JRL

Department of Planning and Zoning
Howard County, Maryland
Recommendations/Comments

Date: August 26, 2013

Hearing Examiner **10/14/13**
Planning Board _____ Board of Appeals _____ Zoning Board _____

Petition No. **BA 13-021C** Map No. _____ Block _____ Parcel ___ Lot _____

Petitioner: AT&T Mobility

Petitioner's Address: _____

Address of Property: _____

Return Comments by **September 16, 2013** to Public Service and Zoning Administration

Owner: (if other than applicant) _____

Owner's Address: _____

Petition:. SEE APPLICATION

****

To:

_____ MD Department of Education – Office of Child Care
3300 N. Ridge Road, Ste. 190, EC, MD 21043 (Louis Valenti)
✓ Bureau of Environmental Health
_____ Development Engineering Division
_____ Department of Inspections, Licenses and Permits
_____ Department of Recreation and Parks
_____ Department of Fire and Rescue Services
_____ State Highway Administration
_____ Sgt. Karen Shinham, Howard County Police Dept.
_____ James Irvin, Department of Public Works
_____ Office on Aging, Terri Hansen (senior assisted living)
_____ Police Dept., Animal Control, Deborah Baracco, (kennels)
_____ Susan Fitzpatrick, Health Dept. (Nursing & Res. Care)
_____ Land Development - (Religious Facility & Age-Restricted Adult Housing)
_____ Housing and Community Development
_____ Economic Development
_____ Route 1 Cases – DCCP – Dace Blaumanis
_____ Telecommunication Towers – Josh Levy (Comm. Dept.)

COMMENTS:

no comment

T:\PubServ\DivForm\commFrm(Rev.2/09)

SIGNATURE

CROWN CASTLE

Crown Castle
3530 Toringdon Way Suite 300
Charlotte NC 28277

Tel (704) 405-6608
Fax (724) 416-6254
Email jason.mayo@crowncastle.com

July 11, 2013

RE: AT&T Mobility site: 822517

Roxmill Ct
3875 RT 97
Glenwood, MD 21738

The undersigned hereby authorizes AT&T and agents their of, to make any applications to the Howard County Department of Planning & Zoning, and/or other governmental entity or agency for site plan approval, special permits, building permits, and variances.

Also, any other governmental or regulatory body having jurisdiction, including execution of any and all such applications in the name of the undersigned, for installing, removing, replacing, maintaining and operating a personal communications service including and without limitation, all related equipment and fixtures.

Crown Castle must agree to any conditions placed on existing tower prior to issuance/acceptance of zoning approval.

Thank you,

Jason Mayo
Crown Castle

JUL 12 2013

For DPZ Office use only:

BA CASE NO. BA 13-021C

Date Submitted 7/12/13

CONDITIONAL USE PETITION
TO THE HOWARD COUNTY HEARING AUTHORITY

(This application will only be accepted after a pre-submission meeting. See attached info.)

1. **Conditional Use Request**

Conditional Use Category Communications Towers or Antennas (Commercial)

Section 131.N.

Specific Use Requested AT&T is seeking approval to modify an existing telecommunication facility by expanding the existing compound. Related equipment shall be placed on the new concrete pad.

2. **Name of Petitioner** AT&T Mobility

Trading as (If applicable)

Mailing Address 7380 Coca Cola Drive STE 106 Hanover, MD 21076

Phone Number(s) 443-617-5691

E-Mail Address bsalamone@nbcllc.com

Name of Principal Contact (If different) Charles Salamone

3. **Counsel for Petitioner**

Mailing Address

Phone Number(s)

E-Mail Address

4. **Conditional Use Site Description**

Address/Street for Property 3875 Roxburry Mills Rd Glenwood, MD 21738

Tax Map 21 Grid/Block 14 Parcel 91 Lot

Department of Assessments and Taxation Account No. 04- 334086

Total Land Area of Property 1.8 (X Acres) (Square Feet) Check one.

Election District 04 Zoning of Property RC-DEO

Subdivision Name and Plat No. (If Applicable) N/A

Total Land Area of Use (If different than above) N/A (Acres) (Square Feet)

JUL 12 2013

5. **Petitioner's Interest in Subject Property**

[ ] OWNER (Including joint ownership)

[X] OTHER (Described and give name and address of owner)

Name of Owner Glenwood Baptist Church C/O Carolyn Clemons

Mailing Address 9240 Holsey Rd Damascus, MD 20872

If the Petitioner is not the owner, written authorization for this petition from the owner must be submitted.

6. **Conditional Use Plan Requirements**

If the petition is approved, the conditional use plan will be made a part of the Hearing Examiner's Decision and Order, subject to modifications and conditions required by the Hearing Examiner.

The conditional use plan must be drawn to scale and must include the items listed below:

[X] (a) Courses and distances of outline boundary lines and the size of the property
[X] (b) North arrow
[ ] (c) Zoning of subject property and adjoining properties
[X] (d) Scale of plan
[X] (e) Existing and proposed uses, structures, natural features and landscaping
[ ] (f) Location and surface material of existing and proposed parking spaces, driveways, and points of access; number of existing and proposed parking spaces
[ ] (g) Same as (e) and (f) above, of adjoining properties
[ ] (h) Location of existing and/or proposed well and private septic easement area, if property is to be served by private water and septic facilities
[ ] (i) Election District in which the subject property is located
[ ] (j) Tax Map and Parcel Number(s) of the subject property
[ ] (k) Name of local community in which the subject property is located or name of nearby community
[X] (l) Name, mailing address, telephone number (and e-mail address, if any) of the Petitioner
[ ] (m) Name, mailing address, telephone number (and e-mail address, if any) of Counsel
[X] (n) Name, mailing address, telephone number of property owner
[ ] (o) Floor area and height of structures, setback distances from property lines, and other numerical values necessary for the examination of the petition
[ ] (p) Location of subject property in relation, by approximate dimension, to the center line of nearest intersection of two public roads
[ ] (q) Ownership of abutting roads, right-of-way width, and existing pavement width
[ ] (r) Any other information as may be necessary for full and proper consideration of the petition

7. **Additional Information Requirements**

a. Information regarding noise, dust, fumes, odors, lighting, vibrations, hazards or other physical conditions resulting from the use.

b. Supporting documentation, such as traffic studies, market studies, and noise studies as may be required by the Department of Planning and Zoning or by the Zoning Regulations.

c. For expansions and enlargements, previous case number(s) and information regarding compliance with previous requirements and conditions.

8. Summary of Request

The following items should be answered by summary statements. If additional space is needed, please attach a Supplement to this petition.

a. The present use of the subject property Church/existing telecommunication facility.

b. Details of the proposed use, including, **where applicable:** types of indoor and outdoor activities; hours of operation; number of employees, occupants, and/or customers; quantity and types of vehicles or equipment used; outdoor lighting to be used; quantities and capacities of materials stored; etc. AT&T Mobility is proposing to install additional equipment on a new concrete pad. In addition, AT&T is proposing to expand the existing compound approx. 7' x 12'.

c. Any additional information which will be useful in the evaluation of whether the conditional use complies with the specific criteria for the conditional use category within Section 131.N. Currently there is an approved Conditional Use Permit for the telecommunication facility. This application is seeking approval to amend that approval to allow for the compound expansion.

d. Will the conditional use generate any physical conditions such as noise, dust, fumes, odors, lighting, or vibrations which would be discernible from abutting and vicinal properties? Since this site is currently operating as a telecommunication facility there will be no adverse affects from this proposal.

9. Prior Petitions

Has any petition for the same, or substantially the same, conditional use as noted above for the subject property been denied by the Hearing Examiner within twenty four (24) months of the date of this petition?

(X) **Yes** ( ) **No**

If yes, and six (6) months have elapsed since the last hearing, an affidavit must be attached which states the new and different grounds on which this re-submittal is based.

10. Additional Materials, Fees, Posting and Advertising Requirements

a. Supplemental pages may be attached to the petition. **You must submit one original petition with original signatures, and one original of any other signed documents.** The following number of sets including petitions, plans and supplemental pages must be submitted:

- *If the subject property adjoins a State road-* **original and 20 copies (application & plans)**
- *If the subject property adjoins a County road-* **original and 18 copies (application & plans)**

b. The Petitioner signing below hereby agrees to furnish such additional plats, plans, reports or other material as may be required by the Department of Planning and Zoning and/or the Hearing Examiner in connection with this petition.

c. The Petitioner hereby agrees to pay all costs in accordance with the current schedule of fees.

d. The Petitioner hereby agrees to properly post the property at least thirty (30) days immediately prior to the Hearing Examiner public hearing; to maintain the public notice posters until the public hearing is concluded; and to submit an affidavit of posting at, or before the time of the initial public hearing. The Petitioner also hereby agrees to advertise the public hearing by means of legal notices as prepared and approved by the Department of Planning and Zoning to be published one (1) time in at least two (2) newspapers of general circulation in Howard County, at least thirty (30) days prior to the Hearing Examiner public hearing, and to pay for such advertising costs; and agrees to submit two (2) approved certificates of the text and publication date(s) of the advertisement at or before the time of the hearing.

11. Signatures

The Petitioner hereby affirms that he/she has read the instructions on this form, filing herewith all of the required accompanying information, and affirms that all of the statements and information contained in, or filed with, this petition are true and correct.

Signature of Petitioner	Date	Print Name of Petitioner
Charles Salamone IV	7/11/13	Charles Salamone
Signature of Petitioner	Date	Print Name of Petitioner
Signature of Attorney	Date	Print Name of Attorney

12. General Standards for Conditional Uses

All requests for conditional uses must meet the following general standards set forth in Section 131.B. of the Zoning Regulations for approval:

1. The proposed conditional use plan will be in harmony with the land uses and policies indicated in the Howard County General plan for the district in which it is located. In Evaluating the plan under this standard, the Hearing Examiner shall consider:

    a. The nature and intensity of the use, the size of the site in relation to the use, and the location of the site with respect to streets giving access to the site; and

    b.I f a conditional use is combined with other conditional uses or permitted uses on a site, the overall intensity and scale of uses on the site is appropriate given the adequacy of proposed buffers and setbacks.

2. The proposed use at the proposed location will not have adverse effects on vicinal properties above and beyond those ordinarily associated with such uses. In evaluating the plan under this standard, the Hearing Examiner shall consider whether:

    a. The impact of adverse effects such as noise, dust, fumes, odors, lighting, vibrations, hazards or other physical conditions will be greater at the subject site than it would generally elsewhere in the zone or applicable other zones.

    b.The location, nature and height of structures, walls and fences, and the nature and extent of the landscaping on the site are such that the use will not hinder or discourage the development and use of adjacent land and structures more at the subject site than it would generally in the zone or applicable other zones.

    c. Parking areas will be of adequate size for the particular use. Parking areas, loading areas, driveways and refuse areas will be properly located and screened from public roads and residential uses to minimize adverse impacts o adjacent properties.

    d.The ingress and egress drives will provide safe access with adequate sight distance, based on actual conditions, and with adequate acceleration and deceleration lanes where appropriate.

In addition to the specific requirements of the appropriate subsection within Section 131.N of the Zoning Regulations, conditional uses within residential developments in the R-ED, R-SC, R-SA-8, R-A-15, R-MH or R-VH districts are subject to the standards enumerated in Section 131.C.

PETITIONER AT&T Mobility (contact: Charles Salamone)

ADDRESS 9200 Berger Rd Columbia, MD 21046

Affidavit made pursuant to the pertinent provisions of Title 22 of the Howard County Code as amended:

The person(s) signing below hereby declare(s) that no officer or employee of Howard County, whether elected or appointed, has received prior hereto or will receive subsequent hereto, any monetary or material consideration, any service or thing of value, directly or indirectly, upon more favorable terms than those granted to the public generally in connection with the submission, processing, issuance, grant or award of the attached petition to the Hearing Examiner for a conditional use as requested.

I, we, do solemnly declare and affirm under the penalties of perjury that the contents of the foregoing affidavit are true and correct to the best of my, our, knowledge, information and belief.

_____	Charles Salamone IV	7/11/13
Witness	Signature	Date
_____	_____	_____
Witness	Signature	Date
_____	_____	_____
Witness	Signature	Date

****

Application Fee: $500.00 **Poster Fee: $20.00 per sign/poster**

Make check payable to: Director of Finance.

For DPZ use only:

Hearing fee: $_____

Poster fee: $_____

Total: $_____

Receipt No._____

County Website: www.howardcountymd.gov

PLEASE CALL 410-313-2350 FOR AN APPOINTMENT TO SUBMIT YOUR APPLICATION.

REV 06/12

Please access the online application process for the pre-submission meeting by using the link below:

https://pdox.howardcountymd.gov/imarkupwg/form.asp?formid=20646

Pre-Submission Community Meeting - Instructions

1. A pre-submission community meeting is required prior to the initial submittal of a petition for a conditional use according to the following procedures:

   a. The petitioner shall provide at least 3 weeks' written notice regarding the date, time, and location of the pre-submission community meeting to:
      (1) All adjoining[i] property owners as identified in the records of the Maryland Department of Assessments and Taxation, by mail; and
      (2) The Department of Planning and Zoning, which will place the meeting notice on the Department's web site; and
      (3) Any community association that represents the area of the subject property or any adjacent properties

   b. The meeting shall be:
      (1) Held at a location within the community, in a public or institutional building located within approximately 5 miles of the subject property; and
      (2) Scheduled to start between 6 p.m. and 8 p.m. on a weekday evening, or to be held between 9 a.m. and 5 p.m. on a Saturday, excluding County holidays and other holidays determined in Section 16.205(D) of the Howard County Code.

   c. The petitioner shall post the property with posters provided by and at locations specified by the Department of Planning and Zoning, and shall make a reasonable effort to maintain the posters for at least the 3 weeks immediately prior to the meeting.

   d. A certification of notice and posting and a summary of the issues expressed by residents at the pre-submission community meeting shall be transmitted by the petitioner to the Department of Planning and Zoning when the initial petition is filed.

   e. The purposes of the pre-submission community meeting are to allow the petitioner to provide information to the community regarding the proposed conditional use and to allow community residents to ask questions and discuss any issues they have concerning the proposal.

   f. If the petitioner does not submit the petition to the Department of Planning and Zoning within 1 year of the pre-submission community meeting, the petitioner shall hold another pre-submission community meeting, subject to the same notification and posting requirements as the first pre-submission community meeting.

[i] Adjoining property is land which is touching or would be touching in the absence of an intervening utility or road right-of-way, other than a principal arterial highway.

IMPORTANT:

It is also advised that notice be sent to any community association registered with the County to be notified about projects in a certain geographic area; and the County Council.

Please use the following web address to access the community notification list http://data.howardcountymd.gov/HOA_Register/GCommunityView_new.asp. You will be prompted to enter the three-digit sign code assigned to your development. Once your sign code has been entered, you will be provided with a list of community contacts that have requested information about your development.

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PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF INSTALLING NEW EQUIPMENT ON NEW CONCRETE PAD AND NEW ANTENNAS WITH ASSOCIATED SUPPORT EQUIPMENT ON AN EXISTING FLAG POLE. WORK ALSO INCLUDES INSTALLING NEW WOODEN FENCE AROUND NEW EQUIPMENT AREA.

PROJECT INFORMATION

APPLICANT ADDRESS:	AT&T 7150 STANDARD DRIVE HANOVER, MD 21076
JURISDICTION:	HOWARD COUNTY
TOWER OWNER:	CROWN
LATITUDE:	N 39.265°
LONGITUDE:	W 77.0467°

RF DATA SHEET

DATE ISSUED: 03/13/2013 VERSION: V2012_1.1

PROJECT CONTACTS

1. AT&T PROJECT MANAGER: STEVEN SAFIRE
   PHONE: (301) 489-3378
2. SITE OWNER: CROWN

DRAWING INDEX

		REV
L4-MD-2533-01	TITLE SHEET	1
L4-MD-2533-01A	SITE PLAN	0
L4-MD-2533-02	COMPOUND PLAN & GENERAL NOTES	0
L4-MD-2533-03	EQUIPMENT PLAN & SCOPE OF WORK	0
L4-MD-2533-04	ANTENNA PLAN & TOWER ELEVATION	0
L4-MD-2533-05	ANTENNA CABLE SCHEDULE & DETAILS	0
L4-MD-2533-06	ANTENNA DETAIL	0
L4-MD-2533-07	GROUND BAR & GPS ANTENNA DETAILS	0
L4-MD-2533-08	RRH & ICE BRIDGE DETAILS	0
L4-MD-2533-09	ICE BRIDGE & DETAILS	0
L4-MD-2533-10	SYSTEM DIAGRAM	0
L4-MD-2533-11	WIRING DIAGRAM	0
L4-MD-2533-12	RAB72 & AC SINGLE LINE DIAGRAM DETAIL	0
L4-MD-2533-13	CONNECTION DIAGRAM & DETAILS	0
L4-MD-2533-14	CONNECTION DIAGRAM, TMA & 9412 CABINET DETAILS	0
L4-MD-2533-15	CONCRETE PAD DETAILS	0
L4-MD-2533-16	CONNECTION DIAGRAM & DETAILS	0
L4-MD-2533-17	TRIPLEXER MOUNTING & JUNCTION BOX DETAIL	0
L4-MD-2533-18	WOOD FENCE & GATE DETAILS	0
L4-MD-2533-19	AC PANEL SCHEDULE	0
L4-MD-2533-20	LTE ALARM BLOCK ASSIGNMENTS-ALU W/PNC	0
L4-MD-2533-21	RET CONTROL DIAGRAM	0

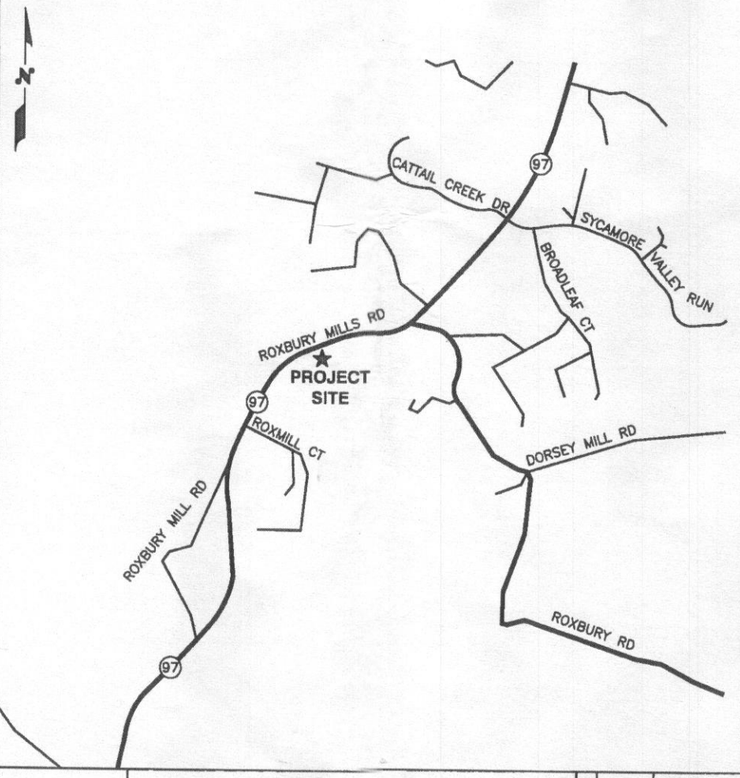
NOTE:
SEE COMPANION PACKAGE FOR GENERIC DETAILS DOCUMENT # 25736-000-A3J-0000-00001 (LATEST REVISION)

at&t Mobility

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533

VICINITY MAP

DIRECTION: FROM AT&T HANOVER OFFICE:
HEAD SOUTH-WEST ON STANDARD DR TOWARDS PARKWAY DR, TURN LEFT ONTO PARKWAY DR, TURN RIGHT ONTO PARK CIR DR, TURN LEFT ONTO COCA COLA DR, MERGE ONTO MD-100 W VIA THE SLIP ROAD TO ELLICOTT CITY, TAKE EXIT 5A-5B FOR I-95 TOWARDS BALTIMORE/WASHINGTON, KEEP LEFT AT THE FORK AND MERGE ONTO I-95 S, TAKE EXIT 38B TO MERGE ONTO MD-32 W TOWARDS COLUMBIA, MERGE ONTO MD-32 N, TURN LEFT ONTO LINDEN CHURCH RD, TURN RIGHT ONTO 10 OAKS RD, CONTINUE ONTO LINTHICUM RD, CONTINUE ONTO HOWARD RD, TURN LEFT ONTO TRIADELPHIA RD, SLIGHT RIGHT ONTO ROXBURY RD, TURN LEFT TO STAY ON ROXBURY RD, TURN LEFT ONTO MD-97 S/ROXBURY MILLS RD, SITE WILL BE ON THE LEFT.



APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
[INTERNATIONAL BUILDING CODE] IBC 2009

ELECTRICAL CODE:
[NATIONAL ELECTRICAL CODE] NEC 2008
[FIRE/LIFE SAFETY CODE] NEPA 2009 1001 LIFE SAFETY CODE

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
ANSI/TIA 222-G, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C2 NATIONAL ELECTRIC SAFETY CODE, LATEST VERSION

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

APPLICABLE BUILDING CODES & STANDARDS

DETAIL 1001

JUL 12 2013

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE: 9/25/2014

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	07/03/13	ADDED SITE PLAN SHEET #01A	RJB	MM	JAB
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility

TITLE SHEET

25736-435	DRAWING NUMBER: L4-MD-2533-01	REV: 1

22 x 34 "D" SIZE

SURVEYOR'S NOTES

1. BASIS OF BEARING:

   MD STATE GRID

2. NO SUBSURFACE INVESTIGATION WAS PERFORMED TO LOCATE UNDERGROUND UTILITIES. UTILITIES SHOWN HEREON ARE LIMITED TO AND ARE PER OBSERVED EVIDENCE ONLY.

3. THIS SURVEY DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL.

4. ALL VISIBLE TOWER EQUIPMENT AND IMPROVEMENTS ARE CONTAINED WITH IN THE DESCRIBED AREA.

5. SURVEY INFORMATION SHOWN HEREON IS TAKEN FROM AN "AS-BUILT" SURVEY PREPARED BY MURPHY GEOMATICS PROFESSIONAL LAND SURVEYING FOR CROWN CASTLE DATED 3/5/13. SITE: BAPTIST-GLENWOOD, BUN 822517

ZONING: RESIDENTIAL

THIS PARCEL OF LAND LIES WITHIN FLOOD ZONE X WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS PER F.I.R.M. PANEL NUMBER: 24004400208
EFFECTIVE DATE: 12/04/86

LEGEND

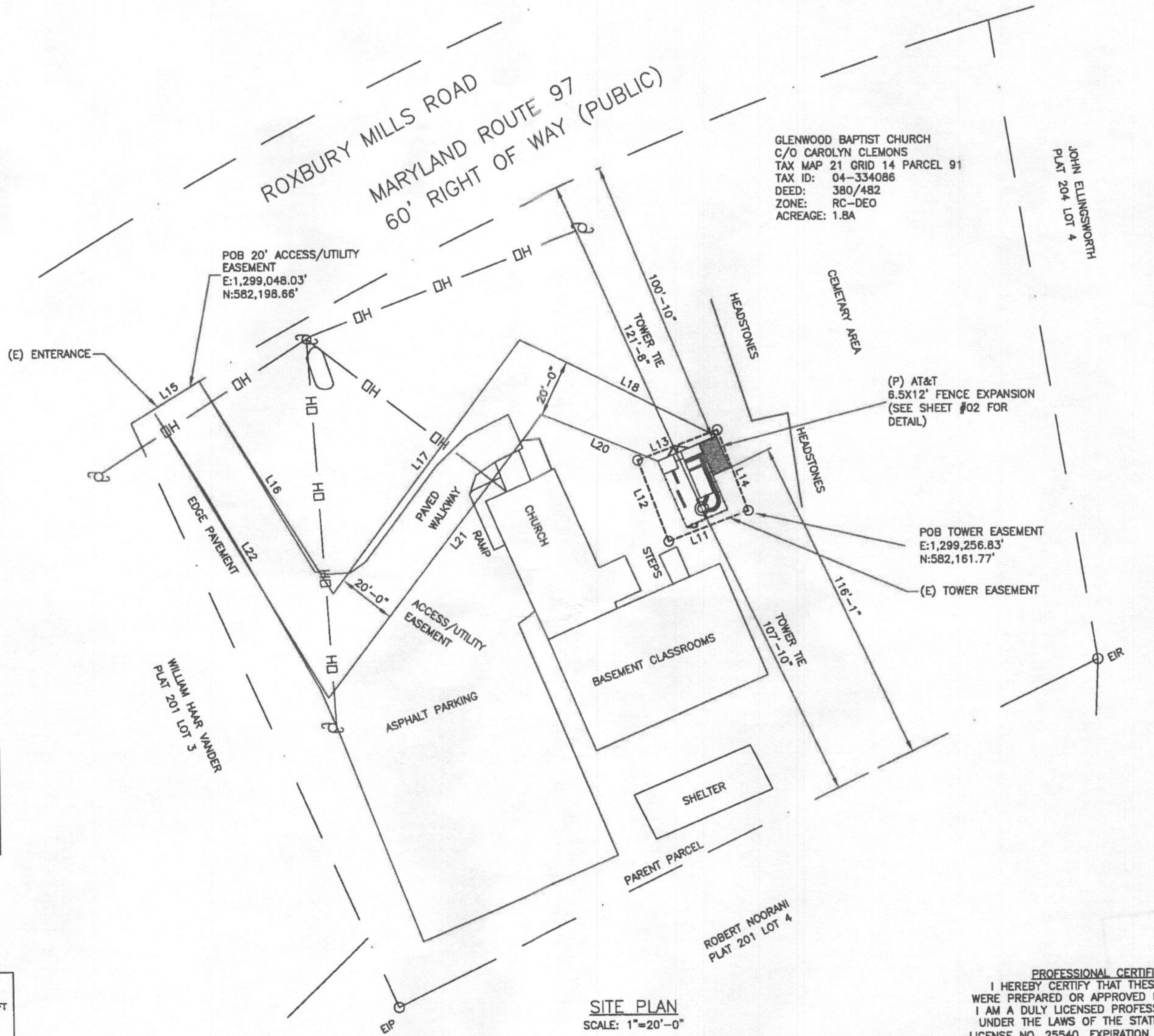
- ● : SET 5/8" REBAR.
- ○ : SET 16P NAIL.
- (___) : RECORD DESCRIPTION DATA.
- P.O.B. : POINT OF BEGINNING.
- P.O.C. : POINT OF COMMENCEMENT.
- —x—x— : FENCE AS NOTED.
- —OH—OH— : OVER HEAD UTILITY LINES.
- : WOOD UTILITY POLE.
- E : ELECTRIC TRANSFORMER.
- T : TELCO PEDESTAL.
- HH : HAND HOLE
- CATV : CABLE TELEVISION

AREA	SQUARE FEET	ACRE
PARENT PARCEL	78408	1.8
TOWER EASEMENT	900	0.02
COMPOUND AREA	393	0.007
ACCESS EASEMENT	5483	0.125
UTILITY EASEMENT	N/A	N/A
EXPANSION AREA	78	.002

811. Know what's below. Call before you dig.

FULL SCALE	1"=20'-0"
HALF SCALE	1"=40'-0"

LEGEND
(E) – EXISTING
(P) – PROPOSED



SITE PLAN
SCALE: 1"=20'-0"

LINE TABLE		
LINE	BEARING	LENGTH
L11	S69° 40' 24"W	30.00
L12	N20° 19' 36"W	30.00
L13	N69° 40' 24"E	30.00
L14	S20° 19' 36"E	30.00
L15	N59° 03' 05"W	20.00
L16	S31° 18' 19"E	87.67
L17	N38° 26' 28"E	110.49
L18	S63° 53' 38"E	71.82
L20	N63° 53' 38"W	36.68
L21	S38° 26' 28"W	123.09
L22	N31° 18' 19"W	116.50

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE 9/25/2014

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	07/03/13	THIS SHEET ADDED	RJB	MM	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

STATE OF MARYLAND No. 25540 PROFESSIONAL ENGINEER

at&t Mobility

SITE PLAN

	DRAWING NUMBER	REV
25736-435	L4-MD-2533-01A	0

22 x 34 "D" SIZE

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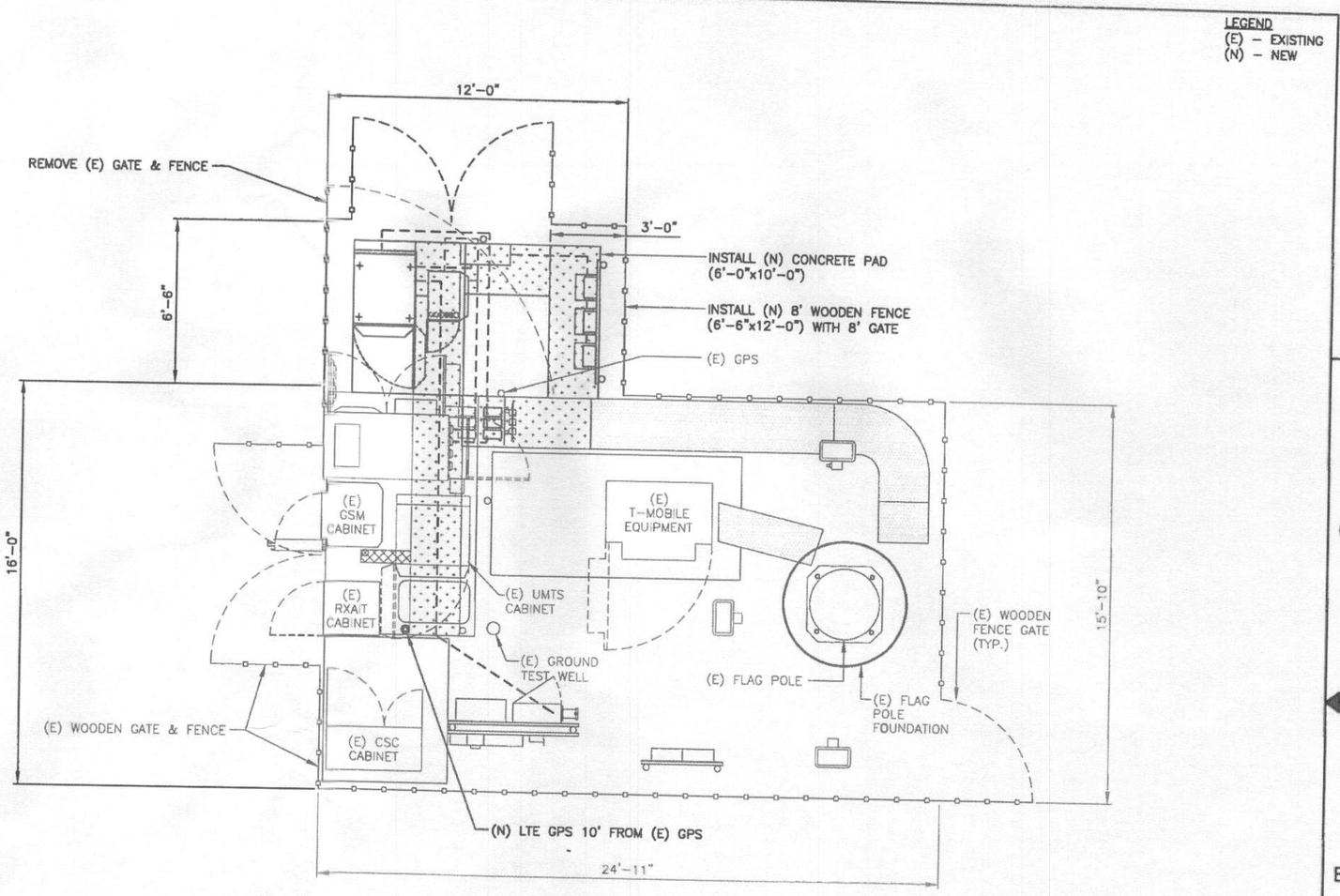
GENERAL NOTES

1. THE SUBCONTRACTOR SHALL GIVE ALL NOTICES AND REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY. MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE SUBCONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID SUBCONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE SUBCONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE AT&T REPRESENTATIVE (BECHTEL) OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF SUBCONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE SUBCONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE SUBCONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE SUBCONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDORS SPECIFICATIONS UNLESS OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE SUBCONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE SUBCONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE SUBCONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE SUBCONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE SUBCONTRACTOR SHALL NOTIFY THE AT&T REPRESENTATIVE (BECHTEL) WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE SUBCONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE AT&T REPRESENTATIVE (BECHTEL).
15. THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.



COMPOUND PLAN
SCALE: 3/8"=1'–0"

Know what's below. Call before you dig.

FULL SCALE 3/8"=1'–0"
2' 0 2 4 6 FT
HALF SCALE 3/16"=1'–0"

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE: 9/25/2014

STATE OF MARYLAND · GEORGE SIMONS · No. 25540 · PROFESSIONAL ENGINEER

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228–6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	MB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility

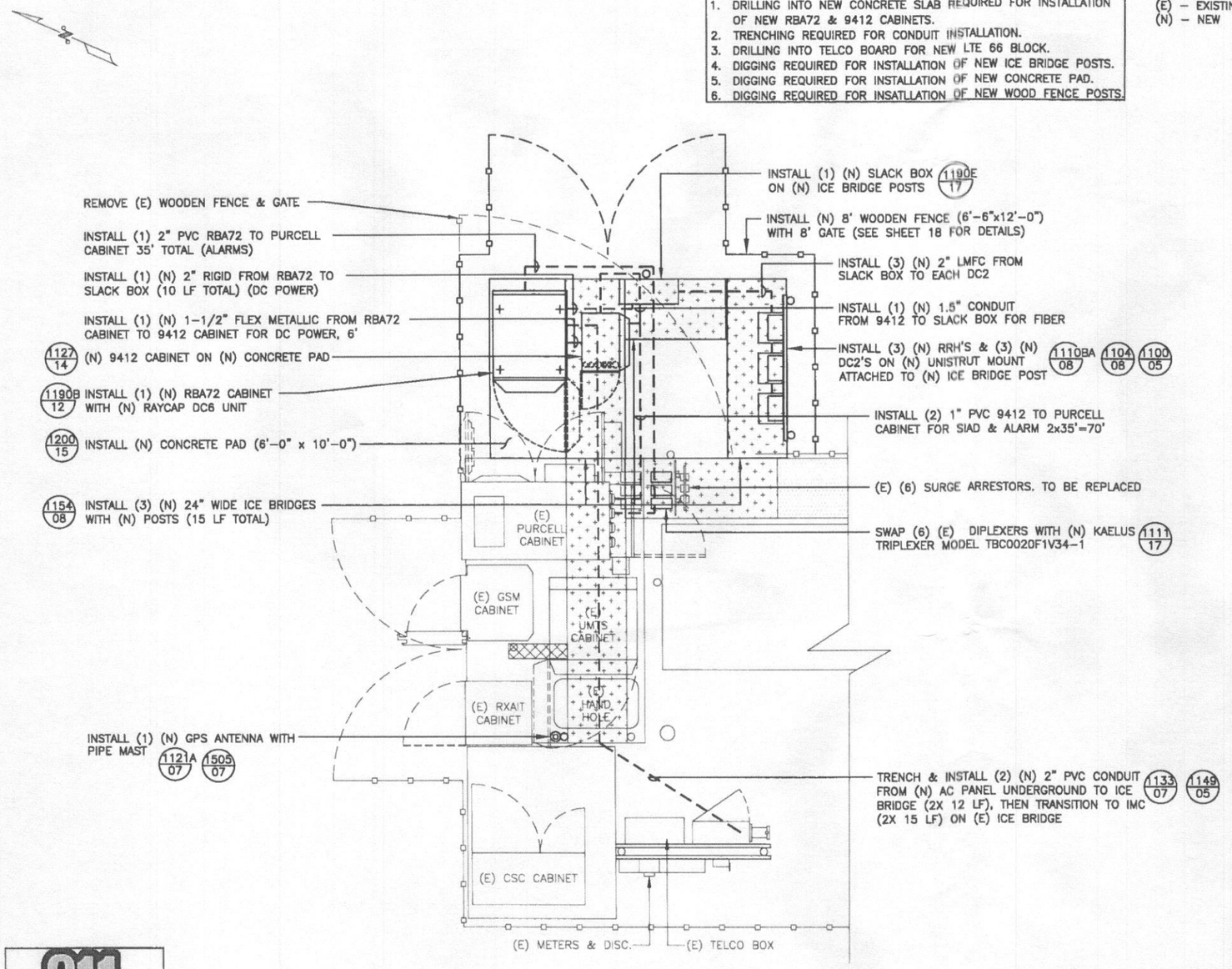
COMPOUND PLAN & GENERAL NOTES

25736–435	DRAWING NUMBER: L4–MD–2533–02	REV: 0

22 x 34 "D" SIZE

ETC TRIGGER:
1. DRILLING INTO NEW CONCRETE SLAB REQUIRED FOR INSTALLATION OF NEW RBA72 & 9412 CABINETS.
2. TRENCHING REQUIRED FOR CONDUIT INSTALLATION.
3. DRILLING INTO TELCO BOARD FOR NEW LTE 66 BLOCK.
4. DIGGING REQUIRED FOR INSTALLATION OF NEW ICE BRIDGE POSTS.
5. DIGGING REQUIRED FOR INSTALLATION OF NEW CONCRETE PAD.
6. DIGGING REQUIRED FOR INSATLLATION OF NEW WOOD FENCE POSTS.

LEGEND
(E) – EXISTING
(N) – NEW



EQUIPMENT PLAN (OUTDOOR ON GROUND)
SCALE: 1/2" = 1'-0"

811 Know what's below. Call before you dig.

FULL SCALE 1/2"=1'-0"
12" 0 1 2 3 4 5 FT
HALF SCALE 1/4"=1'-0"

SCOPE OF WORK

EXISTING ANT AZ – A__30__ B__150__ C__270__ LTE AZ – A__30__ B__150__ G__270__

FLAGPOLE, RAD CENTER AT 65', KAELUS SOLUTION,

1. REMOVE (3) EXISTING KATHREIN 80010121 ANTENNAS AND REPLACE WITH KATHREIN 80010764 LTE ANTENNAS (3 TOTAL) MATCH EXISTING MOUNTING
2. REMOVE (1) EXISTING TMA & DIPLEXER PER SECTOR AND REPLACE WITH KAELUS TWIN TMA'S MODEL # TMA2061F1V1-1 (3 TOTAL)
3. INSTALL (1) NEW 5M RET CABLE BETWEEN NEW LTE ANTENNA AND TWIN TMA'S (3 TOTAL)
4. REMOVE EXISTING AISG CABLES FROM CCU TO EXISTING SURGE ARRESTERS AND INSTALL 10M RET CABLE TO BIAS TS, (3 TOTAL)
5. INSTALL (1) NEW GROUND BAR AT SECTOR MOUNT (ALPHA SECTOR)
6. INSTALL (18) JUMPERS TOPSIDE FOR LTE
7. REUSE (6) EXISTING 7/8" COAX
8. REPLACE (6) EXISTING SURGE ARRESTERS
9. SWAP (6) EXISTING DIPLEXERS BOTTOM SIDE WITH NEW KAELUS TRIPLEXERS, MODEL #TBC0020F1V34-1
10. PREP AND HANG (3) RRH'S AND (3) DC2'S ON NEW UNISTRUT FRAME ON NEW ICE BRIDGE POST
11. PREP AND INSTALL FOR 9412 ON NEW CONCRETE PAD
12. REMOVE EXISTING WOODEN FENCE & GATE (18 LF TOTAL)
13. POUR NEW CONCRETE PAD (6'-0" X 10'-0")
14. INSTALL NEW WOODEN FENCE (6'-6"x12'-0") WITH NEW GATE AROUND NEW LEASE AREA, PAINTED TO MATCH
15. INSTALL (1) RBA72 CABINET ON NEW CONCRETE PAD
16. INSTALL (1) 100A BREAKER FOR 9412
17. INSTALL (2) 1/0 AWG DC CABLING FROM 9412 TO RBA72, 15' X2 = 30 LF
18. INSTALL (6) NEW 15A BREAKERS FOR SECTORS/RRH'S
19. INSTALL (6) #12 DC CIRCUITS FROM DC SURGE TO CONVERTER, 5' X6 = 30'
20. INSTALL (3) NEW GROUND BARS BELOW FOR RBA72 AND 9412, RRH, DIPLEXER RACK
21. INSTALL (2) 50A DUAL POLE AC BREAKERS W/ AC CABLING (35 FT – #6 EACH)
22. INSTALL (1) 40A SINGLE POLE AC BREAKER W/ AC CABLING (35 FT – #6 EACH)
23. INSTALL (1) GPS ANTENNA MOUNT WITH MAST PIPE, SURGE ARRESTOR, AND GROUND BAR
24. INSTALL 1/2" COAX FOR NEW GPS (25 FT)
25. INSTALL ALARM CABLE, CAT 5-4 PAIR 66 BLOCK TO DC6 (25 LF)
26. INSTALL 25 PAIR FOR ALARMS 66 BLOCK TO RBA72 – 25' AND 66 BLOCK TO 9412 – 15' = 40' TOTAL
27. INSTALL (1) NEW SLACK BOX 24" X 24"
28. INSTALL (6) PAIR NEW FIBER CABLES FROM RRH THRU SLACK BOX TO 9412 – 10M X6 = 60M
29. INSTALL (6) #8 DC SETS FROM FROM RRH TO DC2 THRU SLACK BOX TO RBA72 – (6X 10') + (12' X2 + 14' X2 + 16' X2) + (5' X3) = 159 LF
30. INSTALL (1) 1-1/2" FLEX METALLIC FOR DC POWER FROM RBA TO 9412 – TOTAL OF 6 LF
31. TRENCH & INSTALL (2) NEW 2" PVC FROM AC PANEL TO EXISTING ICE BRIDGE, 2X 12 LF, THEN TRANSITION TO IMC, 2X 15 LF
32. INSTALL (2) 1" PVC – 9412 TO PURCELL CABINET FOR SIAD & ALARM – 2X 20'
33. INSTALL (1) 2" PVC – RBA72 TO PURCELL CABINET FOR ALARM – 20 LF
34. INSTALL (1) 2" RIGID FROM RBA72 TO SLACK BOX – 15 LF
35. INSTALL (3) 2" FLEX METALLIC FROM SLACK BOX TO EACH DC2 – (12'+14'+16')
36. INSTALL 1" FLEX METALLIC FROM DC2 TO RRH – 30' TOTAL
37. INSTALL (3) ICE BRIDGE 24" WITH NEW POSTS, 15 LF
38. RE-SEED GRASS AFFECTED BY DIGGING (APPROX. 66 SQ FT)
39. INSTALL NEW 66 BLOCK FOR LTE ALARMS IN PURCELL CABINET TELCO BAY
40. INSTALL (1) NEW RAYCAP DC6 UNIT IN NEW RBA72
41. INSTALL (2) NEW GROUND RODS AT THE CORNERS OF THE NEW CONCRETE SLAB
42. INSTALL #2 AWG BARE COPPER GROUND & CONNECT TO EXISTING GROUND RING AND NEW GROUND RODS VIA EXOTHERMIC WELDING
43. INSTALL (1) 1.5" RIGID FROM 9412 TO SLACK BOX FOR FIBER, 10 LF

PROFESSIONAL CERTIFICATION
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BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-8000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP
0	06/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	GAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

STATE OF MARYLAND – No. 25540 – PROFESSIONAL ENGINEER

at&t Mobility

EQUIPMENT PLAN & SCOPE OF WORK

DRAWING NUMBER	REV
25736-435	L4-MD-2533-03	0

22 x 34 'D' SIZE

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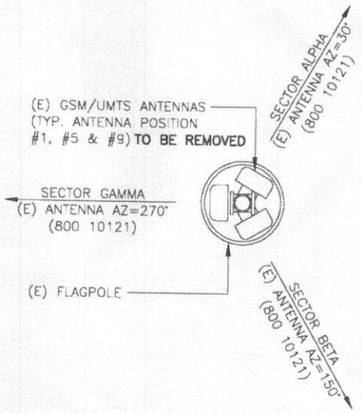
NOTE:
REMOVE THE (3) (E) KATHREIN 800-10121 ANTENNAS, DIPLEXERS & TMA'S AND REPLACE WITH (3) (N) LTE ANTENNAS & TWIN TMA'S

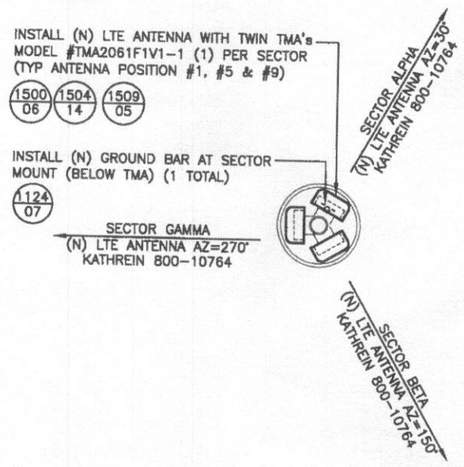
LEGEND
(E) – EXISTING
(N) – NEW



FULL SCALE 1/2"=1'-0"
12" 0 1 2 3 4 5 FT
HALF SCALE 1/4"=1'-0"

(E) ANTENNA PLAN @ 65' LEVEL
SCALE: 1/2" = 1'-0"

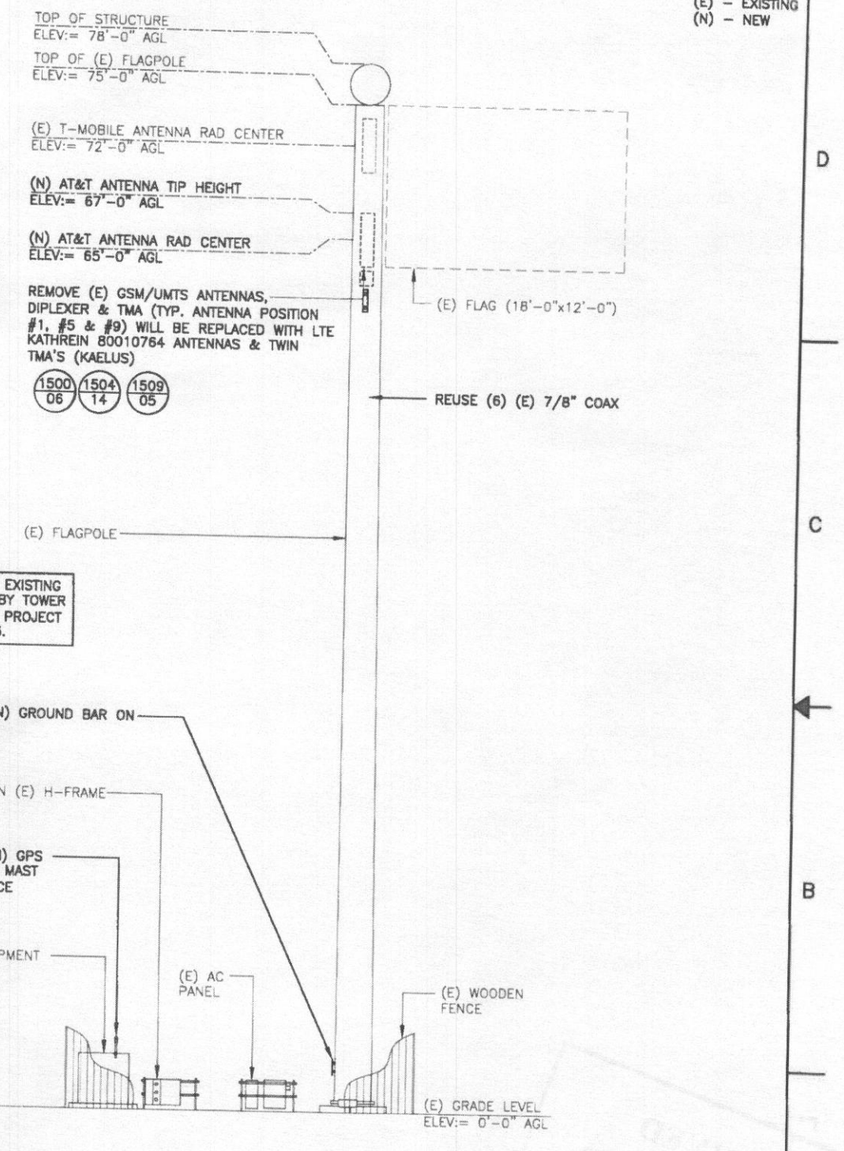
LEGEND
(E) – EXISTING
(N) – NEW



FULL SCALE 1/2"=1'-0"
12" 0 1 2 3 4 5 FT
HALF SCALE 1/4"=1'-0"

(N) ANTENNA PLAN @ 65' LEVEL
SCALE: 1/2" = 1'-0"

LEGEND
(E) – EXISTING
(N) – NEW



THE STRUCTURAL ANALYSIS (SA) OF THE EXISTING STEALTH FLAGPOLE TOWER IS PROVIDED BY TOWER ENGINEERING PROFESSIONALS (TEP). TEP PROJECT NO.: 822517.01S, DATED APRIL 26, 2013.

FULL SCALE 3/16"=1'-0"
4 0 4 8 12 FT
HALF SCALE 3/32"=1'-0"

TOWER ELEVATION
SCALE: 3/16" = 1'-0"

PROFESSIONAL CERTIFICATION
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PHONE: (301) 228-6000

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SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility
ANTENNA PLAN & TOWER ELEVATION

DRAWING NUMBER	REV
25736-435	L4-MD-2533-04	0

22 x 34 'D' SIZE

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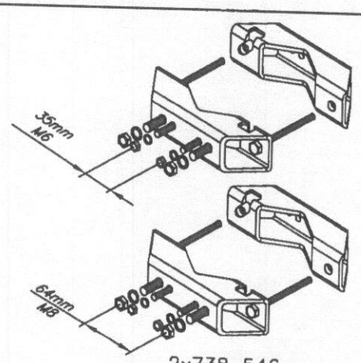
ANTENNA CABLE SCHEDULE

	ANTENNA POSITION	AZIMUTH	TYPE OF ANTENNA	RAD CENTER	COAX SIZE	EST LENGTH	TAPE COLOR
SECTOR ALPHA	#1	30°	(N) KATHREIN 80010764	65'	(E) (2) 7/8"	90'	BROWN/GREY
	#2	–	–	–	–	–	BROWN/ORANGE
	#3	–	–	–	–	–	–
	#4	–	–	–	–	–	–
SECTOR BETA	#5	150°	(N) KATHREIN 80010764	65'	(E) (2) 7/8"	90'	ORANGE/GREY
	#6	–	–	–	–	–	ORANGE/ORANGE
	#7	–	–	–	–	–	–
	#8	–	–	–	–	–	–
SECTOR GAMMA	#9	270°	(N) KATHREIN 80010764	65'	(E) (2) 7/8"	90'	GREEN/GREY
	#10	–	–	–	–	–	GREEN/ORANGE
	#11	–	–	–	–	–	–
	#12	–	–	–	–	–	–

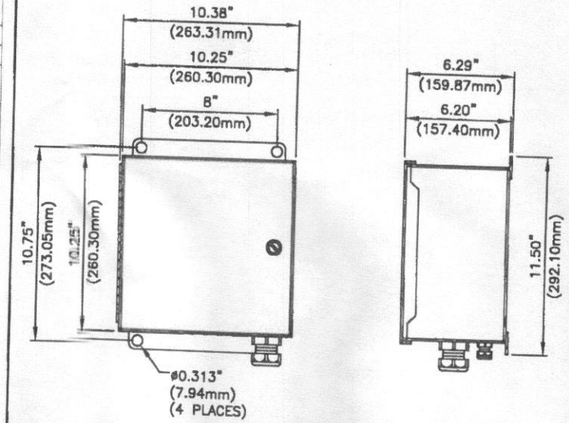
ANTENNA SCHEDULE NOTES:

1. ALL CABLE LENGTHS ARE ESTIMATED AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
2. COLOR TAPE MARKINGS MUST BE ¾" WIDE AND UV RESISTANT, SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE.
3. CONTRACTOR SHALL COORDINATE COLOR CODING IN THE FIELD WITH AT&T REPRESENTATIVE.
4. CONTRACTOR SHALL INSTALL A BRASS IDENTIFICATION TAG 0–1/2" IN DIAMETER WITH ¼" STAMPED LETTERS AND NUMBERS. INSTALL TAGS AT PORT CONNECTION NEAR THE END OF JUMPER AND ONE ON THE END NEAR THE RADIO EQUIPMENT. EACH TAG SHALL BE STAMPED WITH "AT&T" AND THE PORT IDENTIFICATION NUMBER. TAG SHALL BE ATTACHED WITH A CORROSION PROOF WIRE SUCH AS STAINLESS SEIZING WIRE.



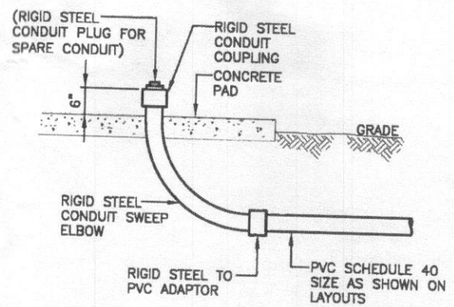
2x738 546
KATHREIN MOUNTING KIT

DETAIL 1509 –



SECTOR FIBER & POWER DISTRIBUTION BOX
DC2–48–60–0–9E

DETAIL 1100 –

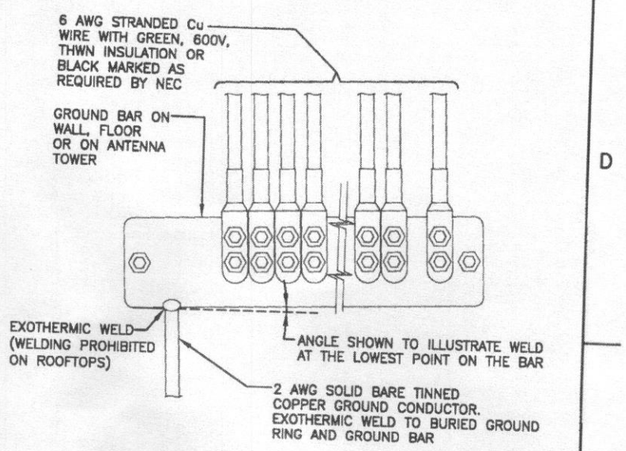


NOTE:

RIGID STEEL CONDUIT MAY NOT BE USED WITH COAXIAL ANTENNA CABLE. USE PVC SCHEDULE 40 PIPE.

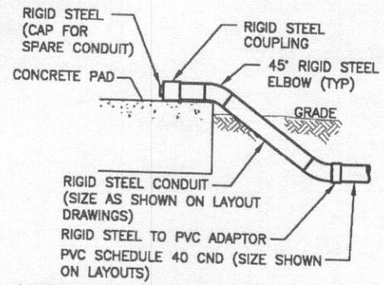
UNDERGROUND CONDUIT STUB–UP

DETAIL 1142 –



INSTALLATION OF GROUND WIRE TO COAX CABLE GROUND BAR

DETAIL 1429 – NTS



UNDERGROUND CONDUIT STUB–UP

DETAIL 1149 –

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I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE: 9/25/2014

STATE OF MARYLAND — No. 25540 — PROFESSIONAL ENGINEER

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NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JMB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility

ANTENNA CABLE SCHEDULE & DETAILS

DRAWING NUMBER	REV
25736–435	L4–MD–2533–05	0

22 x 34 "D" SIZE

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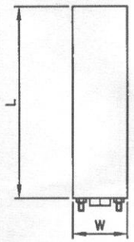
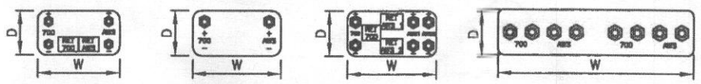


FRONT



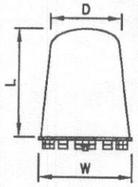
BOTTOM VIEW ITEMS 1 THROUGH 10 & 12 THROUGH 30

BOTTOM VIEW ITEM 36

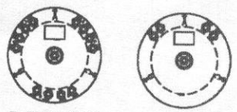
BOTTOM VIEW ITEM 37

BOTTOM VIEW ITEM 11

BOTTOM



FRONT



BOTTOM VIEW ITEMS 32 & 33

BOTTOM VIEW ITEMS 34 & 35

BOTTOM

ITEM#	MANUFACTURER	MODEL	BAND	FREQUENCIES, MHZ	POLARIZATION	RET	L, IN	W, IN	D, IN	WEIGHT, LB
1	COMMSCOPE	DBXNH-6565A-R2M	DUAL	698-896 1710-2180	DUAL	INSTALLED	50.8	11.9	7.1	34.2
2	COMMSCOPE	DBXNH-6565B-R2M	DUAL	698-896 1710-2180	DUAL	INSTALLED	72.7	11.9	7.1	46.3
3	COMMSCOPE	DBXNH-8585A-R2M	DUAL	698-896 1710-2180	DUAL	INSTALLED	51.1	11.9	7.1	32.0
4	COMMSCOPE	DBXNH-8585B-R2M	DUAL	698-896 1710-2180	DUAL	INSTALLED	72.8	11.9	7.1	46.2
5	COMMSCOPE	SBNH-1D8585C	DUAL	698-896 1710-2180	DUAL	INSTALLED	96.4	11.9	7.1	57.3
6	COMMSCOPE	SBNH-1D6565C	DUAL	698-896 1710-2180	DUAL	INSTALLED	96.4	11.9	7.1	60.8
7	COMMSCOPE	SBNH-1D6565B	DUAL	698-896 1710-2180	DUAL	INSTALLED	72.7	11.9	7.1	47.4
8	COMMSCOPE	SBNH-1D8585B	DUAL	698-896 1710-2180	DUAL	INSTALLED	72.8	11.9	7.1	45.0
9	COMMSCOPE	SBNH-1D4545A	DUAL	698-896 1710-2180	DUAL	INSTALLED	56.7	16.2	7.1	39.7
10	COMMSCOPE	SBNH-1D6565A	DUAL	698-896 1710-2180	DUAL	INSTALLED	50.9	11.9	7.1	38.4
11	ARGUS	2UNPX203.6R2	DUAL	698-894 1710-2170	DUAL	INSTALLED	68.7	22.2	5.0	66.1
12	KATHREIN	800-10765 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	75.5	11.8	6.0	51.8
13	KATHREIN	800-10721 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	54.9	11.8	6.0	45.2
14	KATHREIN	800-10764 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	55.2	11.8	6.0	40.8
15	KATHREIN	800-10722 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	11.8	6.0	57.2
16	KATHREIN	800-10766 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	96.0	11.8	6.0	58.4
17	KATHREIN	800-10723 K	DUAL	698-894 1710-2170	DUAL	INSTALLED	93.2	11.8	6.0	68.3
18	KATHREIN	840-10525	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	22.8	10.3	5.5	15.9
19	KMW	AM-X-CD-14-65-00T-RET	DUAL	698-894 1710-2170	DUAL	INSTALLED	48.0	11.8	5.9	36.4
20	KMW	AM-X-CD-16-65-00T-RET	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	11.8	5.9	48.5
21	KMW	AM-X-CD-17-65-00T-RET	DUAL	698-894 1710-2170	DUAL	INSTALLED	96.0	11.8	6.0	59.5
22	KMW	AM-X-CD-15-85-00T-RET	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	11.8	6.0	48.5
23	KMW	ET-X-CH-45-16-45-18-iR-AT	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	68.0	15.7	7.1	46.3
24	POWERWAVE	P65-15-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	51.0	12.0	6.0	30.0
25	POWERWAVE	P65-16-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	12.0	6.0	53.0
26	POWERWAVE	P65-17-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	96.0	12.0	6.0	59.0
27	POWERWAVE	P90-14-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	48.0	12.0	7.3	30.0
28	POWERWAVE	P90-15-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	12.0	7.3	24.0
29	POWERWAVE	P90-16-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	96.0	12.0	6.0	27.0
30	POWERWAVE	P45-16-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	54.0	17.4	6.5	45.0
31	POWERWAVE	P65E-17-XLH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	96.0	12.0	6.0	59.0
32	KATHREIN	840-10515	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	24.0	16.0	13.9	50.0
33	KATHREIN	840-10516	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	24.0	16.0	13.9	50.0
34	KATHREIN	840-10510	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	24.0	16.0	13.9	45.0
35	KATHREIN	840-10511	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	24.0	16.0	13.9	45.0
36	KMW	FX-X-CD-65-12-65-14-00T-ST	DUAL	698-894 1710-2170	DUAL	COMPATIBLE	24.0	11.8	6.0	15.4
37	POWERWAVE	P65-16-XLHH-RR	DUAL	698-894 1710-2170	DUAL	INSTALLED	72.0	12.0	5.0	57.0

NOTE: ANDREW IS A BRAND OF COMMSCOPE.

LTE/UMTS/GSM DUAL BAND
DUAL POLARIZATION ANTENNA (TYP)

DETAIL 1500 (2)

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SITE ID NUMBER: 2533
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GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

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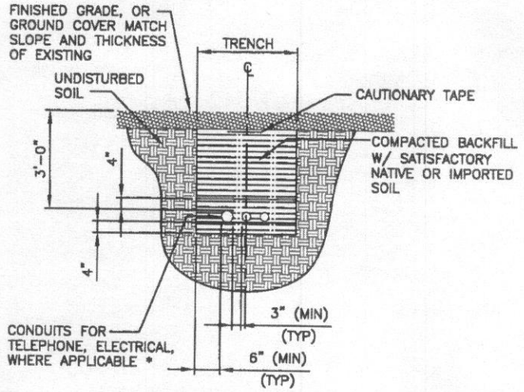
ANTENNA DETAIL

25736-435	DRAWING NUMBER: L4-MD-2533-06	REV: 0

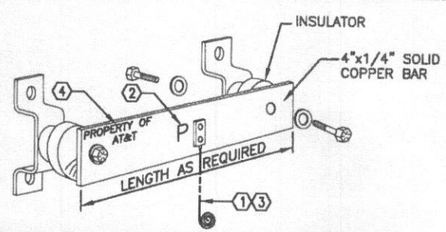
22 x 34 "D" SIZE



* CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

DIRECT BURIED CONDUIT

DETAIL 1133 — NTS



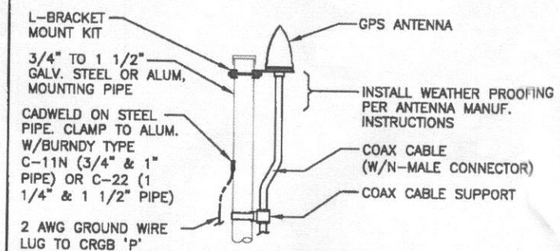
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

CONNECTION FOR:
- COAXIAL CABLE SHIELD
- CABLE ENTRY PORTS (HATCH PLATES)
- 24V & 48V DC POWER RETURN BAR
- TELCO GROUND BAR
- COAXIAL CABLE SURGE SUPPRESSORS
- RECTIFIER FRAMES
- GENERATOR FRAME WORK
- MASTER GROUND BAR

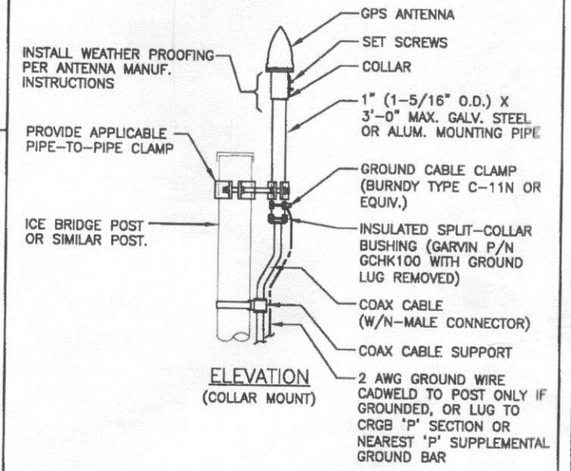
DETAIL NOTES:
1. TWO-HOLE, LONG BARREL COMPRESSION LUG WITH 2 AWG STRANDED COPPER CONDUCTOR AND GREEN THW INSULATION TO GROUND BAR. ROUTE CONDUCTOR AS APPLICABLE TO BURIED GROUND CONDUCTOR OR MASTER GROUND BAR AND CONNECT WITH TWO-HOLE LUG TO "P" SECTION.
2. USE PERMANENT MARKER TO LABEL THE WHOLE BAR AS "P" WITH 1" HIGH LETTERS.
3. FOR GROUND BAR LOCATED OUTDOORS, ON-GRADE ONLY, EXOTHERMICALLY WELD A 2 AWG BARE TINNED COPPER CONDUCTOR TO GROUND BAR AND EXOTHERMICALLY WELD TO BURIED GROUND CONDUCTOR.
4. GROUND BARS SHALL BE TINNED COPPER AND SHALL BE ENGRAVED OR IMPRESSED "STOLEN-DO NOT RECYCLE" AND/OR "PROPERTY OF AT&T", ETCHED OR STAMPED WITH SITE FA LOCATION AND SECURED WITH ANTI-THEFT HARDWARE.

SUPPLEMENTAL/SECTOR GROUND BAR

DETAIL 1124 — — ⚠1



ELEVATION
(L-BRACKET MOUNT)

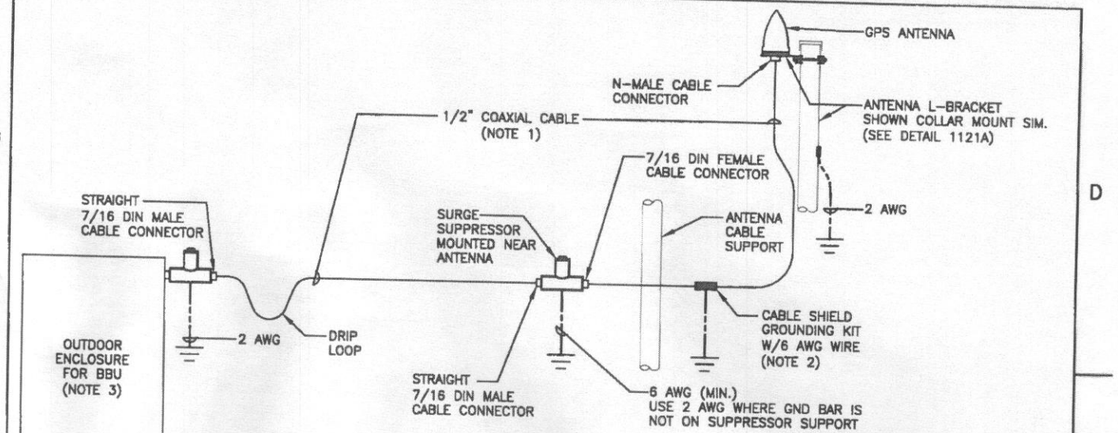


ELEVATION
(COLLAR MOUNT)

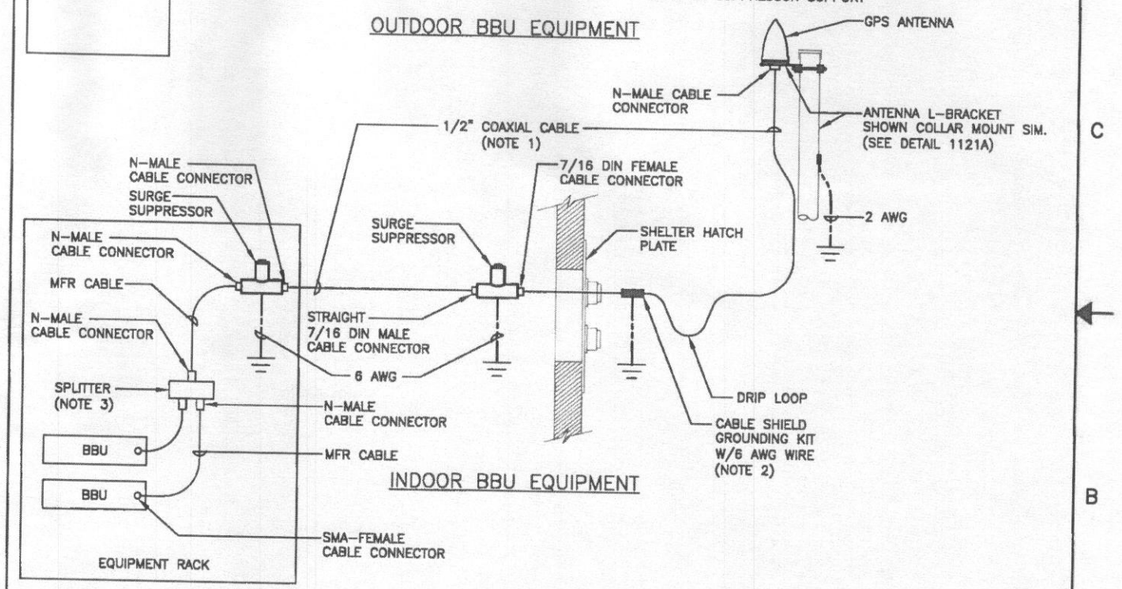
NOTES:
1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.
3. CADWELDING SHALL NOT BE PERFORMED ON ROOFTOPS.
4. LTE-GPS ANTENNA SHALL BE LOCATED 10' FROM ALL ANTENNAS.

LTE-GPS ANTENNA
PIPE & L-BRACKET MOUNT

DETAIL 1121A — NTS



OUTDOOR BBU EQUIPMENT



INDOOR BBU EQUIPMENT

NOTES:
1. MAXIMUM COMBINED LENGTH OF LDF4 COAXIAL CABLE IS 320 FEET WHEN USING A 26dB GAIN GPS ANTENNA. USE A 40dB GAIN ANTENNA FOR CABLE LENGTH GREATER THAN 320 FEET TO A MAXIMUM OF 450 FEET.
2. INSTALL CABLE SHIELD GROUNDING KIT APPROXIMATELY 3 FEET FROM THE SURGE SUPPRESSOR. WHEN THE CABLE EXCEEDS 60 FEET, INSTALL A GROUNDING KIT AT BOTH THE SURGE SUPPRESSOR AND THE GPS ANTENNA AND AT APPROXIMATELY 100 FOOT INTERVALS.
3. PROVIDE SIGNAL SPLITTER WHEN TWO BBUs ARE USED.

LTE GPS ANTENNA CONNECTION
FOR ALCATEL-LUCENT

DETAIL 1505 — NTS

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SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

STATE OF MARYLAND — No. 25540 — PROFESSIONAL ENGINEER

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GROUND BAR & GPS ANTENNA DETAILS

DRAWING NUMBER	REV
25736-435	L4-MD-2533-07	0

22 x 34 "D" SIZE

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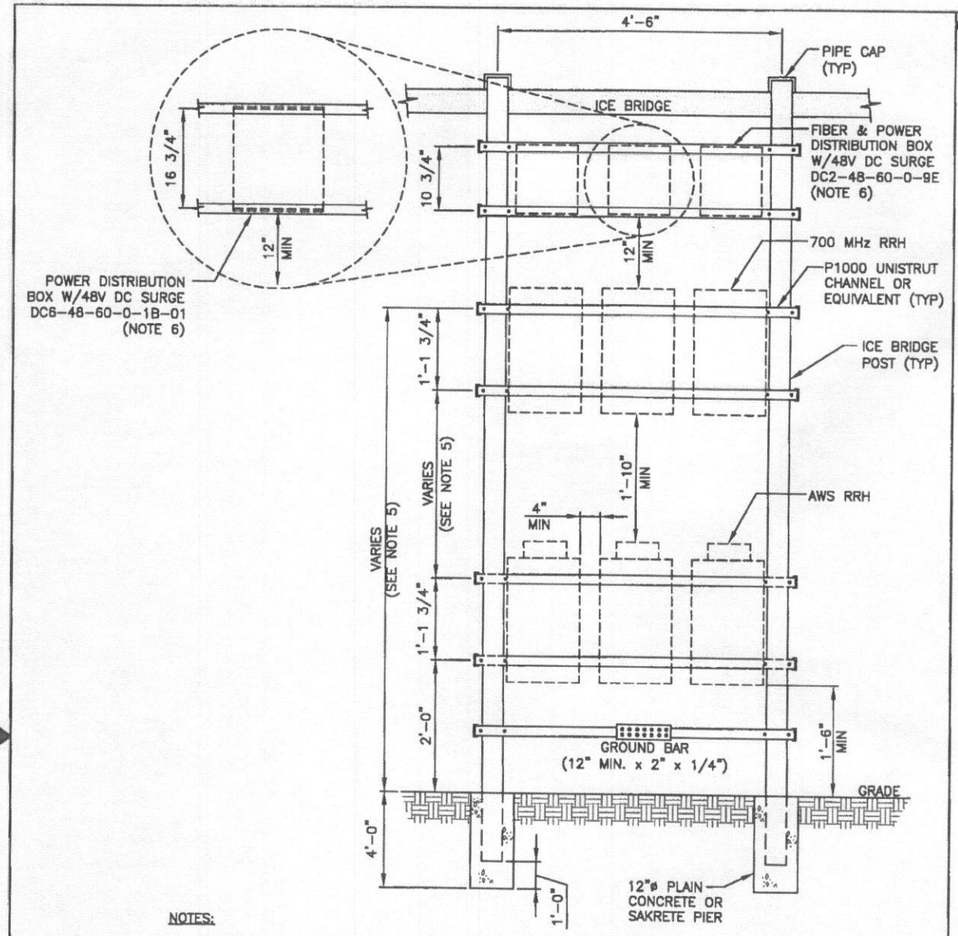
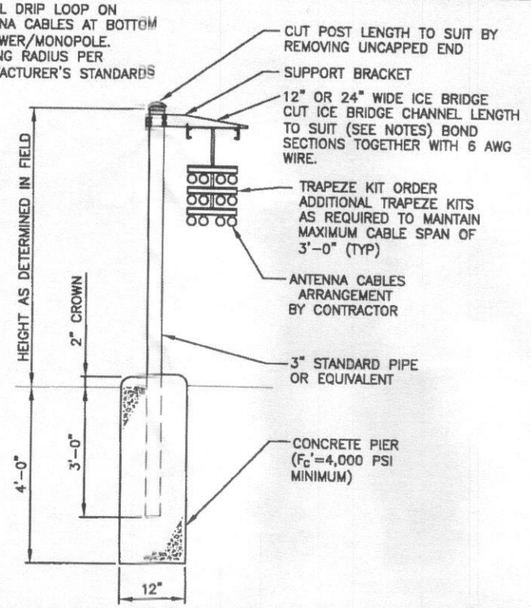


NOTES:

1. SUBCONTRACTOR SHALL SUPPLY AND INSTALL UNISTRUT(OR EQUIVALENT) MOUNTING CHANNELS.
2. SUBCONTRACTOR SHALL SUPPLY AND INSTALL ICE BRIDGE POSTS AS REQUIRED.
3. COAX BRIDGE POSTS SHALL BE 3 1/2"O.D. SCHED. 40 PIPE (ASTM-A36, A53 OR EQUIVALENT).
4. SUBCONTRACTOR SHALL SUPPLY (BUT NOT INSTALL) 3/8"ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR PER RRH. SUBCONTRACTOR SHALL BAG THE BOLTING HARDWARE AND HANG FROM INSTALLED UNISTRUT FRAME.
5. SPACING MAY VARY BASED ON SELECTED EQUIPMENT. ADJUSTMENTS TO SPACING WILL BE MADE BY RRH INSTALLER.
6. THE BOX MAY BE MOUNTED DIRECTLY BEHIND THE RRH'S IF SPACE IS AVAILABLE.
7. NO PAINTING OF THE RRH OR SOLAR SHIELD IS ALLOWED.

REMOTE RADIO HEAD (RRH) RACK DETAIL (ON GRADE WITH PIER)

DETAIL 1110BA / BAWA

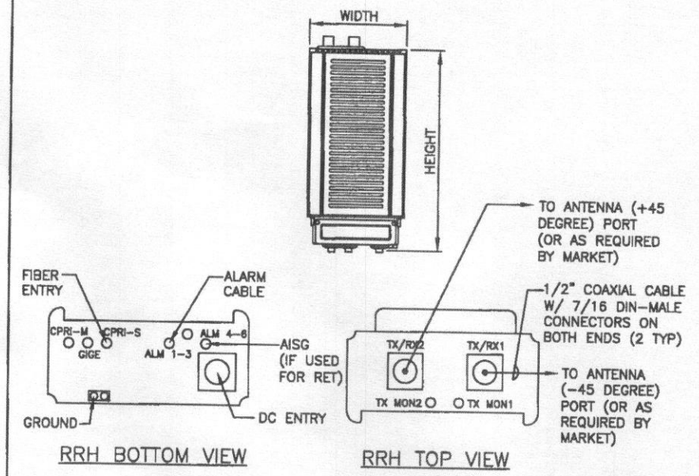


NOTES:

1. WHEN USING COMPONENTS AS SHOWN IN STANDARD DETAILS, MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 6 FEET.
2. WHEN USING COMPONENTS FOR SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
3. WHEN USING COMPONENTS, SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF ICE BRIDGES, WITH A MAXIMUM CANTILIVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE ICE BRIDGE.
4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.
5. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM OTHER MANUFACTURERS, PROVIDED THE MANUFACTURER'S INSTALLATION GUIDELINES ARE FOLLOWED.
6. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
7. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL.
8. THE DESIGN IN BASED ON ASCE 7-05, 3 SECOND GUST WIND SPEED OF 90 MPH, EXPOSURE C, ELEVATION AT GRADE.
9. THIS DESIGN IS BASED ON 24" WIDE ICE BRIDGE, 3" STD PIPE, AND (12) 1 5/8" DIA. COAX CABLES IN 3 ROWS OF 4 AND POST SUPPORT SPACING OF 6'-0".
10. HEIGHT OF POST SHALL BE 10'-6" MAX. ABOVE GROUND LEVEL.

24"x10' ICE BRIDGE W/PIER FOUNDATION

DETAIL 1154 / - ⚠1



RRH BOTTOM VIEW

RRH TOP VIEW

SIZE AND WEIGHT TABLE

RRH	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET
RRH 700 MHz 2X40 (80W)	12.2"	10.8"	21"	51 LBS.
RRH AWS 2X40 (80W)	12"	9"	25"	43 LBS. (W/O SOLAR SHIELD)

NOTE: DIMENSIONS INCLUDE MOUNTING BRACKET, SOLAR SHIELD AND CONNECTORS.

MINIMUM CLEARANCE TABLE

RRH CABINET	CLEARANCES (INCHES)	COMMENTS
FRONT	36"	INSTALLATION ACCESS
REAR	2"	ZERO REAR CLEARANCE IS ALLOWED USING SUPPLIED MOUNTING BRACKETS
RIGHT	4"	AIR FLOW
LEFT	4"	AIR FLOW
TOP	12"	AIR FLOW
BOTTOM	12"	CONDUIT ROUTING

ALCATEL-LUCENT 9442
REMOTE RADIO HEAD (RRH)

DETAIL 1104 / -

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STATE OF MARYLAND — GREGORY SCHAFFER — No. 25540 — PROFESSIONAL ENGINEER

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0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

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RRH & ICE BRIDGE DETAILS

DRAWING NUMBER	REV
25736-435	L4-MD-2533-08	0

22 x 34 "D" SIZE

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MAXIMUM CABLE LENGTHS FOR FIGURE 1

			ALCATEL–LUCENT (ALU)						
			LENGTH D1 (FT)						
C1 SIZE	C2 SIZE		75	100	125	150	175	200	250
8AWG	8AWG	LENGTH D2 (FT)	213	188	163	138	113	88	38
	10AWG		135	119	103	87	71	56	24
	12AWG		85	75	65	55	45	35	15

			ERICSSON							
			LENGTH D1 (FT)							
C1 SIZE	C2 SIZE		75	100	125	150	175	200	250	300
8AWG	8AWG	LENGTH D2 (FT)	307	282	257	232	207	182	132	82
	10AWG		194	178	162	147	131	115	83	52
	12AWG		122	112	102	92	83	73	53	33

CABLE C3 MAY BE EITHER 10AWG OR 12AWG. LENGTH D3 IS 16 FEET (MAX.) ALL CASES

MAXIMUM CABLE LENGTHS FOR FIGURES 2 AND 3

	ALU LENGTH D1/D2 (FT)			ERICSSON LENGTH D1/D2 (FT)		
CABLE	8 AWG	10 AWG	12 AWG	8 AWG	10 AWG	12 AWG
C1	288	186	137	382	365	156
C2	16	16	16	16	16	16

NOTES:

1. CABLES LENGTHS ARE APPLICABLE FOR 700MHz, 1900MHz & AWS FREQUENCIES 2x40W AND 2x60W ALU RRH MODELS AND ERICSSON MODEL RRUS-11.
2. NOMINAL SYSTEM VOLTAGE IS –48V DC, SUPPLIED FROM A 48V BATTERY. NORMAL OPERATING VOLTAGE IS –52V.
3. CABLE LENGTHS BASED ON ROSENBERGER AND COMMSCOPE CABLES.

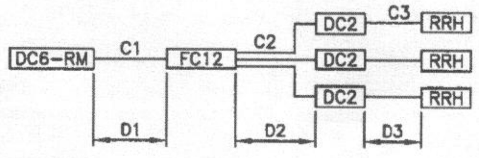


FIGURE 1 – TRUNK CABLE TO JUNCTION BOX

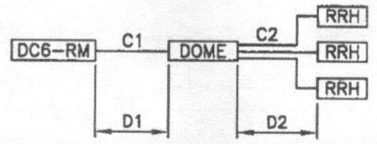


FIGURE 2 – TRUNK CABLE TO DC6 (DOME)

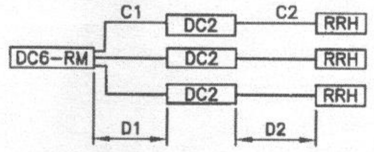


FIGURE 3 – DIRECT CABLE TO DC2

LTE CONDUCTOR SIZES

DETAIL 1408 NTS

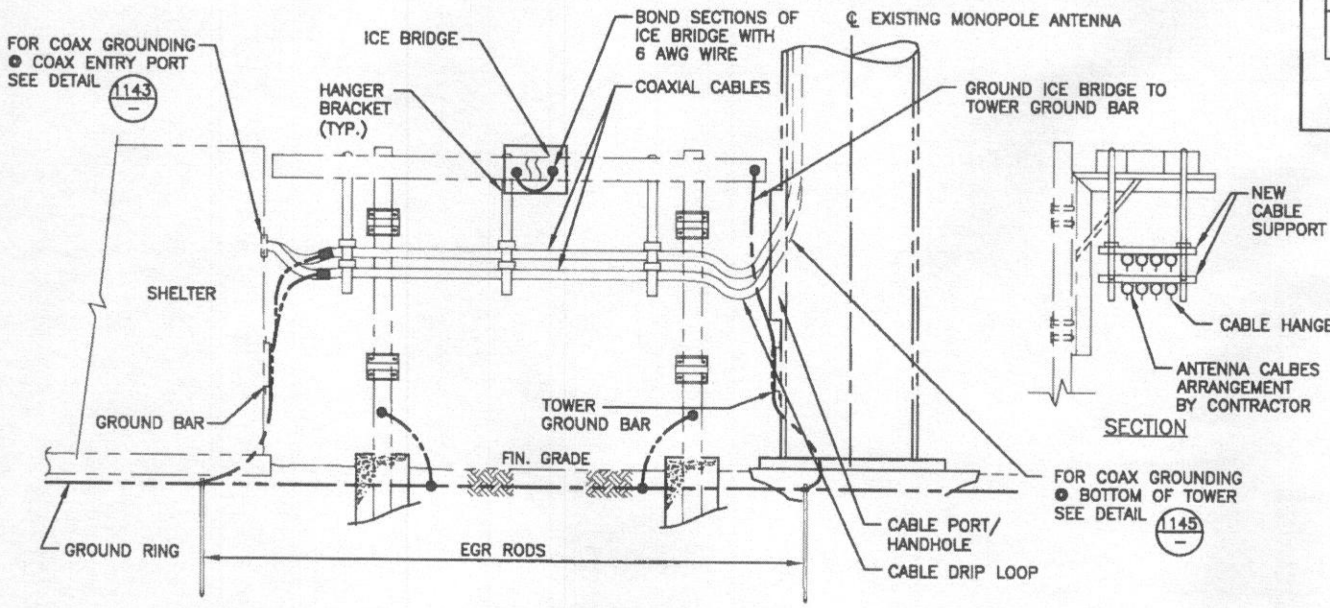
FIBER TRUNK CHANNEL	TECHNOLOGY	FREQUENCY BAND	SECTOR	RRH NUMBER	RADIO NAME	RRH FIBER TAG	DC TRUNK #1	DC TRUNK #2	DC TRUNK #3	DC TRUNK #4	DC SURGE #1 SUPPRESSION POSITION	DC SURGE #2 SUPPRESSION POSITION (NOTE 2)
1	LTE	700	A	RRH–A1	LTE–700–A–RRH–A1	A1–700	RD/BLUE BK/BLUE				A–1	
2	LTE	XXXX	A	RRH–A2	LTE–XXXX–A–RRH–A2	A2–XXXX	OR	RD/BLUE BK/BLUE			B–1 (NOTE 1)	
3	LTE OR UMTS	XXXX	A	RRH–A3	LTE OR UMTS–XXXX–A–RRH–A3	A3–XXXX	OR		RD/BLUE BK/BLUE			A–1
4	SPARE	N/A	A	N/A	SECTOR A SPARE	(NOTE 1)						
5	LTE	700	B	RRH–B1	LTE–700–B–RRH–B1	B1–700	RD/OR BK/OR				A–2	
6	LTE	XXXX	B	RRH–B2	LTE–XXXX–B–RRH–B2	B2–XXXX	OR	RD/OR BK/OR			B–2 (NOTE 1)	
7	LTE OR UMTS	XXXX	B	RRH–B3	LTE OR UMTS–XXXX–A–RRH–B3	B3–XXXX	OR		RD/OR BK/OR			A–2
8	SPARE	N/A	B	N/A	SECTOR B SPARE	(NOTE 1)						
9	LTE	700	C	RRH–C1	LTE–700–C–RRH–C1	C1–700	RD/GRN BK/GRN				A–3	
10	LTE	XXXX	C	RRH–C2	LTE–XXXX–C–RRH–C2	C2–XXXX	OR	RD/GRN BK/GRN			B–3 (NOTE 1)	
11	LTE OR UMTS	XXXX	C	RRH–C3	LTE OR UMTS–XXXX–A–RRH–C3	C3–XXXX	OR		RD/GRN BK/GRN			A–3
12	SPARE	N/A	C	N/A	SECTOR C SPARE	(NOTE 1)						
13	LTE OR UMTS	XXXX	A	RRH–A4	LTE OR UMTS–XXXX–A–RRH–A4	A4–XXXX				RD/BLUE BK/BLUE		B–1
14	LTE OR UMTS	XXXX	B	RRH–B4	LTE OR UMTS–XXXX–A–RRH–B4	B4–XXXX				RD/OR BK/OR		B–2
15	LTE OR UMTS	XXXX	C	RRH–C4	LTE OR UMTS–XXXX–A–RRH–C4	C4–XXXX				RD/GRN BK/GRN		B–3
16	LTE OR UMTS	XXXX	A	RRH–A5	LTE OR UMTS–XXXX–A–RRH–A5	A5–XXXX					FUTURE	
17	LTE OR UMTS	XXXX	B	RRH–B5	LTE OR UMTS–XXXX–A–RRH–B5	B5–XXXX					FUTURE	
18	LTE OR UMTS	XXXX	C	RRH–C5	LTE OR UMTS–XXXX–A–RRH–C5	C5–XXXX					FUTURE	

NOTES:

1. SUPPRESSORS B1, B2 & B3 OF THE FIRST UNIT SHALL BE USED FOR SECOND TECHNOLOGY INSTALLED.
2. INSTALLATION OF A SECOND SURGE SUPPRESSION UNIT (RAYCAP MODEL DC6-48060-0-8F) WILL BE REQUIRED TO SUPPORT THIRD AND FORTH CARRIER REMOTE RADIO HEADS.

LTE FIBER TRUNK CONNECTION CODE

DETAIL 1405 NTS



ICE BRIDGE DETAIL

DETAIL 1144

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE: 9/25/2014

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

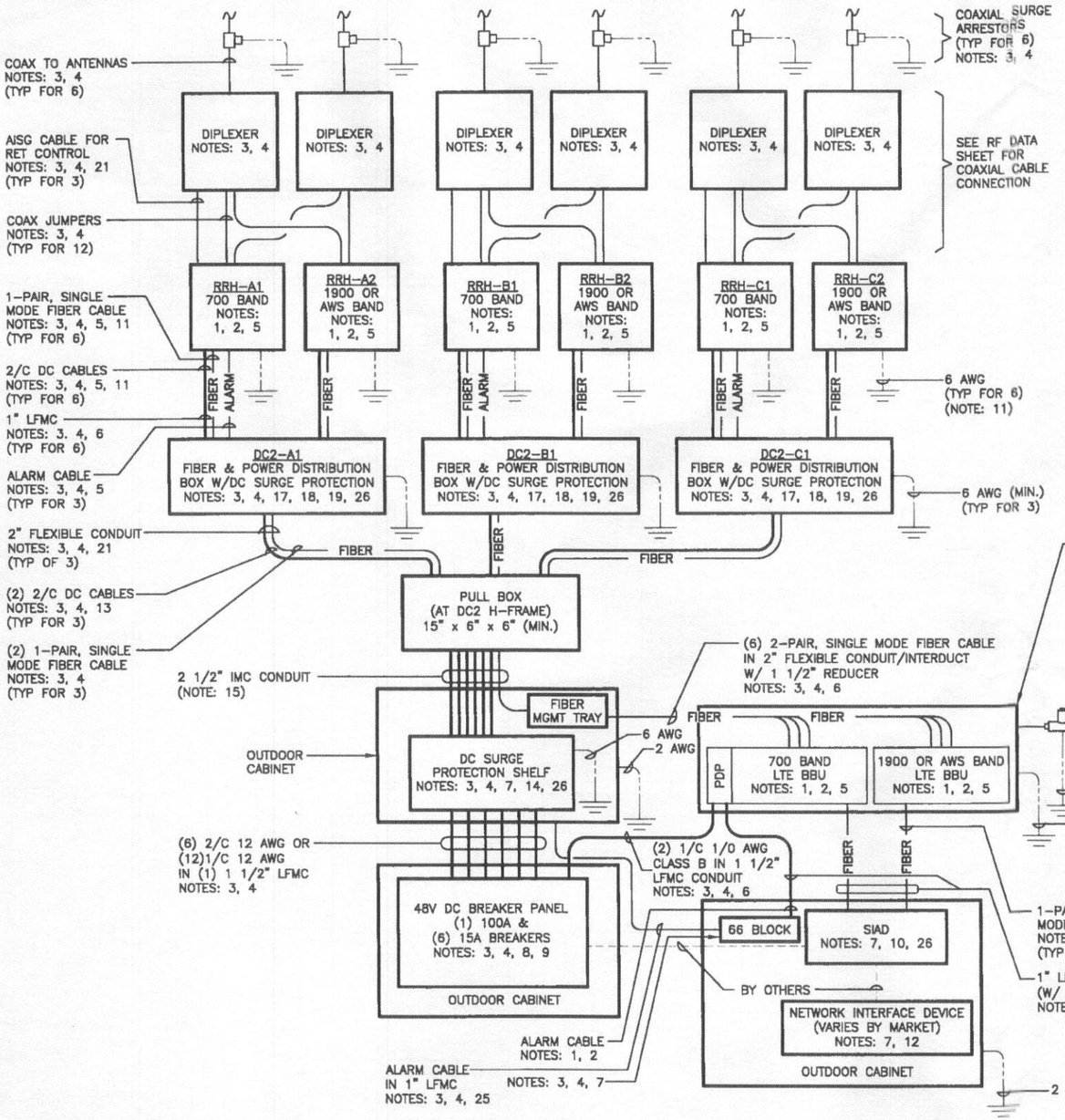
SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility

ICE BRIDGE & DETAILS

	DRAWING NUMBER	REV
25736-435	L4-MD-2533-09	0

22 x 34 "D" SIZE



LTE SYSTEM DIAGRAM, TOWER SITE
WITH OUTDOOR ALU BASEBAND
AND RRHs ON GROUND

DETAIL 1404A (2) NTS

NOTES:

1. FURNISHED BY OEM/AT&T.
2. INSTALLED BY OEM OR AS SCOPED BY MARKET.
3. FURNISHED BY BECHTEL.
4. INSTALLED BY BECHTEL.
5. FINAL CONNECTION BY OEM OR AS SCOPED BY MARKET.
6. OPEN END OF CONDUIT TO BE LEFT WEATHERPROOFED UNTIL TERMINATED.
7. EQUIPMENT LOCATED IN EXISTING OR NEW OUTDOOR CABINET AS REQUIRED TO SUIT SITE CONFIGURATION.
8. PART OF DC POWER PLANT. BREAKERS SPECIFIED SEPARATELY.
9. BREAKERS TO BE TAGGED AND LOCKED OUT.
10. SIAD IS FURNISHED AND INSTALLED BY OTHERS AND INCLUDES POWER CONNECTIONS AND FIBER TO THE UNIT OR AS SCOPED BY MARKET. WHEN IN BECHTEL SCOPE, INSTALL 10 AWG CHASSIS GROUND, PROVIDE (2) 10A BREAKERS FROM A 24V DC POWER SOURCE OR (2) 5A BREAKERS FROM A 48V DC POWER SOURCE AND CONNECT USING MFR POWER CABLE WITH SPECIAL CONNECTOR.
11. LEAVE COILED AND PROTECTED FOR CONNECTION BY ALU.
12. LEC TO FURNISH AND INSTALL NETWORK INTERFACE DEVICE.
13. SEE DETAIL 1408 FOR DC POWER CABLE SIZES.
14. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCx-48-60-RM. SEE DETAIL 1409A FOR INTERNAL WIRING DIAGRAM.
15. CONDUIT WHEN INSTALLED UNDERGROUND SHALL BE SCHEDULE 40 PVC.
16. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194™, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
17. FIBER AND POWER DISTRIBUTION BOX W/48V DC SURGE SHALL BE RAYCAP MODEL DC2-48-60-0-9E.
18. SEE DETAIL 1411 FOR INTERNAL WIRING DIAGRAM.
19. FIBER AND POWER DISTRIBUTION BOX IS NOT REQUIRED WHEN THE DC CABLE BETWEEN THE OUTDOOR CABINET AND RRH IS LESS THAN 50 FEET.
20. GROUNDING CABLES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90° DRY/ 75° WET INSTALLATION UNLESS NOTED OTHERWISE.
21. RET CONTROL FROM THE RRH IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
22. TMAS MAY BE EITHER SINGLE UNITS (AS SHOWN) OR TWIN UNITS.
23. MAXIMUM 4/0 AWG CABLE LENGTH FROM 24V DC POWER PLANT TO CONVERTER SHALL NOT EXCEED 44 FEET.
24. SEE DETAIL 1505 FOR GPS ANTENNA AND SURGE SUPPRESSOR COAXIAL CABLE CONNECTION.
25. SEE DETAIL 1150D FOR ALARM CABLE REQUIREMENTS.
26. NOTED EQUIPMENT MAY BE COMMON TO LTE AND UMTS SYSTEMS. REFER TO UMTS SYSTEM DIAGRAM IF APPLICABLE.

PROFESSIONAL CERTIFICATION.
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BECHTEL COMMUNICATIONS, INC.
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PHONE: (301) 228-6000

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SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

at&t Mobility
SYSTEM DIAGRAM
25736-435 | L4-MD-2533-10 | 0

22 x 34 "D" SIZE

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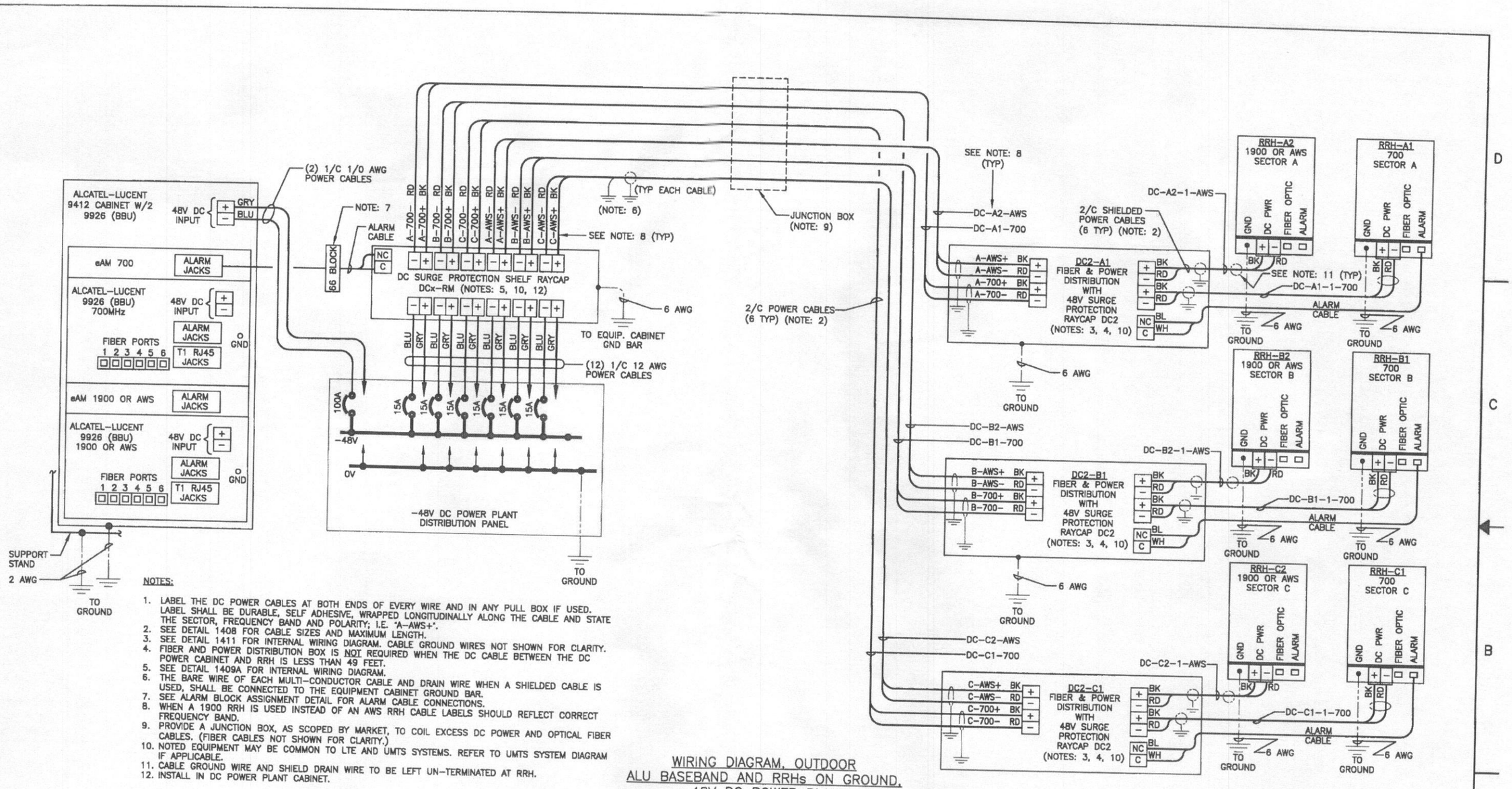

NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-AWS+".
2. SEE DETAIL 1408 FOR CABLE SIZES AND MAXIMUM LENGTH.
3. SEE DETAIL 1411 FOR INTERNAL WIRING DIAGRAM. CABLE GROUND WIRES NOT SHOWN FOR CLARITY.
4. FIBER AND POWER DISTRIBUTION BOX IS NOT REQUIRED WHEN THE DC CABLE BETWEEN THE DC POWER CABINET AND RRH IS LESS THAN 49 FEET.
5. SEE DETAIL 1409A FOR INTERNAL WIRING DIAGRAM.
6. THE BARE WIRE OF EACH MULTI-CONDUCTOR CABLE AND DRAIN WIRE WHEN A SHIELDED CABLE IS USED, SHALL BE CONNECTED TO THE EQUIPMENT CABINET GROUND BAR.
7. SEE ALARM BLOCK ASSIGNMENT DETAIL FOR ALARM CABLE CONNECTIONS.
8. WHEN A 1900 RRH IS USED INSTEAD OF AN AWS RRH CABLE LABELS SHOULD REFLECT CORRECT FREQUENCY BAND.
9. PROVIDE A JUNCTION BOX, AS SCOPED BY MARKET, TO COIL EXCESS DC POWER AND OPTICAL FIBER CABLES. (FIBER CABLES NOT SHOWN FOR CLARITY.)
10. NOTED EQUIPMENT MAY BE COMMON TO LTE AND UMTS SYSTEMS. REFER TO UMTS SYSTEM DIAGRAM IF APPLICABLE.
11. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRH.
12. INSTALL IN DC POWER PLANT CABINET.

WIRING DIAGRAM, OUTDOOR
ALU BASEBAND AND RRHs ON GROUND,
-48V DC POWER PLANT

DETAIL 1413A (2)
NTS

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GLENWOOD, MD 21738

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HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GB

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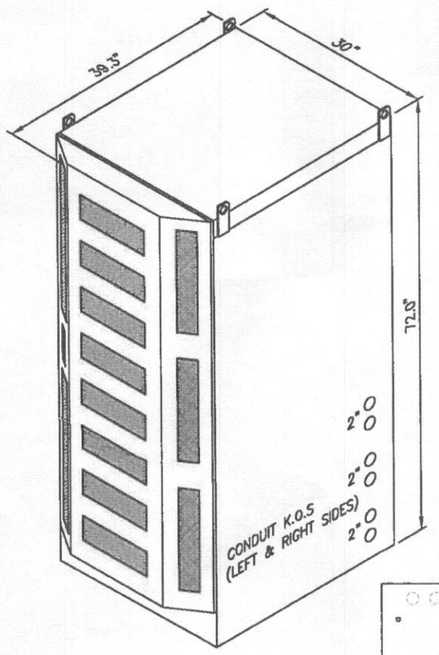
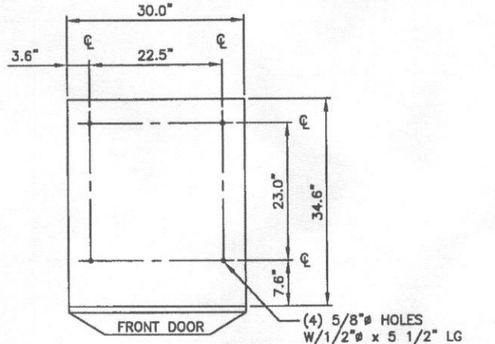
WIRING DIAGRAM

DRAWING NUMBER	REV
25736-435	L4-MD-2533-11	0

22 x 34 "D" SIZE

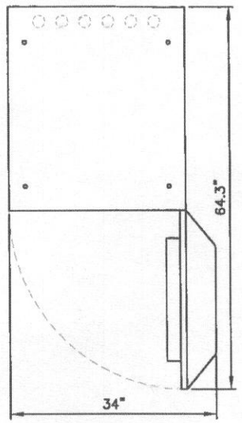




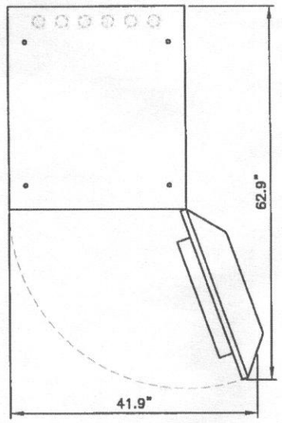
DRILL PATTERN

CLEARANCE TABLE	
FRONT = 36"	LEFT = 0"
REAR = 36"	RIGHT = 0"

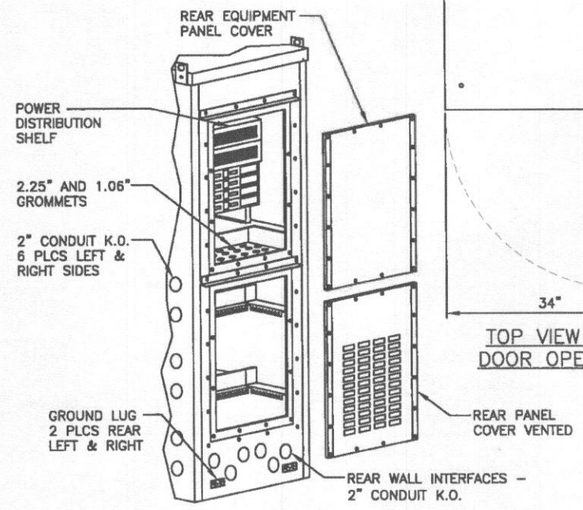
WEIGHT = 425lbs (EMPTY)
= 2185lbs (W/12 18DAH BTRYS, DC POWER PLANT, 3 RECTIFIERS & CUSTOMER EQUIP.)



TOP VIEW 90°
DOOR OPENING



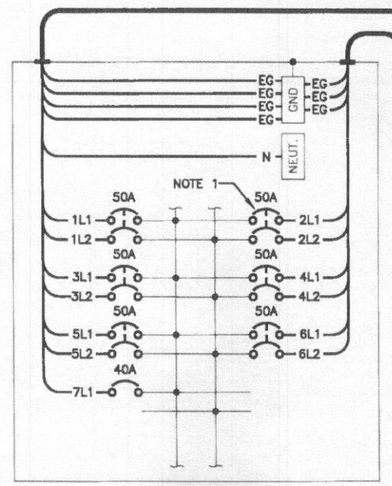
TOP VIEW 110°
DOOR OPENING



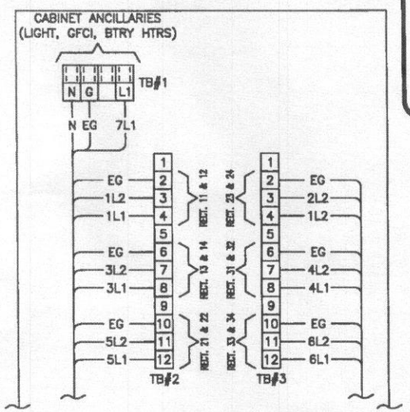
REAR VIEW

COMMSCOPE 48V DC
POWER CABINET RBA72 PSV

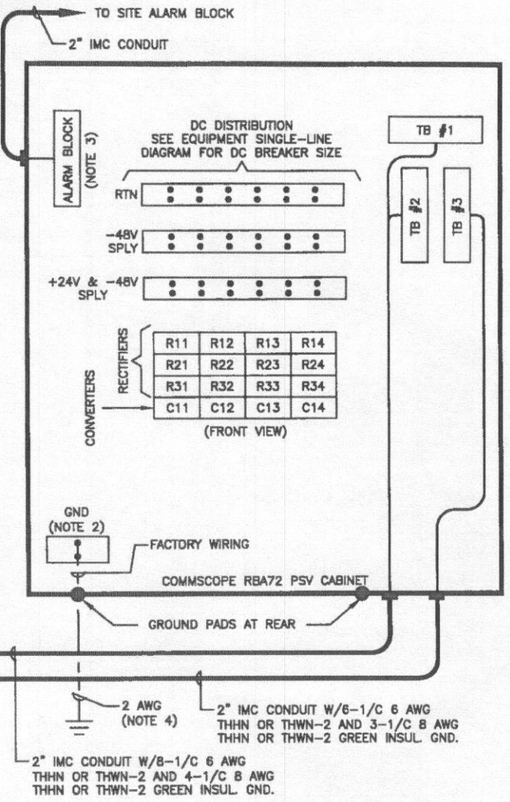
DETAIL 1190B (1)



AT&T PANELBOARD
120/240V AC 1Φ, 3W OR
208/120V AC 3Φ, 4W



DETAIL A
TERMINAL BLOCK WIRING
(ACCESS FROM REAR ON TOP LEFT)



NOTES:

1. REFER TO PANEL SCHEDULE FOR CIRCUIT BREAKER REQUIREMENTS AND POSITION LOCATION.
2. GROUND BAR HAS 1/4"-20 STUDS AND HARDWARE FOR 2-HOLE TERMINALS.
3. REFER TO DETAIL 1462D FOR ALARM WIRING.
4. CONNECT GROUND WIRE TO EITHER BUT NOT BOTH CABINET EXTERNAL GROUND PADS WITH 2-HOLE COMPRESSION LUGS.

AC SINGLE-LINE DIAGRAM
FOR COMMSCOPE RBA72 PSV
POWER AND BATTERY CABINET

DETAIL 1462C (1)

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3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
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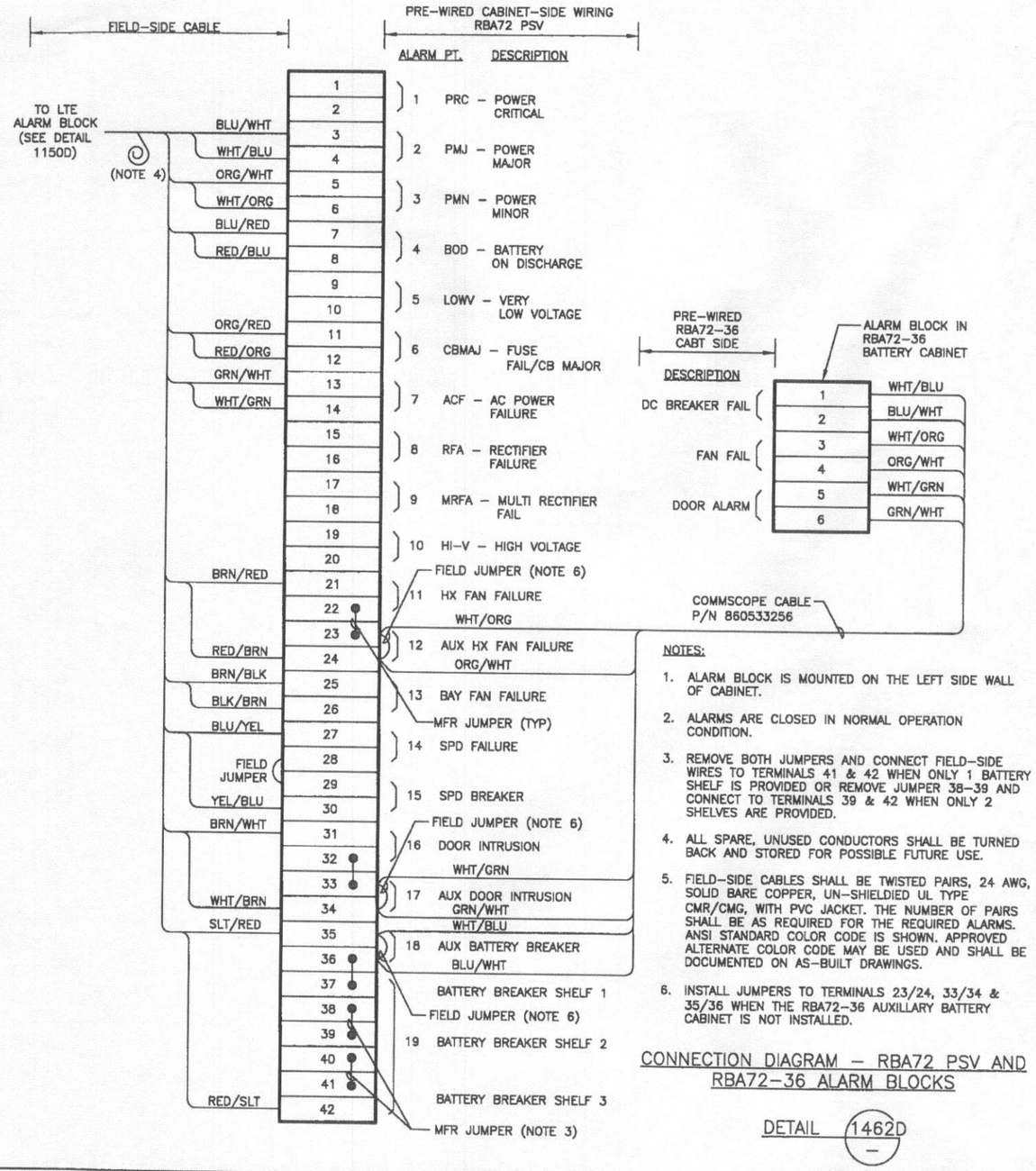
SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

RBA72 & AC SINGLE LINE DIAGRAM DETAIL

DRAWING NUMBER	REV
25736-435	L4-MD-2533-12	0

22 x 34 "D" SIZE



NOTES:

1. ALARM BLOCK IS MOUNTED ON THE LEFT SIDE WALL OF CABINET.
2. ALARMS ARE CLOSED IN NORMAL OPERATION CONDITION.
3. REMOVE BOTH JUMPERS AND CONNECT FIELD-SIDE WIRES TO TERMINALS 41 & 42 WHEN ONLY 1 BATTERY SHELF IS PROVIDED OR REMOVE JUMPER 38-39 AND CONNECT TO TERMINALS 39 & 42 WHEN ONLY 2 SHELVES ARE PROVIDED.
4. ALL SPARE, UNUSED CONDUCTORS SHALL BE TURNED BACK AND STORED FOR POSSIBLE FUTURE USE.
5. FIELD-SIDE CABLES SHALL BE TWISTED PAIRS, 24 AWG, SOLID BARE COPPER, UN-SHIELDIED UL TYPE CMR/CMG, WITH PVC JACKET. THE NUMBER OF PAIRS SHALL BE AS REQUIRED FOR THE REQUIRED ALARMS. ANSI STANDARD COLOR CODE IS SHOWN. APPROVED ALTERNATE COLOR CODE MAY BE USED AND SHALL BE DOCUMENTED ON AS-BUILT DRAWINGS.
6. INSTALL JUMPERS TO TERMINALS 23/24, 33/34 & 35/36 WHEN THE RBA72-36 AUXILLARY BATTERY CABINET IS NOT INSTALLED.

CONNECTION DIAGRAM – RBA72 PSV AND RBA72-36 ALARM BLOCKS

DETAIL 1462D

DESCRIPTION	700 LTE RRH/RRU SECTOR A	700 LTE RRH/RRU SECTOR B	700 LTE RRH/RRU SECTOR C	AWS OR 1900 LTE RRH/RRU SECTOR A	AWS OR 1900 LTE RRH/RRU SECTOR B	AWS OR 1900 LTE RRH/RRU SECTOR C	LTE OUTDOOR BASEBAND CABINET																
BRKR RATING (A)	15*	15*	15*	15*	15*	15*	100*																
POSITION	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23	B24

NOTES:

1. END POSITIONS B1 AND B24 SHALL ONLY BE USED FOR SINGLE POSITION BREAKERS.
2. A 2-POLE ADAPTER LUG IS NOT REQUIRED ON THE RETURN BUS.

DC PANEL SCHEDULE
COMMSCOPE RBA72

DETAIL 1462B (1)
NTS

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STATE OF MARYLAND – GEORGE SCHMIDT – No. 25540 – PROFESSIONAL ENGINEER

BECHTEL COMMUNICATIONS, INC.
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HANOVER, MD 21076

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SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

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CONNECTION DIAGRAM & DETAILS

DRAWING NUMBER	REV
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22 x 34 "D" SIZE

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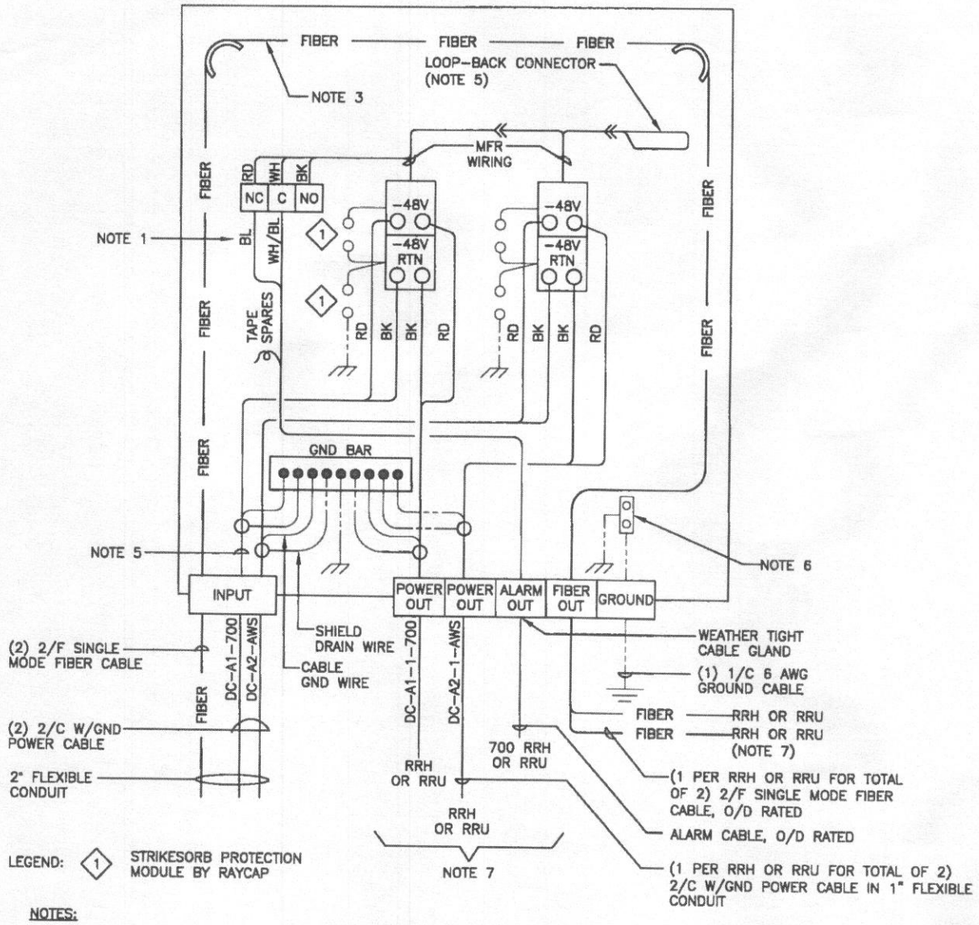
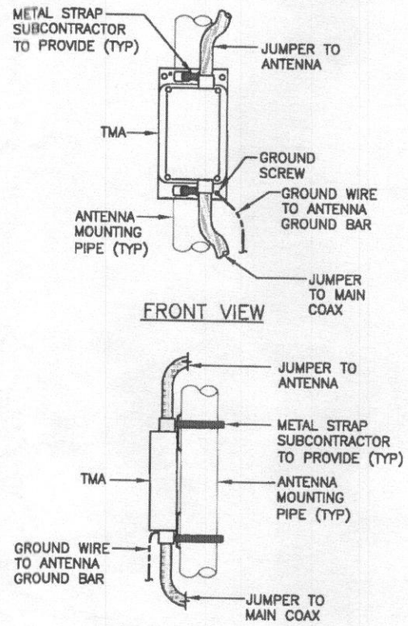


NOTES:

1. ALARM WIRE COLORS SHOWN FOR ALU CABLE. ERICSSON CABLE WIRE COLORS ARE BLU & WH RESPECTIVELY.
2. DELETED
3. PROVIDE ONE FULL SERVICE LOOP (MIN.) OF FIBER CABLE.
4. DELETED
5. WHEN ONLY THE ONE RRH OR RRU IS DEPLOYED, CONNECT DC CABLE TO SURGE MODULE ON LEFT AND INSTALL RAYCAP PROVIDED LOOP-BACK CONNECTOR ON THAT ACTIVE (POWERED) MODULE.
6. INSTALL GROUND WIRE TO RAYCAP SUPPLIED LUG.
7. CABLE LABELS SHALL REFLECT CORRECT RRH/RRU AND FREQUENCY BAND. LABELS SHOWN ARE REPRESENTATIVE.

CONNECTION DIAGRAM DC SURGE PROTECTION BOX DC2-48-60-0-9E

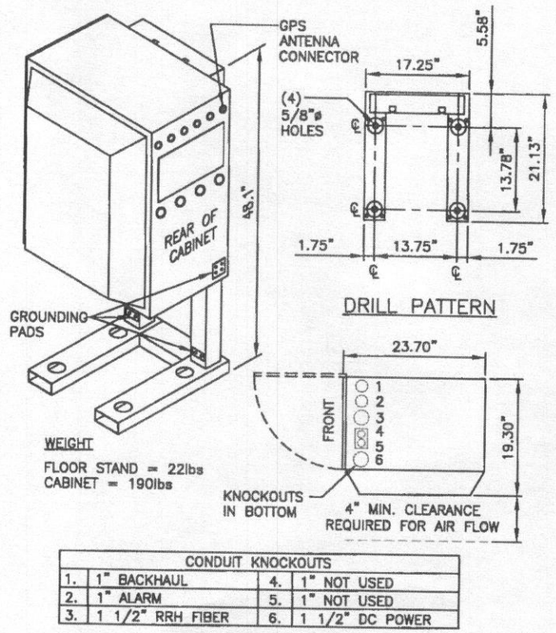
DETAIL 1411 / – 3



FRONT VIEW

SIDE VIEW
TMA MOUNTING DETAIL

DETAIL 1504 / –



CONDUIT KNOCKOUTS			
1.	1" BACKHAUL	4.	1" NOT USED
2.	1" ALARM	5.	1" NOT USED
3.	1 1/2" RRH FIBER	6.	1 1/2" DC POWER

CLEARANCE TABLE	
FRONT: 36"	LEFT: 0"
REAR: 36"	RIGHT: 4"

ALCATEL LUCENT 9412 CABINET WITH SINGLE FLOOR STAND

DETAIL 1127 / –

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STATE OF MARYLAND — No. 25540 — PROFESSIONAL ENGINEER

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NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

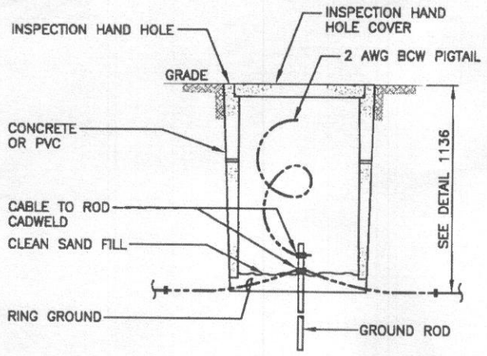
SCALE: AS SHOWN | DESIGNED BY: CS | DRAWN BY: CS

at&t Mobility

CONNECTION DIAGRAM, TMA & 9412 CABINET DETAIL

DRAWING NUMBER	REV
25736-435	L4-MD-2533-14	0

22 x 34 "D" SIZE



NOTE:

INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 6" IN WIDTH/DIAMETER

GROUND ROD WITH ACCESS

DETAIL 1135 — NTS

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2a. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

2b. AS AN ALTERNATIVE TO ITEM 2a. THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

2c. AS AN ALTERNATIVE TO ITEMS 2a AND 2b PROOFROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

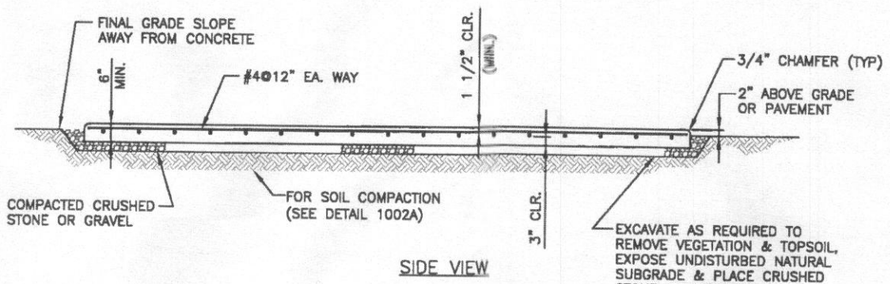
3. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

SOIL COMPACTION NOTES FOR SLAB ON GRADE

DETAIL 1002A — NTS



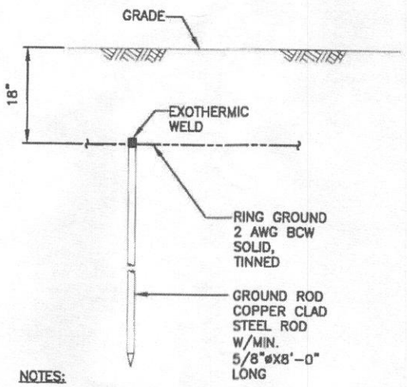
SIDE VIEW

NOTES:

1. FOR CONCRETE NOTES SEE CONCRETE AND REINFORCING STEEL NOTES.
2. GRAVEL SHALL BE NATURAL OR CRUSHED STONE WITH 100 PERCENT PASSING 1 INCH SIEVE.
3. SEE GROUNDING DETAIL FOR REINFORCING STEEL GROUND CONNECTION.

CAST IN PLACE CONCRETE PAD

DETAIL 1200 — NTS — 1



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.

GROUND ROD

DETAIL 1136 — —

NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:

   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1 1/2 IN.

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

   SLAB AND WALL.....3/4 IN.
   COLUMNS.....1 1/2 IN. BEAMS AND
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. POST INSTALLED ANCHORS SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION 3GS-T18-00013 "SELECTION, DESIGN, INSTALLATION, INSPECTION AND TESTING OF ADHESIVE AND MECHANICAL EXPANSION ANCHORS FOR WIRELESS SITE FACILITIES". ANCHORS SHALL BE HILTI OR APPROVED EQUAL, INSTALLED, INSPECTED AND TESTED AS SHOWN ON THE DESIGN DRAWINGS. NO REINFORCING STEEL SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.

   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST, TAKING THREE CYLINDERS FROM EACH TRUCK.

CONCRETE AND REINFORCING STEEL NOTES

DETAIL 1002 — NTS

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STATE OF MARYLAND — No. 25540 — PROFESSIONAL ENGINEER

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228-6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

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CONCRETE PAD DETAILS

DRAWING NUMBER	REV
25736-435	L4-MD-2533-15	0

22 x 34 "D" SIZE

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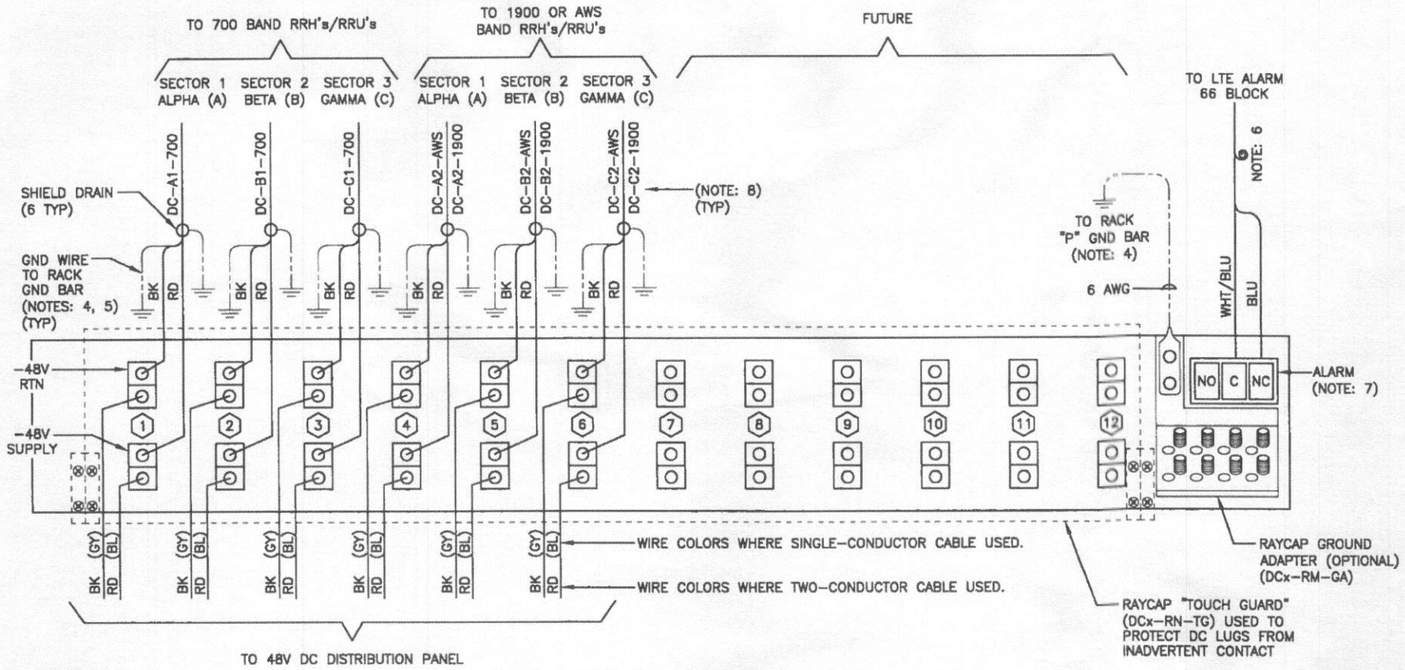
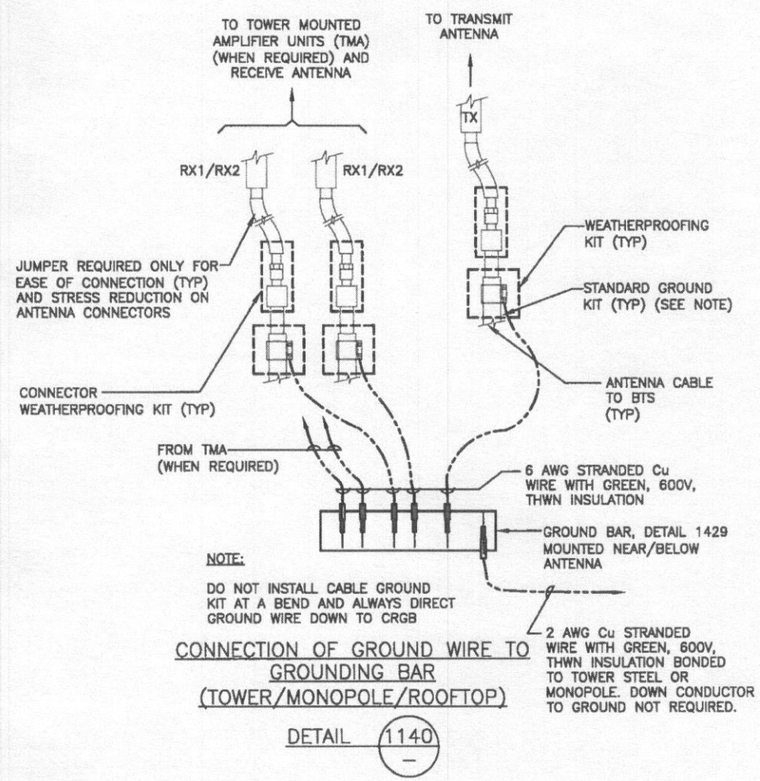


NOTES:

1. SEE SYSTEM DIAGRAM FOR DC POWER CABLE CONDUCTOR SIZES.
2. CABLE TERMINALS FOR POWER CONNECTION SHALL BE COMPRESSION TYPE, 1-HOLE FOR 1/4"-20 STUDS.
3. CABLE TERMINAL FOR GROUND CONNECTION AND RAYCAP GROUND ADAPTER (IF USED) SHALL BE COMPRESSION TYPE, 2-HOLE 1"-CENTERS FOR 1/4"-20 STUDS.
4. CONNECTIONS TO RACK GROUND BAR SHALL BE MADE WITH 2-HOLE COMPRESSION TERMINALS.
5. EACH DC CABLE GROUND WIRE AND SHIELD DRAIN WIRE, SHALL BE CONNECTED TO THE RACK "P" GROUND BAR OR THE RAYCAP GROUND ADAPTER UTILIZING COMPRESSION LUGS.
   a. LUGS MAY BE PLACED ON BOTH SIDES OF THE BAR IF NECESSARY TO CONSERVE TERMINATION POINTS FOR FUTURE DC CABLES.
   b. IN SITUATIONS WHERE THE NUMBER OF AVAILABLE 2-HOLE LUG TERMINATION POINTS ARE LIMITED, IT IS ACCEPTABLE TO C-TAP THE DRAIN WIRE TO THE GROUND WIRE AND THEN CONNECT THE GROUND WIRE TO THE RACK GROUND BAR OR ADAPTER UTILIZING A 2-HOLE COMPRESSION LUG.
6. TURN BACK AND STORE UNUSED CONDUCTORS.
7. INSTALL RAYCAP PROVIDED LOOP-BACK CONNECTOR ON THE LAST ACTIVE (POWERED) MODULE, FOR 1 OR 2-SECTOR SITES, MAINTAIN THE DC CABLE CONNECTION SEQUENCE AS SHOWN AND PROVIDE AND INSTALL A BYPASS CONNECTOR AROUND INACTIVE MODULES.
8. CABLE LABELS SHALL REFLECT CORRECT FREQUENCY BAND. LABELS SHOWN ARE REPRESENTATIVE.

CONNECTION DIAGRAM RACK-MOUNTED SURGE SUPPRESSION SYSTEM-ALTERNATE DC6-48-60-RM (BY RAYCAP)

DETAIL 1409A (3) — NTS



CONNECTION OF GROUND WIRE TO GROUNDING BAR (TOWER/MONOPOLE/ROOFTOP)

DETAIL 1140 —

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CONNECTION DIAGRAM & DETAILS

	DRAWING NUMBER	REV
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22 x 34 "D" SIZE

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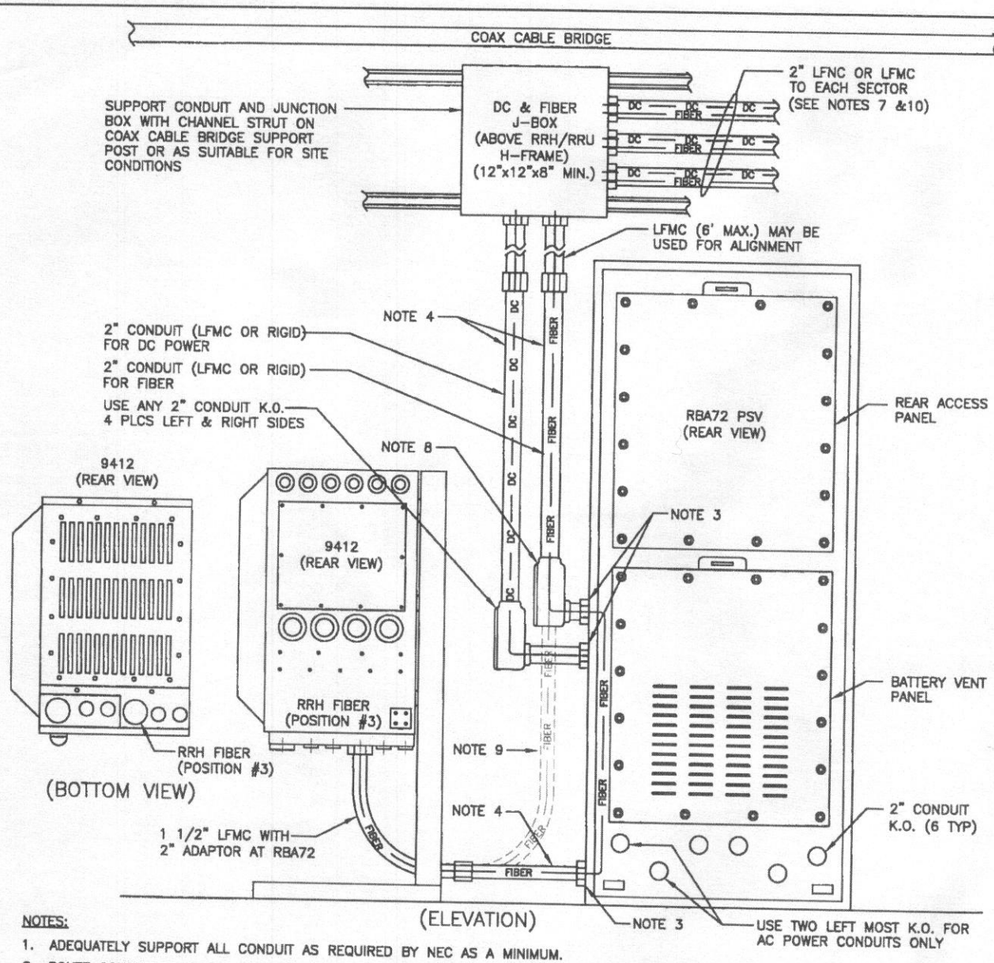
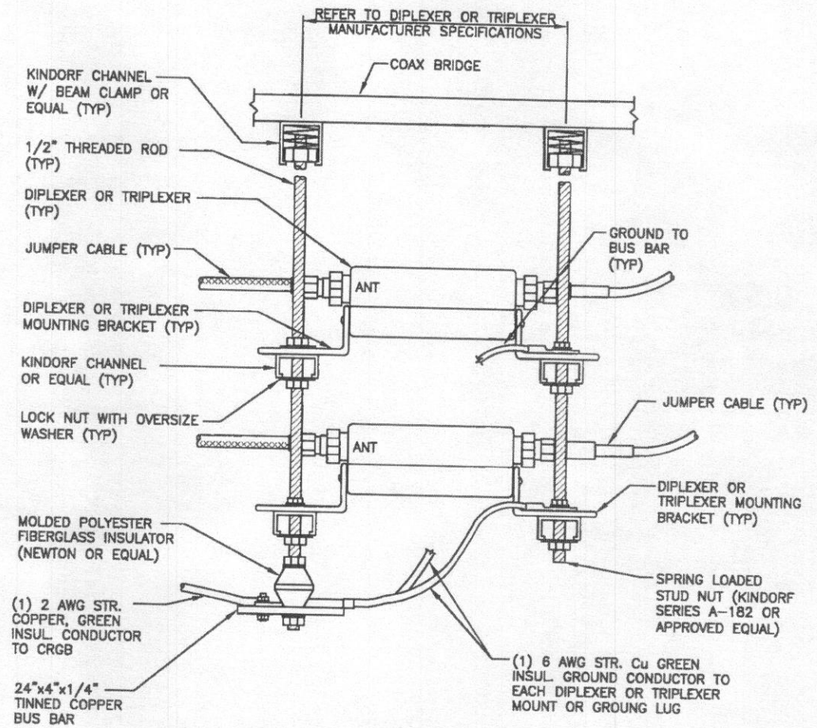


NOTES:

1. ADEQUATELY SUPPORT ALL CONDUIT AS REQUIRED BY NEC AS A MINIMUM.
2. ROUTE CONDUIT TO AVOID TRIPPING HAZARD AND TO ALLOW REMOVAL OF REAR ACCESS AND BATTERY VENT PANELS.
3. CONDUIT FITTINGS SHALL HAVE SEALING BUSHING, MYERS™ HUB OR EQUIVALENT.
4. USE RIGID METAL CONDUIT IN AREAS SUBJECT TO PHYSICAL DAMAGE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. LENGTH OF LFMC SHALL BE 6 FEET MAX.
5. CONDUIT FOR AC POWER, ALARMS AND TRANSPORT NOT SHOWN FOR CLARITY.
6. A JUNCTION BOX FOR FIBER SLACK MAY NOT BE REQUIRED BASED ON THE SLACK LENGTH. J-BOX SIZE TO BE DETERMINED IN THE FIELD TO COMPLY WITH NEC.
7. (6) 2/C DC CABLES AND (6) FIBER CABLES TO RRH/RRU OR DC-2.
8. USE LARGER, FORM 8 CONDUIT FITTING. DO NOT PULL FIBER CABLE THROUGH FITTING. PULL CABLE OUT FITTING AND RE-FEED.
9. A 1 1/2" CONDUIT FROM FIBER J-BOX MAY BE ROUTED DIRECTLY TO 9412 WHEN BETTER SUITED FOR SITE CONDITIONS.
10. WHEN DC2's ARE NOT REQUIRED, ROUTE FIBER CABLES WITH CONDUITS TO RRH/RRU's. INSTALL WEATHER-TIGHT 4" CABLE ENTRY BOOT.

COMMSCOPE 9412 & RBA72 PSV CONDUIT JUNCTION BOX CONNECTION-ON GRADE W/BOTTOMSIDE RRH's or RRU's

DETAIL 1190E



DIPLEXER OR TRIPLEXER MOUNTING DETAIL - OUTDOOR WITHOUT CURRENT INJECTORS

DETAIL 1111 NTS

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NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

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TRIPLEXER MOUNTING & JUNCTION BOX DETAIL

DRAWING NUMBER	REV
25736-435	L4-MD-2533-17	0

22 x 34 "D" SIZE

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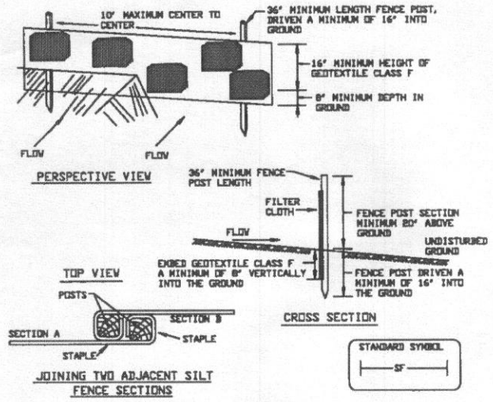


Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

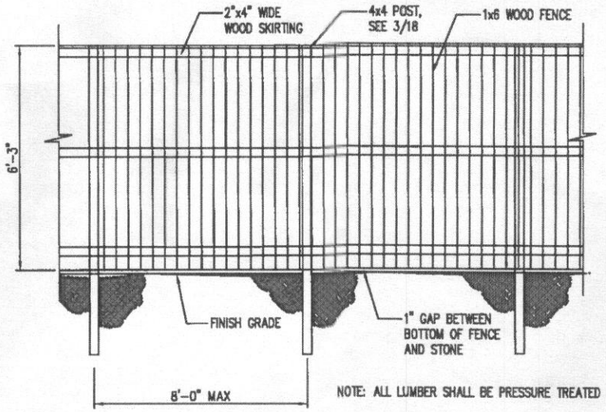
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

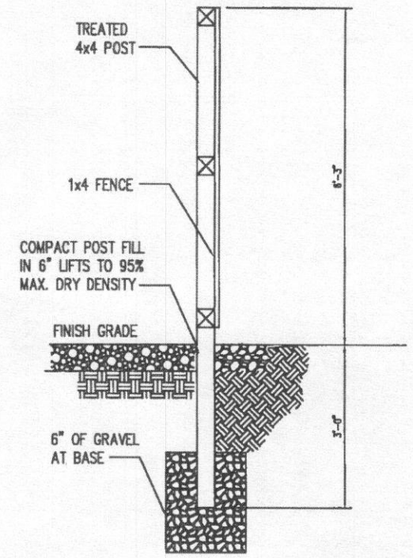
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

SILT FENCE DETAIL 1/18
SCALE: N.T.S.

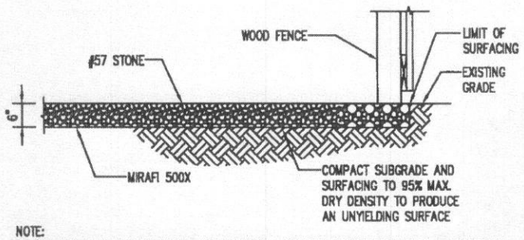


NOTE: ALL LUMBER SHALL BE PRESSURE TREATED

WOOD FENCE DETAIL 2/18
SCALE: N.T.S.

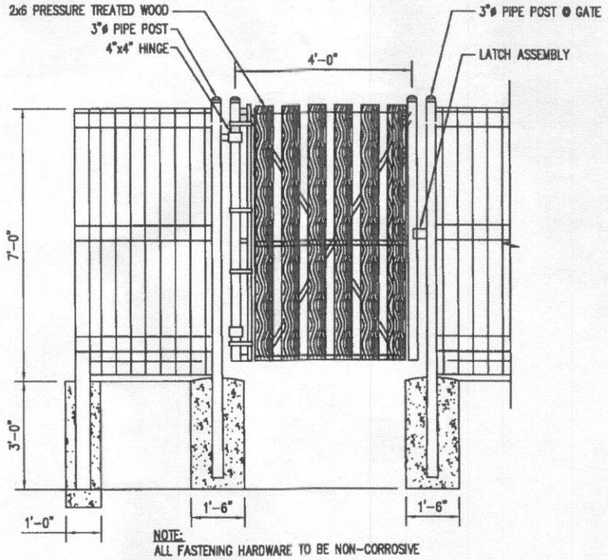


WOOD FENCE POST DETAIL 3/18
SCALE: 3/8"=1'-0"



NOTE:
FENCED AREA SHALL BE CLEARED AND GRUBBED. REMOVE UNSUITABLE LOOSE OR SOFT SOIL, ORGANIC MATERIAL OR RUBBLE TO FIRM GRADE. FILL UNDERCUT AND COMPACT UP TO 6" BELOW FINISH GRADE. PLACE A MIRAFI 500X SOIL STABILIZATION FABRIC ON SUBGRADE. FILL WITH 6" OF AASHTO 57 STONE TO FINISH GRADE.

SITE COMPOUND SURFACING DETAIL 4/18
SCALE: N.T.S.



NOTE:
ALL FASTENING HARDWARE TO BE NON-CORROSIVE

GATE DETAIL 5/18
SCALE: N.T.S.

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NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

WOOD FENCE & GATE DETAILS

DRAWING NUMBER	REV
25736-435	L4-MD-2533-18	0

22 x 34 "D" SIZE

AC POWER PANEL No. 001 120/240 VOLTS, 1-PHASE, 3-WIRE, 200A											
MAIN BREAKER RATING (A):					200		SYSTEM VOLTAGE (V):			240	
DESCRIPTION	VA	c/nc	BKR	POSN	L1	L2	POSN	BKR	c/nc	VA	DESCRIPTION
PURCELL FEED	10029	nc	100	1	10030		2	50	nc	1	TVSS
	9849	nc		3		9850	4		nc	1	
RBA72 RECTIFIERS 1&2*	3024	nc	50	5	4089		6	20	nc	1065	UMTS HVAC
	3024	nc		7		4089	8		nc	1065	
RBA72 RECTIFIERS 3&4*	3024	nc	50	9	3204		10	20	nc	180	UMTS GFCI
	3024	nc		11		3024	12				BLANK
RBA72 ANCILLARY*	1752	nc	40	13	1752		14				BLANK
BLANK				15		0	16				BLANK
BLANK				17	0		18				BLANK
BLANK				19		0	20				BLANK
BLANK				21	0		22				BLANK
BLANK				23		180	24	20	nc	180	GFCI
PHASE TOTALS (VA):					19075	17143					
CURRENT PER PHASE (A):					159	143	Amperes/phase cannot exceed main breaker rating				
PANEL TOTAL (VA):					36218		Legend: c = continuous, nc = non-continuous				

PANEL CAPACITY (kVA): 48.0 CONNECTED LOAD (kVA): 36.2
PANEL LOADING (100% non-cont. load) (kVA): 36.2
PANEL LOADING (125% continuous load) (kVA): 0.0
PANEL LOADING (TOTAL) (kVA): 36.2
SPARE CAPACITY (kVA): 11.8

NOTES:
1. INSTALL (2) 50A, 2-P BREAKERS IN POSITIONS 5/7, AND 9/11 FOR RBA72 RECTIFIERS.
2. INSTALL (1) 40A, 1-P BREAKER IN POSITION 13 FOR RBA72 ANCILLARY LOADS.
3. NEW BREAKERS TO MATCH EXISTING BREAKER SHORT CIRCUIT RATING.
4. NEW CIRCUITS ARE SHOWN IN BOLD WITH ASTERIK(*).
5. THIS PANEL IS EXISTING, UPDATE PANEL DIRECTORY PER AC PANEL SCHEDULE.

AC POWER PANEL No. PURCELL 120/240 VOLTS, 1-PHASE, 3-WIRE, 200A											
MAIN BREAKER RATING (A):					100		SYSTEM VOLTAGE (V):			240	
DESCRIPTION	VA	c/nc	BKR	POSN	L1	L2	POSN	BKR	c/nc	VA	DESCRIPTION
FRONT RECEPTACLES	180	nc	20	1	180		2	30			RECTIFIER 7
AIR CONDITIONER	1095	nc	20	3		1095	4				
RECEPTACLE	1095	nc		5	1095		6	30			RECTIFIER 8
RECTIFIER 1	1334	nc	30	7		1334	8				
	1334	nc		9	1334		10	30			RECTIFIER 9
RECTIFIER 2	1334	nc	30	11		1334	12				
	1334	nc		13	1334		14	30			RECTIFIER 10
RECTIFIER 3	1334	nc	30	15		1334	16				
	1334	nc		17	1334		18	30			RECTIFIER 11
RECTIFIER 4	1334	nc	30	19		1334	20				
	1334	nc		21	1334		22	30			RECTIFIER 12
RECTIFIER 5	1334	nc	30	23		1334	24				
	1334	nc		25	2084		26	20	nc	750	GSM HEATER
RECTIFIER 6	1334	nc	30	27		2084	28		nc	750	
	1334	nc		29	1334		30				BLANK
PHASE TOTALS (VA):					10029	9849					
CURRENT PER PHASE (A):					84	82	Amperes/phase cannot exceed main breaker rating				
PANEL TOTAL (VA):					19878		Legend: c = continuous, nc = non-continuous				

PANEL CAPACITY (kVA): 24.0 CONNECTED LOAD (kVA): 19.9
PANEL LOADING (100% non-cont. load) (kVA): 19.9
PANEL LOADING (125% continuous load) (kVA): 0.0
PANEL LOADING (TOTAL) (kVA): 19.9
SPARE CAPACITY (kVA): 4.1

NOTES:
1. RECTIFIERS ARE PECO II, 100A.
2. THIS PANEL IS EXISTING.

AC PANEL SCHEDULE

DC CALCULATION AT -48V (RBA72 CABINET)
NOTES: INSTALL (4) LINEAGE INFINITY NE050AC48 RECTIFIERS IN RBA72 CABINET FOR LTE LOADS - (1) 9412, (3) 700 RRHs and (3) TWIN TECHNOLOGY RRHs (FUTURE).

DC CALCULATION

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0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAS

SCALE: AS SHOWN DESIGNED BY: GS DRAWN BY: GS

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AC PANEL SCHEDULE

DRAWING NUMBER	REV
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22 x 34 "D" SIZE

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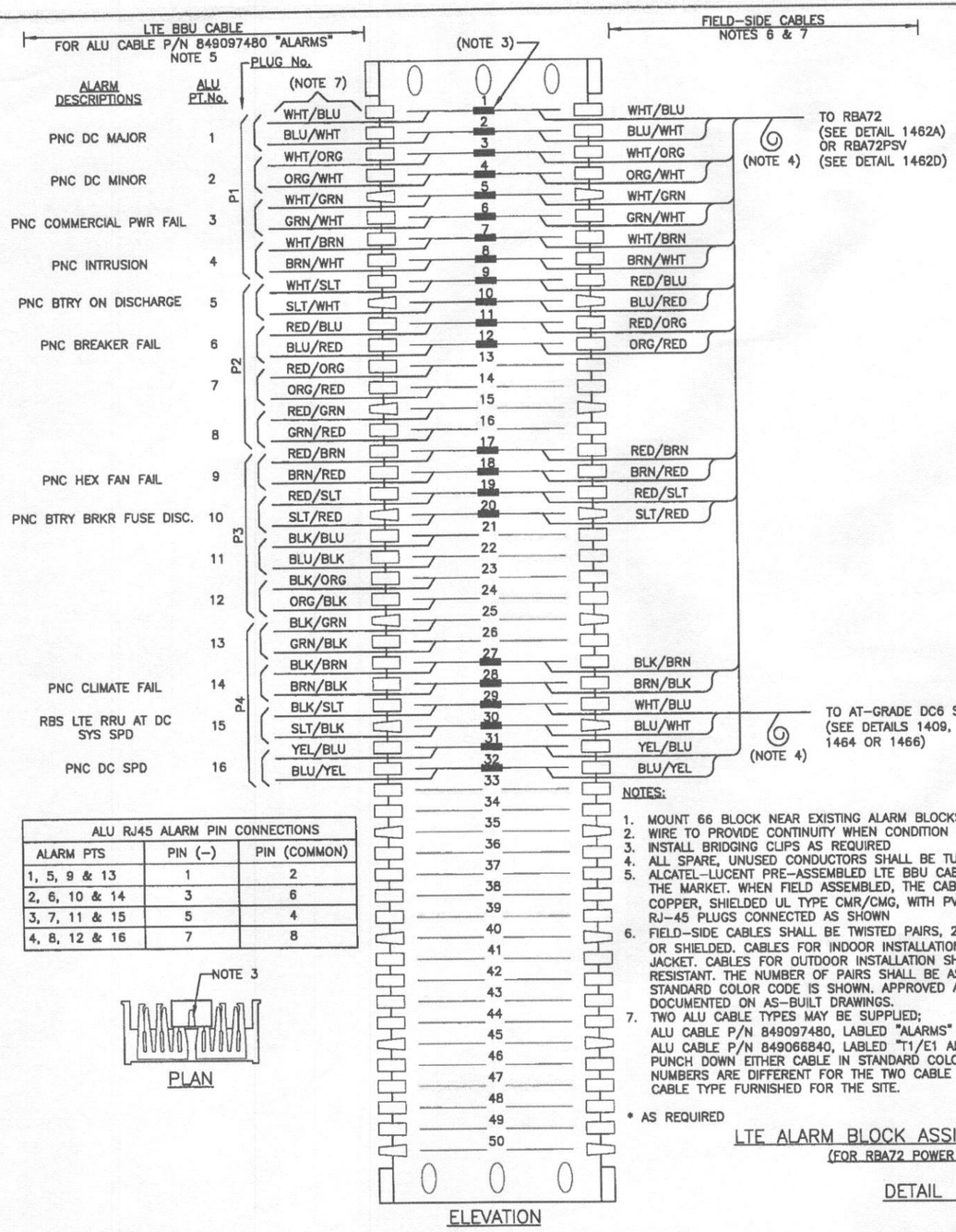


ALU RJ45 ALARM PIN CONNECTIONS		
ALARM PTS	PIN (–)	PIN (COMMON)
1, 5, 9 & 13	1	2
2, 6, 10 & 14	3	6
3, 7, 11 & 15	5	4
4, 8, 12 & 16	7	8

PLAN

ELEVATION

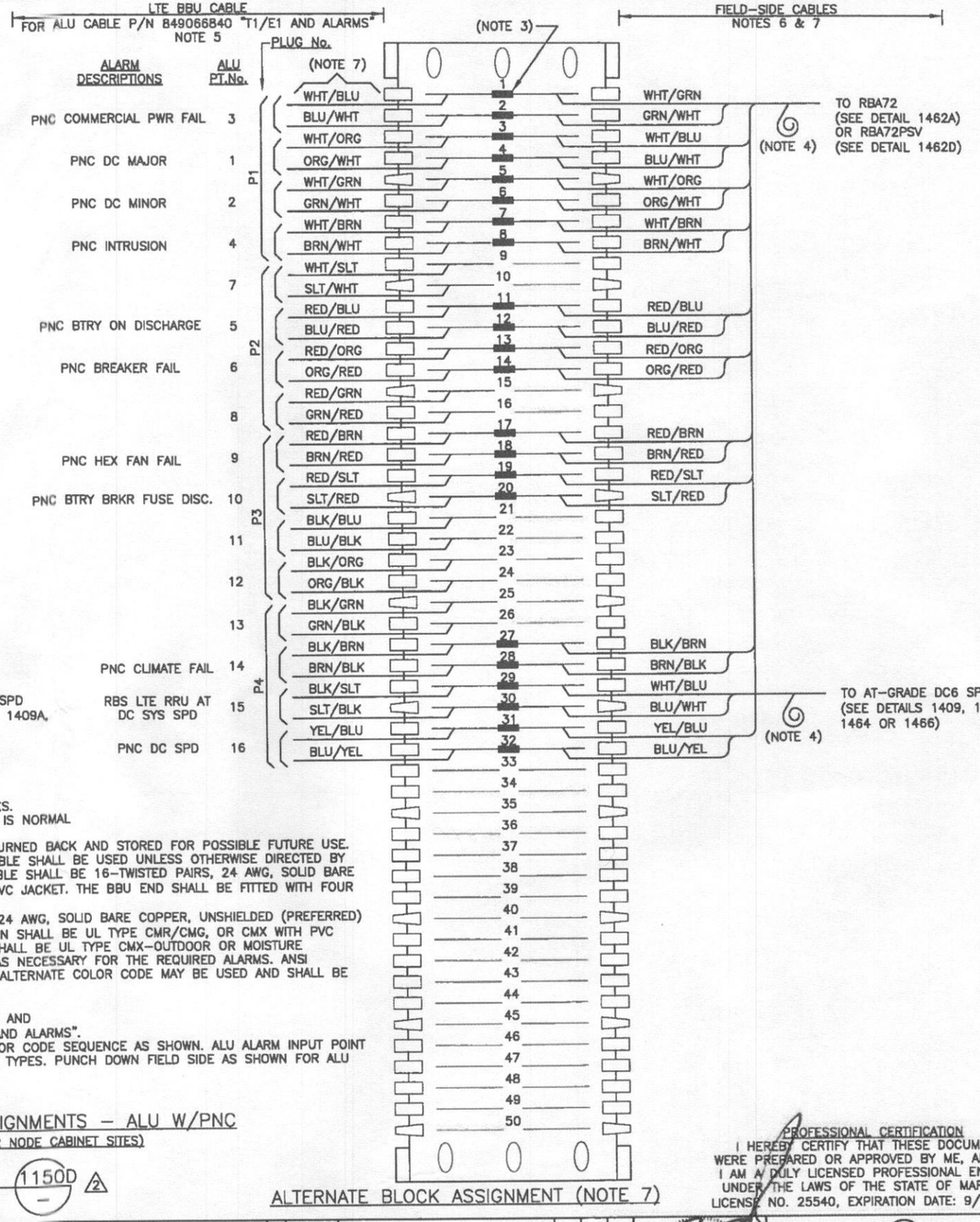
NOTES:

1. MOUNT 66 BLOCK NEAR EXISTING ALARM BLOCKS.
2. WIRE TO PROVIDE CONTINUITY WHEN CONDITION IS NORMAL
3. INSTALL BRIDGING CLIPS AS REQUIRED
4. ALL SPARE, UNUSED CONDUCTORS SHALL BE TURNED BACK AND STORED FOR POSSIBLE FUTURE USE.
5. ALCATEL–LUCENT PRE–ASSEMBLED LTE BBU CABLE SHALL BE USED UNLESS OTHERWISE DIRECTED BY THE MARKET. WHEN FIELD ASSEMBLED, THE CABLE SHALL BE 16–TWISTED PAIRS, 24 AWG, SOLID BARE COPPER, SHIELDED UL TYPE CMR/CMG, WITH PVC JACKET. THE BBU END SHALL BE FITTED WITH FOUR RJ–45 PLUGS CONNECTED AS SHOWN
6. FIELD–SIDE CABLES SHALL BE TWISTED PAIRS, 24 AWG, SOLID BARE COPPER, UNSHIELDED (PREFERRED) OR SHIELDED. CABLES FOR INDOOR INSTALLATION SHALL BE UL TYPE CMR/CMG, OR CMX WITH PVC JACKET. CABLES FOR OUTDOOR INSTALLATION SHALL BE UL TYPE CMX–OUTDOOR OR MOISTURE RESISTANT. THE NUMBER OF PAIRS SHALL BE AS NECESSARY FOR THE REQUIRED ALARMS. ANSI STANDARD COLOR CODE IS SHOWN. APPROVED ALTERNATE COLOR CODE MAY BE USED AND SHALL BE DOCUMENTED ON AS–BUILT DRAWINGS.
7. TWO ALU CABLE TYPES MAY BE SUPPLIED;
   ALU CABLE P/N 849097480, LABLED "ALARMS" AND
   ALU CABLE P/N 849066840, LABLED "T1/E1 AND ALARMS".
   PUNCH DOWN EITHER CABLE IN STANDARD COLOR CODE SEQUENCE AS SHOWN. ALU ALARM INPUT POINT NUMBERS ARE DIFFERENT FOR THE TWO CABLE TYPES. PUNCH DOWN FIELD SIDE AS SHOWN FOR ALU CABLE TYPE FURNISHED FOR THE SITE.

* AS REQUIRED

LTE ALARM BLOCK ASSIGNMENTS – ALU W/PNC
(FOR RBA72 POWER NODE CABINET SITES)

DETAIL 1150D (2)



ALTERNATE BLOCK ASSIGNMENT (NOTE 7)

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 25540, EXPIRATION DATE: 9/25/2014

BECHTEL COMMUNICATIONS, INC.
5295 WESTVIEW DRIVE
FREDERICK, MD. 21703
PHONE: (301) 228–6000

SITE NAME: ROXMILL CT
SITE ID NUMBER: 2533
3875 RT 97,
GLENWOOD, MD 21738

at&t Mobility
7150 STANDARD DRIVE
HANOVER, MD 21076

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	05/28/13	ISSUED FOR CONSTRUCTION	RJB	SZ	JAB

SCALE: AS SHOWN | DESIGNED BY: GS | DRAWN BY: GS

LTE ALARM BLOCK ASSIGNMENTS–ALU W/PNC

DRAWING NUMBER	REV
25736–435	L4–MD–2533–20	0

22 x 34 "D" SIZE

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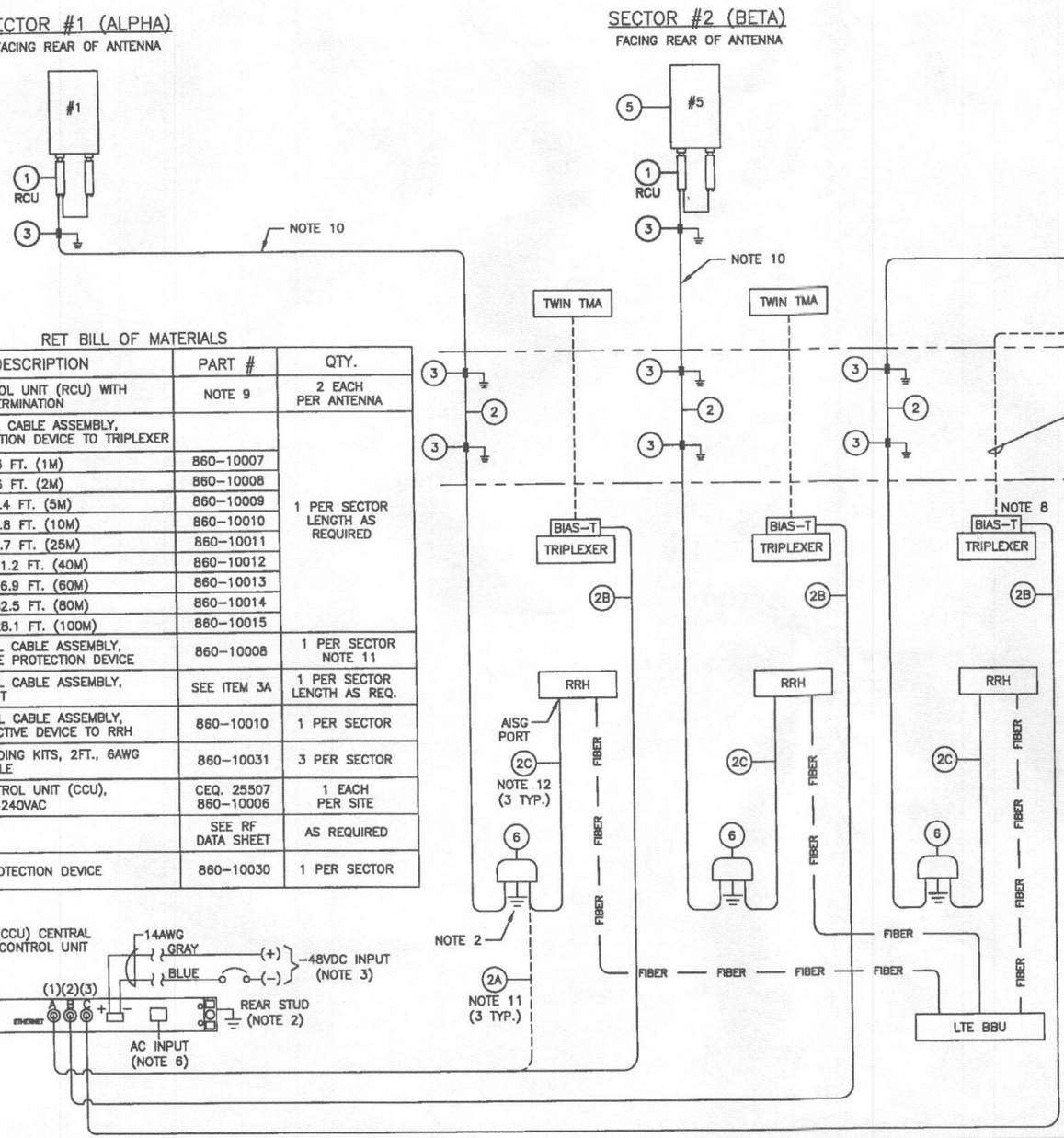

RET BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	QTY.
1	REMOTE CONTROL UNIT (RCU) WITH DAISY CHAIN TERMINATION	NOTE 9	2 EACH PER ANTENNA
2	RCUC CONTROL CABLE ASSEMBLY, SURGE PROTECTION DEVICE TO TRIPLEXER		1 PER SECTOR LENGTH AS REQUIRED
	RCU CABLE 3.3 FT. (1M)	860–10007	
	RCU CABLE 6.6 FT. (2M)	860–10008	
	RCU CABLE 16.4 FT. (5M)	860–10009	
	RCU CABLE 32.8 FT. (10M)	860–10010	
	RCU CABLE 82.7 FT. (25M)	860–10011	
	RCU CABLE 131.2 FT. (40M)	860–10012	
	RCU CABLE 196.9 FT. (60M)	860–10013	
	RCU CABLE 262.5 FT. (80M)	860–10014	
	RCU CABLE 328.1 FT. (100M)	860–10015	
2A	RCUC CONTROL CABLE ASSEMBLY, CCU TO SURGE PROTECTION DEVICE	860–10008	1 PER SECTOR NOTE 11
2B	RCUC CONTROL CABLE ASSEMBLY, CCU TO BIAS–T	SEE ITEM 3A	1 PER SECTOR LENGTH AS REQ.
2C	RCUC CONTROL CABLE ASSEMBLY, SURGE PROTECTIVE DEVICE TO RRH	860–10010	1 PER SECTOR
3	CABLE GROUNDING KITS, 2FT., 6AWG FOR AISG CABLE	860–10031	3 PER SECTOR
4	CENTRAL CONTROL UNIT (CCU), –48VDC/100–240VAC	CEQ. 25507 860–10006	1 EACH PER SITE
5	ANTENNA	SEE RF DATA SHEET	AS REQUIRED
6	LIGHTNING PROTECTION DEVICE	860–10030	1 PER SECTOR

NOTE:
REFER TO LATEST RF DATA REPORT FOR CORRECT POSITION OF ANTENNAS. ADD RF COAX CABLE CONNECTIONS

NOTES:

1. SUPPORT RET CONTROL CABLE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. USE 16MM (6 AWG) STRANDED TO TELCO RACK GROUND BAR IF EXISTING. OTHERWISE CONNECT TO MGB (INDOOR SITES).
3. ROUTE DC POWER IN WIREWAY OR 3/4" IMC TO EXISTING –48VDC DISTRIBUTION PANEL. PROVIDE 5 AMP PROTECTIVE DEVICE WHEN DIRECTLY SUPPLYING CCU. DO NOT INSTALL ANY SINGLE CONDUCTOR WIRE SIZE 1 AWG OR SMALLER IN CABLE RACK.
4. APPLY ADHESIVE LINED 1" SHRINK TUBING 6" LONG (BLACK) TO EACH RET LIGHTNING CONTROL CABLE CONNECTION FROM APPROVED VENDOR.
5. TO FACILITATE WEATHERPROOFING OF ANTENNA CONNECTORS, THE RF COAX CABLES SHOULD BE INSTALLED AND WEATHERPROOFED PRIOR TO INSTALLING THE RET UNITS. TORQUE RET ANTENNA CONNECTORS AS RECOMMENDED BY MANUFACTURER.
6. THE CCU IS TO BE POWERED WITH –48VDC WHENEVER POSSIBLE TO PROVIDE CONTINUOUS OPERATION IF BATTERY BACKUP ON THE DC PLANT IS AVAILABLE. THE AC POWER CONNECTION IS TO BE USED ONLY WHEN –48VDC IS NOT AVAILABLE. PLUG THE CCU AC POWER CORD INTO AN EXISTING 120V RECEPTACLE.
7. INSTALLER TO USE EXTREME CAUTION WHEN MATING AISG CONNECTORS. OBSERVE THAT THE KEYED CONNECTORS ARE ALIGNED BEFORE MATING AND TIGHTENING THE CONNECTOR TO THE REQUIRED TORQUE.
8. THERE ARE (2) TRIPLEXERS PER SECTOR. CONNECT THE AISG CABLE TO THE BIAS–T ON THE 700MHz PORT ON THE TRIPLEXER DESIGNATED FOR THE NEGATIVE POLARITY ANTENNA PORTS ON EACH ANTENNA IN EACH SECTOR.
9. RET MOTORS CAN BE FACTORY INSTALLED ON THE ANTENNAS. PART NO. VARIES BY ANTENNA TYPE.
10. RET HOMERUNS ARE TO BE LEFT CONNECTED TO THE ANTENNAS (OR TO BE INSTALLED, DEPENDING ON EXISTING SITE CONFIGURATION)
11. REMOVE EXISTING AISG CABLES FROM CCU TO EXISTING SURGE ARRESTOR AND INSTALL NEW CABLE TO BIAS–T.
12. INSTALL 10M AISG CABLES FROM EXISTING SURGE ARRESTOR TO RRH'S.

(F) – FUTURE ANTENNA

RET CONTROL DIAGRAM INDIRECT CONNECTION CONFIGURATION WITH (BASED ON BECHTEL DETAIL 1421B) RRH (TRIPLEXER CONFIGURATION)

DETAIL 1421F BAWA

NOTE:
FIELD COORDINATOR TO CONFIRM IF THIS CONFIGURATION FOR KAELUS SOLUTION IS APPLICABLE TO THE SITE; OTHERWISE SUBMIT RED LINE AS–BUILT DIAGRAM.

PROFESSIONAL CERTIFICATION
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RET CONTROL DIAGRAM

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