05am

1	2	3	4	5														
<p><b>A. SCOPE</b></p> <ol style="list-style-type: none"> <li>The location of plants, as shown on the plans, is approximate. The final locations may be adjusted slightly to accommodate unforeseen field conditions, to comply with safety setback criteria, to avoid creating unsafe sight conditions, or as otherwise directed or approved by the Landscape Architect / owner in writing. All other location requirements to the layout are to be approved in advance in writing by the Landscape Architect and owner.</li> <li>Contractor understands that an important element of the design of this project is meeting landscape ordinances with a design flare that includes symmetry, alignment, focal points and / or smooth curvilinear forms where applied and contractor shall follow and instruct the working crews accordingly. In the event of any doubt as to how to execute the plans, Contractor shall immediately consult with Architect and/or Owner.</li> <li>Landscape Contractor shall fine grade, prepare site as outlined in the following notes and per plans; furnish and install all plants, shrubs, trees and / or palms meeting minimum requirements and brace them per details provided. Furnish and install soil, gravel, boulders, sod and mulch as specified in plans and notes below.</li> <li>Landscape contractor shall furnish and install all trees, palms, shrubs, groundcover, sod, planting soil, fertilizer, herbicide, pre-emergence herbicide, seed, and mulch.</li> </ol> <p><b>B. BIDDING</b></p> <ol style="list-style-type: none"> <li>Contractor to have liability insurance including Owner and Landscaper as insured's in excess of \$10,000 as well as Worker's Compensation.</li> <li>Contractors and Sods must ensure they are doing take offs from Bldg Dep. Revised sets and / or Bid Set documents. Verify with this Office that you are bidding from latest available plans.</li> <li>Submit Landscape / Hardscape RFQ directly to Keith &amp; Associates Landscape Architect/Project Manager in writing. T 954-788-3400</li> <li>Read ALL notes and typical planting details sheets prior to submitting RFQs and prior to bidding.</li> <li>When submitting an RFQ reference sheet number, detail number and/or note category and number.</li> <li>Landscape contractor shall verify all estimated quantities of material shown on the drawings prior to submitting their bid. Plant list pricing if shown for permitting / mitigation comparison purposes only, any prices shown are to be disregarded by Landscape Contractor.</li> <li>All Plant Material shall meet or exceed height and spread requirement. Heights are City code requirement and / or design intent related and always governs over container size. Container size given for reference only and must be sized-up to meet height requirements of plant list. Plant material available with excessive height beyond specifications must be consulted with Landscape Architect for design intent.</li> <li>All landscape material was confirmed to be available at time of design landscape contractor understands that some material may not be available in the same City, however available in Tri-County Region. Plant material supply is the responsibility of the Landscape Contractor that is awarded the contract and he/she shall take steps to ensure availability at the time of installation. Bring to the attention of Landscape Architect if specific material availability is no longer the case at the time of bidding and / or prior to actual construction for approval of substitutions that meet City ordinances and / or owner requirements and design intent.</li> <li>Pre-inspections of site required prior to bidding.</li> <li>The plant list is intended only as an aid to bidding. Any discrepancies found between the quantities on the plan and the quantities on the plant list shall be held valid, but in any event, Landscape Architect shall be contacted for clarification.</li> <li>All labor and material for soil amendments and fertilizer that is required to ensure the successful establishment and survival of the proposed vegetation, as well as all the cost for the removal of unsuitable or excess backfill material from plantbeds, in addition to fine grading and mulching all plantbeds and individual trees shall be included in the contractor's bid to perform the work represented in this plan set.</li> <li>Bid shall be itemized for possible value engineering.</li> <li>Sod and Rocks (if specified) shall be estimated by scaling plans. Include price per square foot for sod. Rocks (include price per ton). Small rocks and gravel beds shall have landscape fabric material and minimum 2" depth. Boulders to be bid by unit.</li> <li>All S.F. if noted is approximate and shall not be considered all inclusive; it is the contractor's responsibility to bid or her or take off, submit price per S.F. and in the end sod all areas that are not covered either by plants, mulch and/or rocks. It shall be the responsibility of the contractor to include in the bid, the repair of any existing sod which may be damaged during construction.</li> <li>Final payment to the Contractor shall be for actual plants installed on the project.</li> <li>Contractor shall be responsible for obtaining and paying for costs of all permits described in bid whether permit costs are reimbursable by owner or included in bid. Research permit status and research all permits and additional documentation and certifications required such as separate tree removal permits for example, and consider prior to bidding.</li> <li>General / Landscape Contractor shall leave a 5% unforeseen conditions allowance such as for additional root barriers determined to be needed on site and as job progresses.</li> <li>Refer to T.Watering for supplemental watering requirement.</li> <li>Landscape contractor is responsible for verifying all plant quantities prior to bidding and within 7 calendar days of receipt of these plans shall notify the landscape architect in writing of any and all discrepancies. In case of discrepancies planting plans shall take precedence over plant list. No substitutions are to be made without prior consent of the Landscape Architect.</li> </ol> <p><b>C. GENERAL LANDSCAPE NOTES</b></p> <ol style="list-style-type: none"> <li>Plants grown in containers prior to installation shall be removed from their containers before they are planted in the ground and have circling roots removed. All screening shrubs shall be planted for proper operation of equipment being screened and/or the requirements of the utility as necessary. All hedge material required for screening purposes shall be planted with branches touching. Adjust spacing as necessary and/or provide additional plants to provide an adequate screen as required by code. Leave access to utility or clearance as required.</li> <li>All landscaping shall be installed according to sound nursery practices. Contractor shall comply with federal, state and local laws and regulations pertaining to the inspection for plant disease and insect infestation.</li> <li>All ideas, designs and plans indicated or represented by this drawing are owned by and are the exclusive property of Keith &amp; Associates and may not be duplicated without authorization or used for other projects than the intended.</li> <li>The Landscape Contractor shall exercise caution to protect any existing sod, electrical and irrigation. Any damage to the sod, electrical or irrigation shall be replaced or repaired to the original state by the Landscape Contractor at no additional cost to the owner.</li> <li>Tree, palm, accent shrubs and bed lines are to be located in the field and approved by the Landscape Architect / owner prior to planting. Landscape Contractor acknowledges that material planted without approval of location may be subject to relocation by Landscape Architect to maintain design intent if not followed properly.</li> <li>Plants must be pruned as per Landscape Architect's direction.</li> <li>In areas where asphalt is removed in order to receive landscape material, the lime rock sub-base material must also be removed and replaced with approved planting soil mix.</li> <li>Landscape contractor is responsible for sending photographs to the landscape architect to pre-approve all trees, palms, and shrubs prior to delivery to project site.</li> <li>Landscape contractor shall coordinate his or her work with that of the irrigation, landscape lighting, and hardscape contractor if different.</li> <li>The landscape contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape contractor shall wait 7 days after pre-emergence treatment prior to planting.</li> </ol> <p><b>D. PERMITS &amp; REGULATIONS</b></p> <ol style="list-style-type: none"> <li>Contractor(s) must obtain separate landscape, irrigation and tree relocation/removal permits from the city prior to the issuance of the first building permit for the project.</li> <li>Landscape contractor to call the city Landscape Inspector to schedule a pre-construction meeting prior to installation if required.</li> <li>All mandatory requirements by City Landscape Departments and their inspectors shall govern and landscape contractor commits by accepting contract to comply promptly for builder/owner to obtain C.O.</li> </ol> <p><b>E. TREE REMOVAL</b></p> <ol style="list-style-type: none"> <li>Removal of any trees or palms will require a written "tree removal permit" from the local governing agency prior to removal. Non-native trees classified as "prohibited" trees may be exempt from the permit if listed as Category 1 by Florida Exotic Pest Plant Council. Confirm with Local Municipality.</li> <li>Landscape Contractor is responsible to remove ALL invasive nuisance trees such as Brazilian Pepper, Melaleuca, Australian Pine and all invasive trees as categorized by the governing agencies, whether listed on plans or not.</li> <li>The Landscape Contractor is responsible for coordinating tree and palm removals and transplants shown on the tree/palm Disposition Plan. The Landscape Contractor is to remove and discard from site existing unwanted trees, palms, shrubs, ground covers, sod and weeds within landscape areas.</li> </ol> <p><b>F. EXISTING TREES</b></p> <ol style="list-style-type: none"> <li>Existing trees designated to remain shall be protected during all construction phases. Any trees or shrubs scarred or destroyed designated to remain will be replaced at the contractor's expense, with same species, size and quality.</li> <li>Existing plant material not shown on the plan and in conflict with new planting shall be evaluated at the time of new planting installation by the Landscape Architect. Trees and plant material indicated to be relocated with no new location provided in plans shall be moved to a location on site designated as a nursery holding area with the root ball protected from direct sunlight, maintained and irrigated until new location is determined.</li> <li>Prune trees to remove damaged branches and improve natural shape and thin out structure. Do not remove more than 15% of branches. Do not prune back terminal leader.</li> <li>Prune existing shrubs to remove damaged branches and improve natural shape.</li> <li>Existing trees to remain shall be trimmed per ANSI-A303 standards. Supervision of the trimming shall be performed by an ISA Certified Arborist to ensure quality work.</li> </ol> <p><b>6.</b> All existing trees shall be "lifted and thinned" to provide an 8' minimum clearance for sidewalks and pedestrian walkways and a 14' minimum clearance for roadways, driveways and all vehicular use areas.</p> <p><b>7.</b> Selective canopy and root pruning of existing trees can be conducted (only as necessary and in no event more than 35%) to accommodate for new approved construction. Pruning shall be conducted / supervised by an ISA Arborist.</p> <p><b>8.</b> If plans call for relocation of trees, palms or plants. High level of care should be exercised to assure that they are not damaged in the process and that they are promptly replanted upon being dug up.</p> <p><b>9.</b> All underground utilities and drain or irrigation lines shall be routed outside the tree protection zone. If lines must traverse the protection area, they shall be tunneled or buried under the tree.</p> <p><b>10.</b> Erosion control devices such as silt fencing, debris basins, and water diversion structures shall be installed to prevent siltation and/or erosion within the tree protection zone.</p> <p><b>11.</b> Roots shall be cut manually by digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.</p> <p><b>G. TREE RELOCATION</b> (These notes for relocation trees only and if applicable)</p> <ol style="list-style-type: none"> <li>Flag all trees and palms to be transplanted with differentiating color than those to be saved or removed.</li> <li>Tree Relocation process must be performed or supervised by ISA Certified Arborist.</li> <li>Water the root zones to field capacity for 5 continuous days before root pruning. At a minimum soak the soil to 4" depth within a 6' radius.</li> <li>Root prune a minimum of six weeks before relocation. Prune away all dead or damaged limbs or fronds. For trees, prune out 1/3 of the existing canopy by selectively trimming small internal branches. For palms, gather fronds above the bud, tie them loosely with jute twine to avoid damage.</li> <li>Brace root pruned trees awaiting relocation.</li> <li>Root prune 1/3rd of the root system, irrigate daily for 2 weeks then root prune another 1/3rd, irrigate daily and prune last 1/3rd on actual relocation date, no less than two weeks (six weeks total minimum not pruning by stages). ISA Arborist on staff shall observe for intense root ball loss, canopy pruning may be deemed necessary if Arborist on staff to balance for intense root ball loss, canopy shall be trimmed only as necessary to increase survival.</li> <li>Root prune with proper clean equipment to sever roots. Ensure roots are not torn or pulled apart.</li> <li>With hand tools, dig a 2'-0" wide by 3'-0" deep trench at a minimum distance as determined by the consulting arborist to expose roots. Cut all roots 1.5" and larger in diameter with a clean, sharp pruning saw. Treat all cuts with a fungicide barrier. Backfill the trench, within 4 hours of digging, with a 1:1 mixture of site soil and sand/sand or other fine organic material. Do not compact.</li> <li>Form a rootball size in compliance with Florida grades and Florida standards number 1 or better.</li> <li>Maintain the soil moisture at field capacity throughout the six weeks.</li> <li>Allow the plant to regenerate roots over a period of six weeks.</li> <li>At the end of six weeks, prepare the planting pit at the new location. Overdig the hole diameter by 2' beyond the root ball at a minimum, but it is recommended that transplanting hole to be at least 1/3 larger than the area that was trenched for transplanting.</li> <li>With the consulting arborist present, undercut the entire root ball of the plants to be transplanted at a depth specified by the arborist. The undercutting method may be a choker cable drawn through the root ball with heavy equipment.</li> <li>At the direction of a professional rigger, assemble slings, padding, guiding ropes and cables for attachment to the crane or backhoe. The professional rigger shall determine the size of machinery necessary to execute the lifting and moving operation.</li> <li>Install trees within 24 hours of removal from their original location to locations provided by Landscape Architect or Developer with approval of City / Landscape Inspector.</li> <li>Experimeted Tree Spade operator shall move tree or experimental tree mover shall choose best means and methods to strap and rig tree for transporting safely without damage to new location.</li> <li>Maintain trees in a healthy and vigorous condition during installation and throughout the plant establishment period. Replace trees that do not meet this requirement with the same species, size, and quality or per mitigation requirements specific to the city with jurisdiction.</li> <li>Fertilize the plant as directed by the consulting arborist.</li> <li>When the plant is placed in the new location, backfill the planting pit with topsoil and water thoroughly to eliminate air pockets and compact the soil. Set the tree no deeper than its original condition.</li> <li>Cover the root ball area with 3" depth of organic mulch.</li> <li>Provide fungicide and fertility applications at the direction of the consulting arborist.</li> <li>Post transplant watering to provide moisture and reduce any excessive stress due to root desiccation. Watering to be adjusted according to conditions and at the supervision and direction of the ISA certified arborist.</li> <li>The diameter of the root-pruning or transplanting circle shall be at a distance away from the trunk equal to 12 times each inch of trunk diameter at breast height.</li> <li>For all palms except Sabal palmetto, the lower fronds shall be pruned leaving 9-11 fronds that can be tied without an excessive amount of weight that may damage the heart of the palm. The Sabal palmetto shall have all fronds cut without damaging the bud.</li> <li>Transplanting must occur within 24 hours after being dug for relocation. Trees/palms should be kept in shade and the canopy kept moist.</li> <li>Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.</li> <li>The landscape Contractor is to verify that all new holes have appropriate percolation.</li> <li>Padding the sling may be necessary so that the trunk or "boots" are not damaged.</li> <li>A 6" saucer shall be created around the edge of the plant pit to help hold water, see planting detail for additional information.</li> <li>Over the guarantee period the Landscape contractor shall be responsible for resetting any trees/palms that are not vertical when caused by winds less than 74 mph.</li> <li>After transplanting trees and palms, the landscape contractor shall be responsible for obtaining water and watering to maintain soil moisture during the guarantee period at a minimum of: First month- daily, Second month - three times per week, Third and Fourth months - two times per week, Last eight months - one time per week.</li> <li>For trees over 4" in caliper at the time of planting, the schedule should be: First six weeks, daily, one and a half months to six months - three times per week, last six months - one time per week.</li> </ol> <p><b>H. SITE PREPARATION &amp; GRADING</b></p> <ol style="list-style-type: none"> <li>Landscape contractor shall loosen and till compacted soils that are overly compacted in all planting areas of the project to provide for proper soil aeration for plant establishment.</li> <li>Planted areas shall be cleared of underground rocks, construction debris and other materials detrimental to the health of the plants. Lime rock base material shall be removed with planting pits and adjacent to pavement. The planting areas should be clean to a depth equal to the root ball of the trees/palms proposed for the area. Planting area soils shall be tested for pH before planting. Soils showing high (alkaline) pH (over 7.5) shall be amended or replaced with native soil having a pH range of 6.5 - 7.5, as approved by Landscape Architect.</li> <li>All planting areas and planting pits shall be tested for sufficient percolation prior to final planting and irrigation installation to ensure proper drainage. Plant beds in parking lots and in areas compacted by heavy equipment shall be de-compacted so that drainage is not impeded.</li> <li>Landscape Contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape Contractor shall wait 7 (seven) days after pre-emergence treatment prior to planting.</li> <li>Site preparation shall include the eradication and removal of any weeds, clean-up of any dead material, debris, and rubbish.</li> <li>General site and berms grading to +/- 1 inch (1") shall be provided by the general contractor. All finished site grading shall be provided by the Landscape Contractor. All planting beds shall be free of all rocks 1/2" or larger, sticks, and objectionable material including weeds and weed seeds. All lime rock shall be removed/cleaned down to the native soils.</li> <li>In areas where asphalt is removed in order to receive landscape material, the lime rock sub-base material must also be removed and replaced with approved planting soil mix.</li> <li>Landscape contractor is responsible for sending photographs to the landscape architect to pre-approve all trees, palms, and shrubs prior to delivery to project site.</li> <li>Landscape contractor shall coordinate his or her work with that of the irrigation, landscape lighting, and hardscape contractor if different.</li> <li>The landscape contractor shall treat plant areas with pre-emergence herbicide after weeds and grass have been removed. Landscape contractor shall wait 7 days after pre-emergence treatment prior to planting.</li> </ol> <p><b>I. IRRIGATION</b></p> <ol style="list-style-type: none"> <li>Any Irrigation Notes and specifications included in Irrigation Sheets govern over the following Irrigation Notes.</li> <li>The Landscape Contractor shall coordinate with the irrigation contractor if not the same and leave provisions for individual trees, turf areas and all planting beds.</li> <li>Irrigation / Landscaping contractor to guarantee 100% coverage and 50% overlap (head to head coverage) to all landscaped areas and furnish and install a rain sensor.</li> <li>Irrigation Contractor to adapt design to onsite conditions adjusting heads and changing nozzles as required to avoid overspray onto buildings or paved areas.</li> <li>The contractor shall ensure that the irrigation system is operational and free of leaks prior to any planing being finalized. Plant material that is installed prior to the irrigation system being operational shall be watered by the contractor at his or her expense. Water for plant establishment should be included in the cost of the plant.</li> <li>All guidelines as outlined by the South Florida Water Management District (SFWMD) or water management district with jurisdiction shall be strictly adhered to.</li> <li>Any existing irrigation system shall be retrofitted to comply with the specifications as outlined above.</li> </ol> <p><b>J. HARDSCAPE &amp; OTHER MATERIALS</b></p> <ol style="list-style-type: none"> <li>Face of trees and palms to be located a minimum of 2' setback from all fences, walkways, walls, and paved surfaces, unless otherwise indicated on the plans. Refer to details.</li> </ol> <p><b>K. UTILITIES / CLEARANCES</b></p> <ol style="list-style-type: none"> <li>The contractor shall be responsible for determining the location of and avoid and protect utility lines, buried cables, and other utilities. The owner or Landscape Architect shall not be responsible for damage to utility or irrigation lines.</li> <li>Trees shall be placed a minimum of 5 ft. from underground utilities, unless otherwise approved in writing by an ISA Arborist.</li> <li>If plans call for relocation of trees, palms or plants. High level of care should be exercised to assure that they are not damaged in the process and that they are promptly replanted upon being dug up.</li> <li>All canopy trees to be planted min. of 15' from light source/poles. Unless otherwise approved by the City / Landscape Architect and Owner.</li> <li>Landscape contractor shall contact the county, city and/or utility companies to locate all underground utilities or structures prior to digging. Landscape contractor shall repair all damage to underground utilities, and/or construction caused by utility damage, at no cost to the owner.</li> <li>All plant material symbols shown on landscape plan shall be considered diagrammatic and should be adjusted in the field by contractor to avoid all utilities, and all other obstructions.</li> <li>If/ When digging in right of way needed: Two (2) full business days before digging, call toll free 1-800-432-4770, or 811, Sunshine State One Call of Florida, inc. Notification Center. In addition, call the City's Utilities/Public Works Department. Contractors are responsible for coordinating with the owners and appropriate public agencies to assist in locating and verifying all underground utilities prior to excavation. All existing utilities shown on the plans are to be considered approximate and should be verified by the contractor prior to the start of work operations.</li> <li>Above and below ground utilities shall be verified and located in the field by the contractor prior to commencing work in the project area. The contractor shall examine available utility plans and confirm conflicts with indicated or located utilities and landscape work. The contractor shall then notify the Project Engineer of said conflicts and the Engineer will coordinate any necessary adjustments with the utility provider. Tree locations will be adjusted as necessary when in conflict with existing utilities.</li> <li>The final plant locations may be adjusted, as approved / directed by the Landscape Architect in writing, to accommodate utility compliance. Excavations within 5' of known utilities should be done by hand.</li> <li>Contractor shall familiarize himself with the location of and avoid and protect utility lines, buried cables, and all other utilities, noted or not, on plans.</li> <li>Leave clearance and access to all above ground or at grade meters and equipment.</li> <li>Landscape planting shall be in conformance with FPL guidelines for setbacks from overhead utility lines.</li> <li>Landscape planting shall not interfere with light poles, fire hydrants, electrical/mechanical equipment access, signs, drainage structures, etc. Bring to the attention of Landscape Architect any conflicts.</li> </ol> <p><b>L. ROOT BARRIERS</b></p> <ol style="list-style-type: none"> <li>Root barriers will be installed to protect building foundations, curbing, walkways, paved areas, roadway base material and utilities from existing large trees or proposed new trees that are within 5' of existing or new approved construction or as may be deemed necessary as job progresses.</li> <li>Mechanical Root barriers will be used for large existing Canopy Trees and chemical type barriers will be used for new trees.</li> <li>Mechanical Root barriers will be "DeepRoot" and Chemical Root barriers will be "Biobarrier". Substitutions must be of approved equal or better quality.</li> <li>Root barriers will be installed per manufacturer specifications.</li> <li>Root barrier depth will be determined by manufacturer recommended depth chart (<a href="http://www.geo-synthetics.com/pdf/BioBarrier/Biobarrier/ApplicationManual.pdf">http://www.geo-synthetics.com/pdf/BioBarrier/Biobarrier/ApplicationManual.pdf</a>) and as required by on-site conditions in a case by case as deemed necessary by Landscape Architect / ISA Arborist and City Landscape Inspector.</li> </ol> <p><b>M. LANDSCAPE BACKFILL &amp; SOIL AMENDMENT</b></p> <ol style="list-style-type: none"> <li>All building construction material and foreign material shall be removed from the planting areas and replaced with 70/30 mix of organic planting soil and/or amend the existing soils per section H.2.</li> <li>Planting soil mix shall be delivered to the site in a clean loose and friable condition and is required around the root ball of all trees and shrubs, the top 6" of all shrubs and ground cover beds and top 2" of all grassed areas. This soil shall be filled into the existing soil after the existing soil has been cleaned of all undesirable foreign materials. Recycled compost is encouraged as a soil amendment alternative. Planting soil to be weed free.</li> <li>Planting backfill for palms shall be clean coarse native sand unless specified otherwise.</li> <li>Do not allow air pockets to form when backfilling. All trees shall be watered-in utilizing water probe or a tree bar.</li> </ol> <p><b>N. PLANT SIZE &amp; QUALITY</b></p> <ol style="list-style-type: none"> <li>All plant material must meet or exceed the minimum size requirements as specified on the plant list. Height specification governs over container size if both specifications given cannot be met. Any other requirements for specific shape or effect as noted on the plan shall also be required for acceptance.</li> <li>Material specified as Balled and Burlapped (B&amp;B) can be accepted in container if not available as B&amp;B at the discretion of Landscape Architect; if not root bound and/or circling roots removed and root ball is proportionate to Tree / Palm.</li> <li>U.O.N. All trees designated as single trunk shall have a single, relatively straight, dominant leader, proper structural branching and even branch distribution. Trunks on palms shall be uniform in thickness for the entire length of the palm and shall not taper off to disproportionate thinness towards the crown. Trees with bark inclusion, tipped branches, and co-dominant trunks will not be accepted. Trees with girdling, circling and/or plugging roots will be rejected.</li> <li>Use nursery grown plant materials that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of Florida Department of Agriculture, "Grade &amp; Standards for Nursery Plants".</li> <li>All trees and palms shall be free of open wounds and unsightly visible scars.</li> <li>All substitutions must be approved by the City if it is required Canopy and by Landscape Architect / Owner if supplementary accent material.</li> <li>Contractor shall comply with Federal, State, and Local laws and regulations pertaining to the inspection for plant disease and insect infestation.</li> <li>Trees, palms, shrubs, ground covers: Plant species and sizes shall conform to those indicated on the drawings. All nursery stock shall be in accordance with grades and standards for nursery plants parts 1 and 2, latest edition published by the Florida Department of Agriculture and Consumer Services, unless specified otherwise. All plants shall be Florida grade number 1 or better as determined by the Florida Division of Plant Industry and tightly knap plant, so trained or favored in its development that first appearance is unquestionable and it is outstandingly superior in form, number of branches, compactness and symmetry. All plants shall be freshly dug, sound, healthy, vigorous, well branched and free of disease and insect eggs and larvae and shall have adequate root systems. Trees and palms shall be uniform in size and shape. All materials shall be subject to approval by the Landscape Architect. Plant shall be pruned prior to delivery only upon the approval of the Landscape Architect.</li> <li>All containers grown material shall be healthy, vigorous, well-rooted plants and established in the container in which they are sold. The plants shall have tops of good quality and be in a healthy growing condition. An established container grown plant shall be transplanted into a container and grown in that container sufficiently long enough for the new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container.</li> <li>Field grown trees and palms previously root pruned shall obtain a root ball with sufficient roots for continued growth without resulting shock.</li> <li>Root suckers on any tree are not acceptable and must be properly pruned.</li> <li>Contractor shall coordinate with Landscape Architect and Owner to obtain prior approval for the selection of the specific specimens of all palms and any trees of more than six feet in height. Contractor to supply photograph of trees prior to purchase and installation.</li> </ol> <p><b>O. PLANTING NOTES</b></p> <ol style="list-style-type: none"> <li>At the discretion of the Landscape Architect, plants are subject to review for approval for size, variety, condition and appropriateness to the design intent.</li> <li>All synthetic burlap, synthetic string or cords, or wire baskets shall be removed before any trees are planted. All synthetic tape (i.e. tagging tape, nursery tape) shall be removed from trunks, branches, etc. before inspection. The top 1/3 of any natural burlap shall be removed or tucked into the planting hole before the trees are backfilled.</li> <li>All "groundcover" requires 75% coverage and 100% within 3 months of installation. Bring to the attention of Landscape Architect in writing before commencing if this is not achievable with the design.</li> <li>Set tree no deeper than it was in its original growing condition with the top of the root ball even with, or slightly higher (+/- 1") than the finished grade.</li> <li>All trees/palms shall be planted so the top of the root ball, root flare are slightly above final grade. Shrub material shall be planted such that the top of the plant ball is flush with the surrounding grade.</li> <li>All trees and palms shall be braced / staked per accepted standards by the Florida Nursery, Growers &amp; Landscape Association (FNLGA). Nailing into trees and palms for any reason is prohibited and the material will be rejected. Please refer to the planting details.</li> <li>All trees, new or relocated, to be staked and guyed as detailed.</li> <li>Layout shrubs to create a continuous smooth front line and fill in behind.</li> <li>Excavate pit or trench to 1-1/2 times the diameter of the balls or containers or 1' wider than the spread of roots and 3" deeper than required for positioning at proper height. Compact a layer of topsoil in bottom before placing plants. Backfill around plants with planting mixture, compacted to eliminate voids and air pockets. Form grade slightly dashed and bermed at edges of excavation. Apply 3" of mulch.</li> <li>Groundcover and shrubs to be spaced in a uniform and consistent pattern per planting details.</li> <li>All mechanical equipment, irrigation pumps, FPL transformers, pool pumps, etc. shall be screened on a minimum of three sides by landscape shrubs.</li> <li>Contractor shall not mark or scar trees in any fashion.</li> <li>When requested by Landscape Architect, demonstration of healthy root system if not previously approved, can include tree removal and re-installation for inspection at no additional cost to the owner.</li> <li>Rejected Plant material from the Site immediately and replace with acceptable plants.</li> </ol> <p><b>P. FERTILIZATION</b></p> <ol style="list-style-type: none"> <li>All Fertilization shall comply with state fertilization laws. Fertilization shall be Agriform "20-10-5 Plus</li> </ol>																		
<p>minors* or similar approved slow-release tablets applied per manufacturer suggested application rate chart:</p> <p><b>Agriform® 21-gm Tablets (SKU# 90026): 500 tablets/case</b></p> <table border="1"> <thead> <tr> <th>1 Gal</th> <th>2 Gal</th> <th>3 Gal</th> <th>5 Gal</th> <th>7 Gal</th> <th>15 Gal</th> <th>24" Box</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1 to 2</td> <td>2 to 3</td> <td>2 to 3</td> <td>3 to 5</td> <td>7 to 10</td> <td>15 to 24</td> </tr> </tbody> </table> <p>Installation: 1</p> <p>*Do not place tablets in the bottom of the planting hole.</p> <p>*Place Agriform Tablets in the hole about 10-12 inches away from root tips.</p> <p>*Finish filling the hole around the plant to grade level.</p> <p>SCOTTS: 1-800-492-8255 or visit <a href="http://www.scotstspro.com">www.scotstspro.com</a></p> <p><b>Q. SOD</b></p> <ol style="list-style-type: none"> <li>All areas disturbed during construction shall be sodded with St. Augustine 'Seville' unless otherwise noted. These disturbed areas shall have proper irrigation established or re-established if they were disrupted or non-functional.</li> <li>All open areas not covered by trees, palms, shrubs, vines, ground covers or existing sod in good condition to remain, shall receive Stenotaphrum Secundatum, St. Augustine</li></ol>					1 Gal	2 Gal	3 Gal	5 Gal	7 Gal	15 Gal	24" Box	1	1 to 2	2 to 3	2 to 3	3 to 5	7 to 10	15 to 24
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