



**CITY OF FORT LAUDERDALE  
ENGINEERING DIVISION  
APPLICATION TO INSTALL AT GRADE  
COMMUNICATIONS SERVICE FACILITIES**

**PERMIT NO. CC13-05  
District 3**

5/21/14  
3

Applicant Name and Job Number Crown Castle NG East LLC SFL 61\_2

Job Address and Location 539 NW 17th Avenue

Description of Work Installing cabinet and utility pole within right-of-way.

Anticipated start and end dates of work 6/2/14 - 45 days

- ☒ This permit application is for an exemption from the requirement to install communications service facilities below grade, in accordance with Section 25-100.1.B.3 of the City of Fort Lauderdale Code of Ordinances (Code). A letter by a qualified expert(s) is attached.
- ☐ Crown Castle is requesting the following waivers (check all applicable subsections and attach supporting documentation):

☐ C.1 (Size)    ☐ C.2 (Height)    ☐ C.3 (Front Yard)    ☐ C.4 (Corner Yard)    ☐ C.6 (Separation)    ☐ C.7 (Exist. Facility)    ☐ C.12 (Collector)

- ☒ With the exception of any waivers that may be checked above, the proposed at grade facilities conform to the requirements in Section 25-100.1 of the Code
- ☒ Notice of the pending application has been provided to all property owners abutting public rights-of-way within one hundred fifty (150) feet of the proposed site and to the relevant homeowner association, in accordance with Section 25-100.1.E.5 of the Code.
- ☒ The proposed site will be maintained by Crown Castle in accordance with the approved Graffiti Mitigation Plan dated 04/04/2013, which is on file with the City Engineer
- ☐ A landscaping maintenance commitment letter from the adjacent property owner and relevant home owner association is attached to this application.
- ☐ Crown Castle shall be responsible for maintaining landscaping
- ☒ The proposed at grade facilities depicted on the attached plans are completely located in the public rights-of-way.

As an authorized representative of Crown Castle, I certify under oath that the forgoing statements are true and correct.

Armando Hernandez  
Printed Name of Authorized Crown Castle Agent

Armando Hernandez  
Signature of Authorized Crown Castle Agent

Sworn to and subscribed before me this 16<sup>th</sup> day of May, 2008 2014



My Commission Expires 8.23.16

(Do not write below this line)

Conceptual approval date \_\_\_\_\_ by \_\_\_\_\_, Subject to the following conditions:

1) A detailed visual mitigation plan is required

Final Permit approval date \_\_\_\_\_ by \_\_\_\_\_

Final Inspection date \_\_\_\_\_ by \_\_\_\_\_

\*\*Notify Engineering Permits Division 24 hours  
prior to starting work at (954) 828-5649





# CROWN CASTLE SFL61\_2

CLIENT :

CLIENT SITE ID#:

ADDRESS:

539 NW 17TH AVENUE  
FORT LAUDERDALE, FLORIDA 33311

SITE TYPE:

NEW CROWN CASTLE 40' CONCRETE POLE

3

## PROPERTY INFORMATION

SITE COORDINATES: 26.128999'  
-80.165199'  
JURISDICTION: CITY OF FORT LAUDERDALE

PROPERTY OWNER: CROWN CASTLE  
ADDRESS: 8555 NW 64TH STREET  
MIAMI, FL 33166

## PROJECT TEAM

PROJECT MANAGEMENT FIRM: CROWN CASTLE  
ADDRESS: 8555 NW 64TH STREET  
MIAMI, FL 33166

ENGINEERING FIRM: AW SOLUTIONS, INC.  
ADDRESS: 300 CROWN OAK CENTRE DR.  
LONGWOOD, FL 32750  
CONTACT: SHANE HAFNER  
PHONE: 407.260.0231 EXT. 120  
FLORIDA COA#: 26983

## DESIGN CRITERIA:

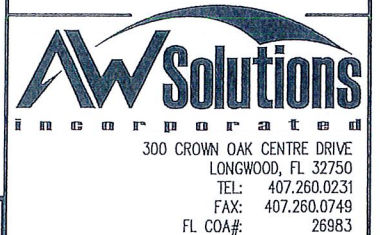
- FLORIDA BUILDING CODE 2010 AND ASCE 7-10. WIND LOAD PER ASCE 7-10.  
A. ULTIMATE WIND SPEED: 170 MPH.  
B. BUILDING RISK CATEGORY: II.  
C. WIND EXPOSURE: C.
- DEAD LOAD:  
A. EQUIPMENT WEIGHT PER MANUFACTURER DATA.
- SEISMIC LOAD DOES NOT GOVERN THIS DESIGN.

## DRAWING INDEX

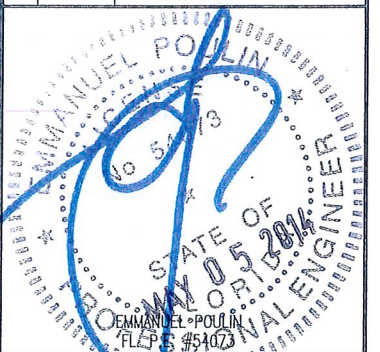
SHEET	SHEET DESCRIPTION	REV
T1	TITLE SHEET	3
C1	SITE PLAN	3
C1.1	LANDSCAPE MITIGATION PLAN	3
C2	ELEVATION	3
C3	DETAILS	1
C4	DETAILS	1
SP1	SPECIFICATIONS	1
SP2	SPECIFICATIONS	1

## APPROVALS

PROJECT MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
CARRIER: \_\_\_\_\_  
UTILITY: \_\_\_\_\_



DRAWN BY:	EW	CHECKED BY:	JD
3	05/01/14	CHANGE POLE TYPE	
2	07/26/13	REVISED NODE LOCATION	
1	05/03/13	REVISED PER COMMENTS	
0	10/30/12	ISSUED FOR PERMIT	
REV	DATE	DESCRIPTION	

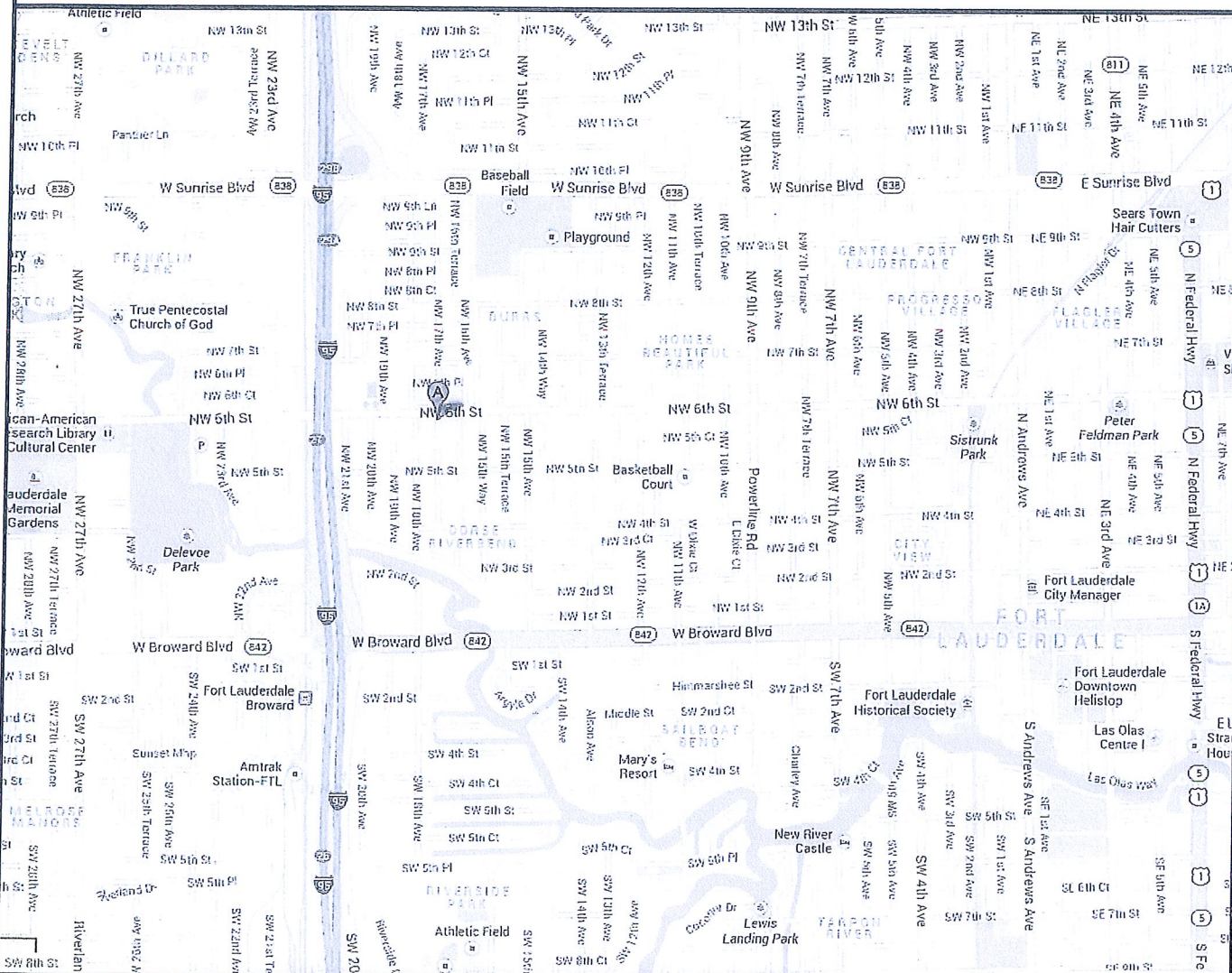


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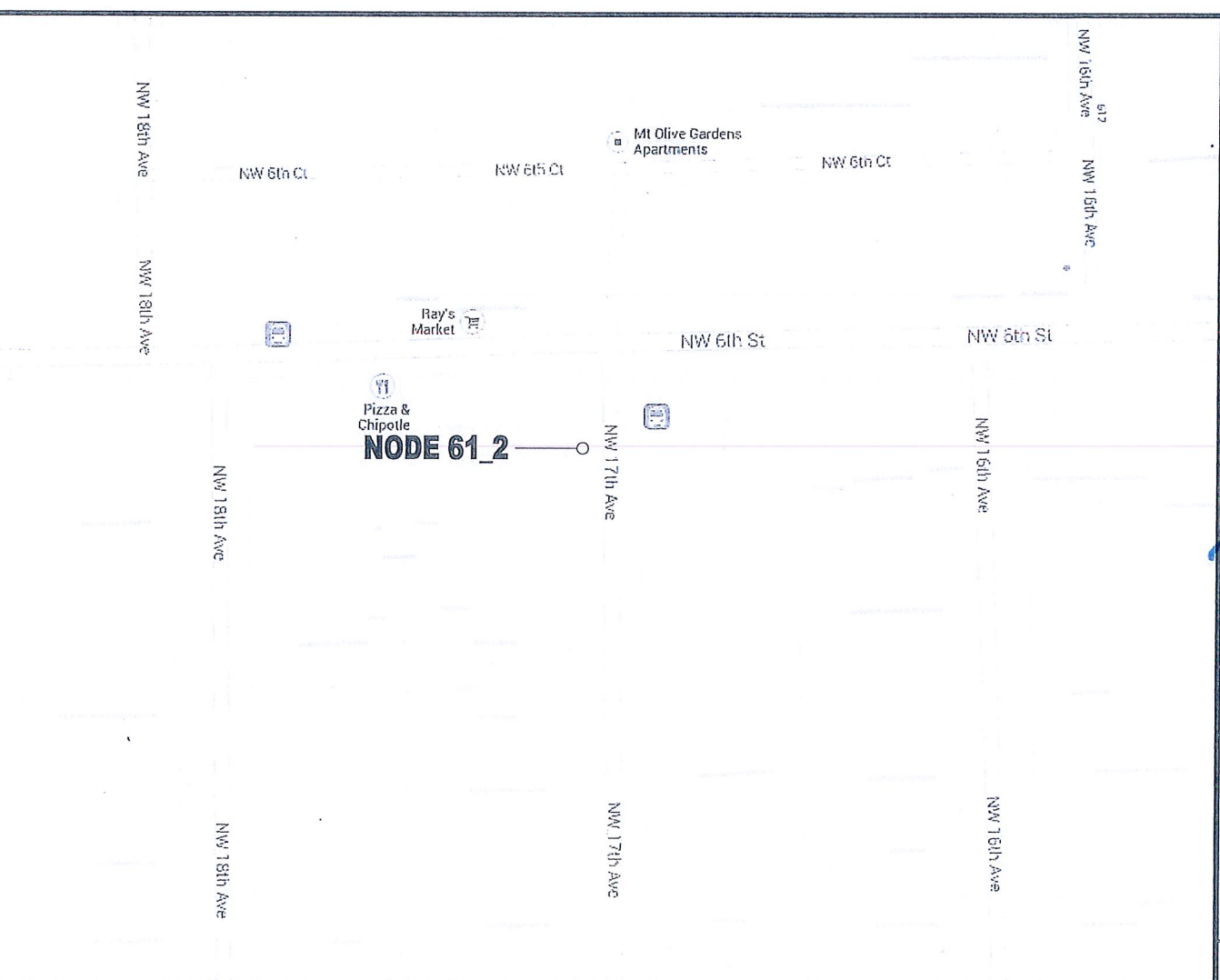
SITE#: SFL61\_2  
ADDRESS: 539 NW 17TH AVENUE  
FORT LAUDERDALE, FL 33311

SHEET TITLE: TITLE SHEET

SHEET NUMBER: T1

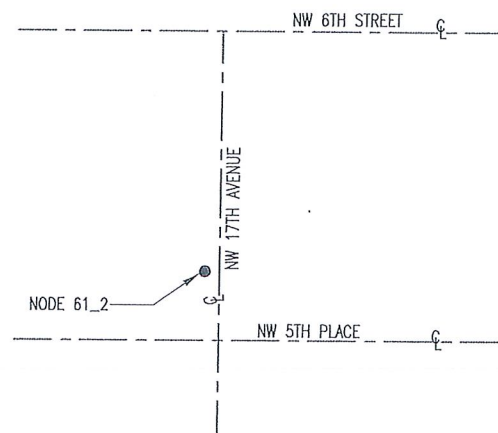


DRIVING DIRECTIONS: FROM MIAMI, TAKE I-95 NORTH TO EXIT 29A, MERGE ONTO FL-838 EAST/WEST SUNRISE BLVD., TURN RIGHT ONTO NW 17TH AVENUE, TURN RIGHT ONTO NW 7TH PLACE, TAKE LEFT ONTO NW 18TH AVENUE, DESTINATION WILL BE ON RIGHT

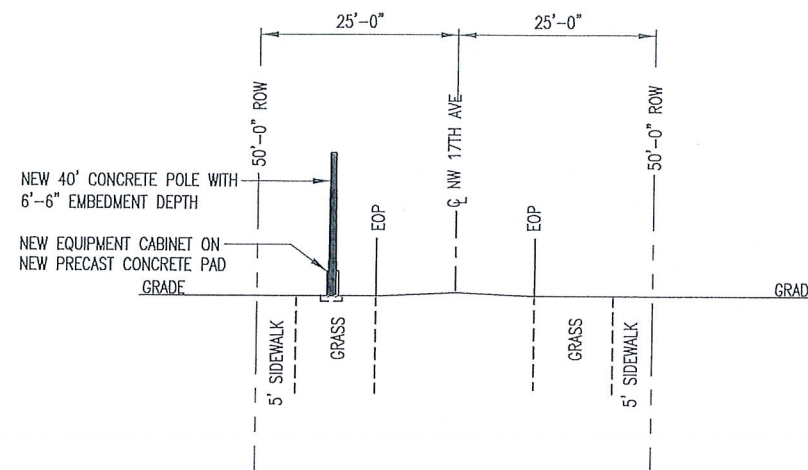


UNDERGROUND SERVICE ALERT  
CALL TOLL FREE  
1-800-432-4770  
48 HOURS BEFORE  
YOU DIG

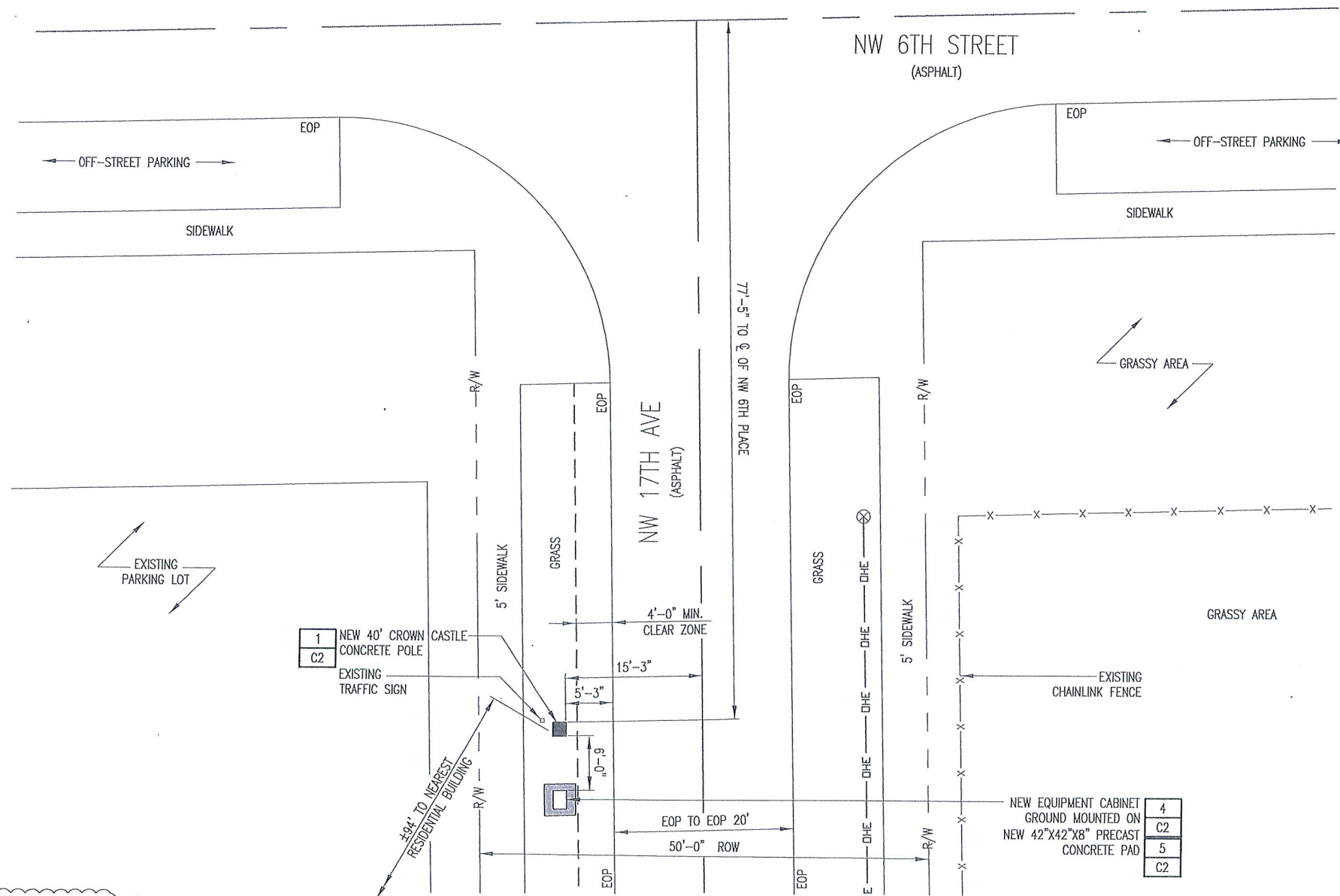




1 LOCATION SKETCH  
SCALE: NTS



2 TYPICAL PROFILE VIEW  
SCALE: NTS



3 PLAN VIEW  
SCALE: NTS

\*\* MINIMUM CLEAR ZONES ILLUSTRATED USING  
DESIGN GUIDELINES FROM FDOT FLORIDA  
GREENBOOK, MAY 2007 EDITION

POSTED SPEED LIMIT:  
25MPH



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- NOTES:
1. CONTRACTOR SHALL MAINTAIN UNINTERRUPTED ACCESS TO ALL DRIVEWAYS, SIDE STREETS AND WALKWAYS AT ALL TIMES UNLESS OTHERWISE PERMITTED.
  2. CONTRACTOR SHALL PREPARE A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN FOR PEDESTRIAN TRAFFIC AND WORK WITHIN THE RIGHT-OF-WAY, INCLUDING VEHICLE PARKING AND EQUIPMENT STAGING.
  3. CONTRACTOR SHALL RESTORE ANY DISTURBED AREAS TO ORIGINAL CONDITION OR BETTER.

SYMBOL LEGEND	
— E —	POWER CONDUIT
— T —	TELCO CONDUIT
— F —	PROPOSED FIBER CONDUIT
— DHE —	OVERHEAD CONDUCTORS
— G —	GROUNDING
— X —	FENCE
— W —	WATER
— S —	SEWER
SS	NEW EQUIPMENT CABINET ON PRECAST PAD
⊗	STORM UTILITY POLE
⊙	HYDRANT
⊕	MANHOLE
— C —	CENTERLINE OF ROAD
○	PROPOSED WOOD UTILITY POLE
■	PROPOSED CONCRETE UTILITY POLE

1 REPRESENTS DETAIL #  
C7 REPRESENTS SHEET#

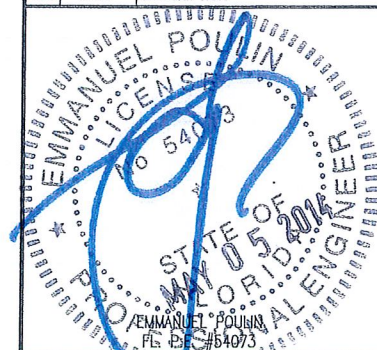
NOTE 1 REPRESENTS NOTE  
SHT E7 REPRESENTS SHEET#



300 CROWN OAK CENTRE DRIVE  
LONGWOOD, FL 32750  
TEL: 407.260.0231  
FAX: 407.260.0749  
FL COA#: 26983

DRAWN BY: EW CHECKED BY: JD

REV	DATE	DESCRIPTION
3	05/01/14	CHANGE POLE TYPE
2	07/26/13	REVISED NODE LOCATION
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SITE#: SFL61\_2

ADDRESS: 539 NW 17TH AVENUE  
FORT LAUDERDALE, FL 33311

SHEET TITLE:

SITE PLAN

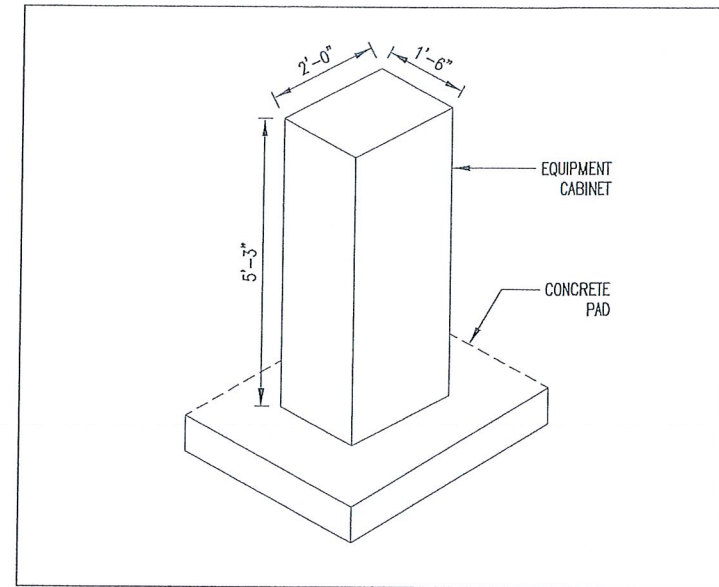
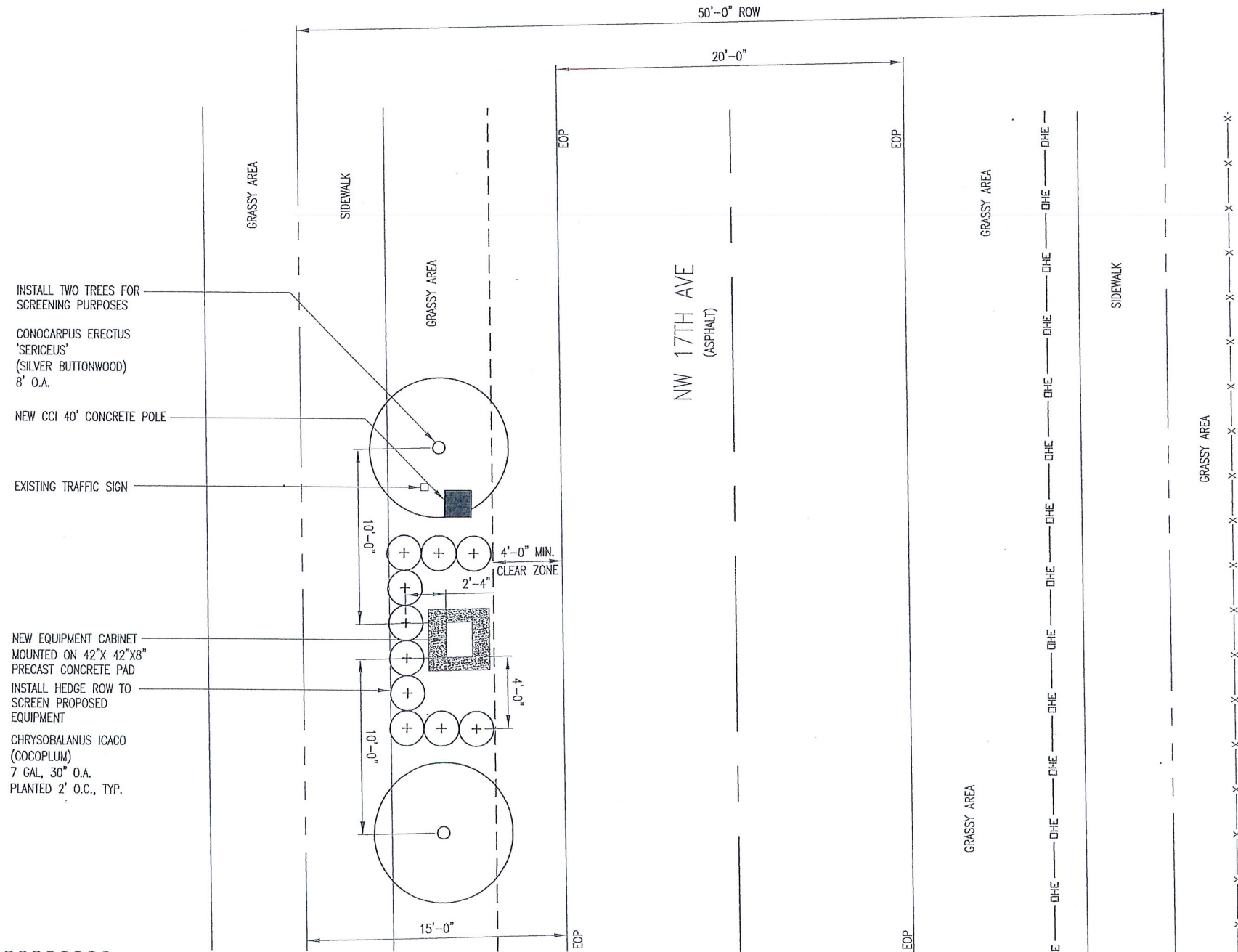
SHEET NUMBER:

C1



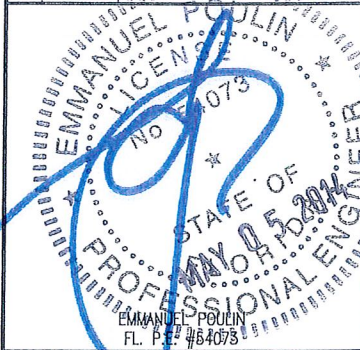
LANDSCAPE NOTES:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 OR BETTER, AS GIVEN IN "GRADES AND STANDARDS FOR NURSERY PLANTS" PART I, 1963, AND PART 11, STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE, TALLAHASSEE, FLORIDA.
2. IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
3. ALL PLANT BEDS TO RECEIVE 10" OF 50/50 MIX. 50% SAND, 50% MUCK.
4. IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO PROVIDE A SMOOTH UNIFORM GRADE PRIOR TO INSTALLING SOD.
5. ALL MULCH TO BE 'FLORAMULCH' MELALEUCA MULCH.
6. ALL TREES TO BE STAKED IN THE FIELD WITH APPROVED NURSERY STANDARD METHODS.
7. TREES/PALMS SHALL BE INSTALLED A MIN. OF 3' FROM UNDERGROUND UTILITIES.



**AW Solutions**  
incorporated  
300 CROWN OAK CENTRE DRIVE  
LONGWOOD, FL 32750  
TEL: 407.260.0231  
FAX: 407.260.0749  
FL COA#: 26983

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**SYMBOL LEGEND**

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— T —	TELCO CONDUIT	⊗	STORM
— — —	PROPOSED FIBER CONDUIT	⊙	UTILITY POLE
— DHE —	OVERHEAD CONDUCTORS	⊕	HYDRANT
— G —	GROUNDING	⊙	MANHOLE
— X —	FENCE	— — —	CENTERLINE OF ROAD
— W —	WATER	○	PROPOSED WOOD UTILITY POLE
— S —	SEWER	■	PROPOSED CONCRETE UTILITY POLE

1 — REPRESENTS DETAIL #  
C7 — REPRESENTS SHEET#

NOTE 1 — REPRESENTS NOTE  
SHT E7 — REPRESENTS SHEET#

1 LANDSCAPE MITIGATION PLAN  
SCALE: NTS

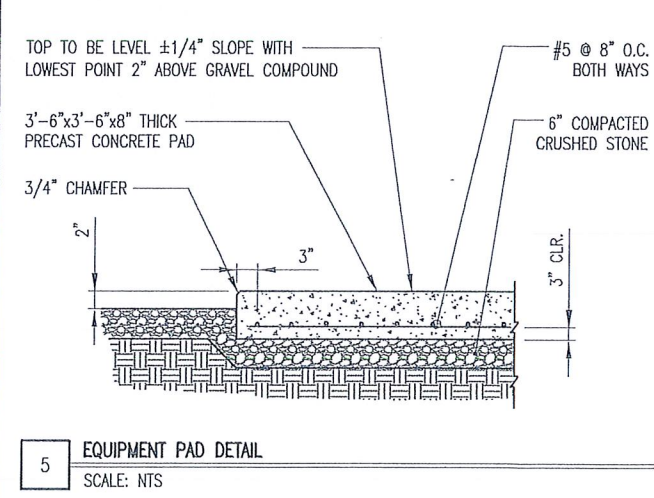
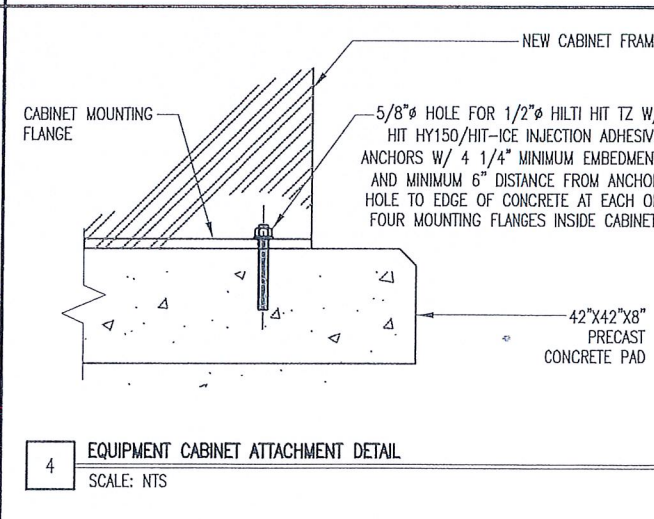
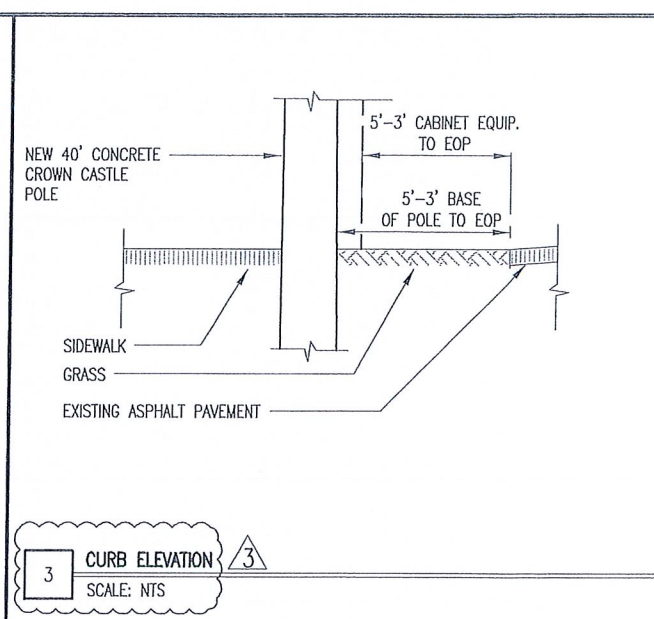
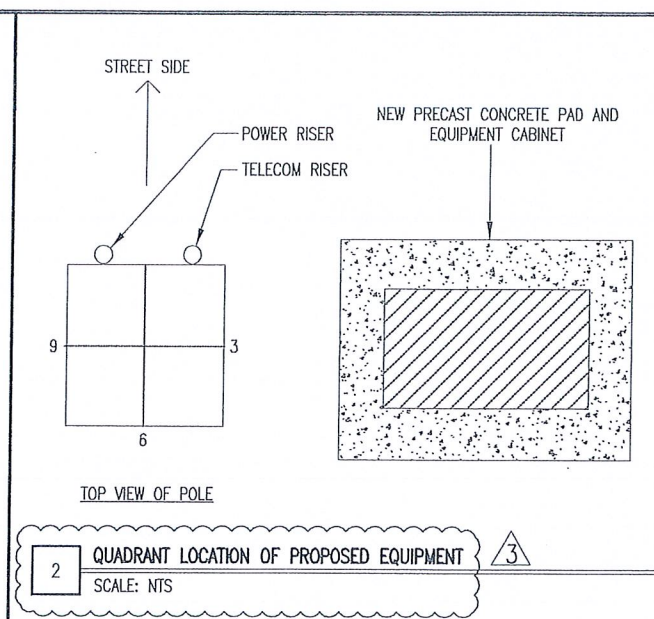
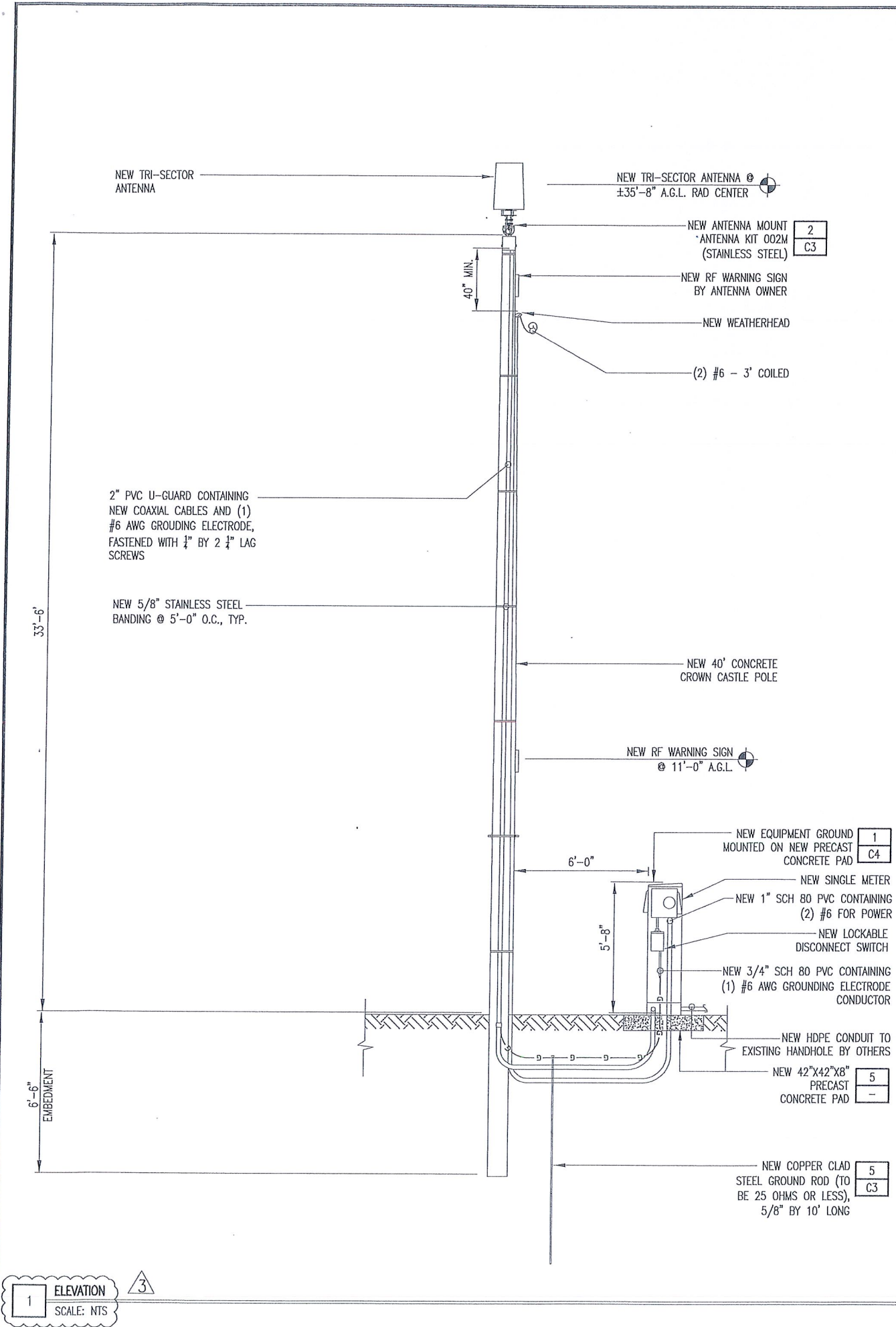
SITE#: SFL61\_2

ADDRESS: 539 NW 17TH AVENUE  
FORT LAUDERDALE, FL 33311

SHEET TITLE:  
**LANDSCAPE  
MITIGATION PLAN**

SHEET NUMBER:  
**C1.1**





**SYMBOL LEGEND**

—E—	POWER CONDUIT	—X—	FENCE
—T—	TELCO CONDUIT	—CS—	SILT FENCE
—DHE—	OVERHEAD CONDUCTORS		
—G—	GROUNDING		

1 REPRESENTS DETAIL #

C7 REPRESENTS SHEET #

NOTE 1 REPRESENTS NOTE

SHT E7 REPRESENTS SHEET #

**CROWN CASTLE INTERNATIONAL**

**AW Solutions**  
INCORPORATED

300 CROWN OAK CENTRE DRIVE  
LONGWOOD, FL 32750  
TEL: 407.260.0231  
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EMMANUEL POULIN  
LICENSED PROFESSIONAL ENGINEER  
STATE OF FLORIDA  
FL P.E. #54073

SITE#: SFL61\_2

ADDRESS: 539 NW 17TH AVENUE  
FORT LAUDERDALE, FL 33311

SHEET TITLE: **ELEVATION**

SHEET NUMBER: **C2**





NEW ELECT. SERVICE,  
20 AMP, 120VAC, 1Ø

CONDUIT AND CONDUCTORS SIZED  
FOR 20 AMP, 120VAC, 1Ø LOAD  
(PROVIDED BY UTILITY)

NEW 120/240V, 20A, 2P, 3W,  
LOCKABLE, FUSIBLE MAIN  
DISCONNECT AT GRADE (SERVICE  
ENTRANCE RATED)

(1) #6 AWG BARE COPPER  
GROUND CONDUCTOR IN 3/4"  
SCH 80 PVC (APPROX. 8 LINEAR  
FEET) TO NEW GROUND ROD.  
ENSURE RESISTANCE TO EARTH  
DOES NOT EXCEED 25 OHMS

(1) #12 AWG + (1) #12 AWG  
NEU. + (1) #6 AWG GROUND  
IN 1" CONDUIT (APPROX. 1  
LINEAR FEET)

ANDREW  
ION-19P,  
120VAC, 20A

#### 1 RISER DIAGRAM

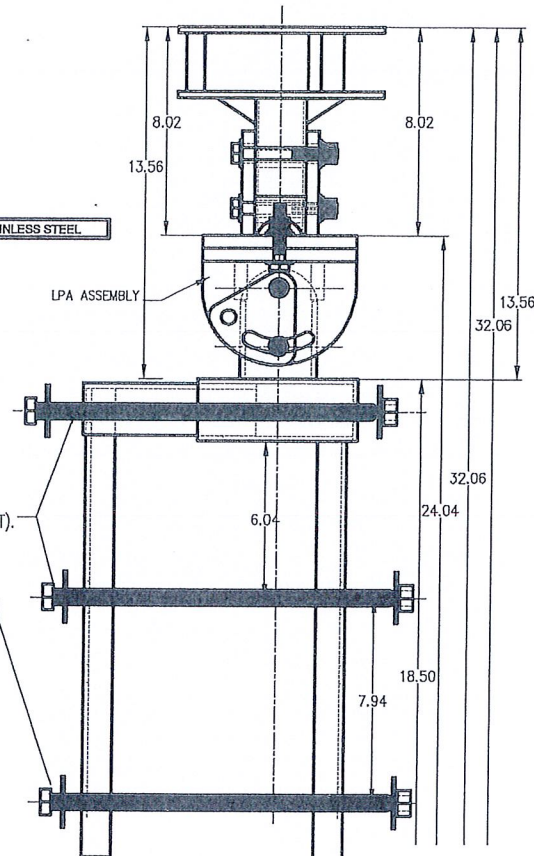
SCALE: NTS

1. SHORT CIRCUIT CURRENT RATING OF FUSIBLE MAIN DISCONNECT: 100KA.
2. PER FLORIDA BUILDING CODE 2010: FEEDER CONDUCTORS ARE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD OF 20A.
3. PER FLORIDA BUILDING CODE 2010: BRANCH CIRCUIT CONDUCTORS ARE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD. HOWEVER, THIS DESIGN CONTAINS NO BRANCH CIRCUITS.
4. ALL CONDUCTORS ARE TO BE COPPER WIRE WITH INSULATION TYPE XHHW.
5. ALL ABOVE GRADE CONDUIT IS TO BE UV RESISTANT SCHEDULE 80 PVC. ALL BELOW GRADE CONDUIT IS TO BE SCHEDULE 40 PVC.

(3) 5/8" (TOP OF POLE  
DIAMETER) STAINLESS STEEL  
HARDWARE BOLT, SQUARE  
WASHER AND FASTENER (NUT).  
"NOT" SUPPLIED IN KIT.

#### 2 ANTENNA MOUNTING KIT (002M)

SCALE: NTS



#### KATHREIN SCALA DIVISION

Kathrein's dual band antennas are ready for 3G applications, covering all existing wireless bands as well as all spectrum under consideration for future systems, AMPS, PCS and 3G/UMTS.

- Wide band operation.
- Exceptional intermodulation characteristics.
- High strength fiberglass radome.
- Internal diplexers allow the +45° polarization (upper and lower bands) to be combined on one connector and the -45° polarization (upper and lower bands) to be combined on a second connector for each antenna.

#### General specifications:

Frequency range	806-960 MHz 1710-2170 MHz
VSWR	<1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° upper and lower band -45° upper and lower band
Connector	6 x 7-16 DIN female
Isolation intrasystem intersystem	>30 dB >40 dB (806-960 / 1710-2170 MHz)
Radome color	Brown, gray or dark gray (custom colors available at additional cost)
Weight	50 lb (22.7 kg)
Height	24 inches (609 mm)
Radome diameter	16 inches (407 mm)
Equivalent flat plate area	1.6 ft² (0.148 m²)
Wind survival rating*	100 mph (160 kph)
Shipping dimensions	32 x 20 x 10 inches (813 x 508 x 483 mm)
Shipping weight	52 lb (23.5 kg)
Mounting	Designed to be mounted on top of a utility pole using a custom mounting bracket supplied by the customer.

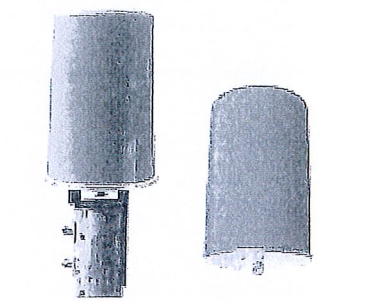
See reverse for order information.

#### Specifications:

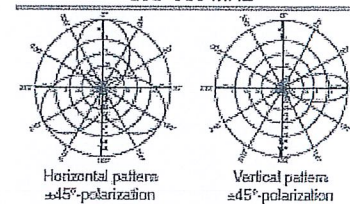
	806-866 MHz	824-894 MHz	880-960 MHz	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz
Gain	11.1 dBi	11.4 dBi	11.8 dBi	12.5 dBi	13.3 dBi	13.8 dBi
Front-to-back ratio (100° ± 90°)	>23 dB (co-polar) >20 dB (total power)	>23 dB (co-polar) >20 dB (total power)	>25 dB (co-polar) >22 dB (total power)	>25 dB (co-polar) >22 dB (total power)	>25 dB (co-polar) >22 dB (total power)	>25 dB (co-polar) >22 dB (total power)
Maximum input power	250 watts (at 50°C)	250 watts (at 50°C)	250 watts (at 50°C)	200 watts (at 50°C)	200 watts (at 50°C)	200 watts (at 50°C)
+45° and -45° polarization horizontal beamwidth	67° (half-power)	66° (half-power)	64° (half-power)	66° (half-power)	60° (half-power)	60° (half-power)
+45° and -45° polarization vertical beamwidth	94° (half-power)	93° (half-power)	90° (half-power)	90° (half-power)	18° (half-power)	17.5° (half-power)
Cross polar ratio	0°	25 dB (typical)	25 dB (typical)	16 dB (typical)	18 dB (typical)	20 dB (typical)
Main direction	±60°	>10 dB	>10 dB	>10 dB	>10 dB	>10 dB

#### 3 ANTENNA SPECIFICATIONS

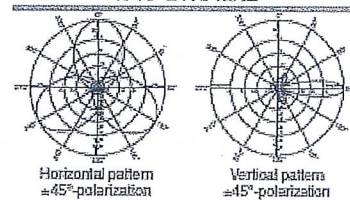
SCALE: NTS



#### 806-960 MHz



#### 1710-2170 MHz



FINISHED GRADE, STONE, ASPHALT,  
CONCRETE PAVING OR SOD. MATCH SLOPE  
AND THICKNESS OF EXISTING SURFACE

RESTORE SURFACE TO MATCH  
ORIGINAL CONDITION

UNDISTURBED

COMPACTED BACKFILL  
(SUITABLE ON SITE MATERIAL)

6" WARNING TAPE

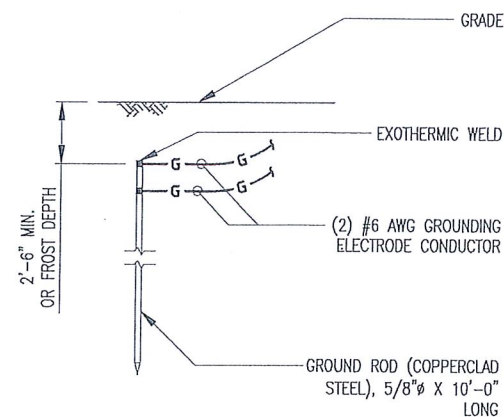
TELCO CONDUIT WHERE APPLICABLE  
(REFER TO NOTE 4)

6" MIN.  
TYP.

#### 4 NEW UNDERGROUND CONDUIT(S) TRENCHING DETAIL (IF APPLICABLE, REFER TO SITE PLAN)

SCALE: NTS

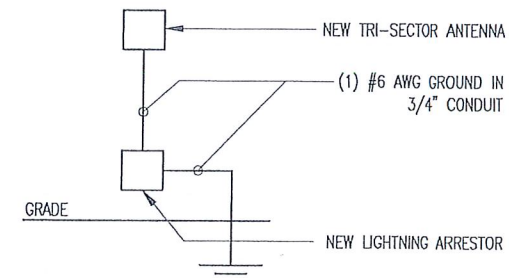
1. PROVIDE SCHEDULE 40 PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
2. PROVIDE SCHEDULE 80 PVC CONDUIT AND ELBOWS AT STUB UP LOCATIONS (i.e. SERVICE POLE, BTS EQUIPMENT, ETC.).
3. INSTALL UTILITY PULLBOXES PER NEC.
4. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY CO. REQUIREMENTS.
5. CONDUIT/TUBING CONTAINING FIBER OPTIC CABLEING TO BE FILLED WITH GEL TO PREVENT WATER PENETRATION, COMMONLY REFERRED TO AS "ICKY PICK."



#### 5 GROUND ROD DETAIL

SCALE: NTS

1. GROUND ROD TO BE DRIVEN 10' VERTICALLY.



#### 6 ANTENNA GROUNDING SCHEMATIC

SCALE: NTS

CROWN  
CASTLE  
INTERNATIONAL

AW Solutions  
INCORPORATED

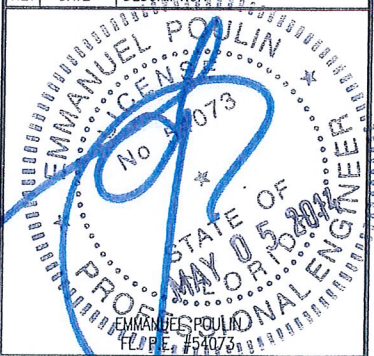
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DETAILS

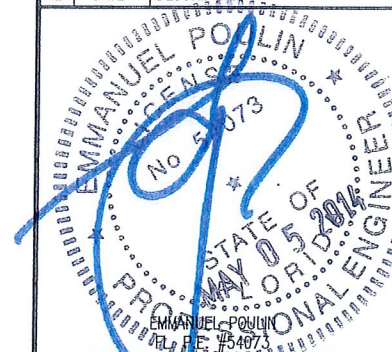
SHEET NUMBER:

C3



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FORT LAUDERDALE, FL 33311

SHEET TITLE:

**DETAILS**

SHEET NUMBER:

**C4**

