PROJECT INFORMATION

SCOPE OF WORK:	INSTALLATION OF TELECOMMUNICATIONS EQUIPMENT WITHIN A PROPOSED AT&T 12'X20' EQUIPMENT SHELTER AND A PROPOSED VERIZON WIRELESS 12'X20' EQUIPMENT SHELTER WITHIN A PROPOSED FENCED COMPOUND AND TWELVE (12) NEW AT&T ANTENNAS AND TWELVE (12) VERIZON WIRELESS ANTENNAS ON A PROPOSED 140' SELF SUPPORT TOWER
SITE ADDRESS:	775 FAIRVIEW ROAD COATESVILLE, PA 19320
LATITUDE: LONGITUDE: ELEVATION:	N 39° 56' 06.84607" (NAD 83) W -75° 47' 52.13872" (NAD 83) 483.9' AMSL (NAVD 88)
JURISDICTION:	TOWNSHIP OF EAST FALLOWFIELD, CHESTER COUNTY, PA
ZONING DISTRICT CLASSIFICATION:	RA – RURAL AGRICULTURAL DISTRICT
TAX ID. NO:	PARCEL 47-08-0023.070
PARCEL SIZE	±100.58 ACRES
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
PROPERTY OWNER:	RICHARD A. & CAROLYN D. VERMEIL 1541 FAIRVIEW ROAD COATESVILLE, PA 19320
NAME OF APPLICANTS:	AT&T MOBILITY 200 N. WARNER ROAD KING OF PRUSSIA, PA 19406 (610-995-5220) CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS 5175 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

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RECEIVED
JUL 21 2011
BY: [illegible]

at&t MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless

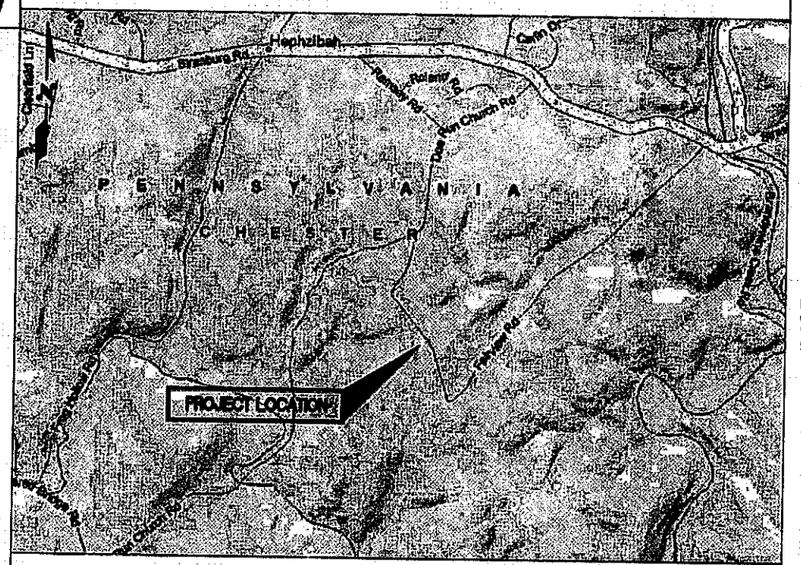
SITE NUMBER: FA10134348
SITE NAME: DOE RUN RELO

SITE NAME: PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

VICINITY MAP

DIRECTIONS:

DRIVING DIRECTIONS FROM AT&T MARKET OFFICE: DEPART RAMP FOR I-76/SCHUYLKILL EXPRESSWAY EAST. AT EXIT 328B, TAKE RAMP RIGHT FOR US-202 SOUTH/WEST DEKALB PIKE TOWARD WEST CHESTER. TAKE RAMP RIGHT FOR US-30 WEST/EXTON BYPASS TOWARD DOWNINGTOWN/COATESVILLE. TAKE RAMP RIGHT FOR PA-340 TOWARD THORNDALE. TURN LEFT ONTO SR-340/BONDSVILLE ROAD, ROAD NAME CHANGES TO THORNDALE MARSHALLTON ROAD. TURN RIGHT ONTO POORHOUSE ROAD. TURN LEFT ONTO BROAD RUN ROAD. TURN RIGHT ONTO SHADYSIDE ROAD. TURN RIGHT ONTO STRASBURG ROAD. TURN LEFT ONTO FAIRVIEW ROAD. THE SITE WILL BE ON THE LEFT.



NOT TO SCALE

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 2009
NATIONAL ELECTRICAL CODE: NEC 2008
FIRE/LIFE SAFETY CODE: NFPC 1996

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, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;
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 C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

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.

DETAIL 103M

CODE INFORMATION:

APPLICABLE BUILDING CODE: INTERNATIONAL BUILDING CODE/ "IBC" 2009

CONSTRUCTION TYPE: IIB NONCOMBUSTIBLE/UNPROTECTED

USE GROUP: U – UTILITY AND MISCELLANEOUS

VERIZON WIRELESS CONTACT INFORMATION

	NAME	COMPANY	PHONE NO.
A&E	PETROS TSOUKALAS	DEWBERRY	856-780-3661
SAC	JIM RODGERS	WIRELESS ACCESS TECHNOLOGIES INC.	610-642-1616
CONST.	MARK LYNCH	VERIZON WIRELESS	610-608-6108

AT&T CONTACT INFORMATION

	NAME	COMPANY	PHONE NO.
A&E	PETROS TSOUKALAS	DEWBERRY	856-802-0843
SAC	GREG DESTEFANO	[illegible]	215-450-4201
CONST.	DAVID SKOVRONS	[illegible]	484-680-8477
UTILITIES			
POWER:			215-841-3000
TELCO:			1-800-VERIZON

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
ALEC SCOTT NORRIS
SEAL:

BECHTEL CORPORATION
200 NORTH WARNER ROAD
SUITE 160
KING OF PRUSSIA, PA 19406
PHONE: (610) 350-7704

Dewberry®
Dewberry-Goodkind, Inc.
EASTGATE BUSINESS CENTER
133 GAITHER DRIVE, SUITE F
MT. LAUREL, NEW JERSEY 08054
PHONE: 856.802.0843
FAX: 856.802.0848

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless
5175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

NO.	DATE	REVISIONS	BY	CHK	APP'D
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3	05/04/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
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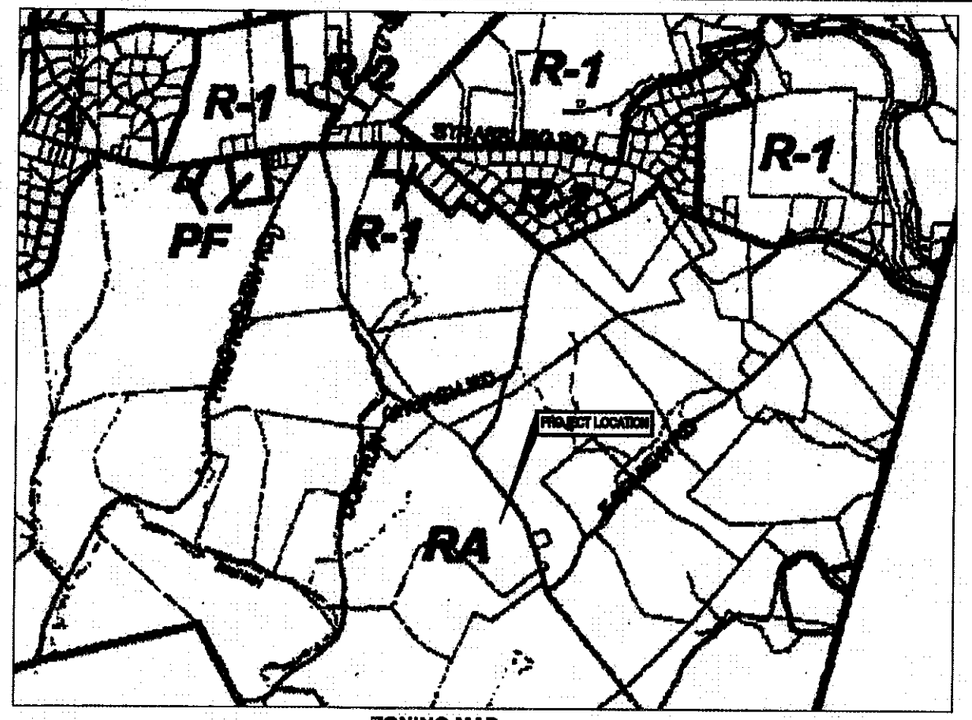
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

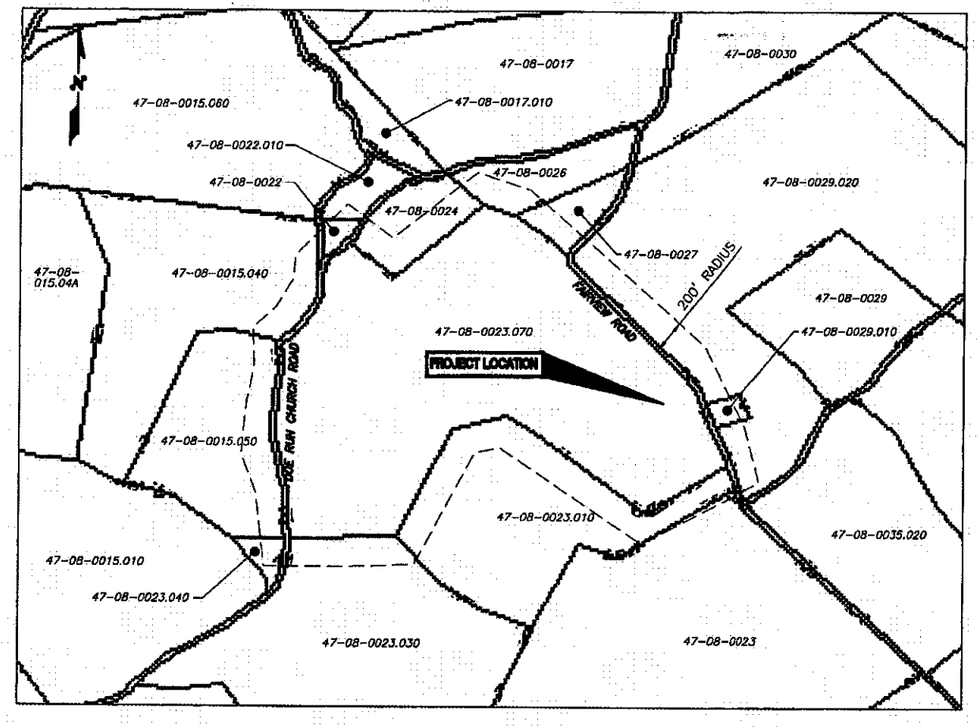
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV.
24782-419	T-1	4



ZONING MAP



TAX MAP

LEGEND:

RA	RURAL AGRICULTURAL DISTRICT
PF	PUBLIC FACILITIES DISTRICT
R-1	LOW DENSITY RESIDENTIAL DISTRICT
R-2	MEDIUM DENSITY RESIDENTIAL DISTRICT

GRAPHIC SCALE
1,000 0 500 1,000 2,000
(IN FEET)
SCALE: 1" = 1,000' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

GRAPHIC SCALE
500 0 250 500 1000
(IN FEET)
SCALE: 1" = 500' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

APPROVED BY EAST FALLOWFIELD TOWNSHIP BOARD OF SUPERVISORS THIS _____, _____, 20___.

CHAIRMAN _____ MEMBER _____
MEMBER _____ MEMBER _____
MEMBER _____

APPROVED BY EAST FALLOWFIELD TOWNSHIP ENGINEER THIS _____, _____, 20___.

ENGINEER _____

APPROVED BY EAST FALLOWFIELD TOWNSHIP PLANNING COMMISSION THIS _____, _____, 20___.

CHAIRMAN _____ VICE CHAIRMAN _____
MEMBER _____ MEMBER _____
MEMBER _____ MEMBER _____

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION THIS _____, _____, 20___.

CHAIRMAN _____ VICE CHAIRMAN _____
MEMBER _____ MEMBER _____
MEMBER _____ MEMBER _____
MEMBER _____ MEMBER _____

THE PROJECT ENGINEERS HEREBY CERTIFY THAT THE PLANS ARE IN CONFORMITY WITH THE ZONING, BUILDING AND ALL OTHER APPLICABLE GOVERNING ORDINANCES AND REGULATIONS OF THE TOWNSHIP.

COMMONWEALTH OF PENNSYLVANIA:

ALEC S. NORRIS, P.E. _____ DATE _____
PA LICENSE# PE075556

ENDORSEMENTS

APPROVED BY EAST FALLOWFIELD TOWNSHIP

BOARD CHAIRPERSON _____ DATE _____
BOARD SECRETARY _____ DATE _____
TOWNSHIP ENGINEER _____ DATE _____

CERTIFICATIONS

I CERTIFY THESE PLANS TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THESE PLANS TO BE CORRECT AND IN CONFORMANCE WITH THE CURRENT ZONING, BUILDING AND ALL OTHER APPLICABLE TOWNSHIP ORDINANCES AND REGULATIONS.

ENGINEER _____ DATE _____

I CONSENT TO THE FILING OF THIS PLAN WITH THE PLANNING BOARD OF EAST FALLOWFIELD TOWNSHIP.

OWNER _____ DATE _____

NOTARY PUBLIC _____ DATE _____

ON THIS, THE_____DAY OF_____, 2010, BEING DULY SWORN ACCORDING TO LAW, ACKNOWLEDGE TO BE THE LAND OWNER OF THE PROPERTY ON THE PLAN AND DESIRE TO BE RECORDED AS SUCH.

OWNER _____ DATE _____

NOTE:

MAINTENANCE OF THE SITE SHALL BE PROVIDED IN ACCORDANCE WITH A MAINTENANCE AGREEMENT BY AND AMONG THE TOWNSHIP AND THE APPLICANTS, WHICH MAINTENANCE AGREEMENT IS ATTACHED AS EXHIBIT "F" TO THAT CERTAIN DECLARATION OF COVENANTS AND RESTRICTIONS, WHICH DECLARATION IS INTENDED TO BE RECORDED SIMULTANEOUSLY WITH THESE SITE PLANS.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
No. PE075556
PROFESSIONAL ENGINEER
PA LICENSE NO. PE075556

BECHTEL CORPORATION
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SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

AT&T MOBILITY
AND CELLCO PARTNERSHIP d/b/a
VERIZON WIRELESS

ZONING INFORMATION

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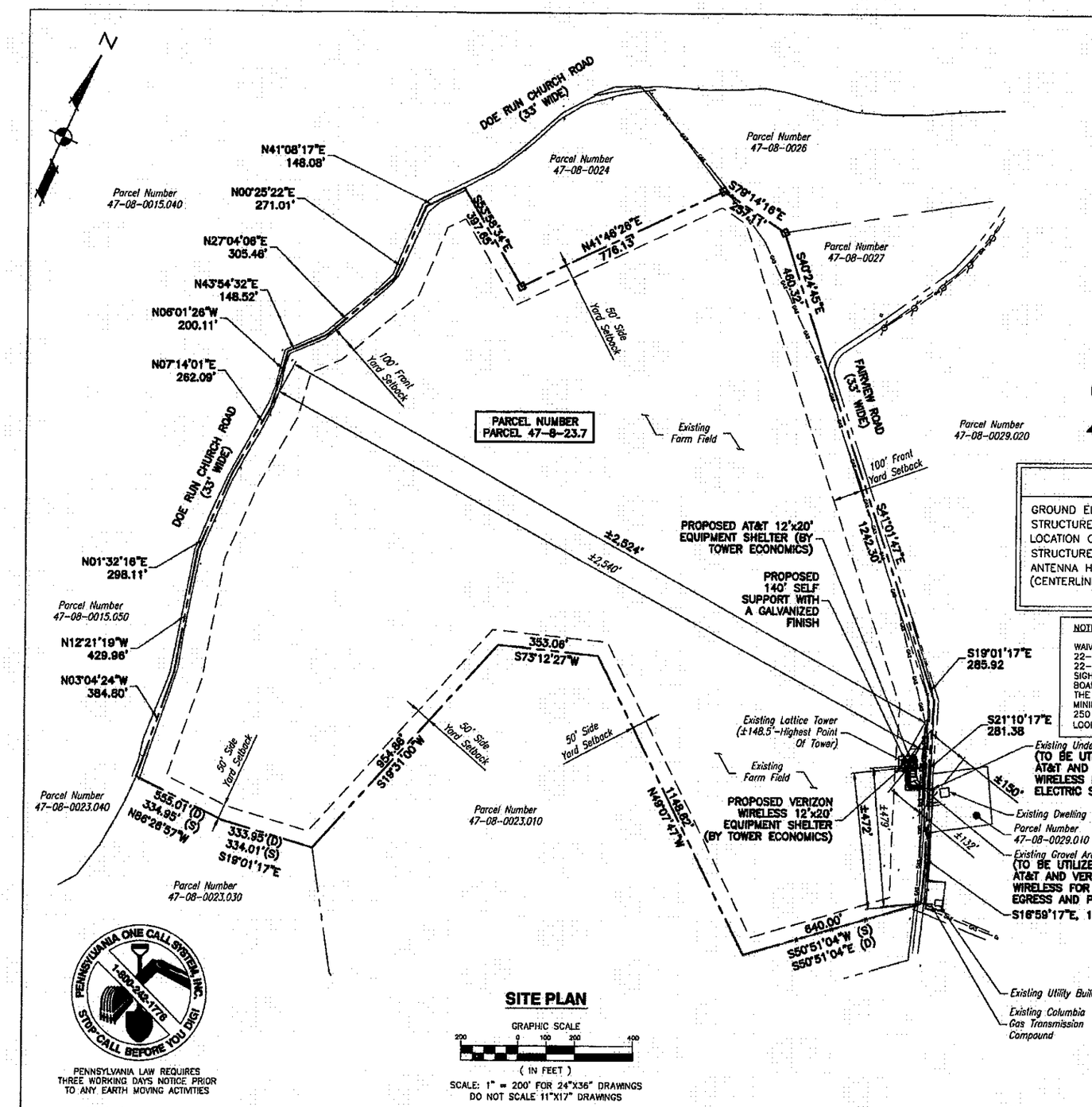

SITE PLAN

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
SCALE: 1" = 200' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PROPOSED FENCE
- UNDERGROUND UTILITY LINE
- SETBACK LINE
- EASEMENT LINE
- HEAVY LINEWEIGHT INDICATES PROPOSED FACILITIES
- LIGHT LINEWEIGHT INDICATES EXISTING FACILITIES
- PROPOSED LEASE AREA
- 485 MAJOR CONTOUR LINE
- 483 MINOR CONTOUR LINE
- 482 PROPOSED CONTOUR LINE
- LIMIT OF DISTURBANCE LINE
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION ENTRANCE

SYMBOLS AND MATERIALS

- DT# / SH# DETAIL REFERENCE
- D / SH SECTIONS & DETAILS
- CONCRETE
- EARTH
- GRAVEL
- SAND

SITE CHARACTERISTICS

GROUND ELEV. (AMSL):	± 483.90' AMSL
STRUCTURE TYPE:	SELF-SUPPORT TOWER
LOCATION OF RADIO EQUIPMENT:	GROUND
STRUCTURE HEIGHT (AGL):	±146' (TO TOP OF LIGHTNING ROD)
ANTENNA HEIGHT (AGL): (CENTERLINE)	±138'

NOTE:

WAIVER GRANTED BY THE BOARD OF SUPERVISORS FROM SECTION 22-614-7 OF THE TOWNSHIP CODE, WHICH RELATES BACK TO SECTION 22-609.9 OF THE TOWNSHIP CODE, ESTABLISHING MINIMUM REQUIRED SIGHT DISTANCE FOR AN INTERSECTION WITH A LOCAL ROAD. THE BOARD OF SUPERVISORS SHALL BY SUBSEQUENT RESOLUTION REDUCE THE SPEED LIMIT ON FAIRVIEW ROAD TO 25 MPH, SUCH THAT A MINIMUM REQUIRED SITE DISTANCE FOR THE ENTRANCE DRIVEWAY IS 250 FEET. A WAIVER IS GRANTED FOR THE MEASURED SITE DISTANCE LOOKING TO THE SOUTH ON FAIRVIEW ROAD (242 FEET).

GENERAL NOTES

1. SITE AND BOUNDARY INFORMATION OBTAINED FROM THE FOLLOWING:
   A. EXISTING PLAN ENTITLED "PARTIAL TOPOGRAPHIC SKETCH", PREPARED FOR AT&T MOBILITY, PREPARED BY DEWBERRY-GOODKIND, INC., OF MOUNT LAUREL, NJ DATED 07/01/09.
   B. LIMITED FIELD OBSERVATIONS PERFORMED BY DEWBERRY-GOODKIND, INC. ON 05/20/09.
2. THIS PROPOSAL IS FOR AN UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF THE LOCATION OF TWELVE (12) AT&T AND TWELVE (12) VERIZON WIRELESS PANEL ANTENNAS ON A NEW 140' SELF SUPPORT TOWER, AND THE PLACEMENT OF TELECOMMUNICATIONS EQUIPMENT WITHIN AN AT&T 12'X20' AND VERIZON 12'X20' EQUIPMENT SHELTERS WITHIN A PROPOSED FENCED COMPOUND.
3. THE PROPOSED FACILITY IS UNMANNED AND IS NOT FOR HUMAN HABITATION. (NO HANDICAP ACCESS IS REQUIRED)
4. NO NOISE, SMOKE, DUST, VAPORS OR ODOR WILL RESULT FROM THIS PROPOSAL.
5. EXTERIOR SIGNS ARE NOT PROPOSED EXCEPT AS REQUIRED BY THE FCC.
6. TOTAL AREA OF DISTURBANCE UNDER THIS PROPOSAL: ±5,993 S.F.
7. THE PROPOSED FACILITY WILL CAUSE ONLY AN INSIGNIFICANT ("DE MINIMUS") INCREASE IN STORMWATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
8. ALL CONSTRUCTION FOR SITE IMPROVEMENTS SHALL CONFORM TO APPLICABLE SPECIFICATIONS, STANDARDS, AND REQUIREMENTS OF THE GOVERNMENTAL OR UTILITY AUTHORITIES HAVING JURISDICTION.
9. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
10. CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM PRIOR TO CONSTRUCTION @ 1-800-242-1776.
11. ALL CONSTRUCTION AND DESIGN FOR THE PROPOSED ANTENNA MOUNTS SHALL CONFORM IN ACCORDANCE WITH THE CURRENT STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES (TIA/EIA-222-G) REVISED, JANUARY 2006.
12. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
13. SUBCONTRACTOR TO VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
14. SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
15. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS & INSPECTIONS REQUIRED FOR CONSTRUCTION.
16. SUBCONTRACTOR SHALL DETERMINE EXACT ROUTE OF ANY UNDERGROUND CONDUIT, IF REQUIRED.
17. DRIVEWAY PERMIT IS NOT REQUIRED.
18. THIS PROJECT WILL NOT REQUIRE STREETS OR PROPERTY TO BE DEDICATED FOR PUBLIC USE.
19. THIS PROJECT WILL NOT REQUIRE PERMANENT MONUMENTS.
20. ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP OF CHESTER COUNTY, PA (ALL JURISDICTIONS) MAP 42029C0245F, DATED 09/29/2006, ALL PROPOSED IMPROVEMENTS ARE LOCATED WITHIN ZONE X – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
21. NO ENVIRONMENTAL INVESTIGATION WAS PERFORMED BY DEWBERRY-GOODKIND, INC.
22. BASED ON THE RECOMMENDATION IN THE GEOTECHNICAL SOILS EXPLORATION REPORT, PROVIDED BY GEO-TERRAIN ORGANIZATION, INC., DATED 09/21/2011, FOUNDATION CONSTRUCTION AND CONCRETE PLACEMENTS SHOULD BE REVIEWED AND OBSERVED BY A PROFESSIONAL GEOTECHNICAL ENGINEER OR HIS QUALIFIED REPRESENTATIVE.

BULK STANDARDS FOR RA - RURAL AGRICULTURAL DISTRICT

DESCRIPTION	REQUIRED	EXISTING	PROPOSED	REMARKS
MINIMUM LOT AREA	20 ACRES	±100.58 ACRES	NO CHANGE	CONFORMING
MINIMUM LOT WIDTH AT STREET LINE	200 FEET	±993 FEET	NO CHANGE	CONFORMING
MINIMUM SETBACK FROM STREET RIGHT-OF-WAY	100 FEET	±37 FEET	±37 FEET	EXISTING NON-CONFORMING
MINIMUM REAR YARD	100 FEET	N/A	NO CHANGE	CONFORMING
MINIMUM SIDE YARD	50 FEET	±479 FEET	±472 FEET	CONFORMING
MAXIMUM BUILDING COVERAGE	8%	<8%	<8%	CONFORMING
MAXIMUM LOT COVERAGE	10%	<10%	<10%	CONFORMING
MAXIMUM BUILDING HEIGHT	35 FEET	<35 FEET	<35 FEET	CONFORMING

BULK STANDARDS FOR WIRELESS TELECOMMUNICATION FACILITIES

DESCRIPTION	REQUIRED	EXISTING	PROPOSED	REMARKS
MAXIMUM TOWER HEIGHT	150 FEET	N/A	140 FEET	CONFORMING
MAXIMUM GROUND COVERAGE	600 S.F.	N/A	[illegible]	CONFORMING
MINIMUM DWELLING SETBACK	500 FEET	±132 FEET	[illegible]	NON-CONFORMING
MAXIMUM EQUIPMENT BUILDING HEIGHT	8 FEET	<8 FEET	[illegible] FEET	CONFORMING
MINIMUM PROPERTY LINE SETBACK*	* 140 FEET	±66 FEET	±66 FEET	NON-CONFORMING

* TOWER SETBACK = TOWER HEIGHT (140') x 1 = 140'

PENNSYLVANIA ONE CALL SYSTEM, INC. 1-800-242-1776 STOP-CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES THREE WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS ENGINEER NO. PE-076024-E

BECHTEL CORPORATION
2DD NORTH WARNER ROAD
SUITE 160
KING OF PRUSSIA, PA 19406
PHONE: (610) 350-7704

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JOB # 50020836

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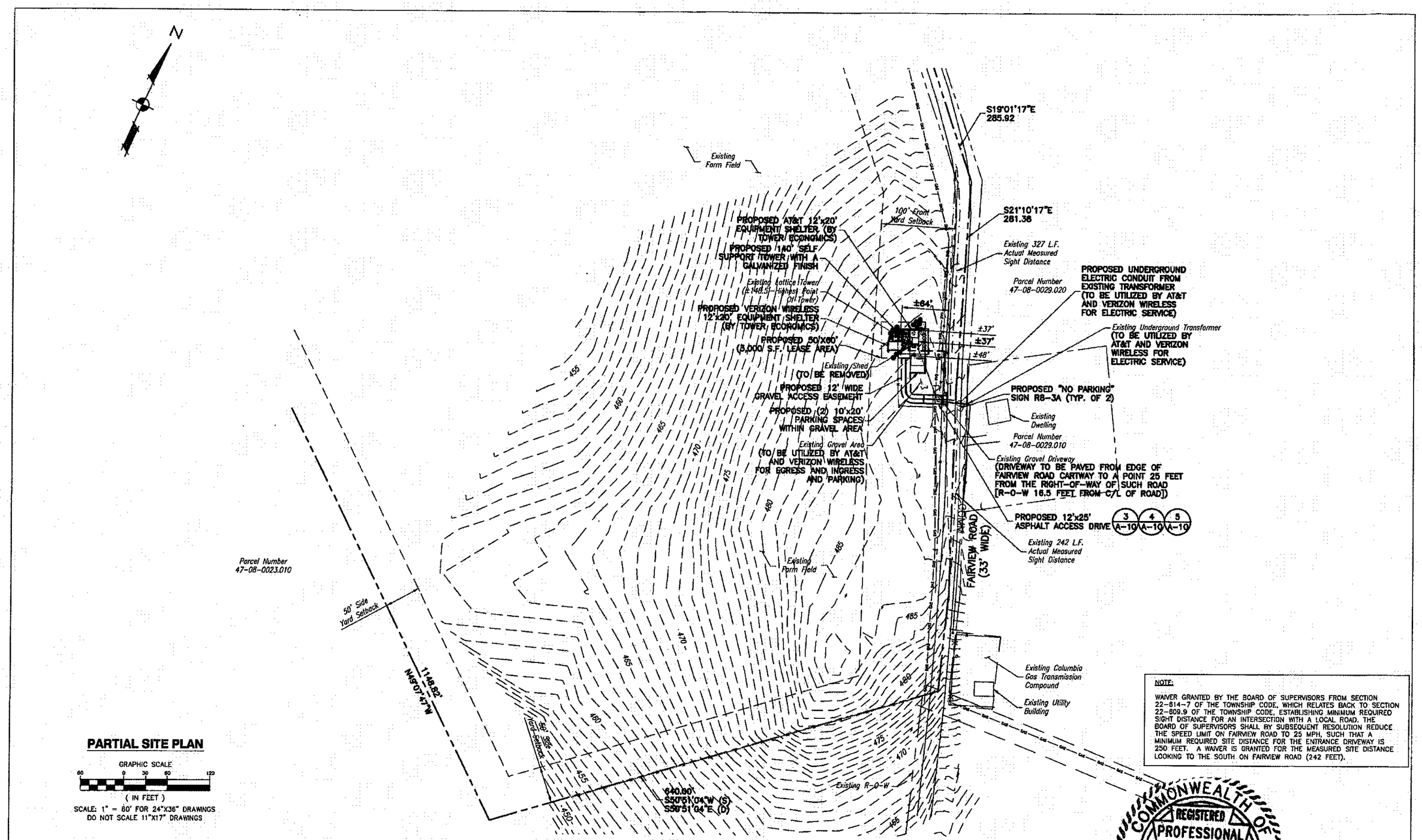
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

SITE PLAN

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-2	4



NOTE:

WAIVER GRANTED BY THE BOARD OF SUPERVISORS FROM SECTION 22-614-7 OF THE TOWNSHIP CODE, WHICH RELATES BACK TO SECTION 22-609.9 OF THE TOWNSHIP CODE, ESTABLISHING MINIMUM REQUIRED SIGHT DISTANCE FOR AN INTERSECTION WITH A LOCAL ROAD. THE BOARD OF SUPERVISORS SHALL BY SUBSEQUENT RESOLUTION REDUCE THE SPEED LIMIT ON FAIRVIEW ROAD TO 25 MPH, SUCH THAT A MINIMUM REQUIRED SITE DISTANCE FOR THE ENTRANCE DRIVEWAY IS 250 FEET. A WAIVER IS GRANTED FOR THE MEASURED SITE DISTANCE LOOKING TO THE SOUTH ON FAIRVIEW ROAD (242 FEET).

PARTIAL SITE PLAN

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
SCALE: 1" = 60' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

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FAX: 856.802.0646
JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME: PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

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4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
3	05/04/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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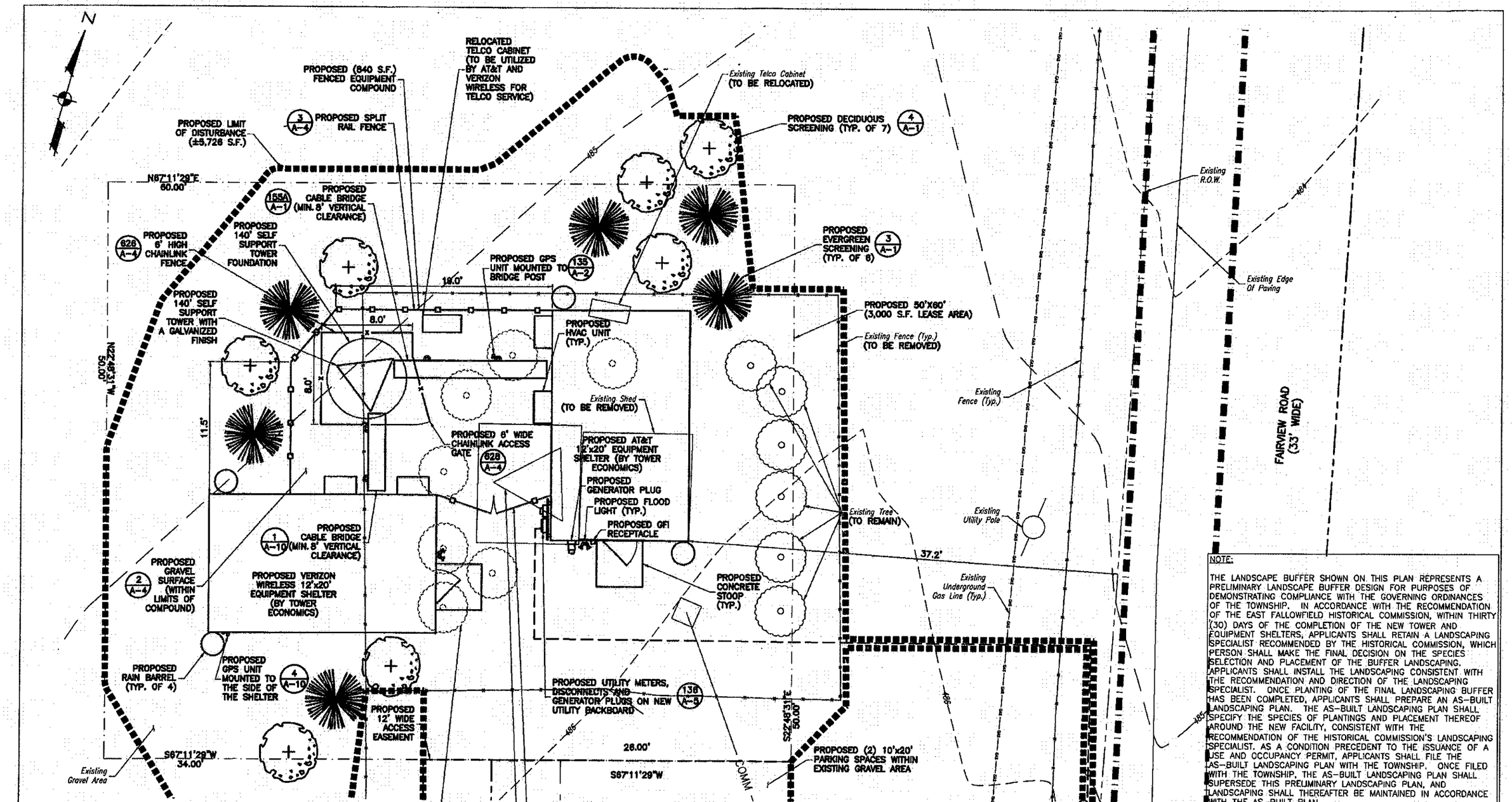
PARTIAL SITE PLAN

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-3	4



NOTE:

THE LANDSCAPE BUFFER SHOWN ON THIS PLAN REPRESENTS A PRELIMINARY LANDSCAPE BUFFER DESIGN FOR PURPOSES OF DEMONSTRATING COMPLIANCE WITH THE GOVERNING ORDINANCES OF THE TOWNSHIP. IN ACCORDANCE WITH THE RECOMMENDATION OF THE EAST FALLOWFIELD HISTORICAL COMMISSION, WITHIN THIRTY (30) DAYS OF THE COMPLETION OF THE NEW TOWER AND EQUIPMENT SHELTERS, APPLICANTS SHALL RETAIN A LANDSCAPING SPECIALIST RECOMMENDED BY THE HISTORICAL COMMISSION, WHICH PERSON SHALL MAKE THE FINAL DECISION ON THE SPECIES SELECTION AND PLACEMENT OF THE BUFFER LANDSCAPING. APPLICANTS SHALL INSTALL THE LANDSCAPING CONSISTENT WITH THE RECOMMENDATION AND DIRECTION OF THE LANDSCAPING SPECIALIST. ONCE PLANTING OF THE FINAL LANDSCAPING BUFFER HAS BEEN COMPLETED, APPLICANTS SHALL PREPARE AN AS-BUILT LANDSCAPING PLAN. THE AS-BUILT LANDSCAPING PLAN SHALL SPECIFY THE SPECIES OF PLANTINGS AND PLACEMENT THEREOF AROUND THE NEW FACILITY, CONSISTENT WITH THE RECOMMENDATION OF THE HISTORICAL COMMISSION'S LANDSCAPING SPECIALIST. AS A CONDITION PRECEDENT TO THE ISSUANCE OF A USE AND OCCUPANCY PERMIT, APPLICANTS SHALL FILE THE AS-BUILT LANDSCAPING PLAN WITH THE TOWNSHIP. ONCE FILED WITH THE TOWNSHIP, THE AS-BUILT LANDSCAPING PLAN SHALL SUPERSEDE THIS PRELIMINARY LANDSCAPING PLAN, AND LANDSCAPING SHALL THEREAFTER BE MAINTAINED IN ACCORDANCE WITH THE AS-BUILT PLAN.

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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COMPOUND LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
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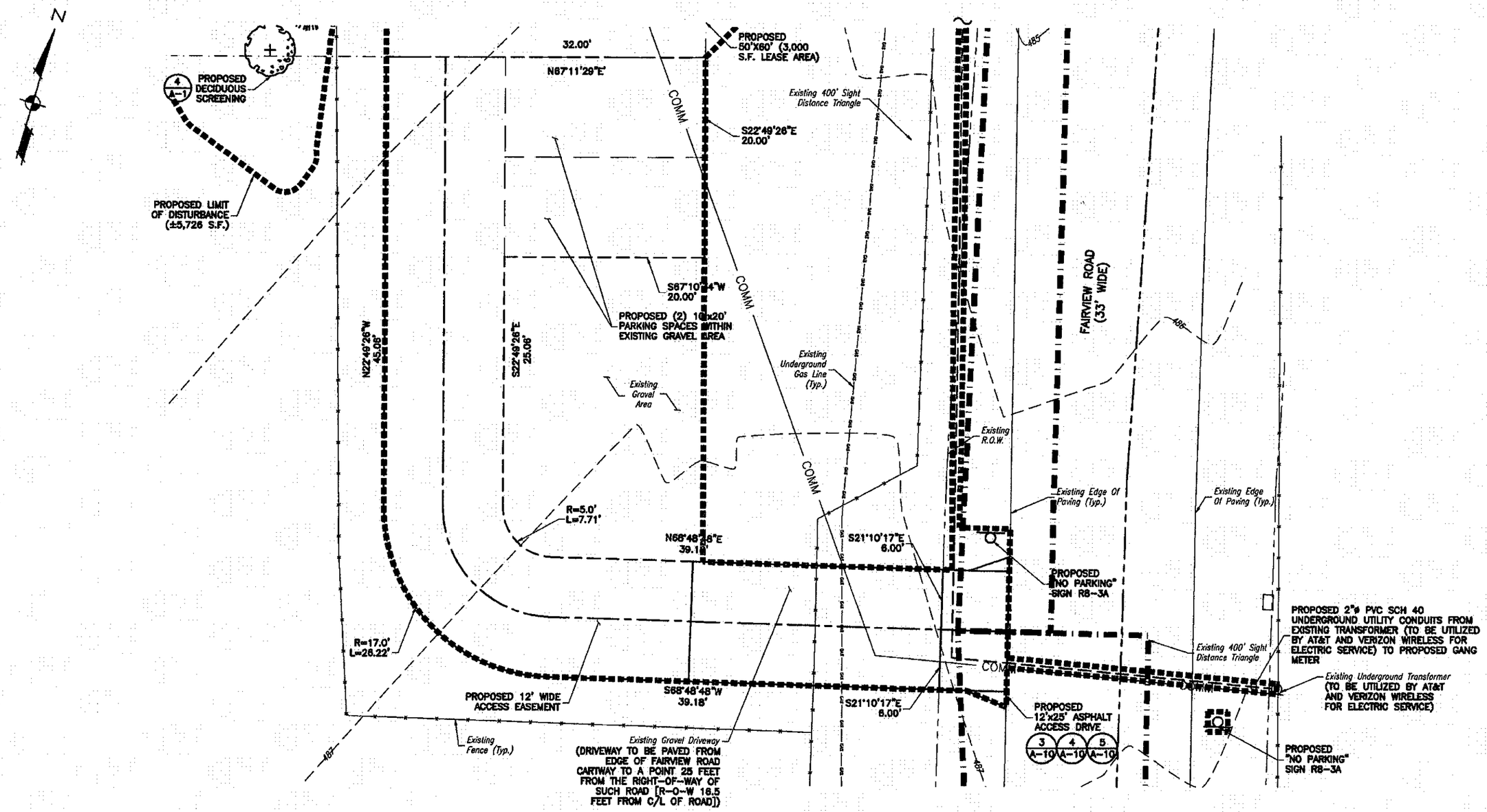

ACCESS DRIVE

GRAPHIC SCALE

5 0 2.5 5 10

(IN FEET)

SCALE: 1" = 5' FOR 24"X36" DRAWINGS
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ACCESS DRIVE

JOB NUMBER	DRAWING NUMBER	REV
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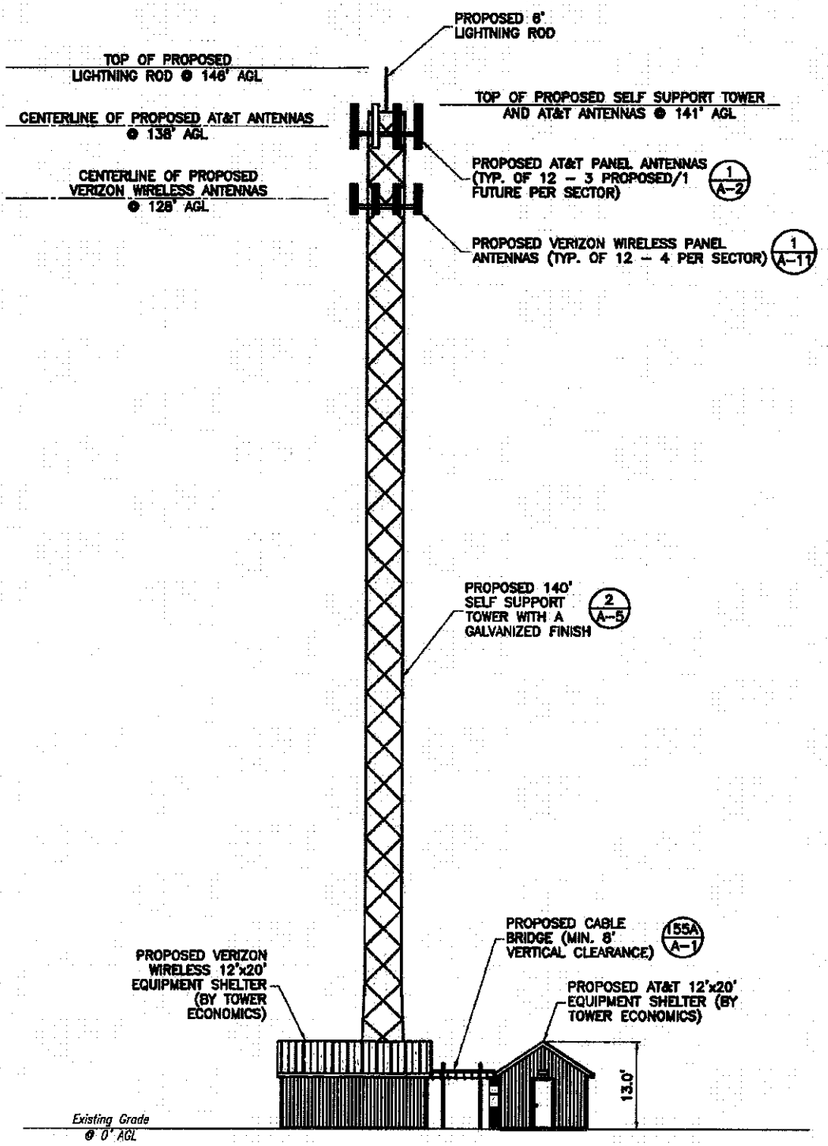

ELEVATION VIEW

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)

SCALE: 1" = 10' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

NOTE:

THE DESIGN OF THE TOWER AND FOUNDATION IS TO BE PERFORMED BY OTHERS.

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COATESVILLE, PA 19320

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0	01/17/11	ISSUED FOR CONSTRUCTION	JNS	CJZ	PET

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AND CELLCO PARTNERSHIP d/b/a
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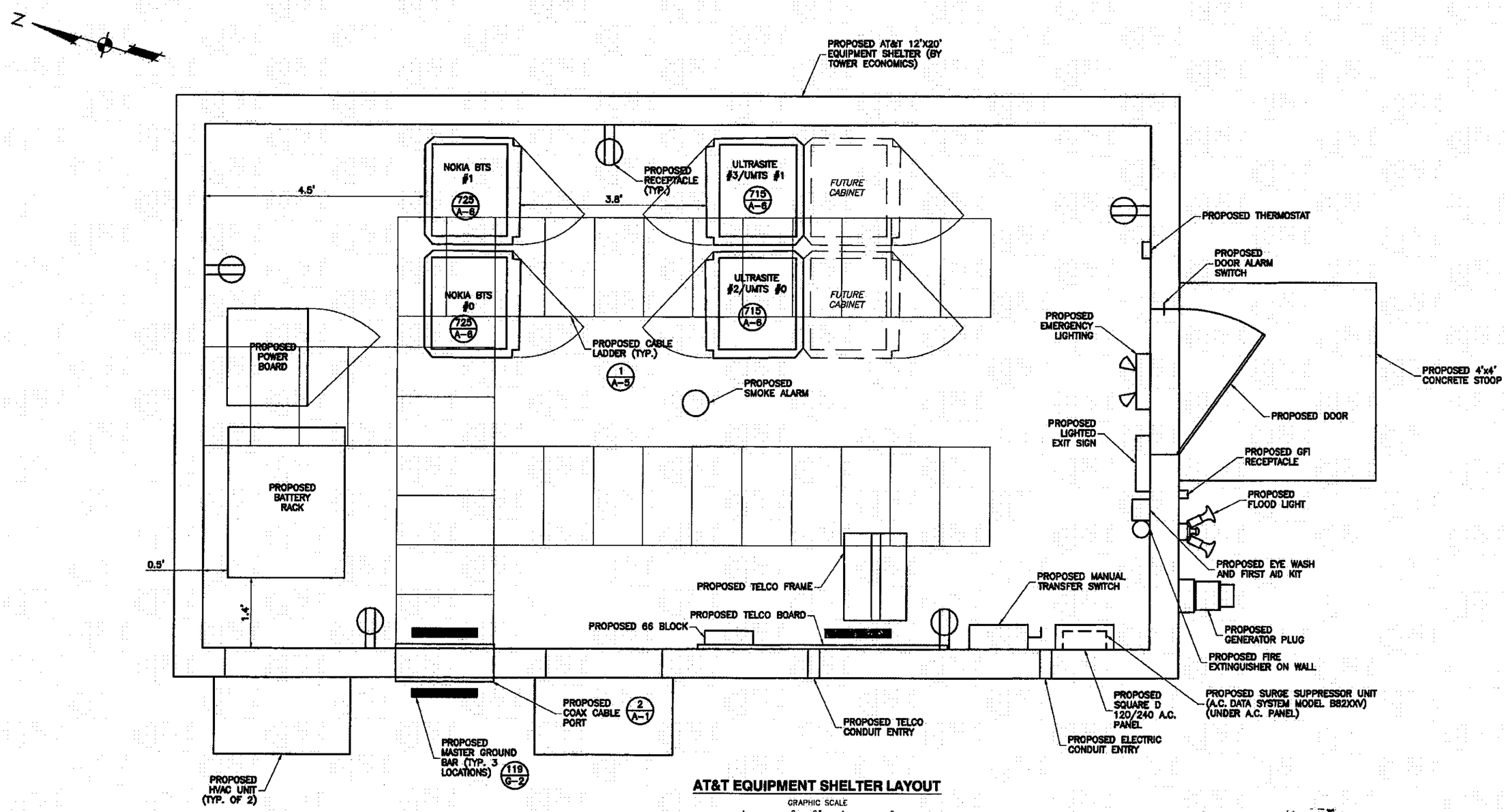
ELEVATION VIEW

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-6	4



AT&T EQUIPMENT SHELTER LAYOUT

GRAPHIC SCALE

1 0 0.5 1 2

(IN FEET)

SCALE: 1" = 1' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

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VERIZON WIRELESS SITE NAME:
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775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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NO.	DATE	REVISIONS	BY	CHK	APP'D
4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
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1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — ALEC SCOTT NORRIS — No. PE-073536-E

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T EQUIPMENT SHELTER LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
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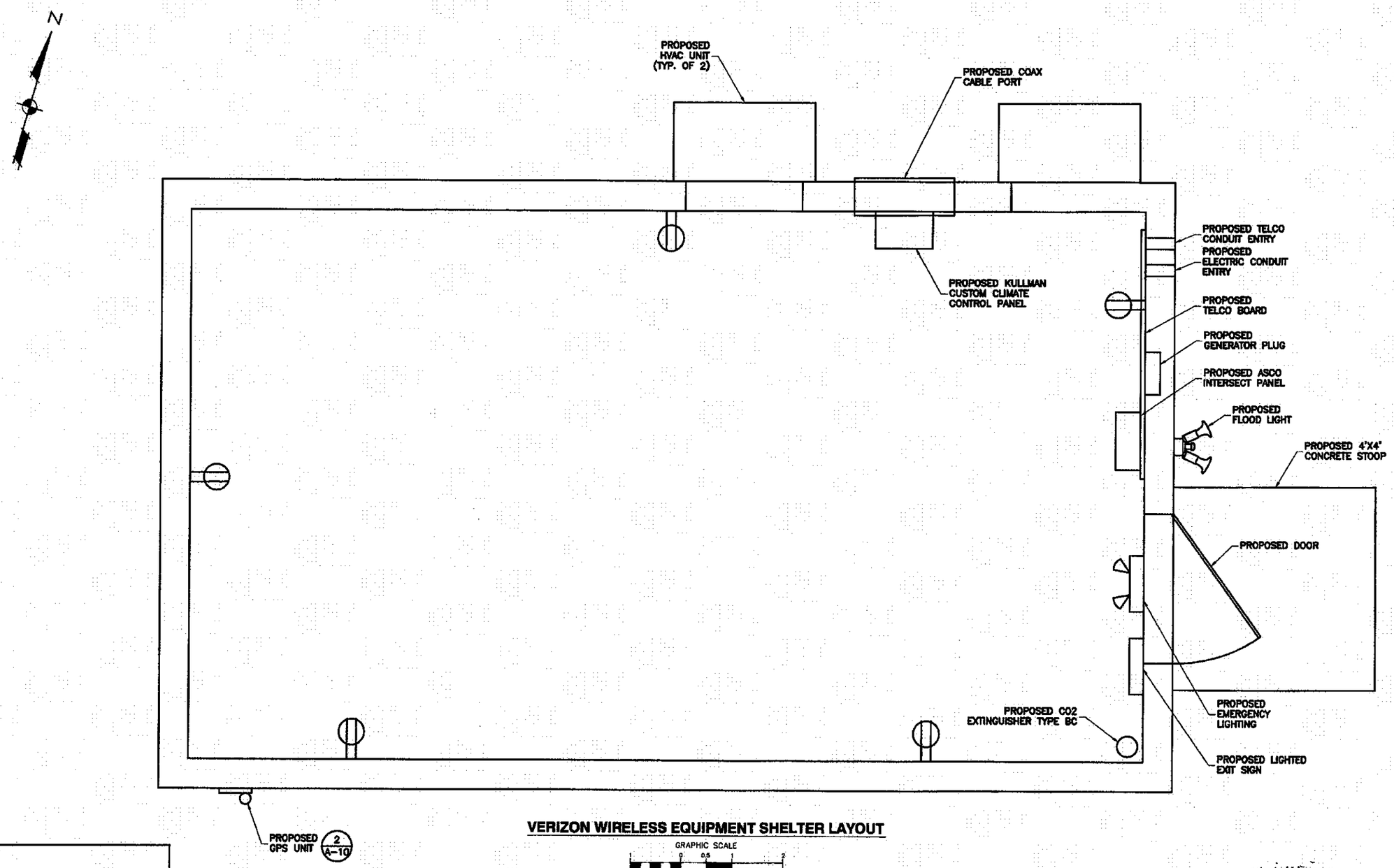

VERIZON WIRELESS EQUIPMENT SHELTER LAYOUT

GRAPHIC SCALE

0 0.5 1 2

(IN FEET)

SCALE: 1" = 1' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

NOTE:

EQUIPMENT ORIENTATION TO BE PROVIDED BY VERIZON AT A LATER DATE.

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JOB # 50020836

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VERIZON WIRELESS SITE NAME:
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COATESVILLE, PA 19320

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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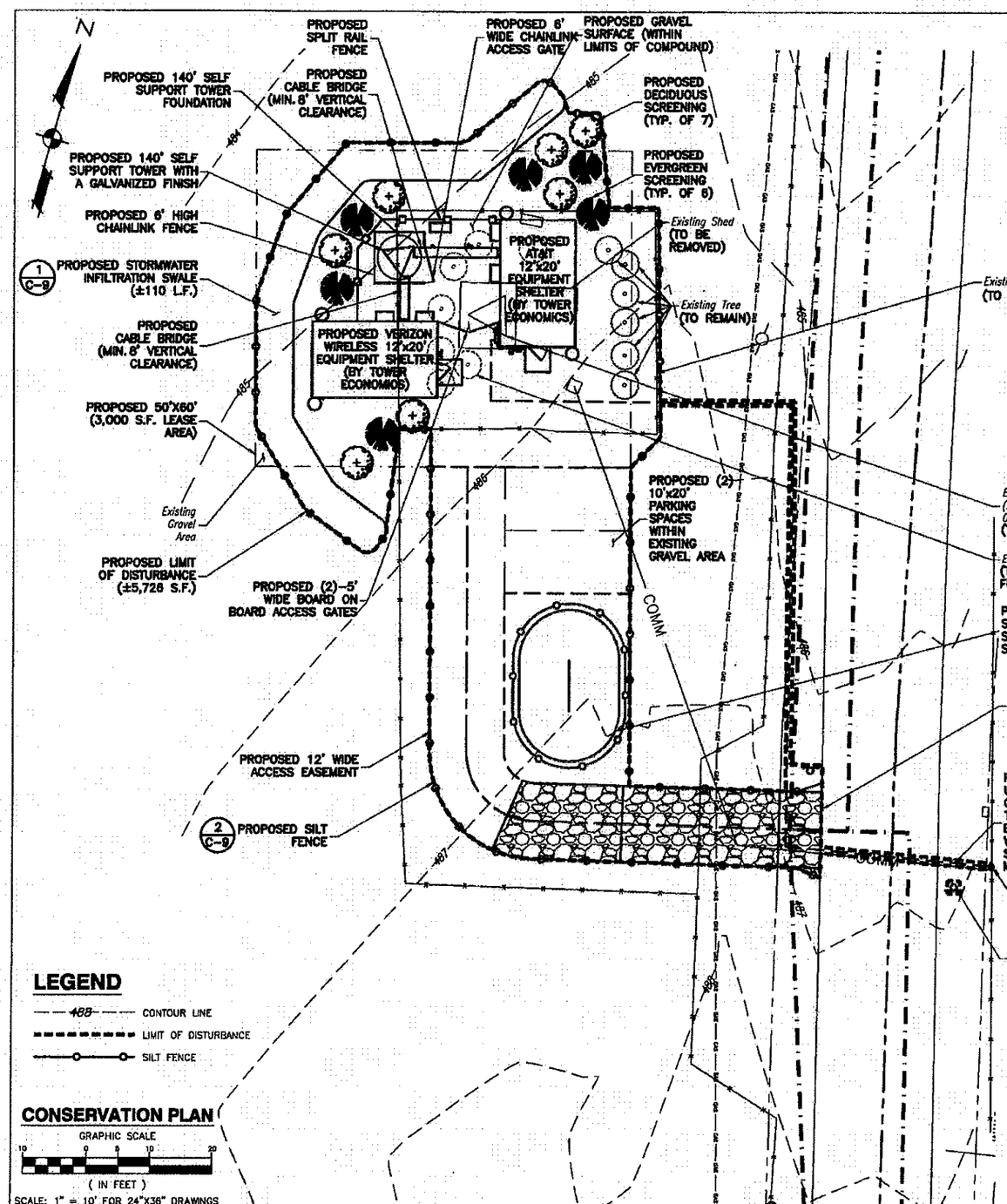
VERIZON WIRELESS EQUIPMENT SHELTER LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-8	4



LEGEND

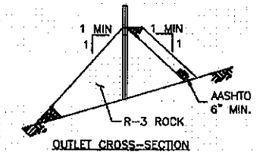
- 488 — CONTOUR LINE
- LIMIT OF DISTURBANCE
- SILT FENCE

CONSERVATION PLAN

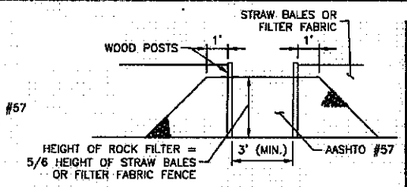
GRAPHIC SCALE 10 0 5 10 20

(IN FEET)

SCALE: 1" = 10' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

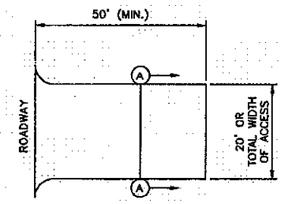


OUTLET CROSS-SECTION

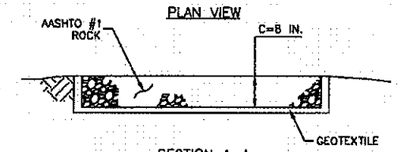


NOTE:
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

ROCK FILTER OUTLET DETAIL 4/–
NTS



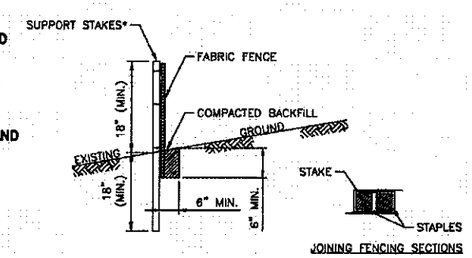
PLAN VIEW



SECTION A-A

MAINTENANCE:
ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.

STABILIZED CONSTRUCTION ENTRANCE 3/–
NTS



JOINING FENCING SECTIONS

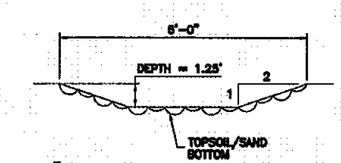
* STAKES SPACED @ 8' MAXIMUM. USE 2"x2" WOOD OR EQUIVALENT STEEL STAKES.

FILTER FABRIC FENCE MUST BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.

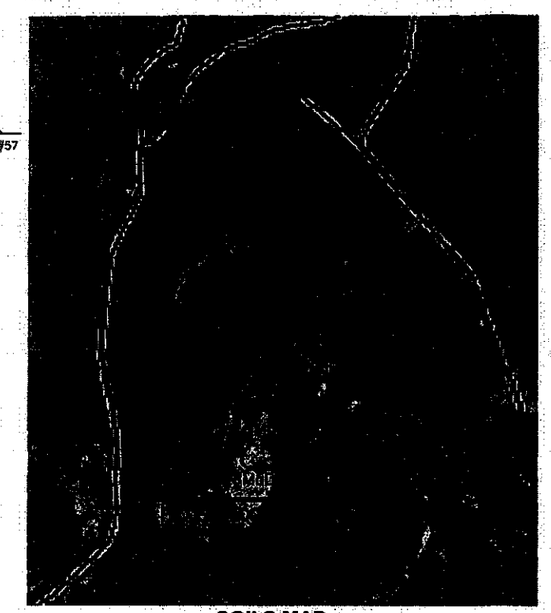
SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

ANY SECTION OF THE FILTER FABRIC FENCE WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. SEE DETAIL THIS SHEET.

STANDARD SILT FENCE 2/–
NTS



INFILTRATION SWALE DETAIL 1/–
NTS



SOILS MAP

GRAPHIC SCALE 500 0 250 500 1000

(IN FEET)

SCALE: 1" = 500' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

SOIL DESCRIPTIONS	
BoB	BAILE SILT LOAM, 3 TO 8 PERCENT SLOPES
GgB	GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES
GgC	GLENELG SILT LOAM, 8 TO 15 PERCENT SLOPES
GlB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES
Ha	HATBORO SILT LOAM
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES
MaE	MANOR LOAM, 25 TO 35 PERCENT SLOPES

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

CONSERVATION PLAN AND DETAILS

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-9	4

SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES

TEMPORARY SEEDING (TABLE A):

1. APPLY PENN DOT FORMULA E (ANNUAL RYEGRASS) AT A MINIMUM RATE OF 10LBS/1000 S.Y. AT ANY TIME.
2. PLACE STRAW MULCH IN A CONTINUOUS BLANKET AT A RATE OF 1200 LBS/1000 S.Y. IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETED
3. ANCHOR MULCH WITH EMULSIFIED ASPHALT AT A RATE OF 31 GALLONS PER 1000 S.Y. OR OTHER ACCEPTABLE MEANS.
4. APPLY MULCH ALONE IF SEEDING CONDITIONS ARE UNFAVORABLE, AT A RATE OF 3 TONS/ACRE.
5. APPLY LIME AT A RATE OF 1 TON/ACRE.
6. APPLY 10-10-10 COMMERCIAL FERTILIZER AT A RATE OF OF 500 LBS.ACRE.

PERMANENT SEEDING (TABLE A):

1. WHEN AREAS ARE CONSTRUCTED TO FINISH GRADE AND WITHIN

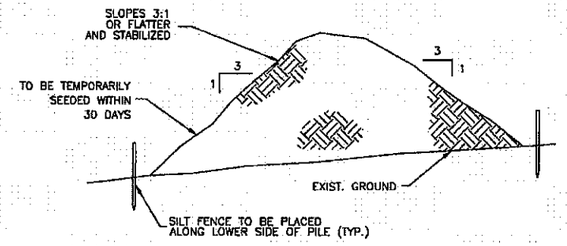
   THE FOLLOWING DATES:
   FORMULA C – ANY TIME EXCEPT SEPTEMBER AND OCTOBER
   FORMULA B & D – MARCH 1 – JUNE 1 & AUGUST 1 – OCTOBER 1

   APPLY SEED AT A RATE OF 21 LBS/1000 S.Y. FOR FORMULA B & D AND 10 LBS/1000 S.Y. FOR FORMULA C.
2. APPLY LIME AT A RATE OF 6 TONS/ACRE.
3. APPLY 10-20-20 COMMERCIAL FERTILIZER AT A RATE OF 192 LBS/1000 S.Y.
4. APPLY 38-0-0 UREA-FORM FERTILIZER AT A RATE OF 50 LBS/1000 S.Y.
5. APPLY STRAW MULCH AT A RATE OF 3 TONS/ACRE AND ANCHOR AS SPECIFIED ABOVE.

INTERIM STABILIZATION

IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE PERFORMED IMMEDIATELY FOLLOWING FINAL EARTHMOVING, THE FOLLOWING INTERIM MEASURES SHALL BE CONDUCTED:

1. APPLY PENN DOT FORMULA E AT A RATE OF 40 LBS/ACRE.
2. STRAW MULCH AT A RATE OF 3 TONS/ACRE.
3. APPLY MULCH ALONE IF WEATHER CONDITIONS ARE UNFAVORABLE.
4. REFER TO DEPARTMENT OF ENVIRONMENTAL PROTECTION TITLE 25, RULES AND REGULATIONS CHAPTER 102, EROSION CONTROL FOR APPLICABLE DESIGN GUIDELINES REGARDING SOIL EROSION AND SEDIMENTATION CONTROL.
5. ANY MAJOR VARIATION FROM THE SEQUENCE OF CONSTRUCTION STATED IN THE NARRATIVE REPORT REQUIRES THE APPROVAL OF THE COLUMBIA COUNTY CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
6. THE COLUMBIA COUNTY CONSERVATION DISTRICT WILL BE NOTIFIED THREE (3) DAYS PRIOR TO CONSTRUCTION.
7. ALL TEMPORARY CONTROLS SHALL REMAIN IN PLACE UNTIL THE SITE IS COMPLETELY STABILIZED.
8. ANY SOIL REQUIRED TO BE STOCKPILED ON THE SITE SHALL BE STABILIZED AND PROTECTED WITH SILT FENCING.
9. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS.
10. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREA DISTURBED DURING REMOVAL OF THE CONTROLS MUST BE STABILIZED IMMEDIATELY.
11. STOCKPILED HEIGHTS MUST NOT EXCEED 35 FT. STOCKPILE SLOPES MUST BE 3:1 OR FLATTER. STOCKPILES MUST BE STABILIZED UPON COMPLETION.
12. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED MUST BE STABILIZED IMMEDIATELY. DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MAY BE STABILIZED IN ACCORDANCE WITH TEMPORARY SEEDING SPECIFICATIONS. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS.
13. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL CONTROLS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING AND REMULCHING MUST BE PERFORMED IMMEDIATELY.



TOPSOIL STOCKPILE (1 / –)
NTS

SEQUENCE OF CONSTRUCTION:

EACH STAGE OF THE SEQUENCE OF CONSTRUCTION MUST BE COMPLETED PRIOR TO THE INITIATION OF THE NEXT STAGE OF CONSTRUCTION.

DESCRIPTION

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE. INSTALL PERIMETER SILT FENCE.
2. CLEAR AND GRUB ACCESS ROAD. REMOVE EXCESS TOPSOIL FROM ACCESS ROAD AND STOCKPILE. REMAINDER OF TOPSOIL REQUIRED FOR RE-USE ON SITE.
3. PERFORM ROUGH GRADING OF ACCESS ROAD. REESTABLISH STABILIZED CONSTRUCTION ENTRANCE AS REQUIRED TO MATCH PRE-EXISTING CONDITION IMMEDIATELY FOLLOWING GRADING OF ACCESS DRIVE.
4. PERFORM FINE GRADING ON ACCESS ROAD SUBGRADE. STABILIZE ACCESS DRIVE BY INSTALLING DENSE GRADED AGGREGATE. TOPSOIL, SEED, FERTILIZE AND MULCH DISTURBED AREAS OUTSIDE GRAVEL DRIVEWAY. THE STABILIZATION OF THE ACCESS ROAD MUST BE PERFORMED BEFORE THE CLEARING AND GRUBBING OF THE COMPOUND CAN BEGIN.
5. CLEAR AND GRUB COMPOUND AREA. REMOVE EXCESS TOPSOIL FROM COMPOUND AND STOCKPILE. REMAINDER OF TOPSOIL REQUIRED FOR RE-USE ON SITE.
6. PERFORM ROUGH GRADING OF COMPOUND AREA.
7. INSTALL UNDERGROUND UTILITIES, CONCRETE PADS AND APPROPRIATE SEDIMENT CONTROLS AS INSTALLATION PROGRESSES.
8. PROVIDE INTERIM SOIL STABILIZATION MEASURES OF DISTURBED AREAS. SEED AND MULCH AREAS TO NORTH, SOUTH, EAST AND WEST OF PROPOSED GRAVEL AREA. ANY AREAS WITH INTERIM STABILIZATION THAT BECOME DISTURBED AS A RESULT OF SUBSEQUENT CONSTRUCTION ACTIVITY (I.E. ERECTION OF LATTICE TOWER) SHALL BE REESTABLISHED PER INTERIM STABILIZATION SPECIFICATIONS ON THIS SHEET.
9. ERECT LATTICE TOWER.
10. PERFORM FINE GRADING ON SITE SUBGRADE. STABILIZE COMPOUND AND DRIVEWAY BY INSTALLING DENSE GRADED AGGREGATE. TOPSOIL, SEED, FERTILIZE AND MULCH DISTURBED AREAS OUTSIDE GRAVEL COMPOUND.
11. REMOVE SEDIMENT CONTROLS AND OTHER BMP'S. ALL BMP'S MUST REMAIN INSTALLED AND FUNCTIONAL UNTIL UPSLOPE DISTURBED AREAS ARE STABILIZED WITH 70% UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER STABLE COVER.

SEDIMENT CONTROL NOTES:

1. A COPY OF THE APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE AVAILABLE ON-SITE AT ALL TIMES.
2. TEMPORARY STABILIZATION (SEEDING AND MULCHING) OF THE SITE SHALL BE PERFORMED IMMEDIATELY AFTER COMPLETION OF ROUGH GRADING.
3. THE CONTRACTOR SHALL INSPECT THE SITE AT THE END OF EACH DAY TO ENSURE THAT NO DISTURBED SOIL EXISTS ON THE SITE AND THAT NO SOIL/MUD IS BEING TRACKED OFF THE SITE AND ONTO ANY ADJACENT ROADWAY.

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD
KING OF PRUSSIA, PA 19406
AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
5175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

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1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

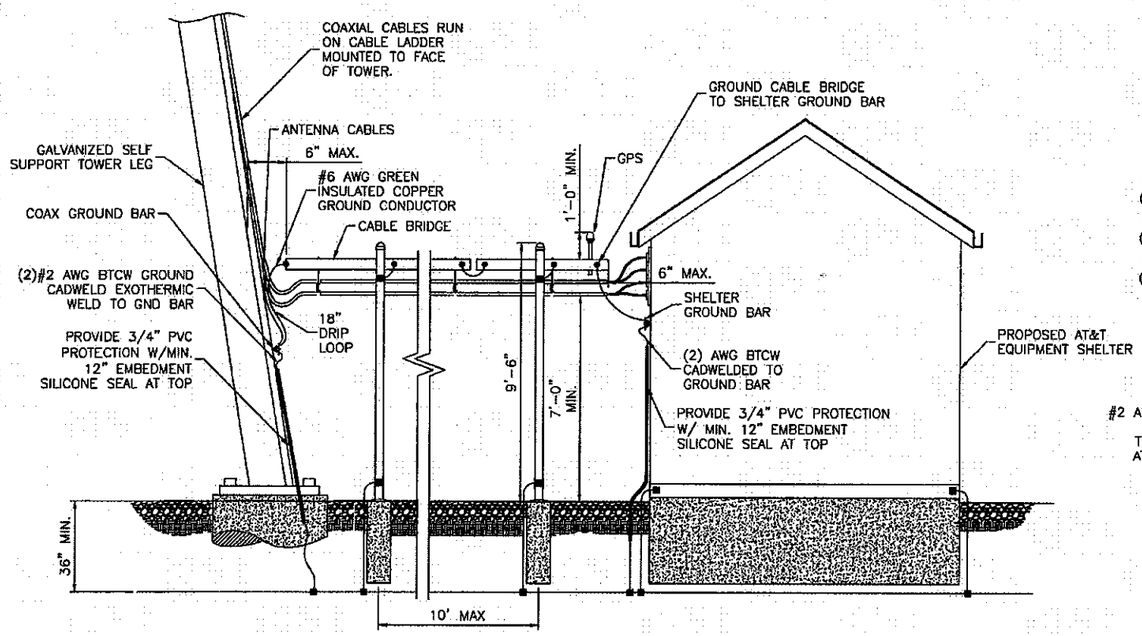
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ALEC SCOTT NORRIS — ENGINEER — No. PE075550 — ALEC S. NORRIS — PROFESSIONAL ENGINEER — PA LICENSE NO. PE075550

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

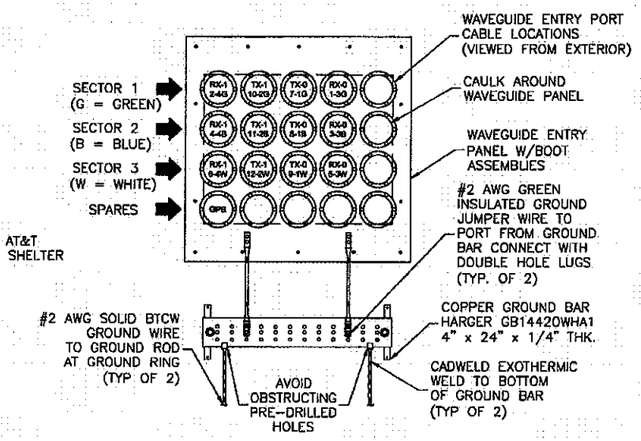
CONSERVATION NOTES AND DETAILS

JOB NUMBER	DRAWING NUMBER	REV
24782-419	C-10	4



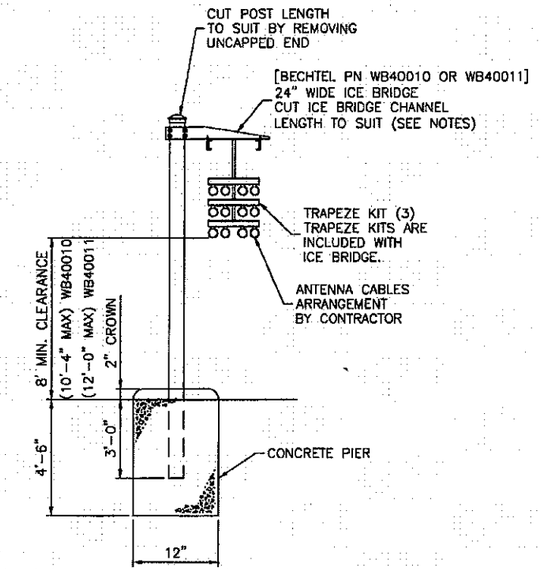
EQUIPMENT ELEVATION WITH GROUNDING

DETAIL 1 / –



COAX ENTRY PORT DETAIL

DETAIL 2 / –



BECHTEL SC:	MTS PN:
WB40010	WBK210B
WB40011	MT-C8718

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 9 FEET FOR 10 FEET BRIDGE CHANNEL.

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 CANTILEVER 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.

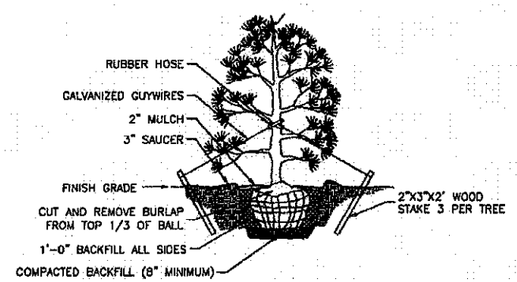
7. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL.

8. THE DESIGN IS BASED ON ASCE 7-98, 3 SECOND GUST WIND SPEED OF 110 MPH, EXPOSURE C, ELEVATION AT GRADE.

9. THIS DESIGN IS BASED ON 24" WIDE ICE BRIDGE AND (12) 1 5/8" DIA COAX CABLES AND MAX. POST SUPPORT SPACING OF 10'-0".

24"X10" ICE BRIDGE WITH 2 BURIAL POSTS

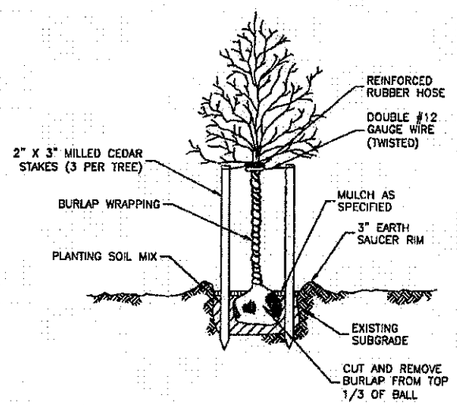
DETAIL 155A / –



SCIENTIFIC NAME	COMMON NAME	PLANTING HEIGHT	SPACING	CALIPER	TYPE	TOTAL NUMBER
THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6'	5' O.C.	N/A	B&B	6

EVERGREEN TREE PLANTING DETAIL

DETAIL 3 / –



DECIDUOUS TREE PLANTING DETAIL

DETAIL 4 / –

LANDSCAPING NOTES:

1. LOCATION AND SPECIES OF BUFFER PLANTINGS AROUND THE TELECOMMUNICATIONS COMPOUND SHALL BE DETERMINED FOLLOWING CONSTRUCTION OF THE TOWER AND EQUIPMENT SHELTER COMPOUND BY LANDSCAPING EXPERT ACCEPTABLE TO THE EAST FALLOWFIELD HISTORICAL COMMISSION. SELECTION OF SPECIES AND LOCATION OF PLANTINGS SHALL BE DETERMINED WITHIN SIXTY (60) DAYS OF COMPLETION OF THE IMPROVEMENTS. ONCE PLANTING IS DONE, APPLICANT SHALL PREPARE AND FILE WITH THE TOWNSHIP AND TOWNSHIP ENGINEER AN "AS BUILT" PLAN OF THE FINAL LANDSCAPING BUFFER, SPECIFYING THE FINAL SPECIES OF PLANTINGS AND PLACEMENT THEREOF AROUND THE COMPOUND.

2. THE EQUIPMENT SHELTERS SHALL INCORPORATE A RAIN GUTTER WATER COLLECTION SYSTEM FOR PLANT IRRIGATION PURPOSES.

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless
5175 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS – 1

JOB NUMBER	DRAWING NUMBER	REV
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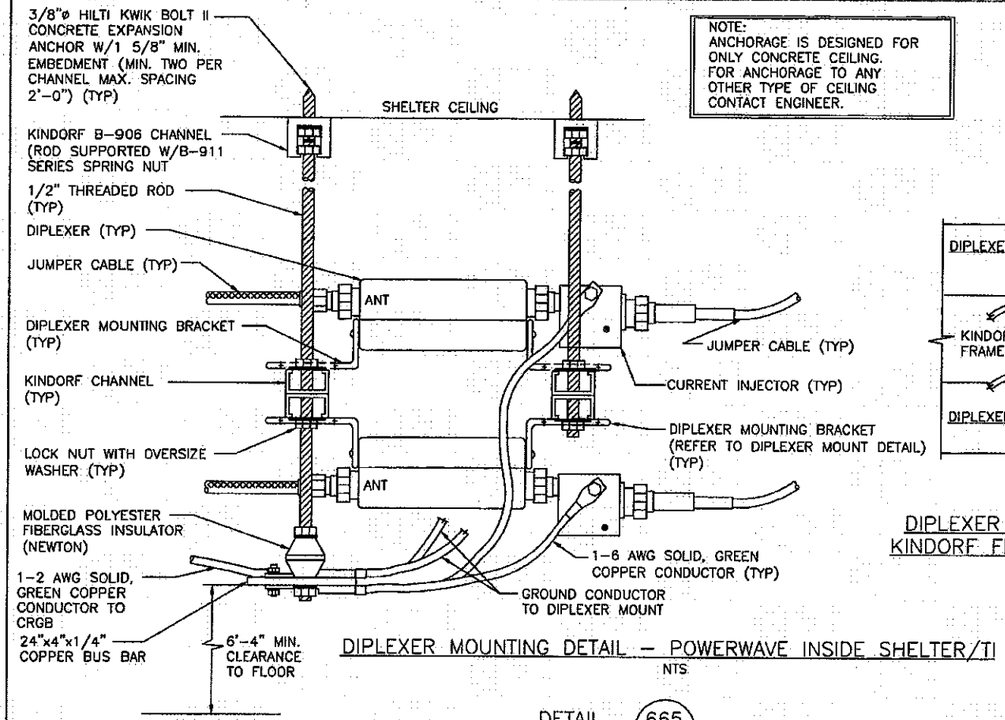
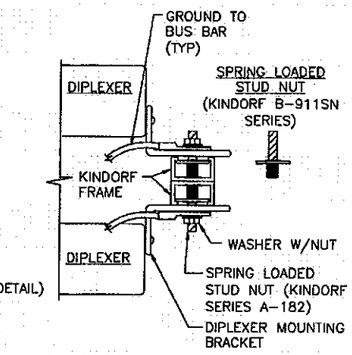


NOTE:
ANCHORAGE IS DESIGNED FOR ONLY CONCRETE CEILING. FOR ANCHORAGE TO ANY OTHER TYPE OF CEILING CONTACT ENGINEER.

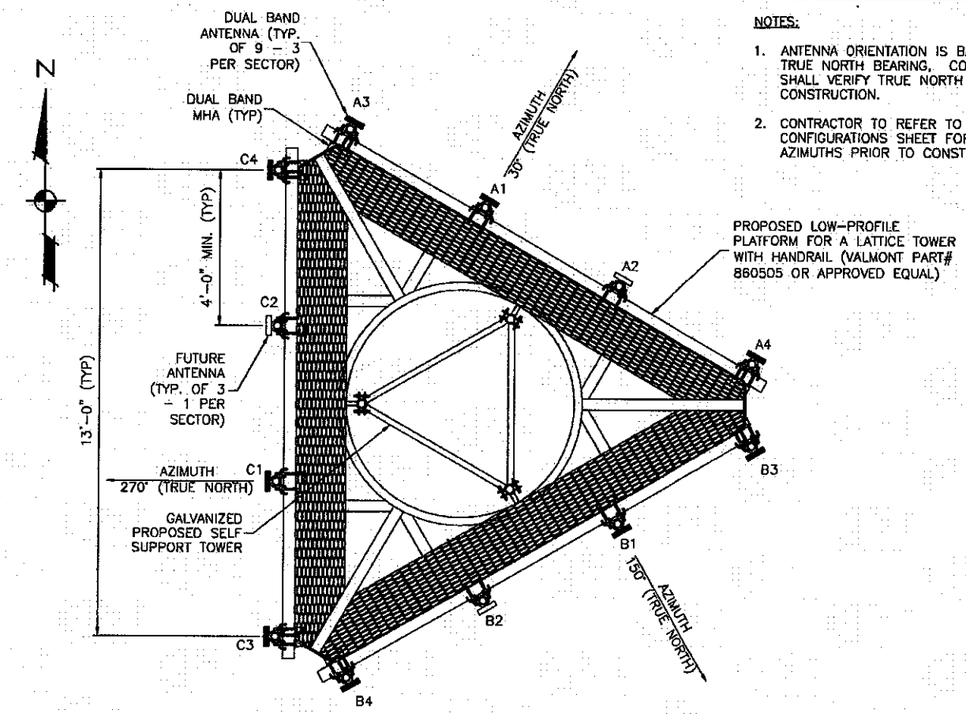
DIPLEXER MOUNTING DETAIL – POWERWAVE INSIDE SHELTER/TI

NTS

DETAIL 665 / NTS



DIPLEXER MOUNT TO KINDORF FRAME DETAIL



NOTES:

1. ANTENNA ORIENTATION IS BASED ON TRUE NORTH BEARING, CONTRACTOR SHALL VERIFY TRUE NORTH PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO REFER TO FINAL RF CONFIGURATIONS SHEET FOR ANTENNA AZIMUTHS PRIOR TO CONSTRUCTION.

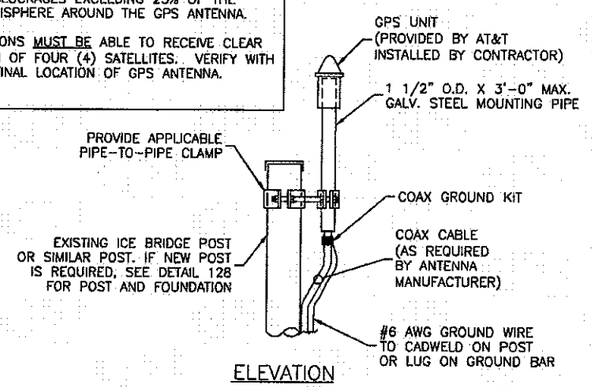
PLAN VIEW

FOUR ANTENNA PER SECTOR
HORIZONTAL SEPARATION CONFIGURATION
TOWER MOUNTING

DETAIL 1 / NTS

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.



ELEVATION

E911-GPS ANTENNA
PIPE MOUNT

DETAIL 135 / NTS

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JOB # 50020836

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AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

AT&T MOBILITY 200 NORTH WARNER ROAD
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AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizon wireless
6175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

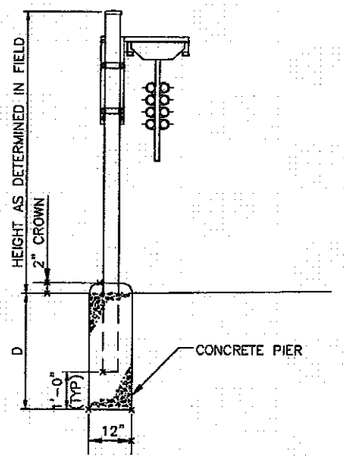
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA – REGISTERED PROFESSIONAL – ALEC SCOTT NORRIS – ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS – 2

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-2	4



SOIL TYPE	POST SPACING <=5'	POST SPACING >5' AND <=10'
	D	D
SAND	3.5'	4'
CLAY	4'	5'

NOTES:

1. THIS FOUNDATION DESIGN IS BASED ON PIROD PART #852163 OR EQUAL FOR ICE BRIDGE KIT AND PART #802260 OR EQUAL FOR HANGER BRACKET TYPE.

2. THE FOUNDATION DESIGN IS BASED ON 90 MPH WIND EXPOSURE C, PER UBC 1997.

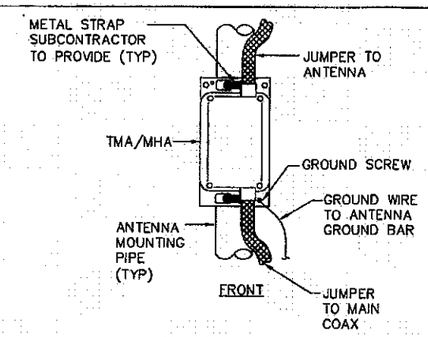
3. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.

4. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM MANUFACTURERS OTHER THAN PIROD, PROVIDED THE MANUFACTURER'S INSTALLATION GUIDELINES ARE FOLLOWED.

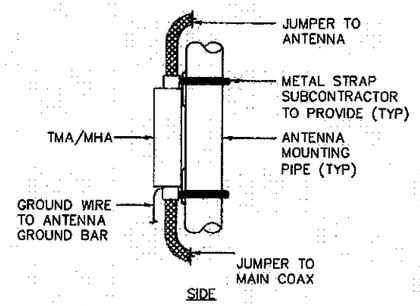
5. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS SHOWN REQUIRE ENGINEERING APPROVAL.

ICE BRIDGE SUPPORT POST FOUNDATION

DETAIL 128 / — NTS

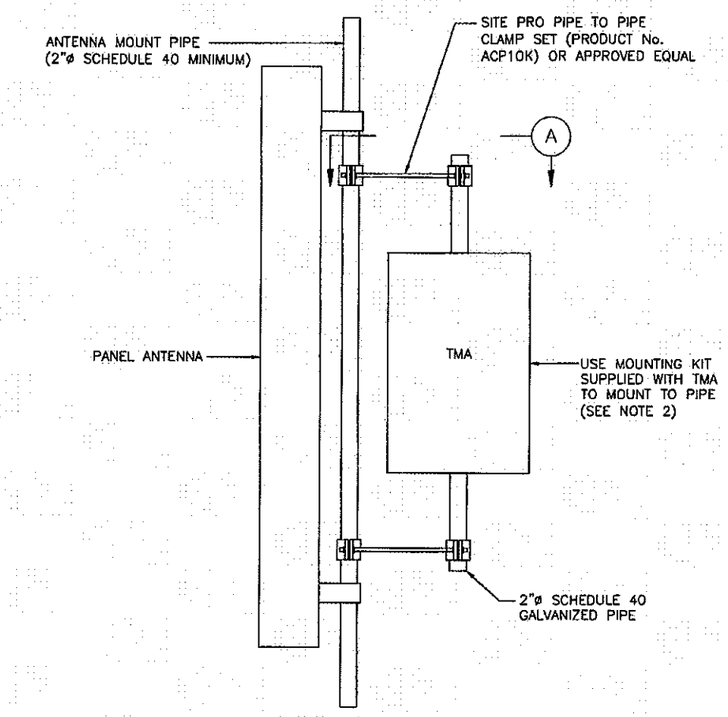


TMA/MHA MOUNTING



TMA/MHA MOUNTING

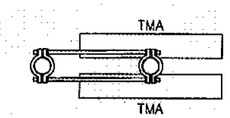
DETAIL 131 / — NTS



ELEVATION VIEW

NOTES:

1. SITE PRO PART No. ACP10K MAY REQUIRE ROTATING HALF OF THE PIPE CLAMP 180° IF PIPE IS TOO SMALL TO TIGHTEN CLAMP.
2. FOLLOW TMA MANUFACTURERS INSTRUCTIONS FOR MOUNTING TMA TO PIPE.
3. TMA SHALL BE INSTALLED WITH DRAINING PIPE POINTING DOWNWARDS.
4. TMA SHALL BE INSTALLED VERTICAL WITH MAXIMUM TILT ANGLE OF 5 DEGREES.
5. GROUND TMA IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.



SECTION A

TMA PIPE ADAPTER MOUNT

DETAIL 702 / — NTS

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
PE075586
PROFESSIONAL ENGINEER
PA LICENSE NO. PE075586

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JOB # 50020836

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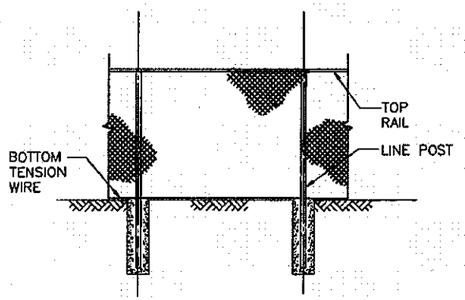
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL:

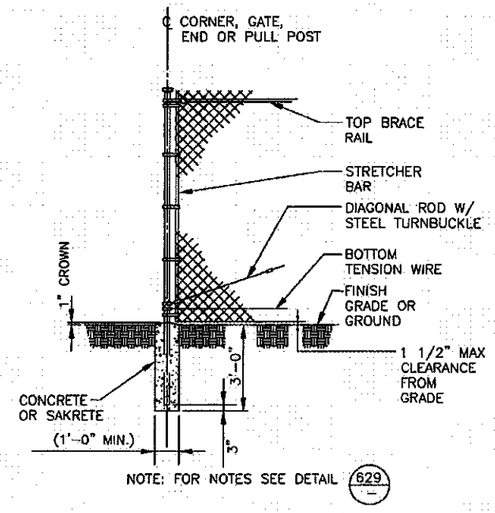
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS – 3

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-3	4

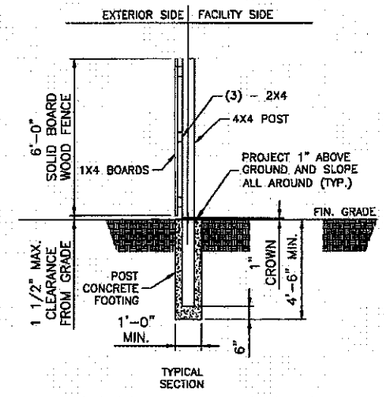


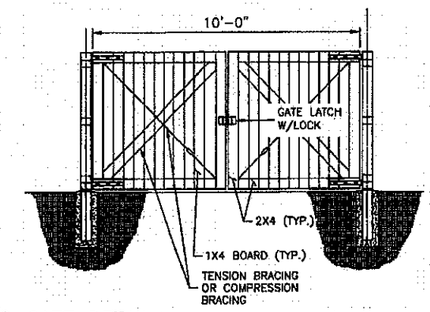
TYPICAL ELEVATION



WOVEN WIRE CORNER, GATE, END OR PULL POST

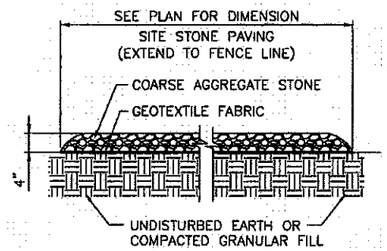
DETAIL 627 NTS





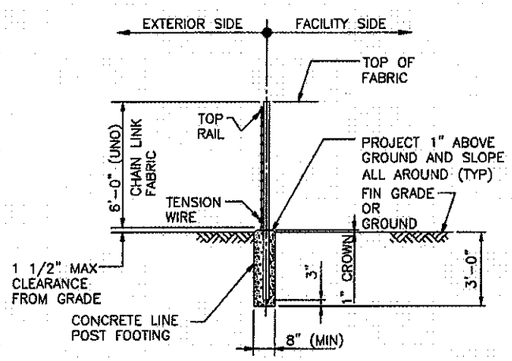
BOARD-ON-BOARD GATE DETAIL

DETAIL 1 NTS



GRAVEL SURFACING

DETAIL 2 NTS



TYPICAL SECTION
WOVEN WIRE FENCE

DETAIL 626 NTS

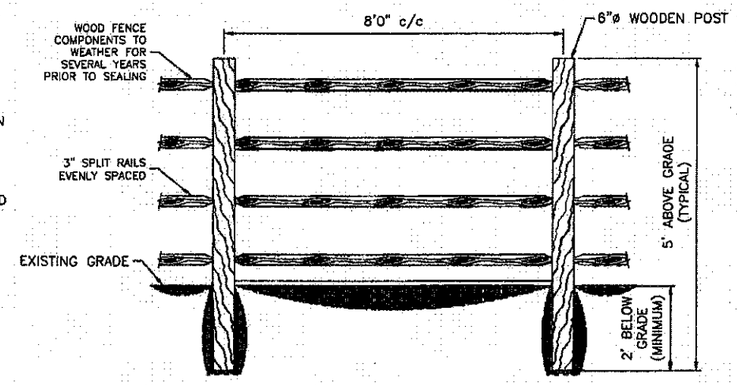
NOTES:

(INSTALL FENCING PER ASTM F-567, SWING GATES PER ASTM F- 900)

1. GATE POST, CORNER, TERMINAL OR PULL POST SHALL BE 2 7/8"ø SCHEDULE 40 FOR GATE WIDTHS UP THROUGH 6 FEET OR 12 FEET FOR DOUBLE SWING GATE PER ASTM-F1083.
2. LINE POST: 2-3/8"ø SCHEDULE 40 PIPE PER ASTM-F1083.
3. GATE FRAME: 1 1/2"ø SCHEDULE 40 PIPE PER ASTM-F1083.
4. TOP RAIL & BRACE RAIL: 1 1/4"ø SCHEDULE 40 PIPE PER ASTM-F1083.
5. FABRIC: 9 GA. CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392 CLASS 1.
6. TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL INSTALL A SINGLE WRAP TIE WIRE AT POSTS AND RAILS AT MAX. 24" INTERVALS. INSTALL HOG RINGS ON TENSION WIRE AT 24" INTERVALS.
7. TENSION WIRE: 7 GA. GALVANIZED STEEL.
8. GATE LATCH: 1-3/8" O.D. PLUNGER ROD W/ MUSHROOM TYPE CATCH AND LOCK (KEYED ALIKE FOR ALL SITES OR COMBINATION AS SPECIFIED BY AT&T).
9. HEIGHT = 6' VERTICAL.
10. ALL WORK SHALL CONFORM WITH THE PROJECT SPECIFICATIONS.

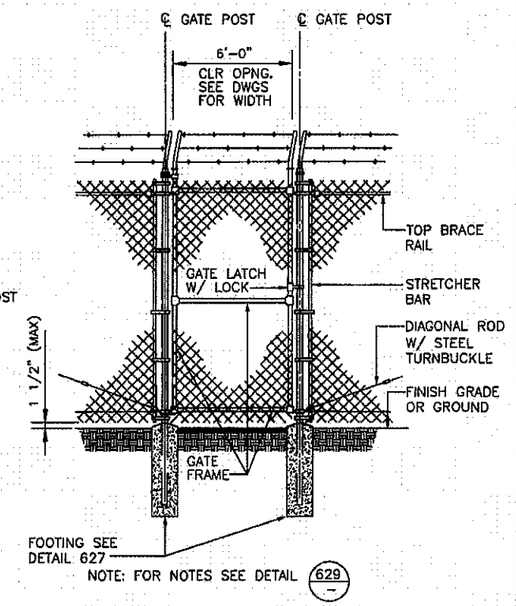
WOVEN WIRE FENCING NOTES

DETAIL 629 NTS



SPLIT RAIL FENCE

DETAIL 3 NTS



WOVEN WIRE SWING GATE, SINGLE

DETAIL 628

BECHTEL CORPORATION
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SUITE 160
KING OF PRUSSIA, PA 19406
PHONE: (610) 350-7704

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FAX: 856.802.0646

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD
KING OF PRUSSIA, PA 19406
AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
5175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

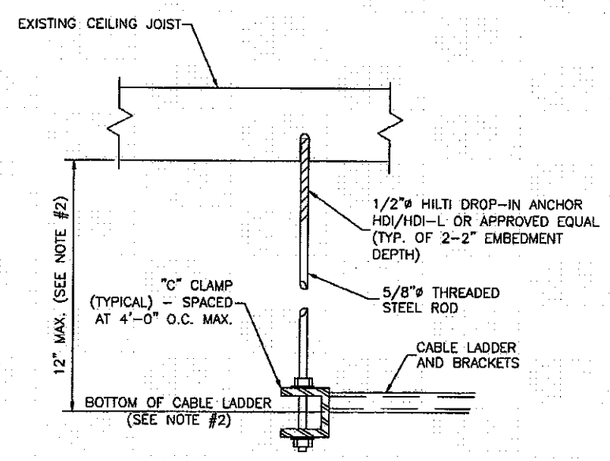
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — ALEC SCOTT NORRIS — PA LICENSE NO. PE075551

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS - 4

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-4	4



CABLE LADDER

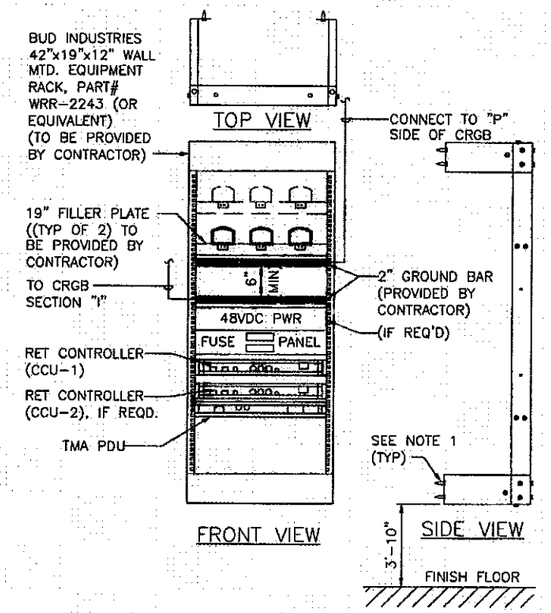
DETAIL 1 / NTS

CABLE LADDER NOTES:

1. ALL CUT ENDS OF CABLE LADDER TO BE FIELD SMOOTH AND PAINTED WITH MATCHING COLOR.
2. SEE DETAIL 1 ON THIS SHEET FOR CABLE LADDER. CONTRACTOR SHALL DETERMINE APPROPRIATE CLEARANCE IN THE FIELD AND SET ELEVATION OF CABLE LADDER BASED ON REQUIRED CLEARANCE ABOVE CABINETS.
3. CORNER BRACKETS TO BE ON THE INSIDE, UNLESS LADDER RUNGS INTERFERE, THEN CORNER BRACKETS MAY BE ON THE OUTSIDE.
4. CABLE LADDER RUNGS TO BE ON TOP OF HORIZONTAL RUNS AND AWAY FROM WALL ON VERTICAL RUNS.
5. NUTS TO BE ON BOTTOM OF ASSEMBLY OR TOWARDS WALL.
6. 5/8" THREADED RODS, SUPPORTING CABLE LADDER, SPACED 4'-0" APART MAX. EACH SECTION SHALL BE SUPPORTED BY A MIN. OF 4 RODS.
7. AFTER FINAL LEVELING OF CABLE LADDER, CUT ROD SO THAT 1/2" OF THE THREADS ARE EXPOSED BELOW THE NUT.
8. PROVIDE END CAPS ON THE ENDS OF ALL LADDERS.
9. CABLE LADDERS SHALL BE SAUNDERS MODEL #SB-17-24-GR OR APPROVED EQUAL.

NOTES:

1. PLATES ARE TO BE INSTALLED WITH NON-CONDUCTIVE ISOLATING FASTENERS. USE INFORMATION SUPPORT PRODUCTS: SHOULDER WASHERS (PN# SW) 12-24 MACHINE SCREWS (PN# HP-24) & EQUIVALENT
2. COMPONENTS NOT SHOWN FOR CLARITY.
3. 6.6' MINIMUM RET CABLE REQUIRED BETWEEN CCU AND RET CABLE LIGHTNING PROTECTION DEVICE (PER KATHREIN).

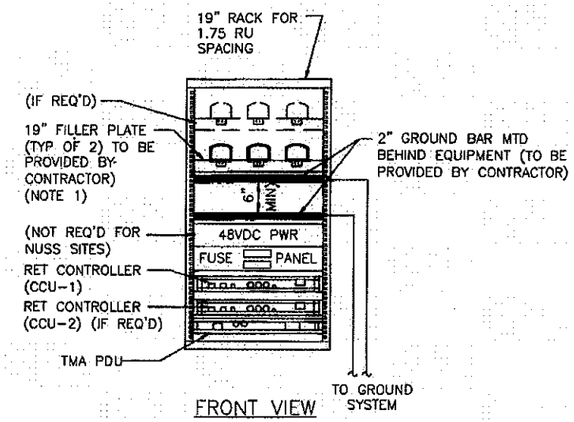


RET EQUIPMENT AND MOUNTING RACK SHELTER/TI DETAIL

DETAIL 668 / NTS

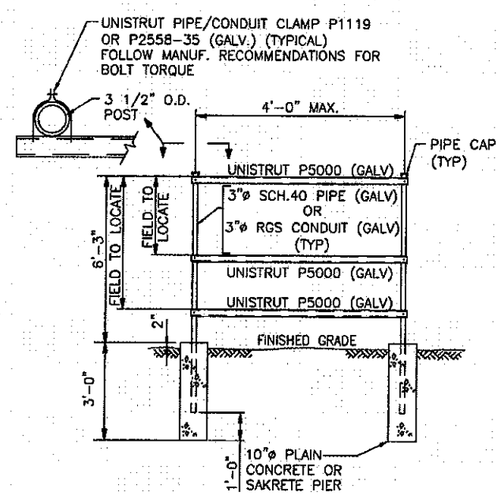
NOTES:

1. PLATES ARE TO BE INSTALLED WITH NON-CONDUCTIVE ISOLATING FASTENERS. USE INFORMATION SUPPORT PRODUCTS: SHOULDER WASHERS (PN# SW) 12-24 MACHINE SCREWS (PN# HP-24) & EQUIVALENT
2. COMPONENTS NOT SHOWN FOR CLARITY.
3. 6.6' MINIMUM RET CABLE REQUIRED BETWEEN CCU AND RET CABLE LIGHTNING PROTECTION DEVICE (PER KATHREIN).



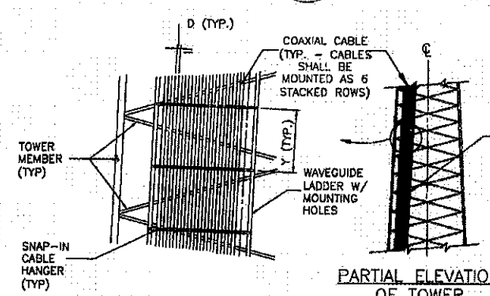
RET EQUIPMENT AND MOUNTING RACK - RET ENCLOSURE

DETAIL 668A / NTS



METER AND DISCONNECT SWITCH MOUNTING RACK

DETAIL 136 / NTS



CABLE MOUNTING DETAIL

PARTIAL ELEVATION OF TOWER (TYPICAL FOR OPPOSITE SIDE)

SNAP-IN HANGER (VALMONT PART# OR APPROVED EQUAL)	COAX CABLE SIZE (IN.)	CABLE TO CABLE SPACING (D)	MAXIMUM HANGER SPACING (Y)
B1559	1/2	3"	3'-4"
B1560	7/8	3"	3'-4"
B1561	1 1/4	3"	3'-4"
B1562	1 5/8	3"	3'-4"
B1914	2 1/4	3"	3'-4"

CABLE SUPPORT ON TOWER

DETAIL 2 / NTS

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FAX: 856.802.0849
JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

AT&T MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless
6175 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

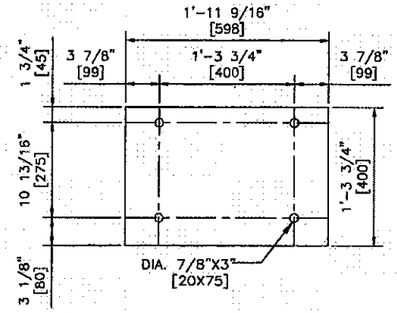
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS - 5

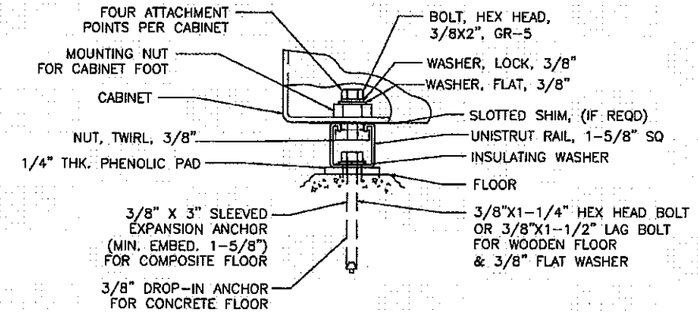
JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-5	4



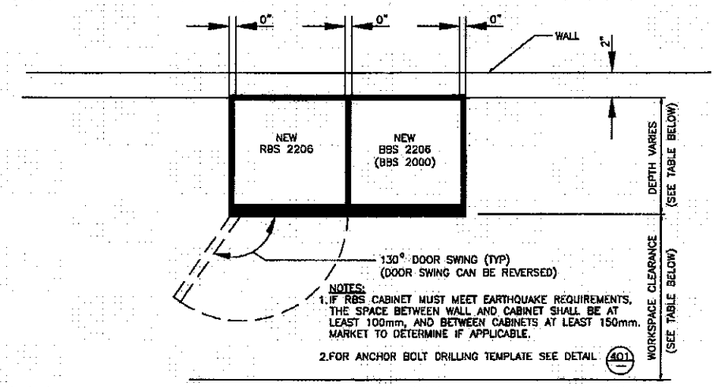
NOTE:
RECOMMENDED CABINET MOUNTING ANCHORS ARE HILTI KWIK BOLT II ⅝" DIA W/MIN EMBEDMENT OF 2 ¾" PROVIDED & INSTALLED BY ERICSSON.

2206 DRILLING TEMPLATE DETAIL
NTS

DETAIL 401 –



TYPICAL CABINET AND UNISTRUT ATTACHMENT DETAIL (ULTRASITE)
SCALE: NONE

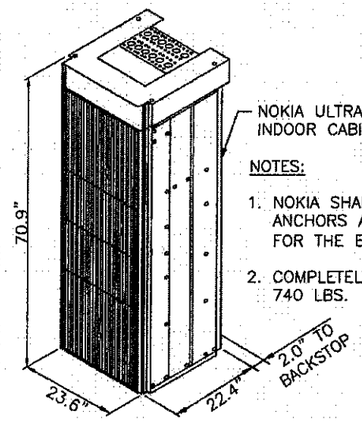


TYPICAL GROWTH CONFIGURATION FOR ERICSSON INDOOR RBS 2206 BTS

PLAN VIEW

ERICSSON INDOOR DIMENSIONS	
CABINET	DEPTH x WIDTH x HEIGHT
INDOOR RBS 2206	17.72"x23.62"x72.83" (450mm x 600mm x 1850mm)
INDOOR BASE	15.75"x23.62"x2.0" (400mm x 600mm x 50mm)
BBS 2206 BATTERY BACK-UP	15.75"x23.62x72.87" (400mm x 600mm x 1850mm)

NOTE-SEISMIC ZONE 3 & 4 ANCHORING SPECIFICATIONS SHALL BE PROVIDED BY ERICSSON.

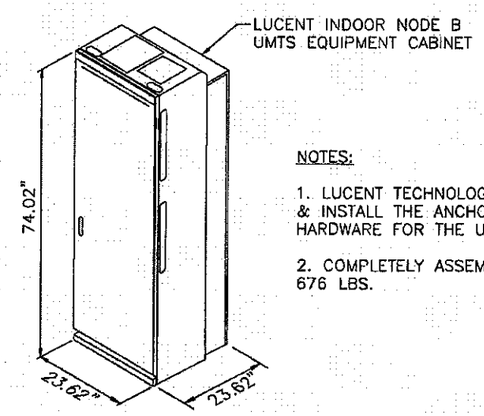


NOTES:

1. NOKIA SHALL SUPPLY & INSTALL THE ANCHORS AND RELATED HARDWARE FOR THE BTS (ULTRASITE) CABINET.
2. COMPLETELY ASSEMBLED UNIT WEIGHS 740 LBS.

NOKIA INDOOR ULTRASITE BTS EQUIPMENT CABINET

DETAIL 725 –
NTS



NOTES:

1. LUCENT TECHNOLOGIES SHALL SUPPLY & INSTALL THE ANCHORS AND RELATED HARDWARE FOR THE UMTS CABINET.
2. COMPLETELY ASSEMBLED UNIT WEIGHS 676 LBS.

LUCENT INDOOR NODE B UMTS EQUIPMENT CABINET

DETAIL 715 –
NTS

ERICSSON INDOOR WEIGHT & FLOOR LOADING		
CABINET	APPROX. MAX. WEIGHT	MAX. FLOOR LOADING
INDOOR RBS 2206	507 LBS (230 KG)	196 LBS/FT² (958 KG/M²)
BBS 2206 BATTERY BACK-UP	1433 LBS (650 KG)	555 LBS/FT² (2709 KG/M²)

ERICSSON INDOOR MINIMUM CLEARANCES	
DIRECTION	MINIMUM CLEARANCE
CABINET REAR AND WALL	2" (50.4mm)
CABINET RIGHT/LEFT SIDE AND WALL	0" (0mm)
ABOVE THE RBS CABINET	18" (457mm) 9.84" (250mm) B/T TOP OF RBS CABINET AND CABLE TRAY
IN FRONT OF THE CABINET	40" (1016mm)
B/T RBS AND BBS	MAXIMUM SPACING 49.2' (15M)

DETAIL 402 –
NTS

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER

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JOB # 50020836

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PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

AT&T MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless
5175 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION DETAILS – 6

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-6	4

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – BECHTEL
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURE

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

   ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. DELETED.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED.
    ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 24782-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES.

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

DETAIL 100 / –
NTS

CONSTRUCTION NOTES

1. FIELD VERIFICATION:
   SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, CINGULAR ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.

2. COORDINATION OF WORK:
   SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
   SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

DETAIL 101 / –
NTS

ELECTRICAL INSTALLATION NOTES

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS WHERE PERMITTED SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. USE LOW PROFILES TIE WRAPS.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (12 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR 2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (12 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS ZE OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

24. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON- CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

DETAIL 115 / –
NTS

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AT&T SITE NAME: DOE RUN RELO
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775 FAIRVIEW ROAD
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CELLCO PARTNERSHIP d/b/a
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NO.	DATE	REVISIONS	BY	CHK	APP'D
4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
3	05/04/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER No. PE075550 ALEC S. NORRIS PROFESSIONAL ENGINEER PA LICENSE NO. PE075550

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION NOTES – 1

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-7	4

NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.

6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.

7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T MOBILITY SPECIFICATION FOR SITE SIGNAGE.

8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.

12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

SITE WORK GENERAL NOTES:

DETAIL 619 / –

NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

6. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. THE ANCHOR BOLT DOWEL AND ROD SHALL BE STAINLESS STEEL WITH STAINLESS STEEL WASHERS.

STRUCTURAL STEEL NOTES:

DETAILS 620 / –

CONCRETE AND REINFORCING STEEL 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.
   BEAMS AND COLUMNS.....1 1/2 IN.

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. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (UBC 1905.6.1.3) 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.

CONCRETE AND REINFORCING STEEL NOTES 102 / –

NOTES:

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

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

3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, 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.

4. 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" SLEEVE.

COMPACTION EQUIPMENT:

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE

DETAIL 102A / –

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL
BTS	BASE TRANSCEIVER STATION
(E)	EXISTING
MIN	MINIMUM
N.T.S.	NOT TO SCALE
REF	REFERENCE
RF	RADIO FREQUENCY
T.B.D.	TO BE DETERMINED
T.B.R.	TO BE RESOLVED
TYP	TYPICAL
REQ	REQUIRED
EGR	EQUIPMENT GROUND RING
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BUS
EG	EQUIPMENT GROUND
BCW	BARE COPPER WIRE
SIAD	SMART INTEGRATED ACCESS DEVICE
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
RBS	RADIO BASE STATION

SYMBOLS

- S/G — SOLID GROUND BUS BAR
- S/N — SOLID NEUTRAL BUS BAR
- SUPPLEMENTAL GROUND CONDUCTOR
- 2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- CHEMICAL GROUND ROD
- GROUND ROD
- DISCONNECT SWITCH
- M — METER
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE

ABBREVIATIONS & SYMBOLS 112 / –

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
No. PE075668
REG. NUMBER
PROFESSIONAL ENGINEER
LICENSE NO. PE075668

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AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
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PLYMOUTH MEETING, PA 19462

NO.	DATE	REVISIONS	BY	CHK	APP'D
4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T CONSTRUCTION NOTES – 2

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-8	4

ANTENNA AND COAX CABLE SCHEDULE

TAGS	ANTENNA MARK	SECTOR	ANTENNA TYPE	COAXIAL C. FEED LOCATION	MECH. DOWN-TILT	ELEC DOWN-TILT	AZIMUTH	ANTENNA RAD CTR	ANTENNA TIP HEIGHT	CABLE LENGTH (*)	COAXIAL CABLE	TRX ANTENNA CONFIGURATION	TRXs	ERP(W)	COLOR CODE	TMA TYPE	BIAS-T KIT TYPE	DC BLOCK Y/N
A3	RX1	1	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	4°/0°	30°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		100	3 GREEN STRIPE + 1 YELLOW STRIPE 3 GREEN STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	N
A1	TX10	1	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	4°/0°	30°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		–	1 GREEN STRIPE + 1 YELLOW STRIPE 1 GREEN STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	–
A2	TX7	1	FUTURE ANTENNA	–	–	–	–	–	–	–	–	–		–	–	–	–	–
A4	RX2	1	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	0°/0°	30°	138.0'	141.0'	±175'	FIBER OPTIC	TX/RX		100	4 GREEN STRIPES	700 LTE RRH	–	N
B3	RX3	2	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	0°/0°	150°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		100	3 BLUE STRIPE + 1 YELLOW STRIPE 3 BLUE STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	N
B1	TX11	2	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	0°/0°	150°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		–	1 BLUE STRIPE + 1 YELLOW STRIPE 1 BLUE STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	–
B2	TX8	2	FUTURE ANTENNA	–	–	–	–	–	–	–	–	–		–	–	–	–	–
B4	RX4	2	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	0°/0°	150°	138.0'	141.0'	±175'	FIBER OPTIC	TX/RX		100	4 BLUE STRIPES	700 LTE RRH	–	N
C3	RX5	3	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	2°/0°	270°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		100	3 WHITE STRIPE + 1 YELLOW STRIPE 3 WHITE STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	N
C1	TX12	3	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	2°/0°	270°	138.0'	141.0'	±175'	(2) COMMSCOPE 1-5/8"	TX/RX		–	1 WHITE STRIPE + 1 YELLOW STRIPE 1 WHITE STRIPE	ANDREW E15Z01P13	(2)APTDC-BDFDM-DB	–
C2	TX9	3	FUTURE ANTENNA	–	–	–	–	–	–	–	–	–		–	–	–	–	–
C4	RX6	3	DBXNH-8585B-R2M (72"X12"X7")	BACK/CENTER	2°	0°/0°	270°	138.0'	141.0'	±175'	FIBER OPTIC	TX/RX		100	4 WHITE STRIPES	700 LTE RRH	–	N
GPS	–	–	–	–	–	–	–	–	–	–	COMMSCOPE 1/2"	–	–	–	–	–	–	

(*) COAX LENGTH INCREASED BY 10%
BASED ON RF ENGINEERING DESIGN DATED 10/14/10.

PDU TYPE & MODEL #: DUAL BAND

RF NOTES:

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR.

2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.

3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.

4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G., OUTDOORS, INDOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.

5. FOLLOW THE TECHNICAL GUIDELINE FOR OUTSIDE ANTENNA JUMPER SUPPORT (24782-3DJ-GEX-00001). HARDLINE CABLE SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER BUT AT A MINIMUM OF EVERY THREE (3) FEET, EXCEPT INSIDE MONOPOLES OR LATTICE TOWERS WHERE CABLE AND CONNECTOR MANUFACTURERS' SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDED CABLE SUPPORT ACCESSORIES SHALL BE USED. PLASTIC CABLE TIES ARE NOT ACCEPTABLE

6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.

7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.

8. ALL FEEDER LINE AND JUMPER CONNECTORS FOR CINGULAR GSM SHALL BE CINGULAR APPROVED 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.

9. 7/16 DIN CONNECTORS REQUIRE NO WEATHER PROOFING IN INDOOR APPLICATIONS. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED:
APPLY A "COURTESY" WRAP OF ONE LAYER OF 7MIL THICK VINYL ELECTRICAL TAPE EXTENDING APPROXIMATELY ONE (1) INCH ON EACH SIDE OF THE COAX CABLE/ CONNECTOR JUNCTURE.

USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURE AND CONTRACTOR. START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. ADD THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE. COLD SHRINK IS STRICTLY PROHIBITED.

10. ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACE PREPARATION AND PAINTING REQUIREMENTS.

11. CABLE SHIELDS, AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER, WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF TOWERS THAT ARE BETWEEN 100 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 100 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

12. APPROVED GROUNDING KITS, WHICH INCLUDE GROUNDING STRAPS, SHALL BE USED TO GROUND THE COAXIAL CABLE SHIELDS, AND CONDUITS. THE GROUND CONDUCTORS FOR THE KITS AT THE TOP OF THE TOWER, AND IN THE MIDDLE SECTION OF THE TOWER, ARE BONDED DIRECTLY TO TOWER STEEL USING BOLTED, OR APPROVED CLAMP CONNECTIONS. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.

13. ALL RADIO SIGNAL CABLE SHALL BE LABELED PER MARKET REQUIREMENTS

14. MHA/TMA'S TO BE INSTALLED AT TOWER TOP, SHALL BE SUPPLIED TO THE SUBCONTRACTOR (WHERE REQUIRED) AND INSTALLED BY THE SUBCONTRACTOR. THE GROUND CONDUCTORS OF THE TMA MAY BE BONDED DIRECTLY TO THE TOWER STEEL USING BOLTED, OR APPROVED CLAMP CONNECTIONS. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.

15. ANTENNA FEED LINE SYSTEM SWEEP TESTING SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF CINGULAR-GSM SERVICES PROJECT DOCUMENT NO. 24782-000-3PS-EFY0-00001. CONTRACTOR WILL NOT ACCEPT A RADIO SIGNAL CABLE INSTALLATION WITH UNSATISFACTORY SWEEP TEST RESULTS.

DETAIL 116 / –

TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS)

1. RF TVSS DEVICES SHALL BE INSTALLED IN ALL NEW ANTENNA & NEW COAXIAL INSTALLATION OR REPLACEMENTS.
2. SEE DETAIL 116 AND 124 FOR ADDITIONAL RF COAXIAL TVSS REQUIREMENTS.
3. AC TVSS DEVICES FOR AC POWER SHALL BE INSTALLED FOR ALL NEW AC PANEL INSTALLATION OR REPLACEMENTS
4. THE AC TVSS SHALL BE COMMON MODE TYPE, MINIMUM RATED 120kA SURGE CURRENT, AND HAVE MONITORING LIGHTS WITH FORM C ALARM CONTACTS. THE AC TVSS SHALL BE INNOVATIVE TECHNOLOGIES PTX120 OR OWNER APPROVED EQUAL. THE TVSS SHALL BE CONNECTED TO THE AC SYSTEM THROUGH A CIRCUIT BREAKER IN THE AC PANELBOARD AND SHALL BE MOUNTED INTEGRAL WITH THE PANELBOARD OR DIRECTLY ADJACENT.
5. T1 TVSS DEVICES SHALL BE INSTALLED IN ALL NEW T1 INSTALLATIONS (TYPE AS APPROVED BY AT&T M)
6. THE SUBCONTRACTOR SHALL INSPECT THE EXISTING TELCO SYSTEM FOR TVSS PRESENCE AND REPORT FINDINGS TO CONTRACTOR.
7. SURGE SUPPRESSION AND PROTECTION DEVICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) ARTICLE 250, 280, 285, AND CHAPTER 8, AS APPLICABLE.

DETAIL 117 / –

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
PROFESSIONAL ENGINEER
LICENSE NO. PE045554

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD
KING OF PRUSSIA, PA 19406
AT&T MOBILITY

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2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

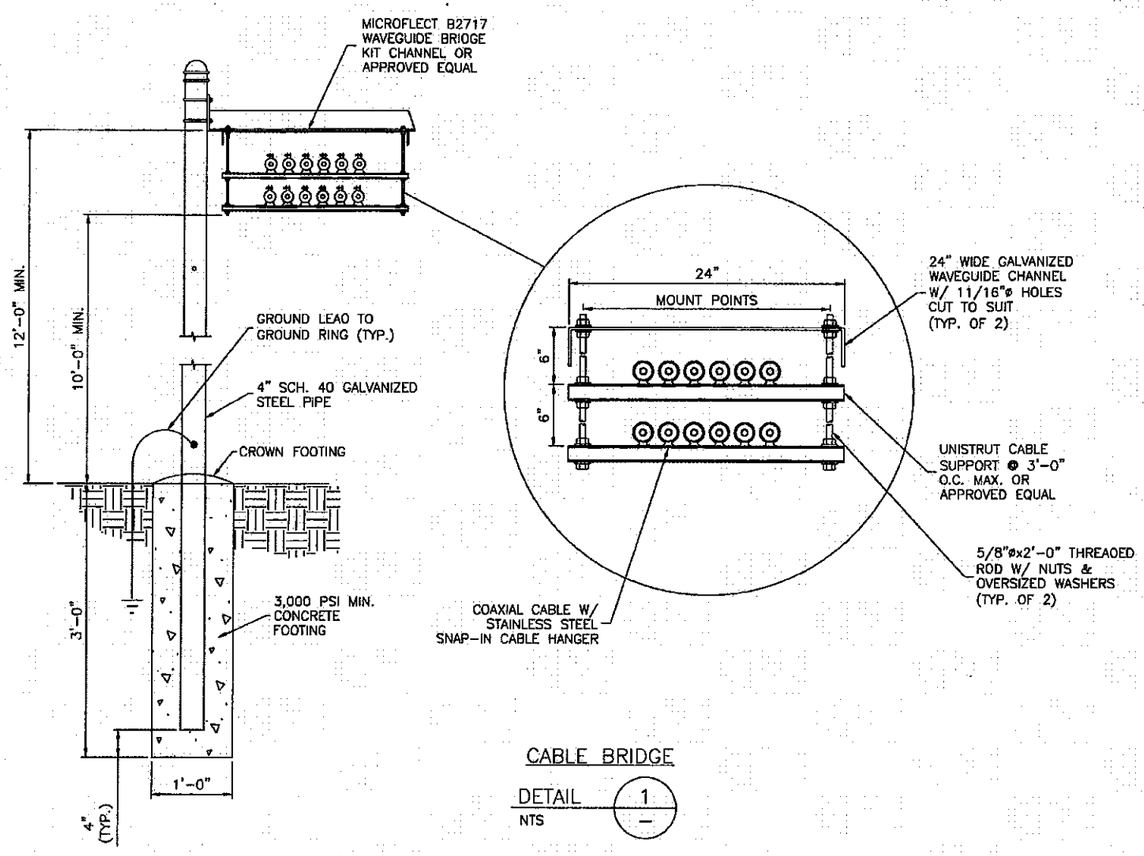
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

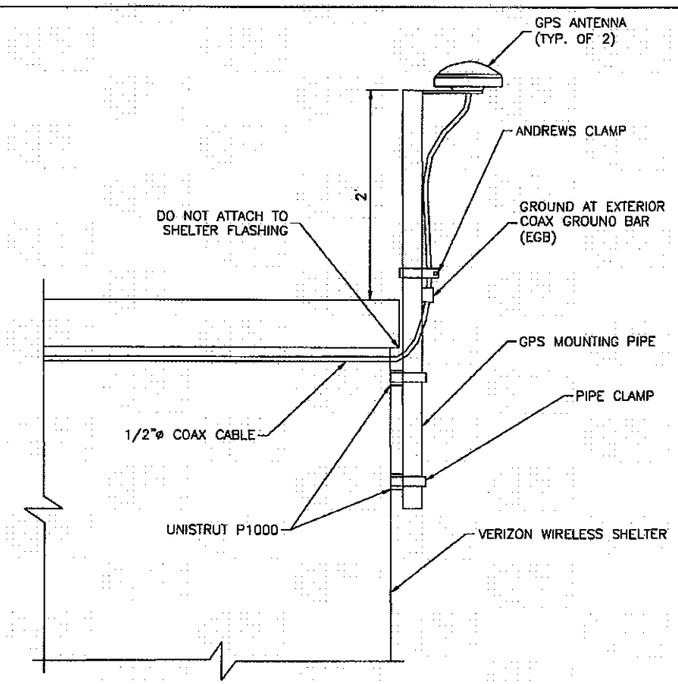
AT&T ANTENNA AND COAX CABLE SCHEDULE & NOTES

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-9	4



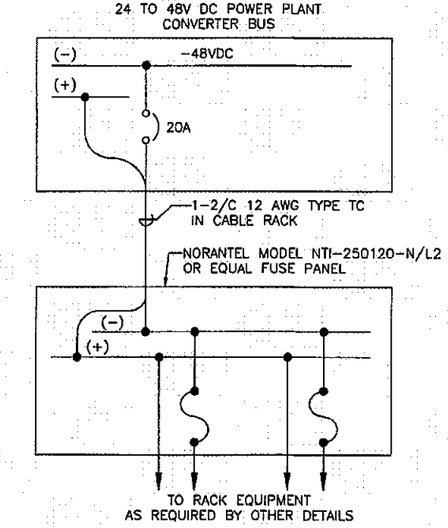
CABLE BRIDGE

DETAIL 1 / NTS –



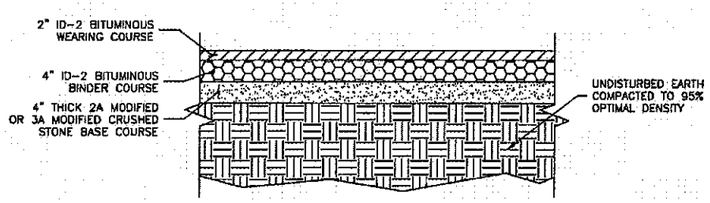
GPS ANTENNA MOUNTING DETAIL

DETAIL 2 / NTS –



48V DC PDU ON RET RACK

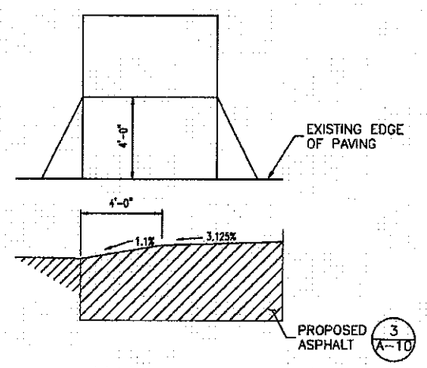
DETAIL 669 / –



NOTE:
HOT MIX ASPHALT SHALL BE PLACED IN LIFTS NOT TO EXCEED 3" IN DEPTH OF COMPACTED MATERIAL.

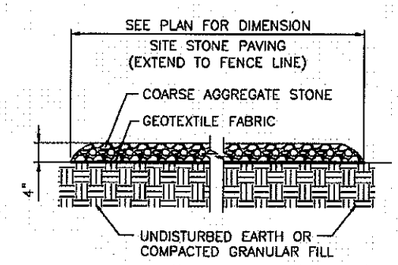
ASPHALT DRIVE

DETAIL 3 / NTS –



DRIVEWAY ENTRANCE

DETAIL 4 / NTS –



GRAVEL SURFACING

DETAIL 5 / NTS –

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FAX: 856.802.0646

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD
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AT&T MOBILITY

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NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS No. 076255 PROFESSIONAL ENGINEER

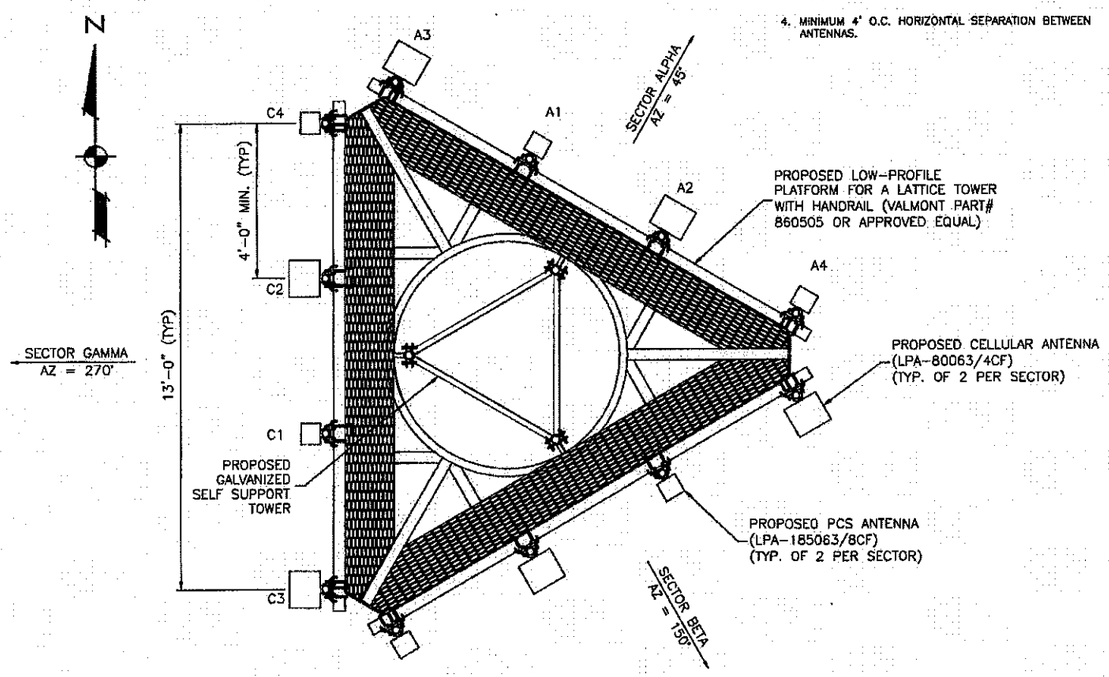
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VERIZON WIRELESS CONSTRUCTION DETAILS – 1

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-10	4

NOTES:

1. ANTENNA ORIENTATION IS BASED ON TRUE NORTH BEARING. CONTRACTOR SHALL VERIFY TRUE NORTH PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO REFER TO FINAL RF CONFIGURATIONS SHEET FOR ANTENNA AZIMUTHS PRIOR TO CONSTRUCTION.
3. FINAL RF CONFIGURATION SHEET TO BE SUPPLIED BY VERIZON WIRELESS.
4. MINIMUM 4' O.C. HORIZONTAL SEPARATION BETWEEN ANTENNAS.



ANTENNA ORIENTATION DETAIL

DETAIL 1
NTS

RF SYSTEM SCHEDULE

ANTENNA SECTOR	ANTENNA AZIMUTH	TYPE OF ANTENNA	CABLE SCHEDULE: COAX SIZE	RAD CENTER	EST. LENGTH (SEE NOTE 3)	TAPE COLOR CODE FOR HARDLINES
ALPHA	30°	LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(1) RED
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(2) RED & (1) WHITE
		LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(3) RED
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(4) RED & (2) WHITE
BETA	150°	LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(1) BLUE
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(2)BLUED & (1) WHITE
		LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(3) BLUE
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(4) BLUE & (2) WHITE
GAMMA	270°	LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(1) YELLOW
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(2) YELLOW & (1) WHITE
		LPA-80063/4CF	(1) 1 5/8"	137' AGL	150'	(3) YELLOW
		LPA-185063/8CF	(1) 1 5/8"	137' AGL	150'	(4) YELLOW & (2) WHITE

NOTES: 1. CONTRACTOR WILL PROVIDE ANTENNA SERIAL NUMBER AFTER INSTALLATION AND FACTORY FIELD SWEEP TEST.
2. ALL CHANGES TO THIS SCHEDULE SHOULD BE APPROVED BY VERIZON RF ENGINEERING.

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FAX: 856.802.0946

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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verizon wireless
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER No. PE075336 ALEC S. NORRIS PROFESSIONAL ENGINEER LICENSE NO. PE075336

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VERIZON WIRELESS CONSTRUCTION DETAILS – 2

JOB NUMBER	DRAWING NUMBER	REV
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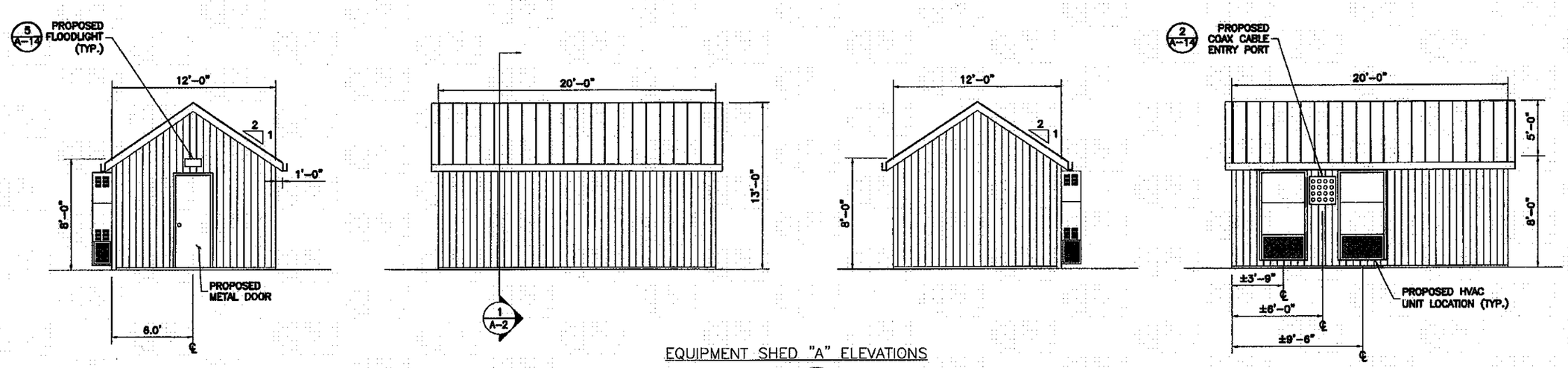
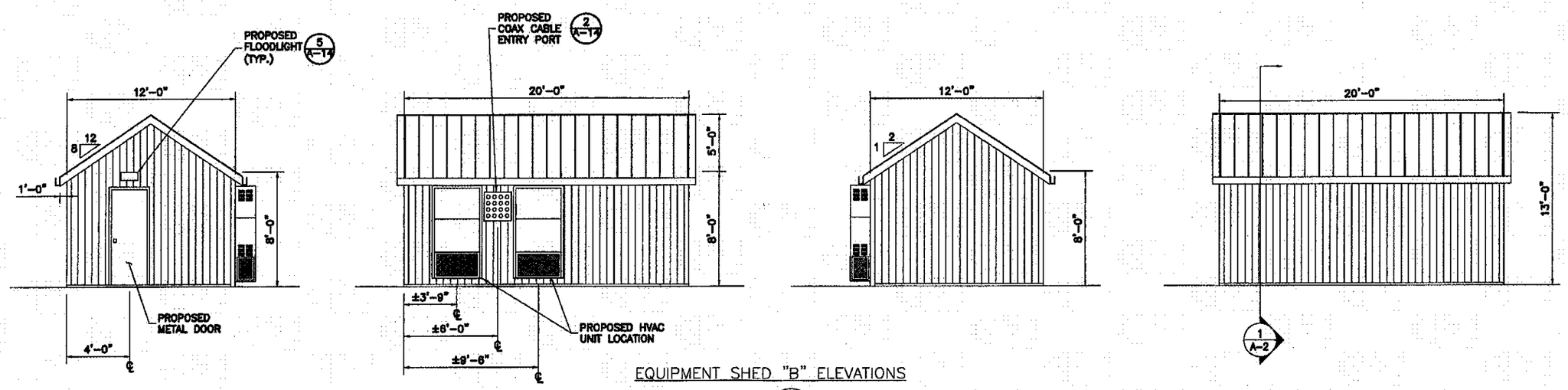


EQUIPMENT SHED "A" ELEVATIONS

DETAIL 1/–



EQUIPMENT SHED "B" ELEVATIONS

DETAIL 2/–

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

TOWER ECONOMICS – 1

JOB NUMBER	DRAWING NUMBER	REV
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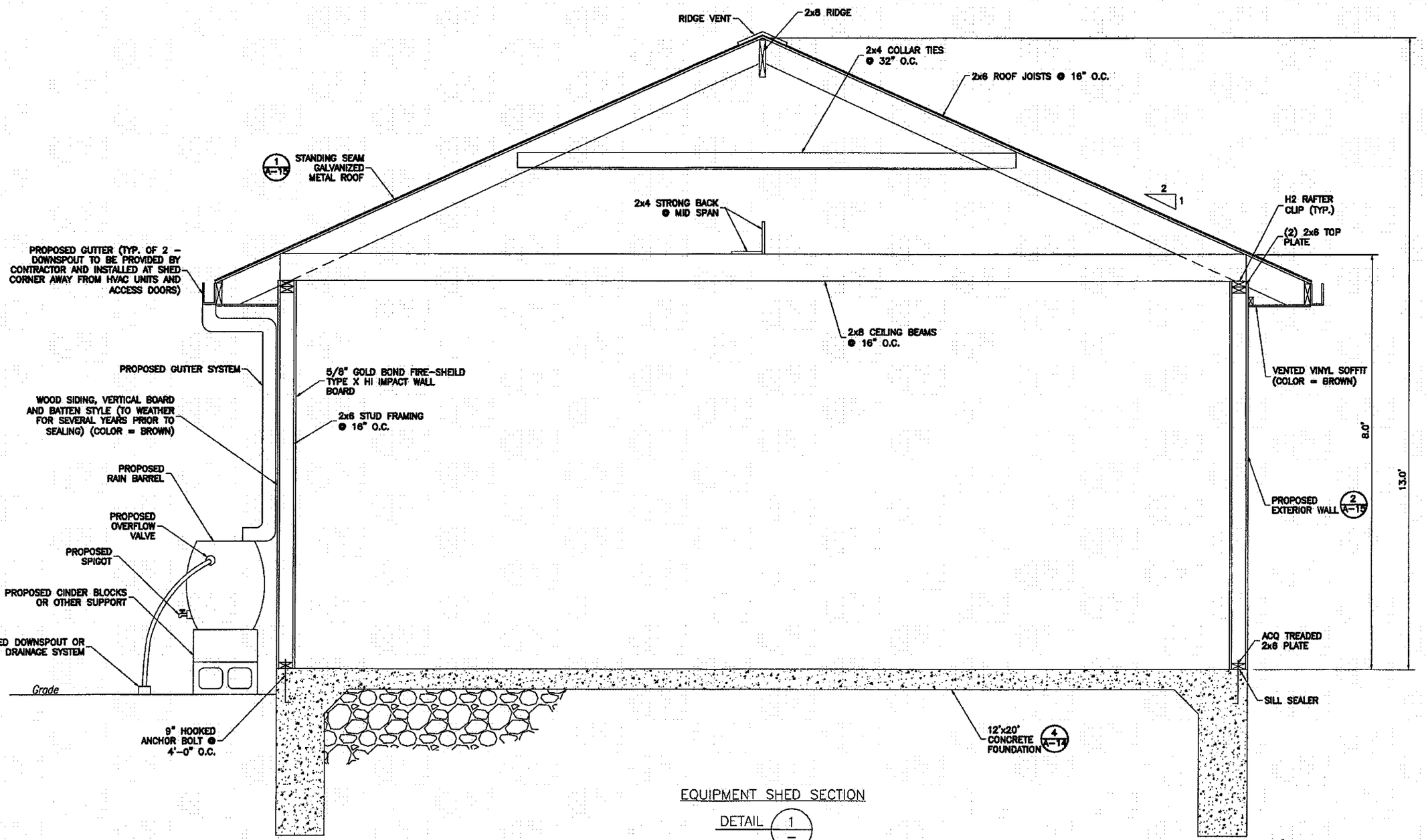

EQUIPMENT SHED SECTION

DETAIL 1 / -

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

TOWER ECONOMICS - 2

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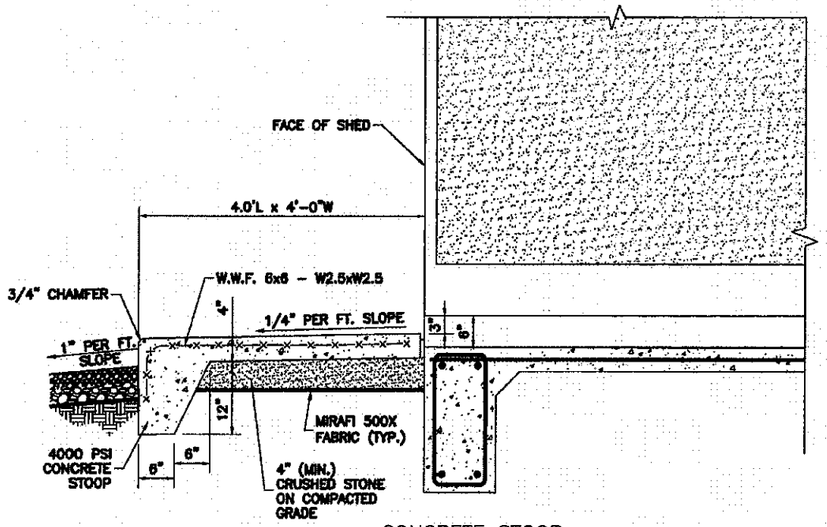
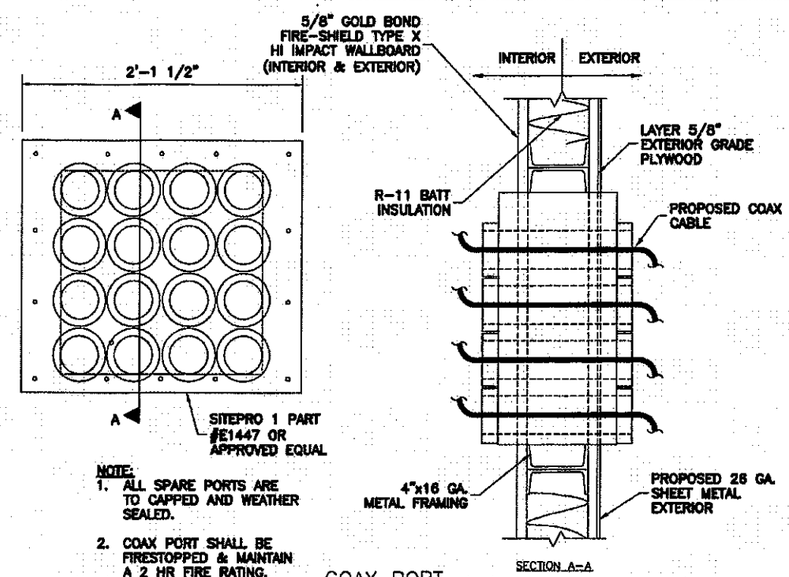


CONCRETE STOOP
NTS

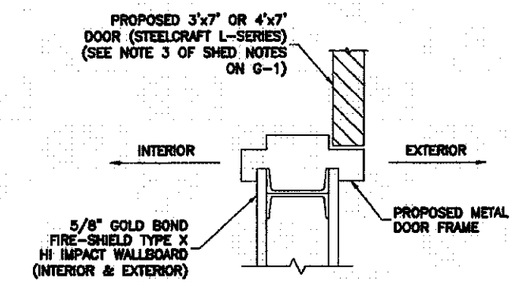
DETAIL 1 / –



NOTE:
1. ALL SPARE PORTS ARE TO CAPPED AND WEATHER SEALED.
2. COAX PORT SHALL BE FIRESTOPPED & MAINTAIN A 2 HR FIRE RATING.

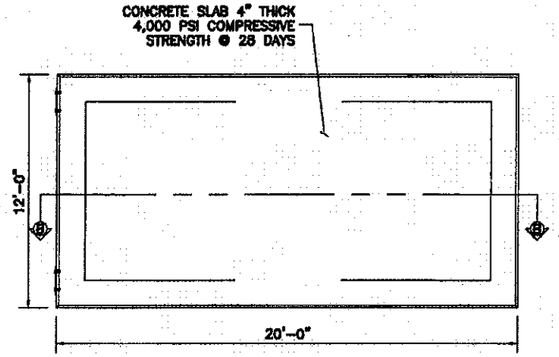
COAX PORT
NTS

DETAIL 2 / –

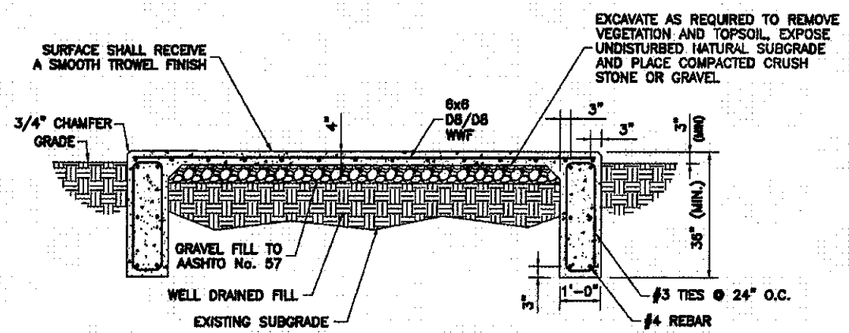


DOOR JAMB PLAN
NTS

DETAIL 3 / –



SLAB FOUNDATION
NTS

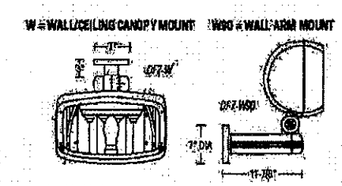


SECTION "B-B"

NOTES:
1. PAD FOUNDATION UNDER SHED.
2. ANCHORS TO BE PLACED IN CONCRETE BY CONCRETE CONTRACTOR PER CODE.
3. SLAB ON GRADE SHALL BE PLACED OVER A MIN. OF 6" GRAVEL. TO BE AASHTO NO. 57 ON UNDISTURBED OR WELL COMPACTED SOIL TO BEARING PRESSURE OF 1,500 PSF MIN.

DETAIL 4 / –

LIGHTING NOTES
1. THE PROPOSED FLOODLIGHT SHALL BE ONE 70W GENLYTE CANOPY MOUNTED W90 FIXTURE MOUNTED AT 8' AGL.
2. THE LIGHT SHALL BE MANUALLY OPERATED ONLY WHEN A TECHNICIAN IS PRESENT AT THE SITE AND SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT OFF TIMER.



LIGHT FIXTURE SPECIFICATIONS
NTS

DETAIL 5 / –

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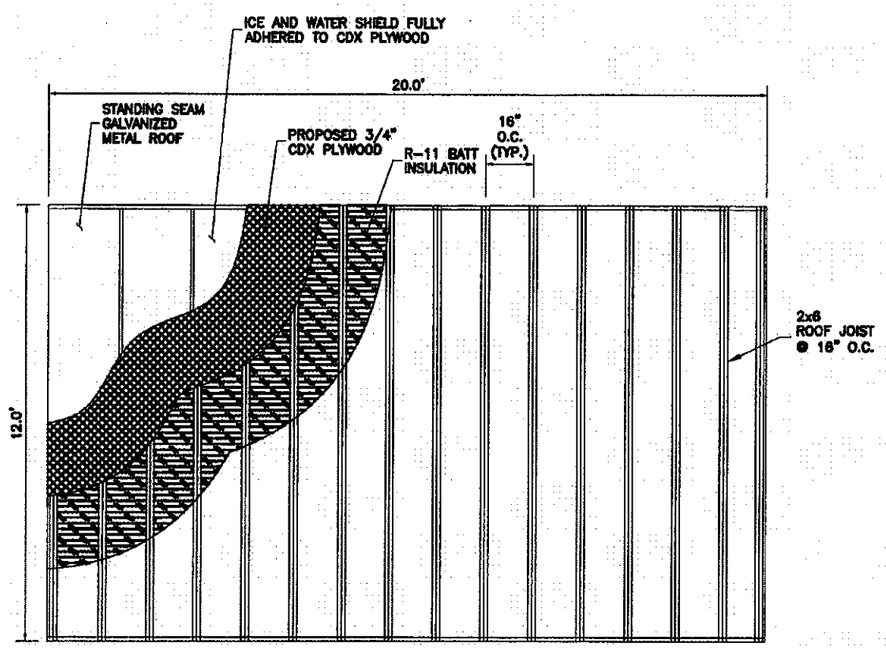
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

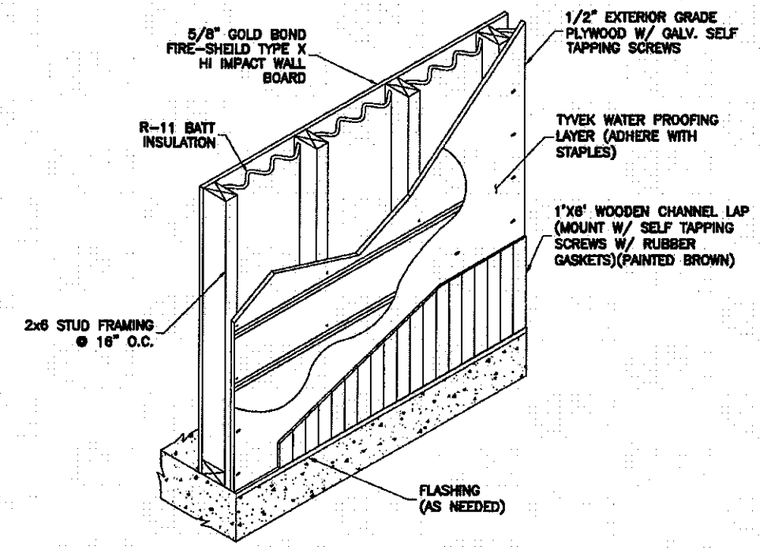
TOWER ECONOMICS – 3

JOB NUMBER	DRAWING NUMBER	REV
24782-419	A-14	4



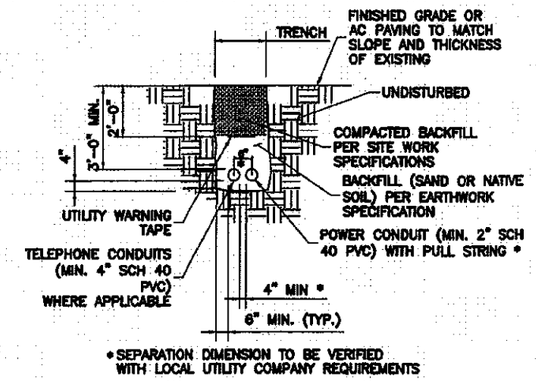
ROOF FRAMING PLAN
NTS

DETAIL 1 / –



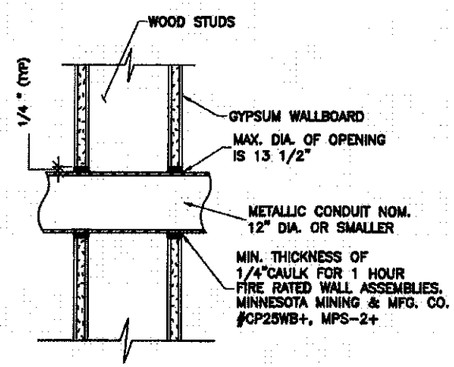
EXTERIOR WALL SECTION
NTS

DETAIL 2 / –



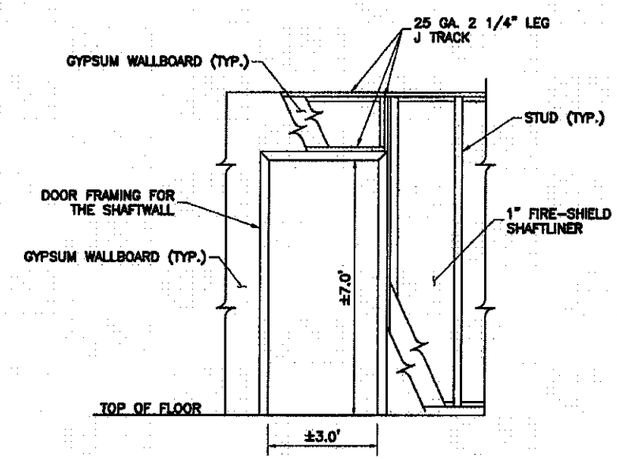
JOINT SERVICE TRENCH BURIED CONDUIT (ELECT/TELEPHONE)
NTS

DETAIL 3 / –



SECTION – PIPE PENETRATION
NTS

DETAIL 4 / –



SHAFTWALL DOOR FRAMING
NTS

DETAIL 5 / –

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
5175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

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1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER No. PE076556 PROFESSIONAL ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

TOWER ECONOMICS – 4

JOB NUMBER	DRAWING NUMBER	REV
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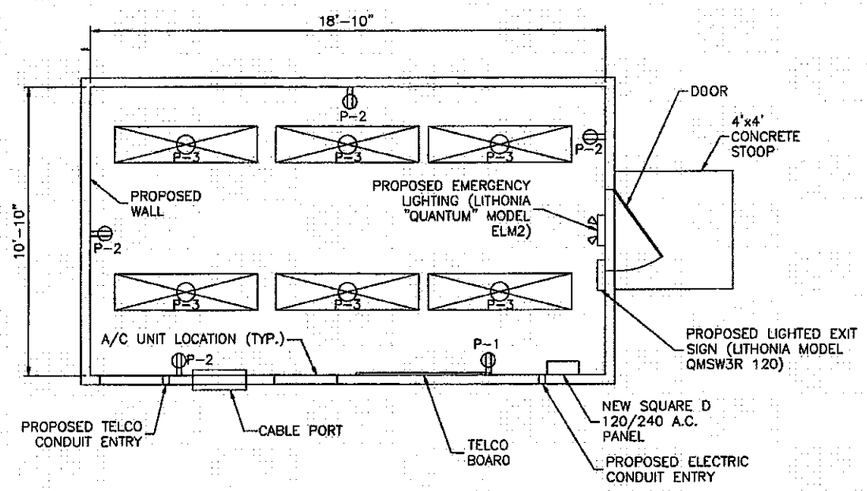
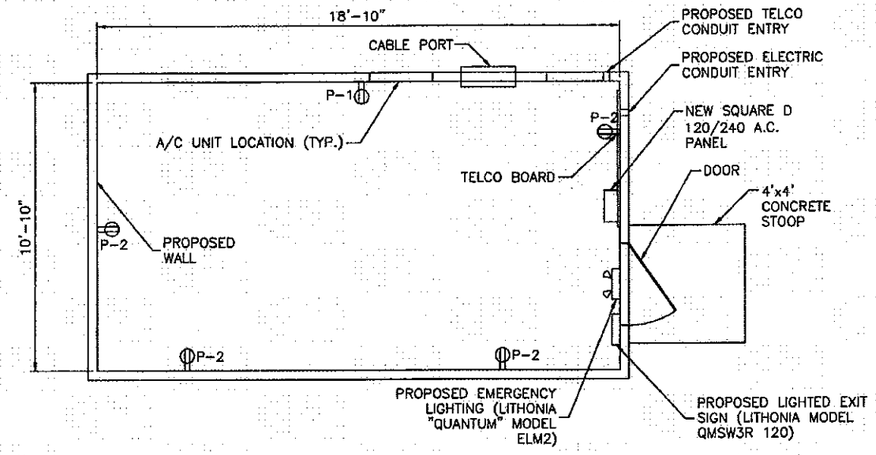


SHED "A" LAYOUT

DETAIL 1 / –



SHED "B" LAYOUT

DETAIL 2 / –

DRAWING NOTES

1. INDOOR CONDUCTORS SHALL BE INSTALLED IN RGS UNLESS NOTED OTHERWISE. OUTDOOR CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL CONDUIT UNLESS NOTED OTHERWISE.
2. CELLULAR PROVIDER TO PROVIDE SURGE SUPPRESSOR FOR TELCO BOARD SERVING NEW EQUIPMENT THE SURGE SUPPRESSOR TO BE INSTALLED BY CONTRACTOR AND GROUNDED TO MGB.
3. SEAL AROUND PENETRATIONS RESULTING FROM CONDUIT ROUTING WITH FIRE– STOPPING FOAM SEALANT HAVING A UL–LISTED RATING OF 1 HOURS. HAMMER– DRILLING IS NOT PERMITTED. CORE–DRILLING TO BE COORDINATED WITH BUILDING OWNER'S REPRESENTATIVE.
4. PROVIDE 20 #10+10#10G IN 2" CONDUIT FROM PANEL TO PULL BOX ABOVE BATTERY/RECTIFIER STACK. PROVIDE (3) 1" FLEXIBLE LIQUIDTIGHT METAL CONDUIT "DROPS" 8' IN LENGTH, FROM PULL BOX AS FOLLOWS:
   1) 8#10+4#10G, CIRCUITS 1, 3, 5
5. PROVIDE SMOKE DETECTOR COMPATIBLE WITH EXISTING BUILDING FIRE ALARM SYSTEM. TIE TO LOCAL ZONE. COORDINATE WITH BUILDING OWNER'S FIRE ALARM SYSTEM CONTRACTOR. PROVIDE SENTROL 449CRT PHOTOELECTRIC SMOKE DETECTOR WITH AUXILIARY RELAY FOE ACU–1 SHUTDOWN.
6. CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED WIRING AND CONDUITS IN AT&T EQUIPMENT ROOM AND RETURN TO BUILDING OWNER. PROVIDE AND INSTALL NEW LIGHTING FIXTURES IN THE ROOM AND CONNECT TO NEW LIGHT SWITCH.
7. PROVIDE ALARM TERMINAL CABINET HIGH/LOW ALARMS MOUNTED ON TELCO BOARD.
8. PROVIDE DOOR ALARM CONTACT.
9. ROUTING OF UTILITY CONDUITS SHOWN IS SCHEMATIC AND IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS TO DETERMINE THE MOST APPROPRIATE ROUTING OF UTILITY CONDUITS.
10. DEWBERRY–GOODKIND, INC. IS NOT RESPONSIBLE FOR COORDINATION OF POWER OR TELCO SERVICE TO SITE. COORDINATION BY OTHERS.

ELECTRICAL COMPONENTS

PROVIDE THE FOLLOWING ITEMS AS SPECIFIED BELOW:

1. SURGE ARRESTOR (PROVIDED BY AT&T) 120/240 VOLT, 3 WIRE, SINGLE PHASE MANUFACTURE BY A.C. DATA.
2. DOUBLE–THROW TRANSFER SWITCH: SQUARE D 200A, CAT. #82254N WITH SOLID GROUND AND SOLID NEUTRAL
3. MAIN DISCONNECT SWITCH: SQUARE D 200A MAIN BREAKER #Q2–2200NS
4. PANELBOARD: SQUARE D Q040M200 WITH EQUIPMENT GROUND BAR
5. CIRCUIT BREAKERS: SQUARE D Q0 PLUG–IN TYPE
6. LIGHT SWITCH: HUBBELL #1201, 15A, 120V SINGLE POLE, WHITE JUNCTION BOX: RACO #192, 4" SQUARE 1–1/2" DEEP; COVER PLATE: RACO #800, 1/2" RAISED WORK COVER.
7. RECEPTACLES: HUBBELL #5362, 20A, 125V, 2P, 3 WIRE GROUNDING, DUPLEX, WHITE. MOUNT BOTTOM OF BOX 16" AFF (EXCEPT RECEPTACLES FOR TELCO AND CONDENSATION PUMP). RECEPTACLE JUNCTION BOXES: RACO #192 – 4" SQUARE 1–1/2" DEEP, SURFACE MOUNTED. RECEPTACLES COVER PLATE #802, 1/2" RAISED RECEPTACLE COVER PLATES: RACO #802 – 1/2" RAISED WORK COVERS, HAVING PHENOLIC LABELS WITH ASSOCIATED BREAKER NUMBERS.
8. MOUNT CABLE TRAY 7'–6" AFF MINIMUM TO THE BOTTOM OF THE CABLE TRAY FOR STANDARD RADIO FRAMES. MOUNT 8'–0" AFF MINIMUM FOR RADIO CABINETS ON CASTERS. VERIFY CABINET TYPE WITH CONSTRUCTION MANAGER. EXPOSED ENDS OF TRAY TO BE CAPPED.
9. GROUND BAR MOUNTING BRACKETS: NEWTON #A–6056
10. GROUND BAR INSULATORS: NEWTON #3061–A
11. (6) SIX LIGHT FIXTURES WITH THE FOLLOWING CHARACTERISTICS: 120 VOLTS; SURFACE MOUNTED; PRISMATIC ACRYLIC WRAP–AROUND LENS; 4'; 2–LAMP; ELECTRONIC (ENERGY–EFFICIENT) BALLAST. PROVIDE (2) F32 48" LAMPS HAVING 4100 KELVIN COLOR RENDITION (COOL WHITE.)
12. COMBINATION BATTERY PACK – EXIT LIGHT: 120/240V, 2 LAMPHEADS, STEEL FACEPLATE, WHITE HOUSING, SINGLE–FACE, MAINTENANCE–FREE NICKEL CADMIUM BATTERY, [illegible] TO LITHONIA QUANTUM #LH2M–S–W–IR–120/277–N–SSB.

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
6175 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS No. PE045555 ALEC S. NORRIS PROFESSIONAL ENGINEER LICENSE NO. PE045555

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

TOWER ECONOMICS – 5

JOB NUMBER	DRAWING NUMBER	REV
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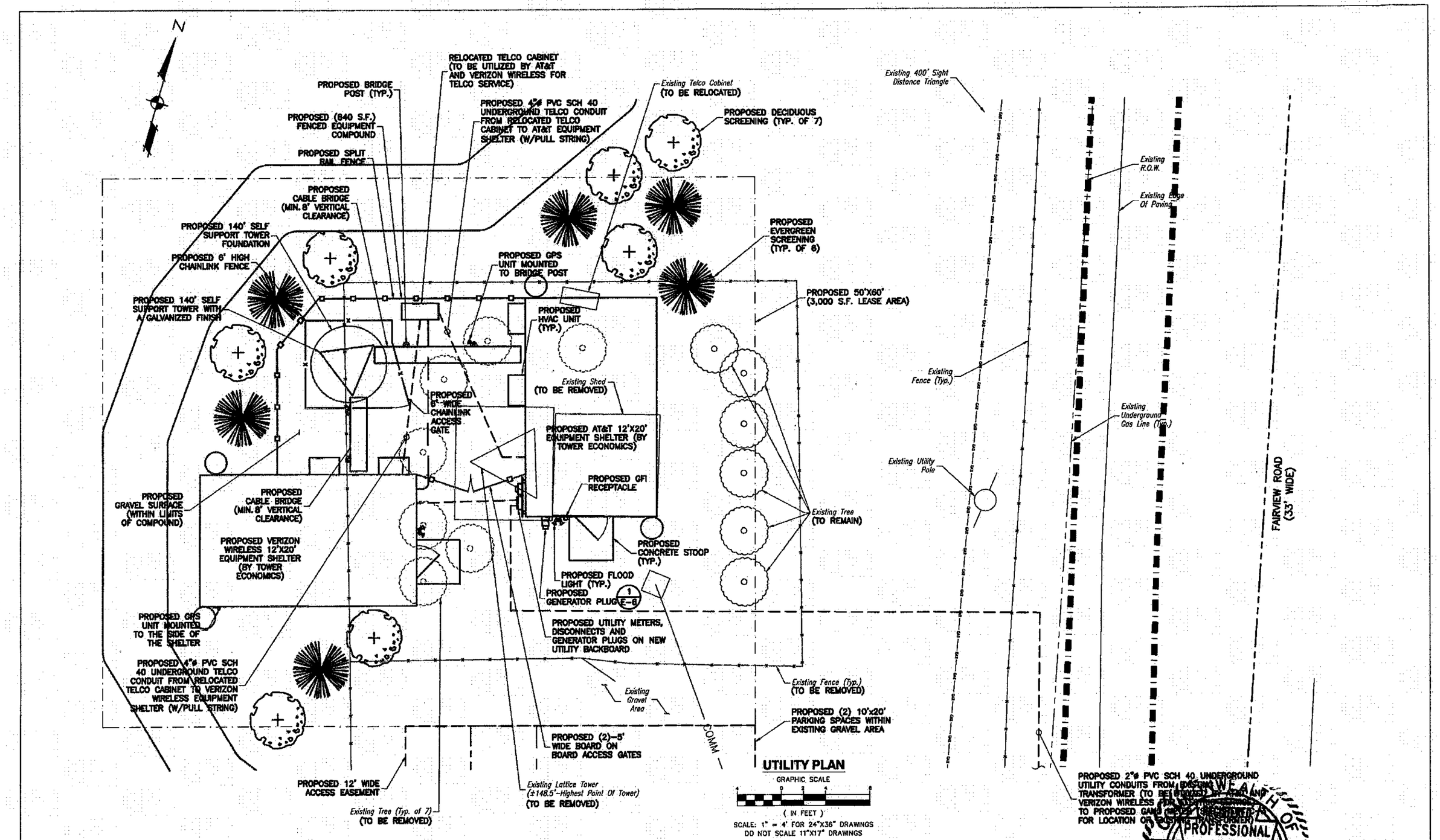

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FAX: 856.852.0948

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME: PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a verizonwireless
5178 CAMPUS DRIVE PLYMOUTH MEETING, PA 19462

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1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS NO. PE075597

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

UTILITY PLAN

JOB NUMBER	DRAWING NUMBER	REV
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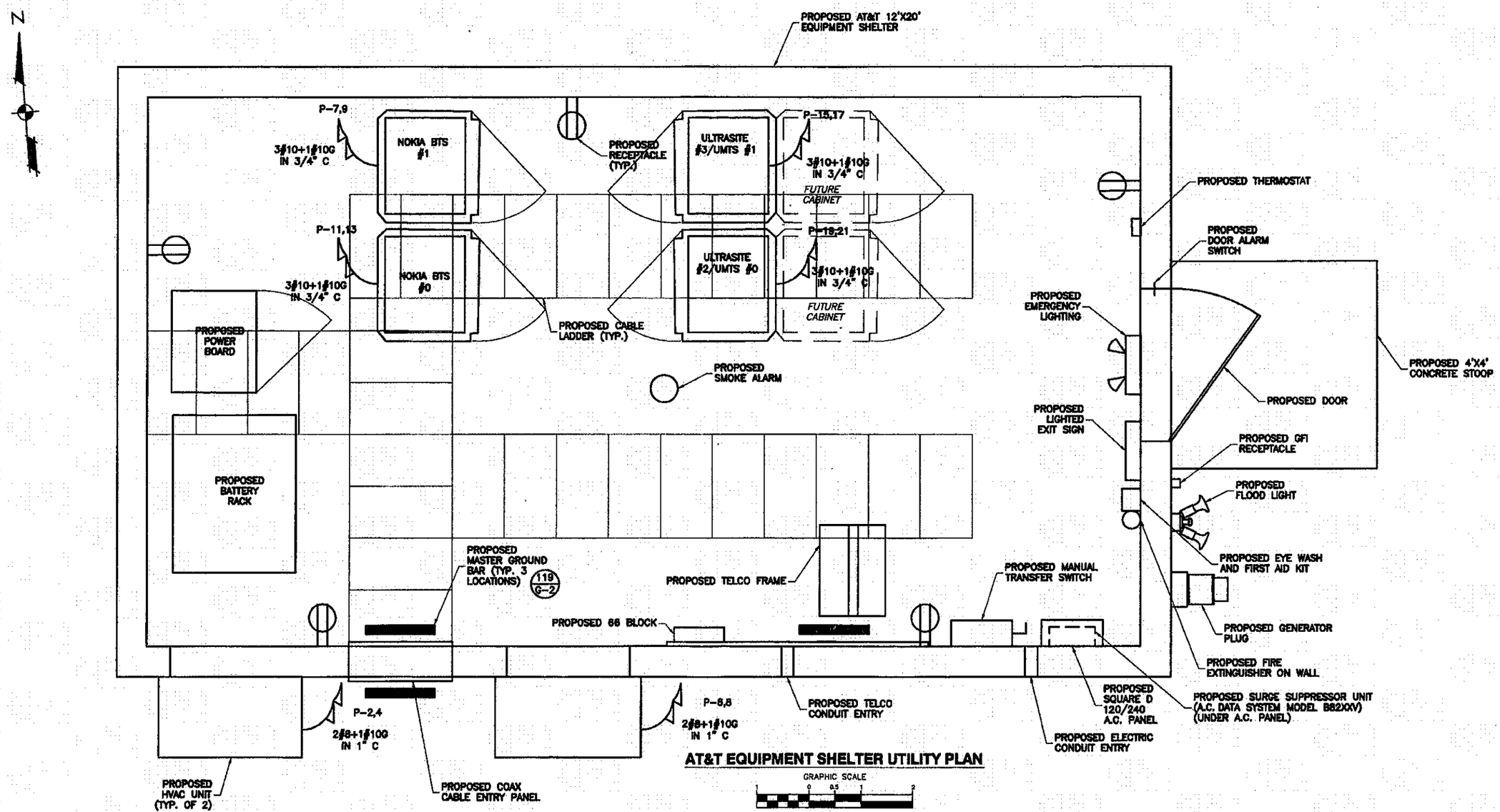

AT&T EQUIPMENT SHELTER UTILITY PLAN

SCALE: 1" = 1' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
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SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T EQUIPMENT SHELTER UTILITY PLAN

JOB NUMBER	DRAWING NUMBER	REV
24782-419	E-2	4

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

22. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

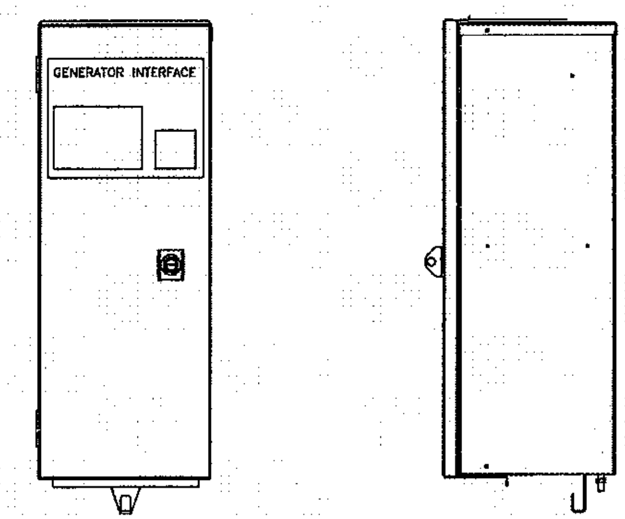
24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

DETAIL 622 / — NTS



FRONT COVERED CLOSED VIEW   SIDE CLOSED VIEW

MICRIN MTC6001EC-2-1 1-PHASE COMPACT GENERATOR INTERFACE PANEL (FRONT EXTERIOR VIEW)

DETAIL 1 / — NTS

DRAWING NOTES

1. INDOOR CONDUCTORS SHALL BE INSTALLED IN RGS UNLESS NOTED OTHERWISE. OUTDOOR CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL CONDUIT UNLESS NOTED OTHERWISE.
2. AT&T TO PROVIDE SURGE SUPPRESSOR FOR TELCO BOARD SERVING NEW EQUIPMENT THE SURGE SUPPRESSOR TO BE INSTALLED BY CONTRACTOR AND GROUNDED TO MGB.
3. SEAL AROUND PENETRATIONS RESULTING FROM CONDUIT ROUTING WITH FIRE- STOPPING FOAM SEALANT HAVING A UL-LISTED RATING OF 1 HOURS. HAMMER- DRILLING IS NOT PERMITTED. CORE-DRILLING TO BE COORDINATED WITH BUILDING OWNER'S REPRESENTATIVE.
4. PROVIDE (2) FUSES OF SIZE RECOMMENDED BY CONDENSING UNIT MANUFACTURER.
5. PROVIDE 20 #10+10#10G IN 2" CONDUIT FROM PANEL TO PULL BOX ABOVE BATTERY/RECTIFIER STACK. PROVIDE (3) 1" FLEXIBLE LIQUIDTIGHT METAL CONDUIT "DROPS" 8' IN LENGTH, FROM PULL BOX AS FOLLOWS:
   1) 8#10+4#10G, CIRCUITS 5,7,9,11,13,15,17,19.
   2) 8#10+4#10G, CIRCUITS 6,8,10,12,14,16,18,20.
   3) 4#10+2#10G, CIRCUITS 21,23,,22,24 LABEL EACH CIRCUIT'S PIGTAIL WIRES AT DROPS WITH THEIR CIRCUIT NUMBERS.
6. PROVIDE SMOKE DETECTOR COMPATIBLE WITH EXISTING BUILDING FIRE ALARM SYSTEM. TIE TO LOCAL ZONE. COORDINATE WITH BUILDING OWNER'S FIRE ALARM SYSTEM CONTRACTOR. PROVIDE SENTROL 449CSRT PHOTOELECTRIC SMOKE DETECTOR WITH AUXILIARY RELAY FOE ACU-1 SHUTDOWN.
7. CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED WIRING AND CONDUITS IN AT&T EQUIPMENT ROOM AND RETURN TO BUILDING OWNER. PROVIDE AND INSTALL NEW LIGHTING FIXTURES IN THE ROOM AND CONNECT TO NEW LIGHT SWITCH.
8. PROVIDE ALARM TERMINAL CABINET HIGH/LOW ALARMS MOUNTED ON TELCO BOARD.
9. PROVIDE DOOR ALARM CONTACT.
10. PROVIDE A DAYTON 1UMH2 HIGH TEMPERATURE ALARM.
11. PROVIDE A MARVAIR COMMSTAT3 LEAD LAG THERMO STAT.
12. ROUTING OF UTILITY CONDUITS SHOWN IS SCHEMATIC AND IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR IS TO DETERMINE THE MOST APPROPRIATE ROUTING OF UTILITY CONDUITS.
13. DEWBERRY-GOODKIND, INC. IS NOT RESPONSIBLE FOR COORDINATION OF POWER OR TELCO SERVICE TO SITE. COORDINATION BY OTHERS.

ELECTRICAL COMPONENTS

PROVIDE THE FOLLOWING ITEMS AS SPECIFIED BELOW:

1. SURGE ARRESTOR 120/240 VOLT, 3 WIRE, SINGLE PHASE MANUFACTURE BY A.C. DATA.
2. DOUBLE-THROW TRANSFER SWITCH: SQUARE D 200A, CAT. #82254N WITH SOLID GROUND AND SOLID NEUTRAL
3. MAIN DISCONNECT SWITCH: SQUARE D 200A MAIN BREAKER #Q2-2200NS
4. PANELBOARD: SQUARE D Q040M200 WITH EQUIPMENT GROUND BAR
5. CIRCUIT BREAKERS: SQUARE D QO PLUG-IN TYPE
6. LIGHT SWITCH: HUBBELL #1201, 15A, 120V SINGLE POLE, WHITE JUNCTION BOX: RACO #192, 4" SQUARE 1-1/2" DEEP; COVER PLATE: RACO #800, 1/2" RAISED WORK COVER.
7. RECEPTACLES: HUBBELL #5362, 20A, 125V, 2P, 3 WIRE GROUNDING, DUPLEX, WHITE. MOUNT BOTTOM OF BOX 16" AFF (EXCEPT RECEPTACLES FOR TELCO AND CONDENSATION PUMP). RECEPTACLE JUNCTION BOXES: RACO #192 - 4" SQUARE 1-1/2" DEEP, SURFACE MOUNTED. RECEPTACLES COVER PLATE #802, 1/2" RAISED RECEPTACLE COVER PLATES: RACO #802 - 1/2" RAISED WORK COVERS, HAVING PHENOLIC LABELS WITH ASSOCIATED BREAKER NUMBERS.
8. MOUNT CABLE TRAY 7'-6" AFF MINIMUM TO THE BOTTOM OF THE CABLE TRAY FOR STANDARD RADIO FRAMES. MOUNT 8'-0" AFF MINIMUM FOR RADIO CABINETS ON CASTERS. VERIFY CABINET TYPE WITH CONSTRUCTION MANAGER. EXPOSED ENDS OF TRAY TO BE CAPPED.
9. GROUND BAR MOUNTING BRACKETS: NEWTON #A-6056
10. GROUND BAR INSULATORS: NEWTON #3061-A
11. (6) SIX LIGHT FIXTURES WITH THE FOLLOWING CHARACTERISTICS: 120 VOLTS; SURFACE MOUNTED; PRISMATIC ACRYLIC WRAP-AROUND LENS; 4'; 2-LAMP; ELECTRONIC (ENERGY-EFFICIENT) BALLAST. PROVIDE (2) F32 48" LAMPS HAVING 4100 KELVIN COLOR RENDITION (COOL WHITE.)
12. COMBINATION BATTERY PACK - EXIT LIGHT: 120/240V, 2 LAMPHEADS, STENCIL FACEPLATE, WHITE HOUSING, SINGLE-FACE, MAINTENANCE-FREE, NICKEL CADMIUM BATTERY. SIMILAR TO LITHONIA QUANTUM #LH2M-S-W-IR-120/277-N-[illegible]
13. GENERATOR PLUG TO BE MICRON 1-PHASE COMPACT, [illegible] 1 ON SHEET E-6.
14. POWER SUPPLY TO ARGUS SHALL BE WITHIN [illegible] CONDUITS.

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
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AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizon wireless
5175 CAMPUS DRIVE
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SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

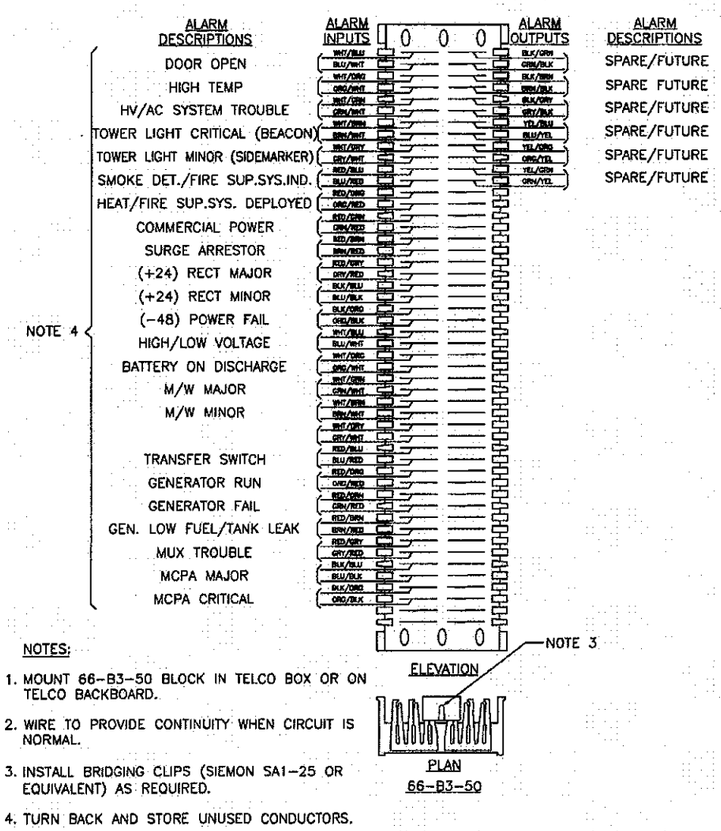
SEAL

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
No PE075556
ALEC S. NORRIS
PROFESSIONAL ENGINEER
PA LICENSE NO. PE075556

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T ELECTRICAL DETAILS - 1

JOB NUMBER	DRAWING NUMBER	REV
24782-419	E-3	4



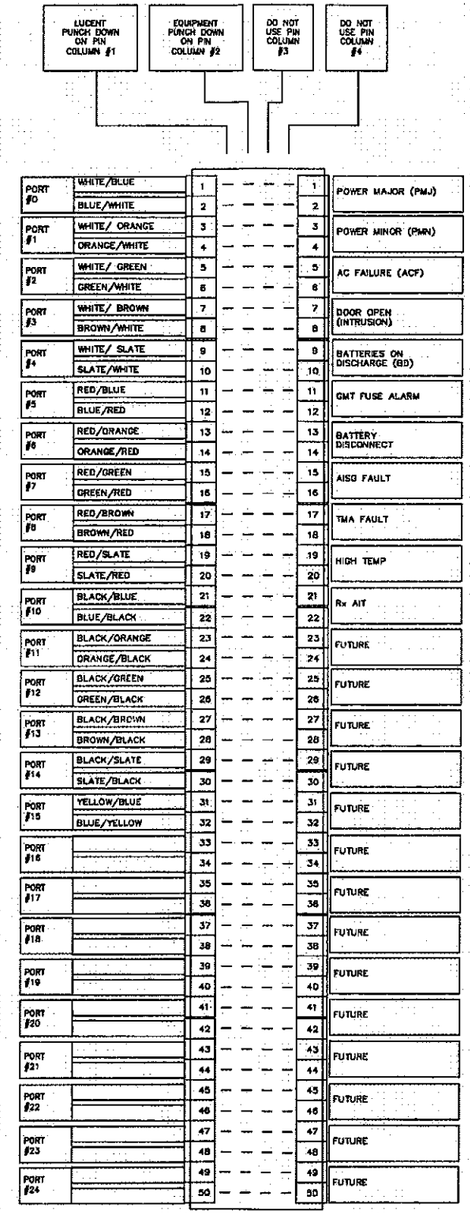
NOTES:

1. MOUNT 66-B3-50 BLOCK IN TELCO BOX OR ON TELCO BACKBOARD.
2. WIRE TO PROVIDE CONTINUITY WHEN CIRCUIT IS NORMAL.
3. INSTALL BRIDGING CLIPS (SIEMON SA1-25 OR EQUIVALENT) AS REQUIRED.
4. TURN BACK AND STORE UNUSED CONDUCTORS.

* WHERE APPLICABLE

ERICSSON / NOKIA
66 BLOCK – ALARM ASSIGNMENTS

DETAIL 147M
NTS –



LUCENT 66 BLOCK ALARM
PUNCH DOWN LAYOUT

NOTES:

- ALL LUCENT CABLE TO BE ROUTED FROM LEFT SIDE OF THE 66 BLOCK
- ALL EQUIPMENT CABLE TO BE ROUTED FROM RIGHT SIDE OF 66 BLOCK
- ALL EQUIPMENT CABLING NEEDS TO BE LABELED
- 66 BLOCK COVER REQUIRED
- NO BRIDGE CLIPS ARE PERMITTED

IF TMA/AISG ALARM CABLE IS INSTALLED PRIOR TO THE NEW LUCENT ALARM 66 BLOCKS INSTALLED, THE TECH INSTALLING THE 66 BLOCK IS TO PUNCH DOWN ALL COILED UP ALARM CABLING. (CUT, PUNCH, AND RELABEL)

LABELING:

- LABEL COVER ("UMTS EXTERNAL ALARM BLOCK")
- LABEL TMA/AISG ALARM CABLE ("TMA/AISG ALARM")
- LABEL MCU/PDU/DSX/SAD POWER CABLES ("MCU" "PDU" "DSX" "SAD" "GMT FUSE")
- LABEL GMT FUSE CABLE ("GMT FUSE ALARM")
- LABEL T-1 ON DSX PANEL WITH THE CIRCUIT ID #
- LABEL DC BREAKER IF REQUIRED
- UPDATE DC BREAKER SCHEDULE IN DC POWER PLANT

AC POWER PANEL No. 1
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
GFI (existing)	180	nc	15	1	4596		2	50	nc	4416	AC-1
Outlets (existing)	720	nc	15	3		5136	4		nc	4416	
Lights (existing)	600	nc	15	5	5016		6	50	nc	4416	AC-2
Rectifier No. 1	1000	c	30	7		5416	8		nc	4416	
	1000	c		9	1010		10	15	nc	10	Power Fail
Rectifier No. 2	1000	c	30	11		1010	12		nc	10	
	1000	c		13	1300		14	20	nc	300	Exterior Lights
Rectifier No. 3	1000	c	30	15		1180	16	15	nc	180	Outlets
	1000	c		17	1125		18	100	nc	125	Surge Arrestor
Rectifier No. 4	1000	c	30	19		1125	20		nc	125	
	1000	c		21	1000		22		nc		Spare
Rectifier No. 5	1000	c	30	23		1000	24		nc		Spare
	1000	c		25	1000		26		nc		Spare
Rectifier No. 6	1000	c	30	27		1000	28		nc		Spare
	1000	c		29	1000		30		nc		Spare
Rectifier No. 7	1000	c	30	31		1000	32		nc		Spare
	1000	c		33	1000		34		nc		Spare
Rectifier No. 8	1000	c	30	35		1000	36		nc		Spare
	1000	c		37	1000		38		nc		Spare
Rectifier No. 9	1000	c	30	39		1000	40		nc		Spare
	1000	c		41	1000		42		nc		Spare
PHASE TOTALS (VA):					19047	18867					
CURRENT PER PHASE (A):					177	176	Amperes/Phase cannot exceed main breaker rating				
PANEL TOTAL (VA):					37914		Legend: c = continuous, nc = non-continuous				

PANEL CAPACITY (kVA): 48.0
PANEL LOADING (100% non-cont. load) (kVA): 19.9
PANEL LOADING (125% continuous load) (kVA): 22.5
PANEL LOADING (TOTAL) (kVA): 42.4
SPARE CAPACITY (kVA): 5.6

CONNECTED LOAD (kVA): 37.9

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SCALE: AS SHOWN DESIGNED BY: MPC DRAWN BY: MPC

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T ELECTRICAL DETAILS – 2

JOB NUMBER	DRAWING NUMBER	REV
24782-419	E-4	4

ELECTRICAL GENERAL NOTES

A. GENERAL

1. EXAMINE THE SITE CONDITIONS VERY CAREFULLY AND THE SCOPE OF PROPOSED WORK TOGETHER WITH THE WORK OF ALL OTHER TRADES AND INCLUDE IN THE BID ALL COSTS FOR WORK SUCH AS EQUIPMENT AND WIRING MADE NECESSARY TO ACCOMMODATE THE ELECTRICAL SYSTEMS SHOWN AND SYSTEMS OF OTHER TRADES.
2. SUBMITTAL OF BID INDICATES CONTRACTOR IS AWARE OF ALL JOB SITE CONDITIONS AND WORK TO BE PREPARED UNDER THIS CONTRACT.
3. PERFORM DETAILED VERIFICATION OF WORK PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND COMMENCING CONSTRUCTION. ISSUE A WRITTEN NOTICE TO THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
4. THE CONTRACTOR IS TO SCHEDULE ALL INSPECTIONS AND OBTAIN ALL NECESSARY PERMITS TO PERFORM THE WORK.
5. PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, INSURANCE AND SERVICES TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND PRESENT IT AS FULLY OPERATIONAL TO THE SATISFACTION OF THE OWNER.
6. CARRY OUT ALL WORK IN ACCORDANCE WITH ALL GOVERNING LOCAL, COUNTY, STATE, AND NATIONAL CODES AND O.S.H.A.
7. THE CONSTRUCTION MANAGER WILL COORDINATE POWER AND TELCO WORK WITH THE LOCAL UTILITY COMPANY AS IT MAY APPLY TO THIS SITE. ALL WORK IS TO COMPLY WITH THE RULES AND REGULATIONS OF THE UTILITIES INVOLVED.
8. FABRICATION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE WITH FIRST CLASS WORKMANSHIP PER NECA STANDARD 1-2000 BY QUALIFIED PERSONNEL, LICENSED AND EXPERIENCED IN SUCH WORK AND SHALL SCHEDULE THE WORK IN AN ORDERLY MANNER SO AS TO NOT IMPEDE THE PROGRESS OF THE PROJECT.
9. DURING PROGRESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF THE ELECTRIC SYSTEMS, LOCATING EACH CIRCUIT PRECISELY AND DIMENSIONING EQUIPMENT, CONDUIT AND CABLE LOCATIONS. UPON COMPLETION OF THE INSTALLATION, TRANSFER ALL RECORD DATA TO RED LINE PRINTS OF THE ORIGINAL DRAWINGS AND SUBMIT THESE DRAWINGS AS RECORD DRAWINGS TO THE CONSTRUCTION MANAGER.
10. THE COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
11. THE CONSTRUCTION MANAGER IS RESPONSIBLE FOR REQUESTING CONNECTION OF COMMERCIAL POWER FROM THE POWER COMPANY.
12. THE CONTRACTOR SHALL NOTIFY MISS UTILITY A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY CONSTRUCTION OR EXCAVATION. THE CONTRACTOR SHALL ALSO NOTIFY A PRIVATE UTILITY CONTRACTOR FOR ALL ON-SITE UTILITY LOCATIONS.

B. BASIC MATERIALS AND METHODS

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE EDITION OF THE NEC ACCEPTED BY THE LOCAL JURISDICTION AND TO THE APPLICABLE LOCAL CODES AND REGULATIONS.
2. ALL MATERIALS AND EQUIPMENT SHALL BE NEW. MATERIALS AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S CURRENT DESIGN. ANY FIRST-CLASS PRODUCT MADE BY A REPUTABLE MANUFACTURER MAY BE USED PROVIDING IT CONFORMS TO THE CONTRACT REQUIREMENTS AND MEET THE APPROVAL OF THE CONSULTANT AND OWNER.
3. ARRANGE CONDUIT, WIRING, EQUIPMENT, AND OTHER WORK GENERALLY AS SHOWN, PROVIDING ALL APPROPRIATE CLEARANCE AND ACCESS. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS AND FIT THE WORK IN EACH LOCATION WITHOUT SUBSTANTIAL ALTERATION. WHERE DEPARTURES ARE PROPOSED BECAUSE OF FIELD CONDITIONS OR OTHER CAUSES PREPARE AND SUBMIT DETAILED DRAWINGS FOR ACCEPTANCE.
4. THE CONTRACT DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ALL OFFSETS, BENDS, FITTINGS, AND ACCESSORIES ARE NOT SHOWN. PROVIDE ALL SUCH ITEMS AS MAY BE REQUIRED TO FIT THE WORK TO THE CONDITIONS.
5. MAINTAIN ALL CLEARANCES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC).

C. CONDUCTORS AND CONNECTORS

1. UNLESS NOTED OTHERWISE, ALL CONDUCTORS SHALL BE COPPER, MINIMUM SIZE #12 AWG WITH THERMOPLASTIC INSULATION CONFORMING TO NEMA WC5 OR CROSS-LINKED POLYETHYLENE INSULATION CONFORMING TO NEMA WC7 (TYPES THHN OR THWN). INSULATION SHALL BE RATED FOR 90°C. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH THE NEC.
2. ALL CONDUCTORS USED FOR CIRCUIT GROUNDING SHALL BE COPPER AND SHALL HAVE GREEN INSULATION.
3. FOR COPPER CONDUCTORS #6 AWG AND SMALLER, USE 3M SCOTCH LOK OR T&B STA-KON COMPRESSION TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATION CAPS. FOR COPPER CONDUCTORS LARGER THAN #6 AWG, USE SOLDERLESS IDENT HEX SCREW OR BOLT TYPE PRESSURE CONNECTORS OR DOUBLE COMPRESSION C-CLAMP CONNECTORS, UNLESS NOTED OTHERWISE ON DRAWINGS.
4. UNLESS NOTED OTHERWISE ALL LUGS SHALL BE TIN PLATED COPPER, TWO-HOLE LONG BARREL COMPRESSION TYPE.
5. CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES. SPLICES ARE NOT ACCEPTABLE. IF SPLICES ARE UNAVOIDABLE, PRIOR APPROVAL FROM CINGULAR'S REPRESENTATIVE MUST BE OBTAINED.

D. RACEWAYS AND BOXES

1. ALL CONDUIT SHALL BE UL LABELED.
2. ALL EMPTY CONDUITS INSTALLED FOR FUTURE USE SHALL HAVE A PULL CORD.
3. SHEET METAL BOXES SHALL BE NEMA 3R AND CONFORM TO NEMA OSI. CAST-METAL BOXES SHALL BE NEMA 3R AND CONFORM TO NEMA 81 AND SHALL BE SIZED IN ACCORDANCE WITH NEC UNLESS OTHERWISE NOTED.

E. GROUNDING

1. ALL SAFETY GROUNDING OF THE ELECTRICAL EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE NEC.
2. ALL CELLULAR SITE GROUNDING SHALL BE CARRIED OUT IN ACCORDANCE WITH CINGULAR WIRELESS GROUNDING STANDARD DATED OCTOBER 2001.
3. GROUND LUGS ARE SPECIFIED UNDER SECTION "C. CONDUCTORS AND CONNECTORS"
4. ALL GROUND LUG AND COMPRESSION CONNECTIONS SHALL BE COATED WITH AN ANTI-OXIDENT AGENT SUCH AS NO-OX, NOALOZ, PENETROZ, OR KOPRSHIELD.
5. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
6. DO NOT INSTALL GROUND RING (IF REQUIRED) OUTSIDE OF PROPERTY LINE.
7. REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS. REPAINT TO MATCH AFTER CONNECTIONS ARE MADE TO MAINTAIN CORROSION RESISTANCE.
8. ALL EXTERIOR GROUNDING CONDUCTORS INCLUDING EXTERIOR GROUND RING (IF REQUIRED) SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID ANY SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE ANGLE OF ANY BEND SHALL BE EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
9. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE METALS BEING CONNECTED.
10. ALL EXTERNAL GROUND CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO THE EXTERIOR GROUND RING SHALL BE TEE TYPE LOCATED ON TOP OF GROUND RODS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING USING SPRAY CONTAINING 95% ZINC (Z.R.C. "GALVANITE OR EQUIVALENT).
11. IF A NEW GROUND RING IS REQUIRED, CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE BURIED RING IS INSTALLED SO THE MANAGER CAN INSPECT THE GROUND RING BEFORE IT IS BACKFILLED WITH SOIL.
12. FOR METAL FENCE POST GROUNDING, USE AN EXOTHERMIC WELD CONNECTION TO POST.
13. WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF AN ANTI-OXIDANT COMPOUND SUCH AS "NO OXIDE A" BY DEARBORN CHEMICAL COMPANY ON ALL CONNECTORS.
14. BOND ALL EXTERIOR CONDUITS, PIPES AND CYLINDRICAL METALLIC OBJECTS WITH A PENN-UNION GT SERIES CLAMP, BLACKBURN GUV SERIES CLAMP OR A BURNDY GAR 3900BU SERIES CLAMP ONLY, NO SUBSTITUTES ACCEPTED.
15. PERFORM A GROUND RESISTANCE MEASUREMENT OF THE GROUNDING SYSTEM USING THE "FALL OF POTENTIAL METHOD." THE RESISTANCE BETWEEN ANY POINT ON THE GROUND SYSTEM AND THE REFERENCE GROUND SHALL BE 5 OHMS OR LESS. ENSURE THAT THE ELECTRIC UTILITY AND TELCO GROUNDS ARE REMOVED FROM THE CELLULAR SYSTEM GROUNDING.
17. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY REPRESENTATIVE AT THE SITE TO DISCONNECT THE UTILITY NEUTRAL FROM GROUNDING SYSTEM DURING FINAL INSPECTION SO THE REQUIRED TESTING ON THE GROUND SYSTEM CAN BE PERFORMED. IF THE CONTRACTOR FAILS TO HAVE THE UTILITY REPRESENTATIVE PRESENT DURING FINAL RESISTANCE TESTING, THE CONTRACTOR SHALL PAY THE COST FOR AN INDEPENDENT GROUNDING CONSULTANT TO PERFORM THE GROUND RESISTANCE TEST. GROUNDING CONSULTANT TO BE SELECTED BY THE CONSTRUCTION MANAGER. IF THE UTILITY REPRESENTATIVE FAILS TO APPEAR AT NO FAULT OF THE CONTRACTOR, NO PENALTY SHALL APPLY.
18. A THIRD PARTY SHOULD BE HIRED TO OBTAIN MEGGER AND SWEEP TEST RESULTS INCLUSIVE OF WHAT RESULTS THE CONTRACTOR SUBMITS TO INSURE PROPER QUALITY CONTROL ON ALL SITES. SCHEDULE FINAL MEGGER TEST SUCH THAT THE CONSTRUCTION MANAGER CAN BE PRESENT FOR FIELD VERIFICATION. REFER TO THE VERIZON MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES.
19. ALL METAL WORK WITHIN 10 FEET OF GROUND RING SHALL BE BONDED DIRECTLY TO THE GROUND SYSTEM, WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
20. PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
21. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL THAT IS PART OF THE ATTACHMENT DEVICE. ONLY ATTACHMENT DEVICES LISTED AND APPROVED FOR DISSIMILAR METALS MAY BE USED.

ELECTRICAL ABBREVIATIONS

A	AMPERE	LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
AFG	ABOVE FINISHED GRADE	MTS	MANUAL TRANSFER SWITCH
AIC	AMPERE INTERRUPTING CAPACITY	MCB	MAIN CIRCUIT BREAKER
AWG	AMERICAN WIRE GAUGE	MGB	MAIN GROUND BAR
A/C	AIR CONDITIONING	MIGB	MAIN INSULATED GROUND BAR
BFG	BELOW FINISHED GRADE	N	NEUTRAL
BCW	BARE COPPER WIRE	NEC	NATIONAL ELECTRICAL CODE
BKR	BREAKER	NTS	NOT TO SCALE
C	CONDUIT	P	POLE
CKT	CIRCUIT	PPC	POWER PROTECTION CENTER
CT	CURRENT TRANSFORMER	PVC	POLYVINYL CHLORIDE CONDUIT
CRGB	CELL REFERENCE GROUND BAR	RNC	RIGID NON METALLIC CONDUIT (SCHEDULE 80 PVC)
CU	COPPER		
CW	COMPLETE WITH	SD	SERVICE DISCONNECT
D.T.T.	DRY TYPE TRANSFORMER	SE	SERVICE ENTRANCE
(E)	INDICATES EXISTING EQUIPMENT	SN	SOLID NEUTRAL
EC	EMPTY CONDUIT	TGB	TELCO GROUND BAR
EGB	EQUIPMENT GROUND BAR	TEGB	TOWER EXISTING GROUND BAR
EMT	ELECTRICAL METALLIC TUBING	TR	TRANSFORMER
F	FUSED	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
G	GROUND	TYP	TYPICAL
GE	GROUNDING ELECTRODE	WP	WEATHERPROOF – NEMA 3R
GEC	GROUNDING ELECTRODE CONDUCTOR	U/G	UNDERGROUND
GND	GROUND	V	VOLT
GRC	GALVANIZED RIGID CONDUIT	W	WIRE
		ø	PHASE

ELECTRICAL LEGEND

SAFETY DISCONNECT SWITCH	AC GENERATOR CONNECTOR
PANELBOARD	GFI DUPLEX RECEPTACLE
KILOWATT HOUR METER	COPPER GROUND BAR
TRANSFORMER	EXOTHERMIC WELD CONNECTION
CIRCUIT BREAKER	COMPRESSION FITTING GROUND CONNECTION
MANUAL TRANSFER SWITCH	COAXIAL CABLE SHIELD GROUND KIT CONNECTION
LIGHT FIXTURE	GROUND ROD
LIGHT SWITCH	GROUND ROD WITH TEST WELL
	GROUND WIRING

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AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VERIZON WIRELESS ELECTRICAL NOTES

JOB NUMBER	DRAWING NUMBER	REV
24782-419	E-5	4

AC POWER PANEL No. 1

120/240 VOLTS, 1-PHASE, 3-WIRE, 200A

MAIN BREAKER RATING (A) : 200 | SYSTEM VOLTAGE (V) : 240

WATTS A	WATTS B	CIRCUIT DESCRIPTION	CONDUCTOR	POLES	CB	CKT#	CKT#	CB	POLES	CONDUCTOR	CIRCUIT DESCRIPTION	WATTS A	WATTS B
4521		AC - 1 (5 Ton)	2# 6 + 10 G	2	50	1	2	50	2	2# 6 + 10 G	2# 6 + 10 G	4521	
	4521					3	4						4521
480		Power Drop #1	2# 10 G	2	30	5	6	20	1	3# 12	Receptacles	720	
	480					7	8	20	1	3# 12	Receptacles (GFIC)		180
480		Power Drop #2	2# 10 G	2	30	9	10	20	1	3# 12	Quad Receptacle	360	
	480					11	12	20	1	3# 12	Exterior Light		70
480		Power Drop #3	2# 10 G	2	30	13	14	20	1	3# 12	Smoke Detector	30	
	480					15	16	20	1	3# 12	Int. & Emerg. Lights		570
480		Power Drop #4	2# 10 G	2	30	17	18	20	1	3# 12	KBC Climate Control	50	
	480					19	20						
480		Power Drop #5	2# 10 G	2	30	21	22						
	480					23	24						
480		Power Drop #6	2# 10 G	2	30	25	26						
	480					27	28						
480		Power Drop #7	2# 10 G	2	30	29	30						
	480					31	32						
						33	34						
						35	36						
						37	38						
						39	40						
						41	42						
7881	7881	Total									Total	5681	5341

LOAD DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	TOTAL CONNECTED LOAD BY PHASE -	PHASE A = 13,526
Lights	640	1.25	800		PHASE B = 13,222
Rectifier	6,720	1	6,720		
Recepts	1,260	1	1,800		
Misc.	80	1	80	Total Connected Load Amps =	111.60
HVAC	18,084	0.5	9,042	Total Demand Load Amps =	74.59
Total	26,784		17,902		

RMS:	10K	KEY LOCK:	No
MAIN CB:	A200	NEMA TYPE:	1
NEUTRAL BAR:	Yes	MOUNTING SURFACE:	CU Bus
GROUNDING BAR:	Yes	MFR:	Square D Only
BRANCH CB:	42		

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FAX: 856.802.0840

JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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AT&T MOBILITY 200 NORTH WARNER ROAD
KING OF PRUSSIA, PA 19406
AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizonwireless
5178 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

NO.	DATE	REVISIONS	BY	CHK	APP'D
4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
3	05/04/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

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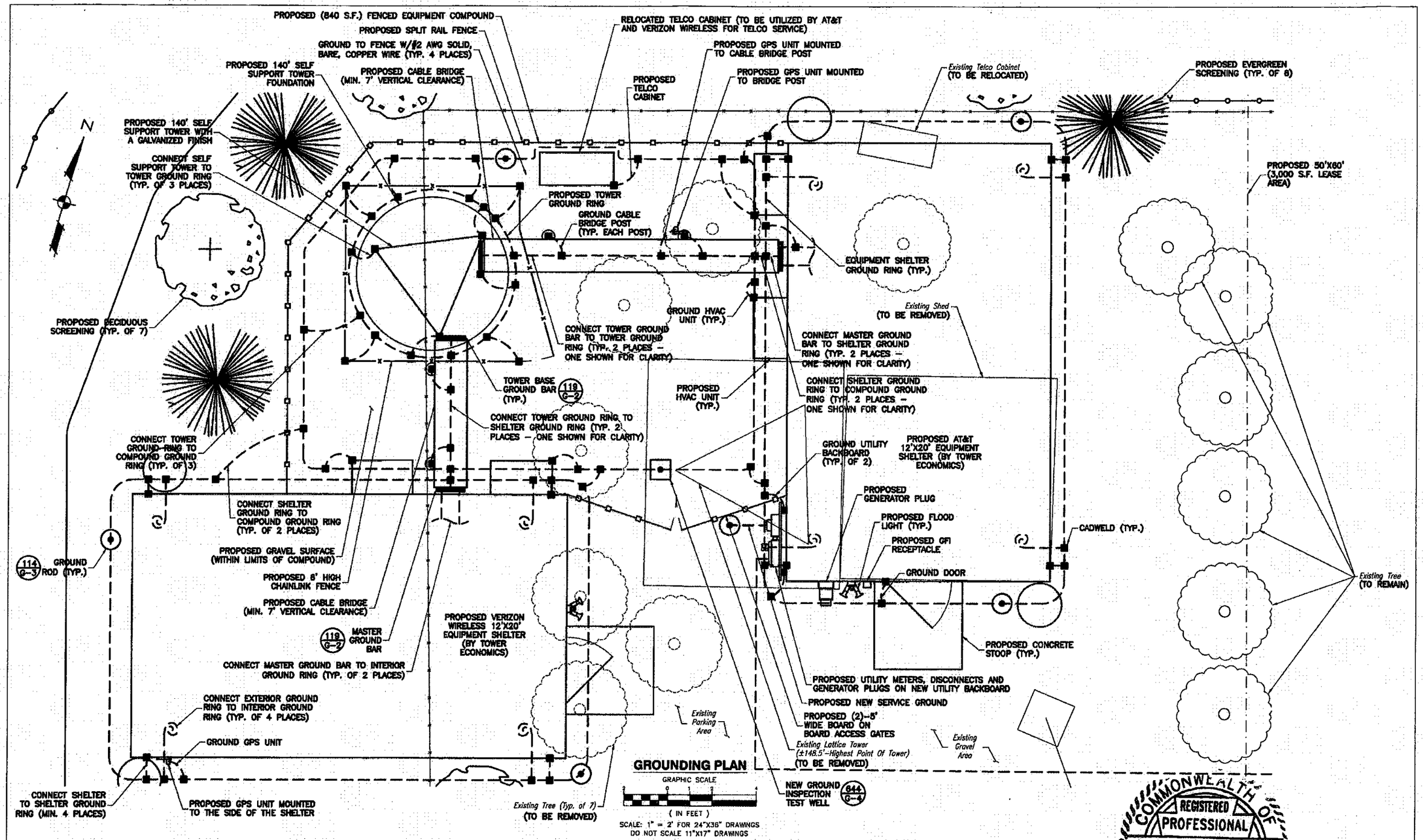
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VERIZON WIRELESS
PANEL SCHEDULE

JOB NUMBER	DRAWING NUMBER	REV
24782-419	E-6	4



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VERIZON WIRELESS SITE NAME:
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2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALEC SCOTT NORRIS

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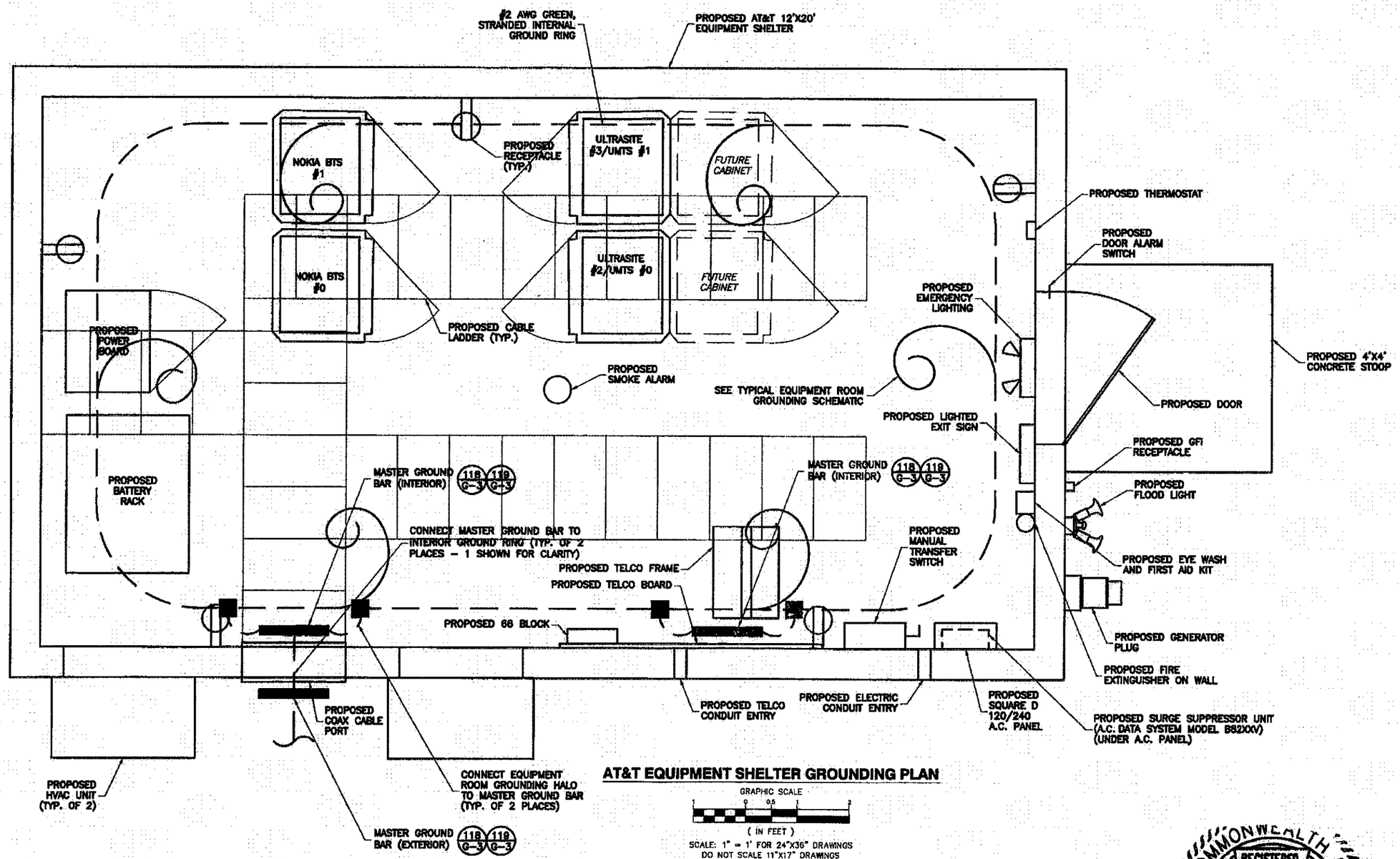
COMPOUND GROUNDING PLAN

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-1	4



AT&T EQUIPMENT SHELTER GROUNDING PLAN

GRAPHIC SCALE

1 0 0.5 1 2

(IN FEET)

SCALE: 1" = 1' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
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VERIZON WIRELESS SITE NAME:
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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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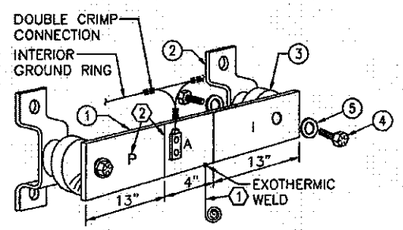
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

AT&T EQUIPMENT SHELTER GROUNDING PLAN

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-2	4

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C. OR APPROVED EQUAL			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x30"	SOLID GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	4	3012-1	5/8"-11x1" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER



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

SECTION "P" – SURGE PROTECTORS

CABLE ENTRY PORTS (HATCH PLATES) (2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (2 AWG)
TELCO GROUND BAR (2 AWG)
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (2 AWG)
+24V POWER SUPPLY RETURN BAR (2 AWG)
–48V POWER SUPPLY RETURN BAR (2 AWG)
RECTIFIER FRAMES.
COAX SUPPRESSION

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (2 AWG)
BUILDING STEEL (IF AVAILABLE) (2 AWG)

SECTION "I" – ISOLATED GROUND ZONE

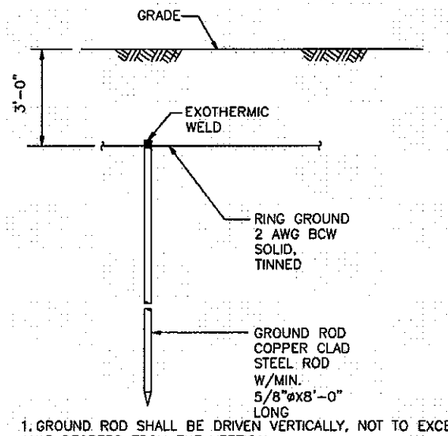
ALL COMMUNICATIONS EQUIPMENT FRAMES.
ISOLATED GROUND BAR – IGB (2 AWG)

DETAIL NOTES:

1. EXOTHERMICALLY WELD 2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "I") WITH 1" HIGH LETTERS.

(RGB) REFERENCE GROUND BAR – DETAIL

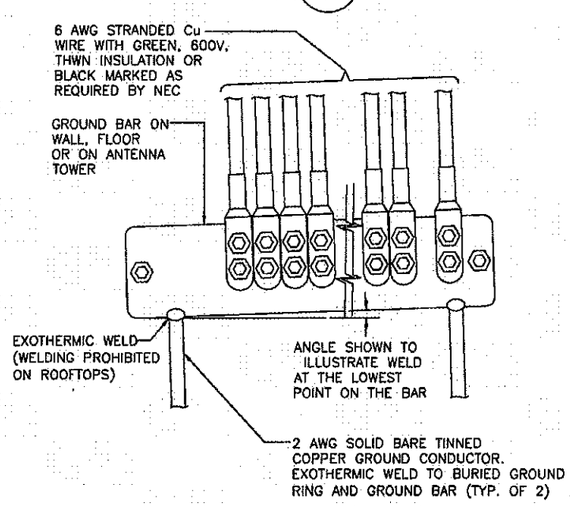
DETAIL 119
NTS



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

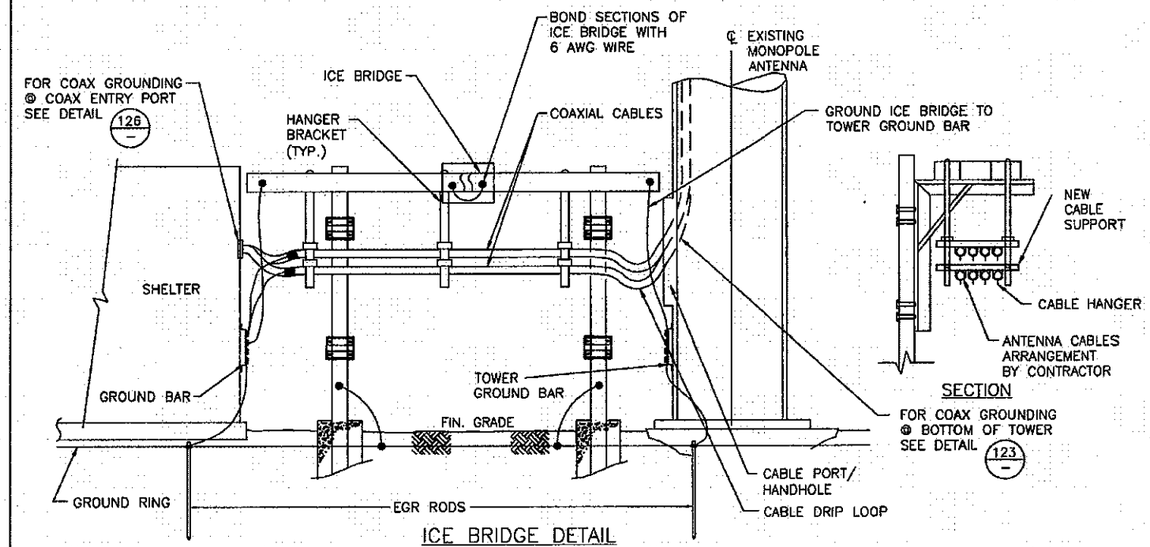
GROUND ROD

DETAIL 114
NTS



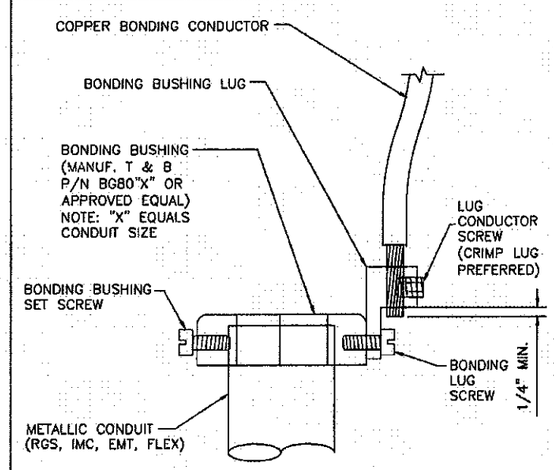
INSTALLATION OF GROUND WIRE TO COAX CABLE GROUND BAR

DETAIL 118
NTS



ICE BRIDGE DETAIL

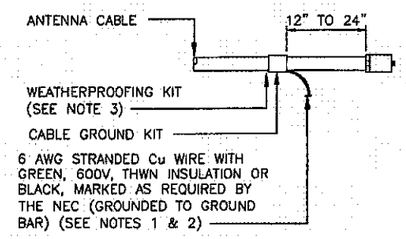
DETAIL 127M
NTS



DETAIL 120
NTS

DIRECTIONS:
1. MOUNT BONDING BUSHING ONTO CONDUIT
2. TIGHTEN BOND BUSHING SET SCREW
3. INSERT COPPER CONDUCTOR INTO LUG
4. TIGHTEN LUG CONDUCTOR SCREW
5. TIGHTEN BONDING LUG SCREW

NOTE: BONDING BUSHING, SET SCREW, LUG, LUG SCREW, COND. LUG SCREW, SHOWN AS COMPLETE UNIT.



CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE (TYPE AND PART NUMBER) AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER AND APPROVED BY CONTRACTOR.

DETAIL 121
NTS

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
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COATESVILLE, PA 19320

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1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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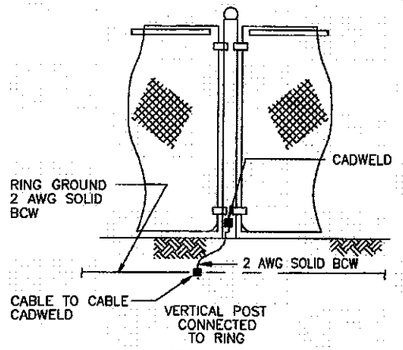
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

GROUNDING DETAILS – 1

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-3	4



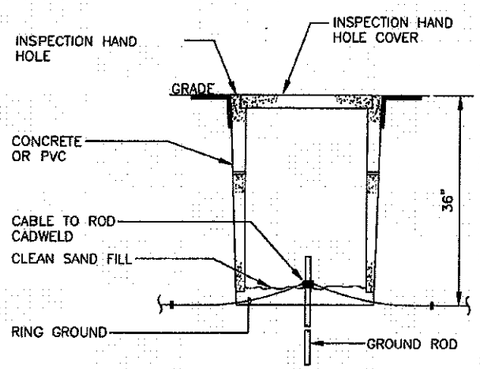
NOTES:

1. VERTICAL POSTS SHALL BE BONDED TO THE RING AT EACH CORNER AND AT EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100 FOOT STRAIGHT RUN OF FENCE.

2. METAL FENCE POSTS WITHIN 6 FEET OF THE BURIED GROUND RING SHALL BE BONDED DIRECTLY TO THE GROUND RING.

FENCE GROUNDING

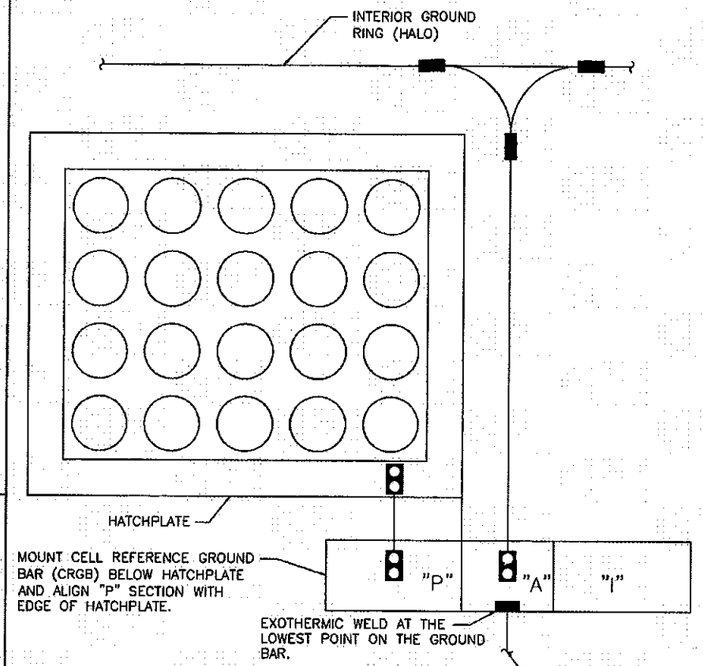
DETAIL 631 / NTS –



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

GROUND ROD WITH ACCESS AREA

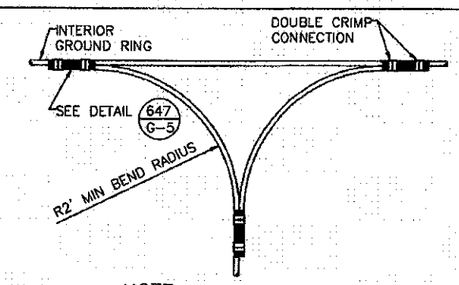
DETAIL 644 / NTS –



NOTE:
IF THERE IS LIMITED SPACE ON THE RIGHT SIDE OF THE HATCHPLATE, THE ABOVE SETUP MAY BE MIRRORED AS LONG AS THE "P" SECTION IS BELOW THE HATCHPLATE.

CELL REFERENCE GROUND BAR (CRGB) INSTALLATION DETAIL

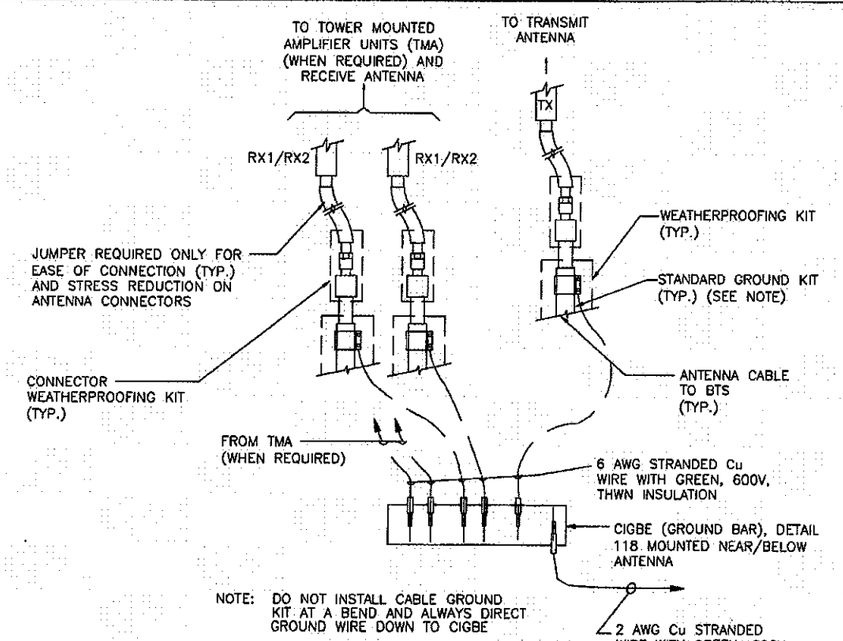
DETAIL 649 / NTS –



NOTE:
THIS DETAIL IS USED FOR A DOWN CONNECTION TO AN MGB/RGB.

HALO NON-DIRECTIONAL GROUND RING SPLICE DETAIL

DETAIL 648 / NTS –



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

DETAIL 122 / NTS –

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCOTT NORRIS
ENGINEER
ALEC S. NORRIS
PROFESSIONAL ENGINEER
PA LICENSE NO. PE075335

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JOB # 50020836

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AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
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775 FAIRVIEW ROAD
COATESVILLE, PA 19320

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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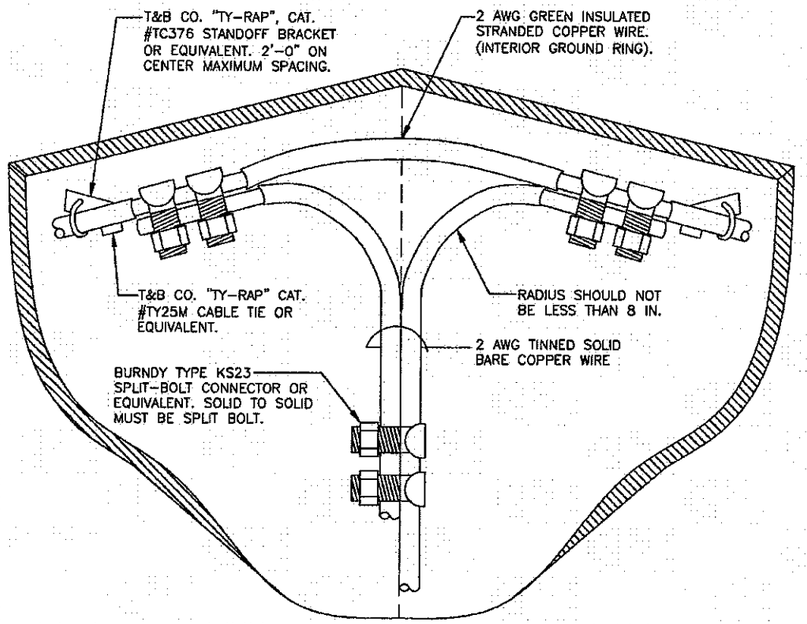
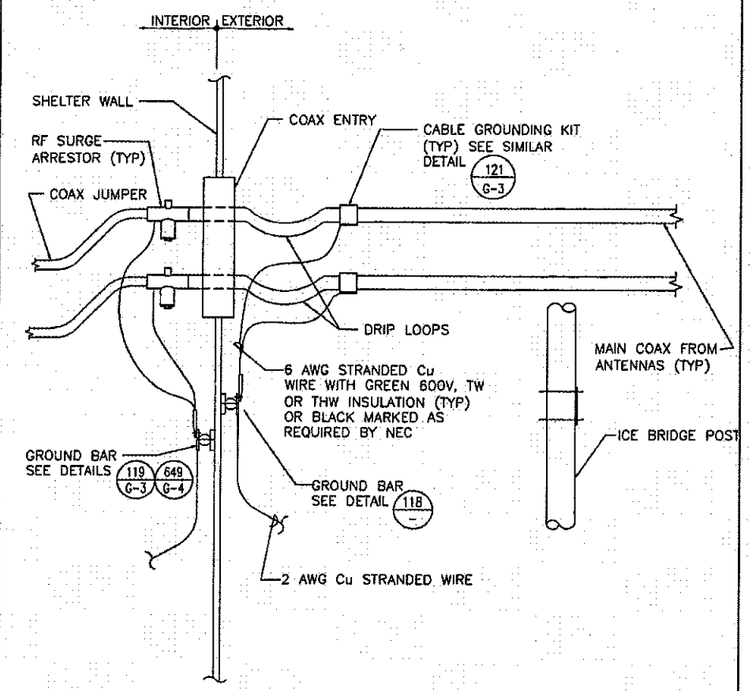
GROUNDING DETAILS – 2

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-4	4



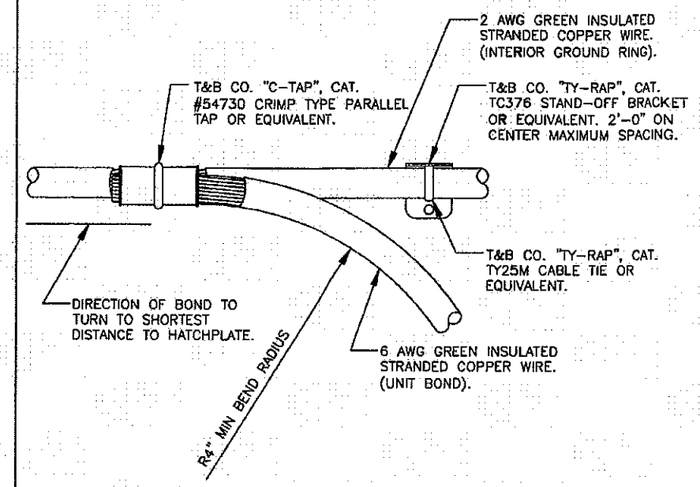
HALO NON-DIRECTIONAL CORNER CONNECTION DETAIL

DETAIL 646 / – NTS

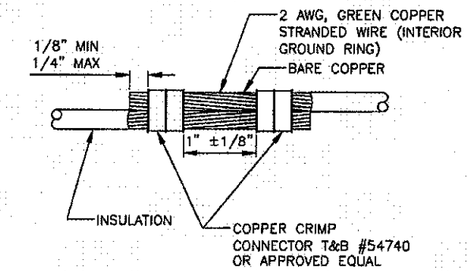


EXTERIOR ANTENNA CABLE GROUNDING AT EQUIPMENT ROOM COAX ENTRY PORT

DETAIL 126M / – NTS



HALO GROUND RING WALL SUPPORT AND C-TAP DETAIL



HALO GROUND RING SPLICE DETAIL

DETAIL 647 / – NTS

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JOB # 50020836

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775 FAIRVIEW ROAD
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PLYMOUTH MEETING, PA 19462

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0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

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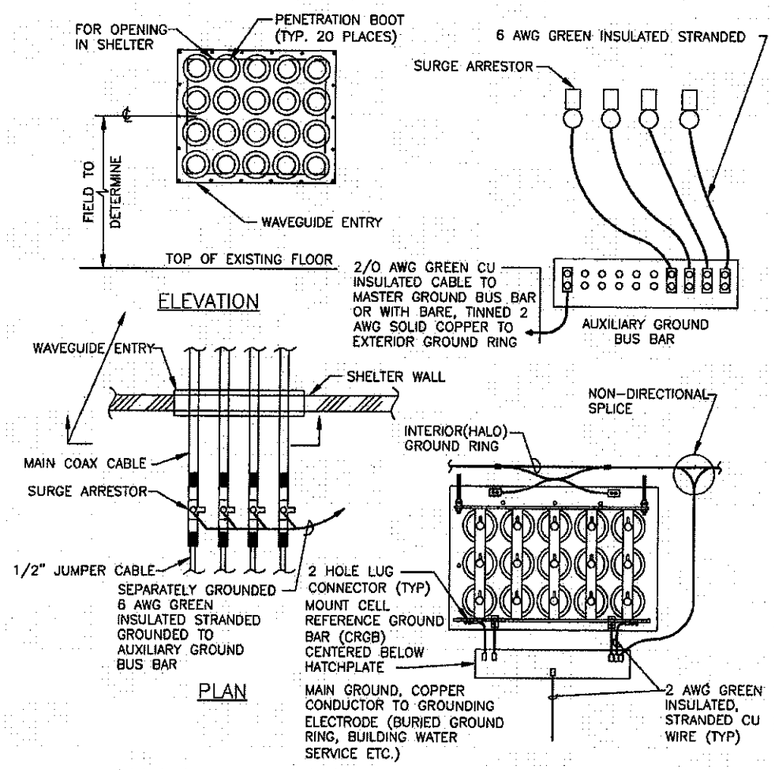
AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

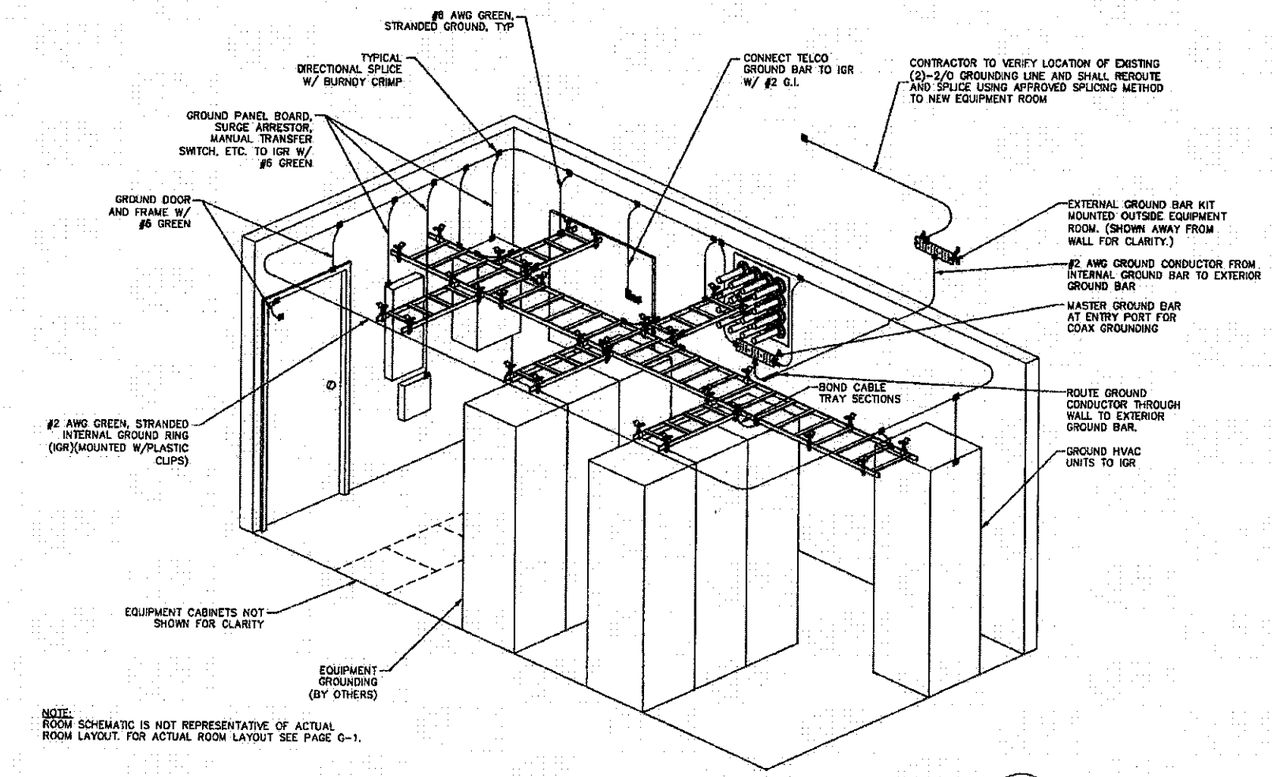
GROUNDING DETAILS – 3

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-5	4



SURGE ARRESTOR GROUNDING INSIDE SHELTER

DETAIL 124M
NTS



NOTE:
ROOM SCHEMATIC IS NOT REPRESENTATIVE OF ACTUAL ROOM LAYOUT. FOR ACTUAL ROOM LAYOUT SEE PAGE G-1.

TYPICAL EQUIPMENT ROOM GROUNDING 1
NTS

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME:
PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
AT&T MOBILITY 200 NORTH WARNER ROAD KING OF PRUSSIA, PA 19406 AT&T MOBILITY

CELLCO PARTNERSHIP d/b/a
verizon wireless
6175 CAMPUS DRIVE
PLYMOUTH MEETING, PA 19462

NO.	DATE	REVISIONS	BY	CHK	APP'D
4	07/01/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
3	05/04/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
2	04/12/11	ISSUED FOR CONSTRUCTION	LMR	CJZ	PET
1	02/07/11	ISSUED FOR CONSTRUCTION	MPC	CJZ	PET
0	01/17/11	ISSUED FOR CONSTRUCTION	JMS	CJZ	PET

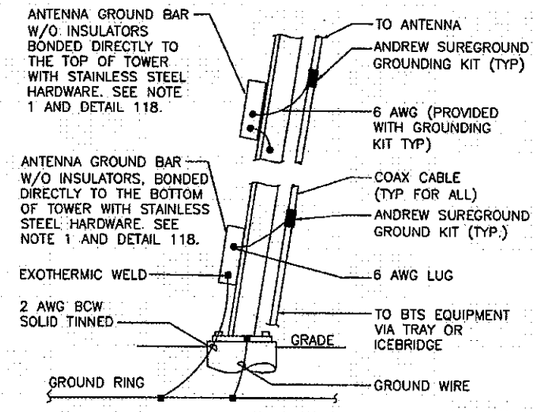
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — ALEC SCOTT NORRIS — PROFESSIONAL ENGINEER — PA LICENSE NO. PE075556

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

GROUNDING DETAILS – 4

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-6	4



NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.

2. EXOTHERMIC WELDS ON TOWER PERMITTED ONLY WITH EXPRESS APPROVAL OF TOWER MANUFACTURER OR CONTRACTORS STRUCTURAL ENGINEER. USE LUGS PROVIDED FOR THIS PURPOSE.

3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM 8 FEET TO 10 FEET.

ANTENNA CABLE GROUNDING
FOR A SELF SUPPORTING LATTICE TOWER

DETAIL 152
NTS

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JOB # 50020836

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VERIZON WIRELESS SITE NAME:
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775 FAIRVIEW ROAD
COATESVILLE, PA 1932D

at&t MOBILITY
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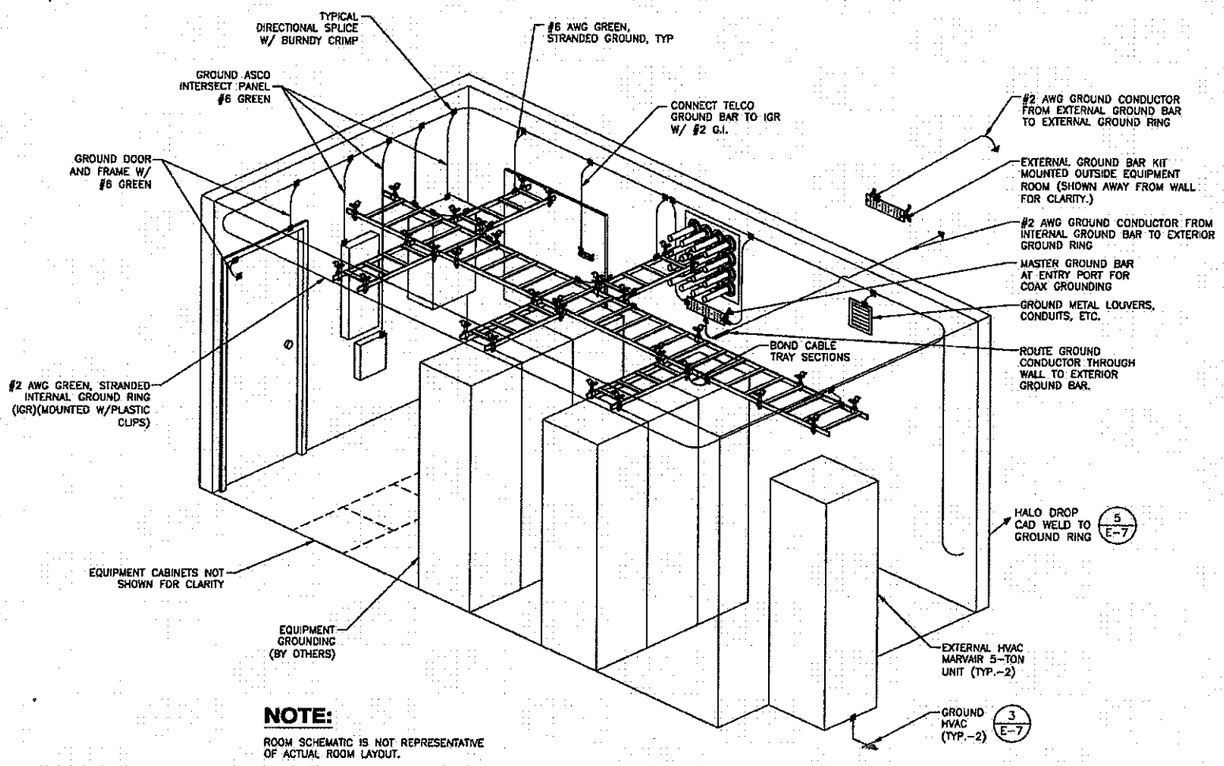
SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

GROUNDING DETAILS – 5

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-7	4



NOTE:

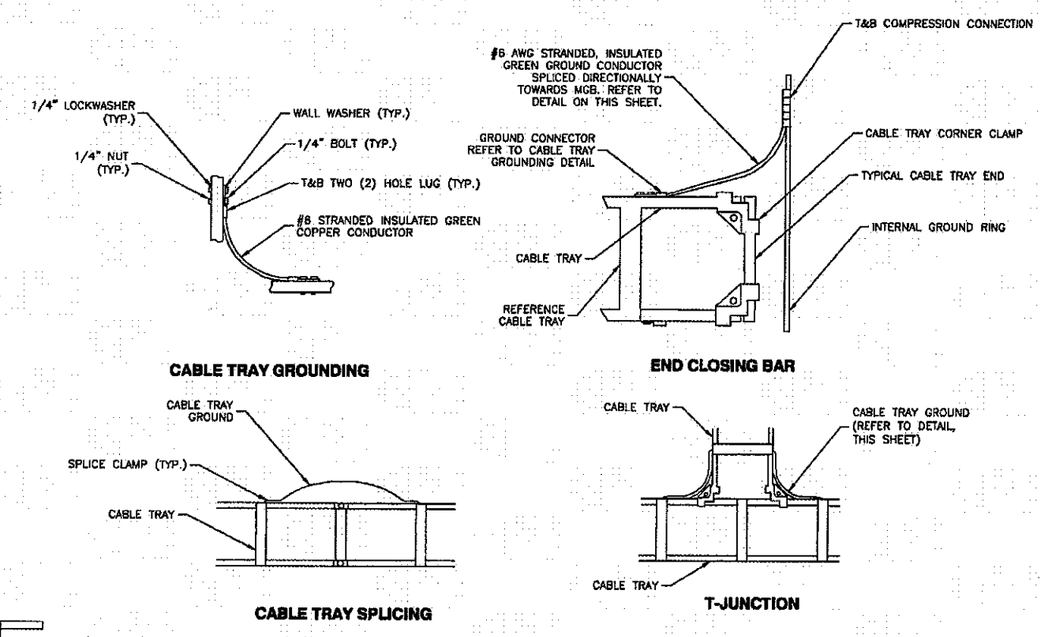
ROOM SCHEMATIC IS NOT REPRESENTATIVE OF ACTUAL ROOM LAYOUT.

TYPICAL VERIZON EQUIPMENT ROOM GROUNDING SCHEMATIC

DETAIL 1 / NTS

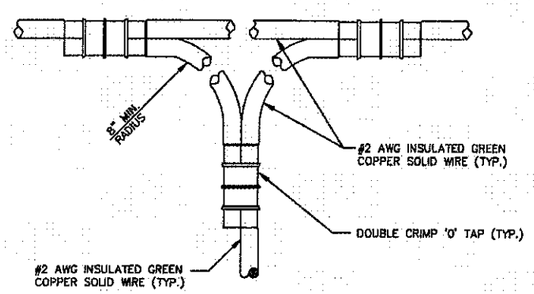
INTERIOR GROUNDING GENERAL NOTES:

1. GROUND SHALL COMPLY WITH NEC ART. 250.
2. GROUNDING CONDUCTORS SHALL BE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR INDOOR USE.
3. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
4. ROUTE GROUNDING CONNECTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NOT BE BENT AT RIGHT ANGLE. ALWAYS MAKE 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY.
5. CONNECTIONS TO GROUND BAR SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
6. TEST COMPLETED GROUND SYSTEM AND RECORD RESISTANCE VALUES FOR PROJECT CLOSE-OUT DOCUMENTATION. GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS.



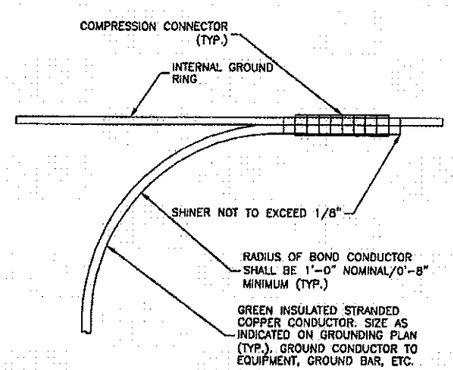
CABLE TRAY GROUNDING DETAILS

DETAIL 4 / NTS



CONNECTION TO GROUND HALO DETAIL

DETAIL 2 / NTS



DIRECTIONAL SPLICE DETAIL

DETAIL 3 / NTS

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JOB # 50020836

AT&T SITE NUMBER: FA10134348
AT&T SITE NAME: DOE RUN RELO
VERIZON WIRELESS SITE NAME: PHI-KINGS RANCH
775 FAIRVIEW ROAD
COATESVILLE, PA 19320

at&t MOBILITY
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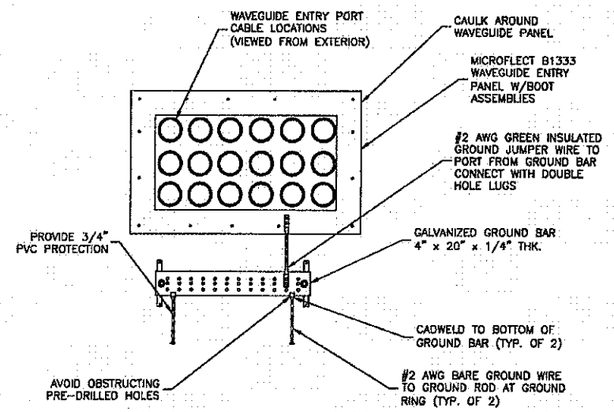
SCALE: AS SHOWN | DESIGNED BY: MPC | DRAWN BY: MPC

SEAL: COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ALEC SCOTT NORRIS — ENGINEER — NJ PE075550 — ALEC S. NORRIS — PROFESSIONAL ENGINEER — PA PE075550

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

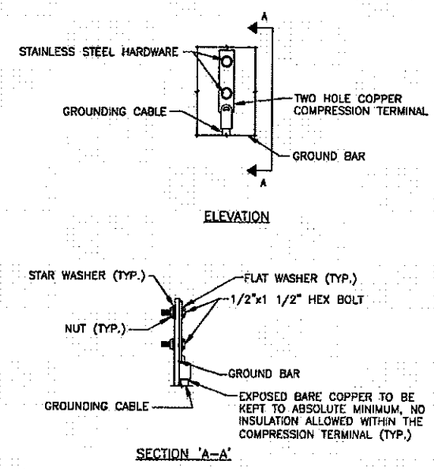
VERIZON WIRELESS GROUNDING DETAILS – 1

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-9	4



COAX ENTRY PORT (EXTERIOR VIEW)

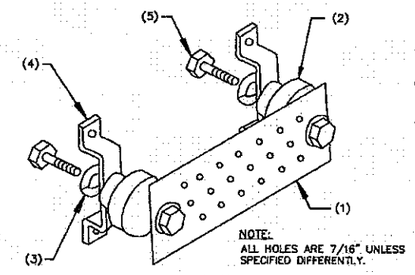
DETAIL 1 / NTS



NOTES:
1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL

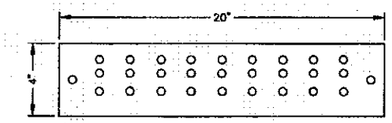
DETAIL 2 / NTS



NOTE:
ALL HOLES ARE 7/16" UNLESS SPECIFIED DIFFERENTLY.

LEGEND

1. GALVANIZED GROUND BAR, 1/4"x4"x20", GBIT 14420 J 2-7. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. STANDOFF INSULATORS, HARGER LIGHTNING PROTECTION, INC. CAT. NO. 5263-A8.
3. 1/2" LOCKWASHERS, HARGER CO. CAT. NO. LWBS.
4. WALL MOUNTING STAINLESS STEEL, MOUNTING BRACKET, HARGER CAT NO. WBKT-1.
5. 1/2-13 x 1" HEX HEAD CAP SCREW, HARGER, CAT NO. CS88S.



"J"

THE GROUND BAR IS 1/4" THICK, 4" WIDE, 20" LONG. IT HAS A HOLE PATTERN "J" WITH A NO. 2 AWG SOLID TINNED TAIL.

GBIT 14420 J 2-7

STYLE SIZE HOLE PATTERN TAIL

STYLE: GBIT – GROUND BAR WITH WALL MOUNTING BRACKETS, INSULATORS AND A 25' EXOTHERMICALLY WELDED TAIL.

SIZE: THICKNESS, WIDTH, LENGTH IN INCHES.

HOLE PATTERN: HOLE PATTERN CENTERS MATCH NEMA DOUBLE LUG CONFIGURATION. SEE ISOMETRIC.

TAIL: SPECIFY AMERICAN WIRE GAUGE (AWG) SIZE AND STRANDING REQUIRED. 25' LENGTH IS STANDARD UNLESS OTHERWISE REQUESTED.

GROUND BAR DETAIL

DETAIL 3 / NTS

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SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ALEC SCOTT NORRIS ENGINEER No. PE075556 PROFESSIONAL ENGINEER

AT&T MOBILITY AND CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VERIZON WIRELESS GROUNDING DETAILS – 2

JOB NUMBER	DRAWING NUMBER	REV
24782-419	G-10	4