



SITE NUMBER: NC-007 SITE NAME: CHARLOTTE

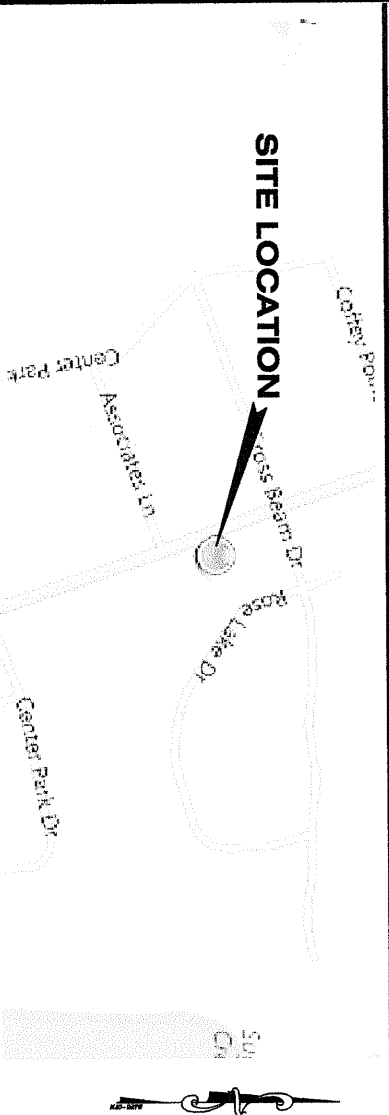
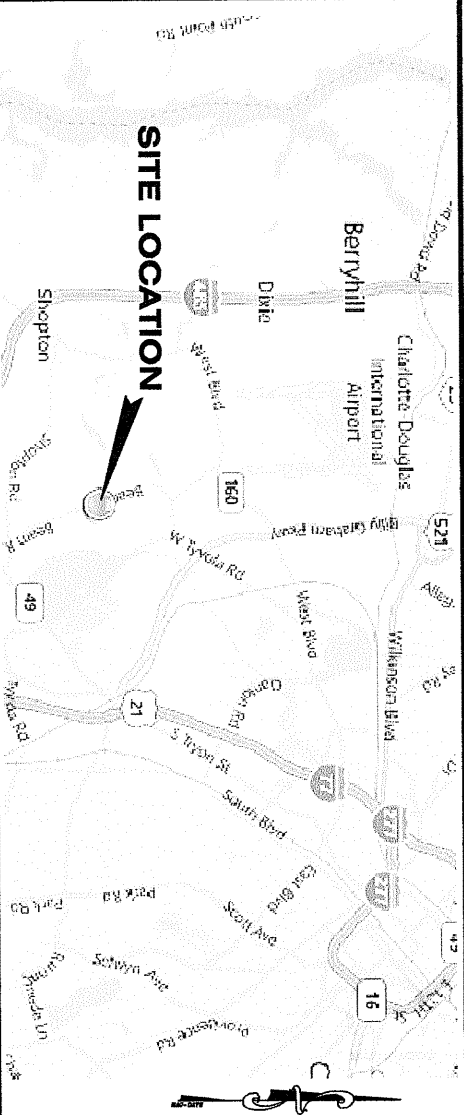
MICROWAVE BACKHAUL FACILITY

PROPOSED 140' SELF-SUPPORT TOWER STRUCTURE  
WITH 4' LIGHTNING ROD, ANTENNAS AND GROUND  
EQUIPMENT PAD

FINAL DEVELOPMENT PLANS


**DIRECTION TO SITE:**  
FROM CHARLOTTE-DOUGLAS INTERNATIONAL AIRPORT  
HEAD SOUTH ON US-521 2.0 MILES TO TYVOLA RD. HEAD WEST ON TYVOLA RD. 0.4  
MILES AND TURN LEFT ON BEAM RD. HEAD SOUTH ON BEAM RD. 0.9 MILES AND TURN  
LEFT ON CROSS BEAM DR. HEAD EAST ON CROSS BEAM DR. 0.1 MILES TO ROSE LAKE DR.  
AND TURN RIGHT. HEAD SOUTH ON ROSE LAKE DR. 0.1 MILES TO SITE ON RIGHT.

LATITUDE: N 35°10'41.52" NAD 83  
LONGITUDE: W 80°55'42.61" NAD 83



LOCATION MAP

VICINITY MAP

SITE INFORMATION	SITE NUMBER:	NC-007	POWER COMPANY:	DUKE POWER	
	SITE NAME:	CHARLOTTE	TELEPHONE COMPANY:	LEVEL (3) COMMUNICATIONS	
	SITE ADDRESS:	4021 ROSE LAKE DRIVE CHARLOTTE, NORTH CAROLINA 28217	WATER SUPPLY:	NO SERVICE REQUIRED	
	COUNTY:	MECKLENBURG	WASTE WATER:	NO SERVICE REQUIRED	
	LATITUDE:	N 35°10'41.52" NAD 83	UTILITY COMPANY	ZONING CLASSIFICATION: B-D (CD)	
	LONGITUDE:	W 80°55'42.61" NAD 83			
	ELEVATION:	686' A.M.S.L. NAVD 88			
	FLOOD ZONE:	NOT IN A SPECIAL FLOOD HAZARD AREA			
	PANEL #:	3710452200J	JURISDICTION:	CITY OF CHARLOTTE	
	EFFECTIVE DATE:	3-2-2009	PARCEL I.D. No.:	14321195	
	PARENT TRACT OWNERS:	LEVEL 3 COMMUNICATIONS LLC	PARKING:	NONE REQUIRED	
	CONTACT PERSON:	JOSEPH MAHAFFEY (704) 733-3230	ZONING DATA	ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.	
	APPLICANT:	52 EIGHTY, LLC			
	CONTACT PERSON:	PHYLLIS JANES (404) 382-5281			
	ENGINEER:	DYNAN GROUP, P.C. GERALD MULDOWNEY N.C. P.E. # 27752 PH: (828) 297-3333			
	CONSULTANTS	CODE COMPLIANCE			
		1. 2006 INTERNATIONAL BUILDING CODE 2. NATIONAL ELECTRIC CODE (NEC) 3. ANSI/TIA/EIA APPLICABLE STANDARDS 4. LIFE SAFETY CODE NFPA - 101-2000			
		5. AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS (AISC) 6. UNDERWRITERS LABORATORIES (UL) 7. LOCAL BUILDING CODE 8. CITY/COUNTY ORDINANCES			
		SHEET INDEX			
		SHEET NO.			
COVER SHEET					
LEGEND, ABBREVIATIONS & GENERAL NOTES					
GENERAL NOTES					
BOUNDARY INFORMATION & EXISTING FEATURES					
BOUNDARY INFORMATION, EXISTING FEATURES & DEMOLITION PLAN					
LEGAL DESCRIPTIONS					
MASTER SITE PLAN					
PROPOSED IMPROVEMENTS					
TOWER ELEVATION & ANTENNA DETAILS					
ENGINEERING DETAILS					
ENGINEERING DETAILS					
FENCE DETAILS					
SIGN DETAILS					
GROUNDING PLAN					
GROUNDING DETAILS					
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52 EIGHTY  
2300 LAKEVIEW PARKWAY,  
SUITE 700  
ALPHARETTA, GA, 30009  
PHONE: (866) 247-5561



Site Development Services

NOT TO SCALE

SCALE VERIFICATION  
0 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.  
IF NOT ONE INCH ON THIS  
SHEET, ADJUST SCALE  
ACCORDINGLY.

REVISIONS		DATE
NO.	DESCRIPTION	
1	SHEETS C1.20, C1.30, C1.38 & C1.18	9/12/11

DATE:	7/15/11
DRAWN:	JAE
CHECKED:	GAM
DESIGNED:	JAE
JOB NUMBER:	319-010-00
CAD FILE: /ENG/528 NC-007 CHARLOTTE.MXD	



DYNAN GROUP  
CIVIL ENGINEERS & LAND SURVEYORS  
P.O. BOX 1110  
BOONVILLE, MO 64607  
PHONE: (660) 683-2828  
FAX: (660) 683-2829  
CELL: (557) 245-5900

GERALD A. MULDOWNEY  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION No.: 27752

JOB INFORMATION  
NC-007 CHARLOTTE  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

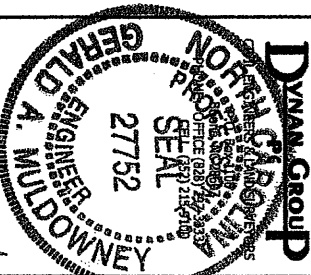
SHEET TITLE

COVER SHEET

SHEET NUMBER  
T1.00

REVISIONS	
NO.	DESCRIPTION

DATE:	7/15/11
DRAWN:	JAE
CHECKED:	GAM
DESIGNED:	JAE
JOB NUMBER:	315-0120-00
CAD FILE:	INVS230 NC007 CHARLOTTE



7/12/11

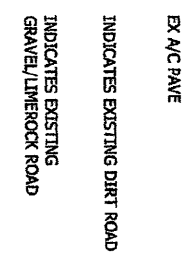
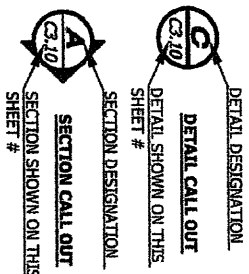
GERALD A. MULDOWNEY  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION NO.: 27752

JOB INFORMATION

NC-007 CHARLOTTE  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

LEGEND,  
ABBREVIATIONS &  
GENERAL NOTES

SHEET NUMBER  
C1.00



GENERAL NOTES

1. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A SURVEY PERFORMED BY POINT TO POINT LAND SURVEYORS DATED JUNE 29, 2011, AS PROVIDED BY THE CLIENT.
2. EXISTING FEATURES SHOWN HEREON ARE BASED ON INFORMATION SHOWN ON A SURVEY PERFORMED BY POINT TO POINT LAND SURVEYORS DATED JUNE 29, 2011, PROVIDED BY THE CLIENT.
3. ALL AREAS DISTURBED DURING THE CONSTRUCTION PROCESS, OTHER THAN THOSE AREAS SLATED FOR IMPROVEMENT, SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AFTER COMPLETION OF CONSTRUCTION.
4. AT A MINIMUM ALL AREAS DISTURBED DURING THE CONSTRUCTION PROCESS SHALL BE STRAW MULCHED FOR EROSION AND SEDIMENTATION CONTROL PURPOSES.
5. THE PROPOSED FACILITY IS AN UNMANNED RESTRICTED GROUND INSTALLATION WHICH WILL BE USED TO PROVIDE FIBER OPTIC CONNECTIVITY FOR THE SURROUNDING WIRELESS TELECOMMUNICATIONS NETWORKS.
6. AS AN UNMANNED FACILITY, THE PROPOSED DEVELOPMENT WILL NOT REQUIRE PUBLIC WATER SERVICE, PUBLIC WASTE WATER SERVICE, SOLID WASTE DISPOSAL SERVICE, OR PUBLIC TELEPHONE SERVICE.
7. THE PROPOSED FACILITY WILL REQUIRE APPROXIMATELY ONE ROUTINE MAINTENANCE VISIT PER MONTH PER CARRIER.
8. THE PROPOSED IMPROVEMENTS WILL NOT CAUSE A REDUCTION IN THE ADOPTED LEVELS OF SERVICE FOR ROADS, PARKS, DRAINAGE, STORM WATER MANAGEMENT, SOLID WASTE, WATER AND SEWER, OR MASS TRANSIT.
9. THIS FACILITY WILL CONSUME NO RECOVERABLE ENERGY AND IS EXEMPT FROM ENERGY REVIEW CODES.
10. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY THE GENERAL CONTRACTOR WITH LOCAL ELECTRIC SERVICE PROVIDERS AND OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THE PROPOSED DEVELOPMENT SITE.
11. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL ABOVE GROUND AND BELOW GROUND UTILITIES PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST AND REPAIR OF ANY UTILITIES OR OTHER IMPROVEMENTS DAMAGED DURING THE CONSTRUCTION PROCESS.
13. ALL LOCATION TIES SHOWN HEREON ARE PERPENDICULAR MEASURE UNLESS OTHERWISE NOTED.
14. A 6' HIGH SECURITY FENCE SHALL BE INSTALLED TO ENCOMPASS THE TOWER AND GRAVEL COMPOUND. THE FENCE SHALL BE MAINTAINED BY THE TOWER OWNER FOR THE LIFE OF THE GROUND INSTALLATION.
15. THE PROPOSED FACILITY IS AN UNMANNED RESTRICTED GROUND INSTALLATION AND, THEREFORE, WILL NOT REQUIRE A LOCK ALLOWING EMERGENCY VEHICLE ACCESS. EMERGENCY VEHICLE ACCESS CAN BE PROVIDED BY CUTTING A LINK IN THE LOCKING CHAIN AT THE FENCED COMPOUND GATE.
16. NO SITE WORK OR EXCAVATION SHALL BE ALLOWED UNTIL THE CONTRACTOR CONTACTS NORTH CAROLINA ONE CALL 811 OR 1-800-632-4949. CONTRACTOR SHALL CALL FOR A REMARK AS NEEDED.
17. THE BENCH MARK INFORMATION SHOWN HEREON IS FOR THE EXPRESS USE OF THE CONTRACTOR WHILE PERFORMING WORK ON THIS PROJECT.
18. THE VERTICAL INFORMATION SHOWN HEREON IS BASED ON NAVD 88 AND WAS AS PROVIDED BY THE CLIENT.
19. CRANE OUTRIGGER PADS SHALL NOT BE PLACED DIRECTLY ABOVE THE LONGHAUL FIBER ROUTE WITHOUT PRIOR APPROVAL FROM THE ON-SITE LEVEL 3 TECHNICIAN.

ABBREVIATIONS

ACG	ASPHALT/CONCRETE ABOVE FINISH GRADE	JB	JUNCTION BOX
ARG	BELOW FINISH GRADE	LS	LANDSCAPE
BRG	CENTER LINE	PVE	PAVEMENT
CL	CONCRETE	R/W	RIGHT OF WAY
CONC.	CURB AND GUTTER	S/W	SIDE WALK
C&G	EDGE OF PAVEMENT	TOS	TOP OF SLOPE
E/P	EXISTING	TOR	TOP OF BANK
EX	FINISH FLOOR	VIA	VEHICULAR USE AREA
FE	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	VMA	WATER MAIN
NCDOT			

TOWER NOTES

1. THE PROPOSED MICROWAVE BACK HAUL TOWER SHALL BE IN COMPLIANCE WITH THE FEDERAL COMMUNICATIONS COMMISSION GUIDELINES CONCERNING RADIO FREQUENCY RADIATION AND EMISSIONS.
  2. IN ACCORDANCE WITH FCC LICENSING, THE PROPOSED MICROWAVE SYSTEM WILL NOT CAUSE INTERFERENCE WITH THE RECEPTION OR TRANSMISSION OF ANY NEARBY EXISTING LICENSED RADIO SYSTEMS.
  3. THE PROPOSED MICROWAVE TOWER SHALL COMPLY WITH THE ELECTRONICS INDUSTRIES ASSOCIATION (EIA) STANDARDS AND ALL LOCAL ORDINANCES, AS DEMONSTRATED BY FINAL DEVELOPMENT APPROVAL AND BUILDING PERMIT APPROVAL.
  4. THE PROPOSED MICROWAVE TOWER SHALL BE DESIGNED TO MEET OR EXCEED EIA/TIA 222G SPECIFICATIONS AND THE LOCAL DEVELOPMENT REGULATIONS.
  5. THE PROPOSED MICROWAVE TOWER WITH APURTENANCES SHALL NOT EXCEED 144 FEET ABOVE GROUND LEVEL.
  6. THERE ARE NO SPECIAL FIRE PROTECTION CONCERNS ASSOCIATED WITH THE PROPOSED DEVELOPMENT. NO FIRE PROTECTION SYSTEMS ARE TO BE INSTALLED.
  7. THE TOWER, TOWER FOUNDATIONS, AND MICROWAVE ANTENNA SYSTEMS, INCLUDING ANTENNA CONNECTIONS, SHALL BE DESIGNED AND SPECIFIED BY OTHERS.
  8. NAVIGATIONAL HAZARD LIGHTING IS NOT REQUIRED FOR THE PROPOSED STRUCTURE IN ACCORDANCE WITH THE FAA REGULATIONS.
  9. THE PROPOSED MICROWAVE TOWER STRUCTURE SHALL HAVE A LIGHT GREY COLOR FINISH.
  10. THE PROPOSED FACILITY WILL BE DESIGNED FOR THE CO-LOCATION OF UP TO 5 ADDITIONAL CARRIERS.
- ENVIRONMENTAL SAFETY PRACTICES:**
1. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL DEMOLITION MATERIALS, AND ANY DEBRIS OR TRASH GENERATED DUE TO CONSTRUCTION, AT AN APPROVED PREDETERMINED OFF-SITE LOCATION IN A MANNER DETERMINED BY THE LOCAL REGULATORY AGENCY.
  2. THE CONTRACTOR SHALL PROVIDE ON-SITE TRASH RECEPTACLES FOR COLLECTION OF NON-TOXIC DEBRIS. ALL TRASH SHALL BE COLLECTED ON A DAILY BASIS.
  3. ALL TOXIC AND ENVIRONMENTALLY HAZARDOUS SUBSTANCES SHALL BE USED AND DISPOSED OF IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. UNDER NO CIRCUMSTANCES SHALL RINSING OR DUMPING OF THESE SUBSTANCES OCCUR ON-SITE.

LEGEND

PROPOSED

EXISTING

140	Elevation Contour	150	
SS-1	Sanitary Sewer Line & Manhole	SSMH #1	
W	Water Line and Valve	W	
SL	Storm Line & Manhole	SL	
UG	Underground Electric Line	UG	
OVH	Overhead Power Line	OVH	
UGAS	Underground Gas Line	UGAS	
UGT	Underground Telephone Line	UGT	
*-O-*	Barbed Wire Fence	*-O-*	
W	Wire Fence	W	
W	Wood Fence	W	
8'	Chain Link W/ Overhead Security		
*	Light	*	
*	Utility Pole	*	
*	Wood Power Pole	*	
*	Telephone Pedestal	*	
*	Guy Anchor	*	
W	Well	W	
W	Water Meter	W	
W	Fire Hydrant	W	
X	Tree To Be Removed	X	
*	Tree	*	
*	Tree	*	
*	Tree	*	
*	Shrubs	*	
*	Project Benchmark	*	
*	Gravel Surface	*	
*	Concrete Surface	*	
C/O	Cleanout	C/O	
FF	Floor Elevation	FF	
FF	Tree Barriade	FF	
FF	Silt Fence	FF	
FF	Drainage Divide	FF	
FF	Drainage Swale	FF	
FF	12" Area Drain	FF	
FF	Storm Surface Inlet	FF	
FF	Storm Curb Inlet	FF	
FF	Storm Structure Identification	FF	
FF	Spot Elevation	FF	
FF	Direction of Surface Drainage Flow	FF	
FF	Culvert	FF	

Note:  
This standard legend is all inclusive and may include items not found in this set of plans.

10

- [illegible]

## GENERAL NOTES

**NOTE:** ABSOLUTELY NO PORTION OF THE LEASE PARCEL OR THE FENCED COMPOUND SHALL BE LOCATED OVER ANY FIBER OPTIC CABLES, EXISTING GROUNDING SYSTEMS OR EXISTING UTILITIES.

**SHEET NUMBER**  
**C1.10**



**SCALE: 1" = 60'**

0 \_\_\_\_\_ 1  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.

IF NOT ONE INCH ON THIS  
SHEET, ADJUST SCALE  
ACCORDINGLY.

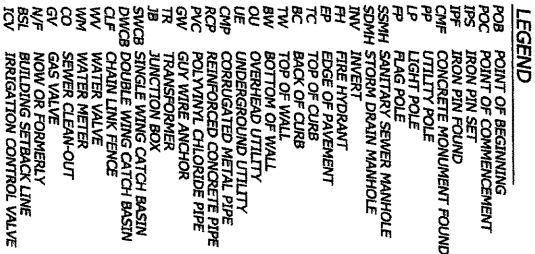
DATE:	7/5/11
DRAWN:	JAE
CHECKED:	GAM
DESIGNED:	JAE
JOB NUMBER:	319-010-00



**NC-007 CHARLOTTE**  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

**SHEET NUMBER**

0120



52 EIGHTY

2300 LAKEVIEW PKWY,  
SUITE 700  
ALPHARETTA, GA, 30009  
PHONE: (866) 247-5581

WIRELESS I.L.C.  
VISION

Site Development Services

SCALE: 1" = 20'

SCALE VERIFICATION  
0' 1" BAR IS ONE INCH ON ORIGINAL DRAWING.  
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REVISIONS

NO.	DESCRIPTION	DATE
1	ADDED LANDSCAPE SETBACK	9/12/11
2	CORRECTED SCALE & LABEL, LOC.	9/12/11

DATE: 7/15/11

DRAWN: JAE

CHECKED: GAM

DESIGNED: JAE

JOB NUMBER: 319-010-00

CAD FILE: /BVG/5280 NC-007 CHARLOTTE.DWG



DYNAN GROUP  
P.C.

CIVIL ENGINEERS & LAND SURVEYORS

1000 E. 10TH STREET, SUITE 100  
NORTH CHARLOTTE, NC 28202  
TEL: (866) 247-5581



GERALD A. MULDOWNEY  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION NO.: 27752

JOB INFORMATION  
NC-007 CHARLOTTE  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

SHEET TITLE

BOUNDARY  
INFORMATION,  
EXISTING FEATURES &  
DEMOLITION PLAN

SHEET NUMBER

C1.30

NOTES:

1. BOUNDARY INFORMATION AND EXISTING FEATURES SHOWN HEREON WERE FURNISHED BY THE CLIENT AND BASED ON A SURVEY PERFORMED BY POINT TO POINT LAND SURVEYORS, DATED JUNE 29, 2011.
2. ELEVATIONS ARE BASED ON NAVD 88 AND WERE FURNISHED BY CLIENT.
3. THE 2' CONTOURS SHOWN HEREON HAVE A VERTICAL ACCURACY OF +/- 1'.
4. SEE SHEET C1.40 FOR LEGAL DESCRIPTIONS.
5. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE AND BASED ON THE LOCATION OF ABOVE GROUND APPURTENANCES PERFORMED BY POINT TO POINT LAND SURVEYORS.

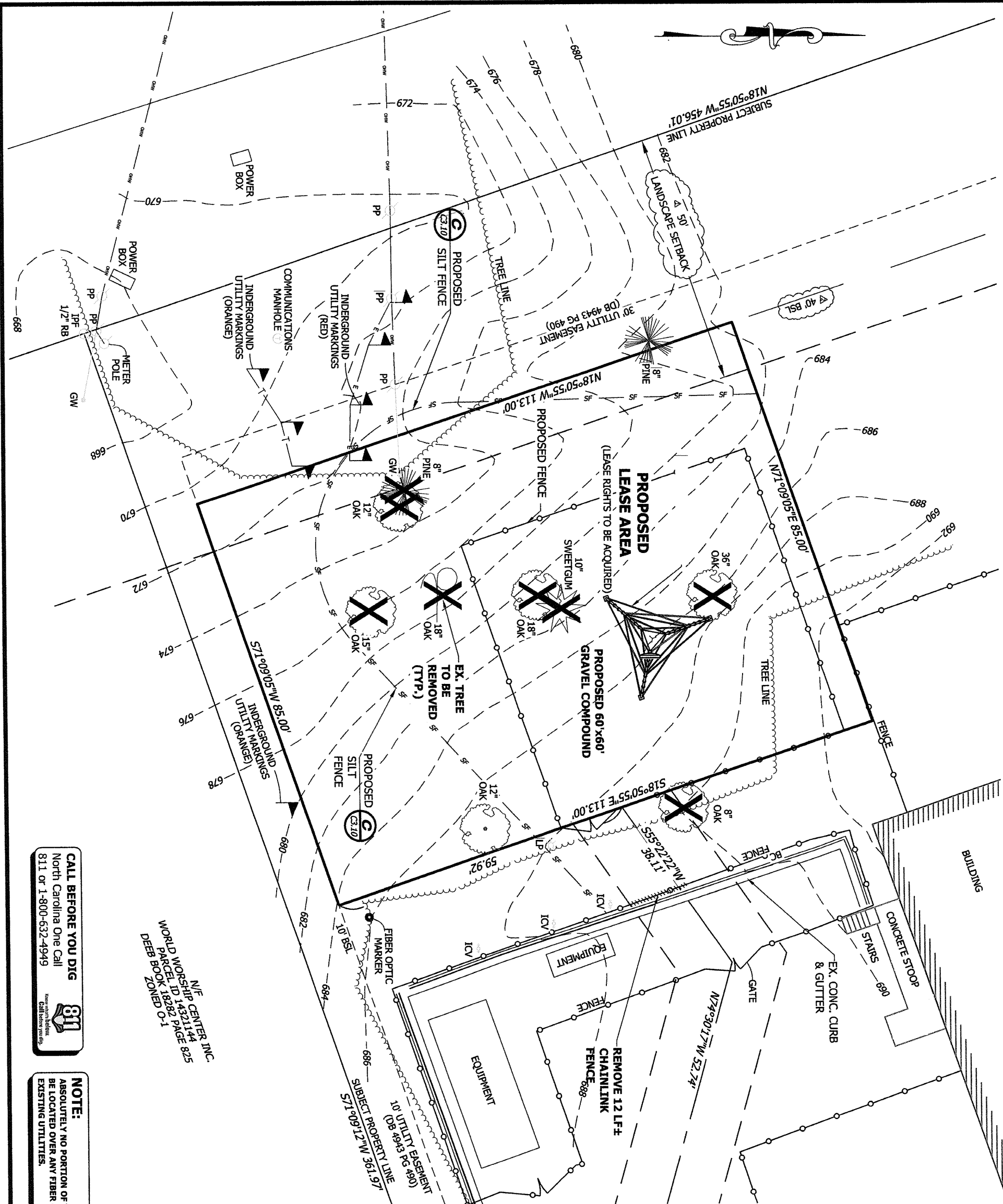
LEGEND
POB POINT OF BEGINNING
POC POINT OF COMMENCEMENT
JPS IRON PIN SET
CMF CONCRETE MONUMENT FOUND
LP LIGHT POLE
FP FLAG POLE
SSWH SANITARY SEWER MANHOLE
SDWH STORM DRAIN MANHOLE
INV INVERT
FB FIVE HYDRANT
EP EDGE OF PAVEMENT
IC BACK OF CURB
TV TOP OF WALL
BW BOTTOM OF WALL
UE UNDERGROUND UTILITY
CMF CORRUGATED METAL PIPE
RCP REINFORCED CONCRETE PIPE
PVC POLYVINYL CHLORIDE PIPE
GW GUY WIRE ANCHOR
TR TRANSFORMER
JB JUNCTION BOX
SWCB SINGLE WING CATCH BASIN
DWCB DOUBLE WING CATCH BASIN
CLF CHAIN LINK FENCE
WV WATER VALVE
WM WATER METER
WC WATER CLEAN-OUT
GV GAS VALVE
N/F NOW OR FORMERLY
BSL BUILDING SETBACK LINE
ICV IRRIGATION CONTROL VALVE

N/F  
WORLD WORSHIP CENTER, INC.  
PARCEL ID 14321144  
DEEB BOOK ZONED O-1

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811 or 1-800-632-4949



NOTE:  
ABSOLUTELY NO PORTION OF THE LEASE PARCEL OR THE FENCED COMPOUND SHALL BE LOCATED OVER ANY FIBER OPTIC CABLES, EXISTING GROUNDING SYSTEMS OR EXISTING UTILITIES.



## **LEGAL DESCRIPTIONS**

## PARENT TRACT

All that tract or parcel of land lying and being in the City of Charlotte, Mecklenburg County, North Carolina, being more particularly described as follows:

BEGINNING at a point created by the intersection of the southerly right-of-way line of Cross Beam Drive (having a 72-foot public right-of-way) and the easterly right-of-way line of Beam Drive (having a 110-foot public right-of-way); Thence leaving said intersection and running along said southerly right-of-way line of Cross Beam Drive, North 75°03'43" East, 394.09 feet to a point; Thence, 31.06 feet along the arc of a curve to the right having a radius of 20.00 feet and being scribed by a chord bearing South 60°27'28" East, 28.03 feet to a point on the westerly right-of-way line of Rose Lake Drive (having a 60-foot public right-of-way); Thence along said westerly right-of-way line of Rose Lake Drive, South 15°58'03" East, 191.63 feet to a point; Thence, 181.51 feet along a curve to the left, having a radius of 350.21 feet and being scribed by a chord bearing South 30°48'57" East, 179.49 feet to a ½" rebar found; Thence leaving said westerly right-of-way line of Rose Lake Drive and running, South 43°07'05" West, 87.69 feet to a point; Thence, South 71°09'12" West, 361.97 feet to a ½" rebar found on the easterly right-of-way line of Beam Drive; Thence along said easterly right-of-way line of Beam Drive, North 18°50'55" West, 456.01 feet to a point on the southerly right-of-way line of Cross Beam Drive and the true POINT OF BEGINNING.

Said tract contains 4.1484 ACRES (180,706 square feet), more or less, as shown in a survey prepared for 52 Eighty, LLC by POINT TO POINT LAND SURVEYORS, INC. dated June 29, 2011, and last revised June 30, 2011.

**PROPOSED 20' INGRESS-EGRESS & UTILITY EASEMENT**

Together with a proposed 20-foot wide Ingress-egress and utility easement lying and being in the City of Charlotte, Mecklenburg County, North Carolina, being described by the following centerline data:

To find the point of beginning, commence at a point created by the intersection of the southerly right-of-way line of Cross Beam Drive (having a 72-foot public right-of-way) and the easterly right-of-way line of Beam Drive (having a 110-foot public right-of-way); thence leaving said intersection and running along said southerly right-of-way line of Cross Beam Drive, North 75°03'43" East, 394.09 feet to a point; thence, 31.06 feet along the arc of a curve to the right having a radius of 20.00 feet and being scribed by a chord bearing South 60°27'28" East, 28.03 feet to a point on the westerly right-of-way line of Rose Lake Drive (having a 60-foot public right-of-way); thence along said westerly right-of-way line of Rose Lake Drive, South 15°58'03" East, 191.63 feet to a point; thence, 137.54 feet along the arc of a curve to the left, having a radius of 350.21 feet and being scribed by a chord bearing South 27°13'07" East, 136.66 feet to a point and the true POINT OF BEGINNING; Thence leaving said westerly right-of-way line of Rose Lake Drive and running, South 44°51'03" West, 75.74 feet to a point; Thence, South 72°06'41" West, 148.94 feet to a point; Thence, North 74°30'17" West, 52.74 feet to a point; Thence, South 55°22'22" West, 38.11 feet to the ENDING at a point.

As shown in a survey prepared for 52 Eighty, LLC by POINT TO POINT LAND SURVEYORS, INC. dated June 29, 2011, and last revised June 30, 2011...

**PROPOSED LEASE AREA**

All that tract or parcel of land lying and being in the City of Charlotte, Mecklenburg County, North Carolina, being more particularly described as follows:


To find the point of beginning, commence at a point created by the intersection of the southerly right-of-way line of Cross Beam Drive (having a 72-foot public right-of-way) and the easterly right-of-way line of Beam Drive (having a 110-foot public right-of-way); Thence leaving said intersection and running along said southerly right-of-way line of Cross Beam Drive, North 75°03'43" East, 394.09 feet to a point; thence, 31.06 feet along the arc of a curve to the right having a radius of 20.00 feet and being scribed by a chord bearing South 60°27'28" East, 28.03 feet to a point on the westerly right-of-way line of Rose Lake Drive (having a 60-foot public right-of-way); thence along said westerly right-of-way line of Rose Lake Drive, South 15°58'03" East, 191.63 feet to a point; thence, 137.54 feet along the arc of a curve to the left, having a radius of 350.21 feet and being scribed by a chord bearing South 27°13'07" East, 136.66 feet to a point; thence leaving said westerly right-of-way line of Rose Lake Drive and running, South 44°51'03" West, 75.74 feet to a point; thence, South 72°06'41" West, 148.94 feet to a point; thence, North 74°30'17" West, 52.74 feet to a point; thence, South 55°22'12" West, 38.11 feet to a point; thence, South 18°50'55" East, 59.92 feet to a point and the true POINT OF BEGINNING; Thence running, South 71°09'05" West, 85.00 feet to a point; Thence, North 18°50'55" West, 113.00 feet to a point; Thence, North 71°09'05" East, 85.00 feet to a point; Thence, South 18°50'55" East, 113.00 feet to a point and the true POINT OF BEGINNING.

Said tract contains 0.2205 ACRES (9,605 square feet), more or less, as shown in a survey prepared for 52 Eighty, LLC by POINT TO POINT LAND SURVEYORS, INC. dated June 29, 2011, and last revised June 30, 2011.

**CALL BEFORE YOU DIG**  
North Carolina One Call  
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**NOTE:**  
ABSOLUTELY NO PORTION OF THE LEASE PARCEL OR THE FENCED COMPOUND SHALL BE LOCATED OVER ANY FIBER OPTIC CABLES, EXISTING GROUNDING SYSTEMS OR EXISTING UTILITIES.

52 EIGHTY 2300 LAKEVIEW PKWY, SUITE 700 ALPHARETTA, GA, 30009 PHONE: (666) 247-5581		WIRELESS VISION L.L.C. Site Development Services		NOT TO SCALE		SCALE VERIFICATION 0 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DESCRIPTION	DATE																															DATE: 7/5/11 DRAWN: JAE CHECKED: GMM DESIGNED: JAE JOB NUMBER: 319-010-00 JOB TITLE: RESIDENTIAL-NC-07 ORNAMENTATIONS				DYNAN GROUP PC CIVIL ENGINEERS & LAND SURVEYORS 1000 Peachtree Lake Blvd., Suite 200 Atlanta, Georgia 30329 Phone: (404) 294-3344 Fax: (404) 294-3345 Email: info@dynamgroup.com		NON-PROFESSIONAL SEAL 27752 GERALD A. MILDOWNEY ENGINEER 7/21/11		GERALD A. MILDOWNEY NORTH CAROLINA PROFESSIONAL ENGINEER REGISTRATION NO.: 27752		JOB INFORMATION NC-007 CHARLOTTE CHARLOTTE, NORTH CAROLINA PROPOSED MICROVAVE BACKHAUL PROJECT		SHEET TITLE LEGAL DESCRIPTIONS		SHEET NUMBER C1.40	
NO.	DESCRIPTION	DATE																																																								





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ALPHARETTA, GA, 30009  
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JOB NUMBER: 319-010-00  
CAD FILE: /RNG/2300 NC-007 CHARLOTTE.DWG



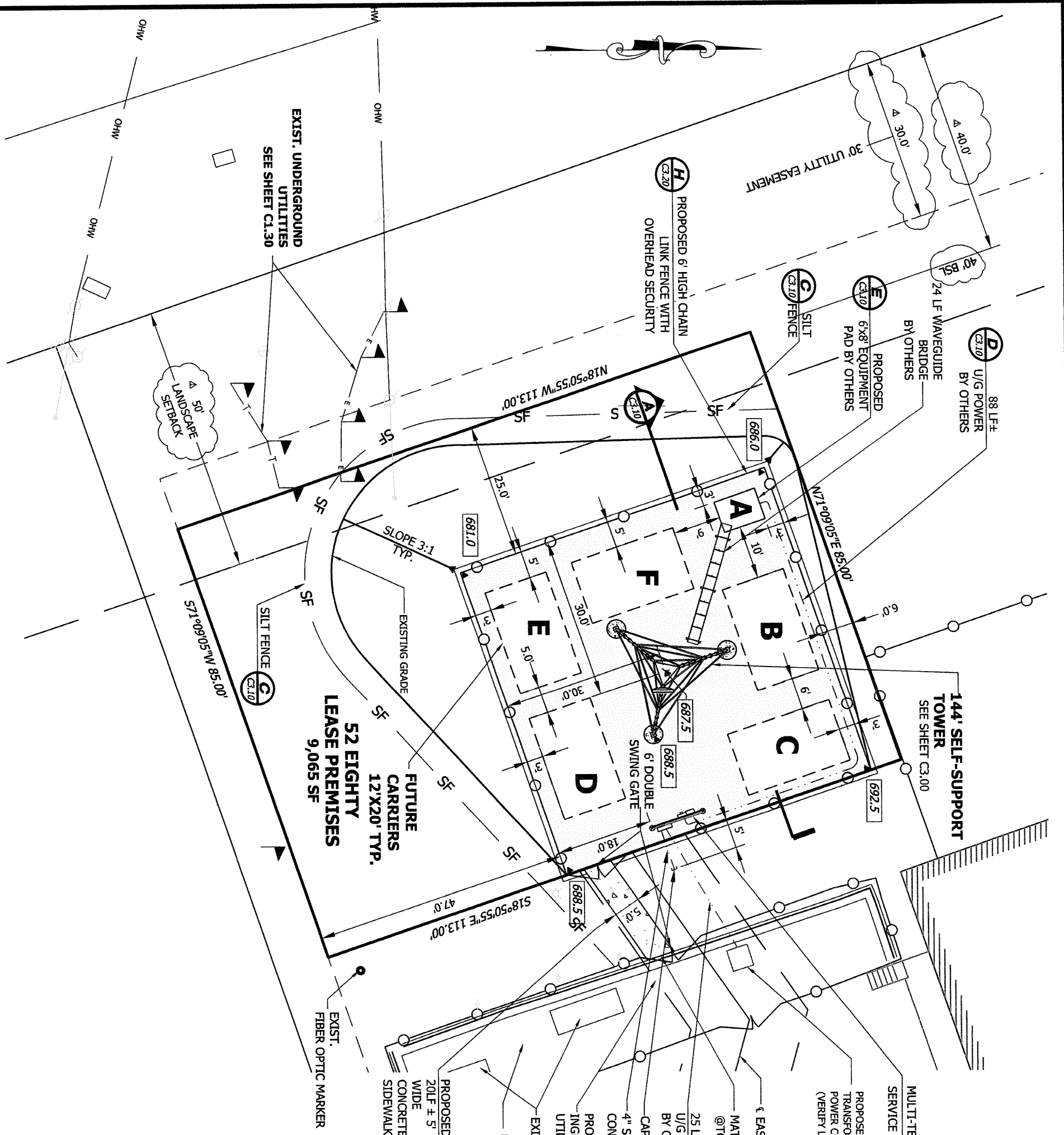
**DYNAN GROUP**  
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27752  
SEAL  
GERALD A. MULDOWNEY  
27752

GERALD A. MULDOWNEY  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION NO.: 27752  
JOB INFORMATION  
**NC-007 CHARLOTTE**  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

SHEET TITLE  
**PROPOSED  
IMPROVEMENTS**  
SHEET NUMBER  
**C2.10**

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Know what's below.  
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**NOTES:**

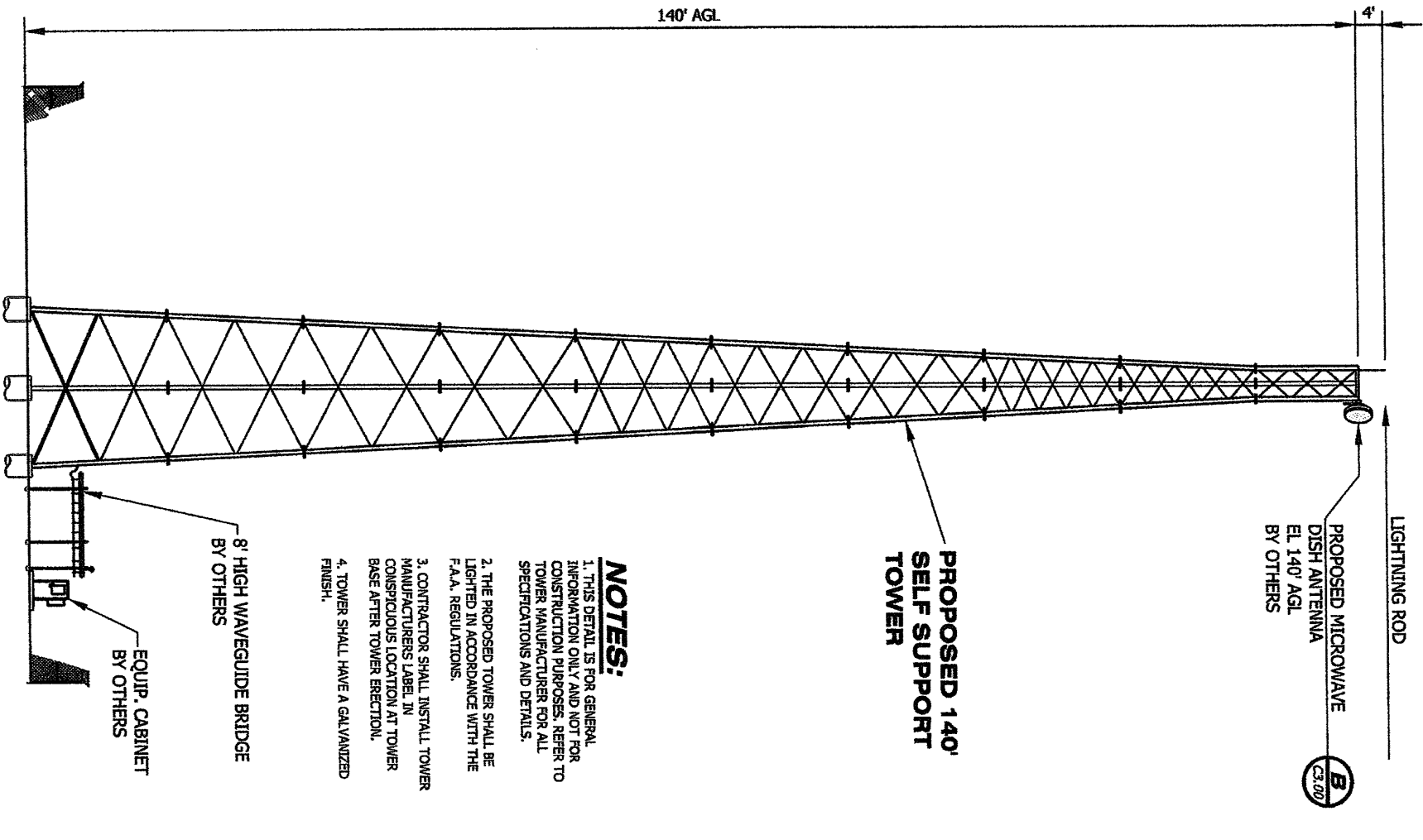
1. SEE LEGEND, ABBREVIATIONS & GENERAL NOTES ON SHEETS T1.00, C1.00 & C1.10.
2. ELEVATION DATA SHOWN HEREON IS BASED ON AN NAVD 88. SEE NOTE #2 ON SHEET C1.20.
3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING ABOVE GROUND AND BELOW GROUND IMPROVEMENTS.
4. TOWER AND CONCRETE CAISSON TO BE DESIGNED BY OTHERS. TOP OF CONCRETE CAISSON TO BE 688.5'.
5. THE CONTRACTOR TO COORDINATE UTILITY CONNECTIONS WITH LOCAL SERVICE PROVIDERS PRIOR TO PROJECT BID.
6. SEE SHEET C1.20 FOR PROJECT BENCHMARK DATA.

**LEGEND:**

▲ 56.5' INDICATES PROPOSED FINISHED GRADE ELEVATIONS



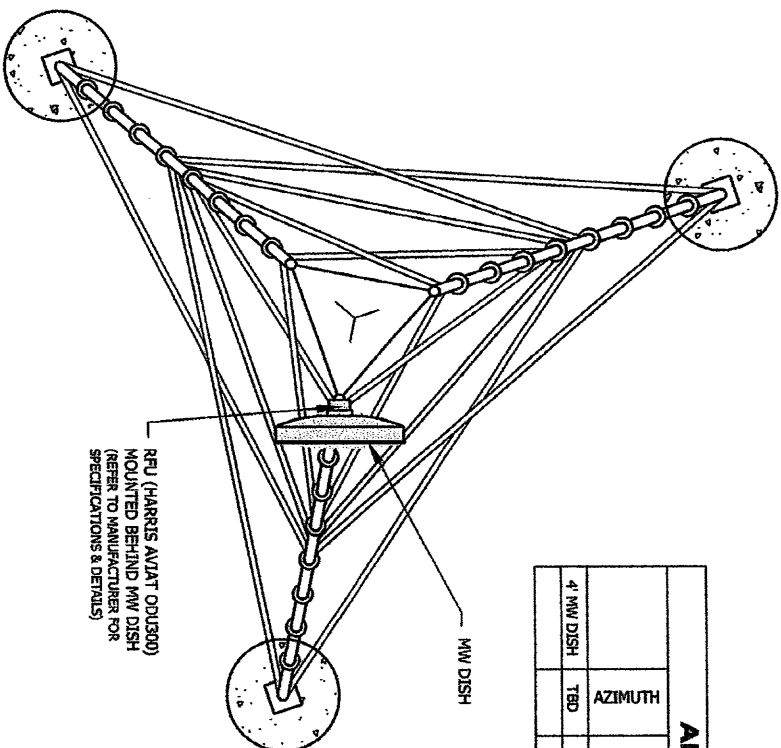
SELF-SUPPORT TOWER  
ELEVATION VIEW



NOTES:

1. THIS DETAIL IS FOR GENERAL INFORMATION ONLY AND NOT FOR CONSTRUCTION PURPOSES. REFER TO TOWER MANUFACTURER FOR ALL SPECIFICATIONS AND DETAILS.
2. THE PROPOSED TOWER SHALL BE LIGHTED IN ACCORDANCE WITH THE F.A.A. REGULATIONS.
3. CONTRACTOR SHALL INSTALL TOWER MANUFACTURERS LABEL IN CONSPICUOUS LOCATION AT TOWER BASE AFTER TOWER ERECTION.
4. TOWER SHALL HAVE A GALVANIZED FINISH.

N.T.S. A



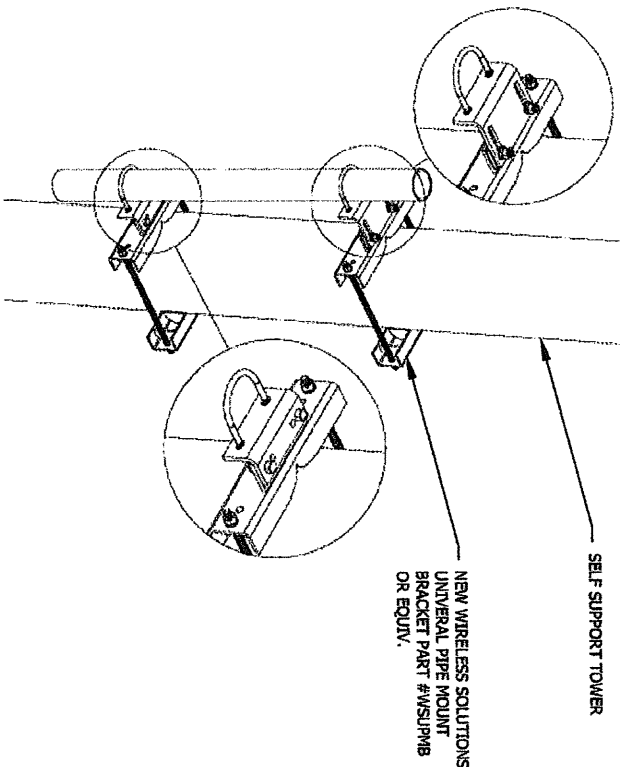
ANTENNA & CABLE SCHEDULE							
	AZIMUTH	HEIGHT AGL	ANTENNA TYPE	MFG & ANTENNA MODEL NO.	QTY.	FEEDER TYPE	TOTAL FEEDER LENGTH # OF FEEDER(S)
4" MW DISH	TBD	140'	MW	ANDREW VHLDPX-11	1	6.4" 9.1 STRAND OF JLR-400	159'

ALL ANTENNA WORK BY  
OTHERS

ANTENNA LAYOUT

N.T.S. B

ADJUSTABLE SLOPE  
PIPE MOUNT



BY OTHERS

N.T.S. C

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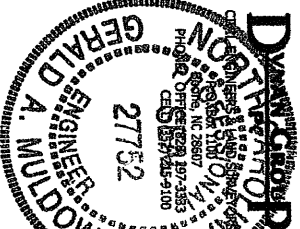
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GERALD A. MULDOWNEY  
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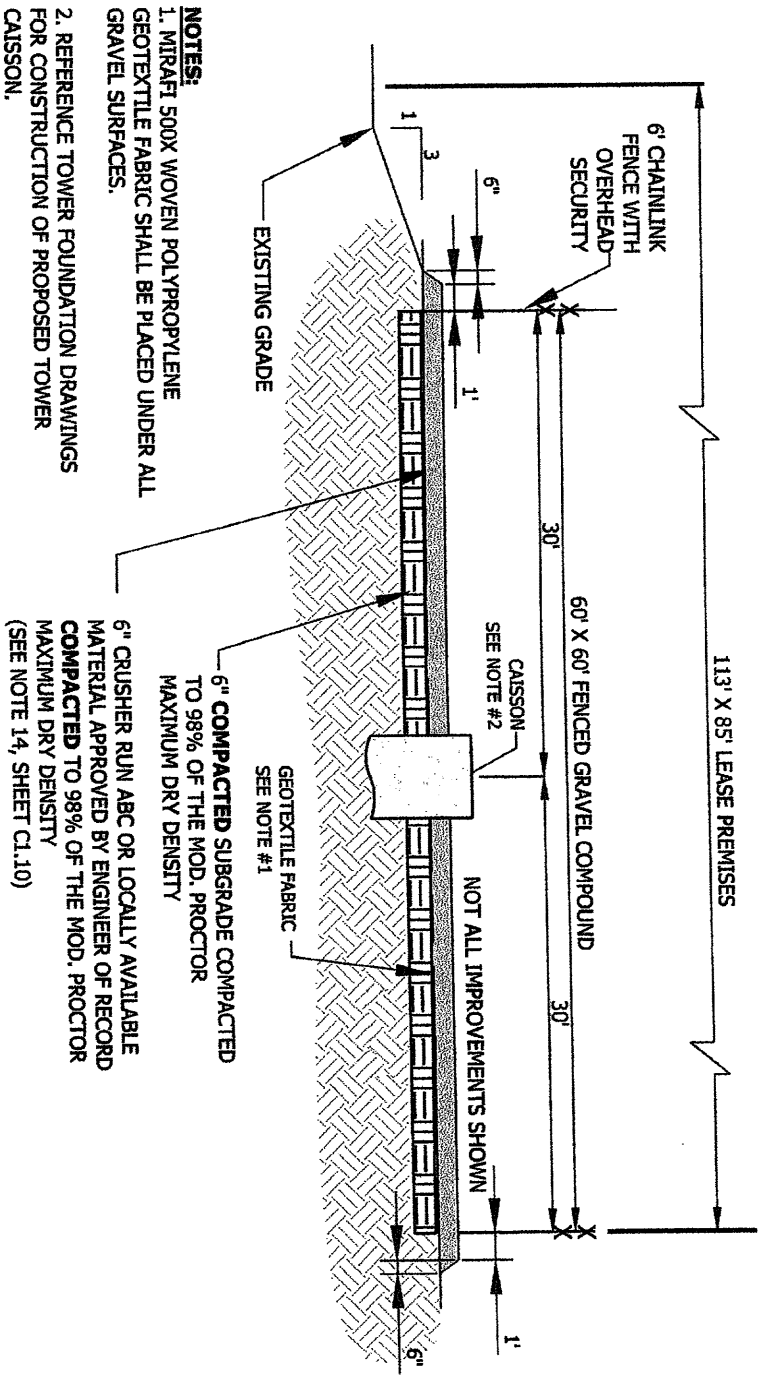
JOB INFORMATION  
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CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

SHEET TITLE  
TOWER  
ELEVATION

ANTENNA DETAILS  
&

SHEET NUMBER  
C3.00

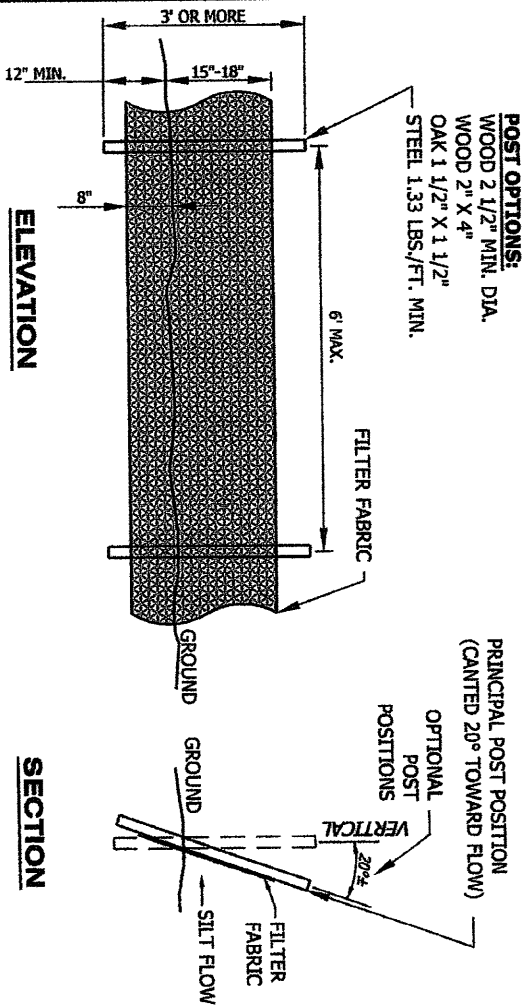




- NOTES:**
1. MIRAFI 500X WOVEN POLYPROPYLENE GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL GRAVEL SURFACES.
  2. REFERENCE TOWER FOUNDATION DRAWINGS FOR CONSTRUCTION OF PROPOSED TOWER CAISSON.

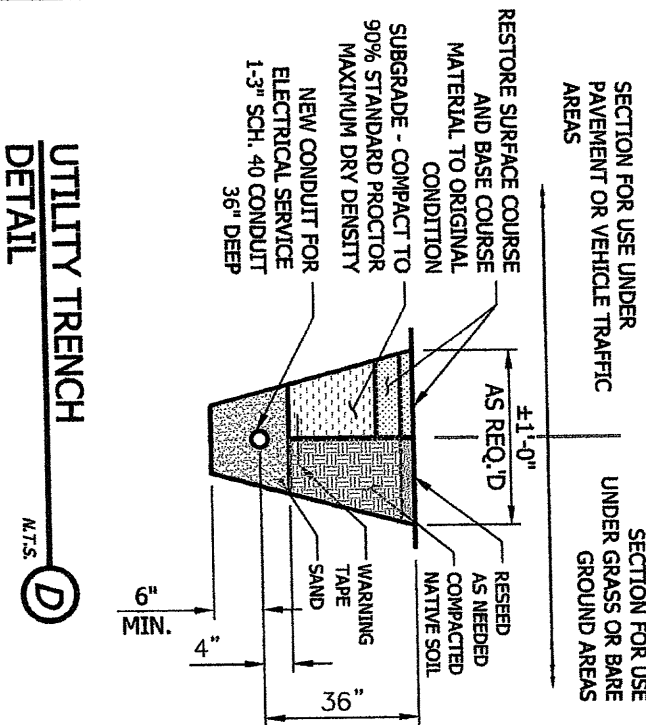
**GRAVEL COMPOUND**

N.T.S. **A**



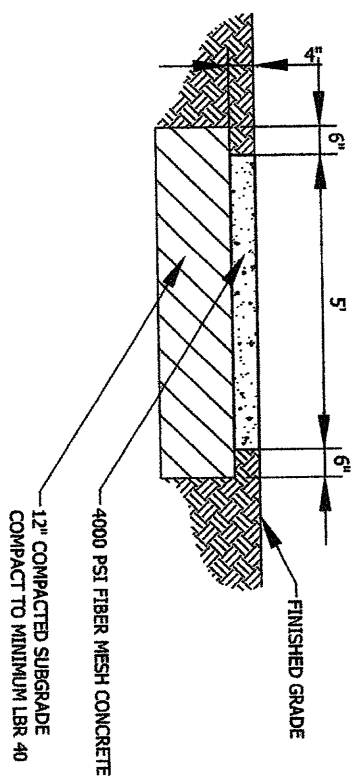
**SILT FENCE**

N.T.S. **C**



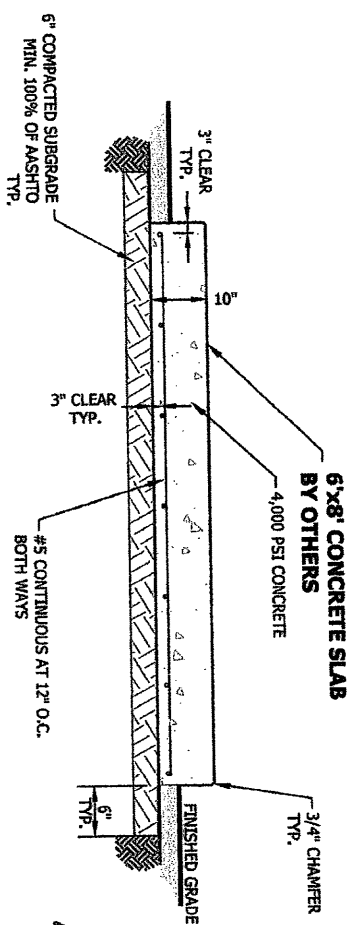
**CONCRETE SIDEWALK**

N.T.S. **B**



**CONCRETE SLAB**

N.T.S. **E**



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27752  
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ENGINEER  
SEAL  
7/2/11

GERALD A. MULDOWNEY  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION NO.: 27752

**NC-007 CHARLOTTE**  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

**ENGINEERING**  
DETAILS

SHEET NUMBER  
**C3.10**

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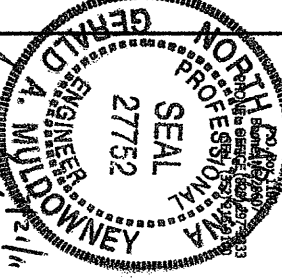
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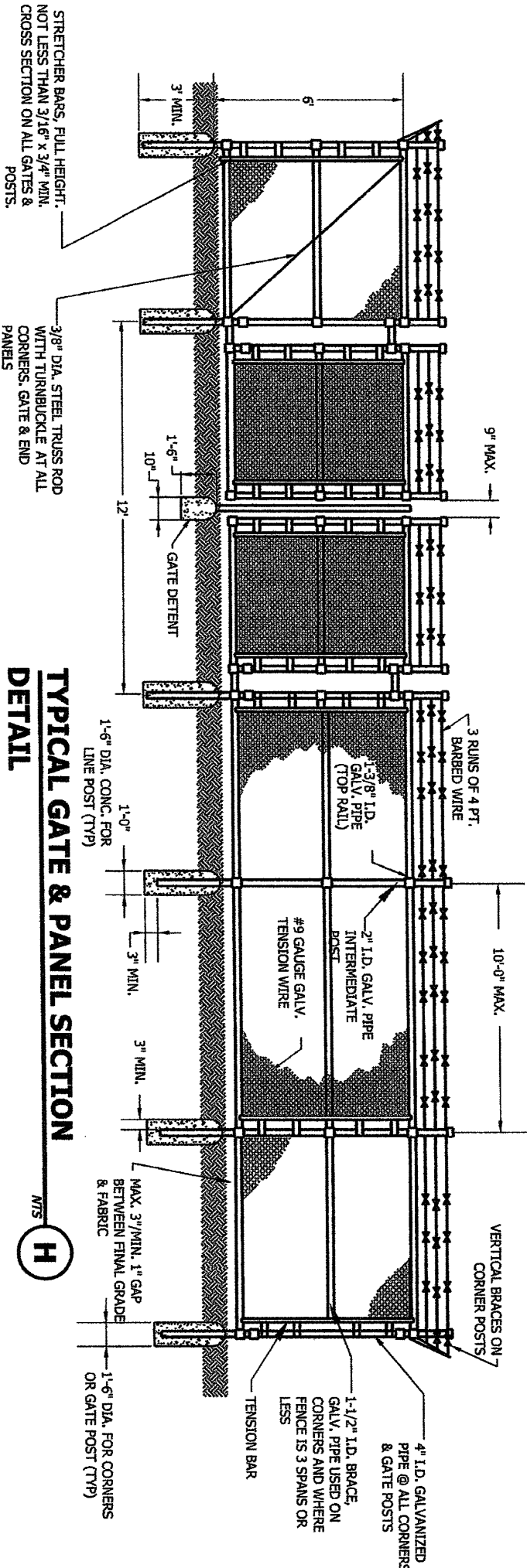
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JOB INFORMATION  
**NC-007 CHARLOTTE**  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

FENCE  
DETAILS

SHEET NUMBER

**C3.20**



## TYPICAL GATE & PANEL SECTION DETAIL

1. SCORE:  
1.1 THIS SECTION COVERS THE REQUIREMENTS FOR THE MATERIALS AND THE CONSTRUCTION OF SITE FENCING, ACCESS ROAD GATES AND CATTLE GUARDS. SEE SITE PLAN AND DRAWINGS FOR DETAILS.

### 2. SPECIAL REQUIREMENTS

2.1 ALL WIRE, FABRIC, FITTINGS, HARDWARE AND STEEL MEMBERS USED FOR SITE AREA FENCING, AND ACCESS ROAD GATES SHALL BE HOT DIPPED GALVANIZED OR OTHER APPROVED NON-CORROSIVE MATERIAL.

2.2 ALL NON-CORROSIVE MATERIAL SHALL BE APPROVED BY THE PROJECT MANAGER.

2.3 ANY DAMAGE TO GALVANIZING OR NON-CORROSIVE COATING DURING CONSTRUCTION SHALL BE REPAIRED ACCORDING TO MANUFACTURERS RECOMMENDED METHODS.

### 3. FENCE POSTS

3.1 LOCATION OF CORNER POSTS SHALL BE DETERMINED FROM STAKES AND PROPERTY PINS INSTALLED BY THE REGISTERED LAND SURVEYOR. IF THE STAKES ARE NOT PRESENT OR DO NOT CONFORM TO THE SITE PLAN, CONSULT WITH THE PROJECT MANAGER.

3.2 CORNERS AND GATE POST FOR SITE SHALL BE 4" (INSIDE DIA.) GALVANIZED PIPE. LINE POST SHALL BE 2" (INSIDE DIA.) GALVANIZED PIPE.

3.3 CORNER POSTS SHALL BE SET WITHIN ONE INCH (1") OF DIMENSIONS INDICATED ON THE SITE PLAN.

3.4 FENCE POSTS SHALL BE VERTICALLY PLUMB IN ALL PLANES WITHIN 1/2 INCH (1/2").

3.5 CORNER POST FOUNDATIONS SHALL BE A MINIMUM THREE FEET (3') DEEP OR SIX INCHES (6") BELOW THE FROST LINE, WHICHEVER IS GREATER, WITH MINIMUM THREE INCH (3") CLEARANCE BETWEEN BOTTOM OF POST AND BOTTOM OF THE HOLE.

3.6 CORNER POST FOUNDATION FOR LINE POSTS SHALL BE 12 INCHES (12") IN DIAMETER. CORNER POST FOUNDATION FOR GATE AND CORNER POSTS SHALL BE 18 INCHES (18") IN DIAMETER.

3.7 CORNER POSTS AND GATE POSTS SPACING SHALL BE EQUAL WITH A TWELVE FOOT (12') MAXIMUM SPACING. GATE POST SPACING AND SPECIFIC LOCATIONS SHALL BE IN ACCORDANCE WITH SITE PLAN AND SHALL BE VERIFIED WITH PROJECT MANAGER.

3.8 ALL POSTS EXCEPT GATE POSTS SHALL BE CARPED WITH A COMBINATION CAP AND BARB WIRE SUPPORTING ARM. GATE POSTS SHALL BE CAPPED WITH STANDARD CAP.

3.9 ALL CORNER, GATE AND END PANELS SHALL HAVE MINIMUM 3/8" DIAMETER DIAGONAL TRUSS RODS WITH TURNBUCKLES. HORIZONTAL BRACE RODS, 1-1/2" INSIDE DIMENSION PIPE, SHALL BE INSTALLED BETWEEN POSTS.

3.10 A TOP RAIL (1-3/8" I.D.) GALVANIZED PIPE SHALL BE INSTALLED BETWEEN POSTS.

3.11 ALL FOUR CORNERS POSTS AND BOTH GATE POSTS SHALL BE CONNECTED TO THE SITE GROUNDING SYSTEM (REFER TO GROUNDING SYSTEM STANDARD).

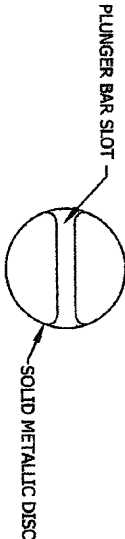
4. FABRIC

4.1 FENCE FABRIC SHALL BE SIX FOOT (6') HIGH, UNLESS OTHERWISE SPECIFIED, #9 GAUGE, GALVANIZED CHAIN LINK FABRIC WITH TWISTED TOP SELVAGE AND KNUCKLED BOTTOM SELVAGE.

4.2 FABRIC SHALL BE TENSIONED PER MANUFACTURERS RECOMMENDATIONS TO PRESENT A NEAT APPEARANCE. A MAXIMUM THREE INCH (3") GAP SHALL BE PERMITTED BETWEEN FABRIC AND FINAL GRADE.

4.3 FABRIC SHALL BE SECURED AT CORNER AND GATE POSTS USING STRETCHER BARS AND TENSION BAND CLIPS.

4.4 FABRIC SHALL BE SECURED TO THE TOP RAIL AND BRACE RODS USING TIE CLIPS.



## PLAN VIEW

NOTE: IN MOST CASES, FINAL GRADE IS APPLIED PRIOR TO FENCE INSTALLATION. THEREFORE, ALL SPOTS REMOVED TO INSTALL THE FENCE POSTS AND FENCE ACCESSORIES SHALL BE PLACED ON PLASTIC OR OTHER MEANS TO PREVENT DEBRIS FROM BLEMISHING SITE AESTHETICS. REMOVAL OF MATERIAL SHALL BE THE RESPONSIBILITY OF THE FENCE CONTRACTOR, INCLUDING ANY EXCESS FENCE MATERIAL. ALL GRAVEL SURFACES SHALL BE MAINTAINED LEVEL WITH STRAIGHT CLEAN EDGES. (SEE NOTE 14 SHEET C3.10)

4.5 THREE (3) RUNS OF 4-POINT GALVANIZED BARBED WIRE SHALL BE INSTALLED ALONG TOP OF FENCE. BARBED WIRE SHALL BE TENSIONED PER MANUFACTURERS RECOMMENDATIONS TO PRESENT A NEAT APPEARANCE.

### 5. GATE

5.1 LOCATION OF GATE SHALL CONFORM TO THE SITE PLAN. GATE SIZE SHALL BE A MINIMUM TWELVE FEET (12') ACROSS.

5.2 ALL JOINTS BETWEEN TUBULAR GATE MEMBERS SHALL BE WELDED OR HEAVY FITTINGS PROVIDING RIGID AND WATERTIGHT CONNECTIONS.

5.3 GATE HINGES SHALL PROVIDE FOR 180 DEGREE RADIIUS GATE SWING. ALL HINGE NUTS SHALL BE ON THE INSIDE AND DOUBLE-NUT TO DETER UNAUTHORIZED ENTRY.

5.4 PLUNGER BAR-TYPE GATE LATCH SHALL BE INSTALLED ON DOUBLE GATES AND SHALL FUNCTION PROPERLY. PLUNGER BAR LENGTH SHALL BE THE SAME HEIGHT AS THE GATE. A NON-CLOGGING GATE DETENTION ADAPTABLE TO THE PLUNGER BAR SHALL BE INSTALLED SET IN CONCRETE; SHALL HAVE A SLOTTED SOLID METALLIC DISC TOP, SET IN CONCRETE; SHALL FUNCTION PROPERLY.

5.5 GATE STOPS SHALL BE INSTALLED AND SHALL HOLD GATE IN "OPEN" POSITION.

5.6 BARBED WIRE GUARD SHALL BE INSTALLED ON TOP OF GATES. ADEQUATE CLEARANCE SHALL BE MAINTAINED TO ALLOW GATE OPERATION.

5.7 GATE SHALL BE INSTALLED PLUMB AND SHALL OPEN AND CLOSE FREELY.

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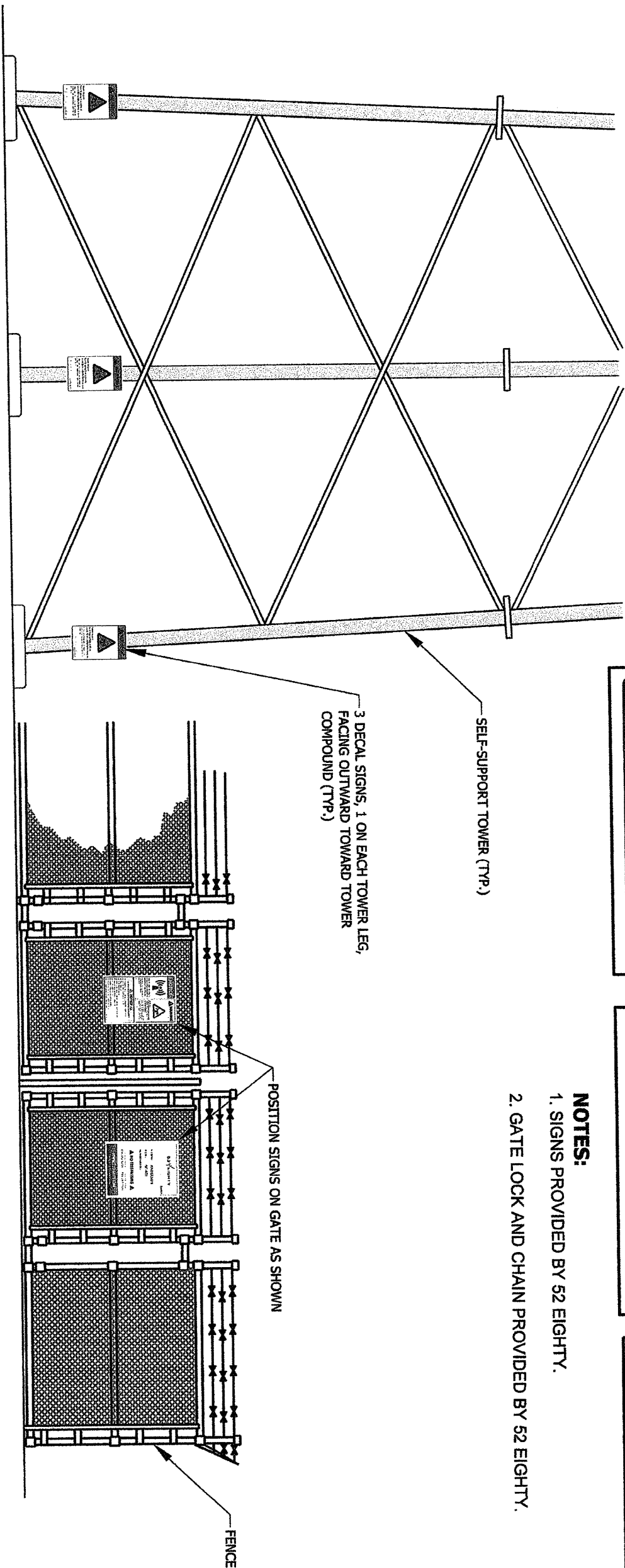




TELECOMMUNICATIONS SIGN  
DETAILS

NTS

1



- NOTES:**
1. SIGNS PROVIDED BY 52 EIGHTY.
  2. GATE LOCK AND CHAIN PROVIDED BY 52 EIGHTY.

**WARNING**

**Beyond this point:  
Radio frequency fields at this site  
exceed the FCC rules for human exposure.  
Failure to obey all posted signs and site guidelines for  
working in radio frequency environments could result in  
serious injury.**

In accordance with Federal Communications Commission  
rules on radio frequency emissions 47 CFR 1.1307(b).

**52 EIGHTY**

**NOTICE**

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Obey all posted signs and site guidelines  
for working in radio frequency  
environments.**

**On this tower:  
Radio frequency fields near some  
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for human exposure.  
Refrain climbing this tower should be  
needed for working in radio frequency  
environments and use a personal RF  
monitor if working near active antennas.**

Refrain from climbing this tower should be needed for working in radio frequency environments and use a personal RF monitor if working near active antennas.

**GUIDELINES FOR WORKING IN RADIO FREQUENCY ENVIRONMENTS**

- △ All personnel should have electromagnetic safety training.
- △ All personnel entering this site must be authorized.
- △ Obey all posted signs.
- △ Assume all antennas are active.
- △ Before working on antennas, notify owners and disable appropriate transmitters.
- △ Maintain minimum 3 feet clearance from all antennas.
- △ Do not step in front of antennas.
- △ Use personal RF monitors while working near antennas.
- △ Never operate transmitters without shields during normal operation.
- △ Do not operate base station antennas in equipment room.

**52 EIGHTY**

**52 EIGHTY**

FIBER TO THE TOWER BY **Lantronix**

**SITE NAME:** | **CHARLOTTE**

**SITE NO.:** | **NC-007**

**FCC REGISTRATION NO.:**

**NO TRESPASSING**

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**DYNAN Group**

CIVIL ENGINEERS AND SURVEYORS

**Seal for Gerald A. Muldowney**  
Professional Engineer  
North Carolina  
Registration No. 27752

**GERALD A. MULDOWNEY**  
NORTH CAROLINA PROFESSIONAL  
ENGINEER REGISTRATION NO.: 27752

**JOB INFORMATION**  
**NC-007 CHARLOTTE**  
CHARLOTTE, NORTH CAROLINA  
PROPOSED MICROWAVE  
BACKHAUL PROJECT

**SIGN  
DETAILS**

**SHEET NUMBER**  
**C3.30**

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DESIGNED:	JAE
JOB NUMBER:	319-010-00
CAD FILE: (RWD/280 NC-007) CHARLOTTE.DWG	

GROUNDING NOTES:

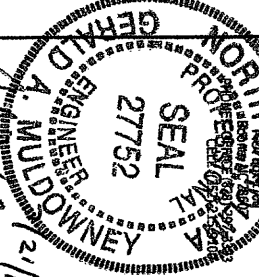
1. ALL GROUNDING WORK, MATERIALS AND INSTALLATION SHALL COMPLY WITH LATEST EDITION OF THE NEC ARTICLE 250, AND SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CODE SPECIFICATIONS.
2. USE #2 AWG SOLID BARE TINNED COPPER CONDUCTOR WIRE FOR ABOVE GRADE GROUNDING AND FOR THE BELOW GRADE GROUNDING AS INDICATED ON THE DRAWINGS.
3. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT A RIGHT ANGLES. ALWAYS ACCOMPLISH CORNERS AND BENDS WITH A MINIMUM 12" RADIUS.
4. THE GROUND ELECTRODE SYSTEM CONSISTS OF DRIVEN THREADED GROUND RODS 5/8" DIA. X 10' UNFORMALLY SPACED AT APPROXIMATELY 20' INTERVALS SPACED AROUND THE TOWER FOUNDATION. THE GROUND RODS SHALL BE 5/8" DIAMETER COPPER CLAD STEEL. THE RODS SHALL BE INTERCONNECTED WITH AWG #2 BARE SOLID CONDUCTOR BURIED A MINIMUM 36" BELOW THE SURFACE OF THE SOIL AND TWO FEET FROM THE FOUNDATION, UNLESS NOTED OTHERWISE. IN AREAS SUBJECT TO FREEZING, THE EXTERIOR GROUND RING SHALL BE AT LEAST 6" BELOW THE FROST LINE.
5. THE BACK FILL MATERIAL SHALL BE FREE OF STONES AND THOROUGHLY COMPACTED IN LAYERS NOT EXCEEDING 12" IN DEPTH.
6. WHEN EARTH RESISTANCE TESTS INDICATE THAT THE SOIL IS ABOVE THE MINIMUM ALLOWABLE RESISTANCE, THE CONTRACTOR SHALL ESTIMATE THE TYPE, NUMBER, AND CONFIGURATION OF THE EARTH ELECTRODES NECESSARY TO ACHIEVE THE REQUIRED SYSTEM RESISTANCE. THE CONTRACTOR SHALL ALSO CONSIDER SITE SPECIFIC APPROACHES FOR IMPROVING EARTH RESISTANCE INCLUDING THE METHODS LISTED BELOW:
  - 1.) LENGTHEN THE EARTH ELECTRODE.
  - 2.) USE MULTIPLE THREADED, COUPLED RODS.
  - 3.) ONLY UPON PRIOR OWNER APPROVAL, TREAT THE SOIL.
  - 4.) ONLY UPON PRIOR APPROVAL, USE CHEMICAL RODS.
7. THE CONTRACTOR MUST TEST THE COMPLETED GROUND SYSTEM AND CERTIFY IN WRITING THAT THE NEW GROUNDING SYSTEM RESISTANCE IS EQUAL TO OR LESS THAN FIVE (5) OHMS. THE CONTRACTOR MUST INCLUDE IN THE BID SUFFICIENT MATERIALS TO ACHIEVE GROUNDING RESISTANCE EQUAL TO OR LESS THAN FIVE (5) OHMS.
8. THE CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION FOR THE GROUNDING SYSTEM SO AS NOT TO DISTURB EXISTING UNDERGROUND IMPROVEMENTS SUCH AS UTILITY SERVICE LINES, AND EXISTING GROUNDING SYSTEMS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF UNDERGROUND ELECTRIC AND TELEPHONE SERVICE CONDUITS.
9. ALL EXTERNAL GROUND CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO THE BURIED GROUND RING SHALL BE PARALLEL TYPE, EXCEPT FOR THE GROUND RODS, WHICH SRE TO BE TEE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZER SUCH AS HOLLUB LECTROSOL #15-501.
10. ALL METALLIC COMPONENTS ON THE SITE MUST BE CONNECTED TO THE GROUND RING. THIS INCLUDES CONDUITS USED TO DELIVER TELCO AND POWER UTILITY LINES TO THE SITE.
11. RUN ALL GROUNDING CONDUCTORS IN AN ORGANIZED MANNER. UTILIZE C-TAPPING PER 52 EIGHT SPECIFICATIONS WHERE POSSIBLE TO REDUCE THE NUMBER OF GROUND WIRES. AVOID THE CROSSING OF CONDUCTORS WHENEVER POSSIBLE.
12. INSTALL ALL GROUNDING CONDUCTORS IN A DOWNWARD SLOPE TO ACHIEVE MAXIMUM LIGHTNING PROTECTION.
13. ALL GROUNDING CONDUCTORS FROM THE TOWER ARE TO BE ROUTED THROUGH 1/2" SCHEDULE 40 PVC. PVC SHALL EXTEND FROM THE EXOTHERMIC WELD TO A MINIMUM 24" BELOW GRADE.

NOTE:

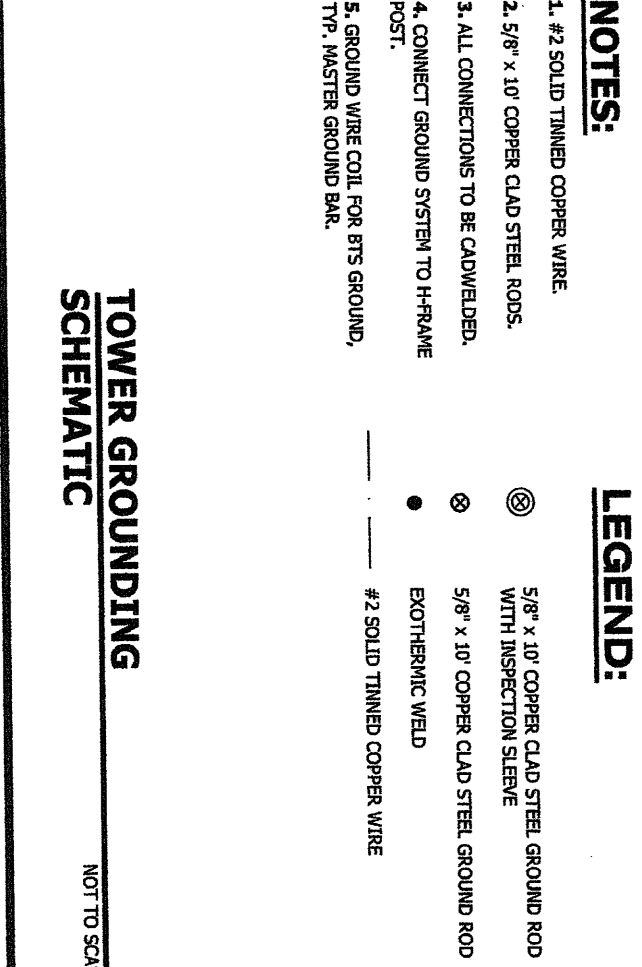
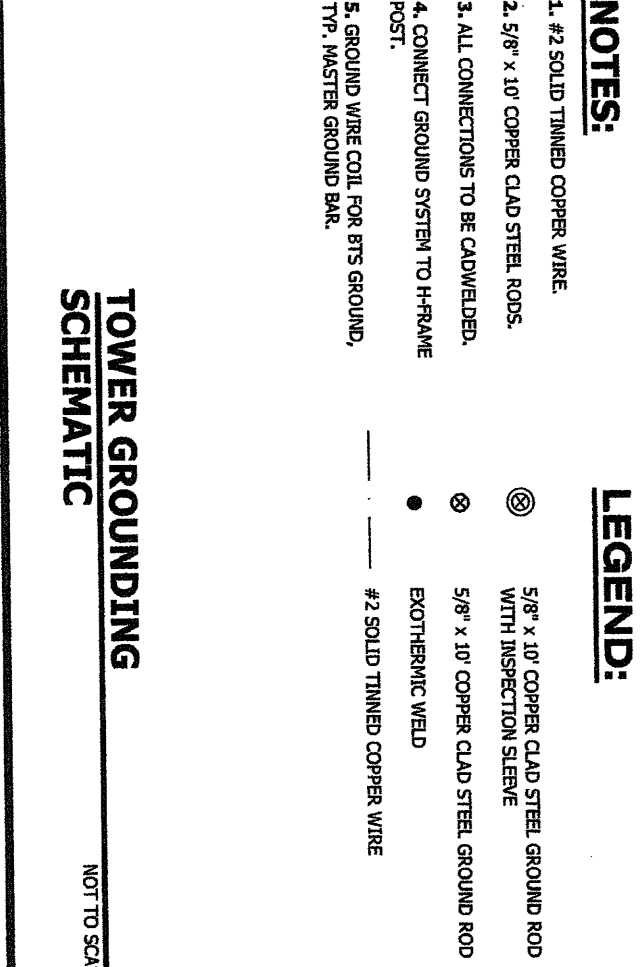
CONTRACTOR SHALL NEVER BEND CONDUCTORS AND MUST ALWAYS UTILIZE CLEAN SWOOPS WITH A MINIMUM 12" RADIUS. CONTRACTOR SHALL NEVER CADWELD TO A TOWER LEG. ALWAYS WELD TO THE TOP OF THE BASE PLATE.

REVISIONS	
NO.	DESCRIPTION

DATE:	7/15/11
DRAWN:	JAE
CHECKED:	GMM
DESIGNED:	JAE
JOB NUMBER:	318-010-00
CD FILE (RWS/SSB NC-007) DRAWING	



- NOTES:**
1. #2 SOLID TINNED COPPER WIRE.
  2. 5/8" x 10' COPPER CLAD STEEL RODS.
  3. ALL CONNECTIONS TO BE CADWELDED.
  4. CONNECT GROUND SYSTEM TO H-FRAME POST.
  5. GROUND WIRE COIL FOR BTS GROUND, TYP. MASTER GROUND BAR.
- LEGEND:**
- 5/8" x 10' COPPER CLAD STEEL GROUND ROD WITH INSPECTION SLEEVE
  - 5/8" x 10' COPPER CLAD STEEL GROUND ROD
  - EXOTHERMIC WELD
  - #2 SOLID TINNED COPPER WIRE



**TOWER GROUNDING SCHEMATIC**

NOT TO SCALE

**TYPICAL FENCE-GATE GROUNDING DETAIL**

NOT TO SCALE



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811 or 1-800-632-4949

**NOTE:**  
ABSOLUTELY NO PORTION OF THE LEASE PARCEL OR THE FENCED COMPOUND SHALL BE LOCATED OVER ANY FIBER OPTIC CABLES, EXISTING GROUNDING SYSTEMS OR EXISTING UTILITIES.

**WIRELESS  
VISION L.L.C.**

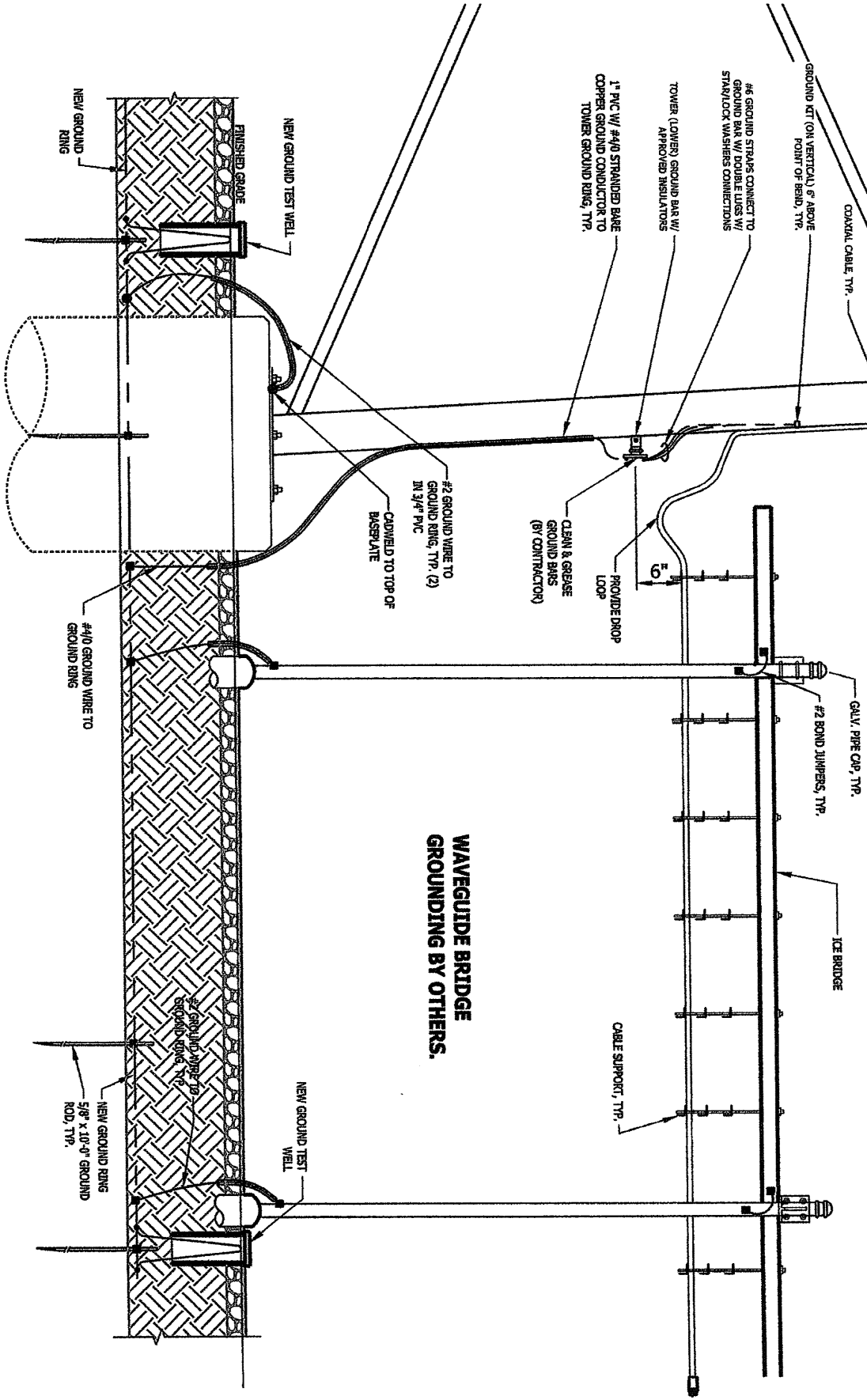
[illegible]

11/12/66  
J. S. P. J. L.

**PROPOSED MICROWAVE  
BACKHAUL PROJECT**

## GROUNDING DETAILS

170



2. CONTRACTOR TO COORD.  
GROUND BAR SIZE  
REQUIREMENTS FOR SECTOR  
AND MAIN GROUND BARS  
WITH ROYAL STREET  
COMMUNICATIONS CPM.

**GENERIC GROUNDING DETAIL**

**TOWER BASE**

**A** N.T.S.