

4'-0" C/C LEGS
(1219)

248'-2" 75.64M

238'-10 1/2"±

178'-10 1/2"±

133'-10 1/2"±

88'-10 1/2"±

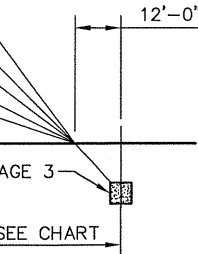
58'-10 1/2"±

0" SEE PAGE 3

*STRAIGHT CHORD LENGTH
(ACTUAL LENGTH WILL BE
LONGER DUE TO SAG AND
VARYING TERRAIN.)

1" BRIDGE STRAND
BREAKING STRENGTH = 122k
INITIAL TENSION = 12.2k

7/8" BRIDGE STRAND
BREAKING STRENGTH = 92k
INITIAL TENSION = 9.2k



| GUY RADIUS | | |
|------------|------|------------|
| AZ | EL. | RAD. |
| SW | -3' | 152' 46.3M |
| N | 0' | 152' 46.3M |
| SE | -30' | 182' 55.5M |

GUY TENSION CHART

| ELEVATION | 58'-10 1/2" | 88'-10 1/2" | 133'-10 1/2" | 178'-10 1/2" | 238'-10 1/2" |
|-------------|-------------|-------------|--------------|--------------|--------------|
| GUY SIZE | 7/8" | 7/8" | 1" | 1" | 1" |
| TEMPERATURE | | | | | |
| 110 | 6098 | 6550 | 9595 | 10268 | 10876 |
| 105 | 6408 | 6815 | 9856 | 10461 | 11009 |
| 100 | 6718 | 7080 | 10116 | 10654 | 11141 |
| 95 | 7028 | 7345 | 10377 | 10847 | 11274 |
| 90 | 7339 | 7610 | 10637 | 11041 | 11406 |
| 85 | 7649 | 7875 | 10898 | 11234 | 11538 |
| 80 | 7959 | 8140 | 11158 | 11427 | 11671 |
| 75 | 8269 | 8405 | 11419 | 11620 | 11803 |
| 70 | 8580 | 8670 | 11679 | 11814 | 11935 |
| 65 | 8890 | 8935 | 11940 | 12007 | 12068 |
| 60 | 9200 | 9200 | 12200 | 12200 | 12200 |
| 55 | 9510 | 9465 | 12460 | 12393 | 12332 |
| 50 | 9820 | 9730 | 12721 | 12586 | 12465 |
| 45 | 10131 | 9995 | 12981 | 12780 | 12597 |
| 40 | 10441 | 10260 | 13242 | 12973 | 12729 |
| 35 | 10751 | 10525 | 13502 | 13166 | 12862 |
| 30 | 11061 | 10790 | 13763 | 13359 | 12994 |
| 25 | 11372 | 11055 | 14023 | 13553 | 13126 |
| 20 | 11682 | 11320 | 14284 | 13746 | 13259 |

- NOTES:
1. ALL TENSIONS SHOWN IN THE ABOVE CHART ARE IN POUNDS
 2. FIELD TOLERANCE IS PLUS 10% TO MINUS 5% OF THE INITIAL TENSIONS SHOWN ABOVE
 3. TOWER WAS DESIGNED FOR AN INITIAL TENSION OF TEN PERCENT OF THE GUY BREAKING STRENGTH AT 60 DEGREES F
 4. NEW STEEL GUY CABLES SHALL BE BRIDGE STRAND
 5. INITIAL TENSIONS SHOULD BE ESTABLISHED IN ONE DIRECTION ONLY (THE DIRECTION THAT IS MOST LEVEL) AND ALL OTHER GUY TENSIONS SHOULD BE AS REQUIRED TO PLUMB THE TOWER

- ANTENNAS:
- TOP - (1) BEACON
 - 250' - (3) ANTEL BCD-4509 LEG MOUNTED WITH (3) 1-1/4" LINES
 - 232' - (1) ANTENNA SPECIALIST ASP-973 ON (1) 6' PIVOT ARM WITH 7/8" LINE
 - 220' - (1) ANTENNA SPECIALIST ASP-973 ON (1) 6' PIVOT ARM WITH 1-5/8" LINE
 - 205' - (1) RFS BA6312-1 ON (1) 6' PIVOT ARM WITH 7/8" LINE
 - 197' - (3) ANDREW PCS-06516-OD LEG MOUNTED WITH (6) 1-5/8" LINES
 - 193' - (3) KATHREIN 742-215 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 185' - (3) ANDREW PCS-06516-OD LEG MOUNTED WITH (6) 1-5/8" LINES
 - 183' - (3) ALLGON 7392.00 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 181' - (3) KATHREIN 742-215 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 175' - (3) ALLGON 7392.00 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 165' - (3) ALLGON 7392.00 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 160' - (5) JAYBEAM WIRELESS X65-13-AAA LEG MOUNTED WITH (10) 1-5/8" LIES
 - 150' - (3) TIL-TEK TA3307-65 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 135' - (3) KATHREIN AP18-1940 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 130' - (4) 2' HP DISHES WITH (4) 1/2" LINES
 - 125' - (1) KATHREIN 2' SOLID DISH WITH 1/2" LINE
 - 110' - (2) 2' HP DISHES WITH (2) 1/2" LINES
 - 100' - (5) STELLA DORADUS 35 SD98XXN-V LEG MOUNTED WITH (5) 1/2" LINES
 - 90' - (3) TIL-TEK TA3307-65 LEG MOUNTED WITH (6) 1-5/8" LINES
 - 75' - (1) 3' SOLID DISH WITH (2) 5/8" LINES
 - 65' - (1) 2' HP DISH WITH (1) 1/2" LINE
 - 50' - (1) 2' HP DISH WITH (1) 1/2" LINE
 - 40' - (1) 2' HP DISH WITH (1) 1/2" LINE
 - 20' - (1) 2' HP DISH WITH (1) 1/2" LINE

FEEDLINES ARE TO BE EQUALLY DISTRIBUTED TO ALL THREE FACES AND STACKED NO MORE THEN THREE ROWS DEEP.



Kevin Paul Bauman
2-20-09

2-10-2009; REVISED ANTENNA LIST AND REACTIONS

248 FT (75.6M) GUYED TOWER BERMUDA POLICE SERVICE WARWICK CAMP, BERMUDA

AeroSolutions LLC
Tower Upgrades and Maintenance
1966 13TH Street Suite 280 Boulder, CO 80302
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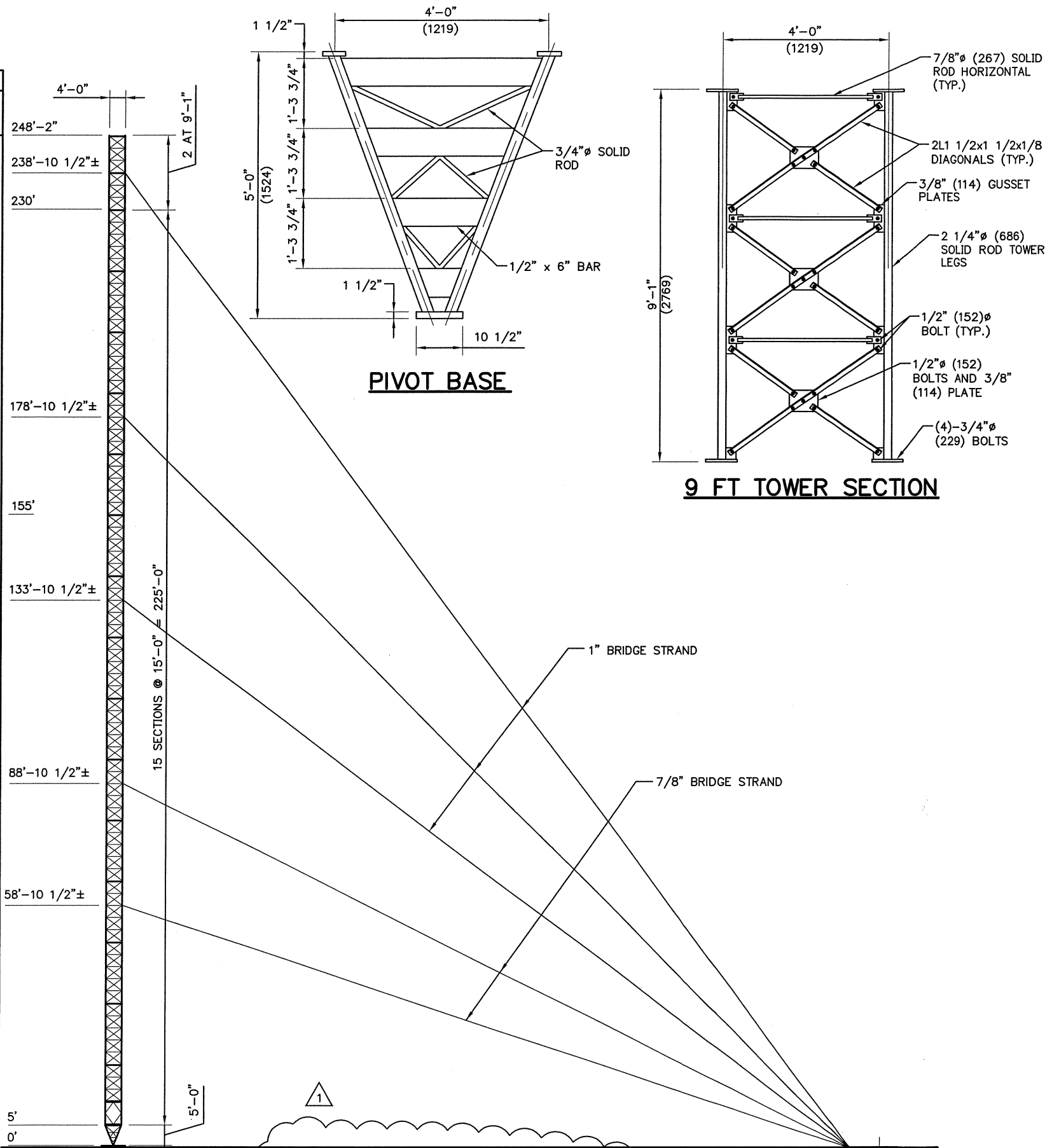
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|--------------|------------|
| Job No. | 41708-0084 |
| Date: | 1-8-2009 |
| Scale: | AS NOTED |
| Designed By: | K.P.B. |
| Drawn By: | T.A.N. |
| Checked By: | K.P.B. |

SHEET NO:
1 of 4

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| | | |
|-----------|-------------------------|-----|
| ASTM | 50 KSI | A36 |
| LEGS | 2 1/4" ϕ SOLID ROD | |
| DIAGONALS | 2L1 1/2 x 1 1/2 x 1/8 | |
| GIRTS | 7/8" ϕ SOLID ROD | |
| | 2 1/2" ϕ SOLID ROD | |



PIVOT BASE

9 FT TOWER SECTION

TYPICAL TOWER SECTION

| FOUNDATION REACTIONS | |
|---------------------------|-----------------------------|
| BASE | ANCHOR |
| COMP. = 378.2 K (1682 KN) | UPLIFT = 180.0 K (800.7 KN) |
| HORIZ. = 10.8 K (48.1 KN) | HORIZ. = 191.0 K (849.6 KN) |

SEE CHART PAGE 1

GENERAL NOTES:

- THIS TOWER WAS DESIGNED IN ACCORDANCE WITH THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION STANDARD "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES" ANSI/TIA-222-G-2005. THE TOWER WAS DESIGNED AS FOLLOWS:
 BASIC DESIGN WIND SPEED - 150 MPH (3-SECOND GUST)
 ICE ACCUMULATION = NOT APPLICABLE
 EXPOSURE CATEGORY = "C"
 STRUCTURE CLASSIFICATION = III
 IMPORTANCE FACTOR = 1.15
 TOPOGRAPHIC CATEGORY = 1
- ALL TOWER LEG STEEL CONFORMS TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATION FOR HIGH-STRENGTH LOW-ALLOY COLUMBIUM-VANADIUM STEELS OF STRUCTURAL QUALITY" ASTM A572 GRADE 50 (50 KSI YIELD POINT MATERIAL).
- ALL NEW STEEL, EXCEPT SOLID ROUND TOWER LEGS AS NOTED ABOVE, SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATION FOR STRUCTURAL STEEL" ASTM A36 (36 KSI YIELD POINT MATERIAL).
- GALVANIZED STEEL GUY CABLES CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATION FOR ZINC-COATED STEEL STRUCTURAL WIRE ROPE" ASTM A475.
- ALL BOLTS CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATION FOR HIGH-STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS" ASTM A325. BOLTS SHALL BE TORQUED TO THE SNUG-TIGHT CONDITION AS DEFINED BY AISC. ALL BOLTS ARE PROVIDED WITH LOCK-WASHERS, OR LOCK-NUTS, OR PAL-NUTS. BOLTS ARE GALVANIZED ACCORDING TO THE STANDARD SPECIFICATION FOR ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE" ASTM A153.
- ALL WELDS ARE SHOP WELDS. WELDED CONNECTIONS CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY AWS D1.1.
- ALL NEW STEEL IS HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE "SPECIFICATION FOR ZINC (HOT GALVANIZED) COATING ON PRODUCTS FABRICATED FROM ROLLED, PRESSED AND FORGED STEEL SHAPES, PLATES BAR, AND STRIP" ASTM A123
- ANY GALVANIZED SURFACE THAT IS SCRATCHED OR DAMAGED DUE TO THE TOWER ERECTORS EFFORTS, SHALL BE REPAIRED WITH A COLD GALVANIZING COMPOUND CONFORMING TO ASTM A780.
- THIS DRAWING DOES NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS AND PRECAUTIONS IN CONNECTION WITH THE WORK.

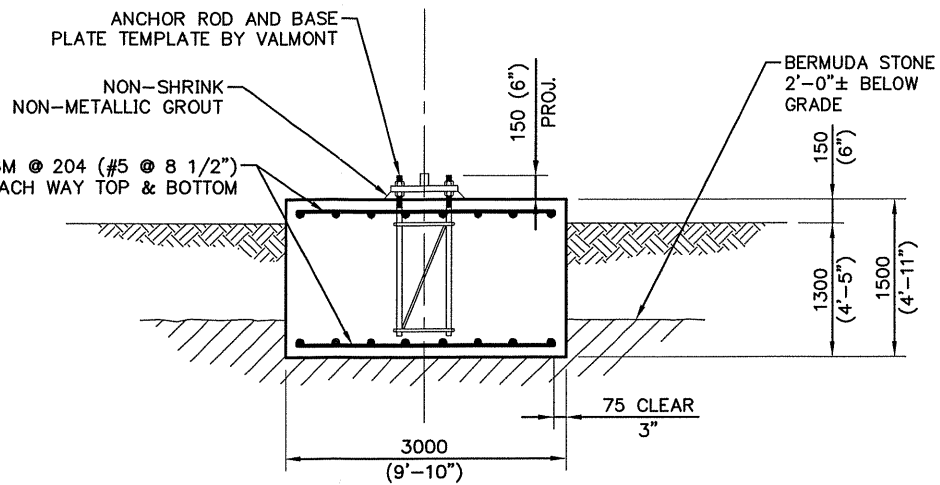
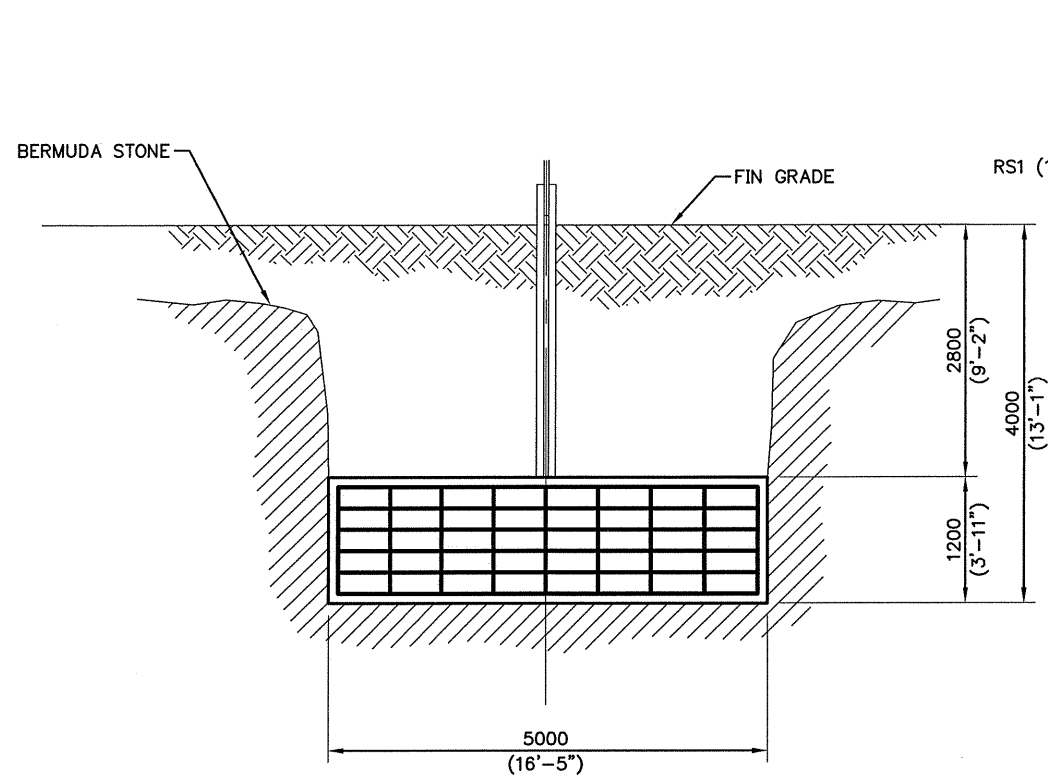


Kevin Paul Bauman
2-20-09

1 2-10-2009; REVISED ANTENNA LIST AND REACTIONS

248 FT (75.6M) GUYED TOWER
BERMUDA POLICE SERVICE
WARWICK CAMP, BERMUDA

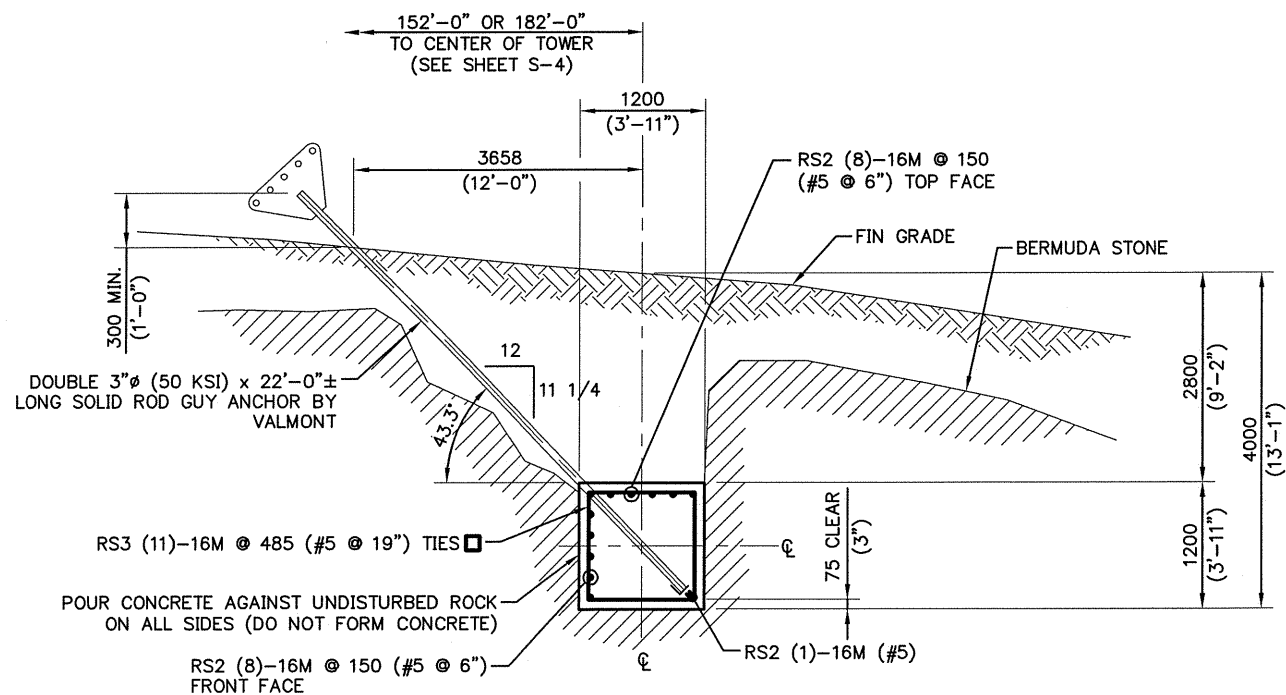
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|---|---|
| <p>AeroSolutions LLC Tower Upgrades and Maintenance 1966 13TH Street Suite 280 Boulder, CO 80302 Tel: 720.304.6882 Fax: 720.304.6883</p> | Job No. 41708-0084 Date: 1-8-2009 Scale: AS NOTED Designed By: K.P.B. Drawn By: T.A.N. Checked By: K.P.B. |
| | <p>PAUL J. FORD AND COMPANY STRUCTURAL ENGINEERS 250 East Broad Street · Suite 1500 · Columbus, Ohio 43215 (614) 221-6679 www.pjfweb.com</p> |



BASE FOUNDATION

(13.5 CUBIC METERS = 17.7 CU YD)

| REINFORCING STEEL | | | |
|-------------------|-----|------|---------|
| MARK | QTY | SIZE | LENGTH |
| RS1 | 60 | #5 | 9'-4" |
| | | 16M | 2850 |
| RS2 | 48 | #5 | 15'-11" |
| | | 16M | 4850 |
| RS3 | 33 | #5 | 14'-2" |
| | | 16M | 4350 |



GUY ANCHOR

(7.2 CUBIC METERS = 9.4 CU YD EACH)

FOUNDATION GENERAL NOTES

- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI AT 28 DAYS. CONCRETE SHALL BE PROPORTIONED AND PRODUCED TO HAVE A SLUMP OF NOT MORE THAN 4" PLUS OR MINUS 1/2" FOR ALL CONCRETE.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. ALL REINFORCEMENT SHALL BE SUPPORTED AND FASTENED TOGETHER WITH WIRE TIES TO PREVENT DISPLACEMENT BY CONSTRUCTION LOADS DURING THE PLACING OF CONCRETE.
- THE FOUNDATION CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LOCAL BUILDING OFFICIALS FOR ANY INSPECTIONS THAT MAY BE REQUIRED.
- LOOSE MATERIAL SHALL BE REMOVED FROM BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT.
- CONCRETE SHALL BE DISCHARGED FROM THE MIXER WITHIN 1-1/2 HOURS AFTER WATER HAS BEEN ADDED AT THE READY MIX PLANT. WATER SHALL NOT BE ADDED TO THE MIX AT THE SITE.
- CONCRETE SHALL BE DEPOSITED CONTINUOUSLY, OR IN LAYERS OF SUCH THICKNESS THAT NO CONCRETE WILL BE DEPOSITED ON CONCRETE WHICH HAS HARDENED SUFFICIENTLY TO CAUSE FORMATION OF SEAMS OR PLANES OF WEAKNESS WITHIN THE SECTION.
- ACCELERATORS SUCH AS CALCIUM CHLORIDE SHALL NOT BE USED EXCEPT BY PERMISSION OF AERO SOLUTIONS.
- ALL CONCRETE SHALL BE CONSOLIDATED BY VIBRATION.
- CONCRETE SHALL BE PROTECTED DURING POUR AND CURE PERIODS FROM DIRECT SUN AND WIND EXPOSURE BY SUCH MEANS AS ARE NECESSARY TO PREVENT EXCESSIVE TEMPERATURE BUILD UP AND PREMATURE DRYING.
- CONCRETE = 46 CUBIC YARDS (35.1 CU METERS) TOTAL.

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248 FT (75.6M) GUYED TOWER

BERMUDA POLICE SERVICE

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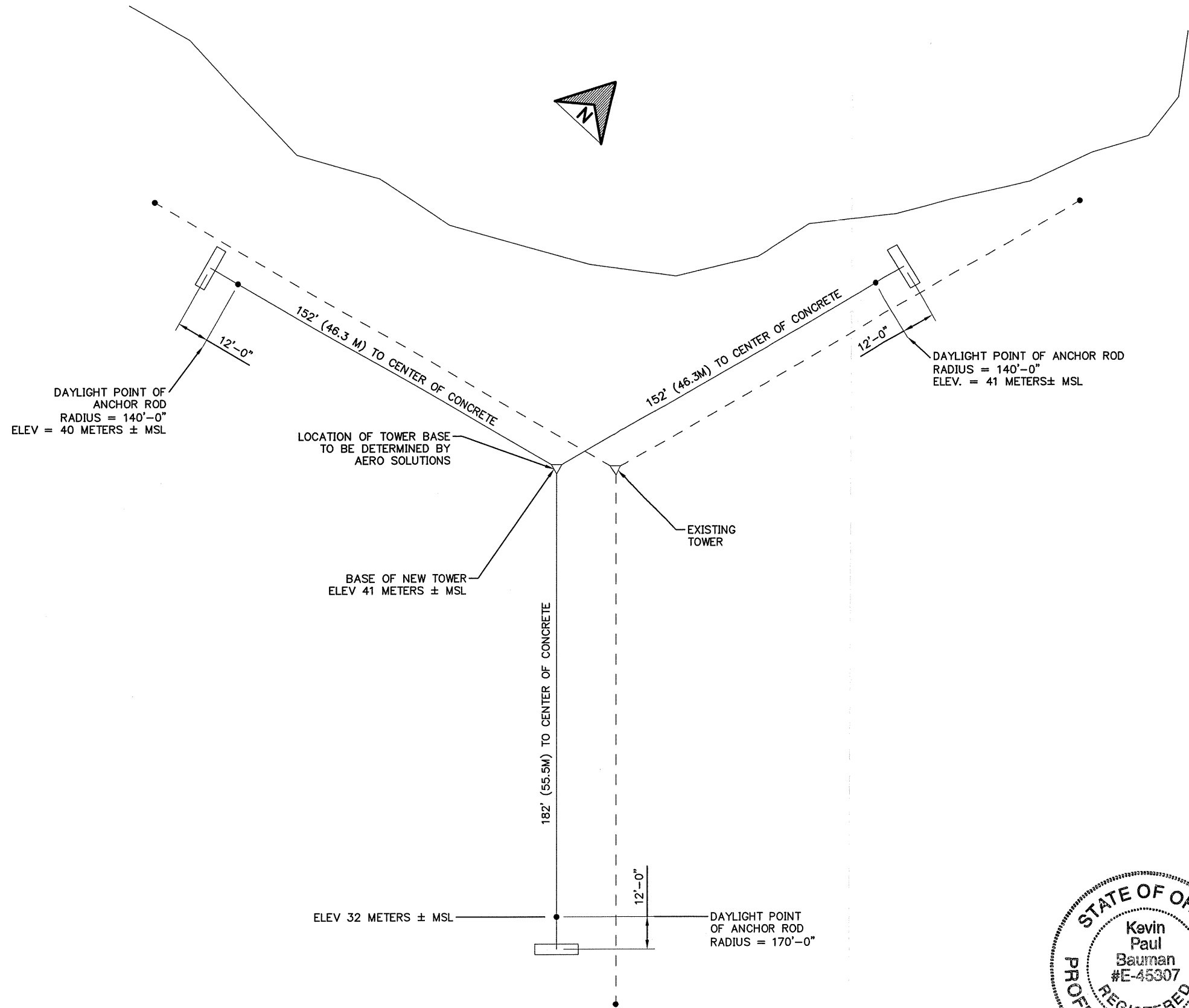


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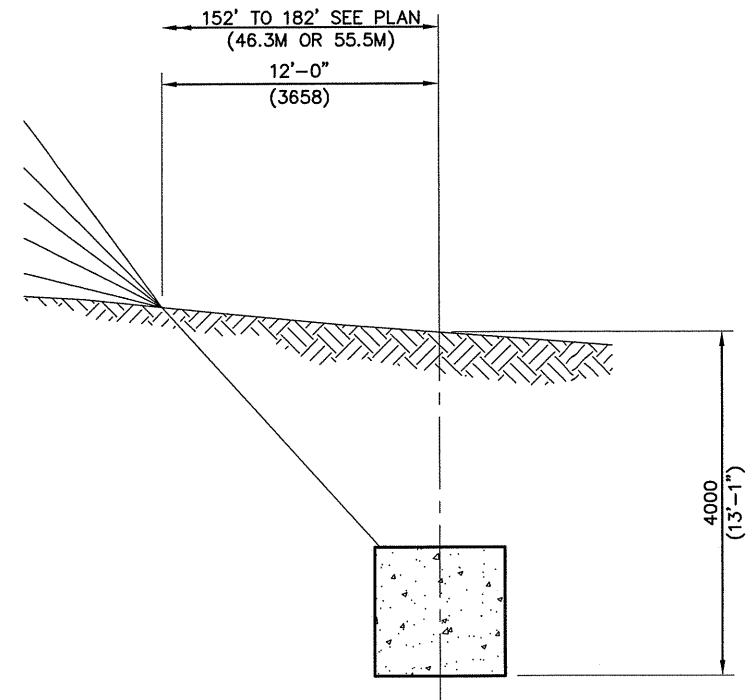


Kevin Paul Bauman
 2-10-2009

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PLOT PLAN



2-10-2009; REVISED ANTENNA LIST AND REACTIONS

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Kevin Paul Bauman
 2-2009