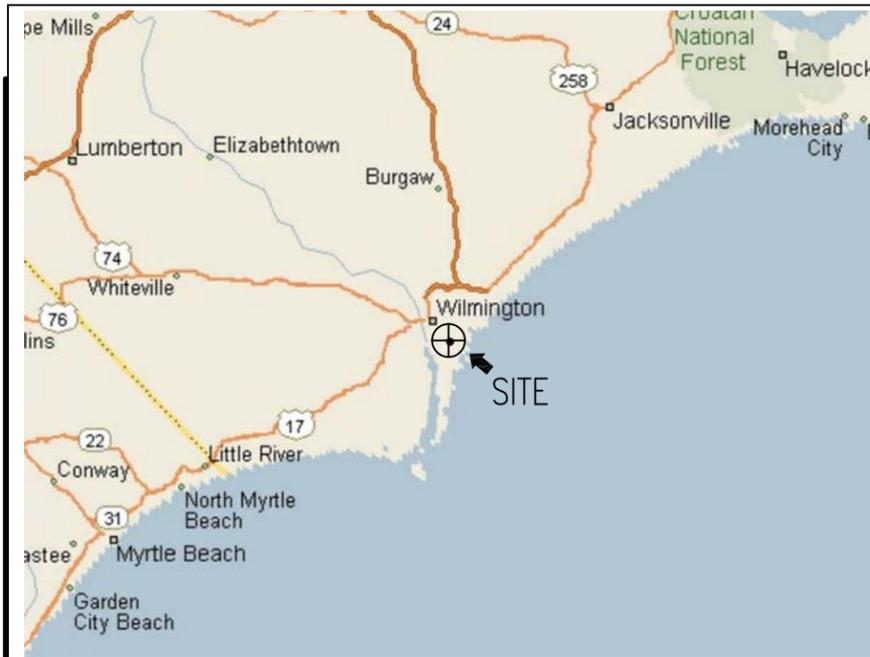
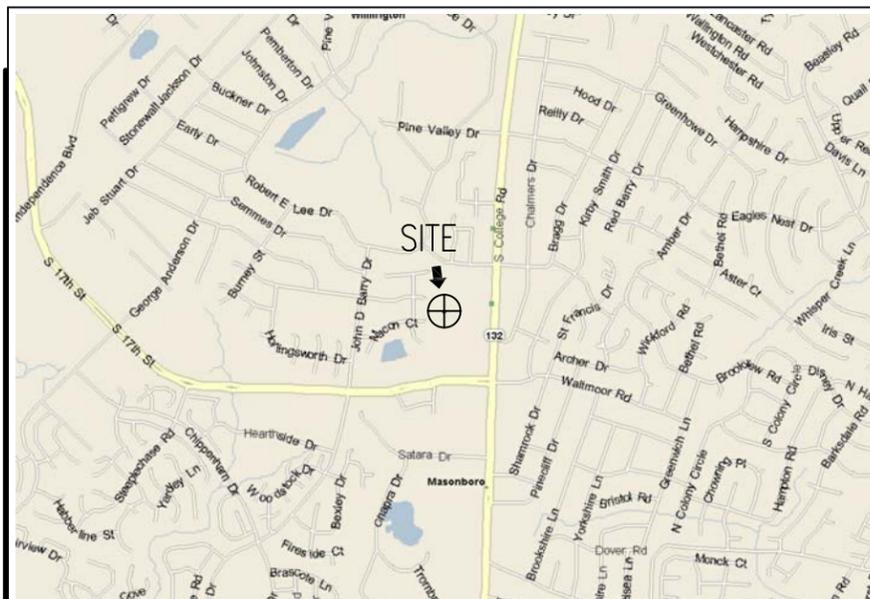




ATC SITE NUMBER: **273130** ATC SITE NAME: **NEW HANOVER NC**



VICINITY MAP SCALE: 1" = 30 MILES NORTH

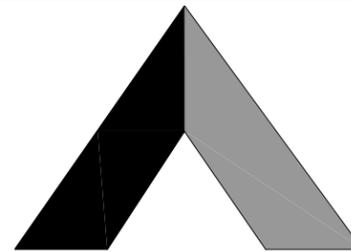


LOCAL MAP SCALE: 1" = 3000' NORTH

DIRECTIONS TO SITE:
 FROM I-95 SOUTH OF LUMBERTON, NC EXIT #14 EAST ON US74 FOR APPROX 75 MILES TO CAPE FEAR RIVER BRIDGE. US76 JOINS US74 AT WHITEVILLE. CROSS RIVER AND PROCEED APPROX. 4 MILES EAST ON US76 TO COLLEGE ROAD. TURN RIGHT (S) TO COLLEGE AND PROCEED APPROX. 2.35 MILES TO 3534 SOUTH COLLEGE ROAD. SITE IS WEST (BEHIND) OF BUILDING. ACCESS IS A PUBLIC ROAD BEHIND BUILDINGS TO 17TH STREET.



at&t



AMERICAN TOWER CORPORATION

PROPOSED 150' UNIPOLE IN A RAWLAND LEASE AREA

AT&T SITE NUMBER: 478-103

CALL NORTH CAROLINA ONE-CALL CENTER FOR UNDERGROUND UTILITIES PRIOR TO DIGGING (800) 632-4949

DIG ALERT:

EMERGENCY:

CALL 911

APPROVAL			
OWNER'S AGENT APPROVAL	SIGNATURE	PHONE NUMBER	DATE
ATC CONSTRUCTION COORDINATOR	SIGNATURE	PHONE NUMBER	DATE
ATC APPROVAL	SIGNATURE	PHONE NUMBER	DATE

SET NO.	DESCRIPTION	BY	DATE	SET NO.	DESCRIPTION	BY	DATE
1	NEW TOWER TYPE & LOCATION, ETC.	AGT	08-29-11	5			
2	REVISED RF CONFIG	AGT	08-31-11	6			
3	JURISDICTION COMMENTS	AGT	09-10-13	7			
4	JURISDICTION COMMENTS	AGT	12-30-13	8			

ARCHITECT AND ELECTRICAL ENGINEER:
 BC ARCHITECTS ENGINEERS, PLC
 5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000 CONTACT: CHRIS MORIN
 FAX: (703) 671-6300

SURVEYOR:
 STAR SURVEY, INC.
 702 EDGEFIELD ROAD
 NORTH AUGUSTA, SC 29841
 TEL: (803) 613-0377 CONTACT: RONALD D. PLATNER
 FAX: (803) 613-0378

SOIL ENGINEER:
 NOT APPLICABLE

STRUCTURAL ENGINEER:
 BC ARCHITECTS ENGINEERS, PLC
 5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000 CONTACT: CHRIS MORIN
 FAX: (703) 671-6300

UTILITIES:
 POWER COMPANY:
 COMPANY NAME: PROGRESS ENERGY CAROLINAS, INC.
 CONTACT: CUSTOMER SERVICE
 TEL: (800) 452-2777
 FAX: -

TELEPHONE COMPANY:
 COMPANY NAME: AT&T
 CONTACT: CUSTOMER SERVICE
 TEL: (866) 620-6000
 FAX: -

SITE NAME:
 NEW HANOVER NC

PROPERTY OWNER:
 CURTIS M & JACQUELINE N. DAIL
 11976 BENSON ROAD
 GARNER, NC 27529
 CONTACT: DONNA CULBRETH, R.E. AGENT
 TEL: (910) 323-1241

SITE NUMBER:
 273130

SITE ADDRESS:
 3509 PEEL ST.
 WILMINGTON, NC 28412

APPLICANT BUILDING INFO:
 AMERICAN TOWER CORP.
 496 LONG POINT ROAD
 MOUNT PLEASANT, SC 29464
 TEL: (843) 971-8385 CONTACT: JASON GROSECLOSE
 FAX: (843) 971-8889 TEL: (843) 224-3778

PROJECT DESCRIPTION:
 AN UNMANNED RADIO TELECOMMUNICATIONS FACILITY
 CONSISTING OF A 150 FT. UNIPOLE IN A RAWLAND LEASE AREA

ADA COMPLIANCE:
 FACILITY IS UNMANNED AND NOT
 FOR HUMAN HABITATION

PROJECT DATA:
 ZONING: CB (COMMERCIAL BUSINESS)
 JURISDICTION: CITY OF WILMINGTON
 TAX PARCEL NO: R06600-001-005-006
 LEASE AREA: 80'x80' (6,400 S.F.)

GEOGRAPHIC COORDINATES:
 LATITUDE: 34° 10' 43.820" (NAD 83)
 LONGITUDE: 77° 53' 37.581" (NAD 83)
 1A GROUND ELEVATION: 47.46' AMSL (NAVD 88)

SHEET NUMBER:	DESCRIPTION:
T-1	TITLE SHEET, VICINITY MAP AND GENERAL INFORMATION
C1	SURVEY
C2	SURVEY
A-0	SITE PLAN
A-1	ENLARGED SITE PLAN
A-2	TOWER ELEVATION
A-3	FENCE & GATE DETAILS
A-4	DETAILS
A-5	LEGEND & ROAD DETAILS
A-6	SHELTER LAYOUT & ELEVATIONS
A-7	SHELTER DETAILS
A-8	ICEBRIDGE DETAILS
A-9	ANTENNA DETAILS
A-10	GENERATOR PAD DETAILS
G-1	GRADING PLAN
G-2	EROSION & SEDIMENT CONTROL DETAILS
E-1	LANDSCAPING PLAN
E-2	EXISTING TREE SURVEY/REMOVAL PLAN
E-3	UTILITY & GROUNDING PLAN
E-4	ENLARGED GROUNDING PLAN
E-5	AT&T ELECTRICAL DETAILS
E-6	AT&T ELECTRICAL DETAILS
E-7	AT&T ELECTRICAL DETAILS
E-8	AT&T ELECTRICAL DETAILS
E-9	AT&T ELECTRICAL DETAILS
E-10	ELECTRICAL DETAILS
E-11	ELECTRICAL DETAILS
E-12	SHARED GENERATOR ELECTRICAL DETAILS
E-13	ELECTRICAL DETAILS
E-14	ATS DETAIL
E-15	CT SPEC'S SHEET
E-16	DISTRIBUTION PANEL DIAGRAM & NOTES
E-17	ATS H-FRAME LAYOUT
E-18	GENERATOR INSTALLATION ADDENDUM ELECTRICAL NOTES
SP-1	SPECIFICATIONS
SP-2	SPECIFICATIONS

ISSUED FOR CONSTRUCTION

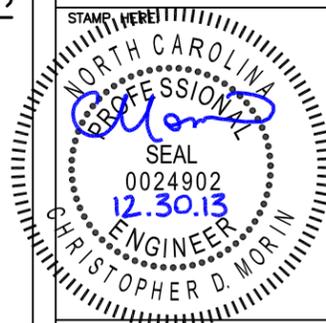


THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER CORPORATION AND THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. REUSE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED EXCEPT BY WRITTEN PERMISSION FROM AMERICAN TOWER CORPORATION TITLE TO THESE PLANS AND/OR SPECIFICATIONS SHALL REMAIN WITH AMERICAN TOWER CORPORATION WITHOUT PREJUDICE AND VISUAL CONTACT WITH THEM SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.



SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	TEXT EDIT	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER: **273130**
 ATC SITE NAME: **NEW HANOVER NC**
 SITE ADDRESS: **3509 PEEL ST. WILMINGTON, NC 28412**

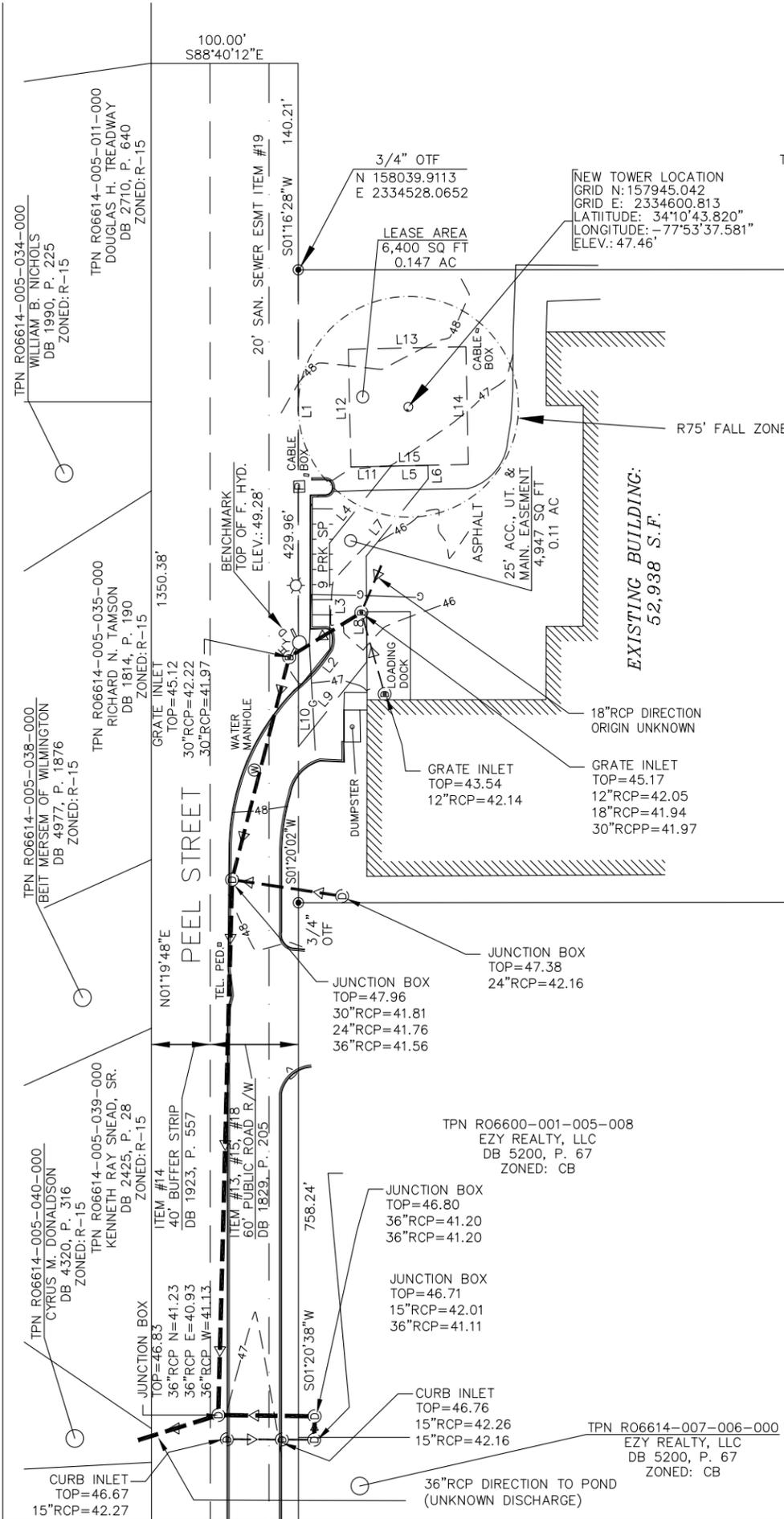


DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
TITLE SHEET, VICINITY MAP AND GENERAL INFORMATION

SHEET NUMBER:	REV. #
T-1	3

12-30-13 ARNOLD 14:35:46 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/T1.dwg



TPN R06600-001-025-000
CAPE FEAR PUBLIC
UTILITY AUTHORITY
DB 5330, P. 1654
ZONED: CB

TPN R06600-001-026-000
LEEBART PROPERTIES, LLC
DB 2519, P. 898
ZONED: CB

5.5+- ACRES
TPN R06600-001-005-006
CURTIS M. DAIL
JACQUELINE N. GARNER
DB 5057, P. 1292
ZONED: CB

TPN R06600-001-005-011
BEANT, LLC
DB 2540, P. 373
ZONED: CB

TPN R06614-005-002-000
TRASK D. WEBSTER, ET AL
DB 1318, P. 398
ZONED: CB

TPN R06610-006-015-001
PLAN B OF WILMINGTON, LLC
DB 4788, P. 409
ZONED: CB

TPN R06600-001-005-008
EZY REALTY, LLC
DB 5200, P. 67
ZONED: CB

TPN R06614-007-006-000
EZY REALTY, LLC
DB 5200, P. 67
ZONED: CB



LINE	BEARING	LENGTH
L1	S01°20'02\"W	284.24
L2	N40°13'20\"E	34.22
L3	N01°06'16\"E	71.86
L4	N40°07'54\"E	67.17
L5	S89°52'54\"E	25.00
L6	S00°07'06\"W	9.10
L7	S40°07'54\"W	67.41
L8	S01°06'16\"W	71.89
L9	S40°13'20\"W	74.09
L10	N01°20'02\"E	39.82
L11	N89°52'54\"W	27.50
L12	N00°07'06\"E	80.00
L13	S89°52'54\"E	80.00
L14	S00°07'06\"W	80.00
L15	N89°52'54\"W	80.00

LEGEND

CH. LNK. FENCE	-o-	GROUND ROD	+
B. WIRE FENCE	-x-	PROP. CORNER	⊙
POWER LINE	-p-	POWER POLE	⊕
GAS LINE	-g-	PP W/ G. WIRE	⊕
SIGN	-p-	LIGHT POLE	⊕
FIRE HYDRANT	⊕	BM OR GPS PT	⊕
WATER VALVE	⊕	ELEC. RACK	⊕
WATER METER	⊕	GRATE	⊕
TELE. BOX	⊕	CONC. PAD	⊕
S.S. MH	⊕	EQUIP. PAD	⊕
STORM MH	⊕	POWER BOX	⊕

I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE CALCULATED BOUNDARY LINES OF THE LEASE SITE AND EASEMENT SHOWN HEREIN ARE EQUIVALENT TO THE CLASS "B" ACCURACY REQUIREMENTS AS SPECIFIED IN THE "MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN NORTH CAROLINA."

RONALD D. PLATNER, P.L.S. NO. L-3852



NOTES:

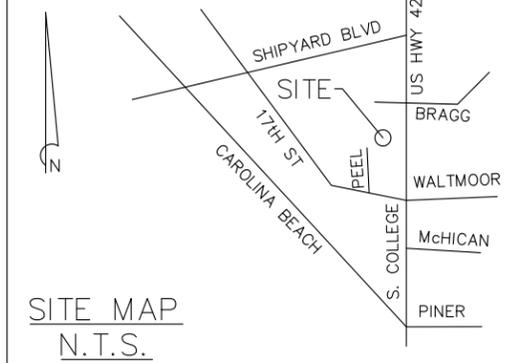
- THIS EXHIBIT REPRESENTS THE LEASE SITE AND ACCESS, UTILITY AND MAINTENANCE EASEMENTS ONLY AND IS NOT INTENDED FOR ANY OTHER USE.
- ALL BEARINGS ARE NORTH CAROLINA STATE GRID, ALL COORDINATES ARE NAD 83 AND ALL ELEVATIONS ARE NAVD 88.
- TAX MAP PARCEL NO. R06600-001-005-006
- RATIO OF PRECISION = 1/10,000.
- AREA BY COORDINATE METHOD.
- THE LOCATIONS OF ANY UNDERGROUND UTILITIES IF SHOWN ARE BASED ON PAINTED MARKINGS OBSERVED IN THE FIELD AND/OR ARE APPROXIMATE.

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	8/17/11	MOVE LEASE AREA	SCS
2	11/28/11	LABELLED STORM GRATE	SCS
3	09/10/13	REORIENT NORTH	SCS

REFERENCE:

PLAT FOR COLLEGE ROAD PROPERTIES BY SHERWIN D. CRIBB, 7/21/99, MB 39, P. 88



NOTE:

THIS SURVEY DOES NOT REPRESENT A BOUNDARY SURVEY BY RD PLATNER, PLS. PROPERTY LINES WERE TAKEN FROM EXISTING FIELD EVIDENCE. EXISTING DEEDS AND PLATS OF PUBLIC RECORD FROM SURVEYS AND DOCUMENTS PROVIDED TO THE SURVEYOR BY THE OWNER OR CLIENT.

I HEREBY CERTIFY THAT I HAVE CONSULTED THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP NO. 372031 3500 J DATED 4/3/06; AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THE SUBJECT PROPERTY IS LOCATED IN "ZONE X" WHICH IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE A, B, OR V.

LEASE SITE AND ACCESS, UTILITY, & MAINTENANCE EASEMENT EXHIBIT

PREPARED FOR

AMERICAN TOWER CORP.

SITE INFORMATION:
NEW HANOVER
TOWER SITE
SITE ID#: 273130
WILMINGTON
NEW HANOVER COUNTY, NC

R.D. PLATNER, PLS.

114 MAY MORNING DRIVE
LEXINGTON, S.C. 29073
TELE. (803) 315-1238

SCALE: 0' 50' 100' 200'
1" = 100'

DRAWING NAME	DATE	SHEET NO.
102894.DWG	2/15/10	C1
PROJECT NO.	FIELD BOOK NO.	
102894	(SEE FILE)	

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
 COMMITMENT No. 27-21277960, EFFECTIVE DATE : 3/22/10 at 7:00 A.M.

EXHIBIT "A"
 SITUATE IN THE COUNTY OF NEW HANOVER, STATE OF NORTH CAROLINA:

BEGINNING AT THE POINT OF INTERSECTION OF THE WESTERN LINE OF A 40 FOOT WIDE BUFFER, AS SHOWN IN DEED BOOK 1923, PAGE 557, AND IN MAP BOOK 39, PAGE 88, NEW HANOVER COUNTY REGISTER OF DEEDS' OFFICE, AND THE NORTHERN RIGHT-OF-WAY LINE OF THE 17TH STREET EXTENSION AND RUNNING THENCE ALONG AND WITH THE WESTERN LINE OF THE 40 FOOT WIDE BUFFER NORTH 05°12'00" EAST 1,350.13 FEET TO A POINT IN THE WESTERN LINE OF THE 40 FOOT WIDE BUFFER; THENCE ACROSS SAID 40 FOOT WIDE BUFFER AND A 60 FOOT WIDE PUBLIC ROAD RIGHT-OF-WAY SOUTH 84°48'00" EAST 100.11 FEET TO A POINT IN THE EASTERN LINE OF SUCH 60 FOOT WIDE PUBLIC RIGHT-OF-WAY, AS SHOWN IN DEED BOOK 1829, PAGE 205, NEW HANOVER COUNTY REGISTER OF DEEDS' OFFICE; THENCE ALONG AND WITH THE EASTERN LINE OF SUCH 60 FOOT WIDE PUBLIC RIGHT-OF-WAY SOUTH 05°08'40" WEST 140.22 FEET TO A POINT; THENCE LEAVING THE EASTERN LINE OF SAID 60 FOOT WIDE PUBLIC RIGHT-OF-WAY AND RUNNING THENCE SOUTH 84°50'49" EAST 483.47 FEET TO A POINT; THENCE SOUTH 84°52'17" EAST 59.94 FEET TO A POINT LOCATED IN THE NORTHWEST CORNER OF PROPERTY NOW OR FORMERLY OWNED BY WEBSTER D. TRASK, AS SHOWN IN DEED BOOK 1318, PAGE 398, NEW HANOVER REGISTER OF DEEDS' OFFICE; THENCE SOUTH 05°12'16" WEST 134.94 FEET TO A POINT; THENCE SOUTH 05°21'49" WEST 120.22 FEET TO A POINT; THENCE SOUTH 84°57'35" EAST 35.20 FEET TO A POINT; THENCE SOUTH 05°21'17" WEST 175.02 FEET TO A POINT; THENCE NORTH 84°47'02" WEST 578.03 FEET TO A POINT IN THE EASTERN LINE OF THE AFORESAID 60' WIDE PUBLIC RIGHT-OF-WAY; THENCE ALONG AND WITH THE EASTERN LINE OF SUCH 60' WIDE PUBLIC ROAD RIGHT-OF-WAY SOUTH 05°12'00" WEST 758.44 FEET TO A POINT IN THE NORTHERN LINE OF 17TH STREET EXTENSION; THENCE ALONG AND WITH THE NORTHERN LINE OF THE 17TH STREET EXTENSION SOUTH 82°46'52" WEST 30.72 FEET TO A CONCRETE MONUMENT; THENCE CONTINUING WITH THE NORTHERN LINE OF 17TH STREET EXTENSION SOUTH 82°46'52" WEST 71.68 FEET TO THE POINT AND PLACE OF BEGINNING AND BEING ALL OF AN 8.577 ACRE+- TRACT TOGETHER WITH A PORTION OF THE AFOREMENTIONED 40 FOOT WIDE BUFFER AND THE AFOREMENTIONED 60 FOOT WIDE PUBLIC ROAD RIGHT-OF-WAY.

THIS PROPERTY IS SHOWN ON A MAP OF SURVEY FOR CURTIS DAIL BY ROBERT H. GOSLEE & ASSOCIATES, PA, LAND SURVEYORS, DATED APRIL 13TH, 2005. AND IS ALSO REFERENCED AS TAX PARCEL NO. R06600-001-005-006, NEW HANOVER COUNTY PUBLIC RECORDS AND IS ALSO SHOWN AS TRACT 1-REDIVISION OF TRACTS 1 AND 3 FOR COLLEGE ROAD PROPERTIES, LLC, AS SHOWN IN MAP BOOK 39, PAGE 88, NEW HANOVER COUNTY REGISTER OF DEEDS' OFFICE.

ITEMS CORRESPONDING TO SCHEDULE B - SECTION II

8. EASEMENT TO CAROLINA POWER & LIGHT COMPANY, DATED 11/22/1968, RECORDED 12/9/1968 IN BOOK 846 PAGE 556 OF NEW HANOVER COUNTY RECORDS. (DEED TO VAGUE, UNPLOTTABLE)
9. MEMORANDUM OF LEASE, BY AND BETWEEN PINE VALLEY ASSOCIATES, LESSOR(S) AND PEOPLES SERVICE DRUG STORE, INCORPORATED, LESSEE(S), DATED 10/20/1982, RECORDED 1/18/1983, AS BOOK 1215 PAGE 799 OF NEW HANOVER COUNTY RECORDS. (NOT A SURVEY MATTER)
10. MEMORANDUM OF LEASE, BY AND BETWEEN PINE VALLEY ASSOCIATES, LESSOR(S) AND FOOD TOWN STORES, INC., LESSEE(S), DATED 10/15/1982, RECORDED 2/1/1983, AS BOOK 1216 PAGE 278 OF NEW HANOVER COUNTY RECORDS. (NOT A SURVEY MATTER)
11. EASEMENT TO CAROLINA POWER & LIGHT COMPANY, DATED 3/25/1983, RECORDED 4/21/1983 IN BOOK 1220 PAGE 1722 OF NEW HANOVER COUNTY RECORDS. (DEED TO VAGUE, UNPLOTTABLE)
12. RESTRICTIVE COVENANTS AS CONTAINED IN DEED DATED 11/29/1983, RECORDED 12/2/1983 IN BOOK 1239 PAGE 1773 OF NEW HANOVER COUNTY RECORDS. (NOT A SURVEY MATTER)
13. EASEMENT, CONSTRUCTION, MAINTENANCE AND REPAIR AGREEMENT, DATED 11/11/1994, RECORDED 11/15/1994, AS BOOK 1829 PAGE 188 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, MUTUAL ACCESS EASEMENT, AS SHOWN & LABELED)
14. LANDSCAPING MAINTENANCE AGREEMENT, DATED 8/20/1995, RECORDED 9/6/1995 IN BOOK 1923 PAGE 557 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, AS SHOWN & LABELED)
15. ACCESS TO SOUTH COLLEGE ROAD AS DESCRIBED IN DEED RECORDED IN BOOK 2024 PAGE 961 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, 60' PUBLIC ROAD R/W , AS SHOWN & LABELED)
16. SUBJECT TO COVENANTS, RESTRICTIONS, RESERVATIONS, EASEMENTS, RIGHTS OF WAY AND BUILDING SETBACKS AS SHOWN ON THE PLAT OF PINE VALLEY ESTATES, AS RECORDED IN PLAT BOOK 37, PAGE(S) 17 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT)
17. RECIPROCAL CROSS EASEMENT AGREEMENT, DATED 6/6/1997, RECORDED 6/9/1997 IN BOOK 2193 PAGE 199 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, ACCESS TO COLLEGE ROAD)
18. SUBJECT TO COVENANTS, RESTRICTIONS, RESERVATIONS, EASEMENTS, RIGHTS OF WAY AND BUILDING SETBACKS AS SHOWN ON THE PLAT OF REDIVISION OF TRACT 1 AND 3 FOR COLLEGE ROAD PROPERTIES, LLC, AS RECORDED IN PLAT BOOK 39, PAGE(S) 88 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, 60' PUBLIC ROAD R/W , AS SHOWN & LABELED)
19. GENERAL UTILITY EASEMENT TO THE CITY OF WILMINGTON, DATED 11/18/1999, RECORDED 11/18/1999 IN BOOK 2669 PAGE 360 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, SANITARY SEWER EASEMENT, AS SHOWN & LABELED)
20. RECIPROCAL CROSS EASEMENT AGREEMENT, DATED 8/5/1999, RECORDED 12/23/1999 IN BOOK 2684 PAGE 265 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT, ACCESS TO COLLEGE ROAD)
21. AGREEMENT ACKNOWLEDGING AND ALLOCATIONS SIGNAGE RIGHTS, DATED 12/10/1999, RECORDED 12/23/1999 IN BOOK 2684 PAGE 282 OF NEW HANOVER COUNTY RECORDS. (DOES NOT APPLY OR AFFECT)

LEGAL DESCRIPTION

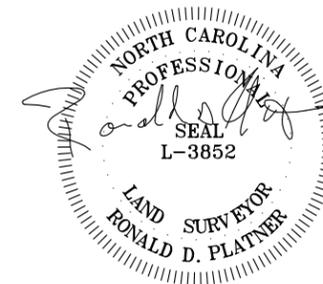
Portions of that certain piece, parcel or lot of land, situate, lying, and being in Wilmington, in the County of New Hanover, in the State of North Carolina, being the property of Curtis M. Dail & Jacqueline N. Garner, also known as Tax Parcel No. R06600-001-005-006 and being more fully shown and designated on the "Lease Site and Access, Utility & Maintenance Exhibit", prepared by Star Survey, Inc., dated February 15, 2010, and having the following metes and bounds to wit:

LEASE AREA

Starting at a 3/4" open top pipe on the eastern right-of-way of 60' public road right-of-way at the intersection of Tax Parcel No. R06600-001-005-006 and Tax Parcel No. R06600-001-025-000, thence along said right-of-way S01°20'02"W for a distance of 284.24 feet to a point, thence leaving said right-of-way N40°13'20"E for a distance of 34.22 feet to a point, thence N01°06'16"E for a distance of 71.86 feet to a point, thence N40°07'54"E for a distance of 67.17 feet to a point, thence N89°52'54"W for a distance of 27.50 feet to a point, said point being the True Point of Beginning of the Lease Area: thence N00°07'06"E for a distance of 80.00 feet to a point, thence S89°52'54"E for a distance of 80.00 feet to a point, thence S00°07'06"W for a distance of 80.00 feet to a point, thence N89°52'54"W for a distance of feet to a point, said point being the Point of Beginning of the Lease Area, containing 6,400 square feet/0.147 acres.

25' ACCESS, UTILITY & MAINTENANCE EASEMENT

Starting at a 3/4" open top pipe on the eastern right-of-way of 60' public road right-of-way at the intersection of Tax Parcel No. R06600-001-005-006 and Tax Parcel No. R06600-001-025-000, thence along said right-of-way S01°20'02"W for a distance of 284.24 feet to a point, said point being the True Point of Beginning of the 25' Access, Utility & Maintenance Easement: thence leaving said right-of-way N40°13'20"E for a distance of 34.22 feet to a point, thence N01°06'16"E for a distance of 71.86 feet to a point, thence N40°07'54"E for a distance of 67.17 feet to a point, thence S89°52'54"E for a distance of 25.00 feet to a point, thence S00°07'06"W for a distance of 9.10 feet to a point, thence S40°07'54"W for a distance of 67.41 feet to a point, thence S01°06'16"W for a distance of 71.89 feet to a point, thence S40°13'20"W for a distance of 74.09 feet to a point on the eastern right-of-way of 60' public road right-of-way, thence along said right-of-way N01°20'02"E for a distance of 39.82 feet to a point, said point being the True Point of Beginning of the 25' Access, Utility & Maintenance Easement, containing 4,947 square feet/0.11 acres.



I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE CALCULATED BOUNDARY LINES OF THE LEASE SITE AND EASEMENT SHOWN HEREIN ARE EQUIVALENT TO THE CLASS "B" ACCURACY REQUIREMENTS AS SPECIFIED IN THE "MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN NORTH CAROLINA."

RONALD D. PLATNER, P.L.S. NO. L-3852

REVISIONS			
1	8/17/11	REVISED LEGAL DESCRIPTIONS	SCS
NO.	DATE	DESCRIPTION	BY

- NOTES:
- 1) THIS EXHIBIT REPRESENTS THE LEASE SITE AND ACCESS, UTILITY AND MAINTENANCE EASEMENTS ONLY AND IS NOT INTENDED FOR ANY OTHER USE.
 - 2) ALL BEARINGS ARE NORTH CAROLINA STATE GRID, ALL COORDINATES ARE NAD 83 AND ALL ELEVATIONS ARE NAVD 88.
 - 3) TAX MAP PARCEL NO. R06600-001-005-006
 - 4) RATIO OF PRECISION = 1/10,000.
 - 5) AREA BY COORDINATE METHOD.
 - 6) THE LOCATIONS OF ANY UNDERGROUND UTILITIES IF SHOWN ARE BASED ON PAINTED MARKINGS OBSERVED IN THE FIELD AND/OR ARE APPROXIMATE.

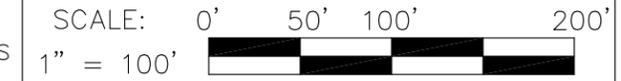
NOTE:
 THIS SURVEY DOES NOT REPRESENT A BOUNDARY SURVEY BY RD PLATNER, PLS. PROPERTY LINES WERE TAKEN FROM EXISTING FIELD EVIDENCE. EXISTING DEEDS AND PLATS OF PUBLIC RECORD FROM SURVEYS AND DOCUMENTS PROVIDED TO THE SURVEYOR BY THE OWNER OR CLIENT.

I HEREBY CERTIFY THAT I HAVE CONSULTED THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP NO. 372031 3500 J DATED 4/3/06: AND TO THE BEST OF MY KNOWLEDGE AND BELIEF THE SUBJECT PROPERTY IS LOCATED IN "ZONE X" WHICH IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE A, B, OR V.

LEASE SITE AND ACCESS, UTILITY, & MAINTENANCE EASEMENT EXHIBIT
 PREPARED FOR
 AMERICAN TOWER CORP.

SITE INFORMATION:
 NEW HANOVER
 TOWER SITE
 SITE ID#: 273130
 WILMINGTON
 NEW HANOVER COUNTY, NC

R.D. PLATNER, PLS.
 114 MAY MORNING DRIVE
 LEXINGTON, S.C. 29073
 TELE. (803) 315-1238



DRAWING NAME 102894.DWG	DATE 2/15/10	SHEET NO. C2
PROJECT NO. 102894	FIELD BOOK NO. (SEE FILE)	

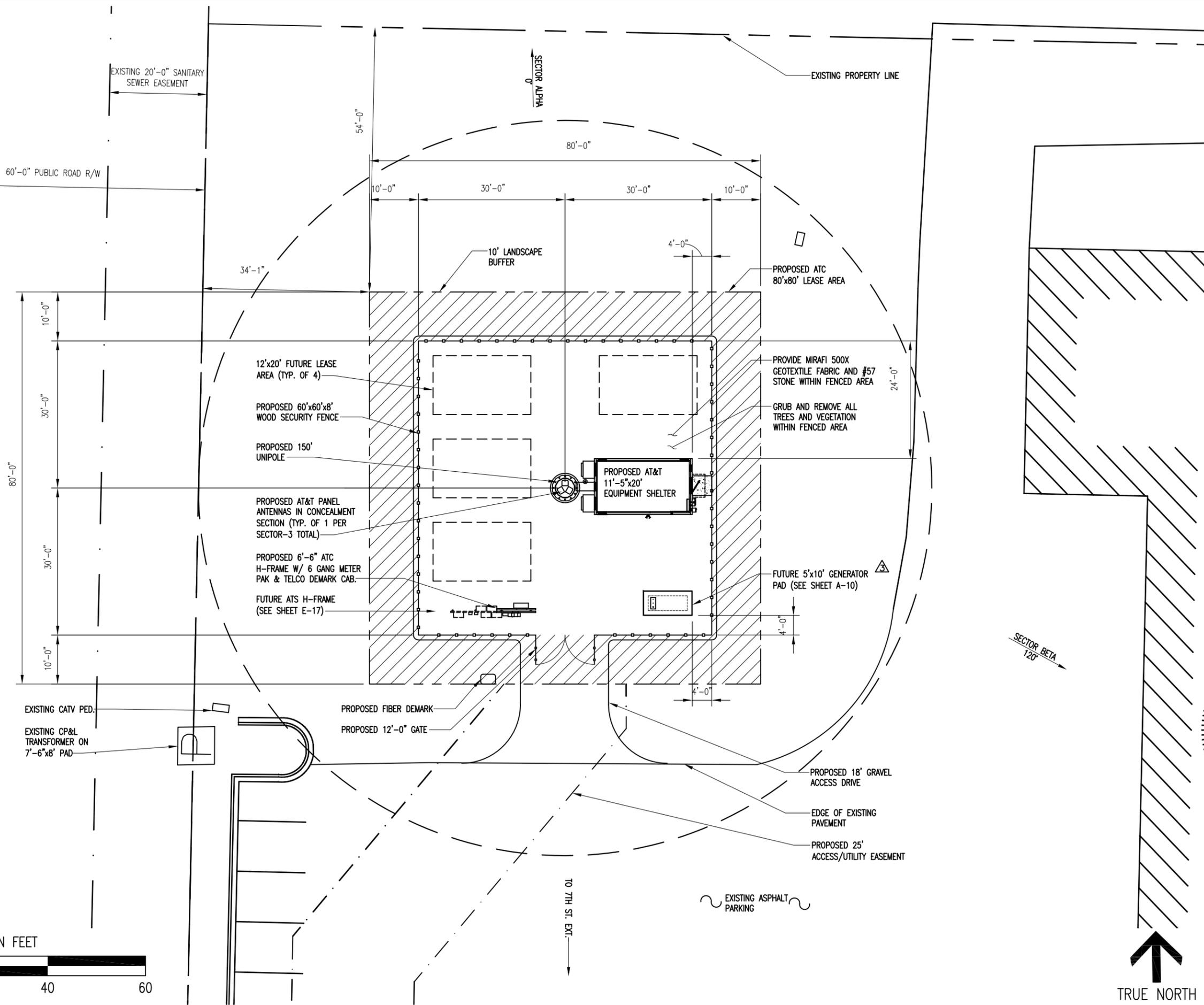
Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A1.dwg

12-30-13 ARNOLD 10:50:16

11'x17' - 1-20'
24'x36' - 1-10'



SCALE IN FEET



ENLARGED SITE PLAN



AMERICAN TOWER CORPORATION
496 LONG POINT ROAD
MOUNT PLEASANT, SC 29464
TEL.: (843) 971-8385
FAX: (843) 971-8889

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BC

architects
engineers
5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	JURIS. COMMENTS	AGT	09-10-13
3	JURIS. COMMENTS	AGT	12-30-13

ATC SITE NUMBER:
273130
ATC SITE NAME:
NEW HANOVER NC
SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412

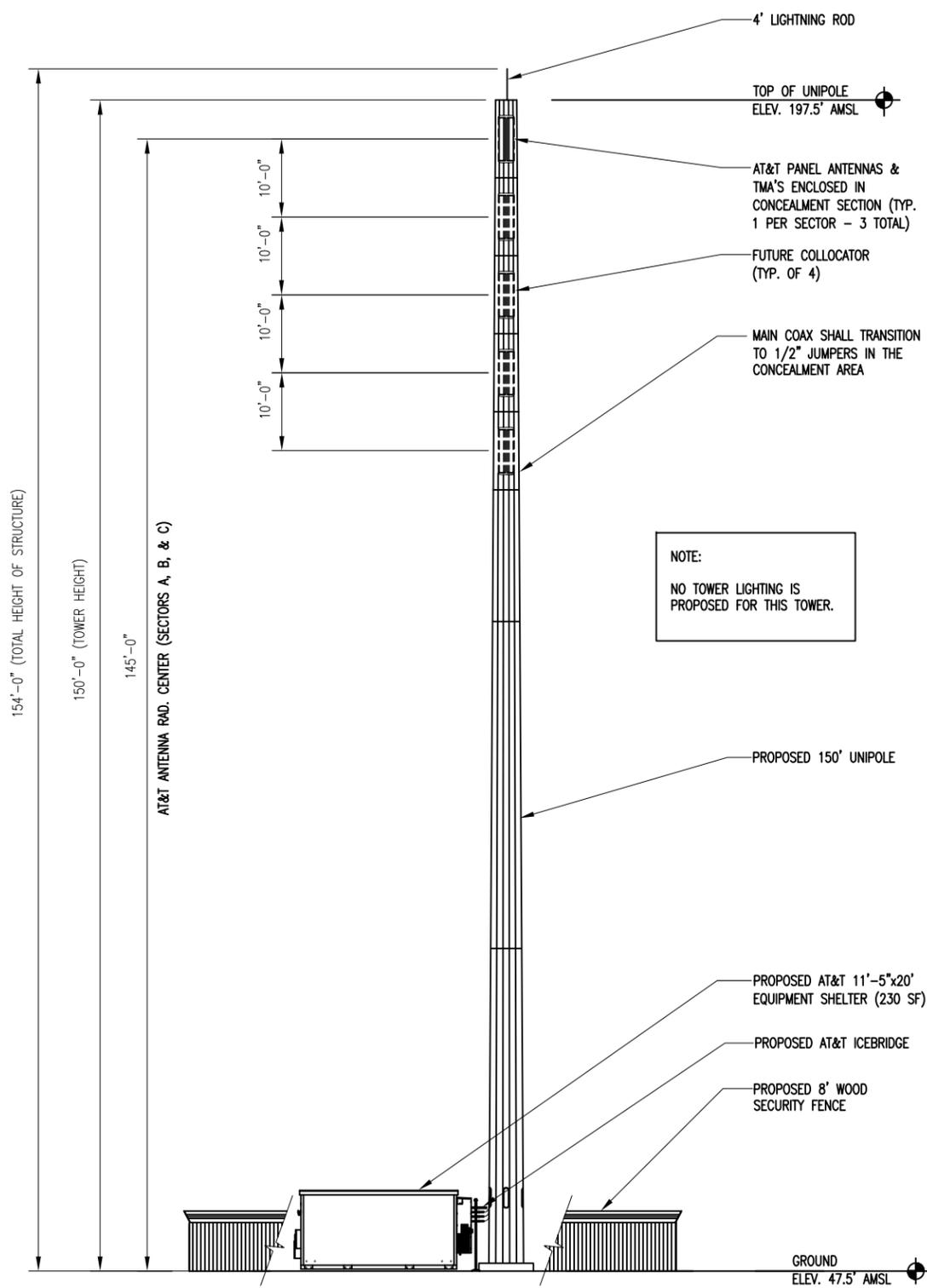


DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
ENLARGED SITE PLAN

SHEET NUMBER: **A-1** REV. # **3**

12-30-13 ARNOLD 10:50:39 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A2.dwg



NOTE:
NO TOWER LIGHTING IS PROPOSED FOR THIS TOWER.



154'-0" (TOTAL HEIGHT OF STRUCTURE)
150'-0" (TOWER HEIGHT)
145'-0"
AT&T ANTENNA RAD. CENTER (SECTORS A, B, & C)
PROPOSED 150' UNIPOLE
GROUND ELEV. 47.5' AMSL

INFORMATION
Federal Communications Commission
Tower Registration Number
1 2 3 4 5 6 7
Posted in accordance with Federal Communications Commission rules on antenna tower registration 47CFR 17.4 (g)

FCC REGISTRATION SIGN
WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

NOTICE
AUTHORIZED
PERSONNEL
ONLY

QTY: (4) EACH SIDE OF COMPOUND

DANGER
HIGH VOLTAGE
WITHIN
KEEP OUT

QTY: (1) MAIN COMPOUND GATE

AMERICAN TOWER CORPORATION

SITE NAME: _____
SITE NUMBER: _____
FCC REGISTRATION NUMBER: _____

FOR LEASING INFORMATION: 877-282-7483
877-ATC-SITE

IN CASE OF EMERGENCY: 877-518-6937
877-51-TOWER

NO TRESPASSING
www.americantower.com
POSTING OF THIS SIGN REQUIRED BY LAW

OWNER CONTACT SIGN
WHITE BACKGROUND, BLACK/RED LETTERING
MOUNTING LOCATION: GATE
QUANTITY: 1

Property of **at&t**

Authorized Personnel Only

In case of emergency, or prior to performing maintenance on this site, call (800) 298-3551 and reference cell site number 478-103

AT&T DOOR SIGN
1. INSTALL SIGN ON SHELTER DOOR.
2. SIGN CAN BE OBTAINED FROM ST. CLAIR SIGNS, INC. 3184 WADE HAMPTON BLVD. TAYLORS, SC 29687 (864) 244-0044

AMERICAN TOWER CORPORATION
496 LONG POINT ROAD
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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	SIGNS	AGT	12-30-13

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412

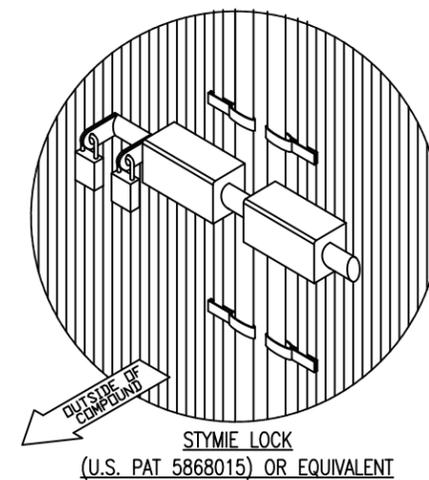
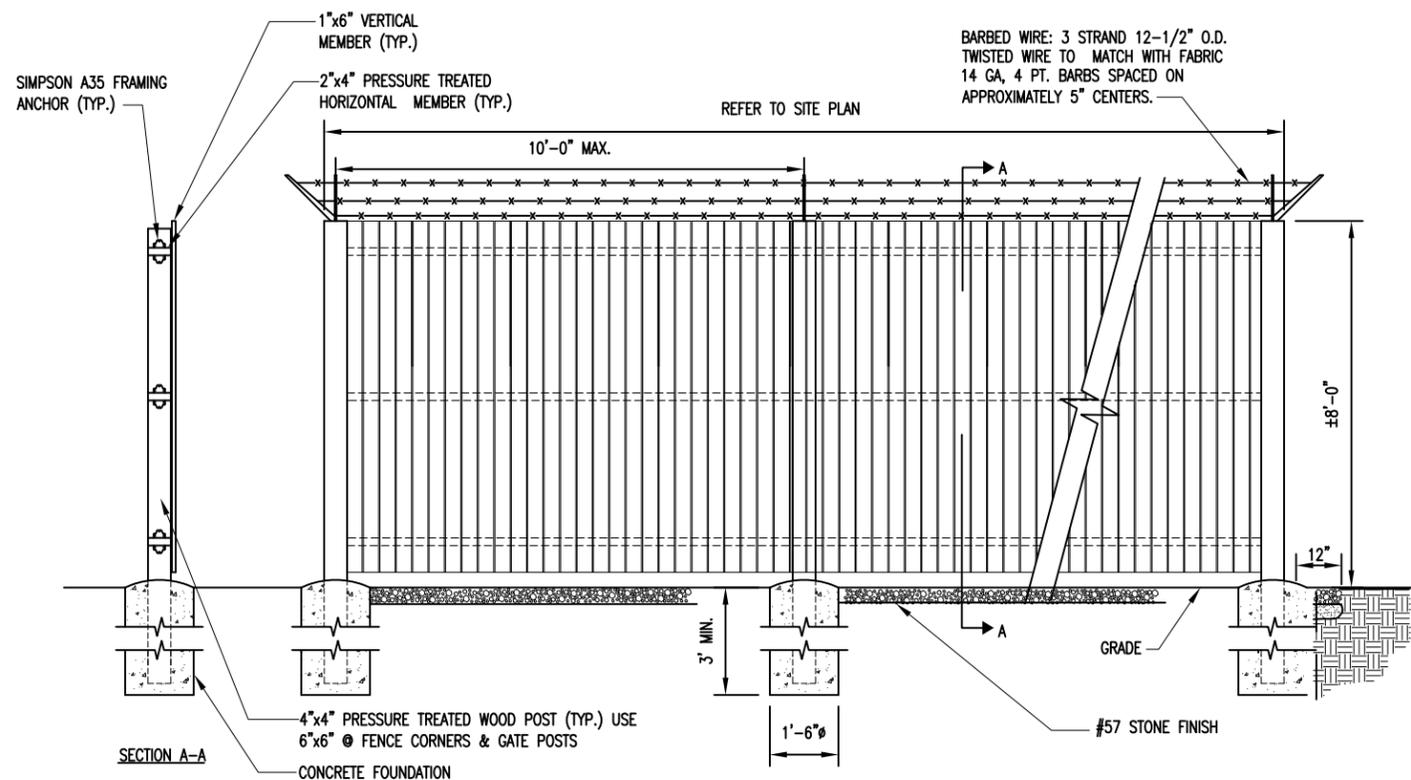
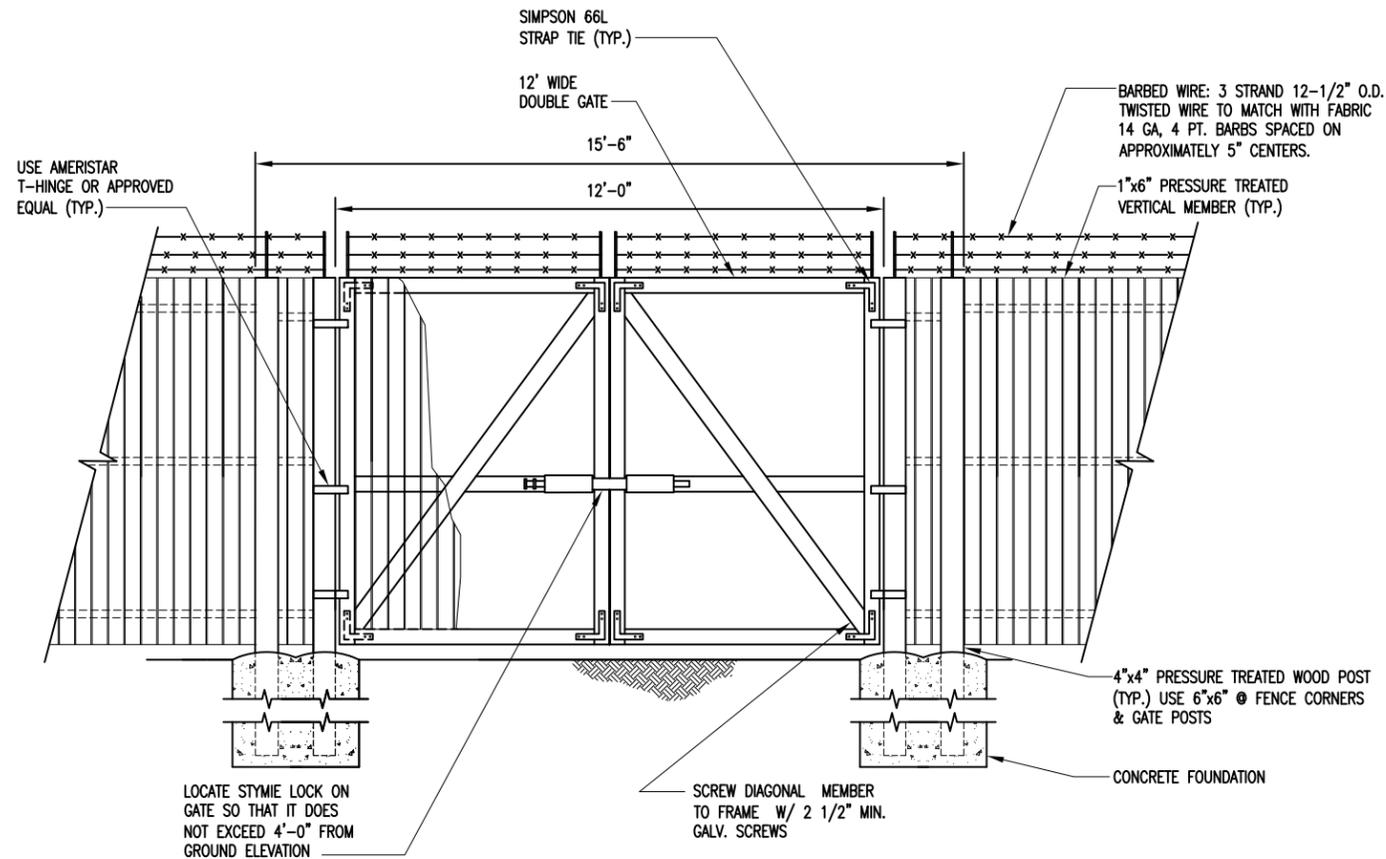


DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
TOWER ELEVATION & SIGNAGE SPECIFICATIONS

SHEET NUMBER: **A-2** REV. # **3**

12-30-13 ARNOLD 11:46:52 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A3.dwg



STORE EXTRA PARTS OF MULTI-LOCK DEVICE IN TELCO CABINET.

NO PLUNGER OR MUSHROOM REQUIRED.

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1	NEW LAYOUT/LOC.	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13
4			
5			

ATC SITE NUMBER:
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 WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

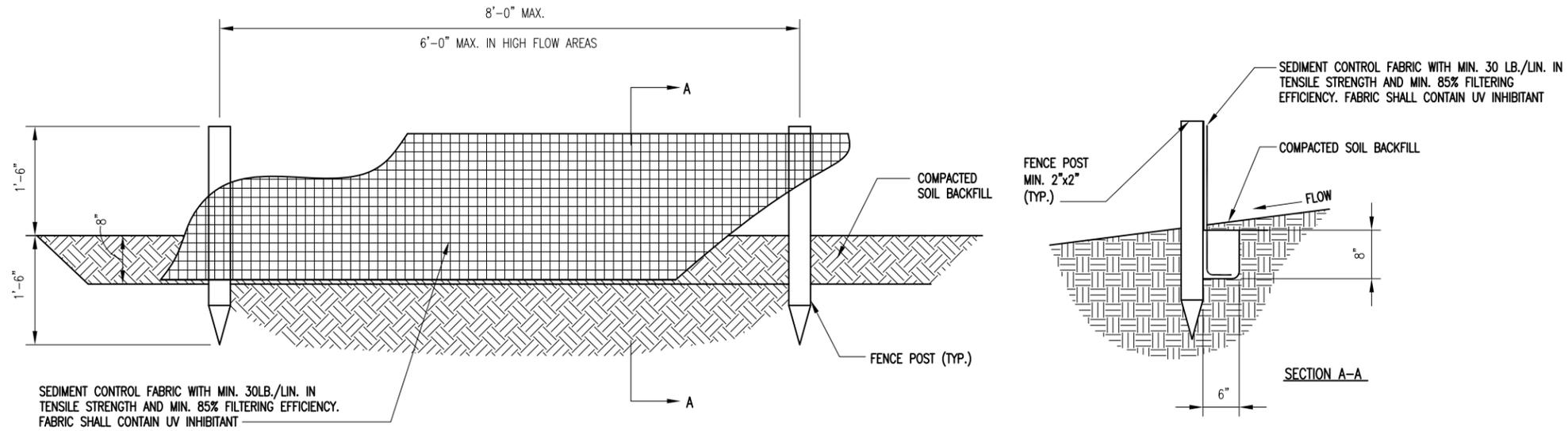
SHEET TITLE:
FENCE, GATE AND COMPOUND CROSS SECTION DETAIL

SHEET NUMBER: **A-3** REV. # **3**

N.T.S.

FENCE, GATE AND COMPOUND CROSS SECTION DETAIL

1



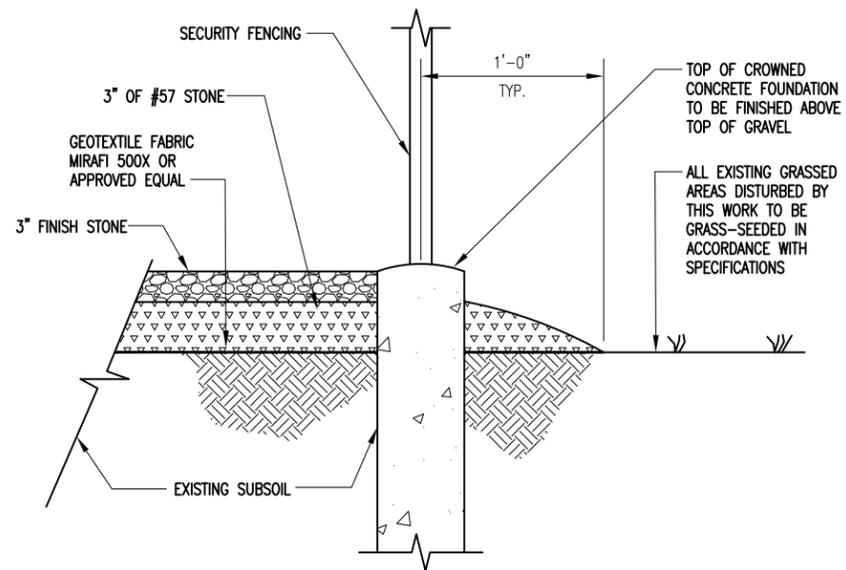
SEDIMENT CONTROL FABRIC WITH MIN. 30LB./LIN. IN TENSILE STRENGTH AND MIN. 85% FILTERING EFFICIENCY. FABRIC SHALL CONTAIN UV INHIBITANT

SILT FENCE DETAIL NOTE:
 CONTRACTOR SHALL PROVIDE SILT FENCES IN CONFORMANCE WITH APPLICABLE STATE AND LOCAL CODE REQUIREMENTS FOR SOIL EROSION CONTROL

N.T.S.

SILT FENCE DETAIL

1



N.T.S.

APRON DETAIL

2

AMERICAN TOWER CORPORATION
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SHEET REVISION			
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1	SITE NAME CHG.	AGT	09-10-13
2	ADDRESS CHG.	AGT	12-30-13
3			
4			
5			

ATC SITE NUMBER:
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3509 PEEL ST.
WILMINGTON, NC 28412



DRAWN BY:	AGT
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DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

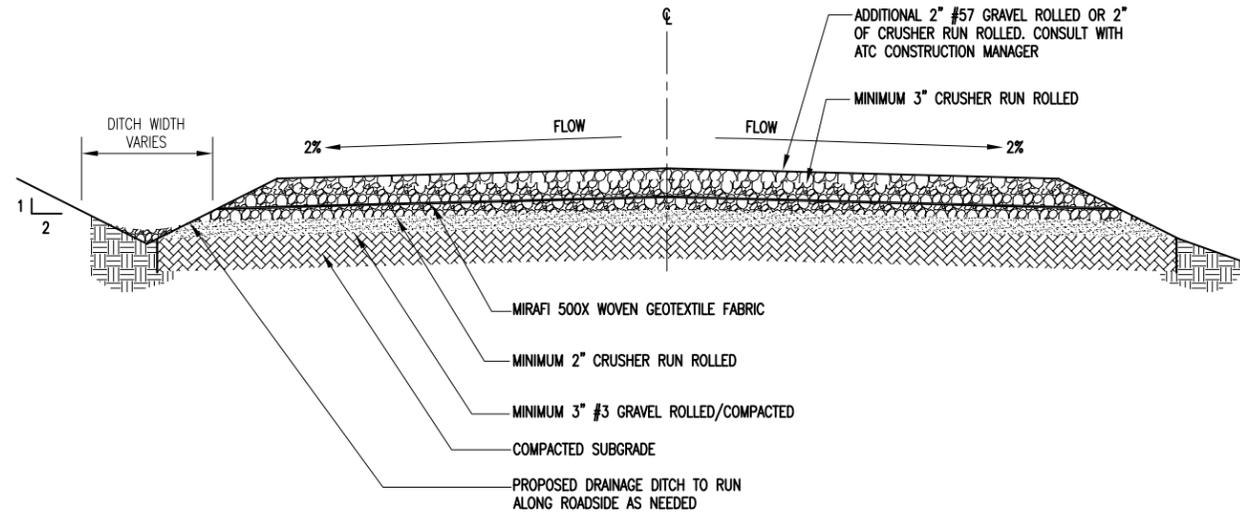
SHEET TITLE:
DETAILS

SHEET NUMBER: A-4	REV. # 2
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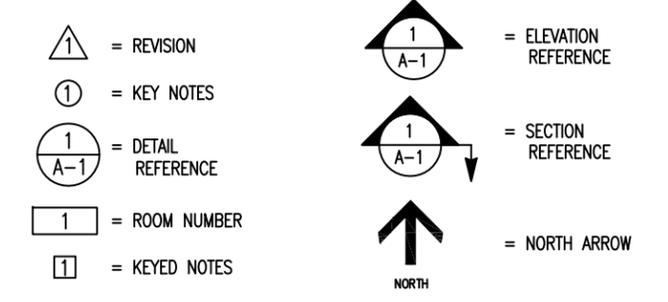
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Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A5.dwg

12-30-13 ARNOLD 10:51:41



1P, 2P, & 3P	SINGLE POLE, TWO POLE, & THREE POLES	NEUT.	NEUTRAL
A/C	AIR CONDITIONING	N	NORTH
ADJ.	ADJUSTABLE	NA	NOT APPLICABLE
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
APPROX.	APPROXIMATELY	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
AWG	AMERICAN WIRE GAUGE	OC, o/c	ON CENTER
A. OR AMP.	AMPERE	OD	OUTSIDE DIAMETER
BLDG.	BUILDING	OPG.	OPENING
BLK.	BLOCK	OPP	OPPOSITE
BMR	BASE MOBILE RADIO	OHT/OHP	OVERHEAD TELEPHONE/OVERHEAD POWER
B/S	BUILDING STANDARD	OHP	OVERHEAD POWER
CU.	COPPER	OHT	OVERHEAD TELEPHONE
C.O.	CONDUIT ONLY	PVC.	SCHEDULE 40 PLASTIC CONDUIT.
C.	CONDUIT SIZE AS NOTED	PLYWD.	PLYWOOD
C.B.	CIRCUIT BREAKER	PR	PAIR
CKT.	CIRCUIT	PROJ	PROJECT
CLG	CEILING	PROP	PROPERTY
CLR.	CLEAR	PT	PRESSURE TREATED
CONC.	CONCRETE	RECPT.	RECEPTACLE
CONST.	CONSTRUCTION	REQ'D	REQUIRED
CONT.	CONTINUOUS	RM	ROOM
C.F.C.I.	CONTRACTOR FURNISHED CONTRACTOR INSTALLED	R.O.	ROUGH OPENING
DBL.	DOUBLE	S	SOUTH
DIA., Ø	DIAMETER	SW.	SWITCH
DIAG.	DIAGONAL	SHT	SHEET
DIM.	DIMENSION	SIM.	SIMILAR
DN	DOWN	SPEC.	SPECIFICATION
DTL, DETL	DETAIL	SQ.	SQUARE
DWG.	DRAWING	SS	STAINLESS STEEL
DEF	DUAL ELEMENT FUSES	STL	STEEL
E	EAST	STRUCT.	STRUCTURAL
EA.	EACH	SUSP.	SUSPENDED
EL, ELEV	ELEVATION	S.V.	SHEET VINYL
ELECT	ELECTRICAL	THRU	THROUGH
EQ.	EQUAL	TND	TINNED
EQUIP.	EQUIPMENT	T.O.C.	TOP OF CONCRETE
E.W.	EACH WAY	T.O.M.	TOP OF MASONRY
EXIST.	EXISTING	TYP	TYPICAL
EXT	EXTERIOR	U.O.N.	UNLESS OTHERWISE NOTED
EMT.	ELECTRICAL METALLIC TUBING (THIN WALL)	UBC	UNIFORM BUILDING CODE
E.C.	ELECTRICAL CONTRACTOR	UGP	UNDERGROUND POWER
EGB	EQUIPMENT GROUND BUS	UGT	UNDERGROUND TELEPHONE
FIN.	FINISH	VERT.	VERTICAL
FLOUR.	FLUORESCENT	VIF	VERIFY IN FIELD
FLR	FLOOR	VT	VINYL TILE
FT.	FOOT	W	WEST
GRC.	GALVANIZED RIGID CONDUIT	W/	WITH
G. OR GRD.	GROUND	WIN	WINDOW
GA.	GAUGE	W/O	WITHOUT
GALV	GALVANIZE(D)	W.	WATTS
GC	GENERAL CONTRACTOR	W.P.	WEATHERPROOF
GWB	GYPSUM WALL BOARD	XFMR	TRANSFORMER
GYP. BD.	GYPSUM BOARD		
HARD'WD	HARDWOOD		
HORIZ.	HORIZONTAL	∠	ANGLE
HR	HOUR	&	AND
HT.	HEIGHT	CL	CENTER LINE
HVAC	HEATING, VENTING AND AIR CONDITIONING	PL	PROPERTY LINE
I.D.	INSIDE DIA.	⊙	AT
IN.	INCH	#	NUMBER
INFO	INFORMATION		
INSUL.	INSULATION	①	REVISION
INT.	INTERIOR	Ⓢ	KEY NOTES
KW.	KILOWATTS	Ⓢ/A-1	DETAIL REFERENCE
LB(S)	POUND(S)	1	ROOM NUMBER
MAX.	MAXIMUM	1	KEYED NOTES
MECH	MECHANICAL		
MET, MTL	METAL		
MFR.	MANUFACTURER		
MGR	MANAGER		
MIN.	MINIMUM		
MISC	MISCELLANEOUS		
MGB	MAIN GROUND BUS		
MTD.	MOUNTED		



AMERICAN TOWER CORPORATION
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 engineers

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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-10-13
2	JURISDICTION COM.	AGT	12-30-13
3			
4			
5			

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
 3509 PEEL ST.
 WILMINGTON, NC 28412

STAMP HERE

NORTH CAROLINA
 PROFESSIONAL
 SEAL
 0024902
 12.30.13
 ENGINEER
 CHRISTOPHER D. MORIN

DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
LEGEND & ROAD DETAILS

SHEET NUMBER: A-5	REV. # 2
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N.T.S.

ATC STANDARD ROAD CROSS SECTION

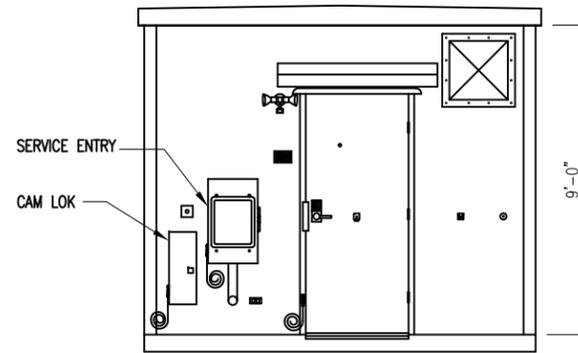
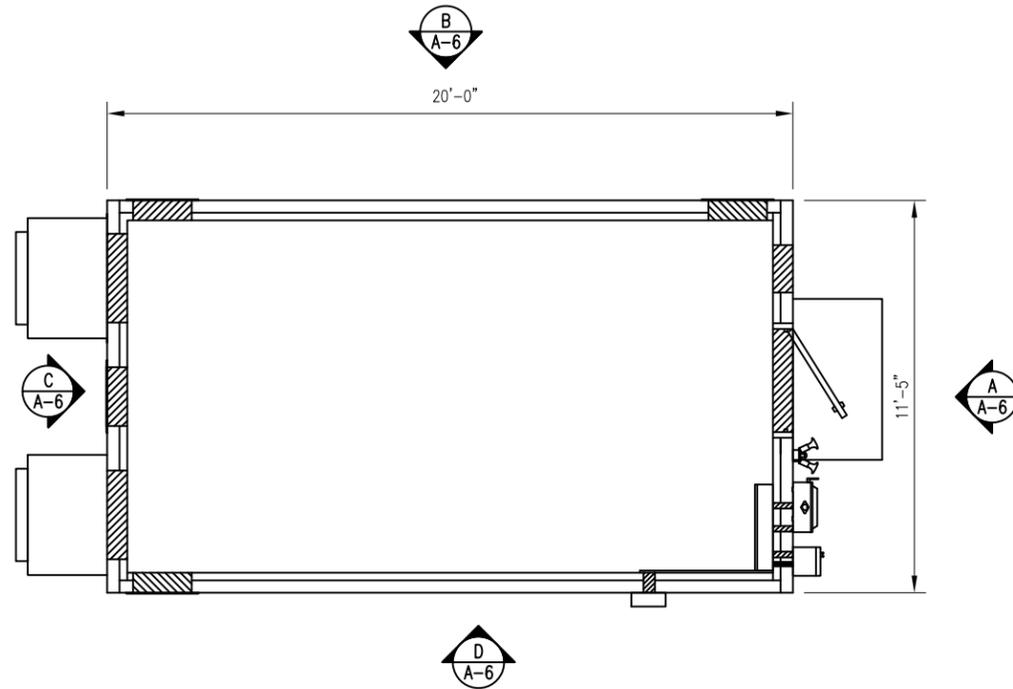
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N.T.S.

LEGEND

2

12-30-13 ARNOLD 10:52:02 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A6.dwg



N.T.S.

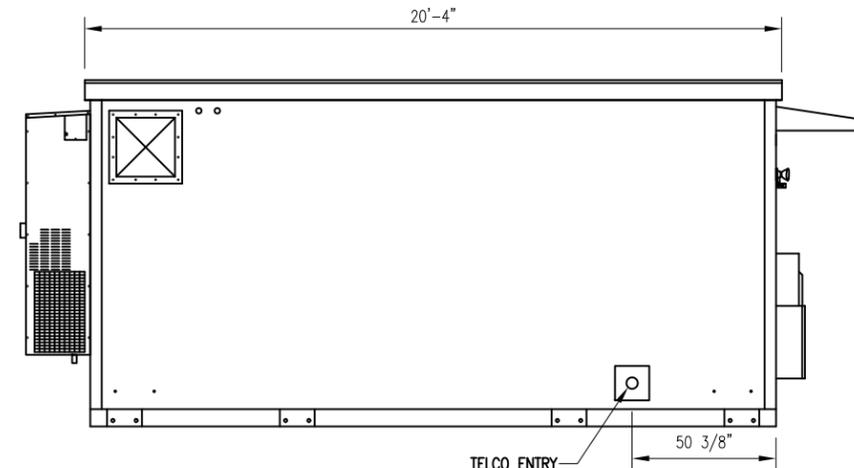
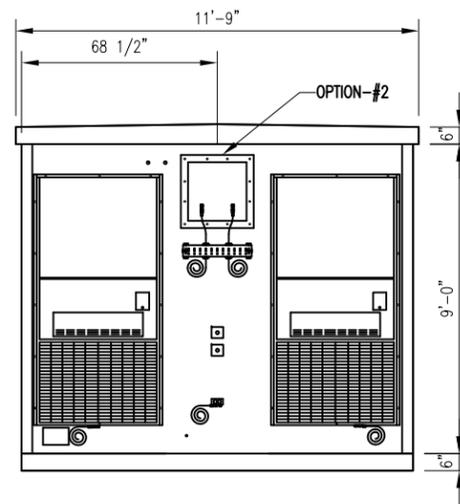
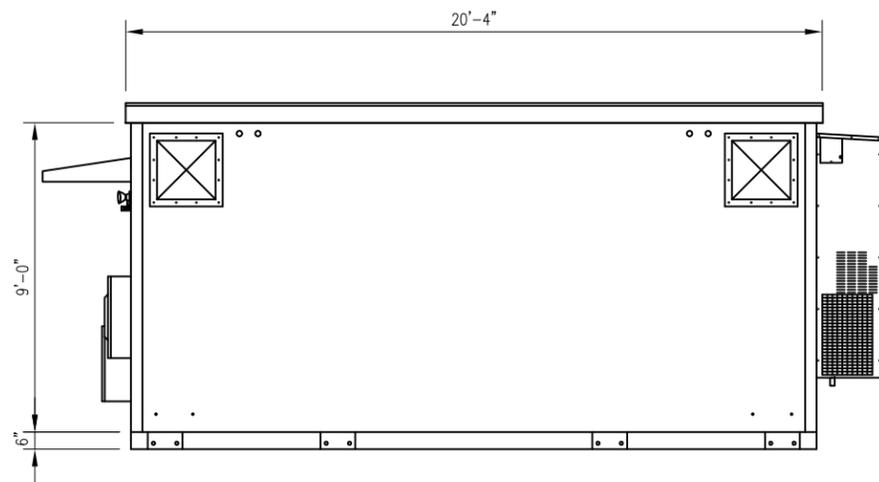
AT&T STANDARD FIBREBOND SHELTER

1

N.T.S.

ELEVATION

A



N.T.S.

ELEVATION

B

N.T.S.

ELEVATION

C

N.T.S.

ELEVATION

D

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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-10-13
2	END DOOR	AGT	12-30-13
3			
4			
5			

ATC SITE NUMBER:
273130
 ATC SITE NAME: **NEW HANOVER NC**
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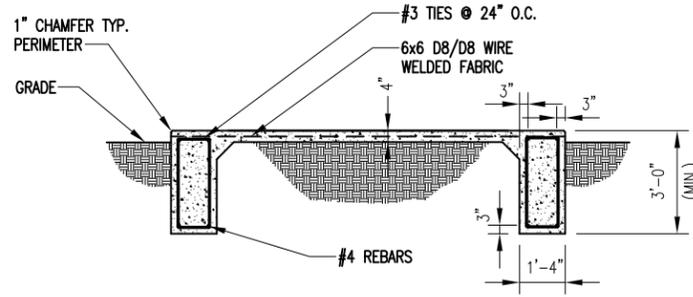
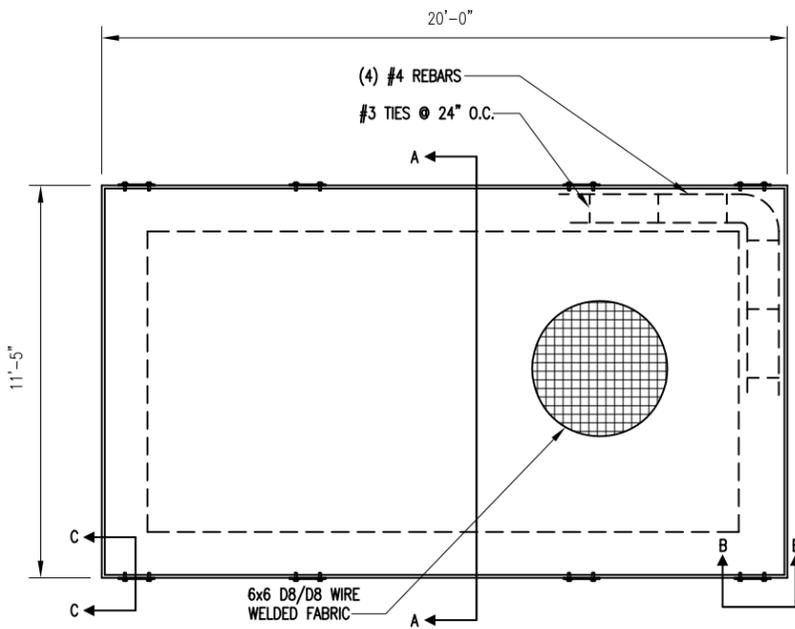


DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
SHELTER LAYOUT AND ELEVATIONS

SHEET NUMBER: **A-6** REV. # **2**

12-30-13 ARNOLD 10:52:49 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A7.dwg

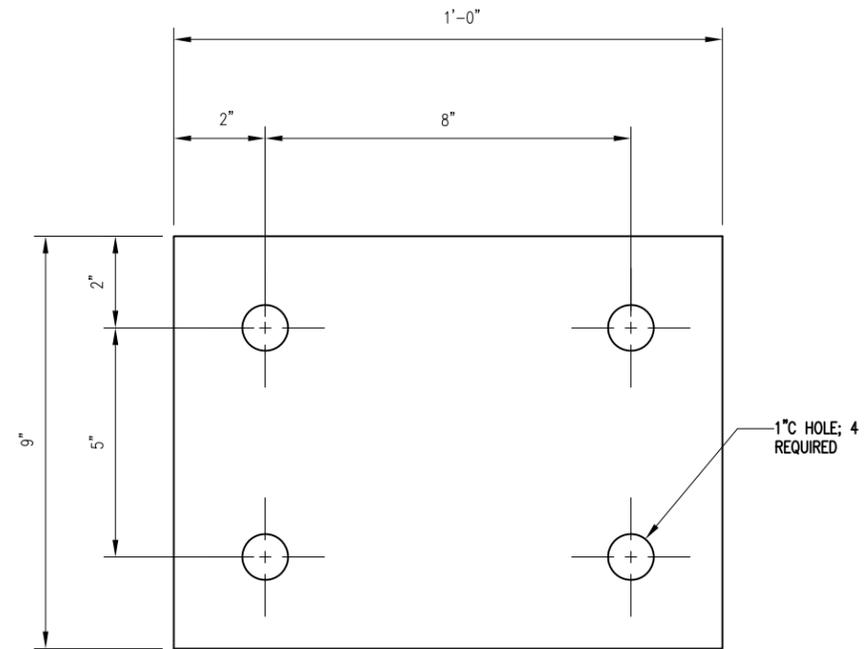


SECTION A - A

NOTES:

1. SLAB TO BE LEVEL $\pm 1/4"$.
2. FOOTING TO EXTEND A MINIMUM OF 36" BELOW UNDISTURBED SOIL AND FROST LINE.
3. FINAL SITE DESIGN IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.
4. SLAB FOUNDATION DESIGNED ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
5. SLAB FOUNDATION DESIGNED ASSUMING MAXIMUM SOIL PLASTICITY INDEX OF 27.
6. CONCRETE STRENGTH SHALL BE A MINIMUM OF 3000 PSI.
7. FOUNDATION SHALL BE IN ACCORDANCE WITH OBC.

NOTE: DETAIL PROVIDED BY FIBREBOND



#193637 - RAW MATERIAL - 3/8" PLATE

N.T.S.

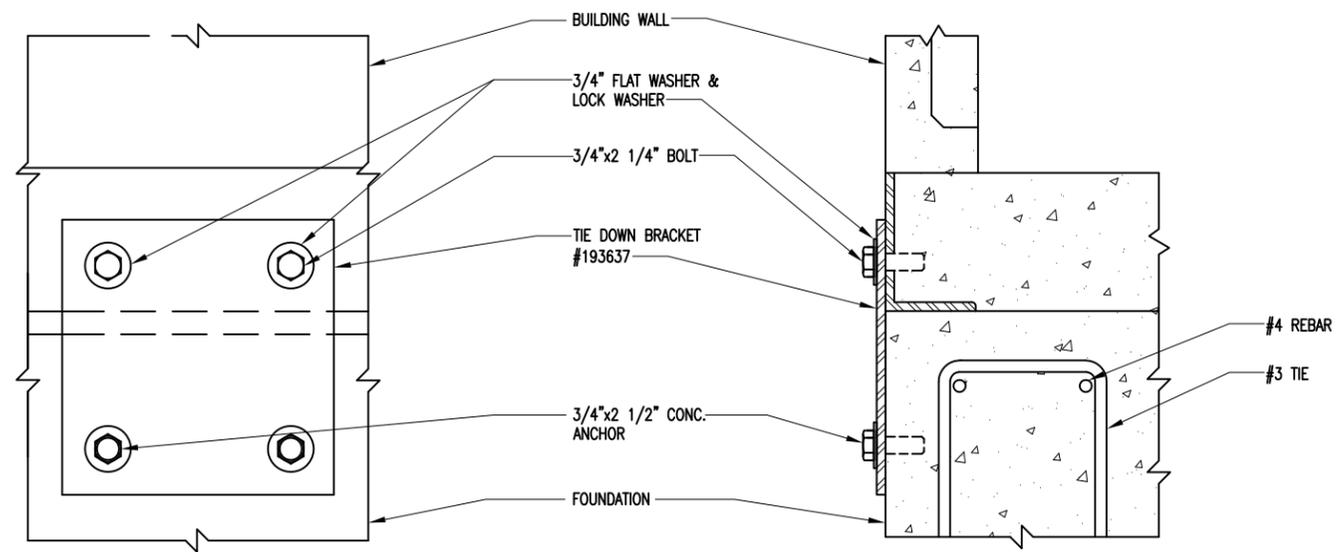
SLAB FOUNDATION

1

N.T.S.

TIE DOWN PLATE DETAIL

2



SECTION B-B

SECTION C-C

NOTE: DETAIL PROVIDED BY FIBREBOND

N.T.S.

SHELTER CONNECTION DETAILS

3

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SHEET TITLE:

SHELTER
DETAILS

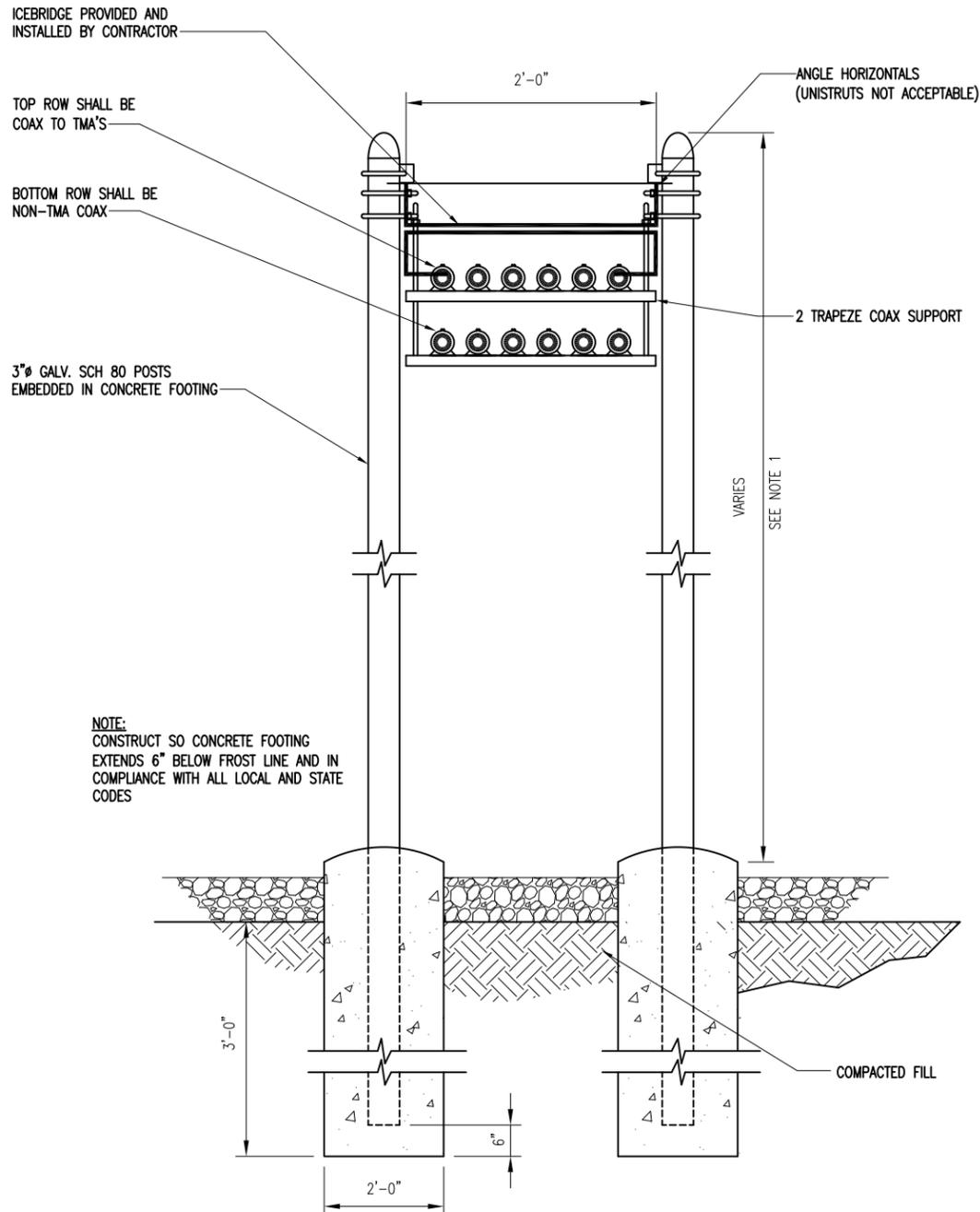
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A-7

2

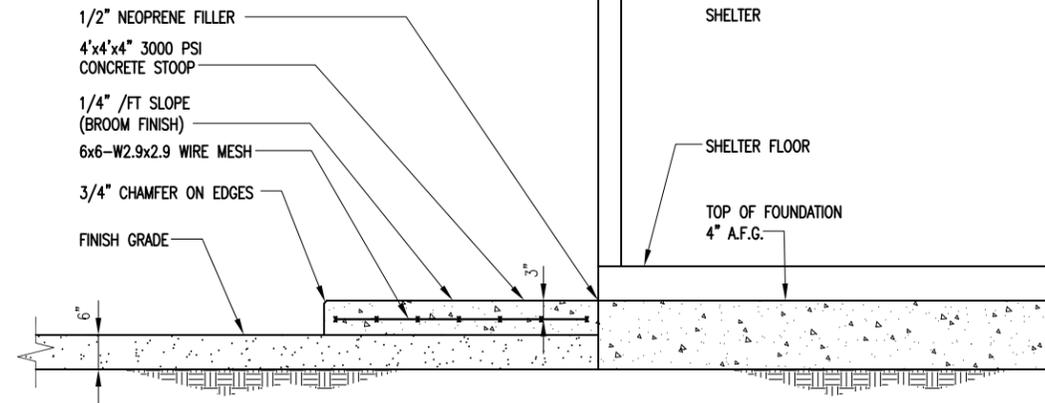
NOTES:

- DESIGN REQUIREMENTS ARE PER LOCAL BUILDING CODE/1994 ANSI/ASCE7, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES AND ALL APPLICABLE STATE AND LOCAL CODES. THE BASIC GROUND WIND SPEED UTILIZED FOR DESIGN IS 100 MPH.
- REFER TO THE SITE PLAN PREPARED BY OTHERS FOR BOUNDARY SURVEY AND SITE TOPOGRAPHY.
- CONCRETE EQUIPMENT PAD SHALL BE PLACED OVER UNDISTURBED OR WELL COMPACTED SOIL, SEE NOTE 4.
- EXISTING VEGETATION AND ORGANIC MATERIALS SHALL BE REMOVED FROM THE CONCRETE EQUIPMENT PAD AREAS. FILL SITE TO ORIGINAL ELEVATION WITH CLEAN SANDY SOIL. COMPACT TO OBTAIN 2500 PSF BEARING CAPACITY.
- ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MINIMUM DIAMETER BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS OR EQUIVALENT UNLESS OTHERWISE NOTED.
- TRANSMITTER EQUIPMENT SHALL BE FURNISHED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER PROVIDED HARDWARE IS ATTACHED TO BID DOCUMENTS (SEE ATTACHMENT E) ALL OTHER HARDWARE TO BE FURNISHED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
- SUPPORT POSTS SHALL BE SPACED 4'-0" MAX.
- COAX SUPPORT SPACING SHALL BE 3'-0" MAX.
- ICE BRIDGE SHALL BE GALVANIZED GRIP-STRUT.
- CONTRACTOR SHALL FURNISH AND INSTALL ICE BRIDGE STRUCTURE.

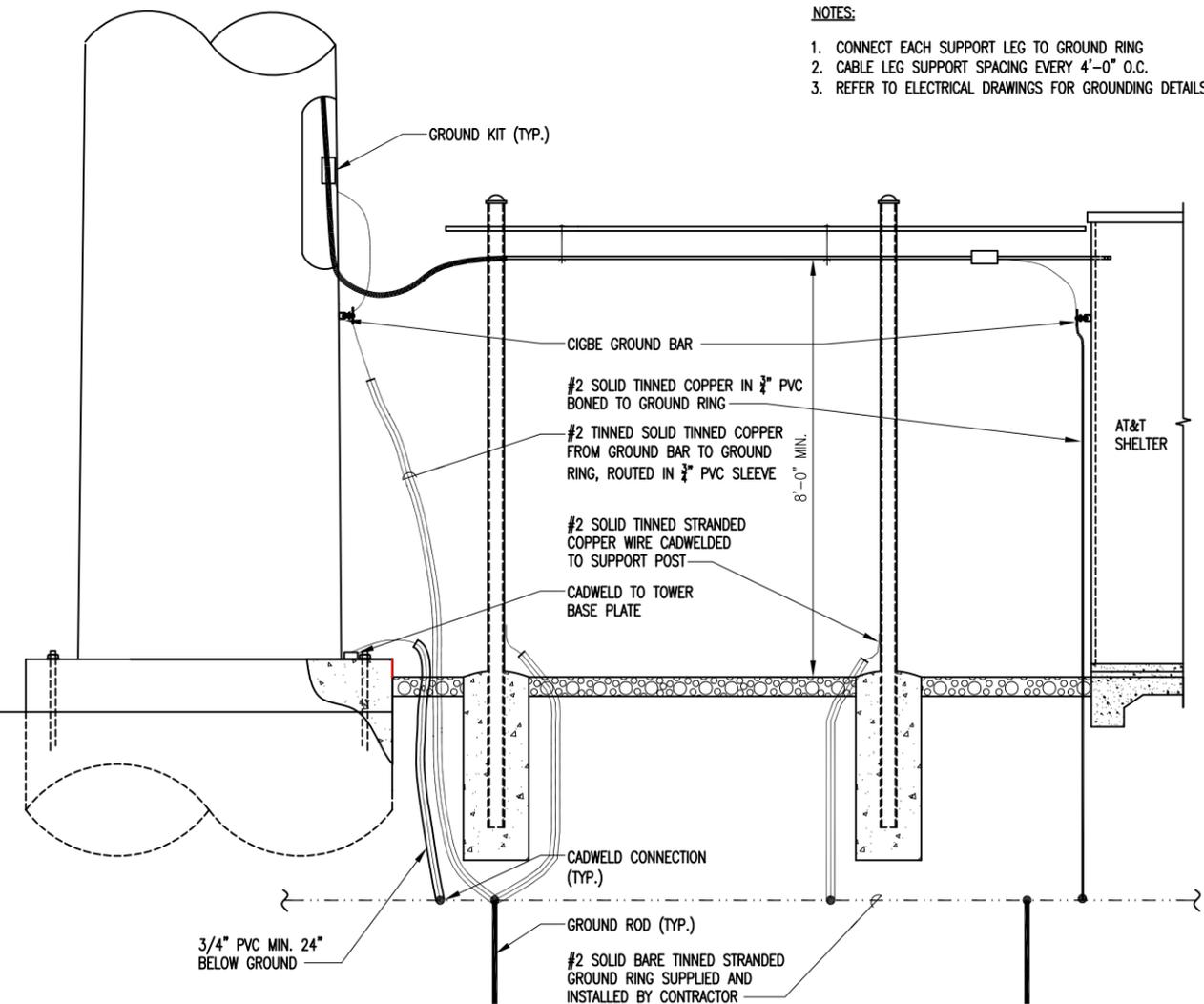


NOTE:
CONSTRUCT SO CONCRETE FOOTING
EXTENDS 6" BELOW FROST LINE AND IN
COMPLIANCE WITH ALL LOCAL AND STATE
CODES

N.T.S. CABLE SUPPORT POST ELEVATION 1



N.T.S. CONCRETE STOOP DETAIL 2



- NOTES:**
- CONNECT EACH SUPPORT LEG TO GROUND RING
 - CABLE LEG SUPPORT SPACING EVERY 4'-0" O.C.
 - REFER TO ELECTRICAL DRAWINGS FOR GROUNDING DETAILS

N.T.S. SECTION AT CABLE TRAY DETAIL 3

12-30-13 ARNOLD 10:53:42 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/A8.dwg

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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-10-13
2	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

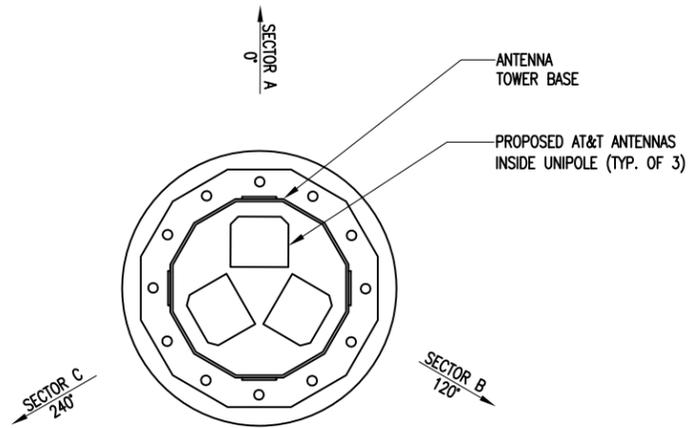
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3509 PEEL ST.
WILMINGTON, NC 28412

DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

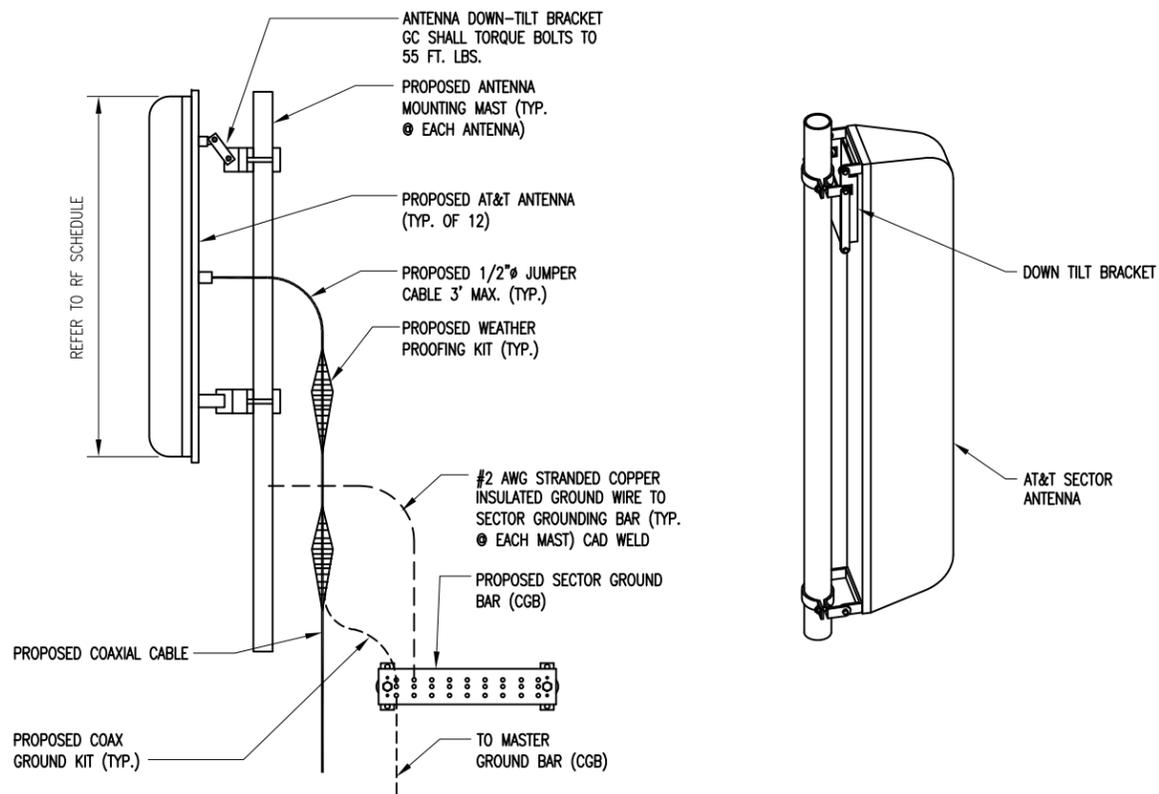
SHEET TITLE:
ICEBRIDGE DETAILS

SHEET NUMBER: **A-8** REV. # **2**

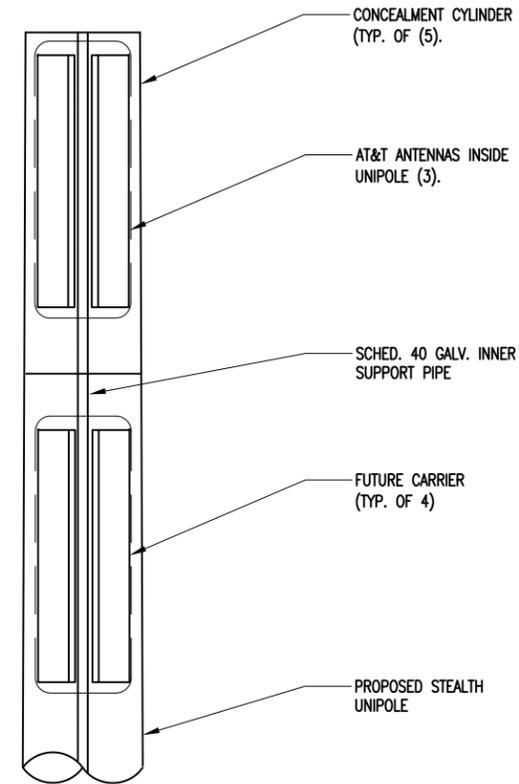
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N.T.S. PLAN VIEW OF CONCEALED ANTENNAS 1



N.T.S. AT&T ANTENNA DETAIL 2



N.T.S. ELEVATION OF CONCEALED ANTENNAS 3

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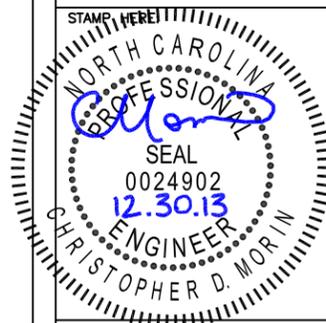
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NO.	DESCRIPTION	BY	DATE
1	NEW TOWER TYPE	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13
4			
5			
6			

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
 3509 PEEL ST.
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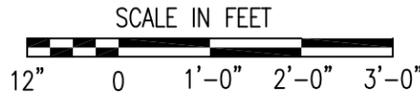
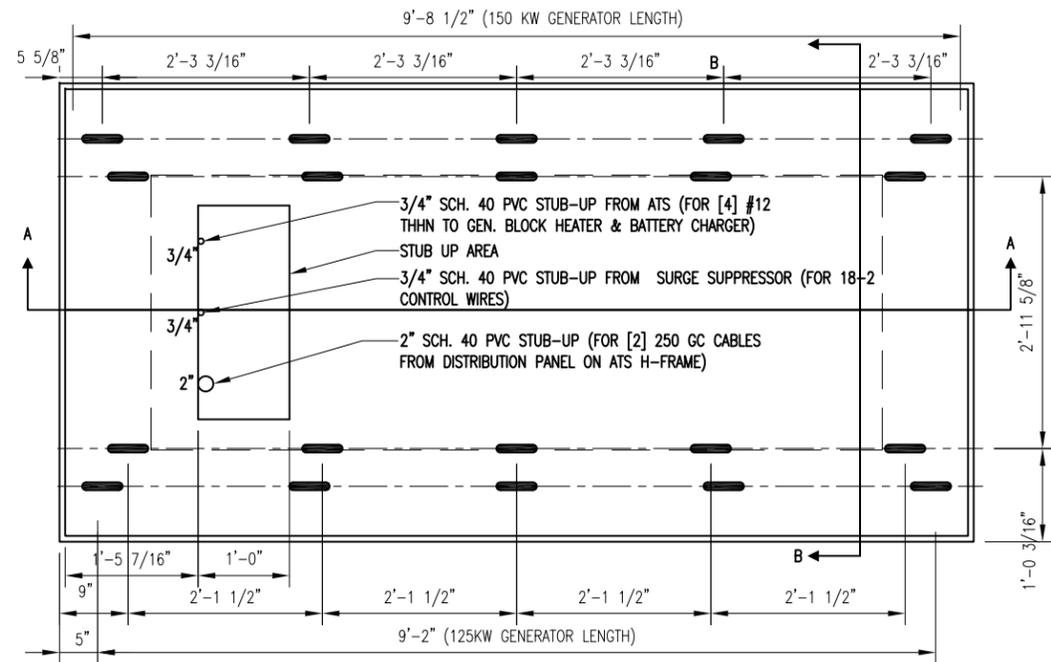


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DATE DRAWN:	07-22-10
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SHEET TITLE:
CONCEALED ANTENNA DETAILS

SHEET NUMBER: **A-9** REV. # **3**

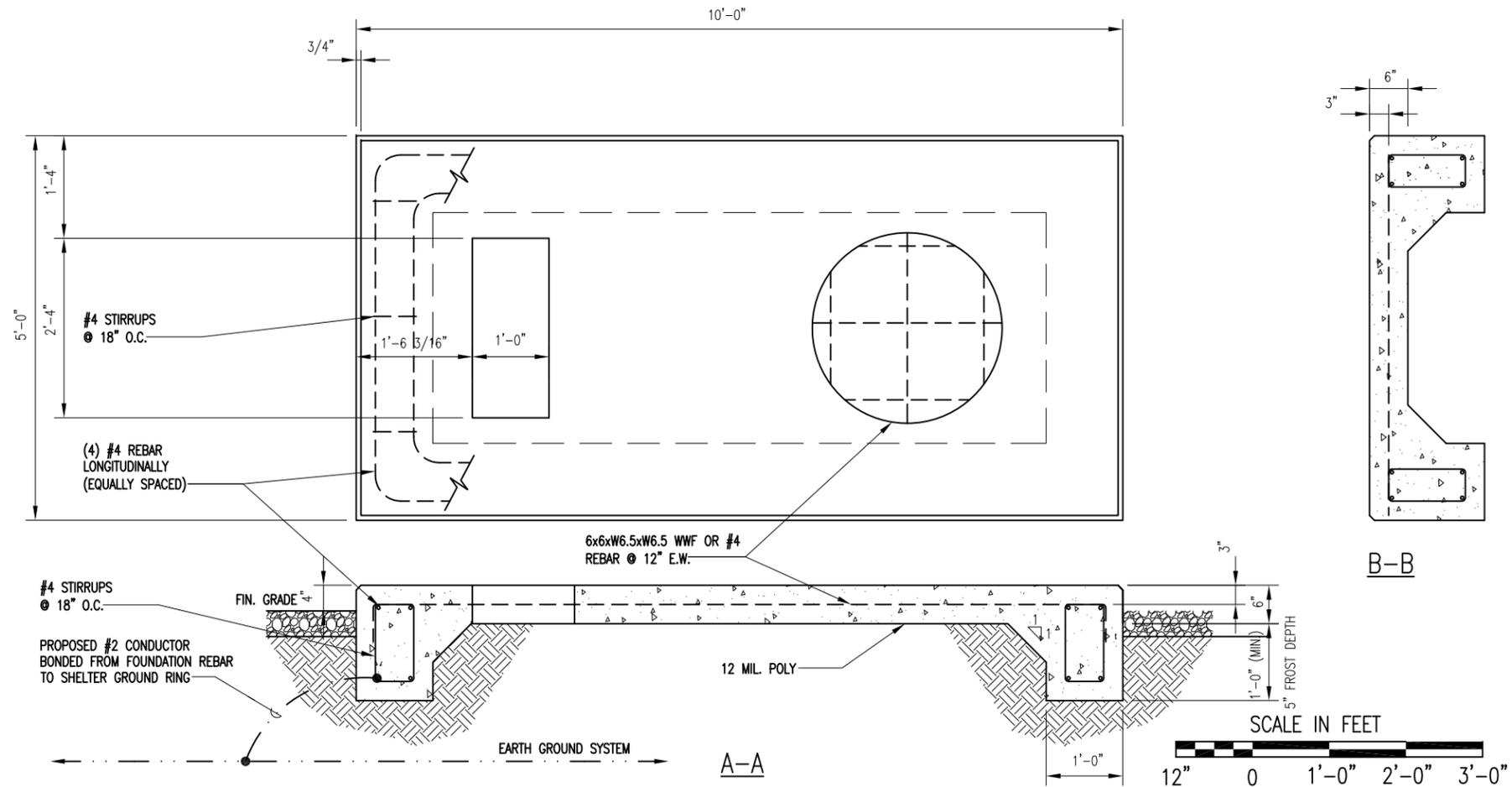
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1/2" = 1'-0"

PLAN VIEW

1



1/2" = 1'-0"

PLAN VIEW SHOWING REINFORCEMENT

2

MATERIALS LIST (FOR ONE CONCRETE PAD)						
QTY. REQ'D.	SIZE	TOTAL LENGTH	TOTAL WEIGHT	TYPE	BENDING DIAGRAM	
					DIMENSION	
20	1/2"	0-5"	--	FERRULE WING		
6	#4	9'-7 1/2"	38.6 #	STRAIGHT	A = 9'-7 1/2"	
18	#4	4'-1"	49 #	STRAIGHT	A = 4'-1"	
4	#4	7'-9 5/16"	21 #	STRAIGHT	A = 7'-9 5/16"	
6	#4	0'-9 1/4"	3 #	STRAIGHT	A = 9'-7 1/2"	

CONCRETE PAD CONSTRUCTION NOTES:

1. ALL REBAR (HORIZONTAL & VERTICAL) SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
2. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
3. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
4. REINFORCING MATERIAL SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615-85.

CONCRETE PAD AND EMBEDMENT TOLERANCES:

1. EMBEDMENTS: PLUS OR MINUS 1/16"
2. CONCRETE DIMENSIONS: PLUS OR MINUS 1/4"
3. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/4" INCLUDING CONCRETE COVER

NOTES:

1. FOUNDATION WAS DESIGNED ASSUMING ALLOWABLE SOIL BEARING CAPACITY OF 1000 PSI. FOR SOFT OR WEAK SOILS, FOUNDATION WILL BE DESIGNED BASED ON THE GEOTECH SOIL REPORT.
2. THE SOIL UNDERNEATH THE CONCRETE PADS MUST BE COMPACTED AND LEVELED BEFORE PLACING THE FOUNDATION.
3. CONCRETE SLUMPS: 1" - 3"
4. CONCRETE VOLUME = 0.75 CUBIC YARDS
5. THE DIMENSIONS BETWEEN EACH EMBEDMENT ARE OBTAINED FROM GENERAL POWER SYSTEMS DRAWINGS (DWG NO: ATC150PAD DATED 7/8/08 AND ATC125PAD DATED 7/10/08).

NOTES

3

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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	FUTURE EQPT.	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	NEW DETAILS	AGT	12-30-13

ATC SITE NUMBER:
273130
 ATC SITE NAME:
NEW HANOVER NC
 SITE ADDRESS:
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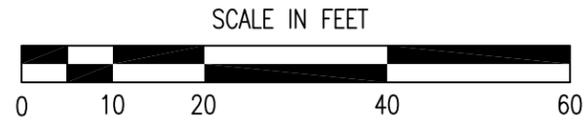
STAMP HERE
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 0024902
 12.30.13
 ENGINEER
 CHRISTOPHER D. MORIN

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CHECKED BY:	DRS
DATE DRAWN:	07-22-10
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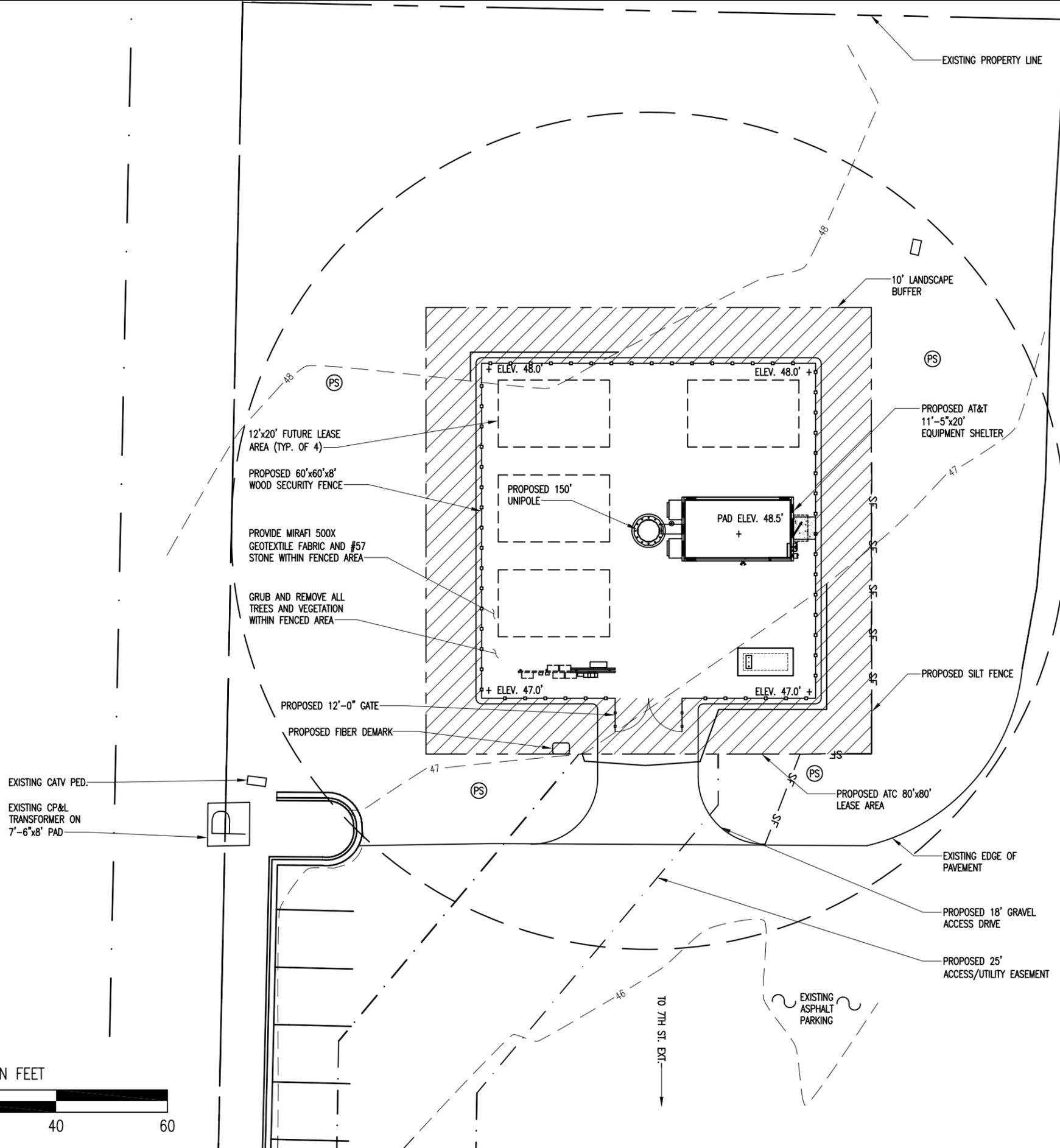
SHEET TITLE:
PROPOSED SHARED GENERATOR FOUNDATION DETAILS

SHEET NUMBER: A-10	REV. # 3
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12-30-13 ARNOLD 11:19:58 Y:/Drawings -- 2010/ATC/New Hanover -- 273130/_CD'S REV 4 12-30-13/G1.dwg



1"=20'



GRADING PLAN



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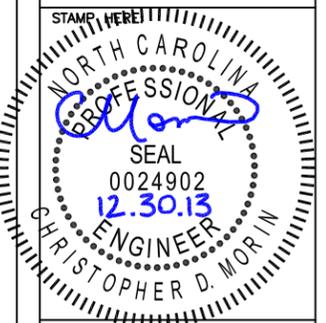
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NO.	DESCRIPTION	BY	DATE
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2	SITE NAME CHG., ETC.	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER:
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ATC SITE NAME:
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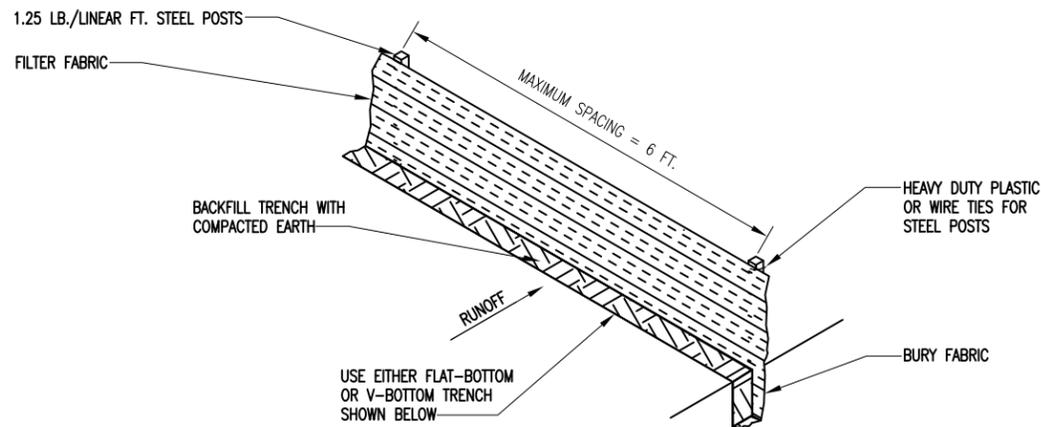


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DATE DRAWN:	07-22-10
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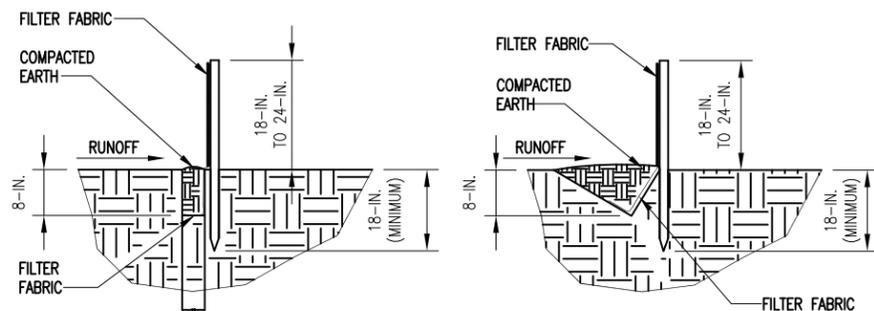
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GRADING PLAN

SHEET NUMBER: **G-1** REV. # **3**

12-30-13 ARNOLD 11:20:26 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/G2.dwg



SILT FENCE INSTALLATION



FLAT-BOTTOM TRENCH DETAIL

V-SHAPED TRENCH DETAIL

SILT FENCE DETAIL

WHEN AND WHERE TO USE IT

SILT FENCE IS APPLICABLE IN AREAS:

- WHERE THE MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE FENCE IS 100- FEET.
 - WHERE THE MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO FENCE LINE) IS 2H:1V.
 - THAT DO NOT RECEIVE CONCENTRATED FLOWS GREATER THAN 0.5 CFS.
- DO NOT PLACE SILT FENCE ACROSS CHANNELS OR USE IT AS A VELOCITY CONTROL BMP.

MATERIALS

- STEEL POSTS**
USE 48-INCH LONG STEEL POSTS THAT MEET THE FOLLOWING MINIMUM PHYSICAL REQUIREMENTS:
COMPOSED OF HIGH STRENGTH STEEL WITH MINIMUM YIELD STRENGTH OF 50,000 PSI.
HAVE A STANDARD "I" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND NOMINAL "T" LENGTH OF 1.48-INCHES.
WEIGH 1.25 POUNDS PER FOOT (± 8%).
HAVE A SOIL STABILIZATION PLATE WITH A MINIMUM CROSS SECTION AREA OF 17-SQUARE INCHES ATTACHED TO THE STEEL POSTS.
PAINTED WITH A WATER BASED BAKED ENAMEL PAINT.

- USE STEEL POSTS WITH A MINIMUM LENGTH OF 4- FEET, WEIGHING 1.25 POUNDS PER LINEAR FOOT (± 8%) WITH PROJECTIONS TO AID IN FASTENING THE FABRIC. EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON SITE, STEEL POSTS WILL HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM SUCH THAT WHEN THE POST IS DRIVEN TO THE PROPER DEPTH, THE PLATE WILL BE BELOW THE GROUND LEVEL FOR ADDED STABILITY.
THE SOIL PLATES SHOULD HAVE THE FOLLOWING CHARACTERISTICS:
BE COMPOSED OF MINIMUM 15 GAUGE STEEL.
HAVE A MINIMUM CROSS SECTION AREA OF 17-SQUARE INCHES.

GEOTEXTILE FILTER FABRIC

- FILTER FABRIC IS:**
COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS COMPOSED OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES. FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER. FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION. FREE OF DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES. CUT TO A MINIMUM WIDTH OF 36 INCHES.

- USE ONLY FABRIC MEETING NCDOT APPROVAL, THE MOST CURRENT EDITION OF THE NCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

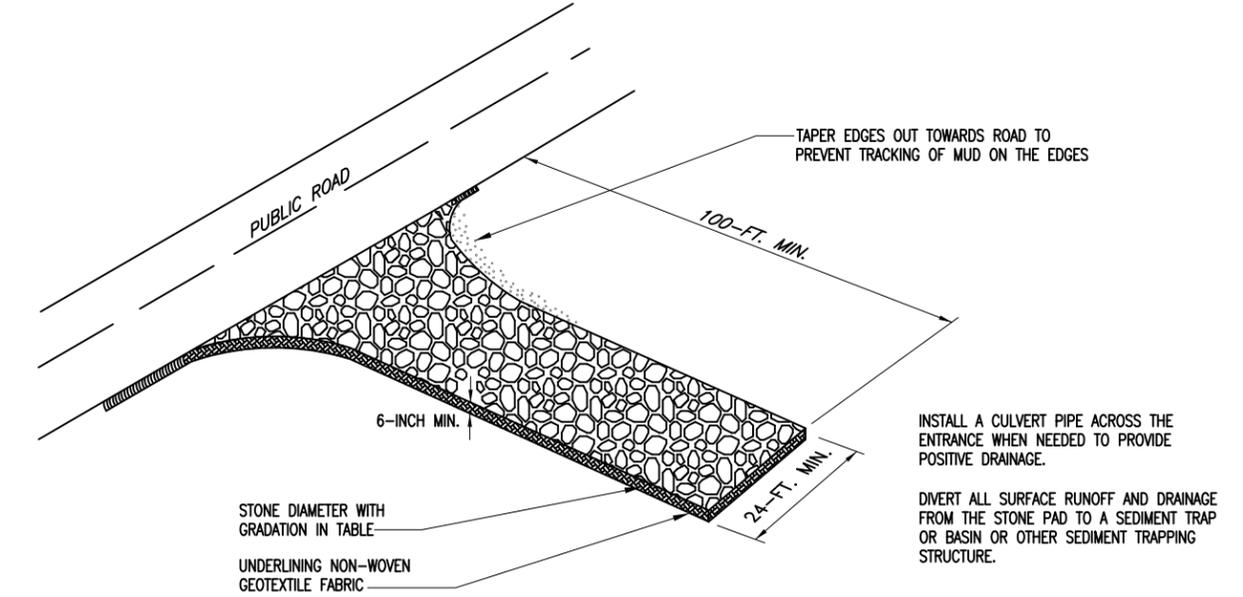
SILT FENCE DETAIL

INSTALLATION

EXCAVATE A TRENCH APPROXIMATELY 6-INCHES WIDE AND 6-INCHES DEEP WHEN PLACING FABRIC BY HAND. PLACE 12-INCHES OF GEOTEXTILE FABRIC INTO THE 6-INCH DEEP TRENCH, EXTENDING THE REMAINING 6-INCHES TOWARDS THE UPSLOPE SIDE OF THE TRENCH. BACKFILL THE TRENCH WITH SOIL OR GRAVEL AND COMPACT. BURY 12-INCHES OF FABRIC INTO THE GROUND WHEN PNEUMATICALLY INSTALLING SILT FENCE WITH A SLICING METHOD. PURCHASE FABRIC IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, WRAPPED THE FABRIC TOGETHER AT A SUPPORT POST WITH BOTH ENDS FASTENED TO THE POST, WITH A 6-INCH MINIMUM OVERLAP. INSTALL POSTS TO A MINIMUM DEPTH OF 24-INCHES. INSTALL POSTS A MINIMUM OF 1- TO 2- INCHES ABOVE THE FABRIC, WITH NO MORE THAN 3- FEET OF THE POST ABOVE THE GROUND. SPACE POSTS TO MAXIMUM 6- FEET CENTERS. ATTACH FABRIC TO WOOD POSTS USING STAPLES MADE OF HEAVY-DUTY WIRE AT LEAST 1½-INCH LONG, SPACED A MAXIMUM OF 6-INCHES APART. STAPLE A 2-INCH WIDE LATHE OVER THE FILTER FABRIC TO SECURELY FASTEN IT TO THE UPSLOPE SIDE OF WOODEN POSTS. ATTACH FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN CALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES. INSTALL THE FABRIC A MINIMUM OF 24-INCHES ABOVE THE GROUND. WHEN NECESSARY, THE HEIGHT OF THE FENCE ABOVE GROUND MAY BE GREATER THAN 24-INCHES. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE POST HEIGHT WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING WILL REMAIN THE SAME AND EXTRA HEIGHT FABRIC WILL BE 4-, 5-, OR 6- FEET TALL. LOCATE SILT FENCE CHECKS EVERY 100 FEET MAXIMUM AND AT LOW POINTS. INSTALL THE FENCE PERPENDICULAR TO THE DIRECTION OF FLOW AND PLACE THE FENCE THE PROPER DISTANCE FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.

INSPECTION AND MAINTENANCE

INSPECT EVERY SEVEN CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½-INCHES OR MORE OF PRECIPITATION. CHECK FOR SEDIMENT BUILDUP AND FENCE INTEGRITY. CHECK WHERE RUNOFF HAS ERODED A CHANNEL BENEATH THE FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED BY FENCE OVERTOPPING. IF THE FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE SECTION OF FENCE IMMEDIATELY.
REMOVE SEDIMENT ACCUMULATED ALONG THE FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE, ESPECIALLY IF HEAVY RAINS ARE EXPECTED. REMOVE TRAPPED SEDIMENT FROM THE SITE OR STABILIZE IT ON SITE. REMOVE SILT FENCE WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BEST MANAGEMENT PRACTICES (BMPs) ARE NO LONGER NEEDED. PERMANENTLY STABILIZE DISTURBED AREAS RESULTING FROM FENCE REMOVAL.



STONE CONSTRUCTION ENTRANCE

STABILIZED CONSTRUCTION ENTRANCE

WHEN AND WHERE TO USE IT

STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD.

IMPORTANT CONSIDERATIONS

IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFFSITE. WASHDOWN FACILITIES SHALL BE REQUIRED AS DIRECTED AS NEEDED. WASHDOWN AREAS IN GENERAL MUST BE ESTABLISHED WITH CRUSHED GRAVEL AND DRAIN INTO A SEDIMENT TRAP OR SEDIMENT BASIN.
CONSTRUCTION ENTRANCES SHOULD BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY VEHICLES.

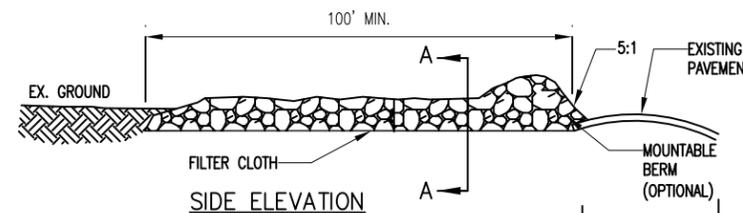
INSTALLATION:

- REMOVE ALL VEGETATION AND ANY OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA.
- DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM STONES TO A SEDIMENT TRAP OR BASIN.
- INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.
- INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.

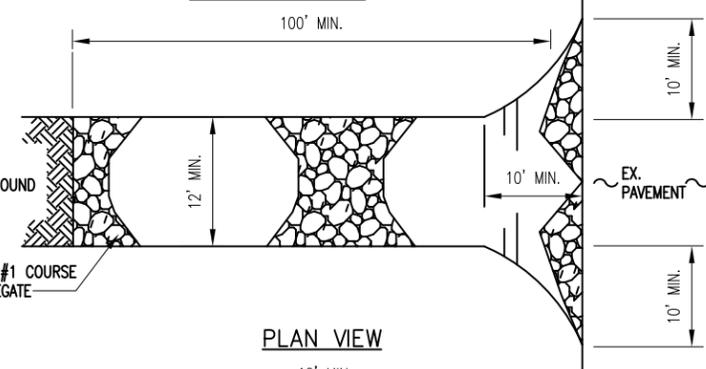
THE ENTRANCE SHALL CONSIST OF 1-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES.

MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24- FEET WIDE BY 100- FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.

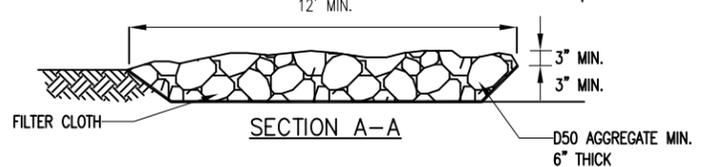
THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING OF MUD AT THE EDGE OF THE ENTRANCE.



SIDE ELEVATION



PLAN VIEW



SECTION A-A

STABILIZED CONSTRUCTION ENTRANCE

INSPECTION AND MAINTENANCE:

INSPECT CONSTRUCTION ENTRANCES EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½-INCHES OR MORE OF PRECIPITATION, OR AFTER HEAVY USE. CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING PERIODS OF WET WEATHER. MAINTENANCE IS REQUIRED MORE FREQUENTLY IN WET WEATHER CONDITIONS. RESHAPE THE STONE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.

WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY THE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE.

IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.

REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

AMERICAN TOWER CORPORATION
496 LONG POINT ROAD
MOUNT PLEASANT, SC 29464
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BC architects engineers
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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	SEEDING	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	NEW DETAILS	AGT	12-30-13

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412

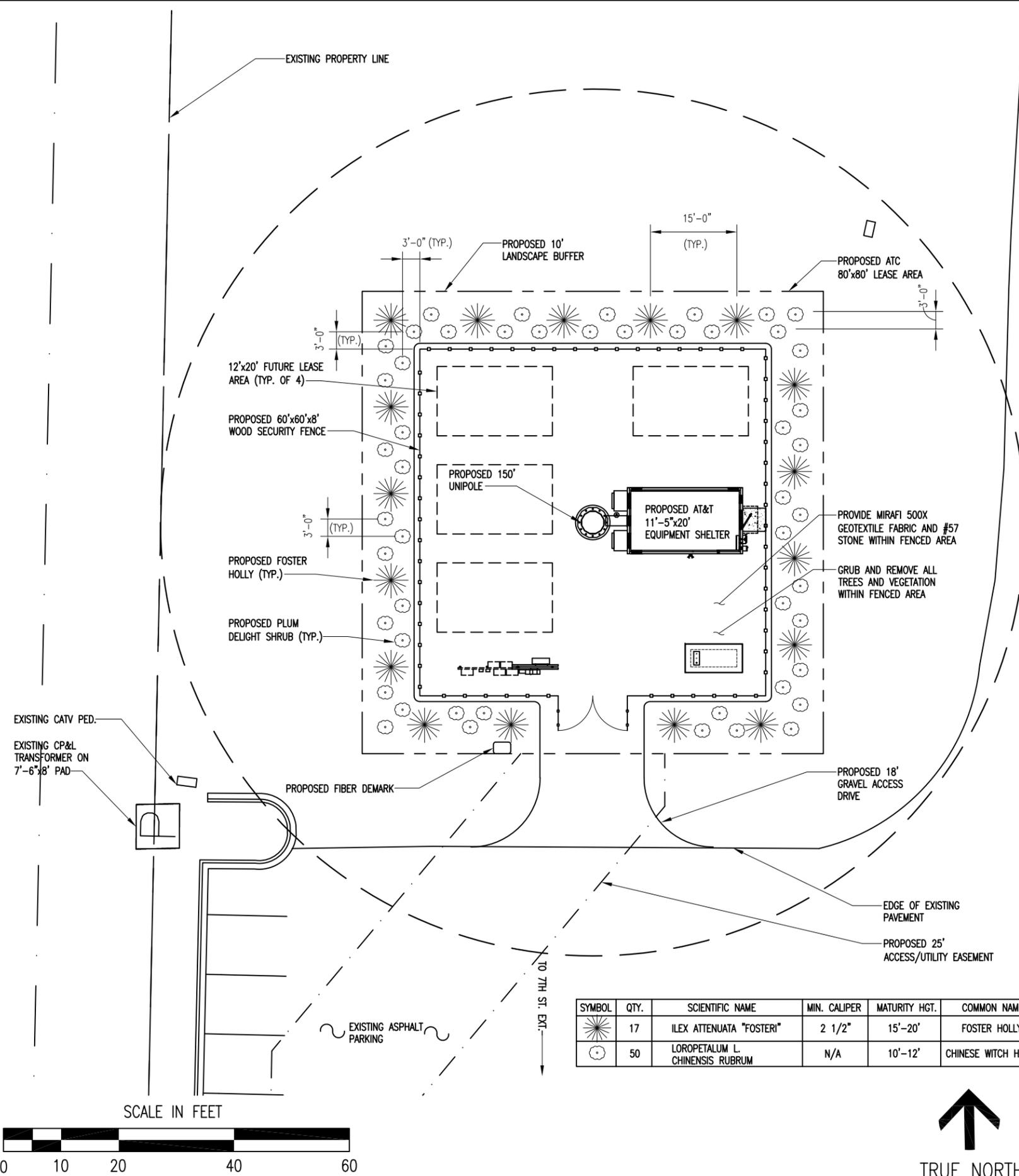
STAMP HERE! NORTH CAROLINA PROFESSIONAL SEAL
0024902
12.30.13
ENGINEER
CHRISTOPHER D. MORIN

DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

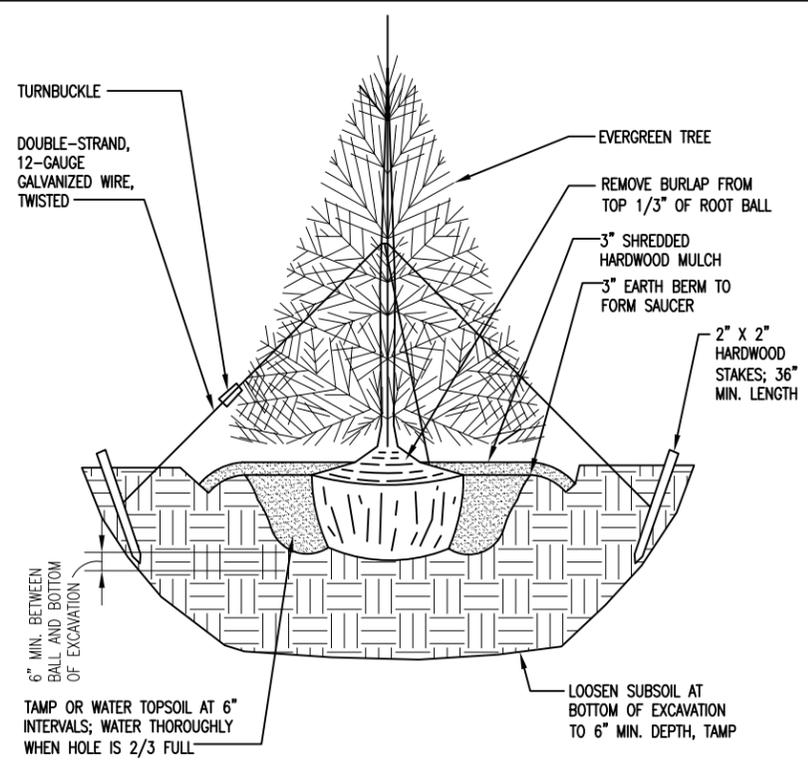
SHEET TITLE:
EROSION & SEDIMENT CONTROL DETAILS

SHEET NUMBER: G-2	REV. # 3
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12-30-13 ARNOLD 11:21:52 Y:/Drawings -- 2010/ATC/New Hanover -- 273130/_CD'S_REV 4 12-30-13/L1.dwg

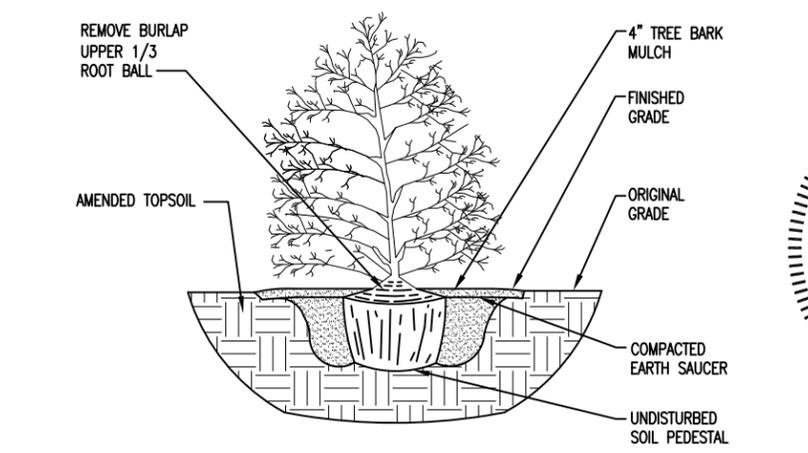


SYMBOL	QTY.	SCIENTIFIC NAME	MIN. CALIPER	MATURITY HGT.	COMMON NAME
	17	ILEX ATTENUATA "FOSTERI"	2 1/2"	15'-20'	FOSTER HOLLY
	50	LOROPETALUM L. CHINENSIS RUBRUM	N/A	10'-12'	CHINESE WITCH HAZEL



NOTE:
 1. EVERGREEN TREE SHALL BE MIN. 2 1/2" CALIPER & SPACED 15' O.C.
 2. SPECIES OF TREE SHALL BE FOSTER HOLLY.

N.T.S. TYPICAL TREE INSTALLATION DETAIL 2



NOTE:
 1. SCREENING SHRUB SHALL BE LOROPETALUM "PLUM DELIGHT" VARIETY.
 2. SHRUBS SHALL BE 3 GALLON SIZE AT PLANTING & SPACED 3' O.C.

N.T.S. TYPICAL SHRUB INSTALLATION DETAIL 3

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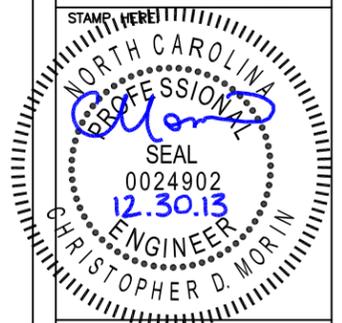
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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	JURIS. COMMENTS	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER:
273130
 ATC SITE NAME:
NEW HANOVER NC
 SITE ADDRESS:
 3509 PEEL ST.
 WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
LANDSCAPING PLAN
 SHEET NUMBER: **L-1** REV. # **3**

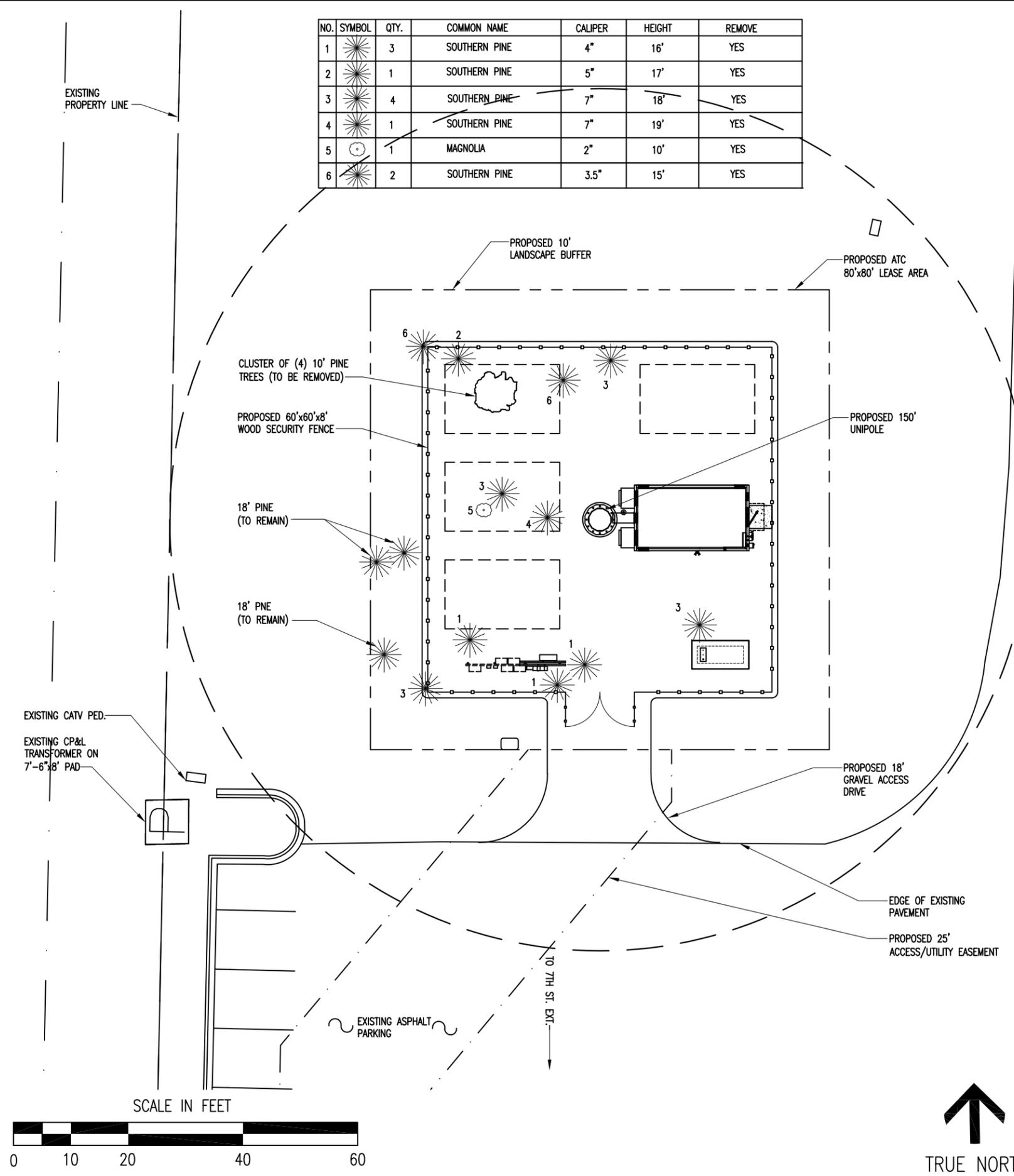
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LANDSCAPING PLAN

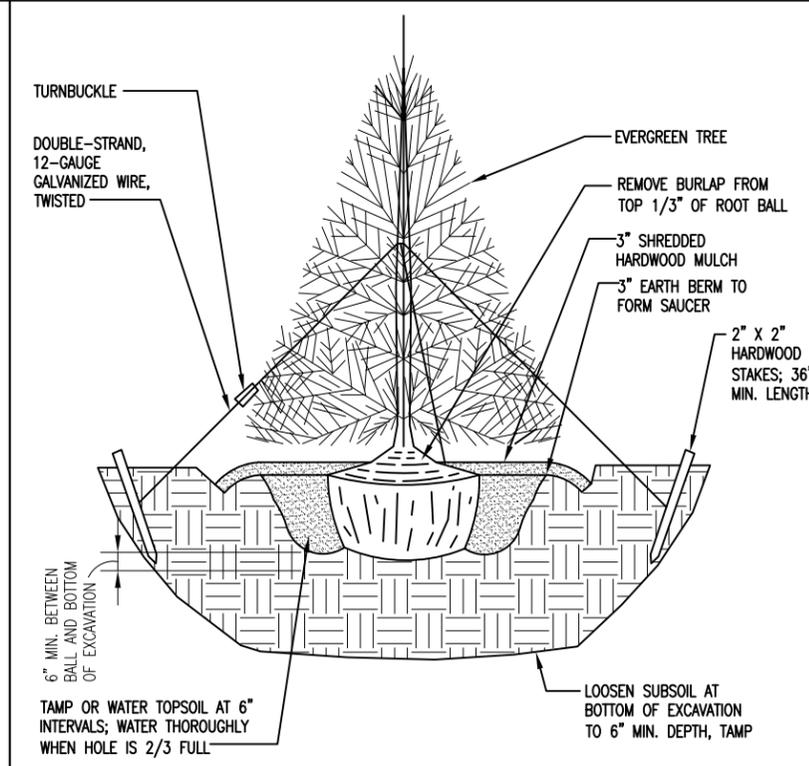
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12-30-13 ARNOLD 11:25:13 Y:/Drawings -- 2010/ATC/New Hanover -- 273130/_CD'S_REV 4 12-30-13/L2.dwg

NO.	SYMBOL	QTY.	COMMON NAME	CALIPER	HEIGHT	REMOVE
1		3	SOUTHERN PINE	4"	16'	YES
2		1	SOUTHERN PINE	5"	17'	YES
3		4	SOUTHERN PINE	7"	18'	YES
4		1	SOUTHERN PINE	7"	19'	YES
5		1	MAGNOLIA	2"	10'	YES
6		2	SOUTHERN PINE	3.5"	15'	YES

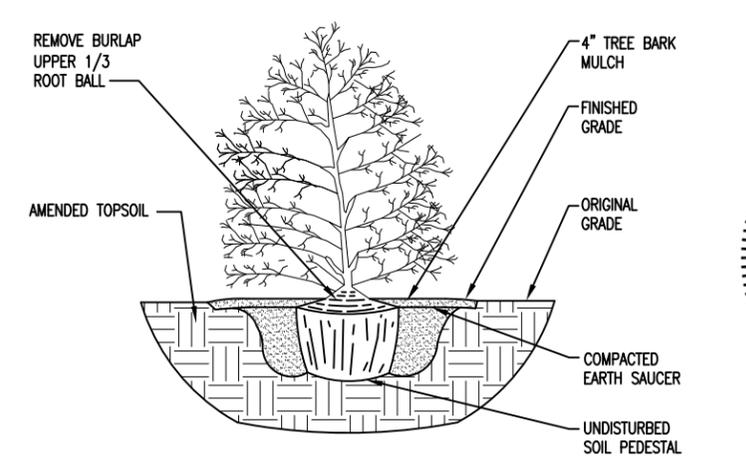


LANDSCAPING PLAN



NOTE:
 1. EVERGREEN TREE SHALL BE MIN. 2 1/2" CALIPER & SPACED 15' O.C.
 2. SPECIES OF TREE SHALL BE FOSTER HOLLY.

N.T.S. TYPICAL TREE INSTALLATION DETAIL 2



NOTE:
 1. SCREENING SHRUB SHALL BE LOROPETALUM "PLUM DELIGHT" VARIETY.
 2. SHRUBS SHALL BE 3 GALLON SIZE AT PLANTING & SPACED 3' O.C.

N.T.S. TYPICAL SHRUB INSTALLATION DETAIL 3

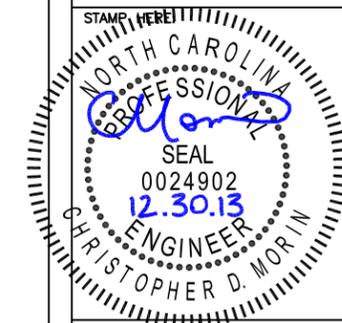
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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	NEW SHEET	AGT	12-30-13

ATC SITE NUMBER:
273130
 ATC SITE NAME:
NEW HANOVER NC
 SITE ADDRESS:
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 WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
EXISTING TREE SURVEY/REMOVAL PLAN

SHEET NUMBER: **L-2** REV. # **1**

Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E1.dwg
 12-30-13 ARNOLD 10:57:43

5/8" x 8'-0" LONG
COPPER-CLAD GROUND ROD
⊙ MAX. 10'-0" O.C. TYP.

PROPOSED 150'
MONOPINE

NEW TOWER GROUND RING
(TGR) #2 SOLID TINNED
COPPER CONDUCTOR BURIED
24" BELOW GRADE OR 6"
BELOW FROST LINE

#2 AWG BCW SOLID
TINNED FROM TGR TO
GATE POSTS (TYP.)

TELCO GROUND #2 BCW
SOLID TINNED TO TELCO
CABINET BUSBAR

6 GANG METER
H-FRAME WITH TELCO
DEMARK CABINET

PROPOSED ATS H-FRAME

3/4" SCH. 40 PVC U.G. CONDUIT
(18-2 CONTROL WIRES)

2" SCH. 40 PVC U.G.
CONDUIT (GC CABLES)

5/8" x 8'-0" COPPER-CLAD
SERVICE ENTRANCE GROUND ROD
OR AS SPECIFIED BY LOCAL CODE

3/4" SCH. 40 PVC U.G.
CONDUIT (GEN. BLOCK HEATER
& BATTERY CHARGER)

PROPOSED FIBER DEMARK

ATC TO INSTALL (2) 4" SCH. 40
PVC U.G. CONDUITS POWER TO
EXISTING UTILITIES

TEST WELL
(1 OF 2)

#2 AWG SOLID TINNED
BARE COPPER WIRE
BOND TO CORNER
FENCE POST (TYP.)

FOR EQUIPMENT UTILITY
& GROUNDING DETAILS,
SEE E-2

AT&T TO INSTALL PROPOSED AT&T
U.G. CONDUIT:
(1) 4" SCH. 40 PVC W/(3)
1 1/4" INNERDUCT (TELCO)

PROPOSED AT&T U.G. CONDUITS:
(1) 2 1/2" SCH. 40 PVC
(POWER)

PROPOSED 5'X10"
GENERATOR PAD

AT&T TO INSTALL (1) 4" SCH.
40 PVC U.G. CONDUIT W/ (3)
1-1/4" INNERDUCTS TO BE
RUN FROM AT&T SHELTER TO
FIBER DEMARK OUTSIDE FENCE

BOND GATE POSTS TOGETHER WITH #2 AWG BCW
SOLID TINNED (MIN. 6" BELOW FROST LINE OR
24" WHICHEVER IS GREATER). USE #2
STRANDED CU. WELDING CABLE #MT-C5915
FROM GATE POST TO GATE FRAME ABOVE GRADE

ATC TO INSTALL (1) 4" SCH. 40 PVC U.G. CONDUIT W/
200 LB TEST PULL WIRE & INSTALL #2 BCW GROUND
FROM HANDHOLE TO GROUND BAR

ATC TO INSTALL (1) 4" SCH. 40 PVC
U.G. CONDUIT FROM FIBER DEMARK
TO STUB-UP 10' FROM R/W

ELECTRICAL LEGEND

	UNDERGROUND CONDUIT
	GROUND CABLE RUN BELOW GRADE
	5/8"x8'-0" COPPER CLAD, STEEL GROUND ROD.
	EXOTHERMIC CONNECTION OF GROUND CABLE TO GROUND ROD
	SUBGRADE GROUNDING CABLE TO CABLE CONNECTION USING EXOTHERMIC PROCESS.
	ATC GROUND ROD TEST WELL

NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
2. MAXIMUM SPACING BETWEEN GROUND RODS 10'-0".
3. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY DIGGING.
4. GROUND CONDUCTOR BENDS SHALL NOT BE LESS THAN 8" RADIUS.
5. CADCWELDED GROUND WIRE TO CABLE SUPPORT STRUCTURE.
6. G.C. SHALL PROVIDE PVC CAP ON ALL OPEN CONDUITS & PULLSTRINGS.
7. G.C. SHALL CONDUCT POST CONSTRUCTION RESISTANCE TESTING TO INSURE SYSTEM IS 5 OHM OR LESS.
8. IF POWER & FIBER CONDUIT ARE PLACED IN THE SAME TRENCH, PER NEC CODE, A MINIMUM OF 12" SEPARATION IS REQUIRED BETWEEN THE POWER & FIBER CONDUIT.
9. SWEEPING 90'S TO BE INSTALLED AT ALL TURNS & BENDS (NO HARD 90'S).
10. PULL BOX SHALL BE INSTALLED EVERY 500' OR 3RD 90' TURN.
11. CONDUIT TO BE PLACED IN UTILITY EASEMENT AND/OR ATC LEASE AREA.



UTILITY PLAN & GROUNDING PLAN

AMERICAN TOWER CORPORATION
 496 LONG POINT ROAD
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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412

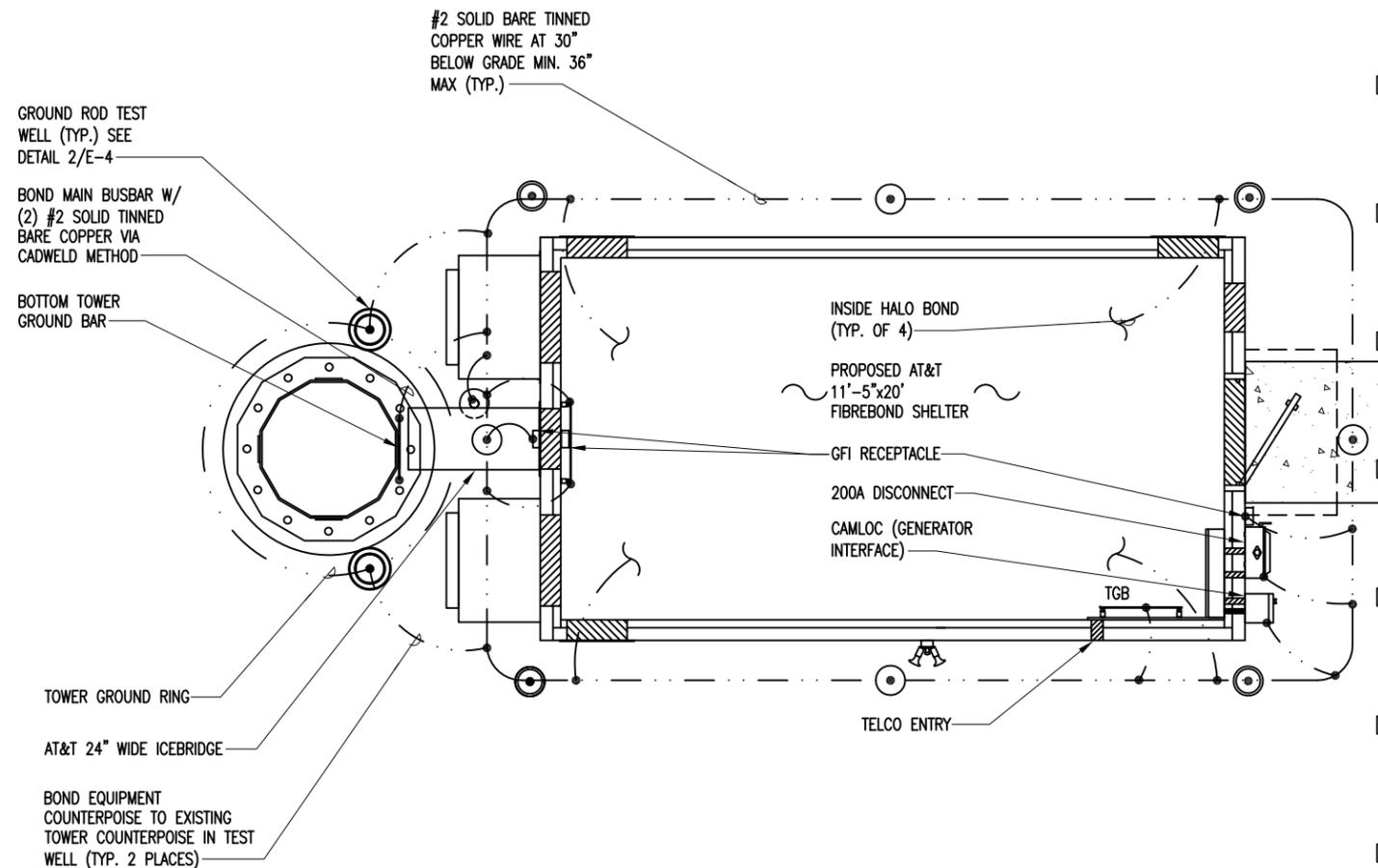


DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
UTILITY & COMPOUND GROUNDING PLAN

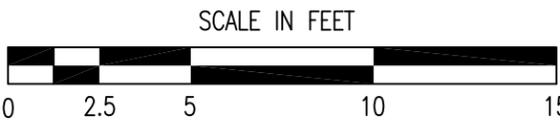
SHEET NUMBER: **E-1** REV. # **2**

12-30-13 ARNOLD 10:59:17 Y:/Drawings -- 2010/ATC/New Hanover -- 273130/_CD'S REV 4 12-30-13/E2.dwg



- NOTES:**
1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
 2. NONE OF THE EXISTING GROUND SYSTEM IS SHOWN. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND THE CONTINUITY OF THE EXISTING GROUND SYSTEM PRIOR TO BONDING TO NEW GROUND COUNTERPOISE. REPORT ANY DEFICIENCIES TO THE OWNER'S REPRESENTATIVE. DO NOT BOND TO EXISTING SYSTEM UNTIL DEFICIENCIES ARE CORRECTED AND APPROVED BY OWNER'S REPRESENTATIVE.
 3. MINIMUM SPACING BETWEEN GROUND RODS 10'-0".
 4. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY DIGGING.
 5. GROUND CONDUCTOR BENDS SHALL NOT BE LESS THAN 8" RADIUS.
 6. CADWELD GROUND WIRE TO CABLE SUPPORT STRUCTURE.
 7. WHEN EQUIPMENT SHELTER OR TOWER COUNTERPOISE IS WITHIN THREE (3) FEET OF GATE, BOND GATE POST DIRECTLY TO COUNTERPOISE WITH #2 SOLID BARE TINNED COPPER AND OMIT GATE POST TO GATE POST GROUND WIRE.
 8. ANTENNA INSTALLATION CONTRACTOR TO PROVIDE & INSTALL TOP, MIDDLE & BOTTOM RF BUSBARS, & SHELTER WALL BUSBAR (OUTSIDE) BELOW PORTS.

ELECTRICAL LEGEND	
	UNDERGROUND CONDUIT
	GROUND CABLE RUN BELOW GRADE
	8"x8"Ø COPPER CLAD, STEEL GROUND ROD.
	EXOTHERMIC CONNECTION OF GROUND CABLE TO GROUND ROD
	SUBGRADE GROUNDING CABLE TO CABLE CONNECTION USING EXOTHERMIC PROCESS.
	GROUND ROD TEST WELL



NOTE:

1. G.C. SHALL PROVIDE PVC COLLAR AND MALE SCREW COVER ON ALL OPEN CONDUITS
2. EXISTING GROUNDING SYSTEM SHALL BE APPROVED BY A AT&T CONSTRUCTION REPRESENTATIVE AND/OR MODIFIED TO MEET THE TYPICAL AT&T DESIGN AS SHOWN ON THIS SHEET

ENLARGED UTILITY & GROUNDING PLAN

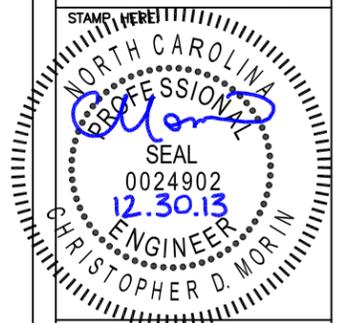
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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	JURIS. COMMENTS	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13
4			
5			

ATC SITE NUMBER:
273130
 ATC SITE NAME:
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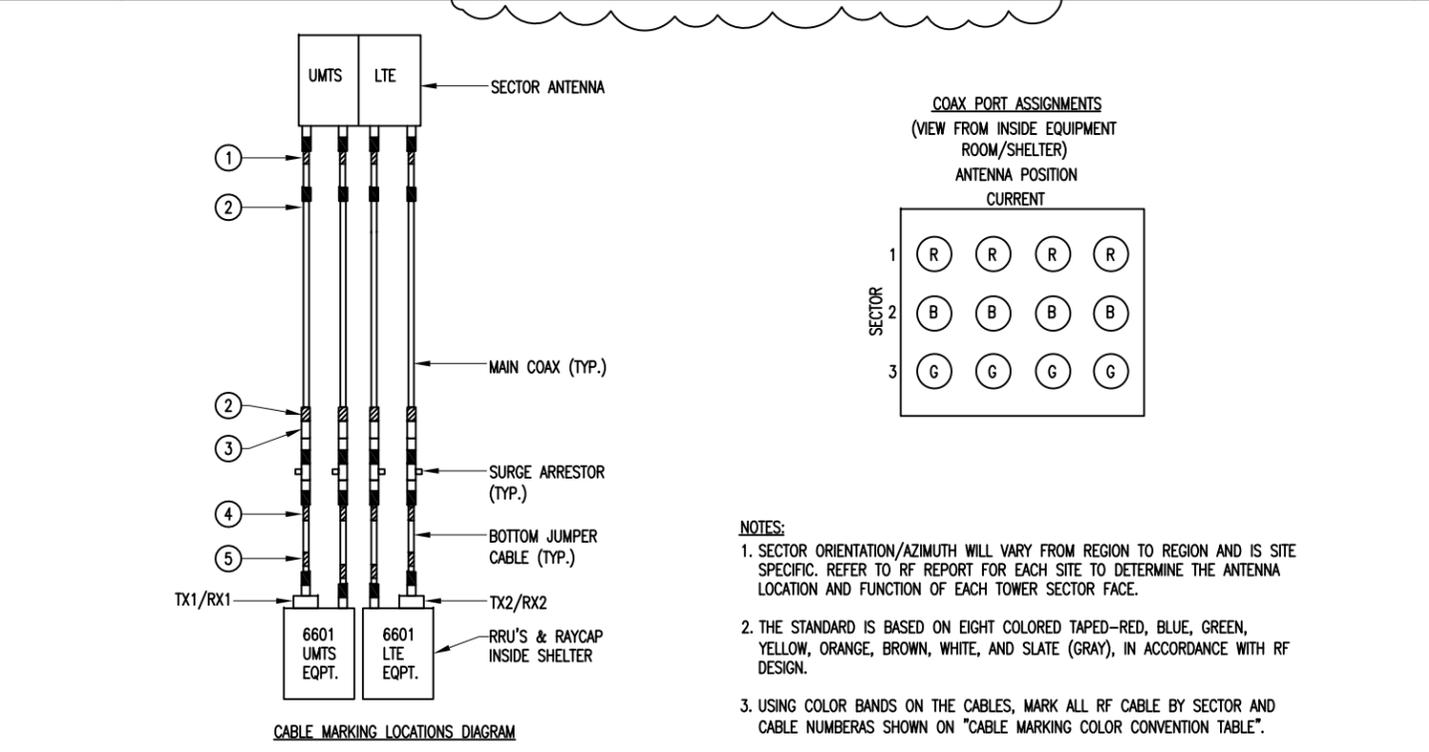
DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
ENLARGED GROUNDING PLAN

SHEET NUMBER: **E-2** REV. # **3**

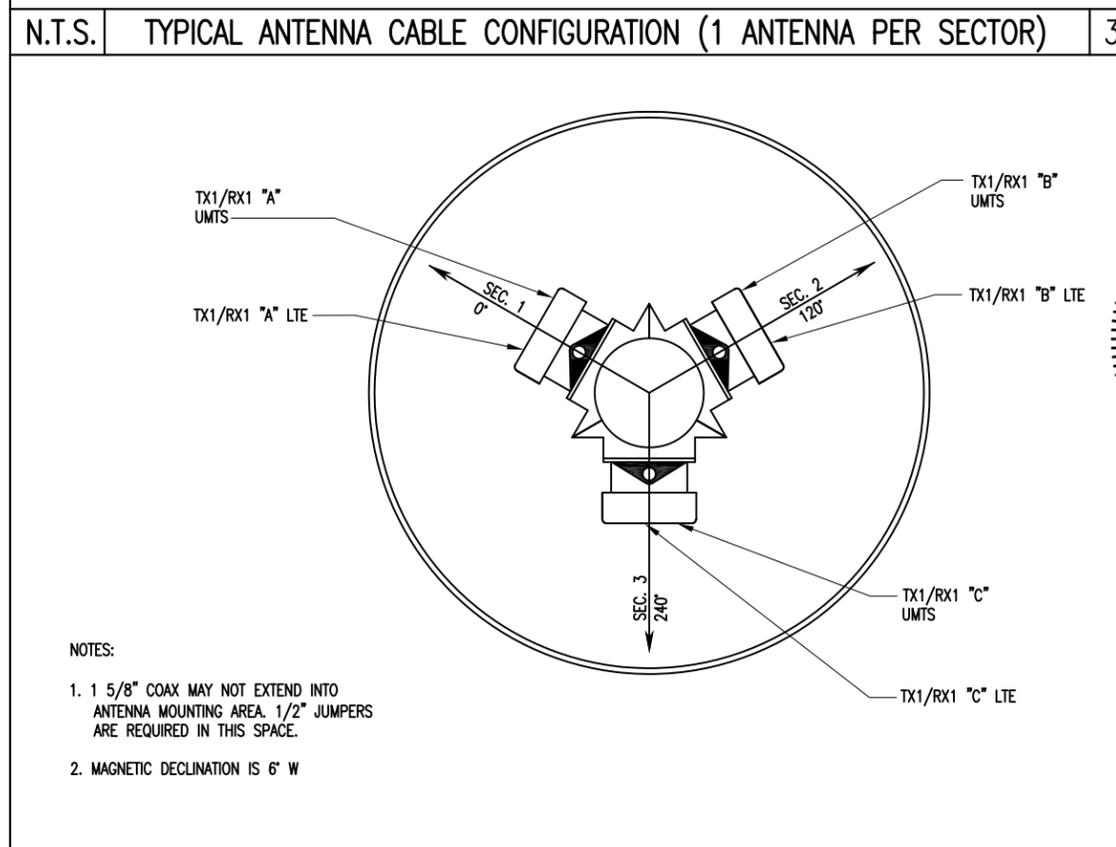
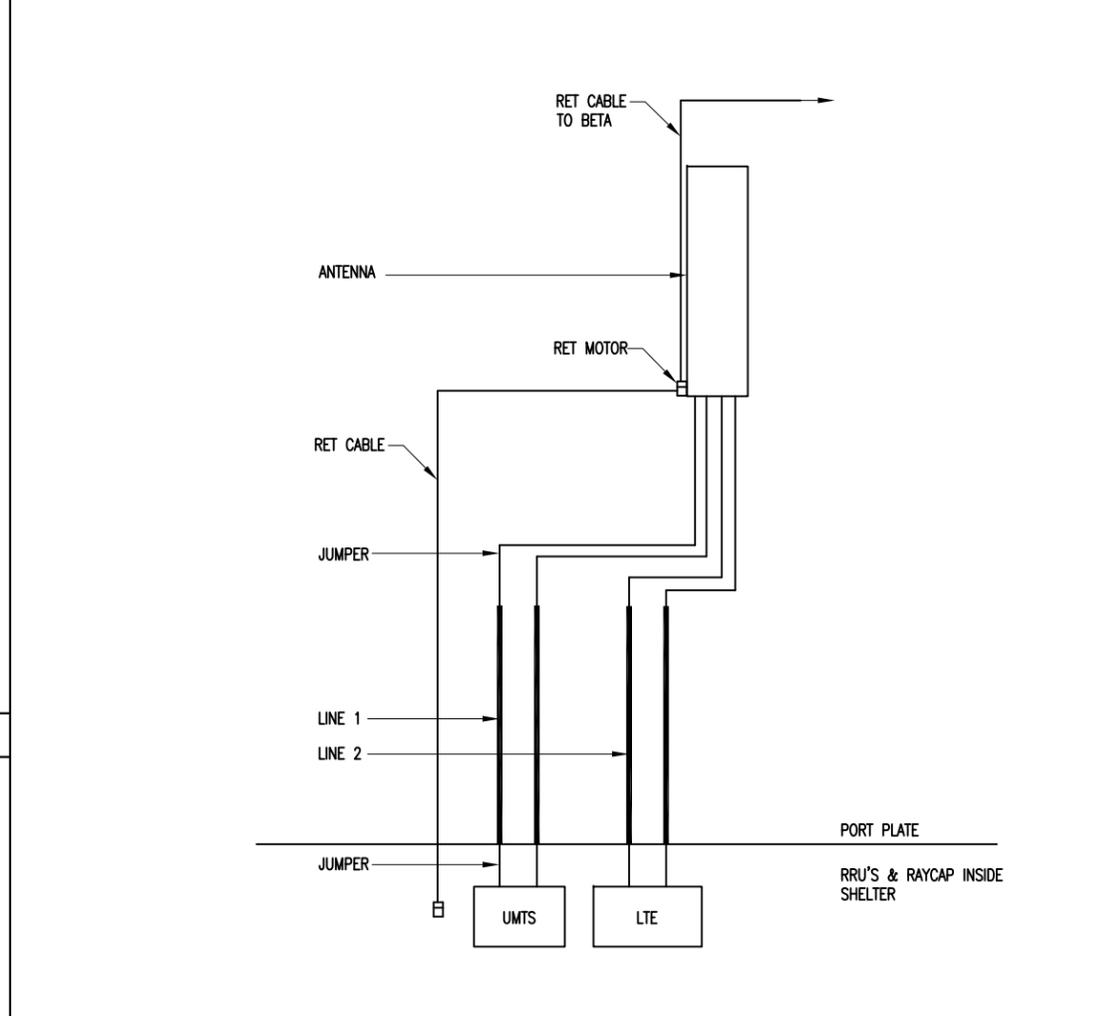
ANTENNA AND COAXIAL CABLE SCHEDULE														
ANTENNA MARK	SECTOR	ANTENNA	AZIMUTH	RAD CENTER	COAXIAL CABLE LENGTH	COAXIAL CABLE	COAXIAL CABLE MFR/MODEL	MIN. BENDING RADIUS	RRU	TECHNOLOGY	TAPE COLOR	TRX ANTENNA CONFIGURATION	MECHANICAL DOWNTILT	REMOTE ELEC. TILT
A-1	1	KATHREIN 80010766	0°	145°	175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	RED	TX/RX1	0°	5°
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	(2) RED	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(3) RED	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(4) RED	TX/RX2		
B-1	2	KATHREIN 80010766	120°	145°	175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	BLUE	TX/RX1	0°	4°
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	(2) BLUE	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(3) BLUE	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(4) BLUE	TX/RX2		
C-1	3	KATHREIN 80010766	240°	145°	175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	GREEN	TX/RX1	0°	4°
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	UMTS	(2) GREEN	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(3) GREEN	TX		
					175'	1 5/8" Ø	ANDREW AVA7-50	20"	ERICSSON	LTE	(4) GREEN	TX/RX2		
TOTAL LENGTH					1,050'									DECLINATION = 9° W

N.T.S. ANTENNA AND COAXIAL CABLE SCHEDULE 1



CABLE MARKING LOCATIONS TABLE			
NO.	TAPE	TAG	LOCATIONS
1.	X		EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2.	X		EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3.		X	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER. (IF SHELTER IS USED)
4.	X		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5.	*	*	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

N.T.S. COLOR CODE DETAILS & NOTES 2



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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	NEW TOWER TYPE	AGT	08-29-11
2	ANTENNA TYPE	DRS	08-31-11
3	RF CHANGES	AGT	09-10-13
4	ADDRESS CHG.	AGT	12-30-13

ATC SITE NUMBER:
273130
ATC SITE NAME:
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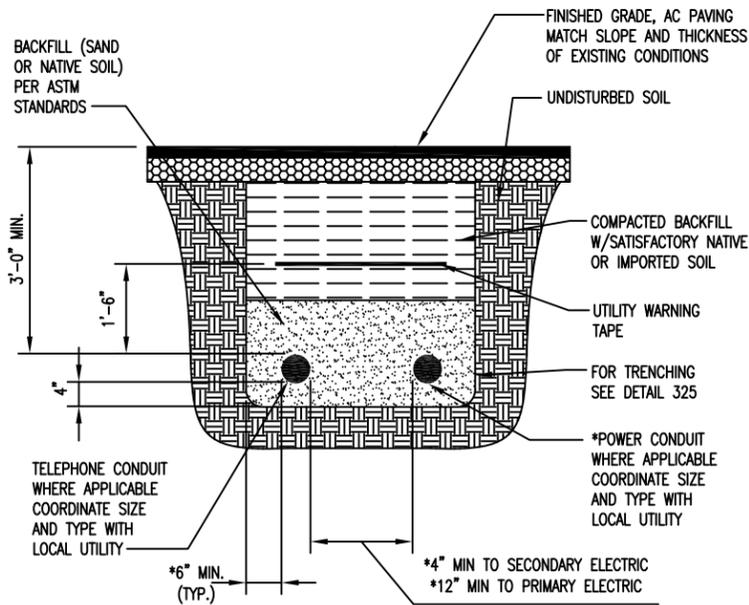


DRAWN BY:	AGT
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DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

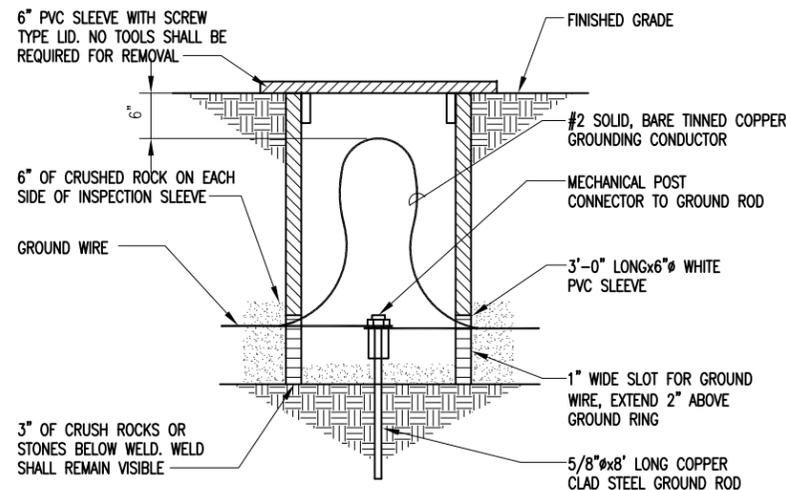
SHEET TITLE:
AT&T ELECTRICAL DETAILS

SHEET NUMBER: **E-3** REV. # **4**

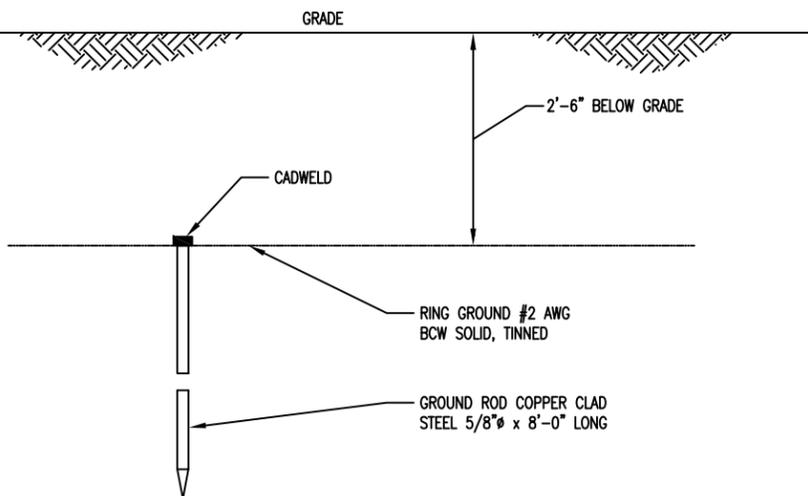
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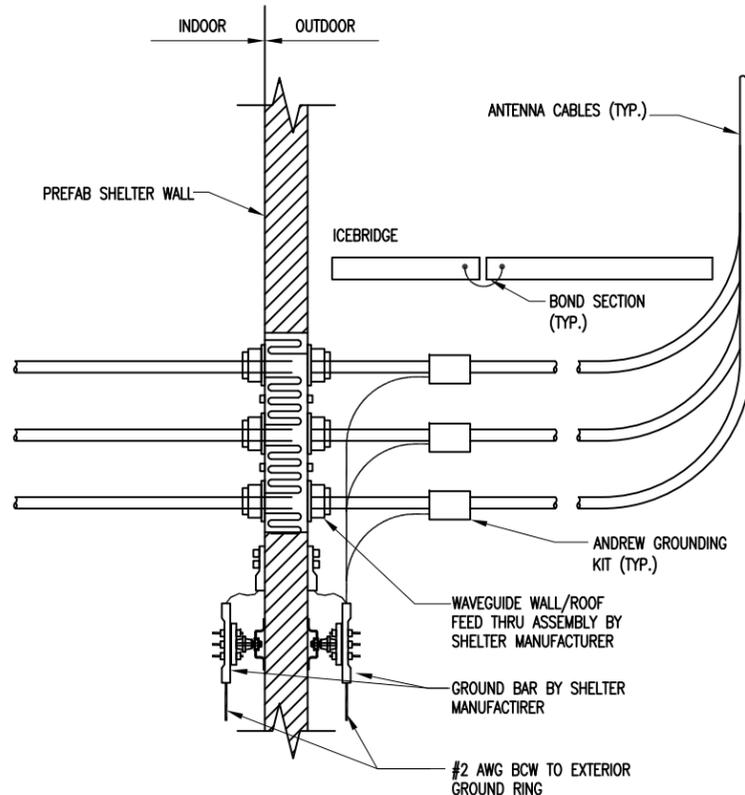
N.T.S. POWER AND TELCO DUCT BANK DETAIL 1



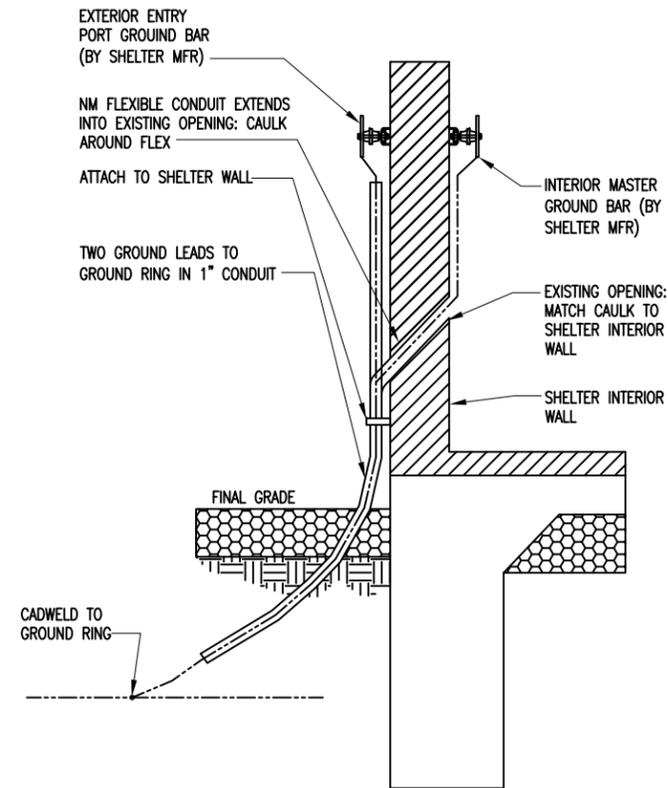
N.T.S. GROUND ROD TEST WELL 2



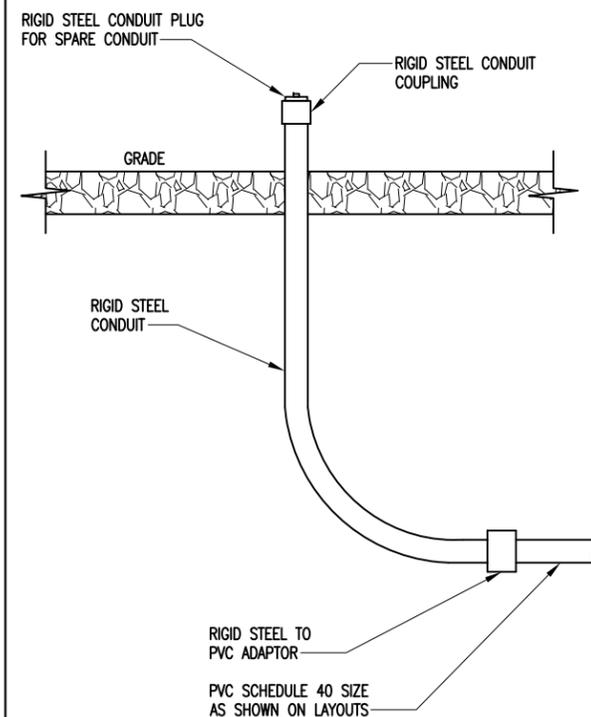
N.T.S. GROUND ROD 3



N.T.S. CABLE INSTALLATION W/ WALL/ROOF FEED THRU ASSEMBLY 4



N.T.S. SHELTER WALL PENETRATION DETAIL 5



N.T.S. UNDERGROUND CONDUIT STUB-UP 7

N.T.S. NOT USED 6

AMERICAN TOWER CORPORATION
 496 LONG POINT ROAD
 MOUNT PLEASANT, SC 29464
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 FAX: (843) 971-8889

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ATC SITE NUMBER:
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SHEET TITLE:
AT&T ELECTRICAL DETAILS

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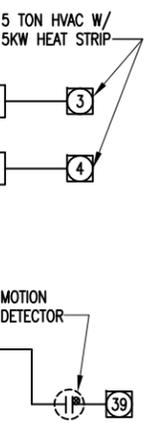
SEE ELECTRICAL SCHEMATIC SHEET 1/E-6

NOTES:

- ALL WIRE TO BE #12 THHN/THWN UNLESS NOTED OTHERWISE.
COLOR CODE:
A ϕ = BLACK
B ϕ = RED
NEUTRAL = WHITE
GROUND = GREEN
- ALL WORK TO CONFORM TO 2008 N.E.C.
- LABEL SERVICE DISCONNECT WITH A RED TAG.
- SWITCH LEG CONDUCTORS SHALL BE THE SAME COLOR AS CIRCUIT CONDUCTORS.
- PULL WIRES TO END OF FLEXIBLE NONMETALLIC CONDUIT & TAG.
- PULL SEPARATE GROUND CONDUCTOR FOR EACH CIRCUIT.
- WIRE SMOKE DETECTOR (ITEM 13) AS SHOWN ONLY IF 120 VOLT OPTION IS USED.)

LOAD		LOAD PER PHASE (VA)			LOADS CONTINUOUS	LOADS NON-CONTINUOUS	TRIP	POLES	WIRE SIZE	A.I.C.	WIRE TYPE	
DESCRIPTION	QTY.	UNIT V.A.	A	B								C
1	RECTIFIER #1	1	1000	1000	X		40	2	8	10,000	THHN	
3		1	1000			1000	X	40	2	8	10,000	THHN
5	RECTIFIER #2	1	1000	1000	X		40	2	8	10,000	THHN	
7		1	1000			1000	X	40	2	8	10,000	THHN
9	RECTIFIER #3	1	1000	1000	X		40	2	8	10,000	THHN	
11		1	1000			1000	X	40	2	8	10,000	THHN
13	RECTIFIER #4	1	1000	1000	X		40	2	8	10,000	THHN	
15		1	1000			1000	X	40	2	8	10,000	THHN
17	RECTIFIER #5	1	1000	1000	X		40	2	8	10,000	THHN	
19		1	1000			1000	X	40	2	8	10,000	THHN
21	RECTIFIER #6	1	1000	1000	X		40	2	8	10,000	THHN	
23		1	1000			1000	X	40	2	8	10,000	THHN
25	RECTIFIER #7	1	1000	1000	X		40	2	8	10,000	THHN	
27		1	1000			1000	X	40	2	8	10,000	THHN
29	RECTIFIER #8	1	1000	1000	X		40	2	8	10,000	THHN	
31		1	1000			1000	X	40	2	8	10,000	THHN
33	RECTIFIER #9	1	1000	1000	X		40	2	8	10,000	THHN	
35		1	1000			1000	X	40	2	8	10,000	THHN
37	RECTIFIER #10 (OPTIONAL)							40	2	10,000	THHN	
39								40	2	10,000	THHN	
41	EXTERIOR RECEPTACLE	2	180	360	X		20	1	12	10,000	THHN	
SUBTOTAL CONTINUOUS				9360		9000						
SUBTOTAL NON-CONTINUOUS				-		-						
VOLTAGE: 120/240		CYCLE: 60		PHASE: 1		WIRES: 3						
NEUTRAL: 200 AMPS												
MAIN BREAKER: 200 AMP FRAME				A.I.C. 10,000		TRIP: 200 AMPS						
MAIN LUGS: AMPS		MAIN COPPER BUS: 400 AMPS										
MAINS: TOP <input checked="" type="checkbox"/>		BOTTOM <input type="checkbox"/>										

LOAD		LOAD PER PHASE (VA)			LOADS CONTINUOUS	LOADS NON-CONTINUOUS	TRIP	POLES	WIRE SIZE	A.I.C.	WIRE TYPE
DESCRIPTION	QTY.	UNIT V.A.	A	B							
2	HVAC #1	1	3340								THHN
4		1	3340								THHN
6	HVAC #2	1	3340								THHN
8		1	3340								THHN
10	SPACE										THHN
12	SPACE										THHN
14	INTERIOR RECEPTACLE										THHN
15	INTERIOR LIGHTS										THHN
18	EXTERIOR LIGHTS										THHN
20	RECTIFIER #11 (OPTIONAL)										THHN
22											THHN
24	RECTIFIER #12 (OPTIONAL)										THHN
26											THHN
28	RECTIFIER #13 (OPTIONAL)										THHN
30											THHN
32	RECTIFIER #14 (OPTIONAL)										THHN
34											THHN
36	RECTIFIER #15 (OPTIONAL)										THHN
38											THHN
40	RECTIFIER #16 (OPTIONAL)										THHN
42											THHN
SUBTOTAL CONTINUOUS				330		331					
SUBTOTAL NON-CONTINUOUS				6680		6680					
MANUFACTURER: INTERSECT											
TYPE AND CATALOG NUMBER: INTERSECT		FB# 823-00023		AA1220061-3S							
NO EQUAL: <input checked="" type="checkbox"/>		APPROVED EQUAL: <input type="checkbox"/>									
MOUNTING: SURFACE: <input checked="" type="checkbox"/>		FLUSH: <input type="checkbox"/>									
TOTAL KVA CONTINUOUS			23.78								
TOTAL KVA NON-CONTINUOUS			13.38								
TOTAL KVA			37.14								
TOTAL AMPS			154.75								



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1	NOTES	AGT	09-12-13
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ATC SITE NUMBER:
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0024902
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CHRISTOPHER D. MORIN ENGINEER

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SHEET TITLE:
AT&T PANELBOARD SCHEDULE

SHEET NUMBER: **E-5** REV. # **2**

N.T.S. AT&T PANELBOARD SCHEDULE 1

ELECTRICAL INSTALLATION NOTES:

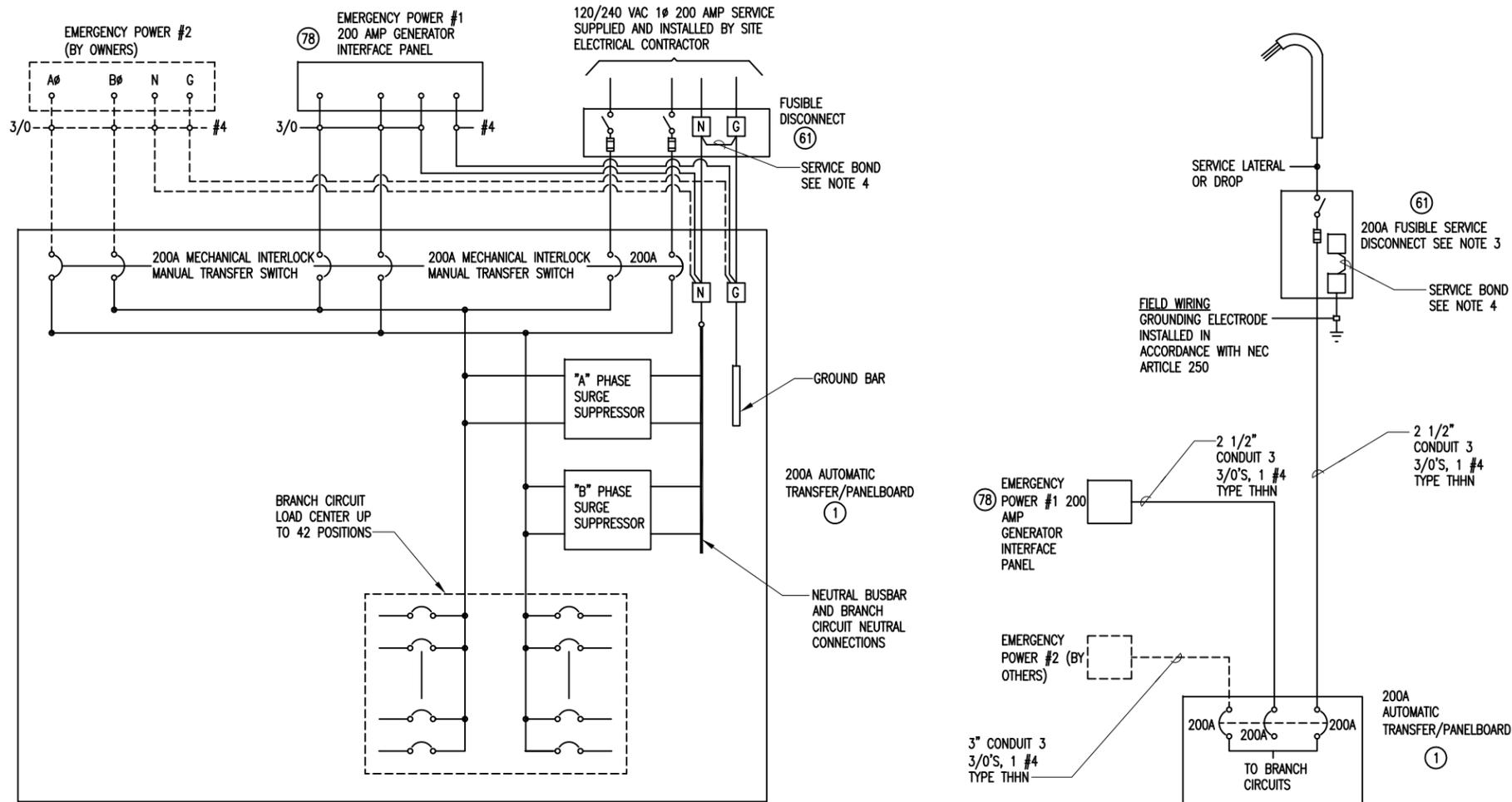
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- ALL CIRCUITS SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E. HOTS), GROUNDING, AND THE CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS, (I.E. PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOLS TO REMOVE SHARP EDGES.
- POWER CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AND LARGER) 600V, OIL RESISTANT THHN OR THWN-2 CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#4 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; WITH OUTER JACKET. LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C IF AVAILABLE.
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC, AND NEC.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 OFR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND, DIRECT BURIED, IN AREAS OR OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA UL, ANSI/IEEC, AND NEC.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

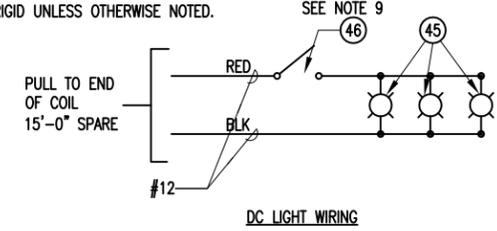
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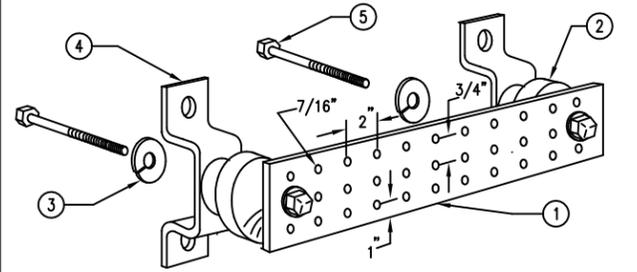
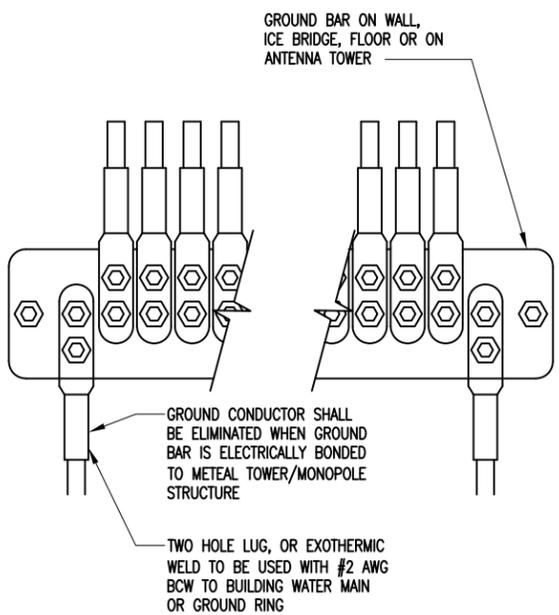
- 1.-----DASHED LINES DENOTE FIELD WORK.
2. ALL CIRCUIT BREAKERS ARE 10,000 A.I.C. TYPICALLY. A.I.C. RATING MAY CHANGE AS ELECTRICAL SUPPLY DEMAND CHANGES.
3. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC.) SUPPLIED BY EQUIP. MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE WITH #4 AWG GREEN FOR 200 AMP SERVICE AND 1/0 AWG GREEN FOR 400 AMP SERVICE.
4. WHEN SERVICE OVERCURRENT DISCONNECT IS FIELD INSTALLED, A TEMPORARY SERVICE BOND WILL BE INSTALLED FOR SAFETY PURPOSE.
5. INSTALL SERVICE BOND JUMPER AT SERVICE DISCONNECT.
6. ALL CONDUCTORS SHALL BE TERMINATED WITH PROPERLY SIZED SOLDERLESS LUGS RATED FOR COPPER CABLE.
7. NOT MORE THAN TWO LUGS SHALL BE TERMINATED ON A TERMINAL.
8. USE TOP SWITCH ONLY.
9. ALL CONDUIT SHALL BE EMT UNLESS OTHERWISE NOTED.
10. ALL CONDUIT THROUGH WALL SHALL BE RIGID UNLESS OTHERWISE NOTED.



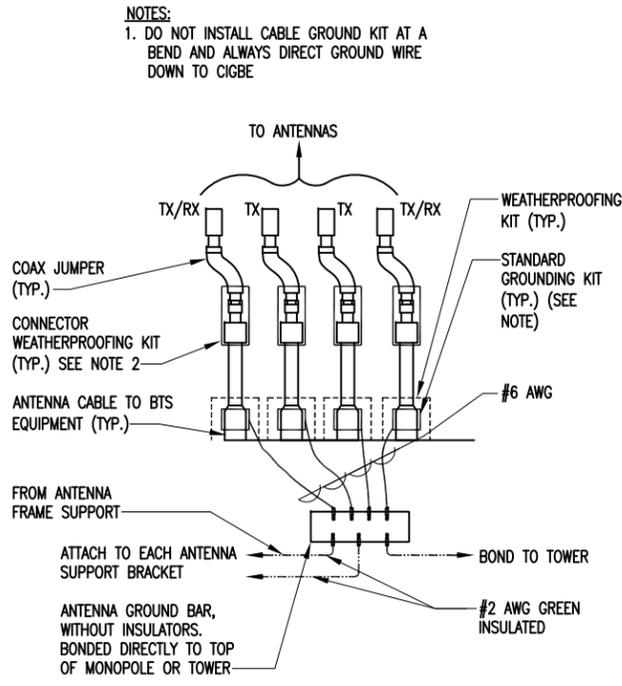
N.T.S.

AT&T ELECTRICAL DIAGRAM

1

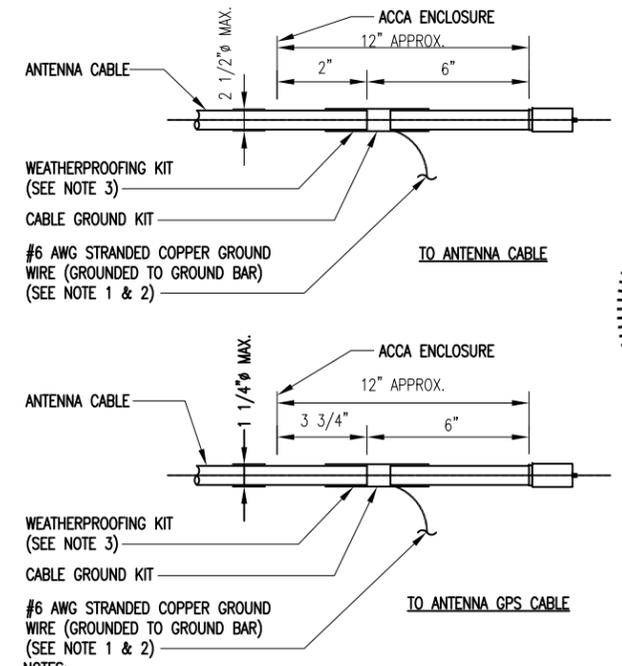


N.T.S. GROUND BAR DETAIL 3



CONNECTION OF GROUND WIRES TO GROUNDING BAR @ ANTENNAS

N.T.S. DETAIL 4



- NOTES:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. GROUNDING KIT SHALL BE ANDREW SURE GROUND TYPE KIT WITH TWO-HOLE LUG.
 3. WEATHER PROOFING SHALL BE ANDREW TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

N.T.S. CABLE GROUND KIT CONNECTION 5

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▲	SITE NAME CHG.	AGT	09-10-13
▲	ADDRESS CHG.	AGT	12-30-13
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273130
 ATC SITE NAME:
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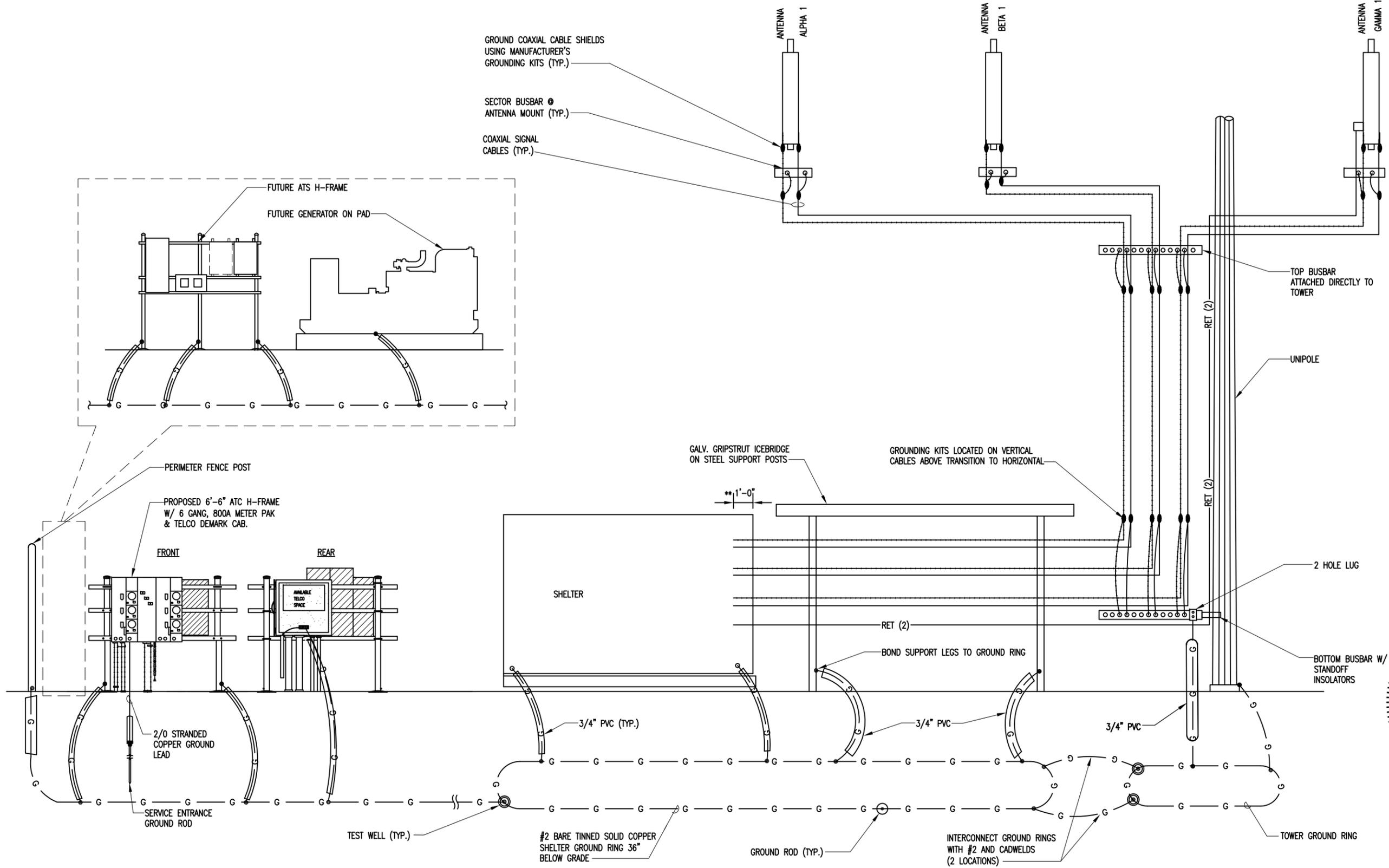
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 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 0024902
 12.30.13
 ENGINEER
 CHRISTOPHER D. MORIN

DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
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AT&T ELECTRICAL DETAILS

SHEET NUMBER:	REV. #
E-6	2

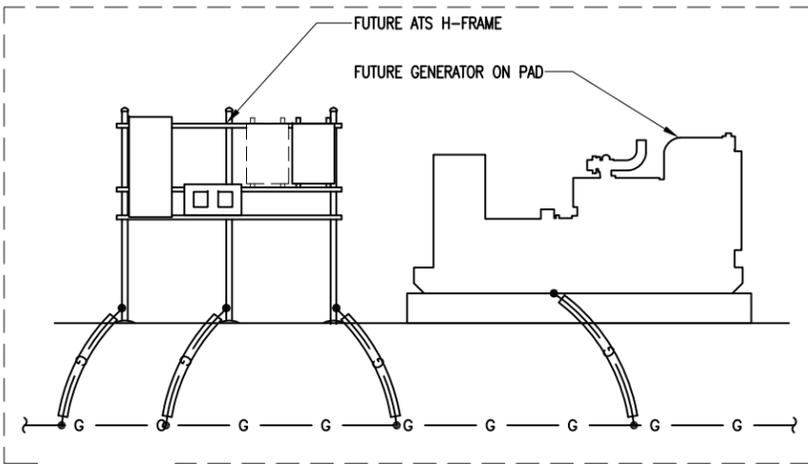
12-30-13 ARNOLD 11:06:04 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E7.dwg



GROUND COAXIAL CABLE SHIELDS USING MANUFACTURER'S GROUNDING KITS (TYP.)

SECTOR BUSBAR @ ANTENNA MOUNT (TYP.)

COAXIAL SIGNAL CABLES (TYP.)



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NO.	DESCRIPTION	BY	DATE
1	NEW LAYOUT/LOC.	AGT	08-29-11
2	JURIS. COMMENTS	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13
4			
5			

ATC SITE NUMBER:
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NEW HANOVER NC

SITE ADDRESS:
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 WILMINGTON, NC 28412



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SHEET TITLE:
**AT&T
 ELECTRICAL
 DETAILS**

SHEET NUMBER: **E-7** REV. # **3**

N.T.S.

GROUNDING RISER DIAGRAM

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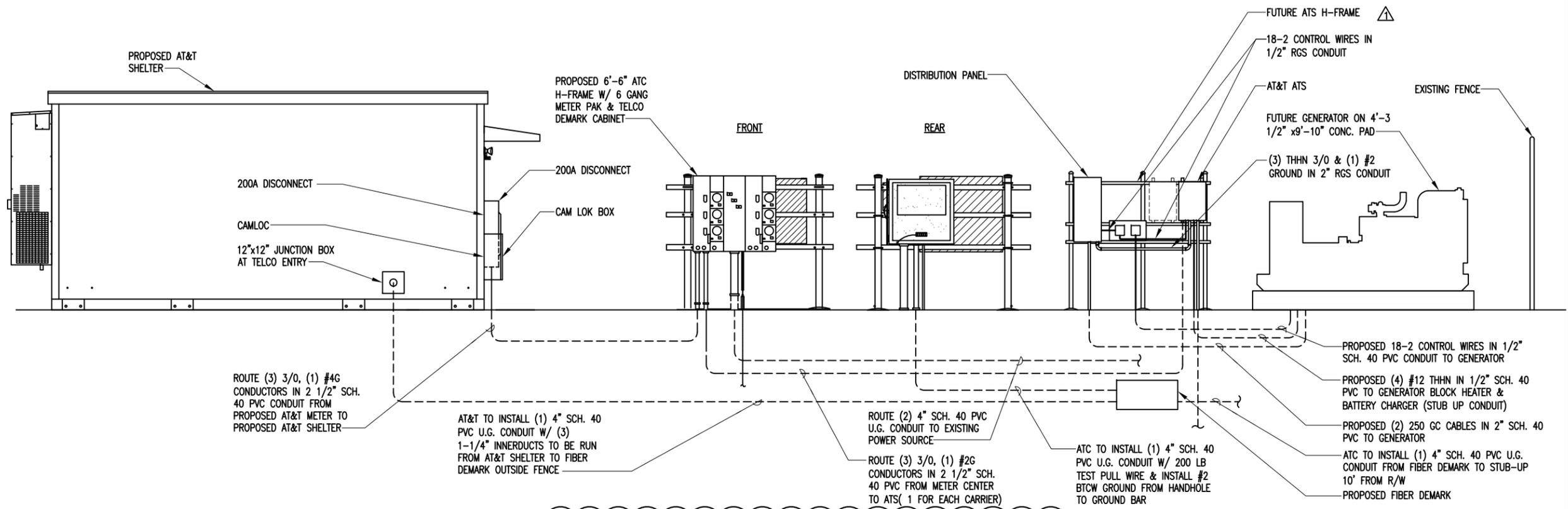
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3	ADDRESS CHG.	AGT	12-30-13
4			
5			

ATC SITE NUMBER:
273130
 ATC SITE NAME:
NEW HANOVER NC
 SITE ADDRESS:
 3509 PEEL ST.
 WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

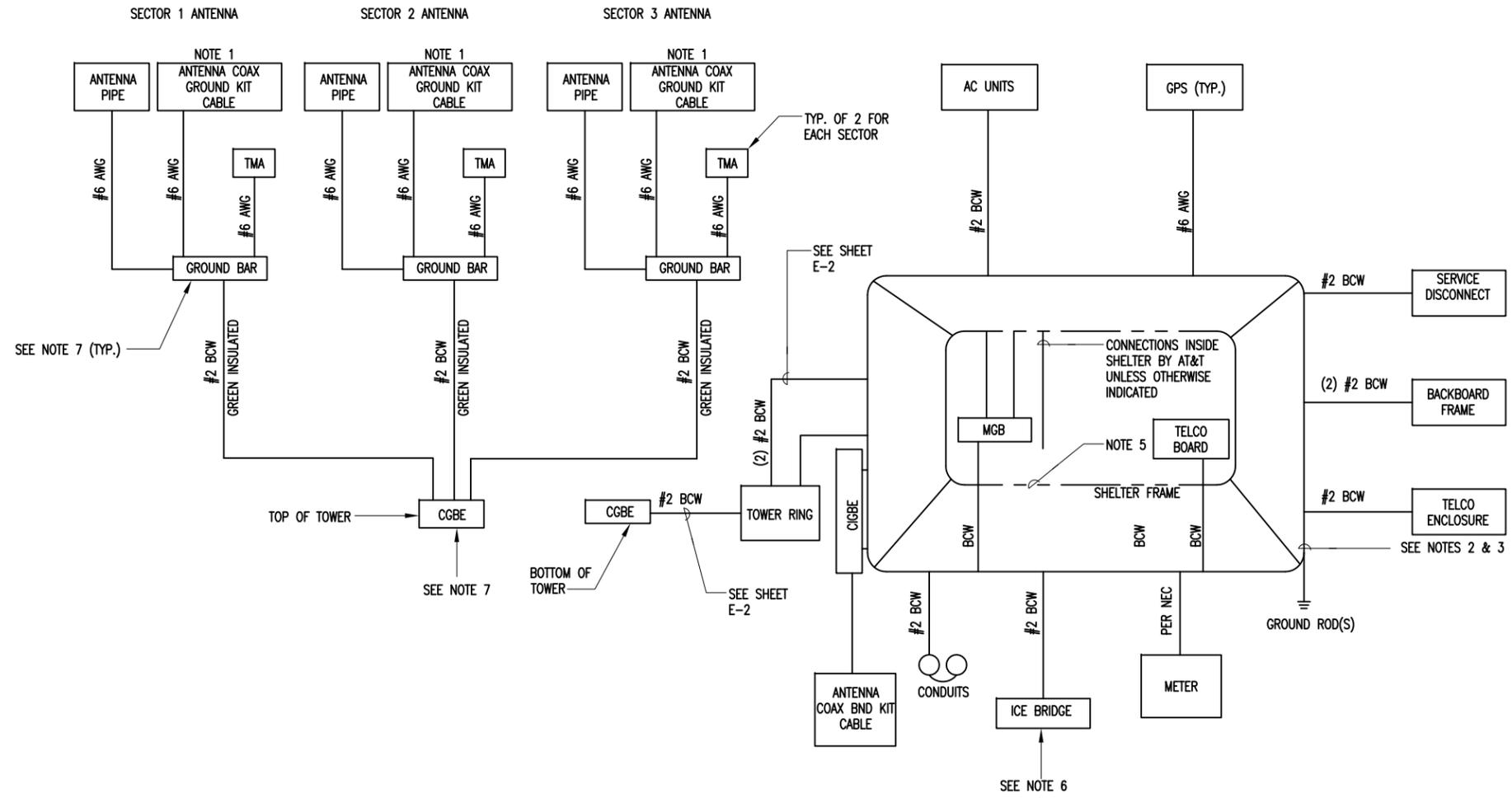
SHEET TITLE:
AT&T ELECTRICAL DETAILS
 SHEET NUMBER: **E-8** REV. # **3**



PARTIAL POWER/TELCO RISER DIAGRAM FOR NEW EQUIPMENT

N.T.S. 1

- NOTES**
- BOND ANTENNA GROUNDING KIT CABLE TO GROUND BAR.
 - #2 (SOLID TINNED) BCW BURIED GROUND RING.
 - FOR GROUNDING CONNECTION & DETAILS, SEE LAYOUT DRAWINGS
 - INSTALL GROUND RODS AT LOCATIONS AS SHOWN ON GROUNDING PLAN.
 - INTERIOR GROUND RING FOR EQUIPMENT BY SHELTER MANUFACTURER.
 - ICE BRIDGE TO BE ISOLATED FROM TOWER MIN. OF 4".
 - BOND GROUND BAR TO TOWER.

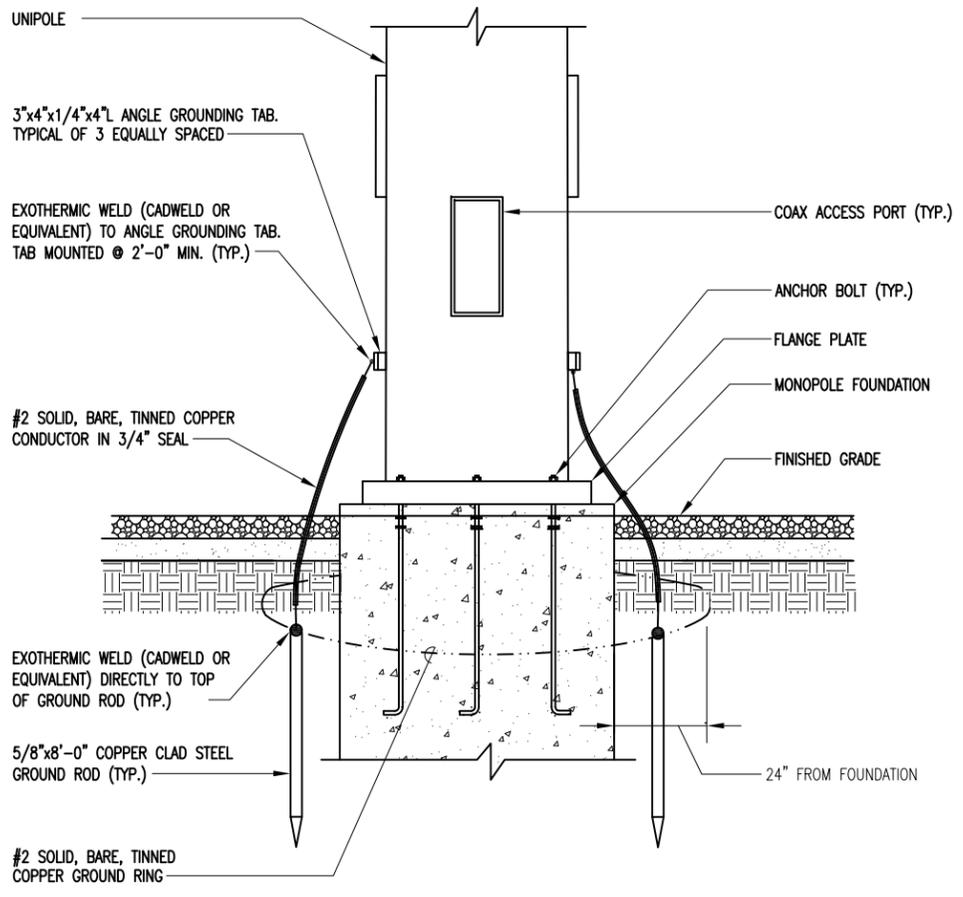


SCHEMATIC DIAGRAM - GROUNDING SYSTEMS

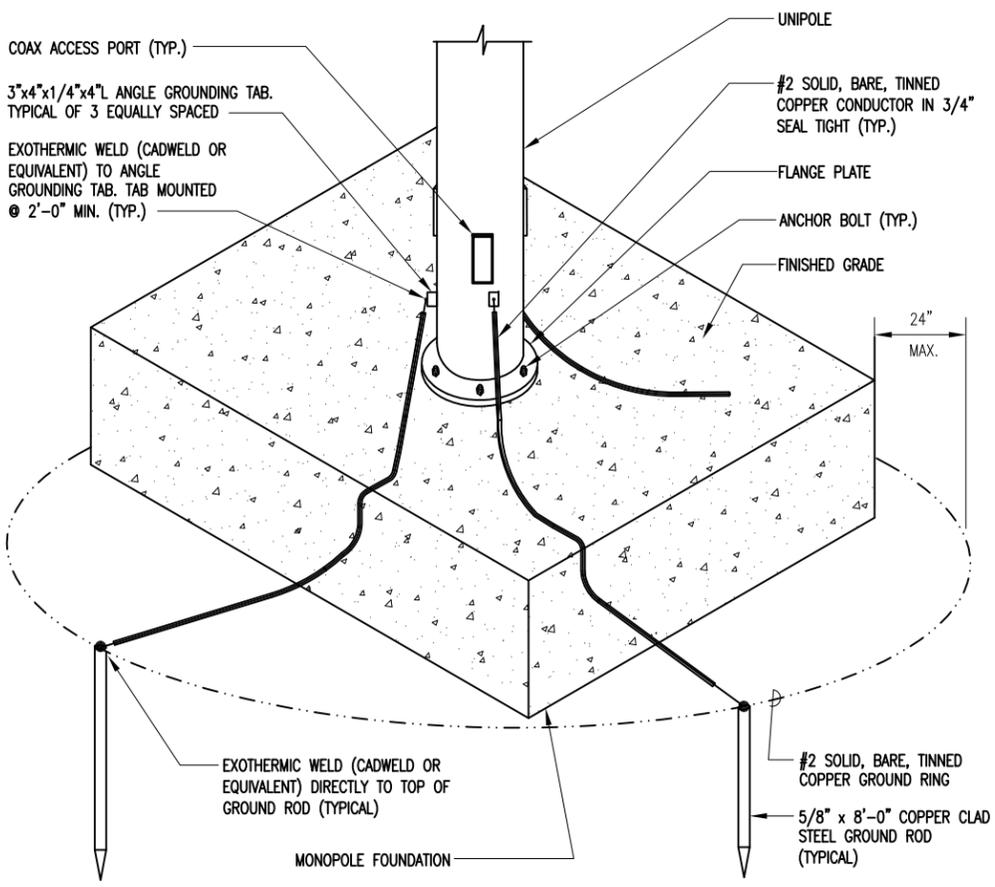
N.T.S. 2

12-30-13 ARNOLD 11:07:38 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/EB.dwg

12-30-13 ARNOLD 11:08:32 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E9.dwg



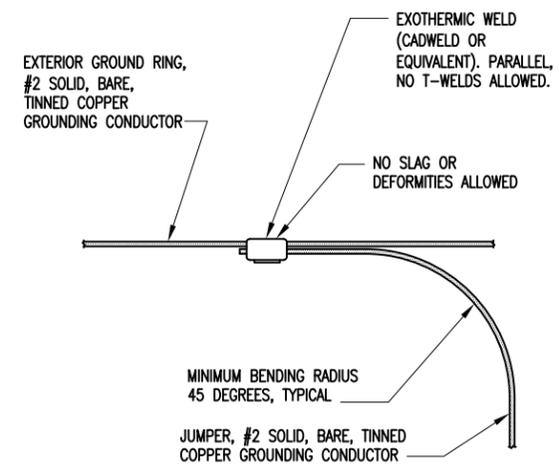
N.T.S. TOWER GROUNDING DETAIL WITH FOOTING 1



N.T.S. TOWER GROUNDING WITH POURED IN PLACE FOUNDATION 2

N.T.S. NOT USED 3

N.T.S. NOT USED 4



GROUND RING DETAIL 5

AMERICAN TOWER CORPORATION
 496 LONG POINT ROAD
 MOUNT PLEASANT, SC 29464
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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	NEW TOWER TYPE	AGT	08-29-11
2	SITE NAME CHG.	AGT	09-10-13
3	ADDRESS CHG.	AGT	12-30-13
4			
5			

ATC SITE NUMBER:
273130
 ATC SITE NAME: **NEW HANOVER NC**
 SITE ADDRESS:
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 WILMINGTON, NC 28412



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DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
ELECTRICAL DETAILS

SHEET NUMBER: **E-9** REV. # **3**

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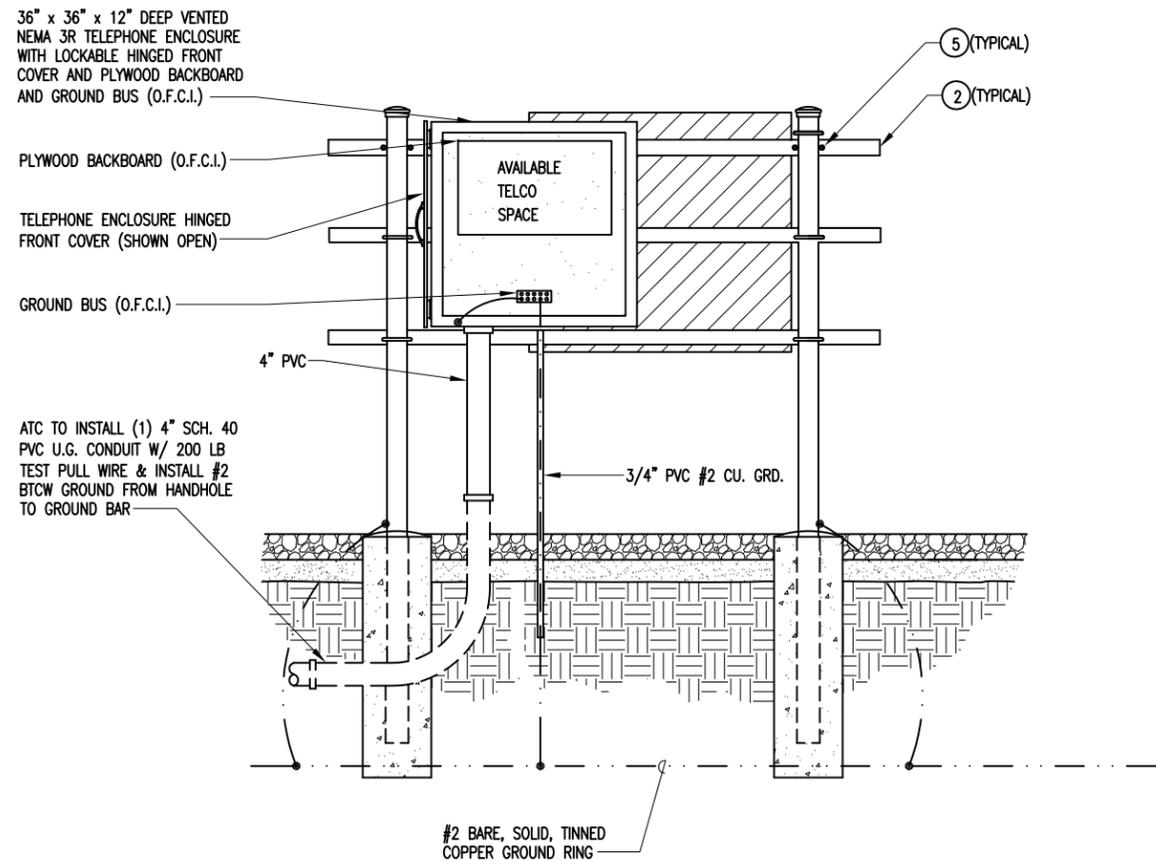
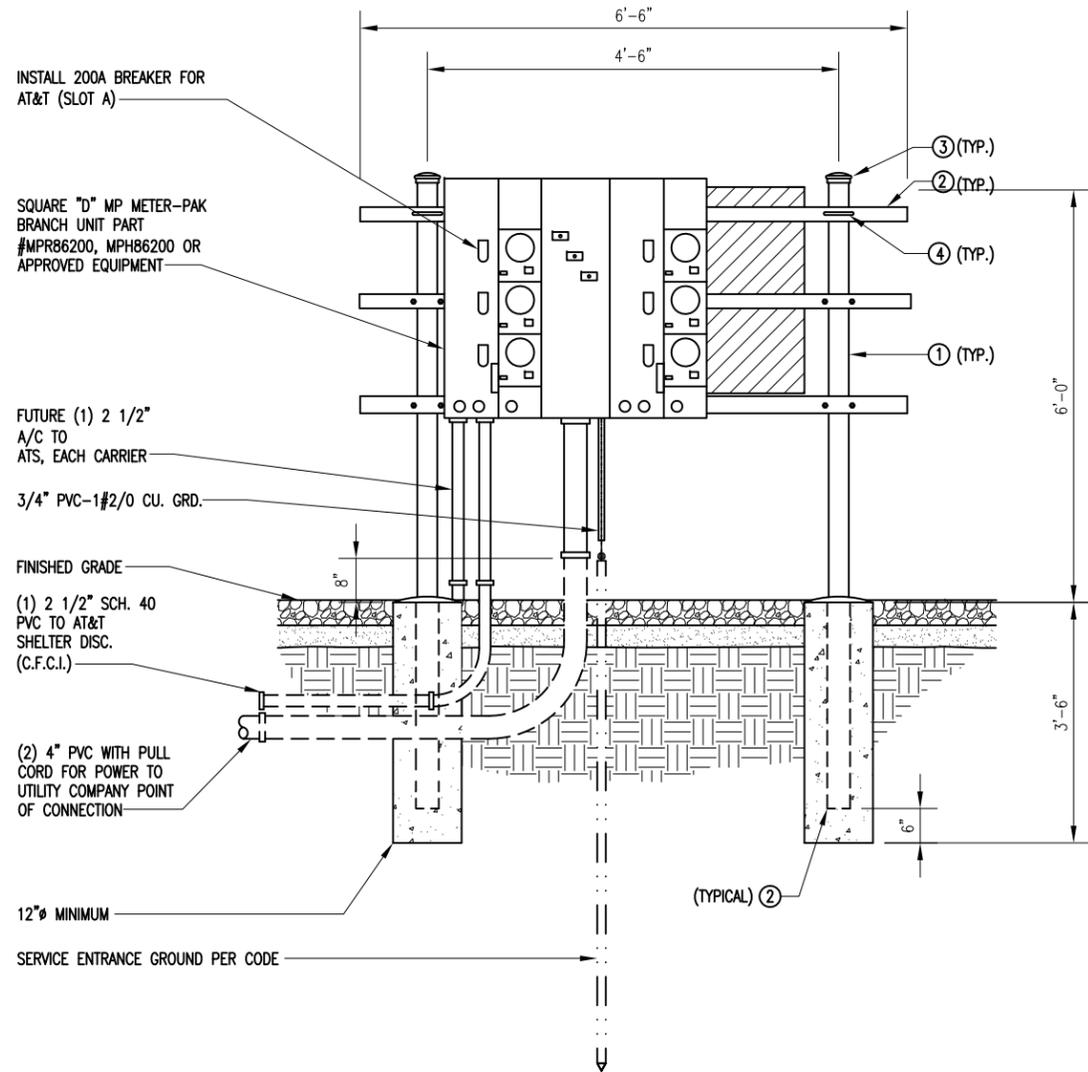
NOTES:

- UNLESS OTHERWISE NOTED, ALL UNDERGROUND PVC TO BE SCH 40. ALL OTHER UNDERGROUND PVC CONNECTIONS TO BE SCH 80.
- ALL ABOVE GRADE PVC TO BE SCH 40. ALL CONNECTIONS TO BE SCH 40 PVC OR SEALTIGHT. VERIFY WITH CONSTRUCTION MANAGER PRIOR TO BID.
- ALL WIRE CONNECTIONS & CONDUITS TO BE SUPPLIED BY CONTRACTOR UNLESS OTHERWISE NOTED OR SPECIFIED BY CONSTRUCTION MANAGER.
- ALL AT&T CONDUITS SHALL TRANSITION BELOW GRADE AT ELBOW FROM PVC TO RGS ABOVE GRADE.
- TELCO DEMARK CABINET SIZE MAY BE DETERMINED BY LOCAL TELCO PROVIDER.

PARTS LIST - O.F.C.I.			
ITEM	SPECIFICATION	DESCRIPTION	QTY.
①	SCH. 40	84" x 3.5" O.D. RIGID GALVANIZED PIPE	2
②	P1000 T	1 5/8" SLOTTED UNISTRUT CHANNEL	6
③		3-1/2" O.D. PIPE CAP	2
④		1/2 x 3-5/8 x 5" GALV. U-BOLT ASSY.	6
⑤		3/8" GALV. FLAT WASHER	12

- INSTALL H- FRAME AS DETAILED IN EXHIBIT A- 1. THIS IS A STANDARD DRAWING & ELECTRICAL EQUIPMENT IS TO BE SQUARE "D" OR APPROVED EQUAL & MAIN BUSS RATING SHALL BE 800 AMPS. FINAL CONFIGURATION SHALL BE (6) 200 AMP METERS AVAILABLE. AN AREA OF 3' X 3' SHALL BE SET ASIDE ON THE H-FRAME FOR FUTURE LIGHTING CONTROLLER INSTALLATION.
- INSTALL (2) 4" SCH 40 PVC CONDUIT FROM MAIN TERMINAL BOX TO POWER DEMARK LOCATION DETERMINED BY POWER COMPANY. CONTRACTOR SHALL INSTALL PULL-STRINGS IN EACH CONDUIT AS REQUIRED. DISTANCE NOT TO EXCEED 150'. MINIMUM DEPTH OF 48" AND CONTRACTOR SHALL INSTALL WIRE- REINFORCED WARNING TAPE 12" BELOW SURFACE.
- INSTALL (1) 4" SCH 40 PVC CONDUIT FROM DEMARK CABINET TO FIBER DEMARK LOCATION DETERMINED BY LOCAL TELEPHONE SERVICE PROVIDER. CONTRACTOR SHALL INSTALL (2) 200# PULL- CORDS IN THE CONDUIT. DISTANCE NOT TO EXCEED 150'. MINIMUM DEPTH OF 36" AND CONTRACTOR SHALL INSTALL WIRE- REINFORCED WARNING TAPE 12" BELOW SURFACE.
- CONNECT #2 SOLID TINNED COPPER TO H- FRAME POSTS VIA EXOTHERMIC WELD AND CONNECT #2 SOLID TINNED COPPER LEADS TO EXISTING GROUND RING FOR SITE AND TOWER VIA EXOTHERMIC WELD.
- INSTALL SERVICE ENTRANCE GROUND ROD AT LOCATION WHERE MAIN TERMINAL BOX IS MOUNTED ON H- FRAME. PROVIDE INSPECTION WELL AT GROUND ROD LOCATION FOR INSPECTION REQUIREMENTS.
- LABEL METER CENTERS PER POWER COMPANY REQUIREMENTS. IF NO REQUIREMENTS, LABEL EACH SLOT STARTING FROM TOP SLOT "A"1D, "B", & "C". :LABELS SHALL BE ULTRA- VIOLET RESISTANT. METER "A" SHALL BE RESERVED FOR AT&T AND SHALL ALSO HAVE A LABEL STATING "AT&T"

UTILITY SCOPE OF WORK



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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
①	JURS. COMMENTS AGT	AGT	09-10-13
②	ADDRESS CHG.	AGT	12-30-13
③			
④			
⑤			

ATC SITE NUMBER:
273130

ATC SITE NAME:
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WILMINGTON, NC 28412



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DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

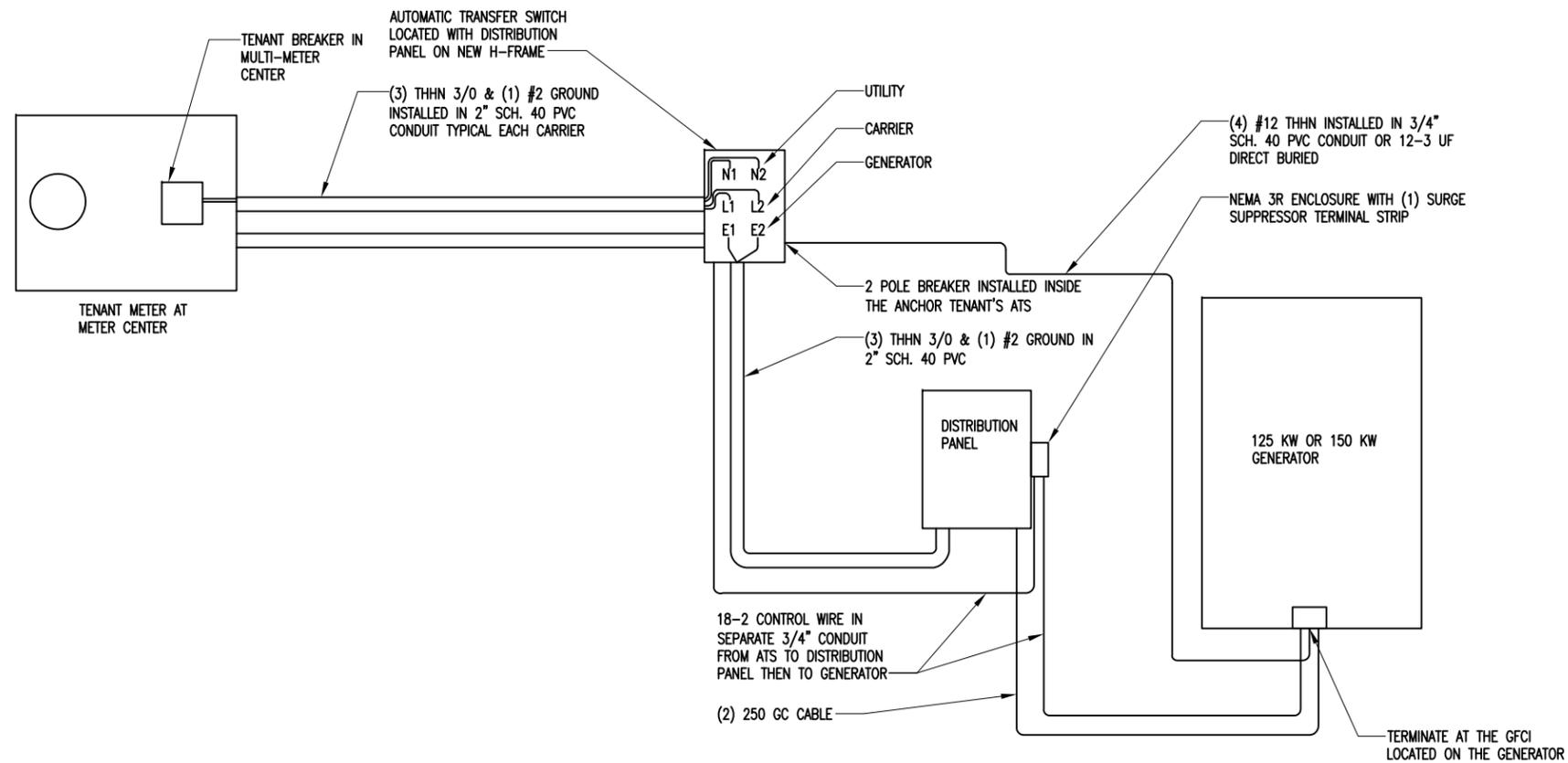
SHEET TITLE:
**ELECTRICAL
DETAILS
AND NOTES**

SHEET NUMBER: E-10	REV. # 2
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N.T.S.

UTILITY SERVICE H-FRAME - FRONT AND REAR ELEVATIONS

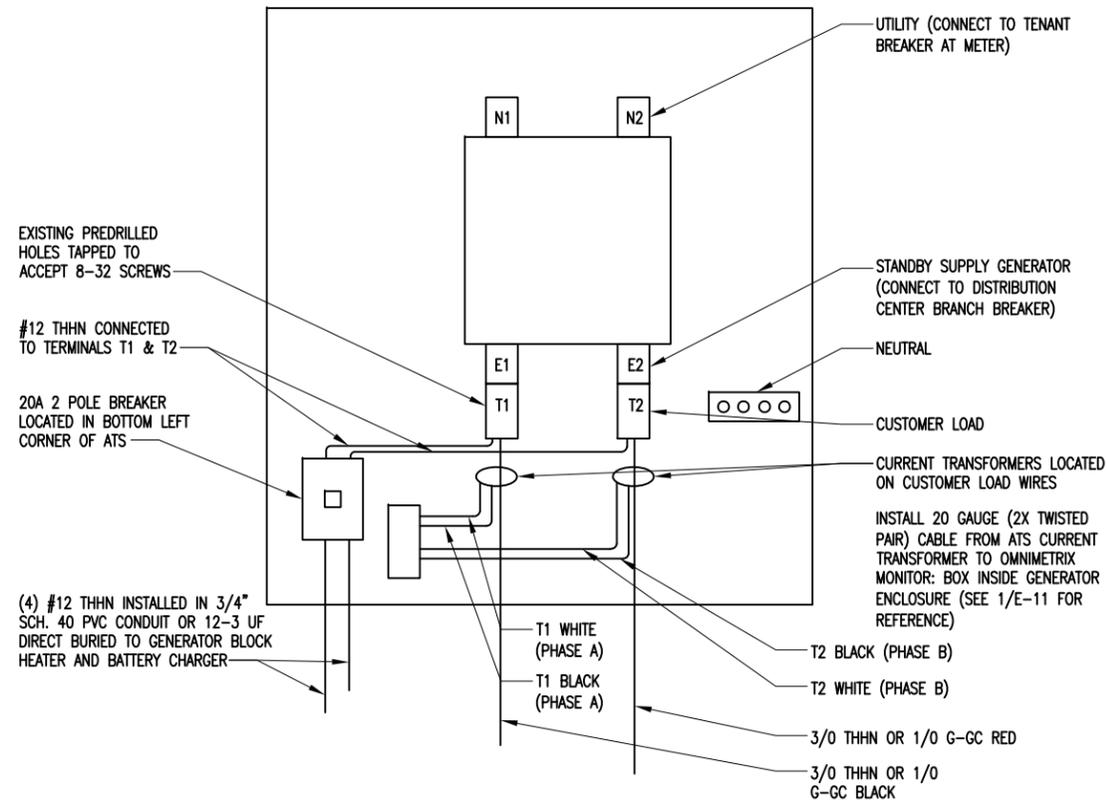
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N.T.S.

SHARED GENERATOR WIRING DIAGRAM

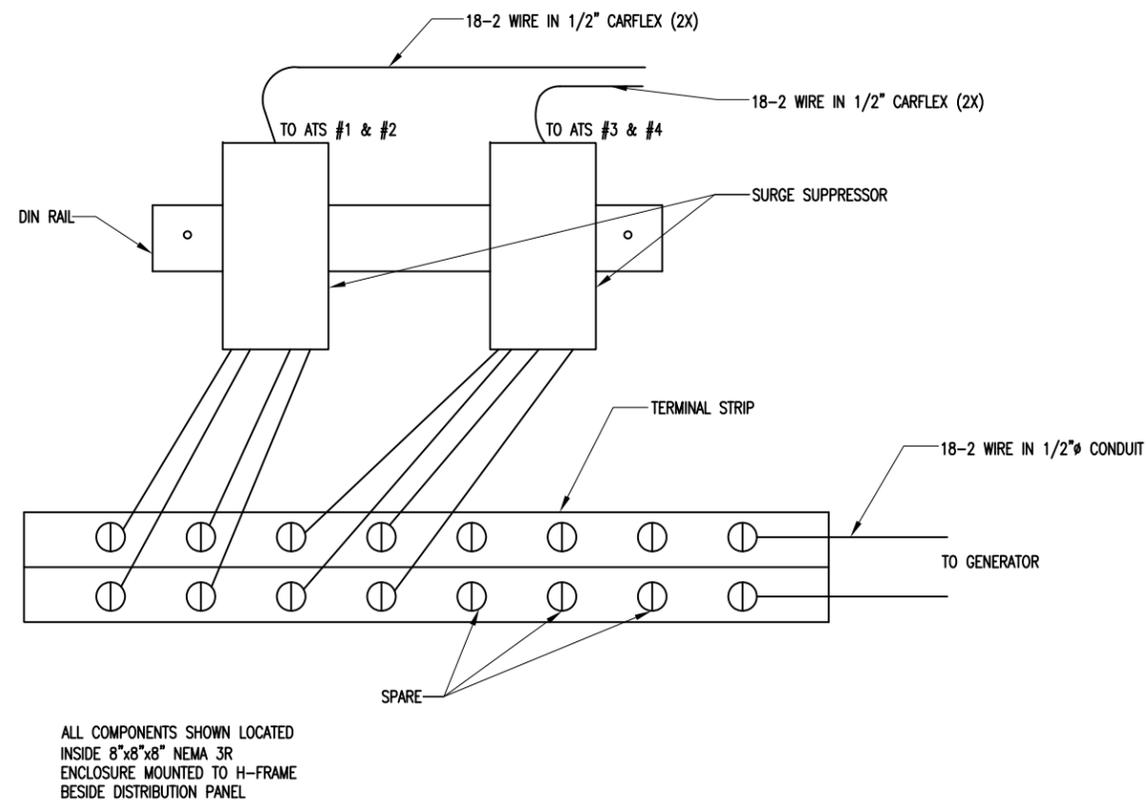
1



N.T.S.

ATS AND CT WIRING DETAIL

2



N.T.S.

SURGE SUPPRESSOR WIRING DIAGRAM

3

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1	SITE NAME CHG.	AGT	09-12-13
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4			
5			

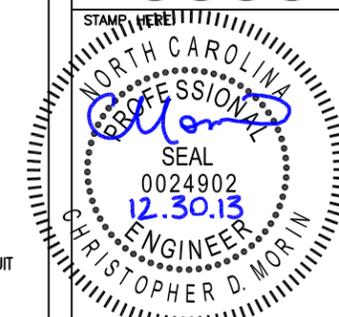
ATC SITE NUMBER:
273130

ATC SITE NAME:

NEW HANOVER NC

SITE ADDRESS:

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WILMINGTON, NC 28412

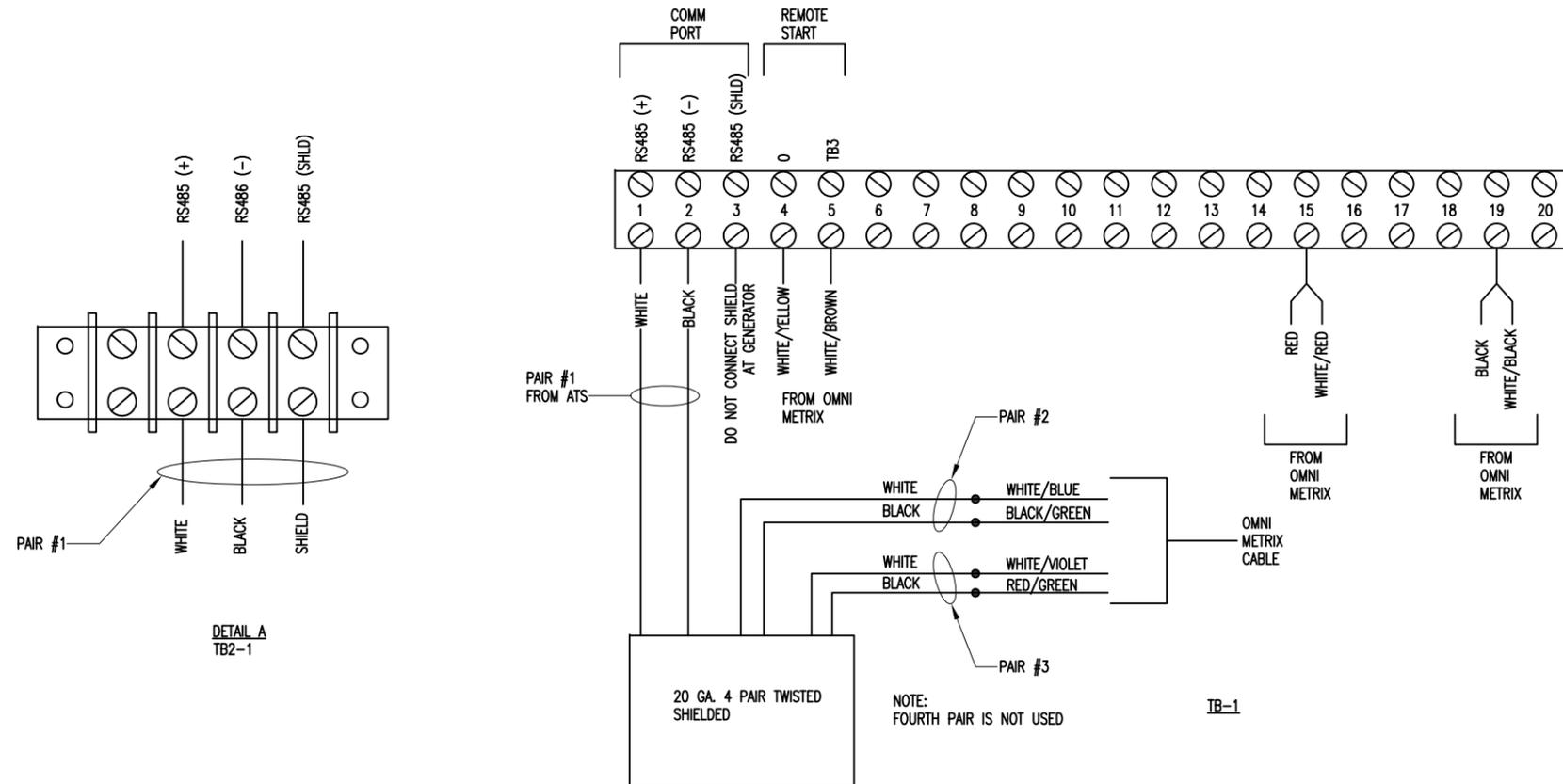
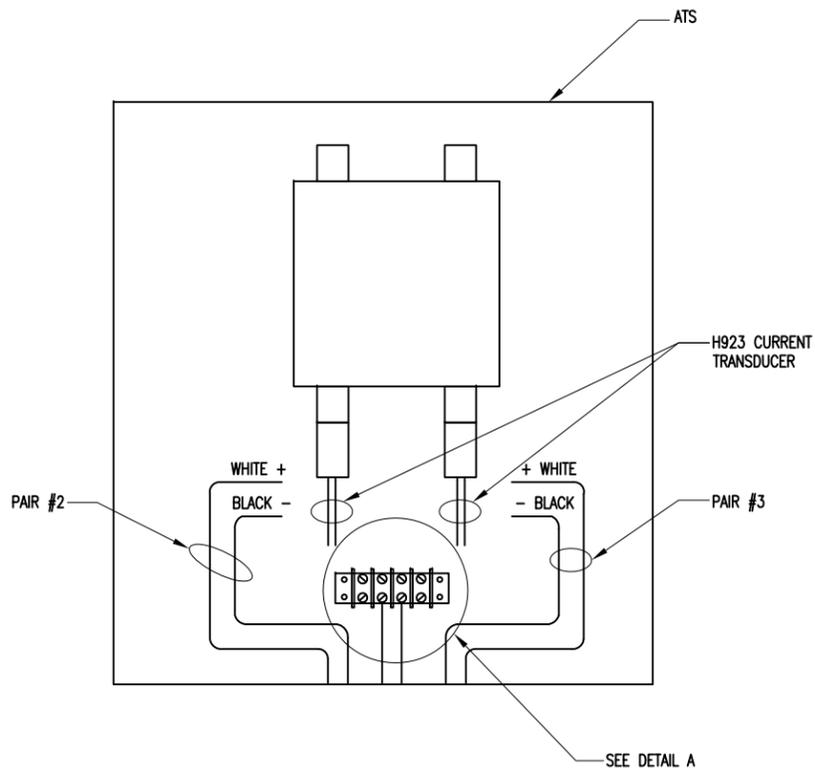


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CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
PROPOSED SHARED GEN. ELECTRICAL DETAILS

SHEET NUMBER:	REV. #
E-11	2

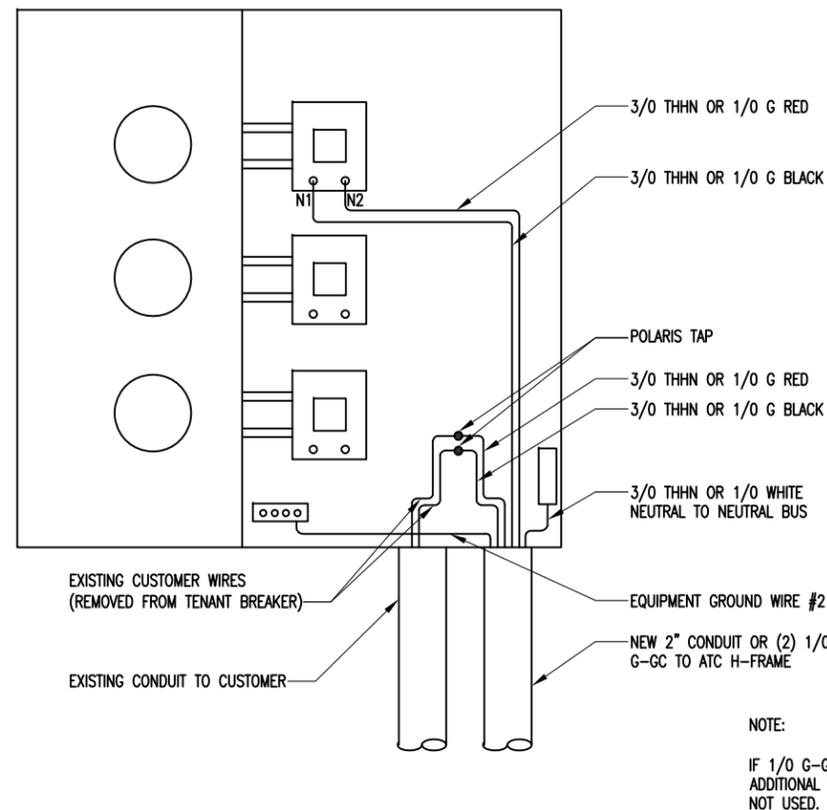
12-30-13 ARNOLD 11:12:13 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E12.dwg



N.T.S.

OMX ATC GENERAC INSTALLATION DETAIL

1



N.T.S.

MULTI-TENANT METER WIRING DETAIL

2

DETAIL DESCRIPTION OR CONSTRUCTION

CONDUCTOR: EXTRA FLEXIBLE COPPER CONDUCTOR, ACCORDING TO ASTM B3

INSULATION: 100% INSULATION LEVEL OIL, OZONE AND WATER RESISTANT ETHEUNE PROPYLENE RUBBER (EPR) 90°C NORMAL TEMPERATURE OPERATION, 130°C EMERGENCY OVERLOAD CONDITION, 250' SHORT CIRCUIT CONDITION.

PHASES IDENTIFICATION: NEUTRAL OR SINGLE COLORS COMPOUNDS WITH SURFACE PRINTING COLOR DESIGNATIONS ACCORDING TO ICEA S-75-381. IDENTIFICATION PHASE BY PRINTED COLORS: BLACK, WHITE AND RED.

GROUND WIRES: TWO BARE, ROPE-LAY FLEXIBLE STRANDED, COPPER CONDUCTOR.

GROUND CHECK: ONE YELLOW INSULATED, ROPE-LAY FLEXIBLE STRANDED, COPPER CONDUCTOR.

CORE ASSEMBLY: THREE PHASE CONDUCTORS, TWO BARE GROUND AND ONE GROUND CHECK CONDUCTORS ARE CABLED TOGETHER WITH A LEFT HAND LAY.

REINFORCEMENT: AN OPEN REINFORCEMENT IS APPLIED OVER THE CORRE FOR MECHANICAL STRENGTH.

JACKET: EXTRA HEAVY OR HEAVY DUTY ELASTOMER JACKET HIGHLY RESISTANT TO CUTTING, TEAR, SUNLIGHT, OZONE AND FLAME. IT HAS AN EXCELLENT RESISTANCE TO HEAT, MOISTURE, WATER, OIL AND MOST CHEMICALS COMMONLY PRESENT AT MINING FIELD OPERATIONS. THE STANDARD JACKET IS BLACK AND MEETS OR EXCEEDS ALL THE REQUIREMENTS OF ICEA S75-381. ALTERNATE JACKET COLORS ARE AVAILABLE AS REQUESTED.

PACKAGING: NON-RETURNABLE WOODEN DRUMS.

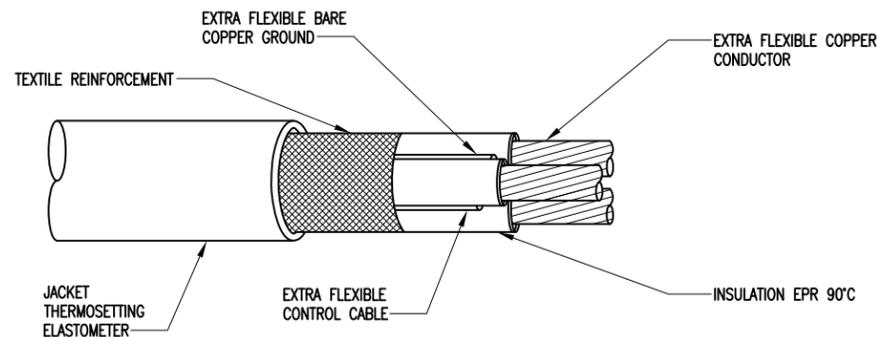
OPTIONS: THERMOPLASTIC POLYURETHANE (TPU), JACKET COLORS, PUT-UP LENGTH (300M)

APPLICATION: TYPE G-GC CABLE IS SUITABLE FOR USE WITH MOBILE MINING EQUIPMENT SUCH AS CONTINUOUS MINERS, DRILLS, CUTTERS, LOADING MACHINES, CONVEYORS, PUMPS AND AC SHUTTLE CARS; WHERE GROUNDING AND A GROUND CHECK CONTROL CABLES ARE REQUIRED.

N.T.S.

G-GC CABLE SPECS

3



STANDARDS/TESTING SPECIFICATIONS

G-GC CABLES MEET OR EXCEED THE REQUIREMENTS OF ICEA S75-381 AND ICEA S-68-516

MARKING

G-GC

INSTALLATION

G-GC CAN BE USED INDOORS AND OUTDOORS LOCATION UNDER VERY SECURE ENVIRONMENTAL CONDITIONS SUCH AS THE ONE COMMONLY PRESENT AT MINING PLACES. CONDUCTOR DESIGN AND RAW MATERIALS USED. ALLOWS THE CABLE TO BE INSTALLED DIRECTLY ON ROUGH MINING FIELDS, NOT REQUIRING ANY PREVIOUS PREPARATION.

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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-12-13
2	ADDRESS CHG.	AGT	12-30-13
3			
4			
5			

ATC SITE NUMBER:

273130

ATC SITE NAME:

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DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:

ELECTRICAL
DETAILS

SHEET NUMBER: REV. #

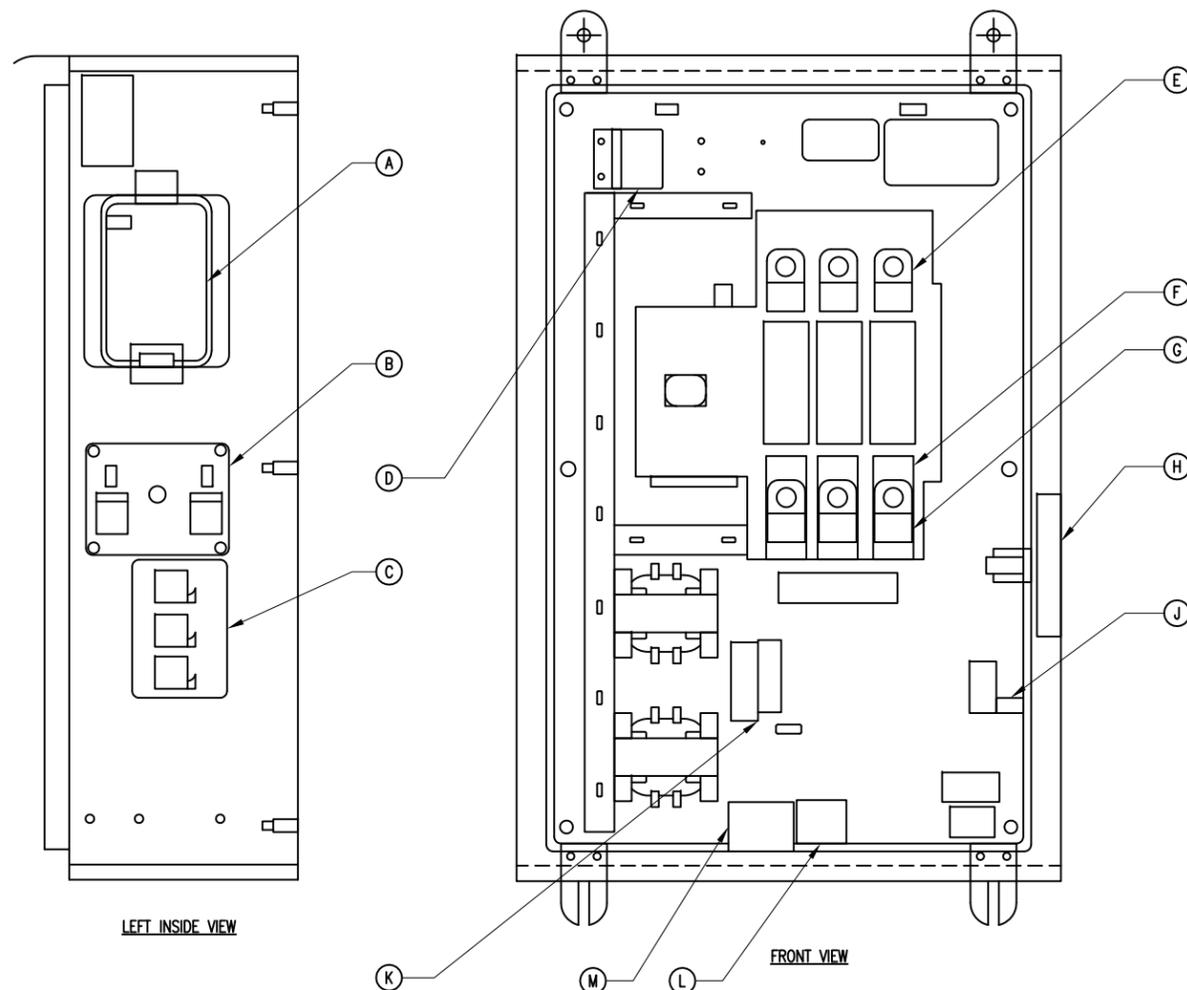
E-12

2

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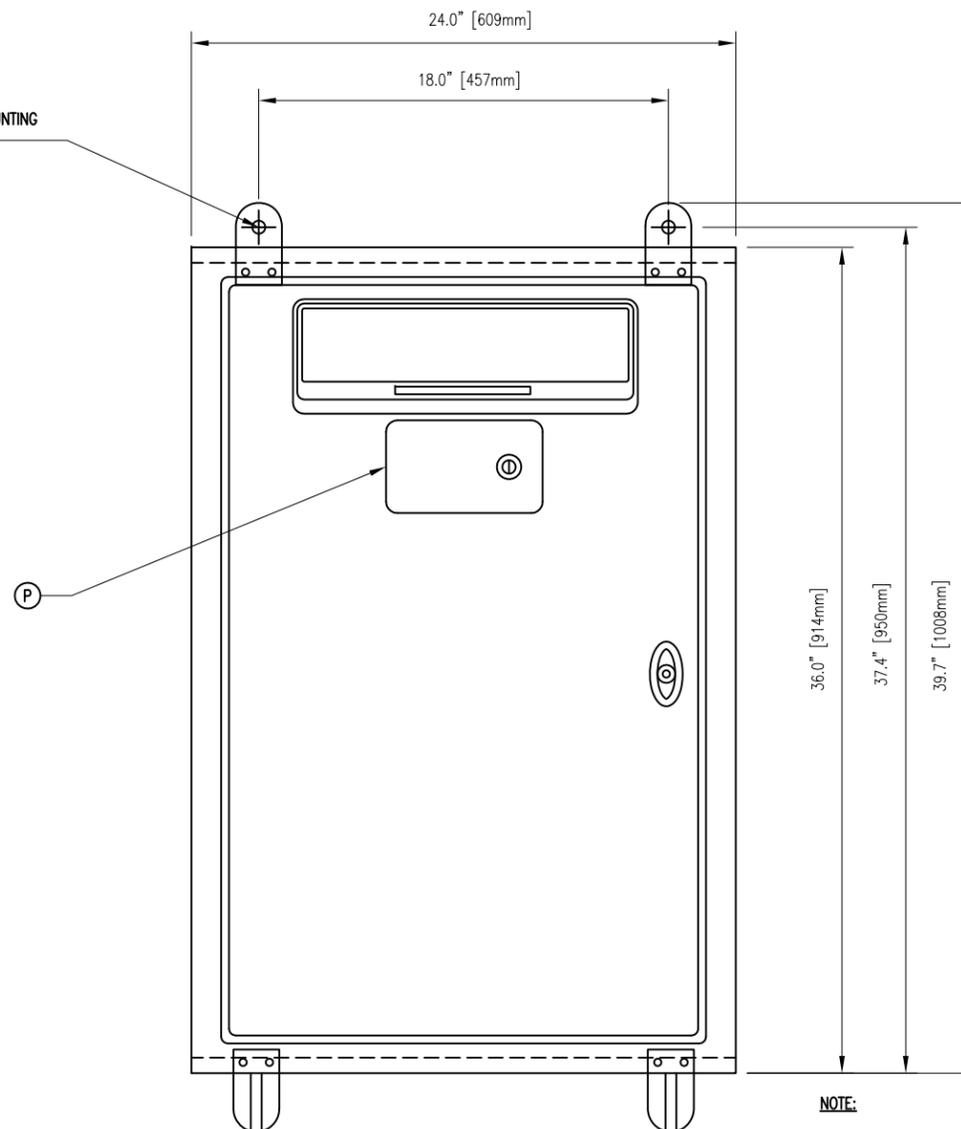
NOTE:

THIS DRAWING REPRESENTS NEMA 3R CONSTRUCTION OF ATS
 MODELS 100-400A "A" (120-240V 1PH) VOLTAGE
 "G" (120-208V 3PH) VOLTAGE
 100A "K" (270/480V 3PH) VOLTAGE

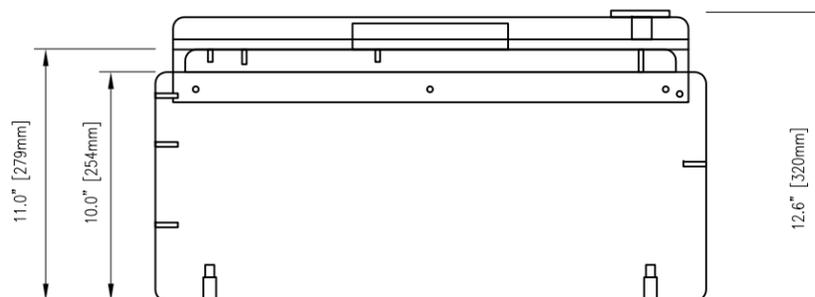


- A - ATS CONTROLLER
- B - SENSING TRANSFORMER ASSY
- C - CONTROL RELAYS
- D - MAINTENANCE DISCONNECT SWITCH
- E - UTILITY UN-GROUNDED CONDUCTOR CONNECTION
- F - GENERATOR UN-GROUNDED CONDUCTOR CONNECTION
- G - LOAD UN-GROUNDED CONDUCTOR CONNECTION
- H - NEUTRAL SUPPLY CONNECTIONS
- J - GROUND TERMINAL
- K - CURRENT TRANSFORMER CONNECTIONS (OPTIONAL)
- L - SIGNAL BEFORE TRANSFER CONNECTIONS (OPTIONAL)
- M - RS485 CONNECTIONS
- P - ACCESS PANEL - OPERATOR INTERFACE

RECOMMENDED MOUNTING
 HARDWARE 3/8"



NOTE:
 MAIN DOOR SWING 180° FROM
 CLOSE TO OPEN 840.8 MM
 (33.1") EXTENDED DOOR
 DIMENSION @ 90°



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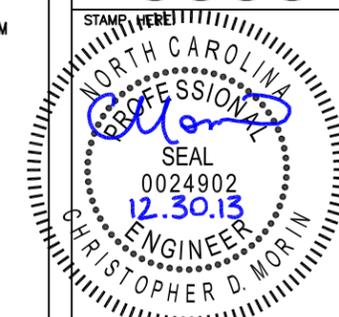
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SHEET TITLE:
**PROPOSED
 ATS
 DETAIL**

SHEET NUMBER:	REV. #
E-13	2

LOAD TRENDING WITH 0-10VDC OUTPUT



High current monitoring in a solid-core housing



Low current monitoring in a solid-core housing



Wide range current monitoring in a split-core housing

Current Transducers: 0-10VDC Analog Output

The Hawkeye 723/923 Series provide accurate load trending information with a proportional 0-10VDC output signal. Devices offer three amperage range options, with slide-switch selection for easy field adjustment – no need for jumpers.

APPLICATIONS

- Load trending
- Motor control
- Fan/pump status

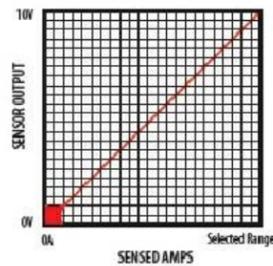
Self-powered analog current sensor 0-10VDC output

- Self-gripping split-core for fast retrofit installation...no need to remove conductor (H923)
- No jumpers on unit...reduces installation error
- No external power required for sensor

Factory calibrated for ease of installation

- Factory calibrated field-selectable ranges for high resolution and installation ease
- One device to stock and install...reduces installation charges
- Removable mounting bracket for installation flexibility
- Bracket on H923 can be installed in three different configurations...added flexibility
- 100% solid state, no moving parts to fail
- 5-year limited warranty

EXAMPLE LINEAR OUTPUT
Scale software as shown

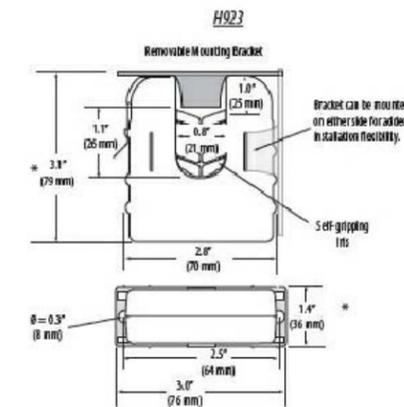
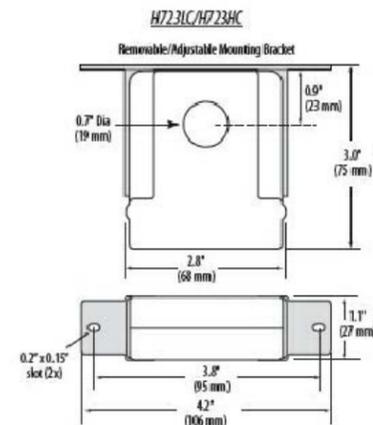


SPECIFICATIONS

Sensor Power	Induced from monitored current
Insulation Class	300VAC RMS
Frequency Range	50/60Hz
Temperature Range	-15° to 60°C (5° to 140°F)
Humidity Range	10 - 90% RH, non-condensing
Accuracy	±2% full scale from 10% to 100% (selected range)
Response Time	2 sec.
Terminal Block Maximum Wire Size	14 AWG
Terminal Block Torque (nominal)	4 in-lbs (0.45 N-m)
Agency Approvals	CE: EN61010-1:2001-2, CAT III, deg. 2, basic insulation

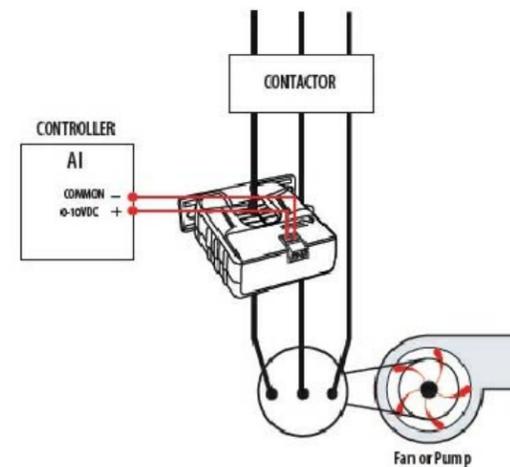
For applications requiring double or reinforced insulation, please contact the factory

DIMENSIONAL DRAWINGS



* Terminal block may extend up to 1/8"; slide switch may extend up to 1/4" over the height dimensions shown.

APPLICATION/WIRING EXAMPLE
Monitoring Fan/Pump Motors for Positive Proof of Flow



ORDERING INFORMATION

MODEL	AMPERAGE RANGE	SENSOR OUTPUT	HOUSING	CE
H723LC	0 - 10/20/40A	0 - 10VDC	Solid-core	
H723HC	0 - 50/100/200A		Solid-core	
H923	0 - 20/100/150A		Split-core	

ACCESSORIES
DIN Rail Clip Set, DIN Rail, and DIN Stop Clip...see page 219.

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1	SITE NAME CHG.	AGT	09-12-13
2	ADDRESS CHG.	AGT	12-30-13
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ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412

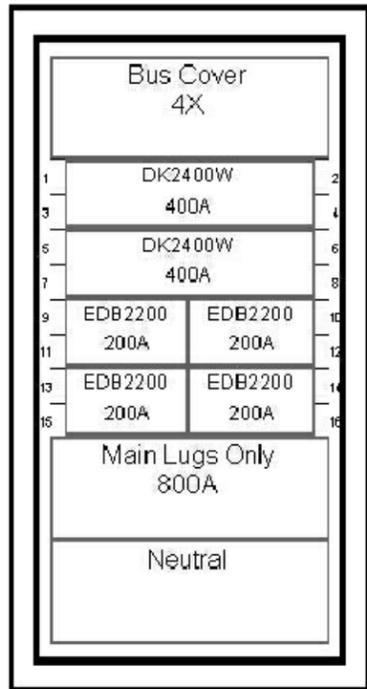


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SHEET TITLE:
CT SPECS SHEET

SHEET NUMBER:	REV. #
E-14	2

12-30-13 ARNOLD 11:14:21 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E14.dwg



General Information (Section 1 of 1)

Service Voltage: 120/240V 1Ph 3W Enclosure: Type 3R
 Bus Rating & Type: 800A Aluminum Neutral Rating: 800A
 Ground Bar: Std. Bolted Aluminum, Al or Cu cable
 S.C. Rating: 10kAIC Fully Rated

Main Device Type: Main Lugs Only - Bottom Cable Entry
 Main Terminals: Mechanical - (3) #2-500 kcmil (C1/A)
 Neutral Terminals: Mechanical - (3) #2-500 kcmil (C1/A)
 Box Catalog No.: RFD 2457
 Trim: Complete Enclosure (Includes Trim)
 Surface Mounted

Box Dimensions: 57" (1447.8mm) H x 24" (609.6mm) W x 12.85" (326.4mm) D
 Min. Gutter Size: Top - 10.625" (269.9mm) Bottom - 10.625" (269.9mm)
 Left - 5" (127.0mm) Right - 5" (127.0mm)

Panel ID Nameplate: (1) 800A
 Type: Plastic, adhesive-backed (2) 120/240V 1Ph 3W
 Color: White with Black Letters (3)

U.
 Service Entrance Label

Trim Lock-T-Handle Lock Assembly
 Click It Directly/Plastic Sleeve with Card
 Related Box: ANS161

Device Modifications:

Ref #	Description

Notes

Branch Devices:

Qty	Poles	Trip	Frame	Amps	KAIC
4	2	200	EDB	225	10
2	2	400	DK	400	10

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PREPARED BY Birkell, Mike C	DATE 12/15/09	Eaton Corporation	
APPROVED BY	DATE 12/15/09	JOB NAME Metro Site New Ringless Kit	DESIGNATION 800A
VERSION 6.9	TYPE PRL4	DRAWING TYPE Customer Approval	
REG-ULY NUMBER ATS00225 F004-0002	REVISION A	DNV SIZE SATS651	SHEET 1 OF 2

Pow-R-Line4 Device Specifications:

Device	Nameplate	Device	Trip	Terminal	Modifications
1,2,3,4		DK2400W	400	(1) 20-500 kcmil (C1/A)	
5,6,7,8		DK2400W	400	(1) 20-500 kcmil (C1/A)	
9,11		EDB2200	200	(1) #14-40 (C1/A)	
10,12		EDB2200	200	(1) #14-40 (C1/A)	
13,15		EDB2200	200	(1) #14-40 (C1/A)	
14,16		EDB2200	200	(1) #14-40 (C1/A)	
Main		800A-11 LD		(3) #2-500 kcmil (C1/A)	

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VERSION 6.9	TYPE PRL4	DRAWING TYPE Customer Approval	
REG-ULY NUMBER ATS00225 F004-0002	REVISION A	DNV SIZE SATS651	SHEET 2 OF 2



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WILMINGTON, NC 28412



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CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
DISTRIBUTION PANEL DIAGRAM & NOTES

SHEET NUMBER: E-15	REV. # 2
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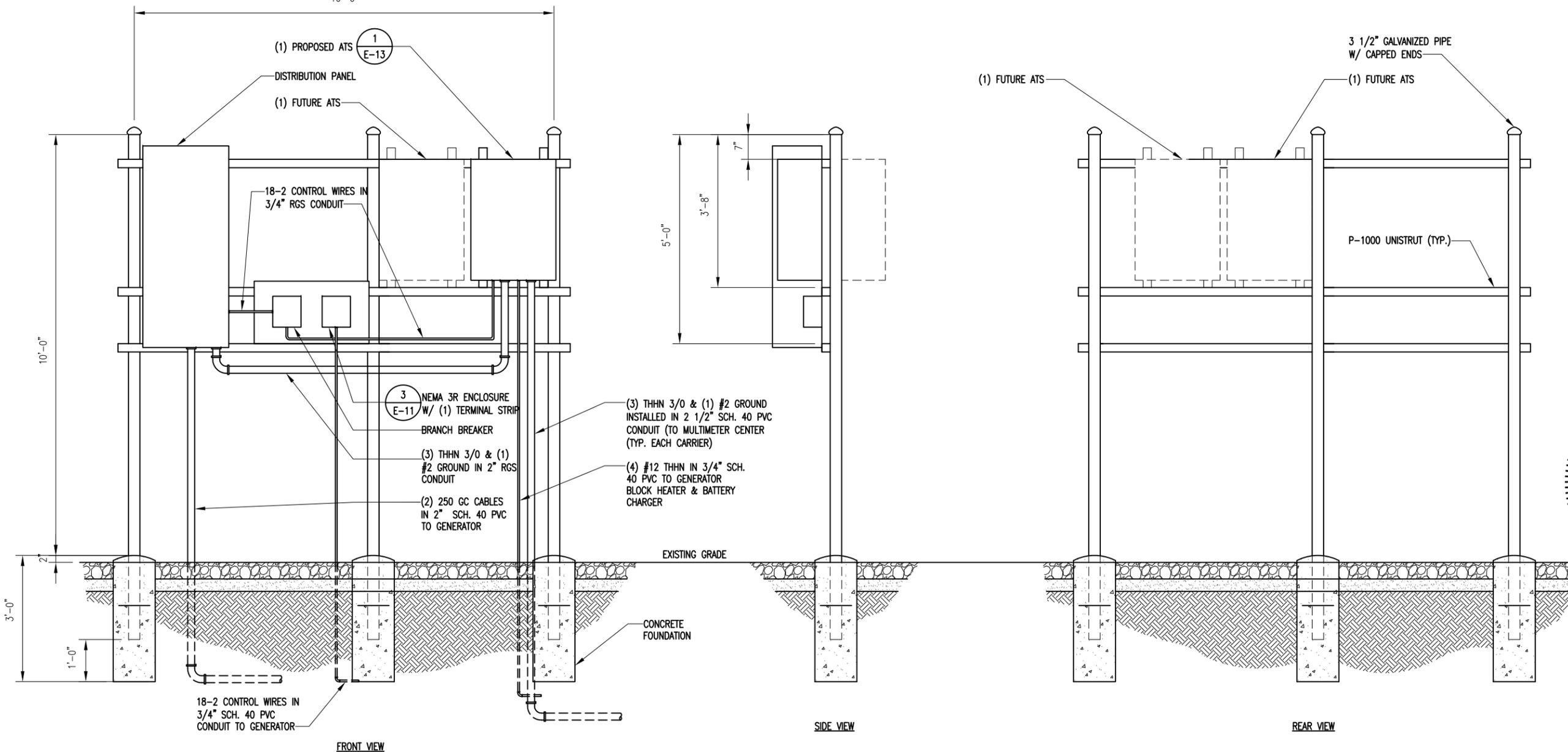
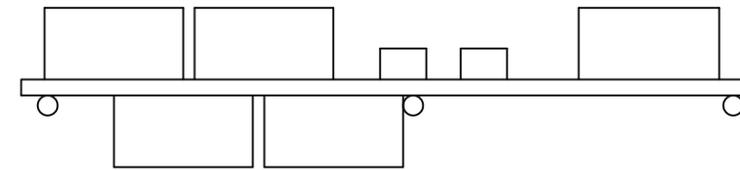
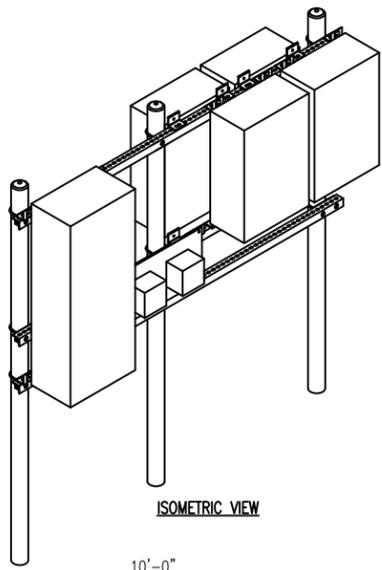
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N.T.S.

DISTRIBUTION PANEL DIAGRAM & NOTES

1

12-30-13 ARNOLD 11:17:05 Y:/Drawings - 2010/ATC/New Hanover - 273130/_CD'S REV 4 12-30-13/E16.dwg



AMERICAN TOWER CORPORATION
 496 LONG POINT ROAD
 MOUNT PLEASANT, SC 29464
 TEL.: (843) 971-8385
 FAX: (843) 971-8889

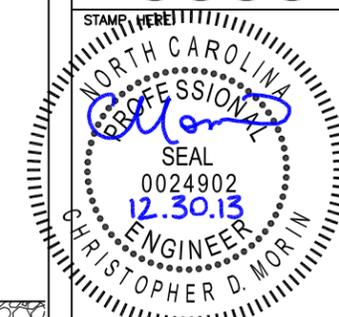
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BC

architects
 engineers
 5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000
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SHEET TITLE:
**ATS
 H-FRAME
 LAYOUT**

SHEET NUMBER:	REV. #
E-16	2

N.T.S.

ATS H-FRAME LAYOUT

1

Installing OmniMetrix Monitors onto Generac H-Panel Equipped Gensets

Step 1: Place the OMX unit on top of the alternator housing, behind the H-Panel enclosure box, as shown. Route the OMX cable into the housing and terminate to the terminal strip, picking up the genset battery B+ and GND, as described in the main installation guide. Connect to serial cable (blue wire) from monitor to serial port located on front of control panel.

Feed I/O cable through rubber grommet hole located on back of alternator box.

Secure wire inside tap box with tie wraps.

Remove the terminal ends and insulate all wires except for red, red/white, black, black/white, white/yellow, and White/brown.

Terminate the White/Yellow and White/Brown wires (noted as OMX Relay 1) to the 2-wire remote start terminals on the terminal strip in the alternator enclosure. Connect red, red/white wire to terminal #15 located on TB1. (TB1 located in bottom right of alternator connection box)

There is no polarity requirement for this connection.



Step 2: Place the antenna on the roof of the genset and route the cable down through the ventilation slots, into the interior of the genset enclosure. Connect the antenna to the monitor module, tightening to thumb tight + ¼ turn.

Step 3: Plug the RS232 cable onto the OMX unit's DB9 connector, noting the label "OMX END". Connect the other end of the cable, the "Generac End" to the H-Panel Diagnostic Port. Screw down the jack screws firmly, but do not over tighten, as you can shear off these small screws.

Step 4: Power up the OMX unit via the toggle switch on the front of the unit. You should see LED activity at this point. Record serial number from generator and OMX monitor and provide to OMX support line.

Step 5: Call the OmniMetrix support line to confirm operation and to perform simple tests. The number is 770-209-0012 ext: 1020.



Notes:

1. The H Panel should be configured, via Genlink, for HTS1 active, and "Transfer Load On Remote Start" not active for all four HTS options. Otherwise, remote starts to the H Panel will invoke a loaded running condition.

Questions: Call OmniMetrix Support at 770-209-0012



AMERICAN TOWER CORPORATION
 496 LONG POINT ROAD
 MOUNT PLEASANT, SC 29464
 TEL: (843) 971-8385
 FAX: (843) 971-8889

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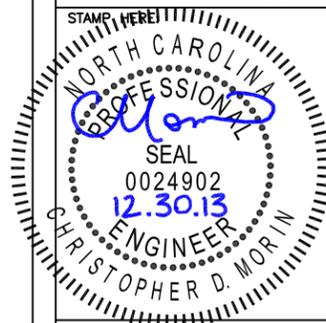
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SHEET TITLE:
PROPOSED GENERATOR INSTALLATION ADDENDUM

SHEET NUMBER:	REV. #
E-17	2

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SYMBOLS LIST

(SYMBOLS SHOWN MAY NOT BE USED ON THIS PROJECT)

-  CONDUIT RISER UP.
-  CONDUIT RISER DOWN.
-  GROUNDING CONDUCTOR.
-  INDICATES CIRCUIT CONTINUATION.
-  ENCLOSED CIRCUIT BREAKER. SIZE AS SHOWN.
-  FUSED DISCONNECT SWITCH. SIZE AS SHOWN.
-  RECEPTACLE PANELBOARD, 120/240 VOLT.
-  NOTES: REFERENCE SYMBOLS: DENOTES "SEE NOTE NO. 1."
-  +18" INDICATES MOUNTING HEIGHT AFF.
-  EXISTING ELEC EQUIPMENT TO REMAIN.

ABBREVIATIONS

A, AMP	AMPERE	KVA	KILOVOLT AMPS
AFF	ABOVE FINISHED FLOOR	KWH	KILOWATT HOURS
AN	ANTENNA	L	LENGTH
AWG	AMERICAN GAUGE WIRE	LB	POUND
		MAX	MAXIMUM
		M.L.O.	MAIN LUG ONLY
C	CONDUIT	N	NEUTRAL
CAB	CABINET	NEC	NATIONAL ELECTRICAL CODE
C/B	CIRCUIT BREAKER	NO.	NUMBER
CKT	CIRCUIT	NTS	NOT TO SCALE
COAX	COAXIAL	O.C.	ON CENTER
CO	COMPANY	P	POLE
CONTR	CONTRACTOR	R.G.S.	RIGID GALVANIZED STEEL
D	DEPTH	SCH	SCHEDULE
db	DECIBEL	SWBD	SWITCHBOARD
DEG	DEGREE	TEL	TELEPHONE
DESCRIP	DESCRIPTION	(TYP)	TYPICAL
DIA	DIAMETER	UL	UNDERWRITER'S LABORATORY
DWG	DRAWING	V	VOLT
ECB	ENCLOSED CIRCUIT BREAKER	W	WIDTH OR WIRE
ELEC	ELECTRICAL	XFMR	TRANSFORMER
(E)	EXISTING		
FT	FEET		
G	GROUND		
IN	INCH		

ELECTRICAL SPECIFICATION

- FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT SERVICES FOR ALL ELECTRICAL WORK AS INDICATED IN ACCORD WITH PROVISIONS OF CONTRACT DOCUMENTS. COORDINATE WITH WORK OF ALL OTHER TRADES. FURNISH AND INSTALL ALL SUPPLEMENTARY OR MISCELLANEOUS ITEMS AND DEVICES TO SECURE AND COMPLETE INSTALLATION.
- FOR EXACT LOCATIONS OF BUILDING ELEMENTS, REFER TO ARCHITECTURAL DWG'S. FIELD VERIFY LOCATIONS AND ARRANGEMENT OF ALL EXISTING SYSTEMS AND EQUIPMENT.
- ALL EXTERIOR DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF, NEMA-3R.
- PERFORM ALL WORK IN ACCORD WITH FOLLOWING CODES:
 - FEDERAL, STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES.
 - NATIONAL ELECTRICAL CODE (NEC), 2011 EDITION.
 - ALL AUTHORITIES HAVING JURISDICTION.
- USE UL LABELED ELECTRICAL MATERIALS WHERE LISTING HAS BEEN ESTABLISHED FOR MATERIALS OR DEVICES IN QUESTION.
- SAFETY SWITCH: HEAVY DUTY TYPE IN NEMA-1 ENCLOSURE, NEMA-3R IN DAMP OR WET LOCATIONS.
- CONDUIT: ALL ELECTRIC METALLIC TUBING CONNECTORS SHALL BE COMPRESSION TYPE (NO POT-METAL AND SET SCREW), MIN. 3/4". USE FLEXIBLE METAL (STEEL) CONDUIT FOR CONNECTION TO ALL VIBRATING EQUIPMENT AND CASEWORK.
- WIRE IN CONDUIT SIZES #10 AWG AND SMALLER SHALL BE SOLID COPPER WITH TYPE THWN/THHN 600 VOLT INSULATION. THE MIN. CONDUCTOR SIZE SHALL BE NO. 12 AWG. CONTROL WIRING MAY BE NO. 14 AWG. A GROUND WIRE SHALL BE INSTALLED IN ALL CIRCUITS. WIRE OF SIZES 8 AWG AND LARGER SHALL BE STRANDED COPPER WITH TYPE XHHW, THW OR THHN 600 VOLT INSULATION. SPLICES FOR WIRE SIZES #10 AWG AND SMALLER SHALL BE CONICAL SPRING TYPE DEVICES. WIRE SIZES OF #8 AWG AND LARGER SHALL HAVE SPLIT-BOLT CONNECTORS WITH SUFFICIENT LAYERS OF TAPE TO EQUAL INSULATION OF WIRE BEING SPLICED.
- PROVIDE NAMEPLATES ON ALL PIECES OF ELECTRICAL EQUIPMENT, SUCH AS, CIRCUIT BREAKERS, DISCONNECT SWITCHES, PANELBOARDS, ALL PULL BOXES. NAMEPLATES SHALL BE ENGRAVED WITH WHITE LETTERS ON A BLUE FIELD, 2-1/2"x3/4" WITH 1/4" HIGH (MIN.) LETTERS. PLATE MATERIAL SHALL BE TOUGH MULTI-LAYERED ACRYLIC (1/8" THICK MIN.) "SETONFLEX" TO WITHSTAND EXTREME INDOOR AND OUTDOOR TEMPERATURES. PLATE SHALL HAVE PRESSURE SENSITIVE ADHESIVE BACKING SUITABLE FOR OUTDOORS.
- THE EQUIPMENT SHALL BE PROVIDED BY AS A PREFABRICATED PACKAGED UNIT. THE CONTRACTOR IS TO PROVIDE ALL OTHER EQUIPMENT, CONDUIT AND CABLING FOR A COMPLETE JOB.
- ALL TERMINATIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS.
- POWER COMPANY OR THE CONTRACTOR WHERE REQUIRED BY THE POWER COMPANY, SHALL TERMINATE THE POWER CABLES (SUPPLIED BY THE POWER CO.) AT THE UTILITY METER.
- CONDUIT LINES SHALL HAVE A CONTINUOUS SLOPE DOWNWARD AND AWAY FROM THE SHELTER TO THE PROPERTY LINE SO THAT WATER WILL FLOW AWAY FROM THE SHELTER. TRENCHES SHALL BE EXCAVATED ALONG STRAIGHT LINES BEFORE CONDUITS ARE LAID SO THE ELEVATION CAN BE ADJUSTED, IF NECESSARY, TO AVOID UNSEEN OBSTRUCTIONS. MANUFACTURED BENDS SHALL HAVE A MIN. RAD. 36" FOR CONDUITS.
- BENDS SHALL HAVE A MINIMUM RADIUS 36" FOR CONDUITS. ALL CONDUITS ENTERING THE SHELTER SHALL BE SEALED WITH SEALANTS THAT ARE IDENTIFIED FOR USE WITH THE CABLE INSULATION, SHIELD, OR OTHER COMPONENTS. A BEAD OF SILICONE SHALL BE PLACED AROUND ALL CONDUIT PENETRATIONS INTO THE SHELTER.

- METER SOCKET TO BE SUPPLIED BY OR AS PER POWER COMPANY REQUIREMENTS.
- GROUND FAULT PROTECTION IS REQUIRED FOR ANY UTILITY RECEPTACLES.
- WHITE/NEUTRAL, GREEN/GROUND, SHALL BE MAINTAINED THROUGHOUT THE SITE ELECTRICAL SYSTEM.

CABLE WORKS GENERAL NOTES

- ALL COAX CABLE SHALL BE INSTALLED WITH A "DRIP LOOP" WHEN TURNING FROM VERTICAL TO HORIZONTAL. JUMPER LENGTH SHALL NOT EXCEED 6' ON EACH SIDE OF FEEDER.
- ALL COAX CABLES SHALL BE RFS CELLFLEX SERIES. ALL CONNECTORS TO BE 7/16 DIN FEMALE CAPTIVATED. ALL JUMPERS SHALL BE LCF SERIES (NO SUPERFLEX) 7/16 MALE DIN TO 7/16 MALE DIN AND SHALL BE 6' LONG MAX. (UNLESS IMPOSSIBLE). ALL EXTERIOR CONNECTIONS SHALL BE WATERPROOF TAPED
- ALL ANTENNA MOUNTS MUST BE GROUNDED. ALL COAX FEEDER CABLE MUST BE GROUNDED WITHIN 10' MAX. (PREFERRED WITH 2"-0") OF CONNECTOR. PROVIDE GROUND BAR AT EACH SECTOR. GRIPSTRUT SHALL BE GROUNDED AT EQUIPMENT END AND ANTENNA END TO GROUND BARS. GRIPSTRUT SHALL BE JUMPED BETWEEN SECTIONS. PROVIDE GROUND KIT AT SHELTER.
- FOR MONOPOLES - ALL CABLES SHALL RUN ON INSIDE OF MONOPOLE, CABLE LADDER OR STANDOFFS. PROVIDE CABLE SUPPORTS EVERY 4' FOR 1-5/8" CABLE; EVERY 4' FOR 7/8" CABLE. GROUNDING AS FOLLOWS:
 - KIT AT TOP PRIOR TO TURN DOWN
 - KIT AT BOTTOM BEFORE HORIZONTAL TURN
 - KIT AT EQUIPMENT
 - BOND ICEBRIDGE (TOWER AND EQUIPMENT SIDE)
- ALL SHELTER & ASSOCIATED EQUIPMENT SHALL BE GROUNDED BY EQUIPMENT MANUFACTURER REPRESENTATIVE.

GENERAL NOTES TO ELECTRICAL CONTRACTOR

- THE CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL NECESSARY CONDUITS, WIRING AND OUTLET BOXES TO SUPPORT THE AMERICAN TOWER FURNISHED ITEMS.
- PROVIDE WIRING IN CONDUIT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND N.E.C.
- FOR LOCATION OF NEW EQUIPMENT & ANTENNAS. SEE ARCHITECTURAL DWG'S.
- COORDINATE IN ADVANCE ALL WORK TO BE DONE WITH POWER UTILITY CO.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL CONNECTIONS AND MAKING A COMPLETE OPERATIONAL SYSTEM AS APPROVED BY AMERICAN TOWER REPRESENTATIVE.
- THE CONTRACTOR SHALL CONFER, COORDINATE, AND COMPLY WITH RECOMMENDATIONS MADE BY THE NEW EQUIPMENT MANUFACTURER'S REPRESENTATIVE
- ELECTRICAL CONTRACTOR TO INCLUDE THE FINAL CONNECTION WORK AND REQUIRED PERMITTING AND INSPECTIONS TO COMPLETE THE POWER AND TELEPHONE CONNECTION TO EQUIPMENT SHELTER. COORDINATE WITH THE GENERAL CONTRACTOR FOR EQUIPMENT SHELTER.
- PRIOR TO ANY WORK OR ORDERING OF ANY MATERIALS, THE CONTRACTOR SHALL VERIFY THAT THE EXISTING SERVICE VOLTAGE IS THE SAME VOLTAGE AS SHOWN FOR THE NEW EQUIPMENT. IF THE VOLTAGES ARE THE SAME THE CONTRACTOR MAY PROCEED, IF DIFFERENT, THE CONTRACTOR SHALL NOTIFY AMERICAN TOWER MANAGER IMMEDIATELY AND OBTAIN FURTHER DIRECTION.



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ELECTRICAL NOTES

SHEET NUMBER:	REV. #
E-18	2

12-30-13 ARNOLD 11:28:11 Y:\Drawings - 2010\ATC\New Hanover - 273130\CD'S REV 4 12-30-13\SP1.dwg

- 1.1 PURPOSE AND INTENT
- 1.2 CONFLICTS
- 1.3 CLEANING
- 1.4 CODES
- 1.5 LICENSING
- 1.6 OSHA
- 1.7 PHOTOS
- 1.8 BUILDING PERMITS
- 1.9 ZONING REGULATIONS AND CONDITIONAL USE PERMITS
- 1.10 FAA PERMIT AND TOWER LIGHTING
- 1.11 TOWER SECURITY
- 1.12 SITE CONTROL
- 2.1 SCOPE OF WORK
- 2.2 PRODUCT AND MATERIALS
- 3.1 SCOPE OF WORK
- 3.2 QUALITY ASSURANCE
- 3.3 PRODUCTS AND MATERIALS
- 3.4 CLEARING AND GRUBBING
- 3.5 STRIPPING
- 3.6 COMMON EXCAVATION
- 3.7 EMBANKMENT
- 3.8 SITE GRADING
- 3.9 SUBGRADE PREPARATION
- 3.10 GEOTEXTILE FABRIC
- 3.11 GRAVEL SURFACING
- 4.1 MATERIALS
- 4.2 PIPE DETECTION AND IDENTIFICATION
- 4.3 TRENCH EXCAVATION
- 4.4 TRENCH PROTECTION
- 4.5 BACKFILLING
- 4.6 COMPACTION
- 5.1 GENERAL
- 5.2 PRODUCTS AND MATERIALS

- 1.1 PURPOSE AND INTENT
- A. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY, HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH. SHOULD THERE BE ANY DISCREPANCIES BETWEEN REQUIREMENTS SHOWN IN BOTH, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
- B. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
- 1.2 CONFLICTS
- A. VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS OR DIMENSIONS SHOWN ON PLANS. SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS OR OTHERWISE TO AMERICAN TOWER CO. FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- B. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OF CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS GOVERNING THE WORK.
- 1.3 CLEANING
- KEEP THE SITE FREE FROM ACCUMULATION OF WASTE AND RUBBISH CAUSED BY EMPLOYEES. AT THE COMPLETION OF THE WORK, REMOVE ALL WASTE AND NON-CONSTRUCTION MATERIAL, INCLUDING ALL CONTRACTOR TOOLS, SCAFFOLDING, AND SURPLUS MATERIAL AND LEAVE SITE CLEAN AND READY FOR USE.
- 1.4 CODES
- CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LAWS, REGULATIONS, AND RULES PROMULGATED BY FEDERAL STATE AND LOCAL AUTHORITIES WITH JURISDICTION OVER THE SITE. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THESE SPECIFICATIONS.
- 1.5 LICENSING
- HAVE AND MAINTAIN A VALID CONTRACTOR'S LICENSE FOR THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED. FOR JURISDICTIONS THAT LICENSE INDIVIDUAL TRADES, THE TRADESMAN OR SUBCONTRACTOR'S PERFORMING THOSE TRADES SHALL BE LICENSED. RESEARCH AND COMPLY WITH LICENSING LAWS, PAY LICENSE FEES, AND SELECT AND INFORM SUBCONTRACTORS REGARDING THESE LAWS.
- 1.6 OSHA
- FOLLOW ALL APPLICABLE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS, AND STATE LAWS BASED IN THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT. THESE REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, REGULATIONS DEALING WITH TOWER CONSTRUCTION AND SAFETY, EXCAVATIONS AND TRENCHING, AND WORK IN CONFINED SPACES. ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES DURING CONSTRUCTION. GC SHALL INSURE ALL CLIMBERS MAINTAIN 100% FALL PROTECTION AT ALL TIMES & BE ABLE TO SHOW ALL CLIMBERS HAVE COMPLETED CLIMBING SAFETY TRAINING AND TOWER RESCUE COURSE.
- 1.7 PHOTOS
- PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING, AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.
- 1.8 BUILDING PERMITS
- AMERICAN TOWER CO. WILL SUBMIT CONSTRUCTION DOCUMENTS TO THE JURISDICTIONAL AUTHORITY FOR PLAN CHECK AND REVIEW. CONTRACTOR WILL SUBMIT LICENSING AND WORKMAN'S COMPENSATION INFORMATION TO THE JURISDICTION AS REQUIRED TO OBTAIN THE BUILDING PERMIT. CONTRACTOR SHALL COORDINATE AND SCHEDULE REQUIRED INSPECTIONS AND POST REQUIRED PERMITS AT THE JOB SITE. COMPLY WITH SPECIFIC PROJECT-RELATED REQUESTS AND SUGGESTIONS MADE BY BUILDING INSPECTOR, AND INFORM CONSTRUCTION MANAGER OF ANY SUCH WORK THAT MAY BE BEYOND THE SCOPE OF THE CONTRACT OR DEVIATE FROM THE CONSTRUCTION DOCUMENTS. AMERICAN TOWER CO. WILL REIMBURSE THE CONTRACTOR FOR FEES, FOR PLAN REVIEW, BUILDING PERMIT, CONNECTIONS, AND INSPECTION.
- 1.9 ZONING REGULATIONS AND CONDITIONAL USE PERMITS
- AMERICAN TOWER CO. WILL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS. SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS FOR THE SITE RELATED TO CONSTRUCTION, SUCH AS NOISE REGULATIONS, HOURS OF WORK, ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN CONSTRUCTION DOCUMENTS.
- 1.10 FAA PERMIT AND TOWER LIGHTING
- REFER TO CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER FOR FAA AND STATE LIGHTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEMPORARY FAA APPROVED LIGHTING UNTIL PERMANENT LIGHTING IS OPERATIONAL.
- 1.11 TOWER SECURITY
- TOWER MUST BE FENCED, TEMPORARILY OR PERMANENTLY WITHIN 24 HOURS OF ERECTION. DO NOT ALLOW THE GATE ACCESSING THE TOWER AREA TO REMAIN OPEN OR UNATTENDED AT ANY TIME FOR ANY REASON. KEEP THE GATE CLOSED AND LOCKED WHEN NOT IN USE.

- 1.12 SITE CONTROL
- A. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION AT THE SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO AMERICAN TOWER CO.
- B. THE CONTRACTOR IS TO MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE PROVISIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR'S EXPENSE.
- C. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OF OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.
- 2.1 SCOPE OF WORK INCLUDES:
- A. PROTECTION OF EXISTING TREES, VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.
- B. TRIMMING OF EXISTING TREES AND VEGETATION AS REQUIRED FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.
- C. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.
- D. TOPSOIL STRIPPING AND STOCKPILING.
- E. TEMPORARY EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL CONFORMING TO LOCAL REQUIREMENTS AS APPLICABLE.
- F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.
- G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND RE-INSTALLATION OF EXISTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.
- H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.
- 2.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)
- A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.
- 3.1 SCOPE OF WORK INCLUDES:
- A. EXCAVATION, TRENCHING, FILLING, COMPACTION, AND GRADING FOR STRUCTURES, SITE IMPROVEMENTS, AND UTILITIES.
- B. MATERIALS FOR SUB-BASE, DRAINAGE FILL, FILL, BACKFILL, AND GRAVEL FOR SLABS, PAVEMENTS, AND IMPROVEMENTS.
- C. ROCK EXCAVATION WITHOUT BLASTING.
- D. SUPPLY OF ADDITIONAL MATERIALS FROM OFFSITE AS REQUIRED.
- E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED.
- 3.2 QUALITY ASSURANCE
- A. COMPACTION:
1. UNDER STRUCTURES, BUILDING SLABS, PAVEMENTS, AND WALKWAYS WILL OBTAIN A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- B. GRADING TOLERANCES OUTSIDE BUILDING LINES:
1. LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1 INCH.
2. UNDER PAVEMENTS, PLUS OR MINUS 1/2 INCH.
- C. GRADING TOLERANCE FOR FILL UNDER ALL CONCRETE APPLICATIONS: PLUS OR MINUS 1/2 INCH MEASURED WITH 10 FOOT STRAIGHTEDGE.
- 3.3 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)
- A. SUBBASE MATERIAL: GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG, AND NATURAL SAND.
- B. WASHED MATERIAL, EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 95 PERCENT PASSING A 1 1/2 INCH SIEVE.
- C. GRADING MATERIAL WILL CONSIST OF: SATISFACTORY NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION. DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS WILL NOT BE ALLOWED FOR USE. IMPORTED MATERIALS SHALL HAVE A CLAY CONTENT NO MORE THAN 5 PERCENT.
- D. BACKFILL MATERIALS WILL CONSIST OF: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, ROCK OR GRAVEL NOT LARGER THAN 4 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A CLAY CONTENT OF NO MORE THAN 5 PERCENT.
- E. GRAVEL MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 95 PERCENT PASSING A 1 1/2 INCH SIEVE.
- F. GEOTEXTILE FABRIC: AS PER CONSTRUCTION DOCUMENTS.
- 3.4 CLEARING AND GRUBBING
- REMOVE ALL VEGETATION AND MATERIALS AS REQUIRED. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.
- 3.5 STRIPPING
- STRIP NOT LESS THAN 3 INCHES OF SOD AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL, PAVEMENT, NEW STRUCTURES, OR NEW EMBANKMENTS. STOCKPILE STRIPPING ON-SITE FOR RE-USE IN FINAL LANDSCAPING.
- 3.6 COMMON EXCAVATION
1. EXCAVATE TO DEPTH, LINES, AND GRADES SHOWN ON THE PLANS OR AS OTHERWISE SPECIFIED.

2. TEMPORARILY STOCKPILE ON-SITE EXCAVATION AT AN APPROVED LOCATION WITHIN THE WORK AREA UNTIL SITE GRADING IS COMPLETE. STOCKPILE SHALL NOT EXCEED 15 FEET IN HEIGHT.
3. LEGALLY DISPOSE OF EXCESS COMMON EXCAVATION OFF-SITE.
- 3.7 EMBANKMENT
- A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADE SHOWN ON THE DRAWINGS.
- B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS WHEN SUITABLE. USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.
- C. CONSTRUCT IN LIFTS OF NOT MORE THAN 12 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.
- D. MATERIAL SHALL NOT BE PLACED IN LAYERS AND SHALL BE NEAR OPTIMUM MOISTURE CONTENT BEFORE ROLLING TO OBTAIN THE PRESCRIBED COMPACTION. WETTING OR DRYING OF THE MATERIAL AND MANIPULATION TO SECURE A UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER MAY BE REQUIRED. SUCH OPERATIONS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM. SHOULD THE MATERIAL BE TOO WET TO PERMIT PROPER COMPACTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.
- E. DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT, AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.
- F. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND THE REPLACEMENT OF ANY PORTION WHICH HAS BECOME DISPLACED DUE TO THE CONTRACTOR'S OPERATIONS.
- G. START LAYERS IN THE DEEPEST PORTION OF THE FILL, AND AS PLACEMENT PROGRESSES, CONSTRUCT LAYERS APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.
- H. ROUTE EQUIPMENT, BOTH LOADED AND EMPTY, OVER THE FULL WIDTH OF EMBANKMENT TO ENSURE UNIFORMITY OF MATERIAL PLACEMENT.
- I. COMPACT EMBANKMENT UNDERLYING NEW GRAVEL PAVING, FLOOR SLABS, AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90% OF ASTM D-1557.
- 3.8 SITE GRADING
- A. USING ON-SITE EXCAVATION MATERIALS, SHAPE, TRIM, FINISH, AND COMPACT SURFACE AREAS TO CONFORM TO THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY THE CONSTRUCTION MANAGER.
- B. GRADE SURFACES TO DRAIN AND ELIMINATE ANY PONDING OR EROSION.
- C. ELIMINATE WHEEL RUTS BY REGRADING.
- D. COMPACT AREAS UNDERLYING NEW GRAVEL, PAVING, FLOOR SLABS, AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- E. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE.
- 3.9 SUBGRADE PREPARATION
- A. SHAPE TOP OF SUBGRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.
- B. MAINTAIN TOP OF SUBGRADE IN A FREE-DRAINING CONDITION.
- C. DO NOT STOCKPILE MATERIALS ON TOP OF SUBGRADE UNLESS AUTHORIZED BY CONSTRUCTION MANAGER.
- D. COMPACT THE TOP 12 INCHES OF SUBGRADE TO A 95% COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- E. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH OF ESTABLISHED GRADE AND CROSS-SECTION.
- 3.10 GEOTEXTILE FABRIC
- A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN THE COMPOUND AREA AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS TO A MINIMUM OF 36 INCHES.
- 3.11 GRAVEL SURFACING
- A. CONSTRUCT GRAVEL SURFACING AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED BY CONSTRUCTION MANAGER OR CONSTRUCTION DOCUMENTS.
- B. SPREAD GRAVEL AND RAKE TO OBTAIN A UNIFORM SURFACE AREA.
- 4.1 MATERIALS
- FILL MATERIAL SHALL BE OBTAINED, WHEN POSSIBLE, FROM MATERIALS EXCAVATED FROM TRENCHS ON-SITE. STRUCTURAL FILL, SAND OR SLURRY SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTIONS AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL CONTAIN NO ORGANIC MATERIAL OR ROCKS, NOR SHALL CONTAIN OBJECTIONABLE MATERIALS AND/OR MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL. COMPACTION OF BACKFILL OR BORROW SOIL SHALL BE PLACED IN 12 INCH LOOSE LIFTS WHEN UTILIZING HEAVY COMPACTION EQUIPMENT OR 6 INCH LOOSE LIFTS WHEN UTILIZING HAND OPERATED TAMPERS.



THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER CORPORATION AND THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. REUSE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED EXCEPT BY WRITTEN PERMISSION FROM AMERICAN TOWER CORPORATION TITLE TO THESE PLANS AND/OR SPECIFICATIONS SHALL REMAIN WITH AMERICAN TOWER CORPORATION WITHOUT PREJUDICE AND VISUAL CONTACT WITH THEM SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.



SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-10-13
2	ADDRESS CHG.	AGT	12-30-13
3			
4			
5			

ATC SITE NUMBER:
273130

ATC SITE NAME:

NEW HANOVER NC

SITE ADDRESS:

3509 PEEL ST.
WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
SPECIFICATIONS

SHEET NUMBER:	REV. #
SP-1	2

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4.2 PIPE DETECTION AND IDENTIFICATION

- A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

4.3 TRENCH EXCAVATION

- A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.
- B. TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
- C. DISPOSE OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.
- D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

4.4 TRENCH PROTECTION

- A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
- B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

4.5 BACKFILLING

- A. NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
- B. BACKFILL TRENCH WITH LIFTS UP TO 12 INCHES, LOOSE MEASURE.
- C. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT, OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL AT LEAST 12 INCHES OF COVER IS OVER THE CONDUIT.

4.6 COMPACTION

- A. COMPACT BACKFILL TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- B. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RECOMPACT AS SPECIFIED.
- C. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR STRUCTURE BACKFILL DURING MAINTENANCE PERIOD SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

5.0 CHAIN LINK FENCES AND GATES

5.1 GENERAL

- A. PROVIDE CHAIN LINK FENCES AND GATES AS COMPLETE UNITS BY A SINGLE SUPPLY SOURCE INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS, AND FASTENERS.

5.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS.)

- A. COMPOUND FABRIC 72 INCHES HIGH AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER.
- B. STEEL FABRIC:
COMPLY WITH CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL. FURNISH ONE PIECE OF FABRIC WIDTHS. WIRE SIZE INCLUDES ZINC OR ALUMINUM COATING.
 1. SIZE: 2-INCH MESH, 9 GAUGE (0.148-INCH DIAMETER) WIRE.
 2. GALVANIZED STEEL FINISH: ASTM A 392, CLASS 2, WITH A MINIMUM 2.0 OZ. ZINC PER SQ. FT. OF UNCOATED WIRE SURFACE.
- C. FRAMEWORK AND ACCESSORIES:
 1. GENERAL REQUIREMENTS: EXCEPT AS INDICATED OTHERWISE, CONFORM TO THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL, INDUSTRIAL STEEL GUIDE FOR FENCE RAILS, POSTS, GATES AND ACCESSORIES, INCLUDING TABLE II.
 2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F 669.
 3. TYPE 1 PIPE: HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F 1083, PLANE ENDS, STANDARD WEIGHT (SCHEDULE 40) WITH NOT LESS THAN 1.8 OZ. ZINC PER SQ. FT. OF SURFACE AREA COATED.
 4. FITTINGS: COMPLY WITH ASTM F 626. MILL FINISHED ALUMINUM OR GALVANIZED IRON STEEL, TO SUIT MANUFACTURER'S STANDARDS.
 5. TOP RAIL: MANUFACTURER'S LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS, APPROXIMATELY 6 INCHES LONG, FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE CORNER, PULL AND END POST.
 - A. GALVANIZED STEEL: 1 1/4 INCH NPS (1.66 INCH OD) TYPE I OR II STEEL PIPE OR 1.625 INCH X 1.25 INCH ROLL-FORMED C SECTIONS WEIGHTING 1.35 LBS. PER FT.
- D. SWING GATES:
COMPLY WITH ASTM F 9000. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE, GALVANIZED PER ASTM A 153, AND IN ACCORDANCE WITH THE FOLLOWING:
 1. HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEG. GATE OPENING.
 2. LATCH: MTS "MULTI-LOCKING DEVICE" #C-6477 OR APPROVED EQUAL.

- 3. KEEPER: PROVIDE KEEPER FOR VEHICLE GATES, WHICH AUTOMATICALLY ENGAGES GATE LEAF AND HOLDS IT IN OPEN POSITION UNTIL MANUALLY RELEASED.

- 4. GATE STOPS: PROVIDE GATE STOPS FOR DOUBLE GATES, CONSISTING OF MUSHROOM TYPE FLUSH PLATE WITH ANCHORS, SET IN CONCRETE, AND DESIGNED TO ENGAGE BOTTOM RAIL.

E. CONCRETE:

PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C 150, AGGREGATES ASTM C 33, AND CLEAN WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM OF 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

6.0 LANDSCAPING

- A. FURNISH, INSTALL AND MAINTAIN LANDSCAPE WORK AS SHOWN AND OR REQUIRED WITHIN THE CONSTRUCTION DOCUMENTS OR AS SPECIFIED IN THE AMERICAN TOWER CONSTRUCTION SPECIFICATIONS.

7.0 CONCRETE FORMWORK

- A. FORMS: SMOOTH AND FREE OF SURFACE IRREGULARITIES. UTILIZE FORM RELEASE AGENTS.
- B. CHAMFER: EXPOSED EDGES OF ALL TOWER FOUNDATIONS SHALL RECEIVE A 3/4" BY 3/4", 45 DEGREE CHAMFER. OTHER EXPOSED EDGES SHALL RECEIVE A TOOLED RADIUS FINISH.
- C. UPON COMPLETION, REMOVE ALL FORMS, INCLUDING THOSE CONCEALED OR BURIED.
- D. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8.0 CONCRETE REINFORCEMENT

REFER TO STRUCTURAL DRAWINGS FOR ALL REQUIREMENTS.

9.0 CAST-IN PLACE CONCRETE

FOR STRUCTURAL CONCRETE (FOOTINGS, FOUNDATIONS, ETC.), REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS. FOR ANY MISCELLANEOUS CONCRETE, REFER TO SPECIFICATION BOOK OR OBTAIN REQUIREMENTS FROM CONSTRUCTION MANAGER.

- A. ALL CONCRETE SHALL COMPLY WITH ASTM C94 UNLESS NOTED OTHERWISE.
- B. MINIMUM COMPRESSIVE STRENGTH (F'C) AT 28 DAYS: 4000 PSI FOR TOWER FOUNDATION, AND 3500 PSI FOR ALL OTHER CONCRETE UNLESS SPECIFIED IN CONSTRUCTION DOCUMENTS.
- C. AIR ENTRAINMENT: PROVIDE 4 TO 8% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE-THAW CYCLE.
- D. CONCRETE TESTING: ALL FOUNDATION CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE CONSTRUCTION MANAGER. ALL STRUCTURAL TOWER FOUNDATION CONCRETE MUST BE TESTED. EQUIPMENT OR BUILDING PADS ARE NOT REQUIRED TO BE TESTED, UNLESS OTHERWISE NOTED BY CONSTRUCTION MANAGER. PROVIDE A MINIMUM OF 5 CYLINDERS (2-7-DAY, 2-28-DAY, 1-SPARE) FOR EACH DAYS POUR, OR FOR EVERY 50 YARDS PLACED - WHICHEVER IS GREATER. ADDITIONAL TESTS OR CYLINDERS MAY BE REQUIRED BY CONSTRUCTION MANAGER. A SLUMP, AIR, AND TEMPERATURE TEST SHALL BE PERFORMED FOR EACH SET OF CYLINDERS CAST. PREFERABLY, TESTS SHALL BE PERFORMED AT THE LOCATION OF ANCHOR BOLTS (PIERS - FOR MAT & PIERS, CAISSONS - TOP 1/3 OF CAISSON). TESTS SHALL ALSO BE REQUIRED FOR CONCRETE CONSIDERED BEING LESS THAN DESIRABLE BY CONCRETE SPECIFICATION STANDARDS. THE TESTING AGENCY HAS THE AUTHORITY TO NOT ACCEPT CONCRETE MEETING THESE SPECIFICATIONS FOR AMERICAN TOWER. THE CONTRACTOR IS RESPONSIBLE FOR ANY CONCRETE NOT MEETING THESE STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE TESTING AGENCY A MINIMUM OF 24 HOURS IN ADVANCE OF EACH FOUNDATION POUR.
- E. VIBRATE ALL CONCRETE USING SUFFICIENT HIGH FREQUENCY, LOW AMPLITUDE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE AROUND AND BETWEEN REINFORCEMENT BARS AND INTO CORNERS AND IRREGULARITIES. VIBRATE THOROUGHLY THROUGH EACH LIFT TO THE PREVIOUS LIFT. REVIBRATION AS LATE AS THE RUNNING VIBRATOR WILL SINK THROUGH UPPER LAYERS OF ITS WEIGHT, IS RECOMMENDED. DISCONTINUE VIBRATION WHEN RISING ENTRAPPED AIR BUBBLES STOP BREAKING THE LEVELING SURFACE. DO NOT OVERVIBRATE AS THIS MAY CAUSE SEGREGATION.

F. FINISHING EXPOSED CONCRETE SURFACES:

1. THESE PROVISIONS APPLY TO ALL EXPOSED AND ALL FORMED CONCRETE, EXTERIOR OR INTERIOR, UNLESS SPECIFICALLY DETAILED OTHERWISE. PERFORM PROCEDURES PRIOR TO APPLICATION OF ANY CURING COMPOUNDS.
2. ALL SURFACES: THOROUGHLY CLEAN OF ALL STAINS, SPATTER AND LOOSE MATERIAL.
3. FINIS, RIDGES, HIGH SPOTS: HONE SMOOTH WITH ABRASIVE POWER GRINDERS WHILE CONCRETE IS GREEN, IMMEDIATELY AFTER FORM REMOVAL.
4. FORM TIE HOLES AND DEEP DEPRESSIONS: FLUSH THOROUGHLY WITH CLEAN WATER AND TAMP TO OVERFULL WITH DRYPACK. CURE 10 DAYS AND HONE FLUSH AND SMOOTH.
5. ROCK POCKETS, HONEYCOMB, SAND STREAKS, DEBRIS AND VOIDS: CUT OUT AT LEAST 1 INCH DEEP WITH SIDES PERPENDICULAR TO SURFACE. FLUSH OUT WITH CLEAN WATER, COAT SURFACE WITH NEAT CEMENT PASTE AND TAMP TO OVERFULL WITH DRYPACK IN AT LEAST TWO LAYERS. CURE FOR 10 DAYS AND HONE FLUSHED AND SMOOTH.

- G. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL ELECTRICAL OPENINGS AND EQUIPMENT/BUILDING PADS WITH THE ELECTRICAL DRAWINGS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES.

CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.

PRIOR TO POURING CONCRETE THE INDEPENDENT TESTING AGENCY SHALL INSPECT ALL FOUNDATION STEEL AND FOUNDATION SUBGRADE

10.0 STRUCTURAL STEEL

MEET OR EXCEED MANUFACTURER'S RECOMMENDATIONS.

- A. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
- B. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.
- C. HEATING AND WELDING OF BARS IS PROHIBITED WITH THE EXCEPTION OF WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
- D. ALL REINFORCEMENT BARS TO BE FREE FROM LOOSE RUST AND
- E. UNLESS OTHERWISE NOTED, ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVERAGE OF 3 INCHES. THIS MAY REQUIRE SPACERS AND CHAIRS AS REQUIRED BY TESTING AGENCY OR CONSTRUCTION MANAGER.
- F. SPLICES IN REINFORCEMENT STEEL ARE PROHIBITED, UNLESS APPROVED BY CONSTRUCTION MANAGER. ALL SPLICES MUST THEN MEET ALL APPLICABLE ASTM STANDARDS FOR SPLICING.

11.0 GROUNDING

MEET ALL APPLICABLE CODES, REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, AND AMERICAN TOWER CO. CONSTRUCTION SPECIFICATIONS.



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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1	SITE NAME CHG.	AGT	09-10-13
2	ADDRESS CHG.	AGT	12-30-13
3			
4			

ATC SITE NUMBER:
273130

ATC SITE NAME:
NEW HANOVER NC

SITE ADDRESS:
3509 PEEL ST.
WILMINGTON, NC 28412



DRAWN BY:	AGT
CHECKED BY:	DRS
DATE DRAWN:	07-22-10
SUBMISSION:	FINAL CD'S

SHEET TITLE:
SPECIFICATIONS

SHEET NUMBER: **SP-2** REV. # **2**