

**City of Portland, Maine - Building or Use Permit Application**  
 389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

|                   |                         |                  |
|-------------------|-------------------------|------------------|
| Permit No: 020072 | Issue Date: FEB 13 2002 | CBL: 295 G006001 |
|-------------------|-------------------------|------------------|

|  |                                       |   |                             |
|--|---------------------------------------|---|-----------------------------|
| <b>Location of Construction:</b><br>188 Warren Ave | <b>Owner Name:</b><br>Morin Leonard J | <b>Owner Address:</b><br>188 Warren Ave                             | <b>Phone:</b>               |
| <b>Business Name:</b><br>n/a                       | <b>Contractor Name:</b><br>ATC Realty | <b>Contractor Address:</b><br>44 Exchange Street Suite 301 Portland | <b>Phone:</b><br>2077730242 |
| <b>Lessee/Buyer's Name:</b><br>n/a                 | <b>Phone:</b><br>n/a                  | <b>Permit Type:</b><br>Alterations - Commercial                     | <b>Zone:</b><br>B-A         |

|  |  |  |  |                           |
|--|--|--|--|---------------------------|
| <b>Past Use:</b><br>Commercial   | <b>Proposed Use:</b><br>Commercial / Pour 6' x 6' concrete pad, place csc on pad, run lines up tower & place antennas, | <b>Permit Fee:</b><br>\$303.00   | <b>Cost of Work:</b><br>\$40,000.00                            | <b>CEO District:</b><br>1 |
| <b>Proposed Project Description:</b><br>Pour 6' x 6' Concrete Pad  |  | <b>FIRE DEPT:</b><br><input checked="" type="checkbox"/> Approved<br><input type="checkbox"/> Denied | <b>INSPECTION:</b><br>Use Group: [Signature] Type: [Signature] |                           |
|  |  | <b>Signature:</b> [Signature]  | <b>Signature:</b> [Signature]                                  |                           |
| <b>PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)</b>   |  |  |  |                           |
| Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied |  |  |  |                           |
|  |  | <b>Signature:</b>  | <b>Date:</b>   |                           |

|                               |  |                        |  |
|-------------------------------|--|------------------------|--|
| <b>Permit Taken By:</b><br>gg | <b>Date Applied For:</b><br>01/24/2002 | <b>Zoning Approval</b> |  |
|-------------------------------|--|------------------------|--|

|  |  |   |  |
|--|--|---|--|
| 1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.<br>2. Building permits do not include plumbing, septic or electrical work.<br>3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work.. | <b>Special Zone or Reviews</b><br><input type="checkbox"/> Shoreland<br><input type="checkbox"/> Wetland<br><input type="checkbox"/> Flood Zone<br><input type="checkbox"/> Subdivision<br><input checked="" type="checkbox"/> Site Plan -<br>Maj <input type="checkbox"/> Minor <input checked="" type="checkbox"/> MM<br>Date: [Signature] 1/31/02 | <b>Zoning Appeal</b><br><input type="checkbox"/> Variance<br><input type="checkbox"/> Miscellaneous<br><input type="checkbox"/> Conditional Use<br><input type="checkbox"/> Interpretation<br><input type="checkbox"/> Approved<br><input type="checkbox"/> Denied<br>Date: | <b>Historic Preservation</b><br><input checked="" type="checkbox"/> Not in District or Landmark<br><input type="checkbox"/> Does Not Require Review<br><input type="checkbox"/> Requires Review<br><input type="checkbox"/> Approved<br><input type="checkbox"/> Approved w/Conditions<br><input type="checkbox"/> Denied<br>Date: [Signature] |
|  | [Handwritten note: requires review description]  |   |  |

**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

|   |         |      |       |
|---|---------|------|-------|
| SIGNATURE OF APPLICANT                      | ADDRESS | DATE | PHONE |
| RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE |         | DATE | PHONE |

62 0072

# All Purpose Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

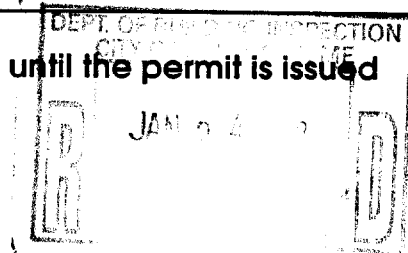
|   |   |  |
|---|---|--|
| Location/Address of Construction: 188 Warren Avenue   |   |  |
| Total Square Footage of Proposed Structure<br>6' x 6' concrete pad  | Square Footage of Lot<br>See plans  |  |
| Tax Assessor's Chart, Block & Lot<br>Chart# 295    Block# <del>295</del> 6    Lot# 006                    | Owner: Leonard B Francis J marin<br>188 Warren Ave<br>Portland ME 04103                               | Telephone:   |
| Lessee/Buyer's Name (If Applicable)<br>sprint   | Applicant name, address & telephone: Northcoast / ATC Realty<br>44 Exchange St<br>STE 301<br>Portland | Cost Of Work: \$ 40,000.00<br>Fee: \$ 303.           |
| Current use: Tower site   |   |  |
| If the location is currently vacant, what was prior use: _____  |   |  |
| Approximately how long has it been vacant: _____  |   |  |
| Proposed use: Co-location on existing tower   |   |  |
| Project description: Pour 6' x 6' concrete PAD<br>Place CSC on pad<br>run lines up tower & place antennas |   |  |
| Contractor's name, address & telephone: ATC Realty  |   | Applied for<br>Site Exemption<br><br>Phone: 773-0242 |
| Who should we contact when the permit is ready: ATC Realty: Chris Palmer                                  |   |  |
| Mailing address: 44 Exchange St<br>STE 301<br>Portland  |   |  |

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

|   |       |
|---|-------|
| Signature of applicant: <i>Christopher Palmer</i> | Date: |
|---|-------|

This is not a permit, you may not commence ANY work until the permit is issued



1047 N. 204<sup>th</sup> Avenue  
Elkhorn, NE 68022  
402-289-1888  
Fax-333-8577

**SEMAAN ENGINEERING SOLUTIONS**

**180 ft Pittsburg Monopole Division Monopole  
Structural Analysis**

**Prepared for:  
Northcoast  
80 Baylis Road  
Suite 201  
Melville, NY 11747**

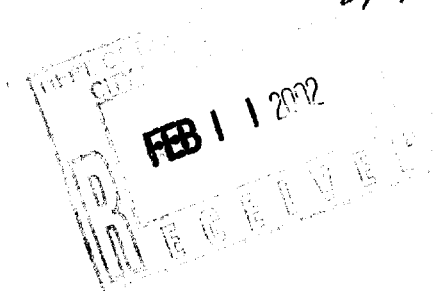
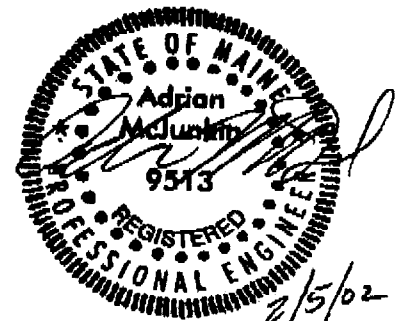
**APPROVED**

*2/6/02*

*Adrian McJunkin*

**Site: NM03XC066  
188 Warren Ave  
Portland, ME**

**February 4, 2002**



Ms. Suzanne Spina  
North Coast  
80 Baylis Road  
Suite 201  
Melville, NY 11747

**Re: Site Number NM03XC066 – 188 Warren Ave. Portland, ME.**

Dear Ms. Spina:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the EIA/TIA-222-F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

**Description of Structure:**

The structure is a 180 ft Pittsburg Monopole Division Monopole.

Refer to Pittsburg Monopole drawing 96088-88 dated January 22, 1997 for a detailed description of the structure.

**Method of analysis:**

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **EIA/TIA-222-F and local building codes for 80 mph with 1/2" radial ice**. Wind is applied to the structure, accessories and antennas.

**Structure loading:**

Per the loading sheet supplied, the analysis was performed using the following loading: (Proposed loading in bold)

| Elev. (ft) | Qty. | Antennas and Mounts                            | Coax             | Owner             |
|------------|------|--|------------------|-------------------|
| 180.0      | 9    | Algon 7184.15 Mounted On a Platform w/rail     | (9) 1-5/8        | Sprint            |
| 160.0      | 6    | <b>DAPA 59010 Mounted On a Platform w/rail</b> | <b>(6) 1-5/8</b> | <b>Northcoast</b> |

All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.

All transmission lines are assumed running inside of pole shaft.

**Results of Analysis:**

Refer to the attached Computer Summary sheets for detailed analysis results.

**Structure:**

The existing monopole is structurally capable of supporting the existing and proposed antennas.

The maximum structure usage is: 68.6%.

**Foundation:**

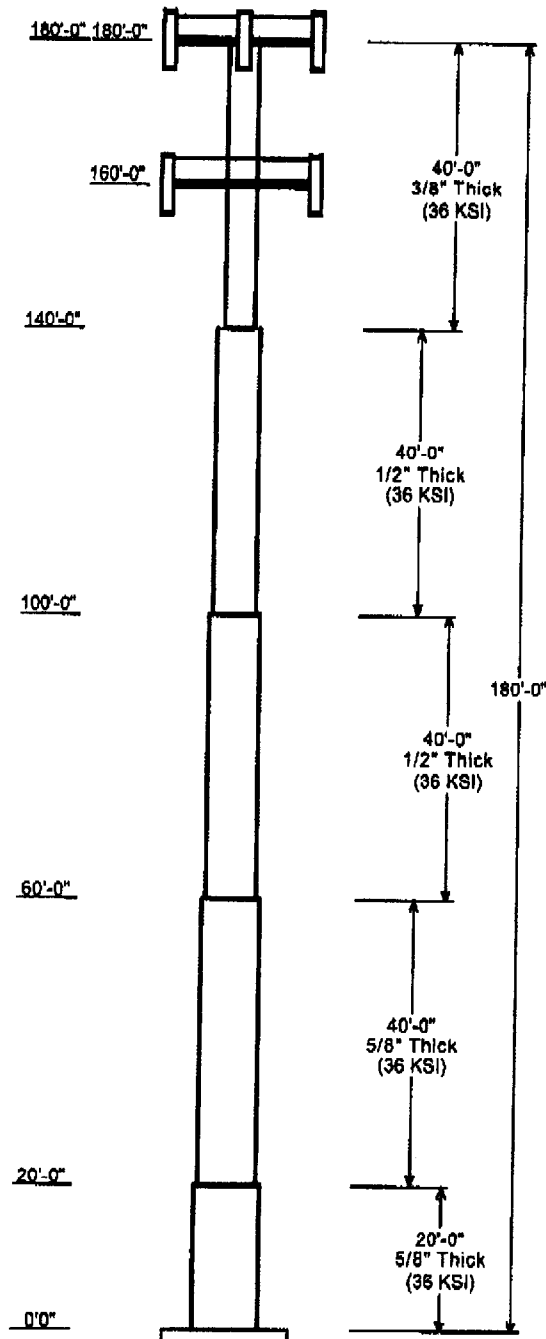
| Pole Reactions   | Original Design Reactions | Current Analysis Reactions | % Of Design |
|------------------|---------------------------|----------------------------|-------------|
| Moment (ft-kips) | 2,200.00                  | 2,017.04                   | 91.7        |
| Shear (kips)     | 20.00                     | 17.38                      | 86.9        |

The structure base reactions resulting from this analysis do not exceed the ones shown on the original structure drawings.

**Review and Recommendations:**

Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 80 mph with 1/2" radial ice.

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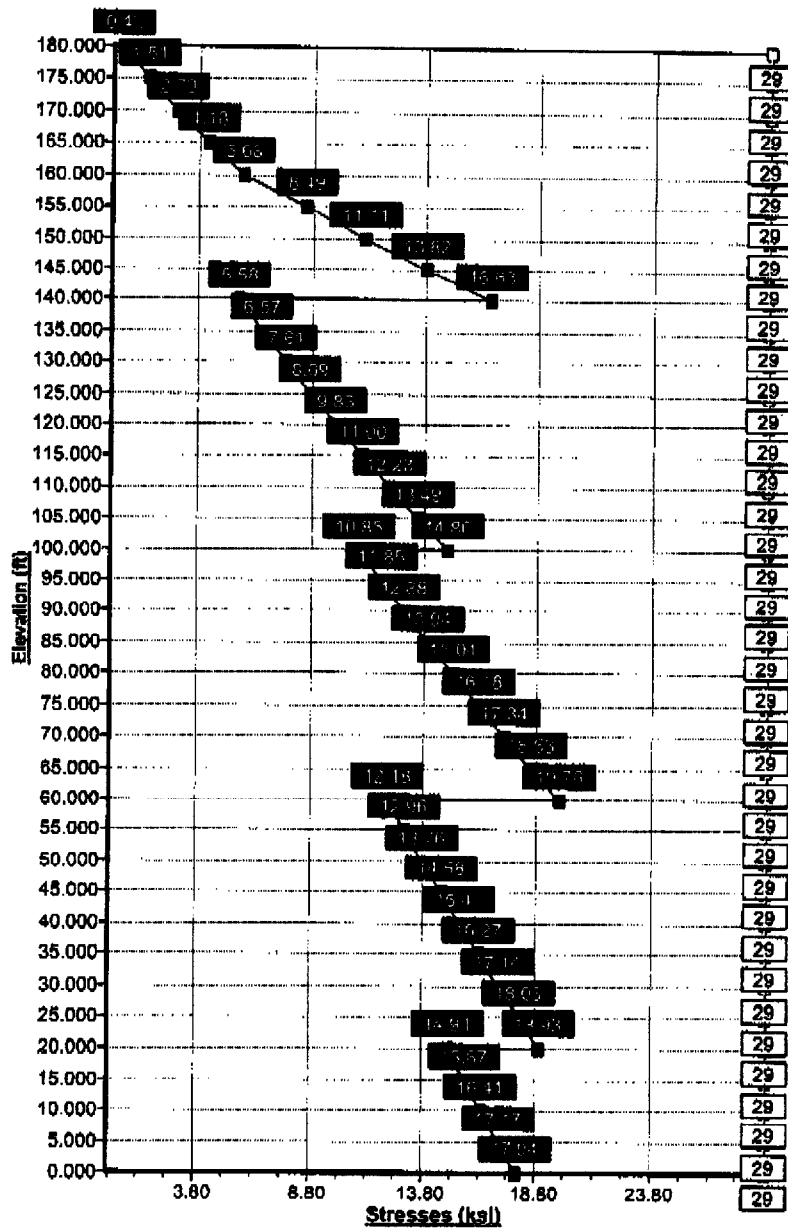
| Job Information |                              |
|-----------------|------------------------------|
| Pole :          | NM03XC086                    |
| Description :   |                              |
| Client :        | Sprint Sites USA - NJ        |
| Location :      | 188 Warren Ave, Portland, ME |
| Type :          | Round Stepped Pole           |
| Height (ft)     | 180.000                      |
| Taper:          | 0.0000 (In/ft)               |

| Sections Properties |             |                  |                     |            |            |                     |                   |
|---------------------|-------------|------------------|---------------------|------------|------------|---------------------|-------------------|
| Section             | Length (ft) | Diameter (in)    |                     | Thick (in) | Joint Type | Overlap Length (in) | Steel Grade (ksi) |
|                     |             | Across Flats Top | Across Flats Bottom |            |            |                     |                   |
| 1                   | 20.000      | 54.00            | 54.00               | 0.625      |            | 0.000               | 36                |
| 2                   | 40.000      | 48.00            | 48.00               | 0.625      | Butt Joint | 0.000               | 36                |
| 3                   | 40.000      | 42.00            | 42.00               | 0.500      | Butt Joint | 0.000               | 36                |
| 4                   | 40.000      | 36.00            | 36.00               | 0.500      | Butt Joint | 0.000               | 36                |
| 5                   | 40.000      | 24.00            | 24.00               | 0.375      | Butt Joint | 0.000               | 36                |

| Discrete Appurtenance |                 |          |     |                 |
|-----------------------|-----------------|----------|-----|-----------------|
| Attach Elev (ft)      | Force Elev (ft) | Type     | Qty | Description     |
| 180.000               | 181.500         | Platform | 1   | Platform w/rail |
| 180.000               | 180.000         | Panel    | 9   | Allgon 7184.15  |
| 160.000               | 181.500         | Platform | 1   | Platform w/rail |
| 160.000               | 160.000         | Panel    | 6   | DAPA 58010      |

| Load Cases / Deflections  |                  |                  |                |
|---|------------------|------------------|----------------|
| Load Case   | Attach Elev (ft) | Translation (in) | Rotation (deg) |
| <b>No Ice</b> <u>No Ice Wind Speed = 80.00 mph w/ No Ice</u>      |                  |                  |                |
|   | 180.000          | 48.38            | -2.370         |
|   | 160.000          | 38.60            | -2.263         |
| <b>Ice</b> <u>Ice Wind Speed = 69.28 mph w/ Ice 0.50 In Thick</u> |                  |                  |                |
|   | 180.000          | 40.10            | -1.979         |
|   | 160.000          | 31.94            | -1.867         |

| Reactions |                |              |              |
|-----------|----------------|--------------|--------------|
| Load Case | Moment (Kip-R) | Shear (Kips) | Axial (Kips) |
| No Ice    | 2,017.042      | 17.376       | -45.189      |
| Ice       | 1,645.790      | 13.823       | -51.805      |



**Pole :** NM03XC066 **Sprint Sites USA - NJ**  
**Location:** 188 Warren Ave, Portland, ME  
**Height:** 180.0 (ft) **Base Elev :** 0.000 (ft)  
**Shape :** Round **Top Dia :** 24.00 (in)  
**Base Dia :** 54.00 (in)  
**Taper :** 0.000 (in/ft)

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 Page: 1



**Shaft Section Properties**

| Sect Num            | Length (ft) | Thick (in) | Fv (ksi) | Joint Type | Slip Joint Len (in) | Weight (lb)   | Bottom   |           |              |           | Top      |          |          |              |             |           |          |
|---------------------|-------------|------------|----------|------------|---------------------|---------------|----------|-----------|--------------|-----------|----------|----------|----------|--------------|-------------|-----------|----------|
|                     |             |            |          |            |                     |               | Dia (in) | Elev (ft) | Area (sqin)  | Ix (in^4) | Wt Ratio | Dt Ratio | Dia (in) | Elev (ft)    | Area (sqin) | Ix (in^4) | Wt Ratio |
| 1                   | 20.000      | 0.6250     | 36       |            | 0.00                | 7,132         | 54.00    | 0.000     | 104.37349.6  | 0.00      | 86.40    | 54.00    | 20.00    | 104.37349.6  | 0.00        | 86.40     | 0.000    |
| 2                   | 40.000      | 0.6250     | 36       | Butt Joint | 0.00                | 12,661        | 48.00    | 20.00     | 93.0226116.8 | 0.00      | 76.80    | 48.00    | 60.00    | 93.0226116.8 | 0.00        | 76.80     | 0.000    |
| 3                   | 40.000      | 0.5000     | 36       | Butt Joint | 0.00                | 8,873         | 42.00    | 60.00     | 65.1914044.5 | 0.00      | 84.00    | 42.00    | 100.0    | 65.1914044.5 | 0.00        | 84.00     | 0.000    |
| 4                   | 40.000      | 0.5000     | 36       | Butt Joint | 0.00                | 7,590         | 36.00    | 100.0     | 55.768791.2  | 0.00      | 72.00    | 36.00    | 140.0    | 55.768791.2  | 0.00        | 72.00     | 0.000    |
| 5                   | 40.000      | 0.3750     | 36       | Butt Joint | 0.00                | 3,788         | 24.00    | 140.0     | 27.831943.3  | 0.00      | 64.00    | 24.00    | 180.0    | 27.831943.3  | 0.00        | 64.00     | 0.000    |
| <b>Shaft Weight</b> |             |            |          |            |                     | <b>40,045</b> |          |           |              |           |          |          |          |              |             |           |          |

**Discrete Appurtenance Properties**

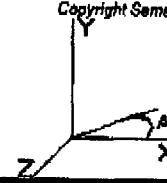
| Attach Elev (ft) | Description     | Qty       | Weight (lb)    | No Ice CaAa (sf) | CaAa Factor | Weight (lb)    | Ice CaAa (sf) | CaAa Factor | Distance From Face (ft)       | X Angle (deg) | Vert Ecc (ft) |
|------------------|-----------------|-----------|----------------|------------------|-------------|----------------|---------------|-------------|-------------------------------|---------------|---------------|
| 180.0            | Platform w/rail | 1         | 2500.00        | 35.850           | 1.00        | 3500.00        | 40.460        | 1.00        | 0.000                         | 0.00          | 1.500         |
| 180.0            | Alligon 7184.15 | 9         | 10.00          | 2.890            | 1.00        | 24.00          | 3.360         | 1.00        | 0.000                         | 0.00          | 0.000         |
| 160.0            | Platform w/rail | 1         | 2500.00        | 35.850           | 1.00        | 3500.00        | 40.460        | 1.00        | 0.000                         | 0.00          | 1.500         |
| 160.0            | DAPA 58010      | 6         | 11.00          | 3.190            | 1.00        | 29.00          | 3.680         | 1.00        | 0.000                         | 0.00          | 0.000         |
| <b>Totals</b>    |                 | <b>17</b> | <b>5156.00</b> |                  |             | <b>7390.00</b> |               |             | <b>Number of Loadings : 4</b> |               |               |



Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height : 180.0 (ft)  
 Shape : Round  
 Base Dia : 54.00 (in)  
 Taper : 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)

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 Page: 2



**Segment Properties** (Max Len : 5 ft)

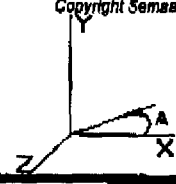
| Sea Elev (ft) | Description     | Thick (in) | Dia (in) | Area (in^2) | Ix (in^4) | W/t Ratio | Dt Ratio | Fy (ksi) | Fb (ksi) | Fa (ksi) | Weight (lb) |
|---------------|-----------------|------------|----------|-------------|-----------|-----------|----------|----------|----------|----------|-------------|
| 0.00          |                 | 0.6250     | 54.000   | 104.802     | 37,349.6  | 0.00      | 86.40    | 36       | 29       | 29       | 0.0         |
| 5.00          |                 | 0.6250     | 54.000   | 104.802     | 37,349.6  | 0.00      | 86.40    | 36       | 29       | 29       | 1,783.1     |
| 10.00         |                 | 0.6250     | 54.000   | 104.802     | 37,349.6  | 0.00      | 86.40    | 36       | 29       | 29       | 1,783.1     |
| 15.00         |                 | 0.6250     | 54.000   | 104.802     | 37,349.6  | 0.00      | 86.40    | 36       | 29       | 29       | 1,783.1     |
| 20.00         | Top - Section 1 | 0.6250     | 54.000   | 104.802     | 37,349.6  | 0.00      | 86.40    | 36       | 29       | 29       | 1,783.1     |
| 25.00         | Top - Section 1 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 30.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 35.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 40.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 45.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 50.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 55.00         |                 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 60.00         | Top - Section 2 | 0.6250     | 48.000   | 93.021      | 26,116.8  | 0.00      | 76.80    | 36       | 29       | 29       | 1,582.6     |
| 65.00         | Top - Section 2 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 70.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 75.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 80.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 85.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 90.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 95.00         |                 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 100.00        | Top - Section 3 | 0.5000     | 42.000   | 65.188      | 14,044.5  | 0.00      | 84.00    | 36       | 29       | 29       | 1,109.1     |
| 105.00        | Top - Section 3 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 110.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 115.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 120.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 125.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 130.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 135.00        |                 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 140.00        | Top - Section 4 | 0.5000     | 36.000   | 55.763      | 8,791.2   | 0.00      | 72.00    | 36       | 29       | 29       | 948.8       |
| 145.00        | Top - Section 4 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 150.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 155.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 160.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 165.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 170.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 175.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |
| 180.00        |                 | 0.3750     | 24.000   | 27.833      | 1,943.3   | 0.00      | 64.00    | 36       | 29       | 29       | 473.5       |

40,044.6

Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height : 180.0 (ft)  
 Shape : Round  
 Base Dia : 54.00 (in)  
 Taper : 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)

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 Page: 3



**Load Case:** No Ice      80 mph - No Ice      23 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

**Shaft Forces**

| Seg Top Elev (ft) | Description     | Kz   | gz (psf) | gzGh (psf) | C (mph-ft) | Cf    | Tributary (ft) | Aa (sf) | CfAa (sf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb)     |
|-------------------|-----------------|------|----------|------------|------------|-------|----------------|---------|-----------|-------------------|-------------------|-----------------|
| 0.00              |                 | 1.00 | 16.38    | 27.68      | 360.00     | 0.590 | 0.00           | 0.000   | 0.000     | 0.00              | 0.00              | 0.0             |
| 5.00              |                 | 1.00 | 16.38    | 27.68      | 360.00     | 0.590 | 5.00           | 22.500  | 13.275    | 367.57            | 0.00              | 1,783.1         |
| 10.00             |                 | 1.00 | 16.38    | 27.68      | 360.00     | 0.590 | 5.00           | 22.500  | 13.275    | 367.57            | 0.00              | 1,783.1         |
| 15.00             |                 | 1.00 | 16.38    | 27.68      | 360.00     | 0.590 | 5.00           | 22.500  | 13.275    | 367.57            | 0.00              | 1,783.1         |
| 20.00             | Top - Section 1 | 1.00 | 16.38    | 27.68      | 360.00     | 0.590 | 5.00           | 22.500  | 13.275    | 367.57            | 0.00              | 1,783.1         |
| 25.00             |                 | 1.00 | 16.38    | 27.68      | 320.00     | 0.590 | 5.00           | 20.000  | 11.800    | 326.73            | 0.00              | 1,582.6         |
| 30.00             |                 | 1.00 | 16.38    | 27.68      | 320.00     | 0.590 | 5.00           | 20.000  | 11.800    | 326.73            | 0.00              | 1,582.6         |
| 35.00             |                 | 1.01 | 16.66    | 28.15      | 322.70     | 0.590 | 5.00           | 20.000  | 11.800    | 332.27            | 0.00              | 1,582.6         |
| 40.00             |                 | 1.05 | 17.31    | 29.25      | 328.92     | 0.590 | 5.00           | 20.000  | 11.800    | 345.19            | 0.00              | 1,582.6         |
| 45.00             |                 | 1.09 | 17.90    | 30.25      | 334.50     | 0.590 | 5.00           | 20.000  | 11.800    | 357.00            | 0.00              | 1,582.6         |
| 50.00             |                 | 1.12 | 18.44    | 31.17      | 339.57     | 0.590 | 5.00           | 20.000  | 11.800    | 367.92            | 0.00              | 1,582.6         |
| 55.00             |                 | 1.15 | 18.95    | 32.04      | 344.23     | 0.590 | 5.00           | 20.000  | 11.800    | 378.07            | 0.00              | 1,582.6         |
| 60.00             | Top - Section 2 | 1.18 | 19.43    | 32.84      | 348.53     | 0.590 | 5.00           | 20.000  | 11.800    | 387.59            | 0.00              | 1,582.6         |
| 65.00             |                 | 1.21 | 19.88    | 33.60      | 353.47     | 0.590 | 5.00           | 17.500  | 10.325    | 346.99            | 0.00              | 1,109.1         |
| 70.00             |                 | 1.24 | 20.31    | 34.32      | 351.75     | 0.590 | 5.00           | 17.500  | 10.325    | 354.41            | 0.00              | 1,109.1         |
| 75.00             |                 | 1.26 | 20.71    | 35.00      | 354.84     | 0.590 | 5.00           | 17.500  | 10.325    | 361.47            | 0.00              | 1,109.1         |
| 80.00             |                 | 1.28 | 21.10    | 35.66      | 357.76     | 0.590 | 5.00           | 17.500  | 10.325    | 368.19            | 0.00              | 1,109.1         |
| 85.00             |                 | 1.31 | 21.46    | 36.28      | 352.62     | 0.590 | 5.00           | 17.500  | 10.325    | 374.63            | 0.00              | 1,109.1         |
| 90.00             |                 | 1.33 | 21.82    | 36.88      | 353.15     | 0.590 | 5.00           | 17.500  | 10.325    | 380.79            | 0.00              | 1,109.1         |
| 95.00             |                 | 1.35 | 22.16    | 37.45      | 352.66     | 0.590 | 5.00           | 17.500  | 10.325    | 386.72            | 0.00              | 1,109.1         |
| 100.00            | Top - Section 3 | 1.37 | 22.49    | 38.00      | 358.05     | 0.590 | 5.00           | 17.500  | 10.325    | 392.43            | 0.00              | 1,109.1         |
| 105.00            |                 | 1.39 | 22.80    | 38.54      | 353.15     | 0.590 | 5.00           | 15.000  | 8.850     | 341.09            | 0.00              | 948.8           |
| 110.00            |                 | 1.41 | 23.11    | 39.05      | 355.04     | 0.590 | 5.00           | 15.000  | 8.850     | 345.66            | 0.00              | 948.8           |
| 115.00            |                 | 1.42 | 23.40    | 39.55      | 356.86     | 0.590 | 5.00           | 15.000  | 8.850     | 350.07            | 0.00              | 948.8           |
| 120.00            |                 | 1.44 | 23.69    | 40.04      | 358.61     | 0.590 | 5.00           | 15.000  | 8.850     | 354.36            | 0.00              | 948.8           |
| 125.00            |                 | 1.46 | 23.97    | 40.51      | 359.29     | 0.590 | 5.00           | 15.000  | 8.850     | 358.51            | 0.00              | 948.8           |
| 130.00            |                 | 1.48 | 24.24    | 40.96      | 359.93     | 0.590 | 5.00           | 15.000  | 8.850     | 362.55            | 0.00              | 948.8           |
| 135.00            |                 | 1.49 | 24.50    | 41.41      | 359.50     | 0.590 | 5.00           | 15.000  | 8.850     | 366.48            | 0.00              | 948.8           |
| 140.00            | Top - Section 4 | 1.51 | 24.75    | 41.84      | 359.03     | 0.590 | 5.00           | 15.000  | 8.850     | 370.31            | 0.00              | 948.8           |
| 145.00            |                 | 1.52 | 25.00    | 42.26      | 357.88     | 0.590 | 5.00           | 10.000  | 5.900     | 249.36            | 0.00              | 473.5           |
| 150.00            |                 | 1.54 | 25.25    | 42.67      | 356.64     | 0.590 | 5.00           | 10.000  | 5.900     | 251.79            | 0.00              | 473.5           |
| 155.00            |                 | 1.55 | 25.49    | 43.07      | 355.57     | 0.590 | 5.00           | 10.000  | 5.900     | 254.16            | 0.00              | 473.5           |
| 160.00            | Appertunance(s) | 1.57 | 25.72    | 43.47      | 354.48     | 0.590 | 5.00           | 10.000  | 5.900     | 256.48            | 0.00              | 473.5           |
| 165.00            |                 | 1.58 | 25.94    | 43.85      | 353.36     | 0.590 | 5.00           | 10.000  | 5.900     | 258.74            | 0.00              | 473.5           |
| 170.00            |                 | 1.59 | 26.17    | 44.23      | 352.22     | 0.590 | 5.00           | 10.000  | 5.900     | 260.96            | 0.00              | 473.5           |
| 175.00            |                 | 1.61 | 26.38    | 44.59      | 351.06     | 0.590 | 5.00           | 10.000  | 5.900     | 263.13            | 0.00              | 473.5           |
| 180.00            | Appertunance(s) | 1.62 | 26.60    | 44.95      | 350.88     | 0.590 | 5.00           | 10.000  | 5.900     | 265.25            | 0.00              | 473.5           |
| <b>Totals:</b>    |                 |      |          |            |            |       | <b>180.00</b>  |         |           | <b>12,166.32</b>  | <b>0.00</b>       | <b>40,044.6</b> |

Pole : NM03XC066  
 Location: 188 Warran Ave, Portland, ME  
 Height: 180.0 (ft)  
 Shape: Round  
 Base Dia: 54.00 (in)  
 Taper: 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev: 0.000 (ft)  
 Top Dia: 24.00 (in)

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 Page: 4



**Load Case:** No Ice      90 mph - No Ice      25 Iterations  
 Gust Response Factor: 1.69      Effective Wind Speed: 80.00 (mph)  
 Dead Load Factor: 1.00  
 Wind Load Factor: 1.00

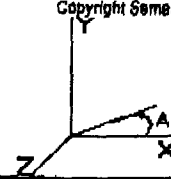
**Discrete Appurtenance Forces**

| Elev (ft) | Description     | Qty | qz (psf) | qzGh (psf) | Total GAAs (sf) | GAAs Factor | Horiz Ecc (ft) | Vert Ecc (ft) | X Angle (deg) | Wind Force X (lb) | Wind Force Z (lb) | Mom X (lb-ft) | Mom Y (lb-ft) | Mom Z (lb-ft) | Weight (lb) |
|-----------|-----------------|-----|----------|------------|-----------------|-------------|----------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|-------------|
| 160.00    | Platform w/rail | 1   | 25.79    | 43.58      | 35.850          | 1.000       | 0.000          | 1.5           | 0.0           | 1562.58           | 0.00              | 0.00          | 0.00          | 2343.86       | 2500.0      |
| 160.00    | DAPA 58010      | 6   | 25.72    | 43.47      | 19.140          | 1.000       | 0.000          | 0.0           | 0.0           | 832.02            | 0.00              | 0.00          | 0.00          | 0.00          | 66.0        |
| 180.00    | Platform w/rail | 1   | 26.66    | 45.06      | 35.850          | 1.000       | 0.000          | 1.5           | 0.0           | 1615.58           | 0.00              | 0.00          | 0.00          | 2423.37       | 2500.0      |
| 180.00    | Allgon 7184.15  | 9   | 26.80    | 44.95      | 26.010          | 1.000       | 0.000          | 0.0           | 0.0           | 1169.36           | 0.00              | 0.00          | 0.00          | 0.00          | 90.0        |
|           |                 |     |          |            |                 |             |                |               |               | 5,179.54          | 0.00              |               |               | 5,156.0       |             |

Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height : 180.0 (ft)  
 Shape : Round  
 Base Dia : 54.00 (in)  
 Taper : 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)

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 2/4/2002 12:31:27 PM  
 Page : 5



**Load Case:** No Ice      80 mph - No Ice      23 Iterations  
 Gust Response Factor : 1.69      Effective Wind Speed : 80.00 (mph)  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

**Applied Forces Summary**

| Seg Elev (ft)  | X Coord (ft) | Z Coord (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Lateral FZ (lb) | Moment MX (lb-ft) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|----------------|--------------|--------------|---------------------|-------------------|-----------------|-------------------|--------------------|-------------------|
| 0.00           | 0.00         | 0.00         | 0.00                | 0.00              | 0.00            | 0.00              | 0.00               | 0.00              |
| 5.00           | 0.00         | 0.00         | 367.57              | 1,783.08          | 0.00            | 0.00              | 0.00               | 0.00              |
| 10.00          | 0.00         | 0.00         | 367.57              | 1,783.08          | 0.00            | 0.00              | 0.00               | 0.00              |
| 15.00          | 0.00         | 0.00         | 367.57              | 1,783.08          | 0.00            | 0.00              | 0.00               | 0.00              |
| 20.00          | 0.00         | 0.00         | 367.57              | 1,783.08          | 0.00            | 0.00              | 0.00               | 0.00              |
| 25.00          | 0.00         | 0.00         | 326.73              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 30.00          | 0.00         | 0.00         | 326.73              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 35.00          | 0.00         | 0.00         | 332.27              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 40.00          | 0.00         | 0.00         | 345.19              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 45.00          | 0.00         | 0.00         | 357.00              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 50.00          | 0.00         | 0.00         | 367.92              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 55.00          | 0.00         | 0.00         | 378.07              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 60.00          | 0.00         | 0.00         | 387.59              | 1,582.64          | 0.00            | 0.00              | 0.00               | 0.00              |
| 65.00          | 0.00         | 0.00         | 346.99              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 70.00          | 0.00         | 0.00         | 354.41              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 75.00          | 0.00         | 0.00         | 361.47              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 80.00          | 0.00         | 0.00         | 368.19              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 85.00          | 0.00         | 0.00         | 374.63              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 90.00          | 0.00         | 0.00         | 380.79              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 95.00          | 0.00         | 0.00         | 386.72              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 100.00         | 0.00         | 0.00         | 392.43              | 1,109.10          | 0.00            | 0.00              | 0.00               | 0.00              |
| 105.00         | 0.00         | 0.00         | 341.09              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 110.00         | 0.00         | 0.00         | 345.66              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 115.00         | 0.00         | 0.00         | 350.07              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 120.00         | 0.00         | 0.00         | 354.36              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 125.00         | 0.00         | 0.00         | 358.61              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 130.00         | 0.00         | 0.00         | 362.55              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 135.00         | 0.00         | 0.00         | 366.48              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 140.00         | 0.00         | 0.00         | 370.31              | 948.75            | 0.00            | 0.00              | 0.00               | 0.00              |
| 145.00         | 0.00         | 0.00         | 249.36              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 150.00         | 0.00         | 0.00         | 251.79              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 155.00         | 0.00         | 0.00         | 254.16              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 160.00         | 0.00         | 0.00         | 2,651.08            | 3,039.54          | 0.00            | 0.00              | 0.00               | 2,343.86          |
| 165.00         | 0.00         | 0.00         | 258.74              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 170.00         | 0.00         | 0.00         | 260.96              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 175.00         | 0.00         | 0.00         | 263.13              | 473.54            | 0.00            | 0.00              | 0.00               | 0.00              |
| 180.00         | 0.00         | 0.00         | 3,050.20            | 3,063.54          | 0.00            | 0.00              | 0.00               | 2,423.37          |
| <b>Totals:</b> |              |              | <b>17,345.86</b>    | <b>45,200.60</b>  | <b>0.00</b>     | <b>0.00</b>       | <b>0.00</b>        | <b>4,767.23</b>   |

Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height: 180.0 (ft)  
 Shape: Round  
 Base Dia: 54.00 (in)  
 Taper: 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev: 0.000 (ft)  
 Top Dia: 24.00 (in)

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 Page: 6



**Load Case:** No Ice      80 mph - No Ice      23 Iterations

Gust Response Factor: 1.69      Effective Wind Speed: 80.00 (mph)

Dead Load Factor: 1.00

Wind Load Factor: 1.00

**Calculated Forces and Deflections**

| Seg Elev (ft) | Lateral FX (-) (kips) | Axial FY (-) (kips) | Lateral FZ (kips) | Moment MX (ft-kips) | Torsion MY (ft-kips) | Moment MZ (ft-kips) | X Deflect (in) | Z Deflect (in) | Total Deflect (in) | Rotation (deg) |
|---------------|-----------------------|---------------------|-------------------|---------------------|----------------------|---------------------|----------------|----------------|--------------------|----------------|
| 0.00          | 17.376                | 45.189              | 0.000             | 0.000               | 0.000                | 2,017.042           | 0.000          | 0.000          | 0.000              | 0.000          |
| 5.00          | 17.063                | 43.384              | 0.000             | 0.000               | 0.000                | 1,930.164           | -0.040         | 0.000          | 0.040              | -0.075         |
| 10.00         | 16.743                | 41.581              | 0.000             | 0.000               | 0.000                | 1,844.851           | -0.158         | 0.000          | 0.158              | -0.147         |
| 15.00         | 16.416                | 39.780              | 0.000             | 0.000               | 0.000                | 1,761.139           | -0.349         | 0.000          | 0.349              | -0.216         |
| 20.00         | 16.083                | 37.981              | 0.000             | 0.000               | 0.000                | 1,679.060           | -0.610         | 0.000          | 0.610              | -0.281         |
| 25.00         | 15.795                | 36.380              | 0.000             | 0.000               | 0.000                | 1,598.646           | -0.938         | 0.000          | 0.938              | -0.344         |
| 30.00         | 15.507                | 34.777              | 0.000             | 0.000               | 0.000                | 1,519.674           | -1.343         | 0.000          | 1.343              | -0.429         |
| 35.00         | 15.208                | 33.176              | 0.000             | 0.000               | 0.000                | 1,442.138           | -1.835         | 0.000          | 1.835              | -0.509         |
| 40.00         | 14.888                | 31.578              | 0.000             | 0.000               | 0.000                | 1,366.100           | -2.410         | 0.000          | 2.410              | -0.586         |
| 45.00         | 14.551                | 29.981              | 0.000             | 0.000               | 0.000                | 1,291.659           | -3.062         | 0.000          | 3.062              | -0.658         |
| 50.00         | 14.197                | 28.387              | 0.000             | 0.000               | 0.000                | 1,218.904           | -3.788         | 0.000          | 3.788              | -0.726         |
| 55.00         | 13.827                | 26.794              | 0.000             | 0.000               | 0.000                | 1,147.920           | -4.583         | 0.000          | 4.583              | -0.791         |
| 60.00         | 13.443                | 25.203              | 0.000             | 0.000               | 0.000                | 1,078.785           | -5.444         | 0.000          | 5.444              | -0.852         |
| 65.00         | 13.112                | 24.082              | 0.000             | 0.000               | 0.000                | 1,011.572           | -6.367         | 0.000          | 6.367              | -0.908         |
| 70.00         | 12.777                | 22.958              | 0.000             | 0.000               | 0.000                | 946.014             | -7.371         | 0.000          | 7.371              | -1.008         |
| 75.00         | 12.430                | 21.836              | 0.000             | 0.000               | 0.000                | 882.129             | -8.476         | 0.000          | 8.476              | -1.100         |
| 80.00         | 12.069                | 20.717              | 0.000             | 0.000               | 0.000                | 819.982             | -9.675         | 0.000          | 9.675              | -1.186         |
| 85.00         | 11.697                | 19.600              | 0.000             | 0.000               | 0.000                | 759.636             | -10.960        | 0.000          | 10.960             | -1.266         |
| 90.00         | 11.314                | 18.486              | 0.000             | 0.000               | 0.000                | 701.150             | -12.326        | 0.000          | 12.326             | -1.340         |
| 95.00         | 10.921                | 17.374              | 0.000             | 0.000               | 0.000                | 644.580             | -13.767        | 0.000          | 13.767             | -1.409         |
| 100.00        | 10.518                | 16.264              | 0.000             | 0.000               | 0.000                | 589.976             | -15.275        | 0.000          | 15.275             | -1.471         |
| 105.00        | 10.171                | 15.312              | 0.000             | 0.000               | 0.000                | 537.388             | -16.847        | 0.000          | 16.847             | -1.528         |
| 110.00        | 9.819                 | 14.360              | 0.000             | 0.000               | 0.000                | 486.535             | -18.492        | 0.000          | 18.492             | -1.611         |
| 115.00        | 9.458                 | 13.410              | 0.000             | 0.000               | 0.000                | 437.441             | -20.219        | 0.000          | 20.219             | -1.686         |
| 120.00        | 9.089                 | 12.462              | 0.000             | 0.000               | 0.000                | 390.150             | -22.021        | 0.000          | 22.021             | -1.753         |
| 125.00        | 8.713                 | 11.517              | 0.000             | 0.000               | 0.000                | 344.704             | -23.888        | 0.000          | 23.888             | -1.812         |
| 130.00        | 8.329                 | 10.573              | 0.000             | 0.000               | 0.000                | 301.141             | -25.814        | 0.000          | 25.814             | -1.864         |
| 135.00        | 7.938                 | 9.631               | 0.000             | 0.000               | 0.000                | 259.497             | -27.791        | 0.000          | 27.791             | -1.910         |
| 140.00        | 7.542                 | 8.691               | 0.000             | 0.000               | 0.000                | 219.808             | -29.812        | 0.000          | 29.812             | -1.949         |
| 145.00        | 7.288                 | 8.216               | 0.000             | 0.000               | 0.000                | 182.097             | -31.870        | 0.000          | 31.870             | -1.981         |
| 150.00        | 7.034                 | 7.739               | 0.000             | 0.000               | 0.000                | 145.659             | -34.011        | 0.000          | 34.011             | -2.101         |
| 155.00        | 6.772                 | 7.265               | 0.000             | 0.000               | 0.000                | 110.492             | -36.263        | 0.000          | 36.263             | -2.195         |
| 160.00        | 4.009                 | 4.328               | 0.000             | 0.000               | 0.000                | 74.268              | -38.599        | 0.000          | 38.599             | -2.263         |
| 165.00        | 3.734                 | 3.862               | 0.000             | 0.000               | 0.000                | 54.244              | -40.995        | 0.000          | 40.995             | -2.310         |
| 170.00        | 3.456                 | 3.398               | 0.000             | 0.000               | 0.000                | 35.573              | -43.433        | 0.000          | 43.433             | -2.343         |
| 175.00        | 3.174                 | 2.935               | 0.000             | 0.000               | 0.000                | 18.294              | -45.898        | 0.000          | 45.898             | -2.363         |
| 180.00        | 3.050                 | 0.000               | 0.000             | 0.000               | 0.000                | 2.423               | -48.377        | 0.000          | 48.377             | -2.370         |

Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height: 180.0 (ft)  
 Shape: Round  
 Base Dia: 54.00 (in)  
 Taper: 0.000 (in/ft)

Sprint Sites USA - NJ

Base Elev: 0.000 (ft)

Top Dia: 24.00 (in)

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 2/4/2002 12:31:27 PM  
 Page: 7



|                            |                                   |               |
|----------------------------|-----------------------------------|---------------|
| <b>Load Case:</b> No Ice   | 80 mph - No Ice                   | 23 Iterations |
| Gust Response Factor: 1.69 | Effective Wind Speed: 80.00 (mph) |               |
| Dead Load Factor: 1.00     |                                   |               |
| Wind Load Factor: 1.00     |                                   |               |

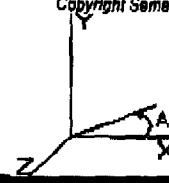
**Calculated Stresses**

| Seg Elev (ft) | Applied Stresses |                 |                 |               |                   |                   |        | Combined (ksl) | Allowable Stress (Fb) (ksl) | Allowable Stress (Fa) (ksl) | Stress Ratio |
|---------------|------------------|-----------------|-----------------|---------------|-------------------|-------------------|--------|----------------|-----------------------------|-----------------------------|--------------|
|               | Axial (Y) (ksl)  | Shear (X) (ksl) | Shear (Z) (ksl) | Torsion (ksl) | Bending (X) (ksl) | Bending (Z) (ksl) |        |                |                             |                             |              |
| 0.00          | 0.431            | 0.332           | 0.000           | 0.000         | 0.000             | 17.497            | 17.938 | 28.8           | 28.8                        | 0.623                       |              |
| 5.00          | 0.414            | 0.326           | 0.000           | 0.000         | 0.000             | 16.744            | 17.167 | 28.8           | 28.8                        | 0.596                       |              |
| 10.00         | 0.397            | 0.320           | 0.000           | 0.000         | 0.000             | 16.004            | 16.410 | 28.8           | 28.8                        | 0.570                       |              |
| 15.00         | 0.380            | 0.313           | 0.000           | 0.000         | 0.000             | 15.278            | 15.866 | 28.8           | 28.8                        | 0.544                       |              |
| 20.00         | 0.362            | 0.307           | 0.000           | 0.000         | 0.000             | 14.565            | 14.937 | 28.8           | 28.8                        | 0.519                       |              |
| 25.00         | 0.408            | 0.346           | 0.000           | 0.000         | 0.000             | 18.516            | 18.933 | 28.8           | 28.8                        | 0.657                       |              |
| 30.00         | 0.391            | 0.340           | 0.000           | 0.000         | 0.000             | 17.629            | 18.030 | 28.8           | 28.8                        | 0.626                       |              |
| 35.00         | 0.374            | 0.334           | 0.000           | 0.000         | 0.000             | 16.758            | 17.142 | 28.8           | 28.8                        | 0.595                       |              |
| 40.00         | 0.357            | 0.327           | 0.000           | 0.000         | 0.000             | 15.903            | 16.270 | 28.8           | 28.8                        | 0.565                       |              |
| 45.00         | 0.339            | 0.320           | 0.000           | 0.000         | 0.000             | 15.064            | 15.414 | 28.8           | 28.8                        | 0.535                       |              |
| 50.00         | 0.322            | 0.313           | 0.000           | 0.000         | 0.000             | 14.244            | 14.576 | 28.8           | 28.8                        | 0.506                       |              |
| 55.00         | 0.305            | 0.305           | 0.000           | 0.000         | 0.000             | 13.441            | 13.757 | 28.8           | 28.8                        | 0.478                       |              |
| 60.00         | 0.288            | 0.297           | 0.000           | 0.000         | 0.000             | 12.659            | 12.957 | 28.8           | 28.8                        | 0.450                       |              |
| 65.00         | 0.271            | 0.289           | 0.000           | 0.000         | 0.000             | 11.896            | 12.177 | 28.8           | 28.8                        | 0.423                       |              |
| 70.00         | 0.387            | 0.413           | 0.000           | 0.000         | 0.000             | 19.357            | 19.756 | 28.8           | 28.8                        | 0.686                       |              |
| 75.00         | 0.369            | 0.403           | 0.000           | 0.000         | 0.000             | 18.151            | 18.533 | 28.8           | 28.8                        | 0.644                       |              |
| 80.00         | 0.352            | 0.392           | 0.000           | 0.000         | 0.000             | 16.974            | 17.340 | 28.8           | 28.8                        | 0.602                       |              |
| 85.00         | 0.335            | 0.382           | 0.000           | 0.000         | 0.000             | 15.828            | 16.176 | 28.8           | 28.8                        | 0.562                       |              |
| 90.00         | 0.318            | 0.371           | 0.000           | 0.000         | 0.000             | 14.713            | 15.044 | 28.8           | 28.8                        | 0.522                       |              |
| 95.00         | 0.301            | 0.359           | 0.000           | 0.000         | 0.000             | 13.630            | 13.945 | 28.8           | 28.8                        | 0.484                       |              |
| 100.00        | 0.284            | 0.347           | 0.000           | 0.000         | 0.000             | 12.581            | 12.878 | 28.8           | 28.8                        | 0.447                       |              |
| 105.00        | 0.267            | 0.335           | 0.000           | 0.000         | 0.000             | 11.566            | 11.846 | 28.8           | 28.8                        | 0.411                       |              |
| 110.00        | 0.250            | 0.323           | 0.000           | 0.000         | 0.000             | 10.586            | 10.850 | 28.8           | 28.8                        | 0.377                       |              |
| 115.00        | 0.232            | 0.311           | 0.000           | 0.000         | 0.000             | 9.640             | 9.890  | 28.8           | 28.8                        | 0.341                       |              |
| 120.00        | 0.215            | 0.299           | 0.000           | 0.000         | 0.000             | 8.728             | 8.963  | 28.8           | 28.8                        | 0.302                       |              |
| 125.00        | 0.207            | 0.313           | 0.000           | 0.000         | 0.000             | 8.469             | 8.693  | 28.8           | 28.8                        | 0.302                       |              |
| 130.00        | 0.190            | 0.299           | 0.000           | 0.000         | 0.000             | 7.399             | 7.606  | 28.8           | 28.8                        | 0.264                       |              |
| 135.00        | 0.173            | 0.285           | 0.000           | 0.000         | 0.000             | 6.376             | 6.567  | 28.8           | 28.8                        | 0.228                       |              |
| 140.00        | 0.156            | 0.271           | 0.000           | 0.000         | 0.000             | 5.401             | 5.576  | 28.8           | 28.8                        | 0.194                       |              |
| 145.00        | 0.312            | 0.542           | 0.000           | 0.000         | 0.000             | 16.288            | 16.627 | 28.8           | 28.8                        | 0.577                       |              |
| 150.00        | 0.295            | 0.524           | 0.000           | 0.000         | 0.000             | 13.494            | 13.819 | 28.8           | 28.8                        | 0.480                       |              |
| 155.00        | 0.278            | 0.506           | 0.000           | 0.000         | 0.000             | 10.793            | 11.106 | 28.8           | 28.8                        | 0.386                       |              |
| 160.00        | 0.261            | 0.487           | 0.000           | 0.000         | 0.000             | 8.188             | 8.491  | 28.8           | 28.8                        | 0.295                       |              |
| 165.00        | 0.155            | 0.288           | 0.000           | 0.000         | 0.000             | 5.505             | 5.682  | 28.8           | 28.8                        | 0.197                       |              |
| 170.00        | 0.139            | 0.268           | 0.000           | 0.000         | 0.000             | 4.020             | 4.184  | 28.8           | 28.8                        | 0.145                       |              |
| 175.00        | 0.122            | 0.248           | 0.000           | 0.000         | 0.000             | 2.636             | 2.791  | 28.8           | 28.8                        | 0.097                       |              |
| 180.00        | 0.105            | 0.228           | 0.000           | 0.000         | 0.000             | 1.356             | 1.514  | 28.8           | 28.8                        | 0.053                       |              |
| 185.00        | 0.000            | 0.219           | 0.000           | 0.000         | 0.000             | 0.180             | 0.420  | 28.8           | 28.8                        | 0.015                       |              |

Pole : NM03XC006  
 Location: 188 Warren Ave, Portland, ME  
 Height : 180.0 (ft)  
 Shape : Round  
 Base Dia : 54.00 (in)  
 Taper : 0.000 (in/ft)

Sprint Sites USA - NJ  
 Base Elev : 0.000 (ft)  
 Top Dia : 24.00 (in)

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 Page: 8



**Load Case:** Ice 80 mph - With Ice - Ice Thickness = 0.5 In 23 Iterations  
**Gust Response Factor:** 1.69 **Effective Wind Speed:** 69.28 (mph)  
**Dead Load Factor:** 1.00  
**Wind Load Factor:** 1.00

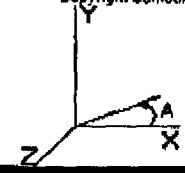
**Shaft Forces**

| Seg Top | Elev (ft) | Description     | Kz   | az (psf) | azGh (psf) | C (mph-ft) | Cf    | Tributary (ft) | Aa (sf) | CfAa (sf) | Wind Force X (lb) | Wind Force Z (lb) | Weight (lb)     |
|---------|-----------|-----------------|------|----------|------------|------------|-------|----------------|---------|-----------|-------------------|-------------------|-----------------|
|         | 0.00      |                 | 1.00 | 12.28    | 20.76      | 311.76     | 0.590 | 0.00           | 0.000   | 0.000     | 0.00              | 0.00              | 0.0             |
|         | 5.00      |                 | 1.00 | 12.28    | 20.76      | 311.76     | 0.590 | 5.00           | 22.917  | 13.521    | 280.77            | 0.00              | 1,949.5         |
|         | 10.00     |                 | 1.00 | 12.28    | 20.76      | 311.76     | 0.590 | 5.00           | 22.917  | 13.521    | 280.77            | 0.00              | 1,949.5         |
|         | 15.00     |                 | 1.00 | 12.28    | 20.76      | 311.76     | 0.590 | 5.00           | 22.917  | 13.521    | 280.77            | 0.00              | 1,949.5         |
|         | 20.00     | Top - Section 1 | 1.00 | 12.28    | 20.76      | 311.76     | 0.590 | 5.00           | 22.917  | 13.521    | 280.77            | 0.00              | 1,949.5         |
|         | 25.00     |                 | 1.00 | 12.28    | 20.76      | 277.12     | 0.590 | 5.00           | 20.417  | 12.046    | 250.14            | 0.00              | 1,730.7         |
|         | 30.00     |                 | 1.00 | 12.28    | 20.76      | 277.12     | 0.590 | 5.00           | 20.417  | 12.046    | 250.14            | 0.00              | 1,730.7         |
|         | 35.00     |                 | 1.01 | 12.49    | 21.11      | 279.46     | 0.590 | 5.00           | 20.417  | 12.046    | 254.38            | 0.00              | 1,730.7         |
|         | 40.00     |                 | 1.05 | 12.98    | 21.93      | 284.84     | 0.590 | 5.00           | 20.417  | 12.046    | 264.27            | 0.00              | 1,730.7         |
|         | 45.00     |                 | 1.09 | 13.42    | 22.69      | 289.67     | 0.590 | 5.00           | 20.417  | 12.046    | 273.32            | 0.00              | 1,730.7         |
|         | 50.00     |                 | 1.12 | 13.83    | 23.38      | 294.07     | 0.590 | 5.00           | 20.417  | 12.046    | 281.67            | 0.00              | 1,730.7         |
|         | 55.00     |                 | 1.15 | 14.21    | 24.02      | 298.10     | 0.590 | 5.00           | 20.417  | 12.046    | 289.44            | 0.00              | 1,730.7         |
|         | 60.00     | Top - Section 2 | 1.18 | 14.57    | 24.63      | 301.83     | 0.590 | 5.00           | 20.417  | 12.046    | 296.73            | 0.00              | 1,730.7         |
|         | 65.00     |                 | 1.21 | 14.91    | 25.20      | 307.14     | 0.590 | 5.00           | 17.917  | 10.571    | 266.42            | 0.00              | 1,238.8         |
|         | 70.00     |                 | 1.24 | 15.23    | 25.74      | 269.98     | 0.590 | 5.00           | 17.917  | 10.571    | 272.12            | 0.00              | 1,238.8         |
|         | 75.00     |                 | 1.26 | 15.53    | 26.25      | 272.85     | 0.590 | 5.00           | 17.917  | 10.571    | 277.54            | 0.00              | 1,238.8         |
|         | 80.00     |                 | 1.28 | 15.82    | 26.74      | 275.18     | 0.590 | 5.00           | 17.917  | 10.571    | 282.70            | 0.00              | 1,238.8         |
|         | 85.00     |                 | 1.31 | 16.10    | 27.21      | 277.57     | 0.590 | 5.00           | 17.917  | 10.571    | 287.04            | 0.00              | 1,238.8         |
|         | 90.00     |                 | 1.33 | 16.36    | 27.65      | 279.85     | 0.590 | 5.00           | 17.917  | 10.571    | 292.38            | 0.00              | 1,238.8         |
|         | 95.00     |                 | 1.36 | 16.62    | 28.09      | 282.02     | 0.590 | 5.00           | 17.917  | 10.571    | 296.93            | 0.00              | 1,238.8         |
|         | 100.00    | Top - Section 3 | 1.37 | 16.86    | 28.50      | 284.09     | 0.590 | 5.00           | 17.917  | 10.571    | 301.31            | 0.00              | 1,238.8         |
|         | 105.00    |                 | 1.39 | 17.10    | 28.90      | 245.21     | 0.590 | 5.00           | 15.417  | 9.096     | 262.91            | 0.00              | 1,060.2         |
|         | 110.00    |                 | 1.41 | 17.33    | 29.29      | 246.85     | 0.590 | 5.00           | 15.417  | 9.096     | 266.43            | 0.00              | 1,060.2         |
|         | 115.00    |                 | 1.42 | 17.55    | 29.66      | 248.42     | 0.590 | 5.00           | 15.417  | 9.096     | 269.83            | 0.00              | 1,060.2         |
|         | 120.00    |                 | 1.44 | 17.76    | 30.02      | 249.93     | 0.590 | 5.00           | 15.417  | 9.096     | 273.13            | 0.00              | 1,060.2         |
|         | 125.00    |                 | 1.46 | 17.97    | 30.38      | 251.40     | 0.590 | 5.00           | 15.417  | 9.096     | 276.34            | 0.00              | 1,060.2         |
|         | 130.00    |                 | 1.48 | 18.17    | 30.72      | 252.81     | 0.590 | 5.00           | 15.417  | 9.096     | 279.45            | 0.00              | 1,060.2         |
|         | 135.00    |                 | 1.49 | 18.37    | 31.05      | 254.17     | 0.590 | 5.00           | 15.417  | 9.096     | 282.48            | 0.00              | 1,060.2         |
|         | 140.00    | Top - Section 4 | 1.51 | 18.56    | 31.38      | 255.50     | 0.590 | 5.00           | 15.417  | 9.096     | 285.43            | 0.00              | 1,060.2         |
|         | 145.00    |                 | 1.52 | 18.75    | 31.69      | 171.19     | 0.590 | 5.00           | 10.417  | 6.146     | 194.80            | 0.00              | 548.3           |
|         | 150.00    |                 | 1.54 | 18.93    | 32.00      | 172.02     | 0.590 | 5.00           | 10.417  | 6.146     | 196.70            | 0.00              | 548.3           |
|         | 155.00    |                 | 1.55 | 19.11    | 32.30      | 172.83     | 0.590 | 5.00           | 10.417  | 6.146     | 198.55            | 0.00              | 548.3           |
|         | 160.00    | Appertunance(s) | 1.57 | 19.29    | 32.60      | 173.61     | 0.590 | 5.00           | 10.417  | 6.146     | 200.36            | 0.00              | 548.3           |
|         | 165.00    |                 | 1.58 | 19.46    | 32.88      | 174.38     | 0.590 | 5.00           | 10.417  | 6.146     | 202.13            | 0.00              | 548.3           |
|         | 170.00    |                 | 1.59 | 19.62    | 33.17      | 175.12     | 0.590 | 5.00           | 10.417  | 6.146     | 203.86            | 0.00              | 548.3           |
|         | 175.00    |                 | 1.61 | 19.79    | 33.44      | 175.85     | 0.590 | 5.00           | 10.417  | 6.146     | 205.56            | 0.00              | 548.3           |
|         | 180.00    | Appertunance(s) | 1.62 | 19.95    | 33.71      | 176.56     | 0.590 | 5.00           | 10.417  | 6.146     | 207.22            | 0.00              | 548.3           |
|         |           | <b>Totals:</b>  |      |          |            |            |       | <b>180.00</b>  |         |           | <b>9,365.38</b>   | <b>0.00</b>       | <b>44,422.3</b> |

**Pole :** NM03XC066  
**Location:** 188 Warren Ave, Portland, ME  
**Height :** 180.0 (ft)  
**Shape :** Round  
**Base Dia :** 54.00 (in)  
**Taper :** 0.000 (in/ft)

**Sprint Sites USA - NJ**  
**Base Elev :** 0.000 (ft)  
**Top Dia :** 24.00 (in)

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 Page: 9



**Load Case:** Ice      80 mph - With Ice - Ice Thickness = 0.5 in      23 iterations  
**Gust Response Factor :** 1.69      **Effective Wind Speed :** 69.28 (mph)  
**Dead Load Factor :** 1.00  
**Wind Load Factor :** 1.00

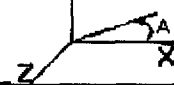
**Discrete Appurtenance Forces**

| Elev (ft) | Description     | Qty | qz (psf) | qzGh (psf) | Total CoAs (sf) | CoAs Factor | Horiz Ecc (ft) | Vart Ecc (ft) | X Angle (deg) | Wind Force X (lb) | Wind Force Z (lb) | Mom X (lb-ft) | Mom Y (lb-ft) | Mom Z (lb-ft)  | Weight (lb) |
|-----------|-----------------|-----|----------|------------|-----------------|-------------|----------------|---------------|---------------|-------------------|-------------------|---------------|---------------|----------------|-------------|
| 180.00    | Platform w/rail | 1   | 19.34    | 32.68      | 40.460          | 1.000       | 0.000          | 1.5           | 0.0           | 1322.59           | 0.00              | 0.00          | 0.00          | 1983.83        | 3500.0      |
| 160.00    | DAPA 58010      | 6   | 19.29    | 32.60      | 22.080          | 1.000       | 0.000          | 0.0           | 0.0           | 719.83            | 0.00              | 0.00          | 0.00          | 0.00           | 174.0       |
| 180.00    | Platform w/rail | 1   | 19.99    | 33.79      | 40.460          | 1.000       | 0.000          | 1.5           | 0.0           | 1367.42           | 0.00              | 0.00          | 0.00          | 2051.12        | 3500.0      |
| 180.00    | Alligon 7184.15 | 9   | 19.95    | 33.71      | 30.240          | 1.000       | 0.000          | 0.0           | 0.0           | 1019.59           | 0.00              | 0.00          | 0.00          | 0.00           | 216.0       |
|           |                 |     |          |            |                 |             |                |               |               | <b>4,429.39</b>   | <b>0.00</b>       |               |               | <b>7,390.0</b> |             |



**Pole :** NM03XC066 **Sprint Sites USA - NJ**  
**Location:** 188 Warren Ave, Portland, ME  
**Height:** 180.0 (ft) **Base Elev :** 0.000 (ft)  
**Shape :** Round **Top Dia :** 24.00 (in)  
**Base Dia :** 54.00 (in)  
**Taper :** 0.000 (in/ft)

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 Page: 10



**Load Case:** Ice **80 mph - With Ice - Ice Thickness = 0.5 in** 23 Iterations  
**Gust Response Factor :** 1.69 **Effective Wind Speed :** 69.28 (mph)  
**Dead Load Factor :** 1.00  
**Wind Load Factor :** 1.00

**Applied Forces Summary**

| Seg Elev (ft)  | X Coord (ft) | Z Coord (ft) | Lateral FX (-) (lb) | Axial FY (-) (lb) | Lateral FZ (lb) | Moment MX (lb-ft) | Torsion MY (lb-ft) | Moment MZ (lb-ft) |
|----------------|--------------|--------------|---------------------|-------------------|-----------------|-------------------|--------------------|-------------------|
| 0.00           | 0.00         | 0.00         | 0.00                | 0.00              | 0.00            | 0.00              | 0.00               | 0.00              |
| 5.00           | 0.00         | 0.00         | 280.77              | 1,949.46          | 0.00            | 0.00              | 0.00               | 0.00              |
| 10.00          | 0.00         | 0.00         | 280.77              | 1,949.46          | 0.00            | 0.00              | 0.00               | 0.00              |
| 15.00          | 0.00         | 0.00         | 280.77              | 1,949.46          | 0.00            | 0.00              | 0.00               | 0.00              |
| 20.00          | 0.00         | 0.00         | 280.77              | 1,949.46          | 0.00            | 0.00              | 0.00               | 0.00              |
| 25.00          | 0.00         | 0.00         | 250.14              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 30.00          | 0.00         | 0.00         | 250.14              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 35.00          | 0.00         | 0.00         | 254.38              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 40.00          | 0.00         | 0.00         | 264.27              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 45.00          | 0.00         | 0.00         | 273.32              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 50.00          | 0.00         | 0.00         | 281.67              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 55.00          | 0.00         | 0.00         | 289.44              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 60.00          | 0.00         | 0.00         | 296.73              | 1,730.70          | 0.00            | 0.00              | 0.00               | 0.00              |
| 65.00          | 0.00         | 0.00         | 266.42              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 70.00          | 0.00         | 0.00         | 272.12              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 75.00          | 0.00         | 0.00         | 277.54              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 80.00          | 0.00         | 0.00         | 282.70              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 85.00          | 0.00         | 0.00         | 287.64              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 90.00          | 0.00         | 0.00         | 292.38              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 95.00          | 0.00         | 0.00         | 296.93              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 100.00         | 0.00         | 0.00         | 301.31              | 1,238.85          | 0.00            | 0.00              | 0.00               | 0.00              |
| 105.00         | 0.00         | 0.00         | 262.91              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 110.00         | 0.00         | 0.00         | 266.43              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 115.00         | 0.00         | 0.00         | 269.93              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 120.00         | 0.00         | 0.00         | 273.13              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 125.00         | 0.00         | 0.00         | 276.34              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 130.00         | 0.00         | 0.00         | 279.48              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 135.00         | 0.00         | 0.00         | 282.48              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 140.00         | 0.00         | 0.00         | 285.43              | 1,060.18          | 0.00            | 0.00              | 0.00               | 0.00              |
| 145.00         | 0.00         | 0.00         | 194.80              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 150.00         | 0.00         | 0.00         | 196.70              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 155.00         | 0.00         | 0.00         | 198.55              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 160.00         | 0.00         | 0.00         | 2,242.74            | 4,222.33          | 0.00            | 0.00              | 0.00               | 1,983.83          |
| 165.00         | 0.00         | 0.00         | 202.13              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 170.00         | 0.00         | 0.00         | 203.86              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 175.00         | 0.00         | 0.00         | 205.56              | 548.33            | 0.00            | 0.00              | 0.00               | 0.00              |
| 180.00         | 0.00         | 0.00         | 2,594.23            | 4,264.33          | 0.00            | 0.00              | 0.00               | 2,051.12          |
| <b>Totals:</b> |              |              | <b>13,794.77</b>    | <b>51,812.29</b>  | <b>0.00</b>     | <b>0.00</b>       | <b>0.00</b>        | <b>4,034.96</b>   |

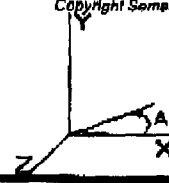
Pole : NM03XC066  
 Location : 188 Warren Ave, Portland, ME  
 Height : 180.0 (ft)  
 Shape : Round  
 Base Dia : 54.00 (in)  
 Taper : 0.000 (in/ft)

Sprint Sites USA - NJ

Base Elev : 0.000 (ft)

Top Dia : 24.00 (in)

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 2/4/2002 12:31:28 PM  
 Page : 11



**Load Case:** Ice      80 mph - With Ice - Ice Thickness = 0.5 in      23 Iterations  
**Gust Response Factor:** 1.89      **Effective Wind Speed:** 69.28 (mph)  
**Dead Load Factor:** 1.00  
**Wind Load Factor:** 1.00

**Calculated Forces and Deflections**

| Seg Elev (ft) | Lateral FX (-) (kips) | Axial FY (-) (kips) | Lateral FZ (kips) | Moment MX (ft-kips) | Torsion MY (ft-kips) | Moment MZ (ft-kips) | X Deflect (in) | Z Deflect (in) | Total Deflect (in) | Rotation (deg) |
|---------------|-----------------------|---------------------|-------------------|---------------------|----------------------|---------------------|----------------|----------------|--------------------|----------------|
| 0.00          | 13.823                | 51.805              | 0.000             | 0.000               | 0.000                | 1,645.790           | 0.000          | 0.000          | 0.000              | 0.000          |
| 5.00          | 13.593                | 49.841              | 0.000             | 0.000               | 0.000                | 1,576.877           | -0.033         | 0.000          | 0.033              | -0.061         |
| 10.00         | 13.357                | 47.879              | 0.000             | 0.000               | 0.000                | 1,508.712           | -0.129         | 0.000          | 0.129              | -0.120         |
| 15.00         | 13.116                | 45.918              | 0.000             | 0.000               | 0.000                | 1,441.926           | -0.285         | 0.000          | 0.285              | -0.176         |
| 20.00         | 12.868                | 43.957              | 0.000             | 0.000               | 0.000                | 1,376.350           | -0.498         | 0.000          | 0.498              | -0.230         |
| 25.00         | 12.655                | 42.214              | 0.000             | 0.000               | 0.000                | 1,312.010           | -0.766         | 0.000          | 0.766              | -0.281         |
| 30.00         | 12.443                | 40.470              | 0.000             | 0.000               | 0.000                | 1,248.737           | -1.098         | 0.000          | 1.098              | -0.351         |
| 35.00         | 12.221                | 38.728              | 0.000             | 0.000               | 0.000                | 1,186.522           | -1.501         | 0.000          | 1.501              | -0.417         |
| 40.00         | 11.983                | 36.986              | 0.000             | 0.000               | 0.000                | 1,125.418           | -1.972         | 0.000          | 1.972              | -0.480         |
| 45.00         | 11.730                | 35.246              | 0.000             | 0.000               | 0.000                | 1,065.506           | -2.507         | 0.000          | 2.507              | -0.540         |
| 50.00         | 11.463                | 33.507              | 0.000             | 0.000               | 0.000                | 1,006.859           | -3.103         | 0.000          | 3.103              | -0.598         |
| 55.00         | 11.183                | 31.770              | 0.000             | 0.000               | 0.000                | 949.545             | -3.756         | 0.000          | 3.756              | -0.650         |
| 60.00         | 10.892                | 30.034              | 0.000             | 0.000               | 0.000                | 893.630             | -4.463         | 0.000          | 4.463              | -0.700         |
| 65.00         | 10.642                | 28.786              | 0.000             | 0.000               | 0.000                | 839.172             | -5.221         | 0.000          | 5.221              | -0.747         |
| 70.00         | 10.391                | 27.537              | 0.000             | 0.000               | 0.000                | 785.961             | -6.048         | 0.000          | 6.048              | -0.829         |
| 75.00         | 10.129                | 26.289              | 0.000             | 0.000               | 0.000                | 734.004             | -6.957         | 0.000          | 6.957              | -0.906         |
| 80.00         | 9.857                 | 25.043              | 0.000             | 0.000               | 0.000                | 683.358             | -7.945         | 0.000          | 7.945              | -0.978         |
| 85.00         | 9.574                 | 23.799              | 0.000             | 0.000               | 0.000                | 634.076             | -9.005         | 0.000          | 9.005              | -1.045         |
| 90.00         | 9.282                 | 22.556              | 0.000             | 0.000               | 0.000                | 586.208             | -10.133        | 0.000          | 10.133             | -1.107         |
| 95.00         | 8.980                 | 21.315              | 0.000             | 0.000               | 0.000                | 539.801             | -11.322        | 0.000          | 11.322             | -1.164         |
| 100.00        | 8.671                 | 20.075              | 0.000             | 0.000               | 0.000                | 494.900             | -12.569        | 0.000          | 12.569             | -1.216         |
| 105.00        | 8.405                 | 19.012              | 0.000             | 0.000               | 0.000                | 451.545             | -13.868        | 0.000          | 13.868             | -1.264         |
| 110.00        | 8.135                 | 17.949              | 0.000             | 0.000               | 0.000                | 409.521             | -15.229        | 0.000          | 15.229             | -1.334         |
| 115.00        | 7.858                 | 16.887              | 0.000             | 0.000               | 0.000                | 368.846             | -16.660        | 0.000          | 16.660             | -1.397         |
| 120.00        | 7.573                 | 15.827              | 0.000             | 0.000               | 0.000                | 329.557             | -18.163        | 0.000          | 18.163             | -1.453         |
| 125.00        | 7.282                 | 14.768              | 0.000             | 0.000               | 0.000                | 291.692             | -19.702        | 0.000          | 19.702             | -1.503         |
| 130.00        | 6.984                 | 13.711              | 0.000             | 0.000               | 0.000                | 255.284             | -21.300        | 0.000          | 21.300             | -1.548         |
| 135.00        | 6.681                 | 12.655              | 0.000             | 0.000               | 0.000                | 220.364             | -22.942        | 0.000          | 22.942             | -1.586         |
| 140.00        | 6.372                 | 11.600              | 0.000             | 0.000               | 0.000                | 186.962             | -24.620        | 0.000          | 24.620             | -1.619         |
| 145.00        | 6.174                 | 11.050              | 0.000             | 0.000               | 0.000                | 155.104             | -26.331        | 0.000          | 26.331             | -1.647         |
| 150.00        | 5.978                 | 10.498              | 0.000             | 0.000               | 0.000                | 124.233             | -28.112        | 0.000          | 28.112             | -1.749         |
| 155.00        | 5.775                 | 9.949               | 0.000             | 0.000               | 0.000                | 94.343              | -29.987        | 0.000          | 29.987             | -1.829         |
| 160.00        | 3.401                 | 5.799               | 0.000             | 0.000               | 0.000                | 63.487              | -31.936        | 0.000          | 31.936             | -1.887         |
| 165.00        | 3.184                 | 5.256               | 0.000             | 0.000               | 0.000                | 46.484              | -33.934        | 0.000          | 33.934             | -1.928         |
| 170.00        | 2.963                 | 4.714               | 0.000             | 0.000               | 0.000                | 30.566              | -36.969        | 0.000          | 35.969             | -1.956         |
| 175.00        | 2.740                 | 4.172               | 0.000             | 0.000               | 0.000                | 15.750              | -38.027        | 0.000          | 38.027             | -1.973         |
| 180.00        | 2.594                 | 0.000               | 0.000             | 0.000               | 0.000                | 2.051               | -40.097        | 0.000          | 40.097             | -1.979         |

Pole : NM03XC066  
 Location: 188 Warren Ave, Portland, ME  
 Height: 180.0 (ft)  
 Shape: Round  
 Base Dia: 54.00 (In)  
 Taper: 0.000 (In/ft)

Sprint Sites USA - NJ  
 Base Elev: 0.000 (ft)  
 Top Dia: 24.00 (In)

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 Page: 12



**Load Case:** Ice      80 mph - With ice - Ice Thickness = 0.5 In      23 Iterations

Gust Response Factor : 1.69      Effective Wind Speed : 69.28 (mph)

Dead Load Factor : 1.00

Wind Load Factor : 1.00

**Calculated Stresses**

| Seg Elev (ft) | Applied Stresses |                 |                 |               |                   |                   |        | Combined (ksi) | Allowable Stress (Fb) (ksi) | Allowable Stress (Fa) (ksi) | Stress Ratio |
|---------------|------------------|-----------------|-----------------|---------------|-------------------|-------------------|--------|----------------|-----------------------------|-----------------------------|--------------|
|               | Axial (Y) (ksi)  | Shear (X) (ksi) | Shear (Z) (ksi) | Torsion (ksi) | Bending (X) (ksi) | Bending (Z) (ksi) |        |                |                             |                             |              |
| 0.00          | 0.494            | 0.264           | 0.000           | 0.000         | 0.000             | 14.277            | 14.778 | 28.8           | 28.8                        | 0.513                       |              |
| 5.00          | 0.476            | 0.260           | 0.000           | 0.000         | 0.000             | 13.677            | 14.160 | 28.8           | 28.8                        | 0.492                       |              |
| 10.00         | 0.457            | 0.255           | 0.000           | 0.000         | 0.000             | 13.088            | 13.552 | 28.8           | 28.8                        | 0.471                       |              |
| 15.00         | 0.438            | 0.250           | 0.000           | 0.000         | 0.000             | 12.508            | 12.954 | 28.8           | 28.8                        | 0.450                       |              |
| 20.00         | 0.419            | 0.246           | 0.000           | 0.000         | 0.000             | 11.940            | 12.366 | 28.8           | 28.8                        | 0.429                       |              |
| 25.00         | 0.473            | 0.277           | 0.000           | 0.000         | 0.000             | 15.178            | 15.657 | 28.8           | 28.8                        | 0.544                       |              |
| 25.00         | 0.454            | 0.272           | 0.000           | 0.000         | 0.000             | 14.468            | 14.929 | 28.8           | 28.8                        | 0.518                       |              |
| 30.00         | 0.435            | 0.268           | 0.000           | 0.000         | 0.000             | 13.770            | 14.213 | 28.8           | 28.8                        | 0.484                       |              |
| 35.00         | 0.416            | 0.263           | 0.000           | 0.000         | 0.000             | 13.084            | 13.508 | 28.8           | 28.8                        | 0.469                       |              |
| 40.00         | 0.398            | 0.258           | 0.000           | 0.000         | 0.000             | 12.410            | 12.816 | 28.8           | 28.8                        | 0.445                       |              |
| 45.00         | 0.379            | 0.252           | 0.000           | 0.000         | 0.000             | 11.750            | 12.137 | 28.8           | 28.8                        | 0.421                       |              |
| 50.00         | 0.360            | 0.247           | 0.000           | 0.000         | 0.000             | 11.103            | 11.471 | 28.8           | 28.8                        | 0.398                       |              |
| 55.00         | 0.342            | 0.241           | 0.000           | 0.000         | 0.000             | 10.471            | 10.821 | 28.8           | 28.8                        | 0.376                       |              |
| 60.00         | 0.323            | 0.234           | 0.000           | 0.000         | 0.000             | 9.854             | 10.185 | 28.8           | 28.8                        | 0.354                       |              |
| 60.00         | 0.461            | 0.334           | 0.000           | 0.000         | 0.000             | 16.034            | 16.505 | 28.8           | 28.8                        | 0.573                       |              |
| 65.00         | 0.442            | 0.327           | 0.000           | 0.000         | 0.000             | 15.057            | 15.609 | 28.8           | 28.8                        | 0.539                       |              |
| 70.00         | 0.422            | 0.319           | 0.000           | 0.000         | 0.000             | 14.102            | 14.535 | 28.8           | 28.8                        | 0.505                       |              |
| 75.00         | 0.403            | 0.311           | 0.000           | 0.000         | 0.000             | 13.170            | 13.584 | 28.8           | 28.8                        | 0.472                       |              |
| 80.00         | 0.384            | 0.303           | 0.000           | 0.000         | 0.000             | 12.261            | 12.656 | 28.8           | 28.8                        | 0.440                       |              |
| 85.00         | 0.365            | 0.294           | 0.000           | 0.000         | 0.000             | 11.377            | 11.753 | 28.8           | 28.8                        | 0.408                       |              |
| 90.00         | 0.346            | 0.285           | 0.000           | 0.000         | 0.000             | 10.518            | 10.876 | 28.8           | 28.8                        | 0.378                       |              |
| 95.00         | 0.327            | 0.276           | 0.000           | 0.000         | 0.000             | 9.688             | 10.024 | 28.8           | 28.8                        | 0.348                       |              |
| 100.00        | 0.308            | 0.266           | 0.000           | 0.000         | 0.000             | 8.880             | 9.199  | 28.8           | 28.8                        | 0.319                       |              |
| 100.00        | 0.360            | 0.311           | 0.000           | 0.000         | 0.000             | 12.160            | 12.531 | 28.8           | 28.8                        | 0.436                       |              |
| 105.00        | 0.341            | 0.302           | 0.000           | 0.000         | 0.000             | 11.094            | 11.447 | 28.8           | 28.8                        | 0.398                       |              |
| 110.00        | 0.322            | 0.292           | 0.000           | 0.000         | 0.000             | 10.062            | 10.396 | 28.8           | 28.8                        | 0.361                       |              |
| 115.00        | 0.303            | 0.282           | 0.000           | 0.000         | 0.000             | 9.063             | 9.378  | 28.8           | 28.8                        | 0.326                       |              |
| 120.00        | 0.284            | 0.272           | 0.000           | 0.000         | 0.000             | 8.097             | 8.394  | 28.8           | 28.8                        | 0.291                       |              |
| 125.00        | 0.265            | 0.261           | 0.000           | 0.000         | 0.000             | 7.167             | 7.446  | 28.8           | 28.8                        | 0.259                       |              |
| 130.00        | 0.246            | 0.251           | 0.000           | 0.000         | 0.000             | 6.272             | 6.533  | 28.8           | 28.8                        | 0.227                       |              |
| 135.00        | 0.227            | 0.240           | 0.000           | 0.000         | 0.000             | 5.414             | 5.657  | 28.8           | 28.8                        | 0.196                       |              |
| 140.00        | 0.208            | 0.229           | 0.000           | 0.000         | 0.000             | 4.594             | 4.818  | 28.8           | 28.8                        | 0.167                       |              |
| 140.00        | 0.417            | 0.458           | 0.000           | 0.000         | 0.000             | 13.854            | 14.293 | 28.8           | 28.8                        | 0.486                       |              |
| 145.00        | 0.397            | 0.444           | 0.000           | 0.000         | 0.000             | 11.493            | 11.915 | 28.8           | 28.8                        | 0.414                       |              |
| 150.00        | 0.377            | 0.430           | 0.000           | 0.000         | 0.000             | 9.206             | 9.612  | 28.8           | 28.8                        | 0.334                       |              |
| 155.00        | 0.357            | 0.415           | 0.000           | 0.000         | 0.000             | 6.991             | 7.383  | 28.8           | 28.8                        | 0.256                       |              |
| 160.00        | 0.208            | 0.245           | 0.000           | 0.000         | 0.000             | 4.704             | 4.931  | 28.8           | 28.8                        | 0.171                       |              |
| 165.00        | 0.189            | 0.229           | 0.000           | 0.000         | 0.000             | 3.444             | 3.655  | 28.8           | 28.8                        | 0.127                       |              |
| 170.00        | 0.169            | 0.213           | 0.000           | 0.000         | 0.000             | 2.265             | 2.462  | 28.8           | 28.8                        | 0.085                       |              |
| 175.00        | 0.150            | 0.197           | 0.000           | 0.000         | 0.000             | 1.167             | 1.360  | 28.8           | 28.8                        | 0.047                       |              |
| 180.00        | 0.000            | 0.187           | 0.000           | 0.000         | 0.000             | 0.152             | 0.357  | 28.8           | 28.8                        | 0.012                       |              |

**Pole :** NM03XC066                      **Sprint Sites USA - NJ**  
**Location:** 188 Warren Ave, Portland, ME                      **Base Elev :** 0.000 (ft)  
**Height :** 180.0 (ft)  
**Shape :** Round                      **Top Dia :** 24.00 (in)  
**Base Dia :** 54.00 (in)  
**Taper :** 0.000 (in/ft)

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 Page: 13



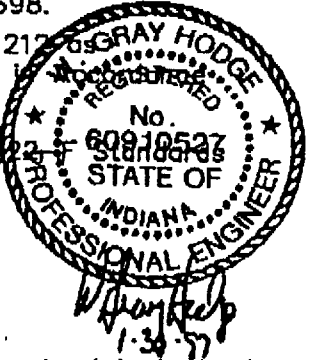
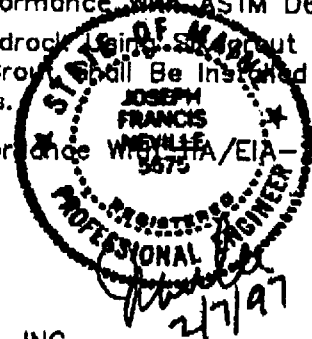
**Analysis Summary**

| Load Case | Reactions       |                 |                 |                     |                     |                     | Max Stresses          |                        |           |              |
|-----------|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|-----------------------|------------------------|-----------|--------------|
|           | Shear FX (kips) | Shear FZ (kips) | Axial FY (kips) | Moment MX (ft-kips) | Moment MY (ft-kips) | Moment MZ (ft-kips) | Combined Stress (ksi) | Allowable Stress (ksi) | Elev (ft) | Stress Ratio |
| No Ice    | 17.378          | 0.000           | 45.189          | 0.000               | 0.000               | 2,017.042           | 19.756                | 28.8                   | 60.000    | 0.686        |
| Ice       | 13.823          | 0.000           | 51.805          | 0.000               | 0.000               | 1,645.790           | 16.505                | 28.8                   | 60.000    | 0.573        |



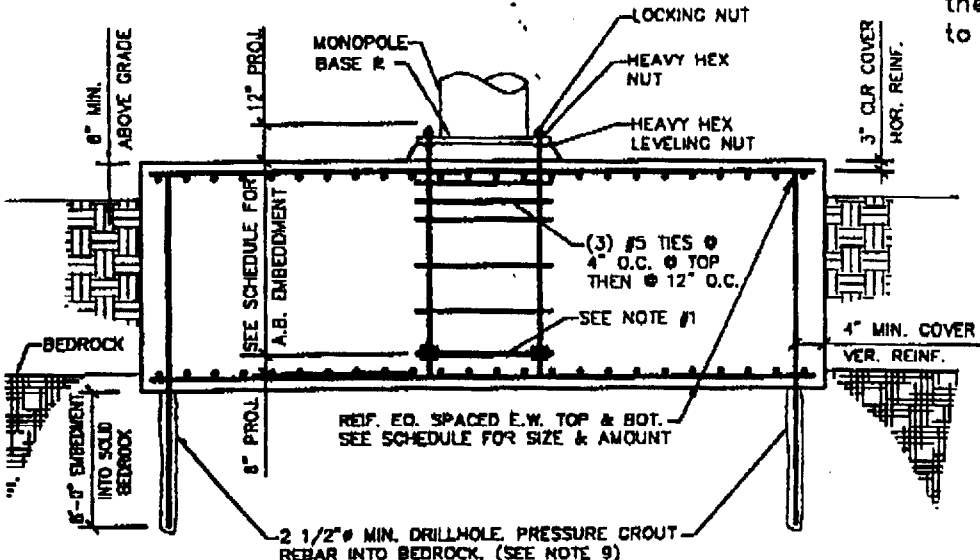
**NOTES:**

1. 3/4" Thick Bearing Plate To Match Base Flange Plate (Base Plate) Size and Layout.
2. Top 2' of Anchor Bolts including top nuts and leveling nuts to be hot dip galvanized in accordance with ASTM A123.
3. Concrete Shall Be Normal Strength Concrete With A 28-Day Compressive Strength  $\geq$  4000 psi. Concrete Shall Have Air Entrainment  $\geq$  4 1/2%  $\pm$  1%.
4. All Reinforcing Steel Shall Comply With The ASTM A615 Specification For Grade 60 Reinforcing Steel.
5. Grout Shall Be Non-Metallic, Non-Shrink Grout With A Minimum Compressive Strength 8000 psf. Grout Thickness Shall Be 3" Minimum And Shall Provide A Minimum Of 1/2" Grout Between The Leveling Nuts And The Top of The Footing.
6. Non-Chloride, Non-Corrosive Accelerating And Water Reducing Admixtures Shall Conform To The ASTM C494 Specification.
7. Slope The Top Of The Footing To Provide Water Drainage Away From The Monopole Base. Chamfer All Exposed Edges 1".
8. All Structural Fill To Be Compacted To 95% In Conformance With ASTM D698.
9. Reinforcing Steel Shall Be Pressure Grouted into Bedrock. Grout Shall Be Sika Grout 2175 Manufactured By The Sika Corporation, or Equal. Grout Shall Be Installed In Accordance With Manufacturer's Instructions & Recommendations.
10. The Spread Footing Foundation Is Designed In Accordance With IBC/A/EIA-22.4 And The Geotechnical Report.



REPORT TITLE—Geotechnical Engineering Report  
 188 WARREN AVENUE  
 PORTLAND, MAINE  
 SITE NO. NH/M 066-D  
 Report Author—GEMINI GEOTECHNICAL ASSOCIATES, INC.  
 Author's Reference Number—96127ME  
 Date Of Report—SEPTEMBER 12, 1996

\*Footing is to extend to bedrock. If bedrock is encountered at a depth less than 4'-6" below grade, then planned grade shall be raised to provide 4'-6" of soil cover.



| ANCHOR BOLT INFORMATION |     |
|-------------------------|-----|
| NUMBER                  | 28  |
| SIZE (DIAMETER, in.)    | 2   |
| GRADE (ASTM)            | A36 |
| EMBEDMENT LENGTH (in.)  | 48  |


| SPREAD FOOTING INFORMATION |                            |
|----------------------------|----------------------------|
| FOOTING PLAN SIZE          | 12' x 12'                  |
| FOOTING THICKNESS          | 4'-0" MIN.                 |
| DEPTH BELOW GRADE          | 4'-6" MIN.                 |
| HORIZONTAL REINF.          | (14) #10's E.W. TOP & BOT. |
| VERTICAL REINF.            | (14) #9's EACH FACE        |

**PITTSBURG MONOPOLE DIVISION**  
 POST OFFICE BOX 117 - POOLE, KENTUCKY 42444 502633-1478

| FOUNDATION DESIGN        |                             |
|--------------------------|-----------------------------|
| CUSTOMER<br>BECHTEL      | PGA PROJECT NO.<br>96088-88 |
| PWD P.O. NO.<br>167-M144 | DESIGNED/CHECKED BY:<br>WGH |
| SITE NO.<br>NM03XC066    | SCALE<br>NONE               |
| CUSTOMER P.O. NO.        | DATE<br>11-12-96            |

| REVISIONS |             |         |      |
|-----------|-------------|---------|------|
| NO.       | DESCRIPTION | DATE    | BY   |
| 1         | FOUNDATION  | 1-22-97 | J.C. |
|           |             |         |      |
|           |             |         |      |
|           |             |         |      |

# SITE CONFIGURATION REPORT

|              |                                       |   |
|--------------|---------------------------------------|---|
| Site ID      | 357.007.1                             |  <p style="font-size: 1.2em; margin: 0;"><b>Northcoast</b><br/>Local Service. Endless Possibilities.</p> |
| BTA# Name    | 357 Portland                          |   |
| Site Name    | TBD                                   |   |
| Site Address | 188 Warren Avenue, Portland, ME 04101 |   |
| Version      | 10/30/2001                            |   |

## SITE INFORMATION

|                       |                |             |         |              |        |
|-----------------------|----------------|-------------|---------|--------------|--------|
| Latitude              | 43-41-15.16 N. | Equip Mfr   | Lucent  | Colocator(s) | Sprint |
| Longitude             | 70-18-14.96 W. | Type        | DBS     |              |        |
| Datum                 | NAD83          | Indoor/Out  | Outdoor |              |        |
| Ground Elevation AMSL | 87             | Cell Radius | 3 miles |              |        |
| Structure Height AGL  | 180            |             |         |              |        |
| Structure Type        | Monopole       |             |         |              |        |

## COVERAGE OBJECTIVES

## ANTENNA INFORMATION

|                           | ALPHA               | BETA                   | GAMMA               |
|---------------------------|---------------------|------------------------|---------------------|
| Number of Carriers        | 1                   | 1                      | 1                   |
| Azimuth                   | 0°                  | 120°                   | 240°                |
| Radiation Center (ft AGL) | 160                 | 160                    | 160                 |
| Antenna Type              | 58010S              | 58010S                 | 58010S              |
| Electrical Downtilt (deg) | 0°                  | 0°                     | 0°                  |
| Mechanical Downtilt (deg) | 0°                  | 0°                     | 0°                  |
| Antenna Gain              | 17.1                | 17.1                   | 17.1                |
| Number of Antennas        | 2                   | 2                      | 2                   |
| Diversity Spacing (ft)    | 10                  | 10                     | 10                  |
| Morphology                | Highway/Residential | Residential/Commercial | Highway/Residential |

## COAXIAL CABLE INFORMATION

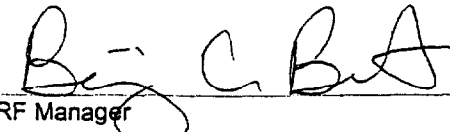
|                     | ALPHA    |        |       | BETA     |        |       | GAMMA    |        |       |
|---------------------|----------|--------|-------|----------|--------|-------|----------|--------|-------|
|                     | Type     | Length | Loss  | Type     | Length | Loss  | Type     | Length | Loss  |
| Bottom Jumper       | LDF4-50A | 6      | 0.19  | LDF4-50A | 6      | 0.19  | LDF4-50A | 6      | 0.19  |
| Main Feeder         | VXL7-50A | 180    | 2.03  | VXL7-50A | 180    | 2.03  | VXL7-50A | 180    | 2.03  |
| Top Jumper          | LDF4-50A | 6      | 0.19  | LDF4-50A | 6      | 0.19  | LDF4-50A | 6      | 0.19  |
| Connector Loss (dB) |          |        | 0.45  |          |        | 0.45  |          |        | 0.45  |
| Total Loss (dB)     |          |        | 2.87  |          |        | 2.87  |          |        | 2.87  |
| EIRP (dBm)          |          |        | 48.03 |          |        | 48.03 |          |        | 48.03 |

## NOTES

|   |  |
|---|--|
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |

## APPROVALS

RF Engineer

  
 RF Manager

# Boston PCS, LLC

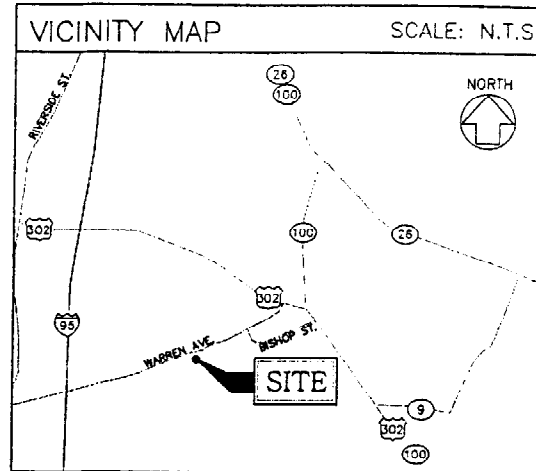
# FINAL PLANS

**Boston PCS, LLC**  
 80 Baylis Road  
 Suite 201  
 Melville, NY 11747

SITE NAME:  
**SPRINT WARREN AVE.**

188 WARREN AVE  
 PORTLAND, MAINE  
 04101

SITE NUMBER:  
**357.007.01**



**DRIVING DIRECTIONS**  
 TAKE 95 NORTH TO EXIT 8 TURN RIGHT ONTO RIVERSIDE ST. 3 MILES TO WARREN AVE. RIGHT ONTO WARREN AVE, 1.2 MILES TO SITE. TOWER ON THE RIGHT.

- GENERAL NOTES**
- SCOPE OF WORK FOR THE CELL SITE CONSISTS OF SITE GRADING, EXCAVATION FOR AND CONSTRUCTION OF A CONCRETE FOUNDATION FOR EQUIPMENT PLACEMENT, PLACEMENT OF THE EQUIPMENT ON THE NEW FOUNDATION, EXTERNAL BURIED GROUND RING AND GROUNDING SYSTEM, AND NEW ELECTRICAL AND TELEPHONE SERVICE TO THE EQUIPMENT.
  - CONTRACTOR SHALL VISIT SITES TO FAMILIARIZE HIMSELF WITH EXISTING SITE CONDITIONS AS THEY RELATE TO SITework, FOUNDATION CONSTRUCTION, ACCESS, ELECTRICAL SERVICE, AND OVERALL COORDINATION.
  - ALL ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS, AND LOCAL UTILITY COMPANY SPECIFICATIONS. THE WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR INSTALLATIONS AS INDICATED ON THE DRAWINGS.
  - CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS UNLESS DIRECTED OTHERWISE OR WHERE APPLICABLE CODES OR REGULATIONS TAKE PRECEDENCE.
  - DIMENSIONS SHOWN ARE TO FINISHED SURFACES UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS. IF THERE ARE ANY QUESTIONS OR DISCREPANCIES CONCERNING CONTRACT DOCUMENTS AND EXISTING CONDITIONS, THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH WORK IN QUESTION.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR DIRECTING AND SUPERVISING THE WORK. HE SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION METHODS AND PROCEDURES, AND FOR COORDINATING ALL ASPECTS OF THE WORK.
  - THE RADIO SWITCHING EQUIPMENT IS SUPPLIED UNDER SEPARATE CONTRACT. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHERS PERTAINING TO RADIO SWITCHING EQUIPMENT, OR ANY OTHER RELATED WORK.
  - THE CONTRACTOR SHALL MAINTAIN AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS WITH THE LATEST REDLINED REVISIONS FOR THE USE OF ALL.
  - EVERY EFFORT HAS BEEN MADE TO DEFINE THE SCOPE OF WORK IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS CAUTIONED THAT MINOR OMISSIONS AND DISCREPANCIES IN THESE CONTRACT DOCUMENTS DOES NOT EXCUSE HIM FROM PROVIDING SITE IMPROVEMENTS AND A COMPLETED EQUIPMENT PAD ACCORDING TO THE INTENTIONS OF THESE DOCUMENTS.
  - UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OR COMPLETENESS THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
  - CONTRACTORS WILL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES.

**SHEET INDEX**

| SHT. NO. | DESCRIPTION                                     | REV. NO. |
|----------|---|----------|
| T-1      | TITLE SHEET                                     | 0        |
| C-1      | SITE PLAN / ELEVATIONS                          | 0        |
| A-1      | DETAILS   | 0        |
| A-2      | COAX SCHEDULE                                   | 0        |
| S-1      | STRUCTURAL DETAILS                              | 0        |
| E-1      | POWER / TELCO RISER DIAGRAM<br>LEGEND AND NOTES | 0        |
| E-2      | GROUNDING RISER DIAGRAM                         | 0        |
| E-3      | GROUNDING DETAILS                               | 0        |

**DO NOT SCALE DRAWINGS**

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

**LEGEND**

|                |                  |
|----------------|------------------|
| -----          | GROUND WIRE      |
| -----          | ELECTRIC         |
| -----          | TELEPHONE        |
| (E)            | EXISTING         |
| (P)            | PROPOSED         |
| DET A<br>SHT 1 | DETAIL REFERENCE |

**PROJECT SUMMARY**

SITE NUMBER: 357.007.01  
 SITE NAME: SPRINT WARREN AVE.  
 SITE ADDRESS: 188 WARREN AVE.  
 PORTLAND, ME 04101  
 CUMBERLAND COUNTY

PARCEL MAP / LOT: 295 / 6  
 DEED BOOK / PAGE: 1921 / 124  
 CURRENT ZONING:  
 GOVERNING CODE: BOCA 1996  
 JURISDICTION: PORTLAND  
 CONSTRUCTION TYPE:  
 PROPERTY OWNER: LEONARD & FRANCIS J. MORIN  
 188 WARREN AVE.  
 PORTLAND, ME 04103

USE GROUP: ANTENNA ARRAY - U  
 APPLICANT: BOSTON PCS, L.L.C.  
 80 BAYLIS ROAD  
 SUITE 201  
 MELVILLE, NY 11747

CONSTRUCTION MANAGER: ATC REALTY  
 PAT HEELAN  
 44 EXCHANGE STREET, SUITE 301  
 PORTLAND, MAINE 04103  
 PHONE: (207) 773-0242  
 FAX: (207) 871-5797

**DIG SAFE**  
**3 WORKING DAYS**  
**BEFORE YOU DIG**  
 CALL TOLL FREE 888-DIG-SAFE  
**UNDERGROUND SERVICE ALERT**

**OEST Associates, Inc.**  
 313 Gilman Road  
 South Portland, ME 04106  
 TEL: (207) 761-1770  
 FAX: (207) 774-1246

PROJECT NO: 357.007.01  
 DRAWN BY: BJB  
 CHECKED BY: MSD

OEST PROJ. NO: 345.12.01

**SUBMITTALS**

| NO. | DATE     | DESCRIPTION       |
|-----|----------|-------------------|
| 0   | 12/17/01 | ISSUED FOR REVIEW |

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STATE OF MAINE  
 REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL J. MORIN  
 2 Jan 2002  
 8/2/02

SITE  
**357.007.01**  
**SPRINT WARREN AVE.**  
 188 WARREN AVE.  
 PORTLAND, ME 04101  
 CUMBERLAND COUNTY

SHEET TITLE  
 TITLE SHEET

SHEET NUMBER  
**T-1**



**Boston PCS, LLC**

80 Baylis Road  
Suite 201  
Melville, NY 11747

**OEST Associates, Inc.**

343 Central Road - South Portland, ME 04106  
TEL: (207) 761-1770  
FAX: (207) 774-1246

PROJECT NO: 357.007.01

DRAWN BY: BJB

CHECKED BY: MSO

OEST PROJ. NO: 345.12.01

**SUBMITTALS**

0 12/17/01 ISSUED FOR REVIEW

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ARE SEAL

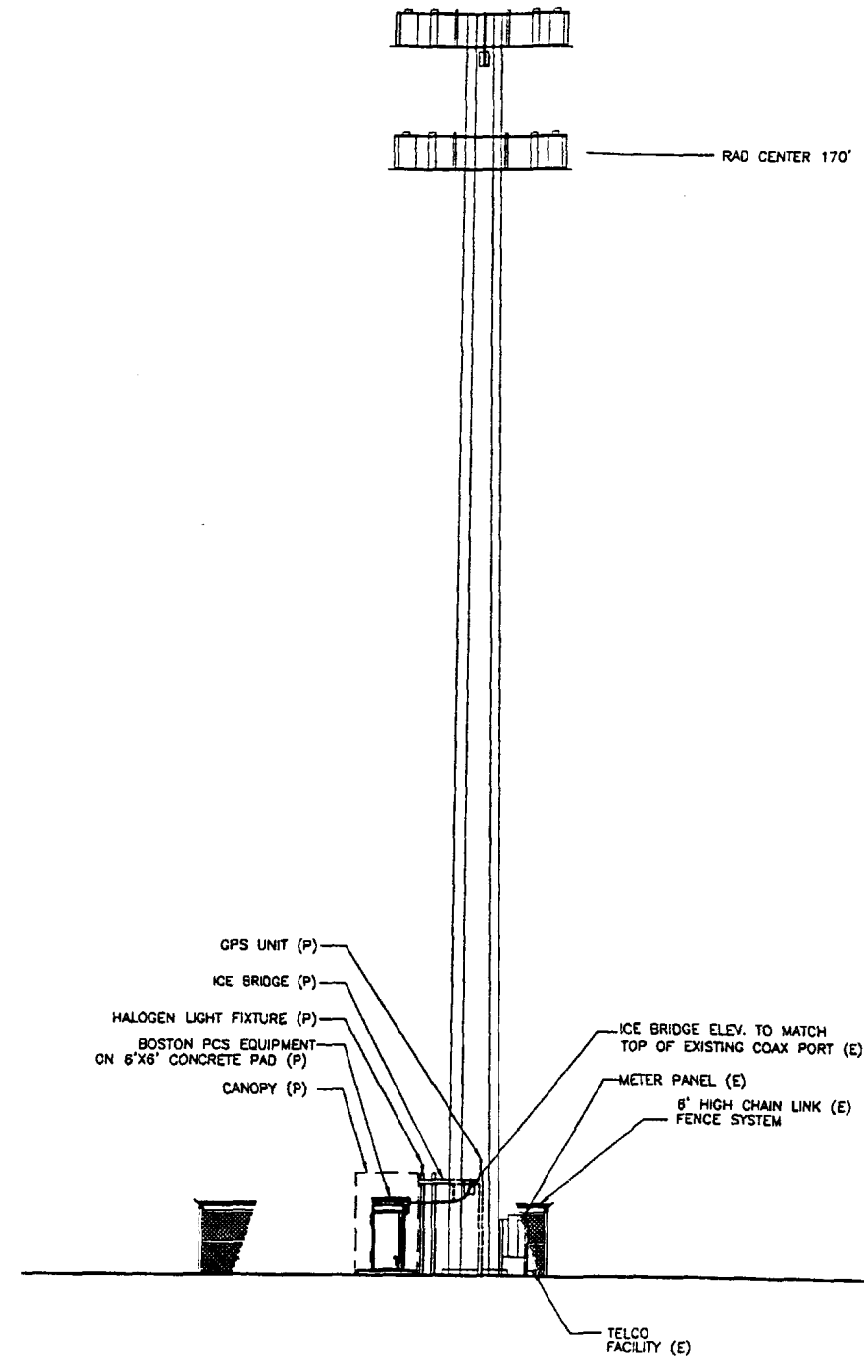
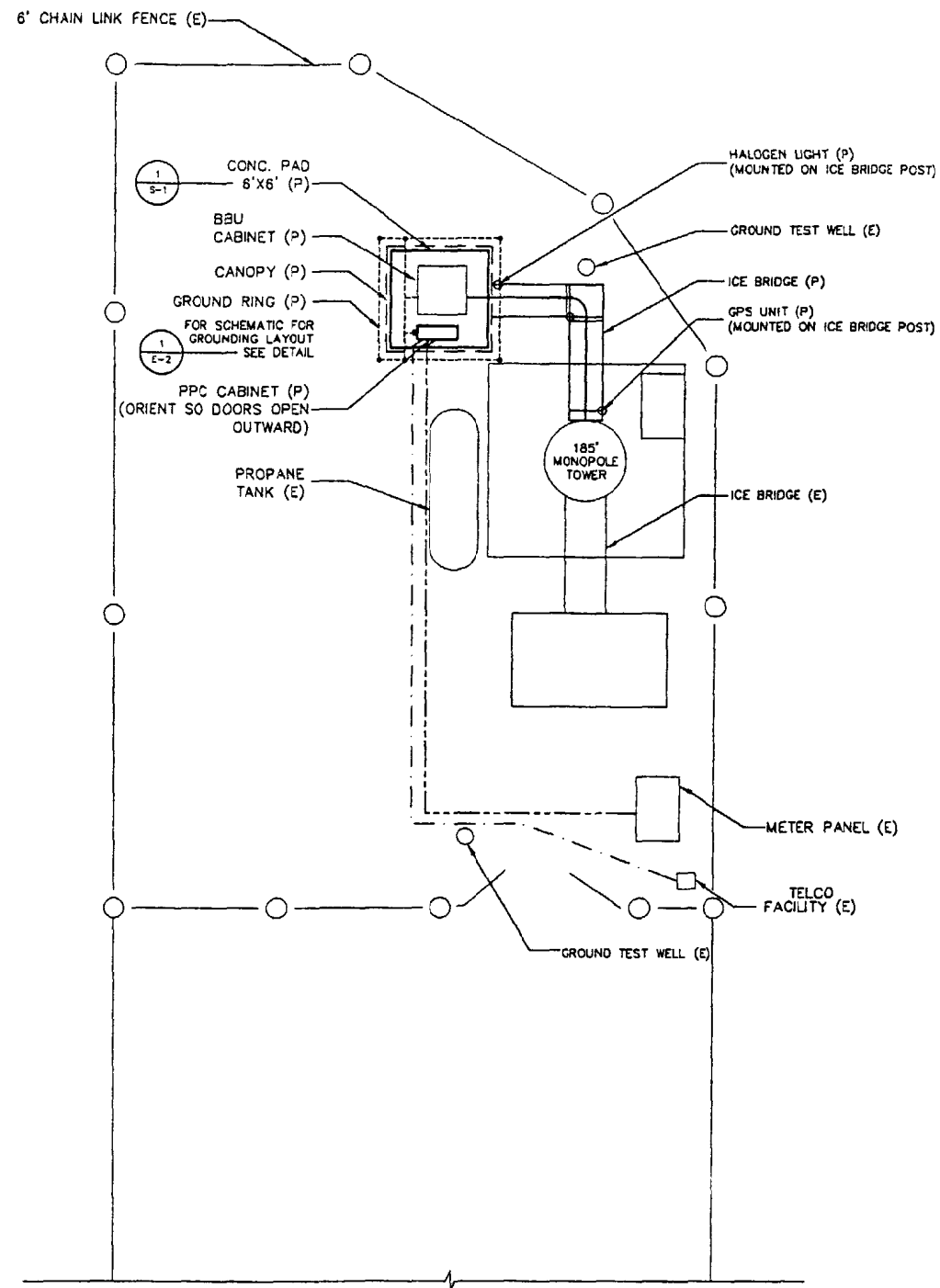
SITE  
357.007.01  
SPRINT  
WARREN AVE.  
188 WARREN AVE.  
PORTLAND, ME 04101  
CUMBERLAND COUNTY

SHEET TITLE

SITE PLAN/  
ELEVATIONS

SHEET NUMBER

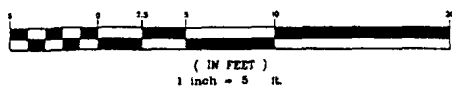
C-1



**1 SITE PLAN**

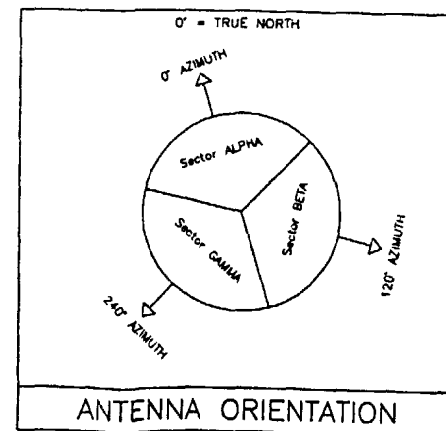
SCALE: 1" = 5'

GRAPHIC SCALE



**2 TOWER ELEVATION**

SCALE: N.T.S.







**STRUCTURAL STEEL NOTES:**

- ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE THE DESIGN AND CONSTRUCTION SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4" DIA) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- CONCRETE EXPANSION ANCHORS AND EPOXY ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. 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.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES.

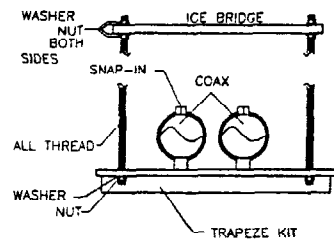
**CONCRETE AND REINFORCING STEEL NOTES:**

- 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.
- ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI. TYPE I CEMENT IS REQUIRED. CONCRETE SLUMP SHALL BE 3"-5" AND AIR CONTENT SHALL BE 5.0% ± 1.5%.
- CONCRETE SHALL BE INTERNALLY VIBRATED IN ACCORDANCE WITH ACI STANDARD 309-81 RECOMMENDED PRACTICE FOR CONSOLIDATION OF CONCRETE.
- COLD WEATHER AND HOT WEATHER CONCRETE PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 305 AND 306.
- AFTER PLACEMENT THE CONCRETE SHALL BE COVERED WITH A PLASTIC VAPOR BARRIER FOR A 4 TO 7 DAY INITIAL CURING PERIOD.
- THREE CONCRETE TEST CYLINDERS SHALL BE TAKEN. ONE SHALL BE TESTED AT 7 DAYS, ONE AT 28 DAYS, AND ONE HOLD CYLINDER.
- 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.
- 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 .....  | 1 1/2 IN. |
| #5 AND SMALLER & WWF .....   | 2 IN.     |
| CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND: |           |
| SLAB AND WALL .....  | 1 1/2 IN. |
| BEAMS AND COLUMNS .....  | 3/4 IN.   |
- A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

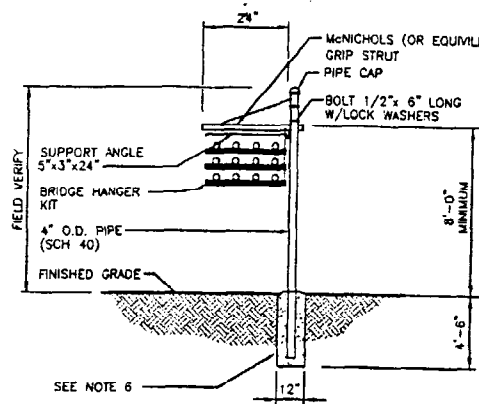
**GENERAL NOTES:**

- ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE REMOVED FROM THE FOUNDATION PAD SITE.
- STRUCTURAL FILL AND BACKFIELD SHOULD CONSIST OF A NON GRANULAR MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER AND PLACED IN UNIFORM 6" LIFTS.
- STRUCTURAL FILL PLACED FOR SUPPORT OF FOUNDATION SHALL BE COMPACTED TO AT LEAST 100% OF MAXIMUM DENSITY FROM ASTM D698 (STANDARD PROCTOR).
- STRUCTURAL FILL UNDERNEATH FOUNDATIONS AND SLABS SHALL BE COMPACTED WITH A SMOOTH VIBRATOR COMPACTION DEVICE PRIOR TO CONCRETE PLACEMENT.
- CONSTRUCT THE SIDES OF THE STRIP FOOTING FOUNDATION STRAIGHT AND VERTICAL, TO REDUCE THE RISK OF FROZEN SOIL ADHERING TO THE CONCRETE AND LIFTING THE FOUNDATION. THE USE OF FORMS AT THE TOP OF THE STRIP FOOTING MAY BE NECESSARY TO PREVENT THE CREATION ON AN ENLARGED AREA OF CONCRETE (MUSHROOM). IF A MUSHROOM OF CONCRETE OCCURS, HEAVE OF THE FOUNDATION CAN TAKE PLACE FROM FROZEN SOIL BENEATH THE MUSHROOM HEAVING UP AND CARRYING THE FOUNDATION WITH IT.



TYPICAL TRAPEZE DETAIL

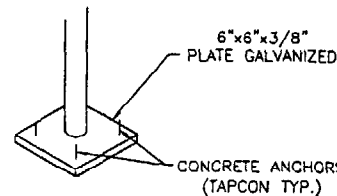
NOTE: ALL STEEL IS TO BE GALVANIZED



NOTE: SECTION SHOWN TYPICAL OF WAVEGUIDE BRIDGE HANGER KIT. CONTRACTOR MAY REPLACE WITH EQUAL AS APPROVED BY CONSTRUCTION MANAGER.

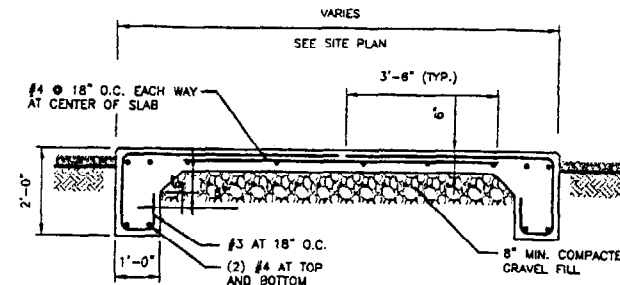
2 ICE BRIDGE DETAIL

SCALE: N.T.S.



3 OPTIONAL SUPPORT POST MOUNTING DETAIL

SCALE: N.T.S.



NOTES:

- REFER TO CONCRETE AND REINFORCING STEEL NOTES.
- GRAVEL SHALL BE NATURAL OR CRUSHED GRAVEL WITH 100 PERCENT PASSING 1 INCH SIEVE.

1 CONCRETE SLAB

SCALE: N.T.S.

**COAXIAL-CABLE BRIDGE NOTES**

- ALL BRIDGE KITS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- STRUCTURAL STEEL SHALL BE ASTM A36. PIPE SHALL BE ASTM A53, GRADE B (SEAMLESS)
- EXTERIOR STEEL SHALL BE HOT-DIP GALVANIZED, AFTER FABRICATION AND WELDING, TO ASTM A123. HARDWARE SHALL BE EITHER A325 STEEL GALVANIZED TO ASTM A153, OR 18-8 STAINLESS.
- SIZE, NUMBER AND POSITION OF COAXIAL CABLES MAY VARY.
- POSITION BRIDGE ASSEMBLY SO THAT COAXIAL CABLES INTERSECT AT LADDER CENTERLINE. HEIGHT ABOVE GROUND MAY VARY ACCORDING TO SITE LAYOUT.
- FOR SOIL, USE 12" DIAM. SONOTUBE 48" DEEP PIER FILLED WITH 3000 PSI CONCRETE. INSTALL TOP OF PIER FLUSH WITH PROPOSED GRADE, AND PROVIDE GRADE FOR DRAINAGE.
- FOR CONCRETE, FASTEN BASEPLATE W/ (4) ANCHORS, 4" LONG.
- FOR BURIED LEDGE AT LESS THAN 3'-6" BELOW FINISHED GRADE, CORE 8" DIAM. HOLE INTO LEDGE 18" DEEP. FILL AROUND PIPE WITH NON-SHRINK GROUT. USE COAL TAR ON BURIED LENGTH OF PIPE, AND BACKFILL TO FINISHED GRADE.
- FOR POSTS ON CONCRETE OR EXPOSED LEDGE, PROVIDE 6"x6"x3/8" BASEPLATE WITH (4) HILT KWIKBOLT 1/2"x6" EMBEDMENT.

**Boston PCS, LLC**  
80 Baylis Road  
Suite 201  
Melville, NY 11747

**OEST Associates, Inc.**  
343 Garban Road - South Portland, ME 04106  
engineers - architects - surveyors - construction managers  
TEL: (207) 761-1770  
FAX: (207) 774-1246

PROJECT NO: 357.007.01

DRAWN BY: BJB

CHECKED BY: MSD

OEST PROJ. NO: 345.12.01

**SUBMITTALS**

0 12/17/01 ISSUED FOR REVIEW

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AK& SEAL

SITE  
357.007.01  
SPRINT  
WARREN AVE.  
188 WARREN AVE.  
PORTLAND, ME 04101  
CUMBERLAND COUNTY

SHEET TITLE

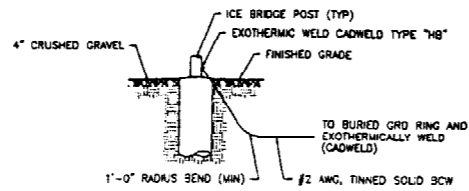
STRUCTURAL  
DETAILS

SHEET NUMBER

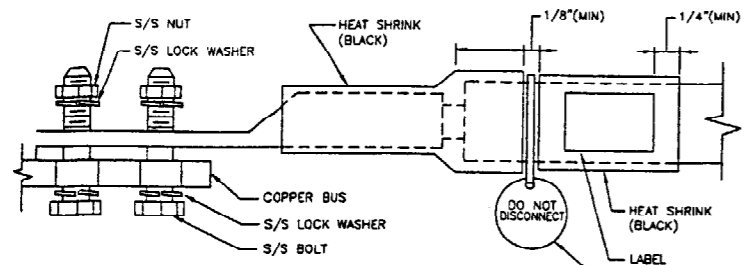
S-1







**TYPICAL POST GROUNDING**  
SCALE: N.T.S.

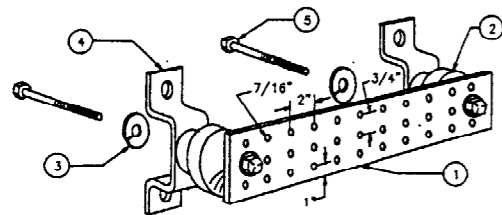


**GROUND LUG DETAIL**  
SCALE: N.T.S.

NOTES:  
REFER TO NOTE #3

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.
3. PROVIDE "DO NOT DISCONNECT" TAG AS REQUIRED BY ITEM 2.7 OF NORTHCOAST ENGINEERING LETTER 01.

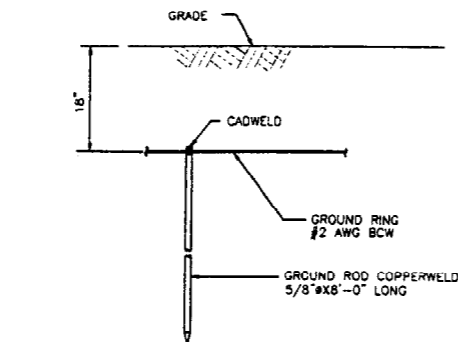
| WIRE SIZE       | BURNDY LUG | BOLT SIZE            |
|-----------------|------------|----------------------|
| #6 AWG          | YA6C-2TC38 | 3/8" - 16NC S 3 BOLT |
| #2 AWG SOLID    | YA2C-2TC38 | 3/8" - 16NC S 3 BOLT |
| #2 AWG STRANDED | YA2C-2TC38 | 3/8" - 16NC S 3 BOLT |
| #2/0 AWG        | YA28-2TC38 | 3/8" - 16NC S 3 BOLT |
| #4/0 AWG        | YA28-2N    | 1/2" - 16NC S 3 BOLT |



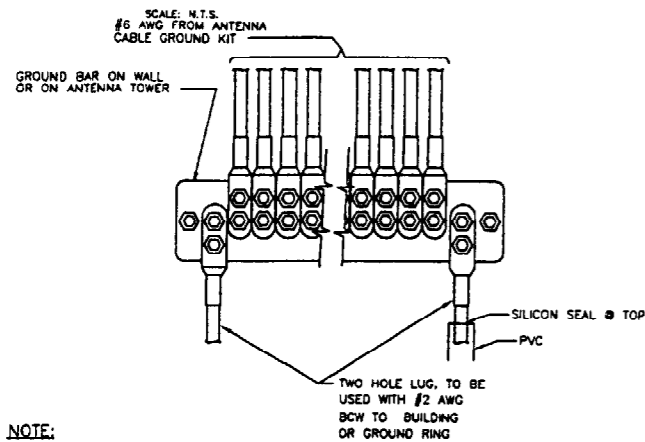
LEGEND

- 1- COPPER GROUND BAR, 1/4" X 4" X 20". HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2- INSULATORS
- 3- 5/8" LOCKWASHERS
- 4- WALL MOUNTING BRACKET
- 5- 5/8-11 X 1" H.H.C.S. BOLTS

**GROUNDING- STANDARD DETAIL GROUND BAR**  
SCALE: N.T.S.



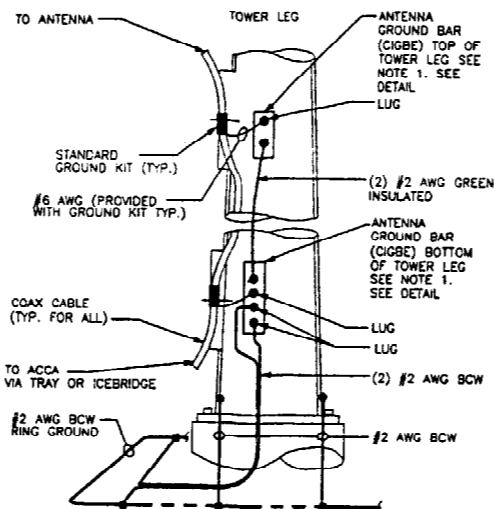
**GROUNDING- STANDARD DETAIL GROUND ROD**  
SCALE: N.T.S.



NOTE:

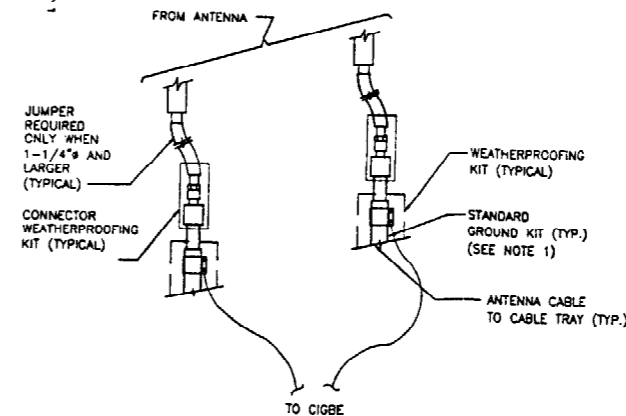
1. CONTRACTOR TO UTILIZE KOPR-SHIELD (THOMAS & BETTS) ON ALL LUG CONNECTIONS.

**GROUNDING- STANDARD DETAIL INSTALLATION OF GROUND WIRE TO GROUND BAR**  
SCALE: N.T.S.



- NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION, PROVIDE AS REQUIRED.
  2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

**ANTENNA CABLE GROUNDING LUG DETAIL**  
SCALE: N.T.S.



NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

**STANDARD DETAIL CONNECTION OF GROUND WIRES TO COAXIAL CABLES**  
SCALE: N.T.S.

**GENERAL ELECTRICAL NOTES**

1. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO BOSTON PCS, L.L.C. LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. HEIGHTS SHALL BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY. FOLLOW AS CLOSELY AS POSSIBLE.
5. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
6. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSH, NEMA AND NBFU.
8. CONTRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY AND LOCAL CODES AND O.S.H.A.
9. CONTRACTOR SHALL SECURE ALL ELECTRICAL PERMITS AND PAY ALL REQUIRED FEES
10. 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. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.
12. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
13. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
14. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE.
15. ALL CONDUCTORS SHALL BE COPPER.
16. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
17. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES
18. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
19. IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES.
20. LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR STEEL TENDONS.
21. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH SECTION NO. 4305 AND NO. 4304 OF THE U.B.C.
22. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 10' LONG. COPPERWELD OR APPROVED EQUAL.
23. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY SQUARE COMPANY OR APPROVED EQUAL.
24. ALL MATERIALS SHALL BE U.L. LISTED.
25. CONDUIT:
  - a. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
  - b. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL. FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
  - c. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
  - d. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE.
26. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
27. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNMAGGED CONDITION.
28. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.

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PROJECT NO: 357.007.01

DRAWN BY: BJB

CHECKED BY: MSD

OEST PROJ. NO: 345.12.01

**SUBMITTALS**

| NO. | DATE     | DESCRIPTION       |
|-----|----------|-------------------|
| 0   | 12/17/01 | ISSUED FOR REVIEW |

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A&E SEAL

SITE  
357.007.01  
SPRINT  
WARREN AVE.  
188 WARREN AVE.  
PORTLAND, ME 04101  
CUMBERLAND COUNTY

SHEET TITLE

GROUNDING  
DETAILS

SHEET NUMBER

E-3