# MetroPCS Pennsylvania, LLC

**SITE NUMBER:** PH0728C
**SITE NAME:** COATESVILLE SOUTH PECO
**SITE ADDRESS:** 180 DOE RUN ROAD
COATESVILLE, PA 19320

**COLOCATION ON AN EXISTING TRANSMISSION TOWER**

PAID
AUG 18 2010
BY: Denise Miller

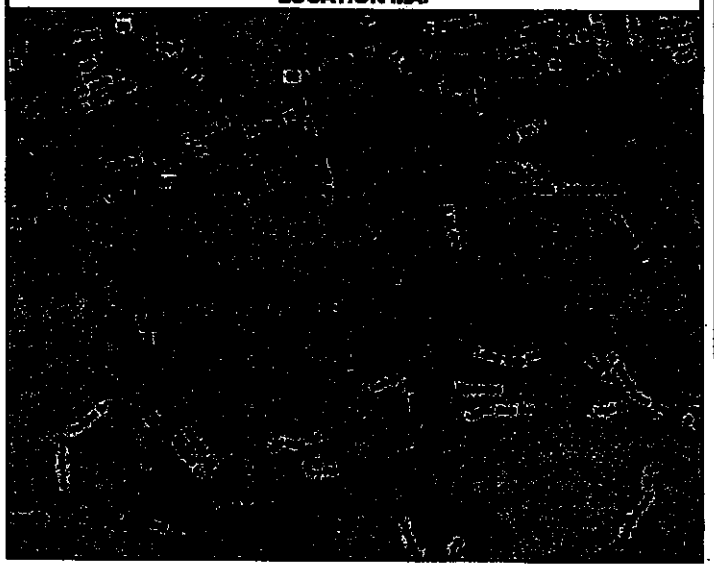
## ENDORSEMENTS
APPROVED BY EAST FALLOWFIELD TOWNSHIP

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

## SITE INFORMATION

| | |
|---|---|
| PROPERTY OWNER: | PHILA ELECTRIC CO<br>2301 MARKET STREET<br>PHILADELPHIA, PA 19301 |
| TOWER OWNER: | PHILA ELECTRIC CO<br>2301 MARKET STREET<br>PHILADELPHIA, PA 19301 |
| APPLICANT: | METRO PCS PENNSYLVANIA, LLC<br>510 VIRGINIA DRIVE<br>FORT WASHINGTON, PA 19034<br>PHONE: (215) 619-9300 |
| SITE ADDRESS: | 180 DOE RUN ROAD<br>COATESVILLE, PA 19320 |
| COUNTY: | CHESTER COUNTY |
| LATITUDE: | 39° 58' 8.862" N (NAD 83) |
| LONGITUDE: | -75° 49' 35.4" W (NAD 83) |
| ZONING CLASSIFICATION: | MU - MUTU USE |
| ZONING JURISDICTION: | EAST FALLOWFIELD TOWNSHIP |
| PARCEL NUMBER: | 47-04-0084 |
| POWER COMPANY: | PECO ENERGY COMPANY<br>2301 MARKET STREET<br>PHILADELPHIA, PA 19101 |
| TELEPHONE COMPANY: | VERIZON<br>540 BROAD STREET<br>NEWARK, NJ 07101 |
| ENGINEER/ARCHITECT: | DEWBERRY-GOODKIND, INC.<br>EASTGATE BUSINESS CENTER<br>133 GAITHER DRIVE, SUITE F<br>MOUNT LAUREL, NJ 08054 |
| METRO PCS CONTACT: | LEE PEART<br>215-619-9344 |
| CONSTRUCTION CONTACT: | MIKE ALBARANO<br>215-619-9332 |
| RF ENGINEER CONTACT: | FRANK PUCHINO<br>215-619-9384 |
| OPS CONTACT: | RICHARD KENNEDY<br>215-619-9370 |

## LOCATION MAP



## DRAWING INDEX



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CODE INFORMATION:

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

CONSTRUCTION TYPE: IIB NONCOMBUSTIBLE/UNPROTECTED

USE GROUP: U - UTILITY AND MISCELLANEOUS

## PROJECT DESCRIPTION

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT AREA AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
3. THE PROPOSED FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE.
4. NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
6. METRO PCS MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

## DRIVING DIRECTIONS

DEPART VIRGINIA DRIVE. TOWARD CAMP HILL ROAD. TAKE RAMP RIGHT FOR I-276 WEST / PENNSYLVANIA TPKE TOWARD HARRISBURG. AT EXIT VALLEY FORGE INTERCHANGE, TAKE RAMP RIGHT FOR I-76 EAST / VALLEY FORGE INTERCHANGE TOWARD PHILADELPHIA / VALLEY FORGE. AT EXIT 326B, TAKE RAMP RIGHT FOR US-202 SOUTH / W DEKALB PIKE TOWARD WEST CHESTER. TAKE RAMP RIGHT FOR US-30 WEST / EXTON BYP TOWARD DOWNINGTOWN / COATESVILLE. TAKE RAMP RIGHT TOWARD COATESVILLE. TURN RIGHT ONTO SR-82 / MANOR ROAD TURN RIGHT ONTO US-30 BUS / SR-82 / W LINCOLN HIGHWAY. TURN LEFT ONTO SR-82 / STRODE AVENUE. SITE WILL BE ON YOUR LEFT.

## DO NOT SCALE 11" X 17" DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.


NOTE:
THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.



MetroPCS Pennsylvania, LLC
510 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

Dewberry
Dewberry-Goodkind, Inc.


| NO. | DATE | ISSUE |
|---|---|---|
| A | 07/22/10 | ISSUED FOR REVIEW |
| 0 | 08/05/10 | ISSUED FOR ZONING/CONSTRUCTION |
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CURRENT ISSUE DATE: 08/05/10

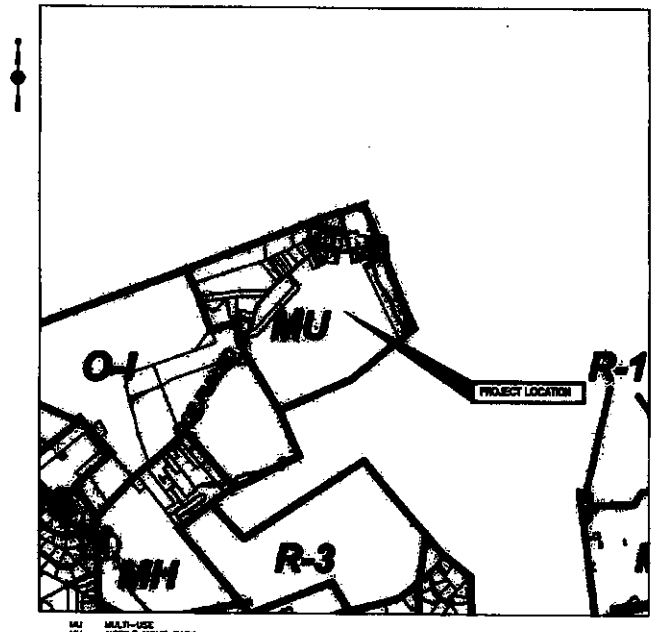
ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016804
DRAWN BY: JFR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1




MU MULTI-USE
MH MOBILE HOME PARK
O-I OFFICE-INDUSTRIAL
R-1 LOW DENSITY RESIDENTIAL
R-3 MEDIUM DENSITY RESIDENTIAL

## ZONING MAP

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 1,000' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

**MetroPCS**
Pennsylvania, LLC

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FORT WASHINGTON, PA 19034
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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016604
DRAWN BY: JFR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
ZONING INFORMATION

SHEET NUMBER
Z-1

## GENERAL NOTES

1. SITE AND BOUNDARY INFORMATION OBTAINED FROM THE FOLLOWING:
   A. EXISTING PLANS ENTITLED "COATESVILLE SOUTH PECO" PREPARED FOR METRO PCS, PREPARED BY CMX OF LANSDALE, PA DATED 02/23/10.
   B. LIMITED FIELD OBSERVATIONS PERFORMED BY DEWBERRY-GOODKIND, INC. ON 05/28/10. NO FIELD SURVEY HAS BEEN CONDUCTED BY DEWBERRY-GOODKIND, INC. TO VERIFY THE ACCURACY OF THE INFORMATION PROVIDED ON THE EXISTING SITE PLANS. NO TITLE REVIEW OF THE PROPERTY HAS BEEN CONDUCTED BY DEWBERRY-GOODKIND, INC. AND THE PROPERTY IS SUBJECT TO ALL EXISTING EASEMENTS AND RESTRICTIONS ON RECORD.
2. THIS PROPOSAL IS FOR AN UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF THE LOCATION OF SIX (6) PANEL ANTENNAS ON AN EXISTING ±135' TRANSMISSION TOWER AND THE PLACEMENT OF SMALL WEATHERTIGHT RADIO EQUIPMENT CABINETS AND ASSOCIATED APPURTENANCES ON A 10'X16' CONCRETE PAD.
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: ±200 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. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
10. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
11. CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM PRIOR TO CONSTRUCTION @ 1-800-242-1776.
12. ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP OF CHESTER COUNTY, PA (ALL JURISDICTIONS), PANEL 190 OF 380, MAP NUMBER 42029C0190F, DATED 09/29/2006. THE SITE IS LOCATED WITHIN ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
13. 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.
14. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
15. SUBCONTRACTOR TO VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
16. SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
17. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS & INSPECTIONS REQUIRED FOR CONSTRUCTION.
18. SUBCONTRACTOR SHALL DETERMINE EXACT ROUTE OF ANY UNDERGROUND CONDUIT, IF REQUIRED.
19. A DRIVEWAY PERMIT IS NOT REQUIRED.
20. THIS PROJECT WILL NOT REQUIRE STREETS OR PROPERTY TO BE DEDICATED FOR PUBLIC USE.
21. THIS PROJECT WILL NOT REQUIRE PERMANENT MONUMENTS.

## LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CHAINLINK FENCE LINE
- HEAVY LINEWEIGHT INDICATES PROPOSED FACILITIES
- LIGHT LINEWEIGHT INDICATES EXISTING FACILITIES
- EXISTING BUILDING
- SETBACK LINE
- TREELINE
- ZONING BOUNDARY LINE
- TOWNSHIP BOUNDARY LINE

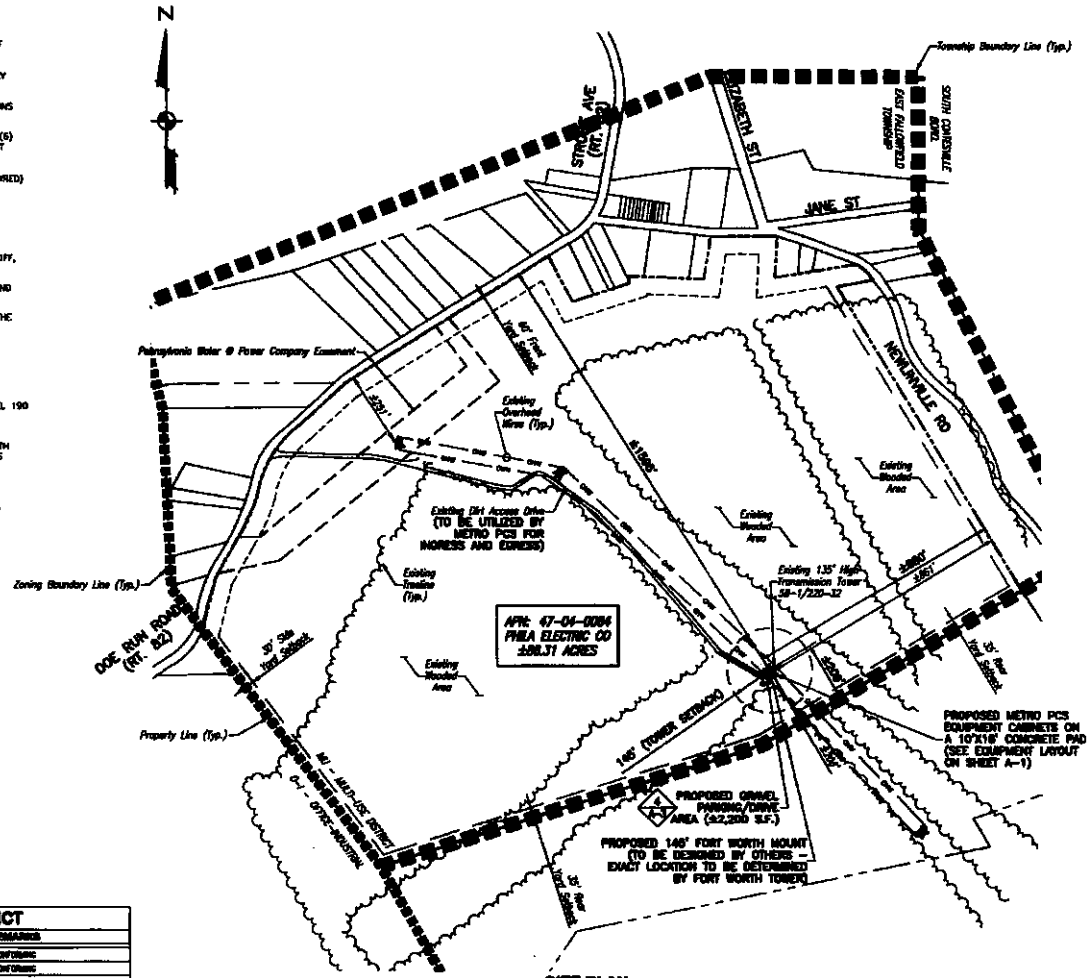
### BULK REQUIREMENTS FOR MU - MULTI-USE DISTRICT

| DESCRIPTION | REQUIRED | EXISTING | PROPOSED | REMARKS |
|---|---|---|---|---|
| MINIMUM LOT AREA | 2 ACRES | ±66.31 ACRES | NO CHANGE | CONFORMING |
| MINIMUM LOT WIDTH | 150 FEET | ±2,480 FEET | NO CHANGE | CONFORMING |
| MINIMUM FRONT YARD SETBACK | 80 FEET | ±254 FEET | NO CHANGE | CONFORMING |
| MINIMUM REAR YARD SETBACK | 35 FEET | ±206 FEET | NO CHANGE | CONFORMING |
| MINIMUM SIDE YARD SETBACK | 30 FEET | ±861 FEET | NO CHANGE | CONFORMING |
| MAXIMUM BUILDING HEIGHT | 35 FEET | N/A | N/A | N/A |
| MAXIMUM BUILDING COVERAGE | 40% | N/A | N/A | N/A |
| MAXIMUM IMPERVIOUS COVERAGE | 85% | <20% | NO CHANGE | CONFORMING |
| MINIMUM LANDSCAPE AREA | 25% | ±74% | NO CHANGE | CURRENT NON-CONFORMING |

### BULK REQUIREMENTS FOR §1733 WIRELESS COMMUNICATIONS FACILITIES

| DESCRIPTION | REQUIRED | EXISTING | PROPOSED | REMARKS |
|---|---|---|---|---|
| MAXIMUM ANTENNA HEIGHT | 10 FEET | <10 FEET | NO CHANGE | CONFORMING |
| MAXIMUM TOWER HEIGHT | 150 FEET | ±135 FEET | 145 FEET | CONFORMING |
| MINIMUM TOWER SETBACK (PROPERTY LINE, R.O.W. AND DWELLING) | 145 FEET* | ±200 FEET | NO CHANGE | CONFORMING |

* SETBACK EQUALS 1 x TOWER HEIGHT (145') = 145'




## SITE PLAN

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 200' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS

### SYMBOLS AND MATERIALS

DETAIL REFERENCE

SECTIONS & DETAILS

CONCRETE

EARTH

GRAVEL

SAND

**MetroPCS**
Pennsylvania, LLC

510 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

**Dewberry®**
Dewberry-Goodkind, Inc.

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ALEC SCHRIVENER

SUBMITTALS

| NO. | DATE | ISSUE |
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CURRENT ISSUE DATE: 08/05/10

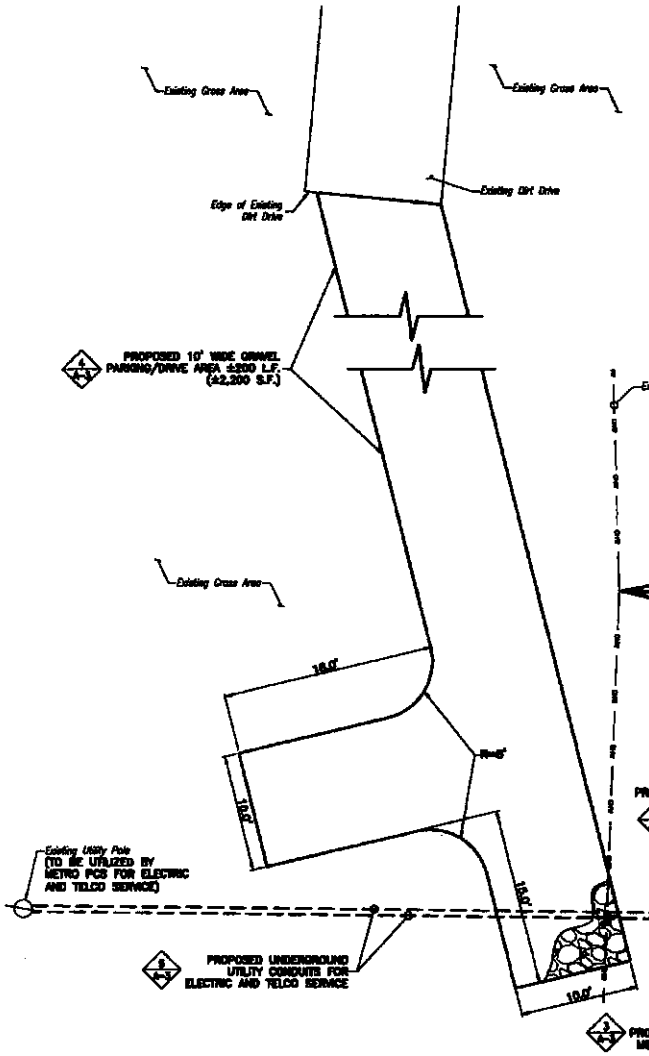
ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016604
DRAWN BY: JR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
SITE PLAN AND GENERAL NOTES

SHEET NUMBER
C-1

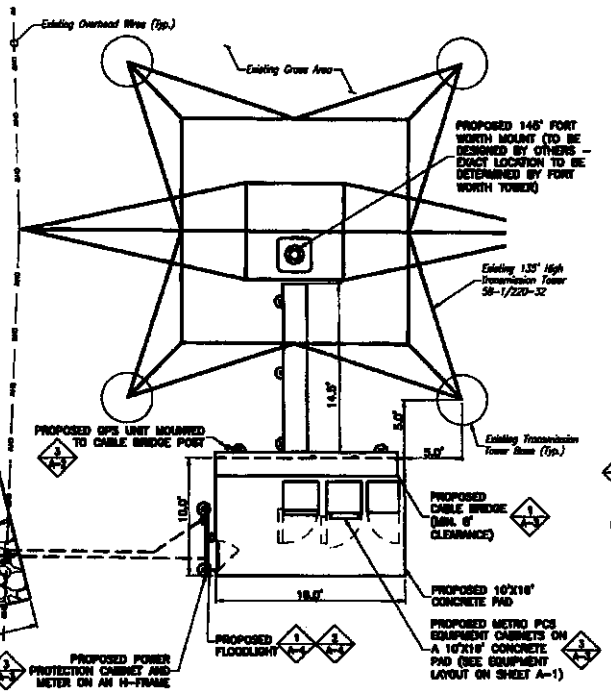


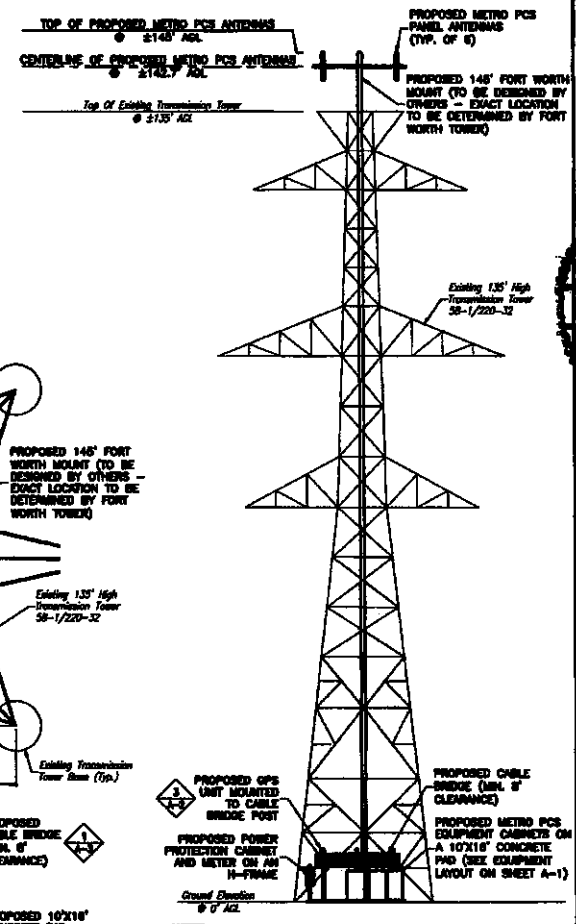

## DETAILED SITE PLAN

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 3' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS




NOTES:

1. STRUCTURAL ANALYSIS OF THE TOWER AND FOUNDATION WITH PROPOSED LOADING CONDITIONS IS TO BE PERFORMED BY OTHERS PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES.
2. CONTRACTOR SHALL NOT INITIATE CONSTRUCTION UNTIL RECEIPT OF STRUCTURAL ANALYSIS VERIFYING ADEQUACY OF EXISTING TOWER AND FOUNDATION TO SUPPORT PROPOSED LOADING.

## ELEVATION VIEW

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 10' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

| PROJECT NUMBER | DRAWN BY |
|---|---|
| 50016604 | JFR |

PROJECT

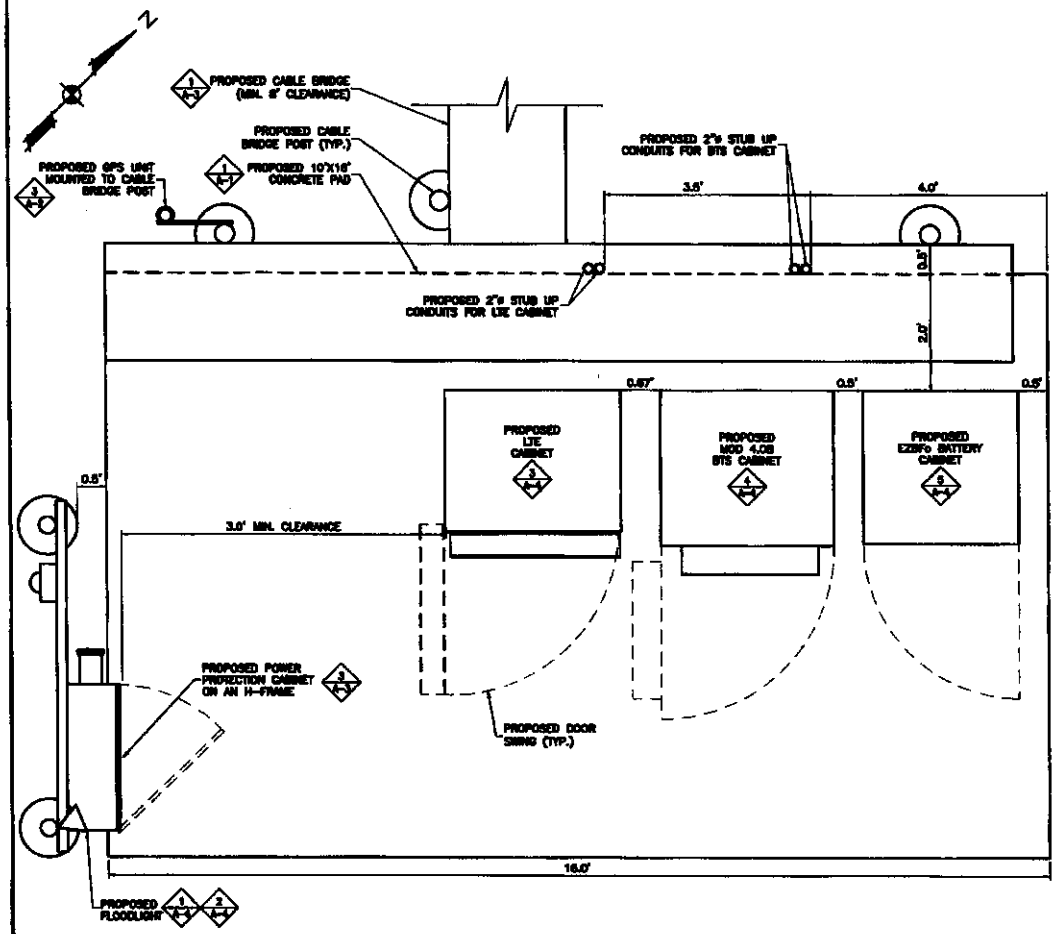
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE

DETAILED SITE PLAN AND ELEVATION VIEW

SHEET NUMBER

C-2




NOTE:

MAINTAIN 3.0' CLEARANCE FROM FRONT AND REAR OF PROPOSED CABINETS AND 12" CLEARANCE FROM TOP OF CABINETS.

## EQUIPMENT LAYOUT

GRAPHIC SCALE

( IN FEET )

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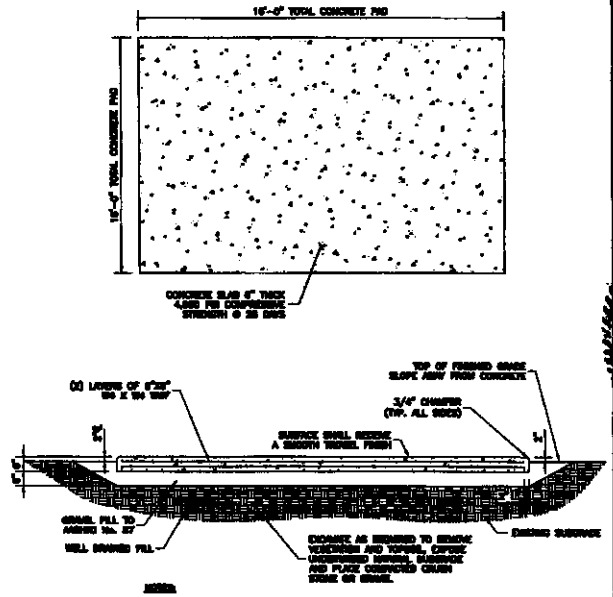


NOTES:

1. ANCHOR BOLTS ARE TO BE STAINLESS STEEL.
2. ANCHORS TO BE INSTALLED W/ NEW CHEMICAL-TYPED MASONRY DRILL BIT. ANCHORS SHALL BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS.
3. SLAB ON GRADE SHALL BE PLACED OVER A 6IN. OF 6" GRAVEL TO BE AASHTO NO. 57 ON UNDISTURBED OR WELL COMPACTED SOIL TO BEARING PRESSURE OF 1,500 PSF MIN.

## CONCRETE PAD DETAIL 1

NOT TO SCALE

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336A, ASTM A184, ASTM A185 AND THE DESIGN & 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 A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNLESS NOTED OTHERWISE.
4. INSTALLATION OF CONCRETE ADHESIVE ANCHORS, 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. SPECIAL INSPECTIONS REQUIRED BY GOVERNING CODES SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. MANUFACTURER'S MINIMUM CONCRETE EDGE DISTANCE SHALL BE MAINTAINED DURING INSTALLATION. ADHESIVE ANCHORS SHALL BE HILTI HIT HY-150 OR EQUAL.
5. ALL CONCRETE IS TO BE NORMAL DENSITY CONCRETE WITH A MAXIMUM SLUMP OF 4 INCHES. MAXIMUM AGGREGATE SIZE 3/4 INCH. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE AT THE JOB SITE.
6. NO HOLES OR SLEEVES SHALL BE MADE THROUGH CONCRETE WORK OTHER THAN THOSE INDICATED ON THE STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
7. ALL FORMWORK OFFSET TOLERANCES (PER ACI 117) TO BE CLASS A.
8. FLOOR SLAB TOLERANCES TO ASTM E1155: SPECIFIED OVERALL MINIMUM VALUE OF FLATNESS F f=25 WITH LOCAL MINIMUM F f=17, AND MINIMUM VALUE OF LEVELNESS F l=20 WITH LOCAL MINIMUM F l AND F l WITHIN 72 HOURS OF SLAB CONSTRUCTION.


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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50018604

DRAWN BY: JFR

PROJECT:
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO

EXISTING TRANSMISSION TOWER

180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE:
CONSTRUCTION DETAILS – 1

SHEET NUMBER:
A–1

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.

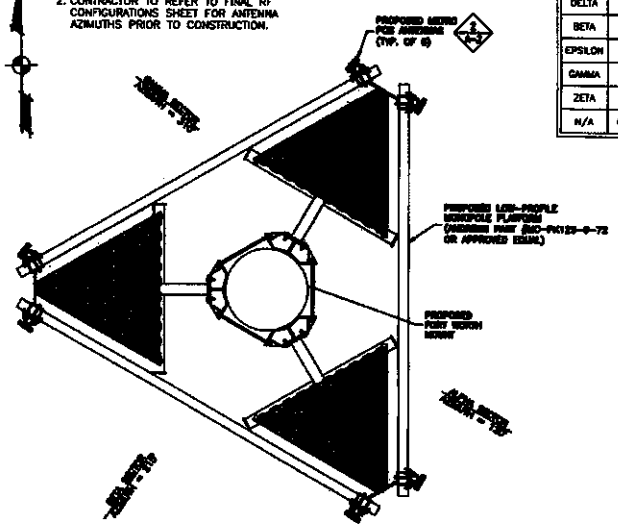
NOTE: SEE SHEET TO SUPERSEDE THE ANTENNA SCHEDULE IN CASE OF CONFLICT.

## ANTENNA AND COAXIAL CABLE SCHEDULE

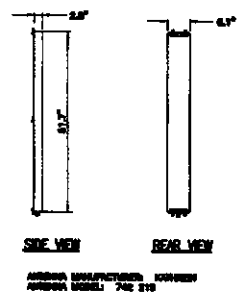
| SECTOR | ANTENNA | DOWN-TILT ELEC DT | DOWN-TILT MECH DT | AZIMUTH | ANTENNA ℄ HEIGHT | COAXIAL CABLE LENGTH | COAXIAL CABLE SIZE | COLOR CODE HARD LINE | TOTAL LINES PER SECTOR |
|---|---|---|---|---|---|---|---|---|---|
| ALPHA | KATHREIN 742 215 | 2° | 0° | 120° | 142.7' | ±175' | 1 5/8"ø | 1 RED/2 RED | 2-INITIAL |
| DELTA | 1-FUTURE | ---- | ---- | ---- | 142.7' | ±175' | 1 5/8"ø | 1 YELLOW/2 YELLOW | 2-FUTURE |
| BETA | KATHREIN 742 215 | 2° | 0° | 215° | 142.7' | ±175' | 1 5/8"ø | 1 BLUE/2 BLUE | 2-INITIAL |
| EPSILON | 1-FUTURE | ---- | ---- | ---- | 142.7' | ±175' | 1 5/8"ø | 1 WHITE/2 WHITE | 2-FUTURE |
| GAMMA | KATHREIN 742 215 | 2° | 0° | 310° | 142.7' | ±175' | 1 5/8"ø | 1 GREEN/2 GREEN | 2-INITIAL |
| ZETA | 1-FUTURE | ---- | ---- | ---- | 142.7' | ±175' | 1 5/8"ø | 1 PURPLE/2 PURPLE | 2-FUTURE |
| N/A | GPS (NEAR EQUIPMENT) | | | | ---- | | 1/2"ø | ---- | 1-INITIAL |

GPS MOUNTING NOTES:

1. THE ELEVATION AND LOCATION OF THE GPS UNIT SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS UNIT MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40 GALVANIZE STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 18") USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
3. THE MOUNTING PLATE SHALL BE FABRICATING AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZED U-BOLTS PROVIDED TO ALLOW FOR ADJUSTMENT. IT IS CRITICAL THE THE BASE OF THE GPS IS MOUNTED SUCH THAT IS IS WITHIN 1 DEGREE OF VERTICAL AND THE BASE OF THE GPS IS WITHIN 2 DEGREES OF LEVEL.

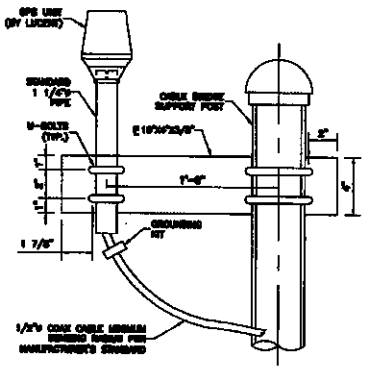



ANTENNA MOUNTING AND ORIENTATION DETAIL (1)
NOT TO SCALE

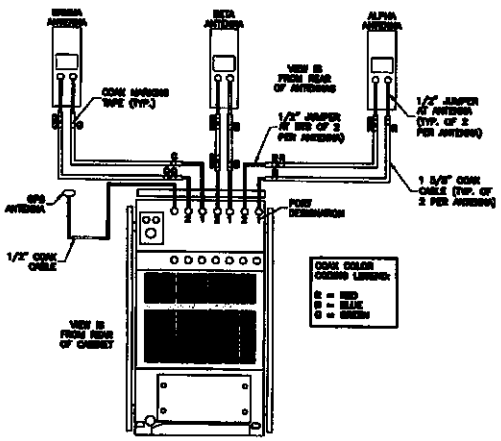



ANTENNA MANUFACTURER: KATHREIN
ANTENNA MODEL: 742 215

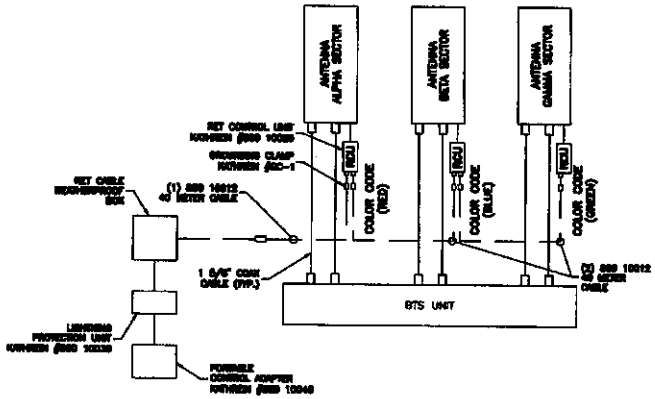
PANEL ANTENNA DETAIL (2)
NOT TO SCALE




GPS MOUNTING DETAIL (3)
NOT TO SCALE




COAX CABLE PLUMBING AND COLOR CODING DETAIL (4)
NOT TO SCALE




RET SYSTEM ANTENNA DIAGRAM (5)
NOT TO SCALE

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PHONE: 215-619-9300

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SUBMITTALS

| NO. | DATE | ISSUE |
|---|---|---|
| A | 07/22/10 | ISSUED FOR REVIEW |
| 0 | 08/03/10 | ISSUED FOR ZONING/CONSTRUCTION |
| 1 | | |
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CURRENT ISSUE DATE: 08/03/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016604
DRAWN BY: JR

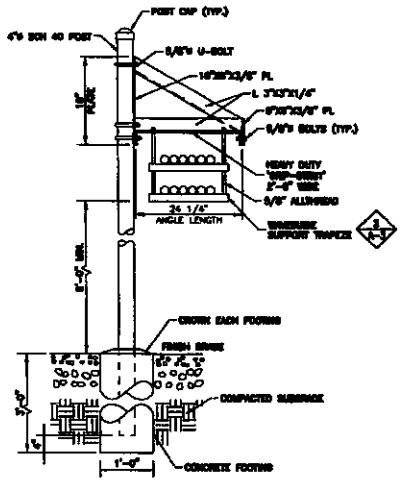
PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
CONSTRUCTION DETAILS – 2

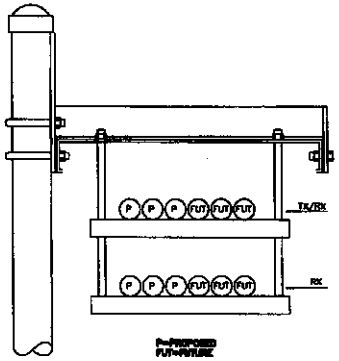
SHEET NUMBER
A–2

STRUCTURAL STEEL NOTES

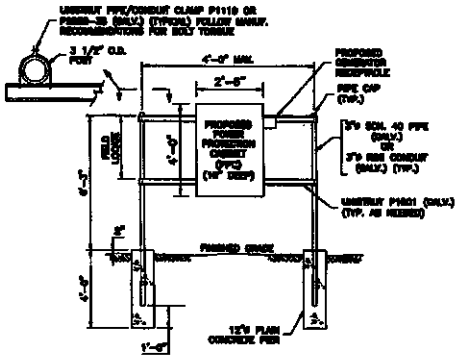
1. ALL STEEL WORK SHALL BE ASTM A36 AND GALVANIZED IN ACCORDANCE WITH ASTM A123 SPECIFICATIONS UNLESS NOTED OTHERWISE.
2. SHOP AND FIELD WELDING SHALL BE PERFORMED BY WELDERS THAT ARE CERTIFIED (AWS "STANDARD QUALIFICATION PROCEDURE") TO PERFORM THE TYPE OF WORK REQUIRED. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS) D1.1 "STRUCTURAL WELDING CODE – STEEL". PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 8TH EDITION, WHEN WELD SIZES ARE NOT SHOWN. USE E70XX ELECTRODES FOR ALL WELDING.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE GALVANIZED ASTM A325 BOLTS (3/4" DIA.) AND SHALL HAVE A MINIMUM OF SIX BOLTS PER FRAMING CONNECTION UNLESS NOTED OTHERWISE.
4. USE PRECAUTIONS & PROCEDURES PER AWS D1.1 WHEN WELDING GALVANIZED MATERIALS. AT COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED.
5. TOUCHUP ALL DAMAGE GALVANIZED STEEL WITH COLD ZINC, "GALVANOX", "DRY GALV.", "ZINC-IT" OR APPROVED EQUIVALENT, IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. TOUCHUP DAMAGED NON GALVANIZED STEEL WITH SABIL PAINT APPLIED IN SHOP OR FIELD.
6. ALL STRUCTURAL STEEL SHALL BE BOTH FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION – ALLOWABLE STRESS DESIGN".
7. MEMBERS SHALL BE LAID PLUMB AND TRUE AS SHOWN ON THE DRAWINGS.
8. THE CONTRACTOR SHALL PROVIDE HIS OWN ELECTRICAL NEEDS DURING CONSTRUCTION.
9. DURING CONSTRUCTION, ALL STEEL SHALL BE CAREFULLY HANDLED TO PROTECT ALL EXISTING STRUCTURES FROM DAMAGE.
10. UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE INSTALLED WITH HEADS UP OR TOWARD THE OUTSIDE FACE AND NUTS DOWN OR ON THE SIDE MOST PROTECTED FROM WEATHER.



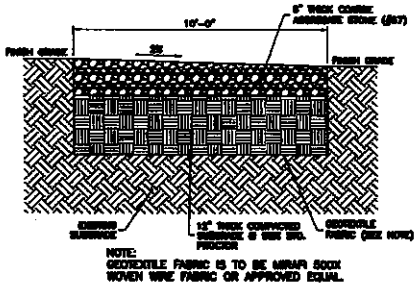

**CABLE BRIDGE DETAIL** (1)
NOT TO SCALE




**COAX ROUTING ON CABLE BRIDGE** (2)
NOT TO SCALE

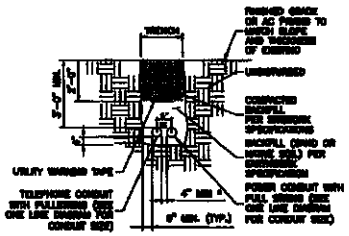



**POWER PROTECTION CABINET AND H-FRAME DETAIL** (3)
NOT TO SCALE




NOTE:
GEOTEXTILE FABRIC IS TO BE MIRAFI 500X WOVEN WIRE FABRIC OR APPROVED EQUAL.

**GRAVEL COMPOUND DETAIL** (4)
NOT TO SCALE




*SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

**UTILITY TRENCH DETAIL** (5)
NOT TO SCALE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| A | 07/22/10 | ISSUED FOR REVIEW |
| B | 08/05/10 | ISSUED FOR ZONING/CONSTRUCTION |
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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50018604
DRAWN BY: JFR

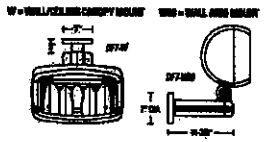
PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
CONSTRUCTION DETAILS – 3

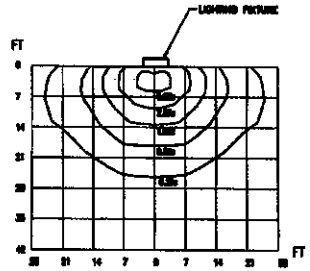
SHEET NUMBER
A–3

LIGHTING NOTES

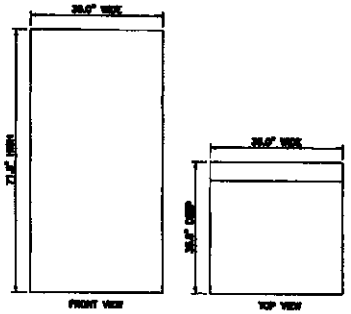
1. THE PROPOSED FLOODLIGHT SHALL BE A 70W GENLYTE CANOPY MOUNTED WSO FIXTURE.
2. THE LIGHT SHALL BE MANUALLY OPERATED ONLY WHEN A TECHNICIAN IS PRESENT AT THE SITE AND SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT OFF TIMER.



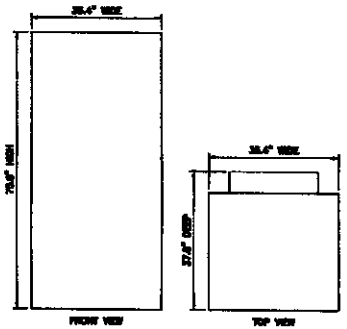
**LIGHT FIXTURE SPECIFICATIONS** 1
NOT TO SCALE



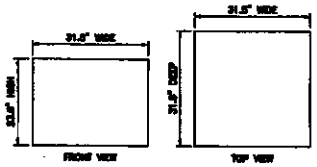

**ISO FOOT CANDLE PLOT**
**GENLYTE PIPE MOUNTED-PAK**
**70W LIGHT FIXTURE** 2
NOT TO SCALE




**LTE CABINET DETAIL** 3
NOT TO SCALE




**MOD 4.0B**
**BTS CABINET DETAIL** 4
NOT TO SCALE




**EZBFo ONE MODULE**
**BATTERY BACKUP CABINET DETAIL** 5
NOT TO SCALE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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016404
DRAWN BY: JFR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO

EXISTING TRANSMISSION TOWER

180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
CONSTRUCTION DETAILS – 4

SHEET NUMBER
A–4

## GENERAL CONSTRUCTION NOTES:

1. THE PLAN SHOWS SOME SUBSURFACE STRUCTURES, ABOVE-GROUND STRUCTURES AND/OR OTHER FEATURES FROM FIELD MEASUREMENTS AND RECORD MAPPING, EXACT LOCATION OF WHICH MAY VARY FROM THE LOCATION INDICATED. IN PARTICULAR THE CONTRACTOR IS WARNED THAT THE EXACT LOCATION OF SUCH EXISTING FEATURES IN THE AREA MAY BE DIFFERENT FROM THAT SHOWN OR MAY NOT BE SHOWN, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROCEED WITH GREATEST CARE IN EXECUTING ANY WORK.

2. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY.

3. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.

5. WORK SHALL COMPLY WITH CURRENT ISSUES OF ALL APPLICABLE STATE AND LOCAL CODES, ORDINANCES, AND REGULATIONS, THE LATEST EDITION THEREOF.

6. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE BUILDING PERMIT HAS BEEN APPLIED FOR BY METRO PCS AND WILL BE PICKED UP BY THE CONTRACTOR AT THE PERMITS OFFICE.

7. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

8. THE ENGINEER HAS NOT CONDUCTED, NOR DOES IT INTEND TO CONDUCT ANY INVESTIGATION TO DETERMINE THE PRESENCE OF ANY HAZARDOUS MATERIAL INCLUDING BUT NOT LIMITED TO ASBESTOS, LEAD PAINT, AND PCB'S WITHIN THE CONFINES OF THIS PROJECT. THE ENGINEER WILL NOT ACCEPT ANY RESPONSIBILITY FOR THE ABATEMENT OR RESULTING CLAIMS FOR DAMAGES OR LOSSES AS A RESULT OF THE PRESENCE OF HAZARDOUS MATERIALS. IF EVIDENCE OF HAZARDOUS MATERIALS IS DISCOVERED, SUSPEND WORK AS REQUIRED BY GOVERNING STATUTES, AND NOTIFY METRO PCS REPRESENTATIVE. DO NOT PROCEED WITH WORK UNTIL INSTRUCTED BY METRO PCS REPRESENTATIVE.

9. ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE NEW UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF TWELVE MONTHS FOLLOWING SUBSTANTIAL COMPLETION OF PROJECT OR AS SPECIFIED. THE CONTRACTOR SHALL REPAIR OR REPLACE AT HIS EXPENSE ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIALS OR WORKMANSHIP WITHIN THE WARRANTY PERIOD.

10. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR ARE TO BE RESPONSIBLE FOR VERIFYING EXISTING SITE CONDITIONS AND DIMENSIONS AND THE LOCATION OF BURIED UTILITIES AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF WORK. NOTIFICATION MARKING TO BE DONE BY ONE-CALL. NO CLAIMS FOR EXTRA COMPENSATION FOR WORK RESULTING FROM CONFLICTS AND OMISSIONS WHICH COULD HAVE BEEN DISCOVERED BY FIELD VERIFICATION AND INSPECTION, WHETHER INDICATED ON THE CONTRACT DOCUMENTS OR NOT, WILL BE ENTERTAINED OR PAID.

11. FOLLOW MANUFACTURERS' PRINTED SPECIFICATION AND INSTRUCTIONS EXCEPT WHERE SPECIFIED OR INDICATED ON CONTRACT DOCUMENTS. COMPLY WITH THE MOST STRINGENT INSTRUCTIONS.

12. THE CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, AND/OR ARCHITECTURAL WORK.

13. THE CONTRACTOR SHALL VERIFY THAT THERE ARE NO CONFLICTS AMONG THE LOCATIONS OF ANY MECHANICAL, ELECTRICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES AND CONSTRUCTION TOLERANCES FOR INSTALLATION AND MAINTENANCE ARE PROVIDED. NOTIFY METRO PCS REPRESENTATIVE OF ANY CONFLICTS. METRO PCS REPRESENTATIVE RESERVES THE RIGHT TO MAKE MINOR MODIFICATIONS TO THE DESIGN WITHOUT ALTERING THE CONTRACT PRICE.

14. DO NOT SCALE DRAWINGS. DIMENSIONS ARE EITHER TO THE FACE OF FINISHED ELEMENTS OR TO THE CENTER LINE OF ELEMENTS, UNLESS NOTED OTHERWISE. CRITICAL DIMENSIONS SHALL BE CONFIRMED WITH SITE MEASUREMENTS. VERIFY WITH METRO PCS REPRESENTATIVE AS APPLICABLE.

15. THE CONTRACTOR IS RESPONSIBLE FOR DAILY CLEAN UP OF SITE AND REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING SITE AND ANY OTHER SURROUNDING AREAS TO THE SATISFACTION OF METRO PCS AND THE LANDLORD.

16. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE COLLAPSE, ETC., ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES.

17. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL APPLICABLE NATIONAL (OSHA), STATE AND LOCAL CODES, STANDARDS, ORDINANCES, RULES AND REGULATIONS.

18. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR DAMAGES TO THE EXISTING FACILITY AND INSTALLATION RESULTING FROM CONSTRUCTION AND GENERAL NEGLIGENCE. REPAIR ALL DAMAGES AND RESTORE FACILITY AND INSTALLATIONS TO THE SATISFACTION OF METRO PCS AND LANDLORD AT NO EXTRA CHARGE. NOTIFY METRO PCS REPRESENTATIVE AND TOWER OWNER OF ANY SUCH DAMAGES PROMPTLY. REPAIR TO 100 % SATISFACTION IMMEDIATELY.

19. WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, UNLESS NOTED OTHERWISE, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.

20. WHERE NEW PAVING, CONCRETE SIDEWALKS, OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION TO MAINTAIN CONTINUITY AND A SMOOTH TRANSITION.

21. METRO PCS REPRESENTATIVE IS RESPONSIBLE FOR APPLYING FOR COMMERCIAL POWER CONNECTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF UTILITY INSPECTIONS AND POWER COMPANY INSTALLATION. THE GENERAL CONTRACTOR IS REQUIRED TO KEEP ALL DOCUMENTATION RECEIVED FROM THE POWER COMPANY, WRITTEN AND VERBAL DISCUSSIONS WITH THE POWER COMPANY, ETC.

22. METRO PCS REPRESENTATIVE SHALL OBTAIN WRITTEN CONFIRMATION OF THE EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY. CONTRACTOR WILL PROVIDE TEMPORARY POWER FOR CONSTRUCTION. GENERAL CONTRACTOR AND HIS SUBCONTRACTORS ARE NOT ALLOWED TO CONNECT TO ANY EXISTING UTILITIES ON THE SITE.

23. DRAWINGS FORMING THIS SET ARE COMPLIMENTARY AND MUST BE READ AS ONE TOTAL DOCUMENT. DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF METRO PCS. THESE DRAWINGS WERE PREPARED TO BE SUBMITTED TO GOVERNMENTAL BUILDING AUTHORITIES FOR REVIEW FOR COMPLIANCE WITH APPLICABLE CODES. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO EXECUTE CONSTRUCTION INDICATED HEREIN ACCORDING TO APPLICABLE BUILDING CODES.

24. IF THE CONTRACTOR OR SUBCONTRACTOR FINDS IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, IT IS THE CONTRACTOR'S AND THE SUBCONTRACTOR'S RESPONSIBILITY TO PROVIDE METRO PCS REPRESENTATIVE THE PROPOSED CHANGES FOR METRO PCS REPRESENTATIVE TO REVIEW AND APPROVE PRIOR TO PROCEEDING WITH SUCH CHANGES. IN ADDITION, THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES PRIOR TO PROCEEDING WITH THE REVISED WORK. THE CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.

25. THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS SHALL BE INTERPRETED TO BE A MINIMUM ACCEPTABLE STANDARD FOR CONSTRUCTION. THESE DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR, SUBCONTRACTOR, AND/OR SUPPLIER/MANUFACTURER FROM PROVIDING A COMPLETE AND CORRECT INSTALLATION SHOULD ADDITIONAL ITEMS AND DETAILS BE REQUIRED FOR PROPER AND SAFE INSTALLATION.

26. THESE CONTRACT DOCUMENTS AND SPECIFICATIONS DO NOT CREATE A CONTRACTUAL RELATIONSHIP OF ANY KIND BETWEEN METRO PCS REPRESENTATIVE AND THE CONTRACTOR.

27. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT DESCRIBED HEREIN.

28. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM METRO PCS REPRESENTATIVE TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

29. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.

30. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT AND MAINTAIN EXISTING CONDITIONS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

31. THE CONTRACTOR SHALL MAINTAIN ALL TRAFFIC IN ALL AREAS IN ACCORDANCE WITH THE STATE'S DOT STANDARDS FOR TRAFFIC CONTROL.

32. THE CONTRACTOR SHALL NOTIFY THE METRO PCS REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL IT IS RESOLVED BY THE METRO PCS REPRESENTATIVE.

33. CONTRACTOR TO PROVIDE TEMPORARY TOILET FACILITIES FOR DURATION OF PROJECT.

34. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.

35. IN ANY EXCAVATED AREA, BACKFILL WILL BE PLACED WITH DRY MATERIAL FREE OF ROCK OR STONES LARGER THAN 1", IN 12' LIFTS, COMPACTED TO 95% DRY DENSITY. ALL DISTURBED AREAS TO BE RESTORED TO MATCH SURROUNDING CONDITIONS.

36. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.

37. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR.

38. DAMAGE TO UTILITIES OR PROPERTY OF OTHERS BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR.

39. CONTRACTOR TO PROVIDE THREADED CAPS ON FUTURE CONDUIT.

40. CONTRACTOR TO PROVIDE RUBBER CAPS ON ALL KINDORF OR UNISTRUT.

41. CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIM/HER SELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM/HER SELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

42. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

43. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.

44. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE PROPERTY OWNER AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER.

45. INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

46. MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.

47. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE BY OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE CORRECTED IMMEDIATELY UPON WRITTEN NOTIFICATION AT NO ADDITIONAL COST TO OWNER.

48. MINIMUM BEND RADIUS OF ANTENNAS CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.

49. CABLE ROUTING SHOWN IS DIAGRAMMATIC. ACTUAL ROUTE OF ANTENNA CABLES SHALL BE DETERMINED IN THE FIELD.

50. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.

51. WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN IF NOT SPECIFICALLY MARKED ON THE DRAWINGS OR REFERRED TO IN THE SPECIFICATIONS, UNLESS NOTED OTHERWISE.

52. THESE CONTRACT DOCUMENTS AND SPECIFICATIONS SHALL NOT BE CONSTRUCTED TO CREATE A CONTRACTUAL RELATIONSHIP OF ANY KIND BETWEEN THE ARCHITECT AND THE CONTRACTOR.

53. IN ORDER TO AVOID ANY CONFLICTS, CONTRACTOR SHALL COORDINATE ALL HIS PRACTICAL TRADES.

54. REPLACE/RESTORE ANY EXISTING DAMAGED GEOTEXTILE WEED BARRIER CAUSED BY METRO PCS CONSTRUCTION.


**MetroPCS**
Pennsylvania, LLC

510 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

Dewberry
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SUBMITTALS

| NO. | DATE | ISSUE |
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| A | 07/22/10 | ISSUED FOR REVIEW |
| B | 08/05/10 | ISSUED FOR ZONING/CONSTRUCTION |
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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

| PROJECT NUMBER | DRAWN BY |
|---|---|
| 50018804 | JPR |

PROJECT

SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO

EXISTING TRANSMISSION TOWER

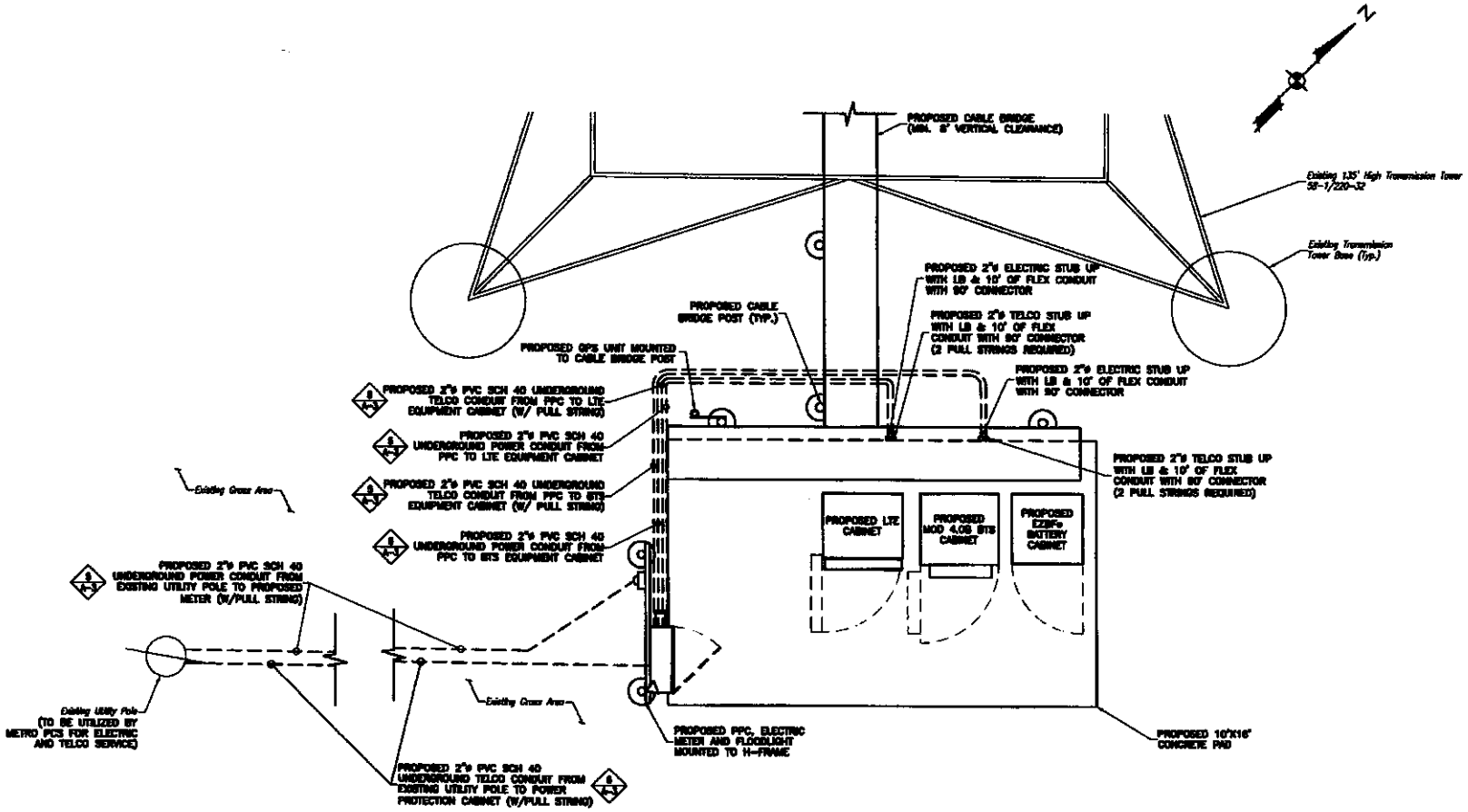
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE

CONSTRUCTION NOTES

SHEET NUMBER

A-5




NOTES:

1. 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 AND INSTALL HAND HOLES AS REQUIRED.
2. DEWBERRY-GOODKIND, INC. IS NOT RESPONSIBLE FOR COORDINATION OF POWER OR TELCO SERVICE TO SITE. COORDINATION BY OTHERS.

## UTILITY PLAN

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 2' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS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| NO. | DATE | ISSUE |
|---|---|---|
| A | 07/22/10 | ISSUED FOR REVIEW |
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CURRENT ISSUE DATE: 08/03/10

ISSUED FOR: ZONING/CONSTRUCTION

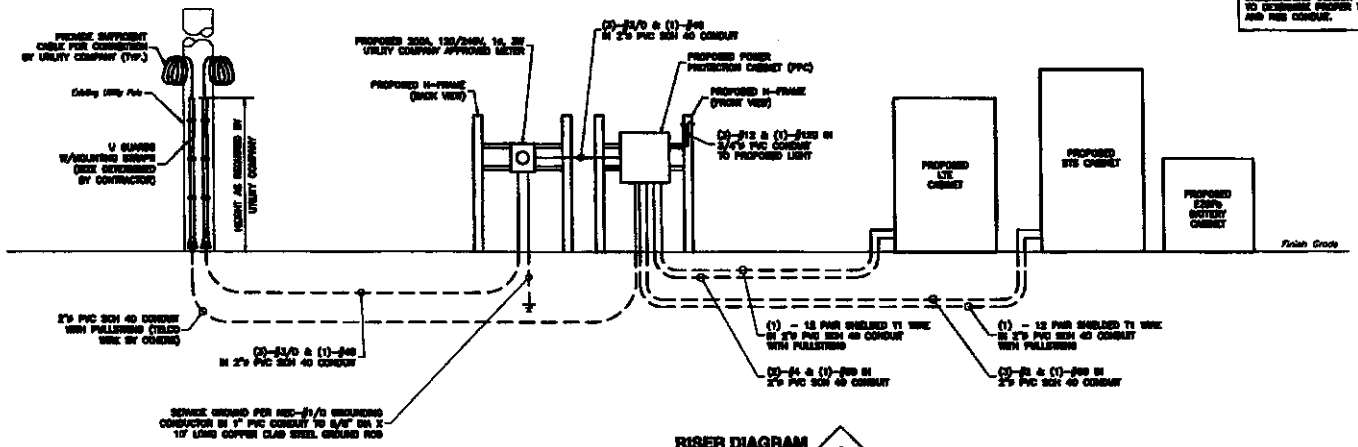
PROJECT NUMBER: 50016904
DRAWN BY: JFR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

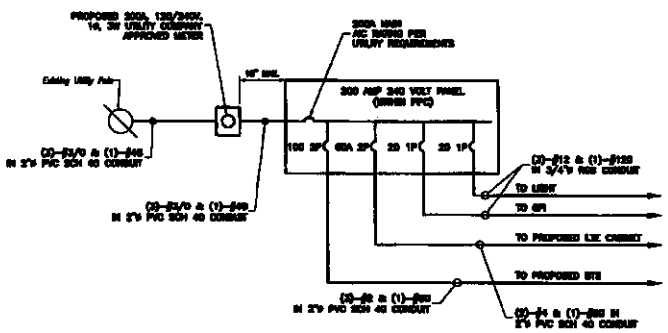
SHEET TITLE
UTILITY PLAN

SHEET NUMBER
E-1

NOTE:
ALL ABOVE GROUND CONDUIT TO BE RGS. ALL UNDERGROUND CONDUIT TO BE PVC. CONTRACTOR TO DETERMINE PROPER TRANSITION BETWEEN PVC AND RGS CONDUIT.




**RISER DIAGRAM** (1)
NOT TO SCALE




NOTE:
PROVIDE #4 BONDING JUMPER

**ONE-LINE DIAGRAM** (2)
NOT TO SCALE

PANEL SCHEDULE

| LOAD NAME | LOAD VA | | TRIP | CKT | A | B | CKT | TRIP | | LOAD | LOAD NAME |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LUCENT EQUIP. BTS | 17,000 | | 100/2 | 1 | 14,250 | | 2 | 60/2 | | 11,500 | LTE EQUIP. CABINET |
| LUCENT EQUIP. BTS | | | | 3 | | 14,250 | 4 | | | | LTE EQUIP. CABINET |
| EXTERIOR GFI OUTLET | 360 | | 20/1 | 5 | 360 | | 6 | | | | SPARE |
| EXTERIOR LIGHT | 430 | | 20/1 | 7 | | 430 | 8 | | | | SPARE |
| BLANK | | | | 9 | | | 10 | 30/2 | | – | SURGE ARRESTOR |
| BLANK | | | | 11 | | | 12 | | | | SURGE ARRESTOR |
| PHASE A: 14,610 | | | | PHASE B: 14,680 | | | | | | TOTAL VA: 29,290 | |
| MFG./TYPE: | | | | MODIFICATIONS: | | | | | | AMPS RMS. SYM: 122 AMPS | |

**PANEL SCHEDULE** (3)
NOT TO SCALE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FORT WASHINGTON, PA 19034
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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50018604
DRAWN BY: JTS

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
UTILITY DETAILS

SHEET NUMBER
E-2

## 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 #8 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 #8 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 METRO PCS'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 OS1. 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 METRO PCS 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.
16. 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.
17. 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 METRO PCS MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES.
18. 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.
19. 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.
20. 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.


MetroPCS
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FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

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PROFESSIONAL ENGINEER

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CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50018604
DRAWN BY: JFR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
ELECTRICAL NOTES

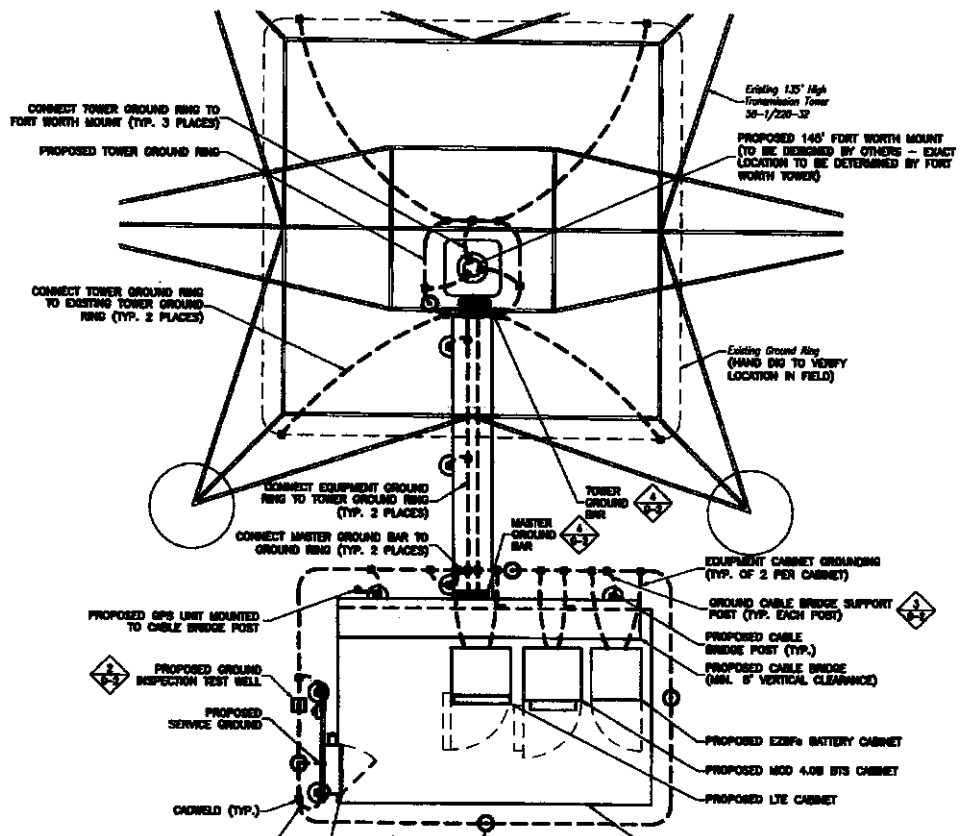
SHEET NUMBER
E-3

## GROUNDING NOTES

1. PROVIDE #2 AWG GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE.
2. PROVIDE BONDING AND GROUNDING CONDUCTORS WITH GREEN TYPE THWN INSULATION UNLESS NOTED OTHERWISE.
3. PROVIDE SOLID TINNED BARE COPPER WIRE (BCW) GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE.
4. PROVIDE STANDARD COAX CABLE GROUNDING KIT. TOTAL LENGTH OF GROUNDING CONDUCTOR SHALL NOT EXCEED 10'-0"
5. LEAVE GROUND WIRE COILED UP ABOVE GRADE. CAP END OF CONDUIT.
6. ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF CABLE BRIDGE (FROM TOWER TO EQUIPMENT) IS GREATER THAN 20'-0".
7. ANY PROPOSED METALLIC EQUIPMENT WITHIN 6 FEET OF ANY EXISTING METALLIC STRUCTURE (I.E., FENCE, ETC.) SHALL BE GROUNDED.
8. CONNECT NEW GROUND SYSTEM TO EXISTING GROUND SYSTEM WHEREVER ENCOUNTERED IN THE FIELD. (MIN. 2 PLACES)
9. CONTRACTOR TO FOLLOW METRO PCS GROUNDING SPECIFICATIONS TO DETERMINE THE CORRECT GROUND ROD SPACING AND APPROPRIATE NUMBER OF GROUND RODS REQUIRED.

## GROUNDING LEGEND

- COPPER GROUND BAR
- EXOTHERMIC WELD CONNECTION
- COMPRESSION FITTING GROUND CONNECTION
- COAXIAL CABLE SHIELD GROUND KIT CONNECTION
- GROUND ROD
- GROUND ROD WITH TEST WELL
- GROUND WIRING




## GROUNDING PLAN

GRAPHIC SCALE

( IN FEET )

SCALE: 1" = 2' FOR 24"X36" DRAWINGS
DO NOT SCALE 11"X17" DRAWINGS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510 VIRGINIA DRIVE
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CURRENT ISSUE DATE: 08/05/10

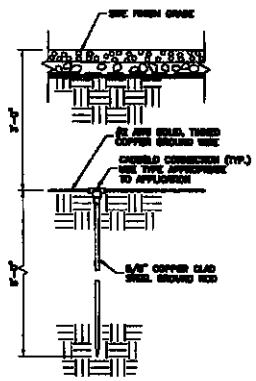
ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016604
DRAWN BY: JFR

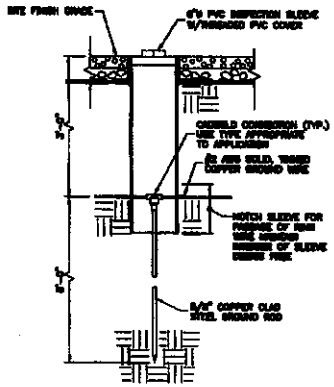
PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
GROUNDING PLAN

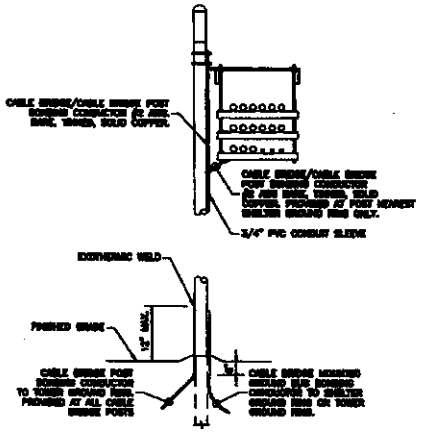
SHEET NUMBER
G-1



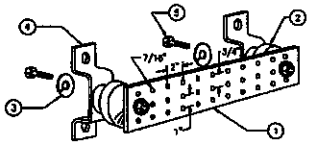

**GROUND ROD DETAIL** 1
NOT TO SCALE




**GROUND INSPECTION TEST WELL DETAIL** 2
NOT TO SCALE



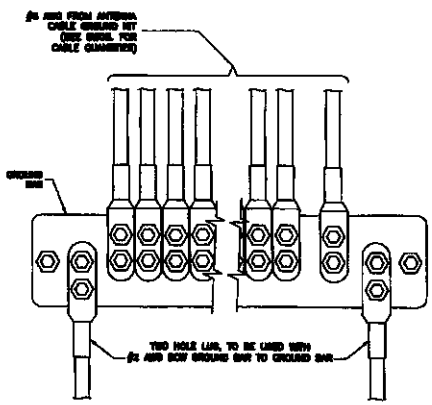

**CABLE BRIDGE GROUNDING DETAIL** 3
NOT TO SCALE



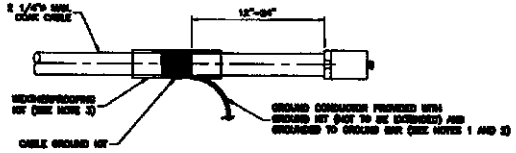

LEGEND

1. COPPER GROUND BAR, 1/4"X 4"X 24", BY MERSEN EARTHMAT CO. OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (OTHER GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
2. NEMA LUG, MERSEN EARTHMAT CAT. NO. 2001-4 OR EQUAL.
3. 5/8" LOCKWASHER, MERSEN EARTHMAT CO. CAT. NO. 2015-8 OR EQUAL.
4. WALL MOUNTED BRACKET, MERSEN EARTHMAT CO. CAT NO. A-5000 OR EQUAL.
5. 5/8-11 X 1" HEX BOLT, MERSEN EARTHMAT CO. CAT NO. 2013-1 OR EQUAL.
6. INSULATORS SHALL BE MOUNTED WITH BRACKETS DIRECTLY TO TOWER/MONOPOLE STRUCTURE. MOUNTING TO TOWER/MONOPOLE STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

**GROUND BAR DETAIL** 4
NOT TO SCALE



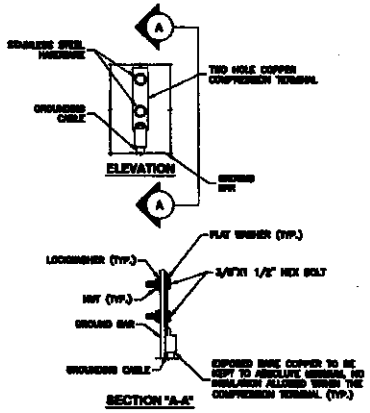

**GROUND LEADS TO GROUND BAR DETAIL** 5
NOT TO SCALE




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. WEATHERPROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

**CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE DETAIL** 6
NOT TO SCALE




NOTES:

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

**TYPICAL GROUND BAR CONNECTIONS DETAIL** 7
NOT TO SCALE


MetroPCS Pennsylvania, LLC
510 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

Dewberry
Dewberry-Goodkind, Inc.


PROFESSIONAL ENGINEER

SUBMITTALS

| NO. | DATE | ISSUE |
|---|---|---|
| A | 07/22/10 | ISSUED FOR REVIEW |
| 0 | 08/05/10 | ISSUED FOR ZONING/CONSTRUCTION |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |

CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

| PROJECT NUMBER | DRAWN BY |
|---|---|
| 50016604 | JTR |

PROJECT

SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO

EXISTING TRANSMISSION TOWER

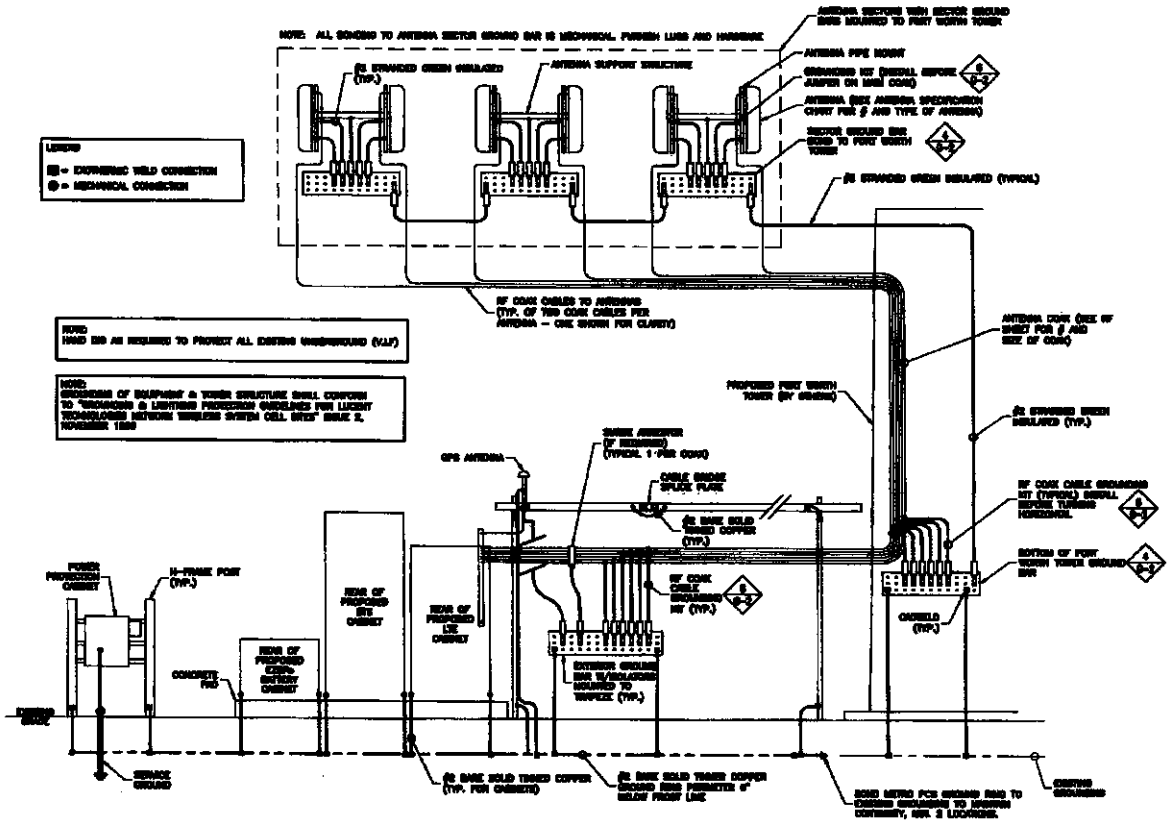
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE

GROUNDING DETAILS – 1

SHEET NUMBER

G–2




**GROUNDING RISER DETAIL** 1
NOT TO SCALE

**MetroPCS**
Pennsylvania, LLC

510 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034
PHONE: 215-619-9300

**Dewberry**
Dewberry-Goodkind, Inc.

| NO. | DATE | ISSUE |
|---|---|---|
| A | 07/22/10 | ISSUED FOR REVIEW |
| D | 08/05/10 | ISSUED FOR ZONING/CONSTRUCTION |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |

CURRENT ISSUE DATE: 08/05/10

ISSUED FOR: ZONING/CONSTRUCTION

PROJECT NUMBER: 50016604
DRAWN BY: JR

PROJECT
SITE NUMBER: PH0728C
SITE NAME:
COATESVILLE SOUTH PECO
EXISTING TRANSMISSION TOWER
180 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY
COATESVILLE, PA 19320

SHEET TITLE
GROUNDING DETAILS – 2

SHEET NUMBER
G–3