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REPLY TO:
Tarrytown Office

September 11, 2012

By Overnight Delivery

Honorable Chairman John P. Ewasutyn
and Members of the Planning Board
Town of Newburgh
308 Gardnertown Road
Newburgh, New York 12550

Re: Request for Site Modification
Sprint Nextel Corp.
409 Quaker Street, Wallkill, NY
Town of Newburgh ("Town")

Hon. Chairman Ewasutyn
and Members of the Planning Board:

We are the attorneys for Sprint Nextel Corp. ("Sprint") in connection with Sprint's instant request to modify its existing wireless telecommunications facility ("Existing Facility") on the existing monopole ("Existing Monopole") at the above referenced property ("Property"). The proposed modification consists of the replacement of four (4) existing panel antennas with the installation of three (3) panel antennas on the Existing Monopole, along with related equipment to be located on the Existing Monopole. Also, two related equipment cabinets at the base of the Existing Monopole will be replaced and a small battery cabinet will be installed, on the existing previously approved equipment platform within the existing fenced compound.

Section 6409 of the recently adopted Federal Middle Class Tax Relief and Job Creation Act of 2012 ("TRA") (copies of which are enclosed), states that a local government "may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." We respectfully submit that Sprint's proposed modification will not substantially change the physical dimensions of the Existing Monopole or the Existing Facility and therefore must be approved pursuant to the TRA.

Since the TRA does not define "substantial change", we look to the FCC's standard found in the FCC's Nationwide Programmatic Agreement for the Collocation of Wireless Antennas ("NPA") (a copy of which is enclosed for your reference), which defines a "substantial increase in the size of the tower" as:

> (1) The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas;
>
> (2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
>
> (3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
>
> (4) The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

Based on the foregoing, it is respectfully submitted that Sprint's proposed modification will not substantially change the physical dimensions of the Existing Monopole or Existing Facility for the following reasons. **First**, the proposed modification will not increase the height of the Existing Monopole. The Existing Monopole is 150 feet tall in height and will not require an extension in height to accommodate Sprint's proposed modification. Sprint's existing antennas located at the top of the Existing Monopole will be replaced by the proposed antennas and equipment and the overall height of Sprint's Existing Facility will not be increased. **Second**, the number of Sprint antennas on the Existing Monopole will be reduced from four (4) to three (3) and such antennas will not substantially increase the width of the Existing Monopole. **Third**, the related proposed equipment will be located on the existing steel platform within the existing equipment compound and will not expand the size of the platform or compound. Moreover, there will only be a net increase of one (1) equipment cabinet.

It is therefore respectfully submitted that Sprint's proposed modification will not substantially change the physical dimensions of the Existing Monopole or the Existing Facility and

must be approved pursuant to Section 6409 of the TRA. Accordingly, we respectfully submit that an amended special permit is not required and the proposed modification should be permitted by building permit. In the alternative, Sprint hereby applies for an amended special permit, under protest.

In furtherance of the foregoing and pursuant to our discussion with Chairman Ewasutyn and the direction of the Planning Board's consultant Michael Musso in an e-mail to our office dated August 29, 2012, I have enclosed 14 copies of the following materials:

1. Town of Newburgh Application Form for Subdivision/Site Plan Review;

2. Sprint's FCC Licenses;

3. Structural Analysis Report, dated April 26, 2012, prepared by Paul J. Ford and Company Structural Engineers;

4. RF Statement from David A. Mendes, Senior Radio Frequency Engineer for Alcatel Lucent explaining the need for the proposed modification; and

5. Short EAF.

I have also enclosed four (4) checks, payable to the Town of Newburgh, in the amounts of $1,500.00, representing the required application fee, $7,500.00, representing the required escrow deposit, $150.00, representing the required public hearing fee, and $250.00, representing the required Short EAF Fee.

To the extent the information required by Chapter 168 of the Town Code is not included in the enclosed materials, we respectfully request a waiver from same in light of the fact that the Existing Facility was previously approved by this Honorable Board and Sprint merely proposes a minor modification to the Existing Facility. Moreover, as explained above, the proposed modification will not result in a substantial physical change to the Existing Monopole or Existing Facility and must be approved pursuant to the TRA.

If you have any questions please do not hesitate to contact me. Thank you for your consideration.

Respectfully submitted,
SNYDER & SNYDER, LLP

By: _____
Cara M. Bonomolo

CMB:jmf
Enclosures

cc: Michael Musso (by e-mail
Jennifer Palumbo (by-e-mail)
Steven Liebezeit (by e-mail)
Christine Salerno (by e-mail)
David Distefano (by e-mail)

Z:\SSDATA\WPDATA\SS3\RDG\ALU\Zoning\Newburgh\AL03XC062\AL03XC062 Planning Board Ltr.wpd

112TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
2d Session } { 112—___

MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012

_____, 2012.—Ordered to be printed

Mr. Camp, from the committee of conference,
submitted the following

CONFERENCE REPORT

[To accompany H.R. 3630]

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H.R. 3630), to provide incentives for the creation of jobs, and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the House recede from its disagreement to the amendment of the Senate to the text of the bill and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the Senate amendment, insert the following:

(c) REPORT.—Not later than 1 year after the date of the enactment of this Act, the Comptroller General shall submit a report on the results of the study required by subsection (a) to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(d) TRANSMISSION SYSTEM DEFINED.—In this section, the term "transmission system" means any telecommunications, broadcast, satellite, commercial mobile service, or other communications system that employs radio spectrum.

SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.

(a) FACILITY MODIFICATIONS.—

(1) IN GENERAL.—Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(2) ELIGIBLE FACILITIES REQUEST.—For purposes of this subsection, the term "eligible facilities request" means any request for modification of an

existing wireless tower or base station that involves—

(A) collocation of new transmission equipment;

(B) removal of transmission equipment; or

(C) replacement of transmission equipment.

(3) APPLICABILITY OF ENVIRONMENTAL LAWS.—Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

(b) FEDERAL EASEMENTS AND RIGHTS-OF-WAY.—

(1) GRANT.—If an executive agency, a State, a political subdivision or agency of a State, or a person, firm, or organization applies for the grant of an easement or right-of-way to, in, over, or on a building or other property owned by the Federal Government for the right to install, construct, and maintain wireless service antenna structures and equipment and backhaul transmission equipment, the executive agency having control of the building or other property may grant to the applicant, on behalf of the Federal Government, an easement or right-of-way to

perform such installation, construction, and maintenance.

(2) APPLICATION.—The Administrator of General Services shall develop a common form for applications for easements and rights-of-way under paragraph (1) for all executive agencies that shall be used by applicants with respect to the buildings or other property of each such agency.

(3) FEE.—

(A) IN GENERAL.—Notwithstanding any other provision of law, the Administrator of General Services shall establish a fee for the grant of an easement or right-of-way pursuant to paragraph (1) that is based on direct cost recovery.

(B) EXCEPTIONS.—The Administrator of General Services may establish exceptions to the fee amount required under subparagraph (A)—

(i) in consideration of the public benefit provided by a grant of an easement or right-of-way; and

(ii) in the interest of expanding wireless and broadband coverage.

(4) USE OF FEES COLLECTED.—Any fee amounts collected by an executive agency pursuant to paragraph (3) may be made available, as provided in appropriations Acts, to such agency to cover the costs of granting the easement or right-of-way.

(c) MASTER CONTRACTS FOR WIRELESS FACILITY SITINGS.—

(1) IN GENERAL.—Notwithstanding section 704 of the Telecommunications Act of 1996 or any other provision of law, and not later than 60 days after the date of the enactment of this Act, the Administrator of General Services shall—

(A) develop 1 or more master contracts that shall govern the placement of wireless service antenna structures on buildings and other property owned by the Federal Government; and

(B) in developing the master contract or contracts, standardize the treatment of the placement of wireless service antenna structures on building rooftops or facades, the placement of wireless service antenna equipment on rooftops or inside buildings, the technology used in connection with wireless service antenna structures or equipment placed on Federal buildings

and other property, and any other key issues the Administrator of General Services considers appropriate.

(2) APPLICABILITY.—The master contract or contracts developed by the Administrator of General Services under paragraph (1) shall apply to all publicly accessible buildings and other property owned by the Federal Government, unless the Administrator of General Services decides that issues with respect to the siting of a wireless service antenna structure on a specific building or other property warrant nonstandard treatment of such building or other property.

(3) APPLICATION.—The Administrator of General Services shall develop a common form or set of forms for wireless service antenna structure siting applications under this subsection for all executive agencies that shall be used by applicants with respect to the buildings and other property of each such agency.

(d) EXECUTIVE AGENCY DEFINED.—In this section, the term "executive agency" has the meaning given such term in section 102 of title 40, United States Code.

NATIONWIDE PROGRAMMATIC AGREEMENT
for the
COLLOCATION OF WIRELESS ANTENNAS

Executed by

The FEDERAL COMMUNICATIONS COMMISSION,
The NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS
and
The ADVISORY COUNCIL ON HISTORIC PRESERVATION

WHEREAS, the Federal Communications Commission (FCC) establishes rules and procedures for the licensing of wireless communications facilities in the United States and its Possessions and Territories; and,

WHEREAS, the FCC has largely deregulated the review of applications for the construction of individual wireless communications facilities and, under this framework, applicants are required to prepare an Environmental Assessment (EA) in cases where the applicant determines that the proposed facility falls within one of certain environmental categories described in the FCC's rules (47 C.F.R. § 1.1307), including situations which may affect historical sites listed or eligible for listing in the National Register of Historic Places ("National Register"); and,

WHEREAS, Section 106 of the National Historic Preservation Act (16 U.S.C. §§ 470 *et seq.*) ("the Act") requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (Council) a reasonable opportunity to comment; and,

WHEREAS, Section 800.14(b) of the Council's regulations, "Protection of Historic Properties" (36 CFR § 800.14(b)), allows for programmatic agreements to streamline and tailor the Section 106 review process to particular federal programs; and,

WHEREAS, in August 2000, the Council established a Telecommunications Working Group to provide a forum for the FCC, Industry representatives, State Historic Preservation Officers (SHPOs) and Tribal Historic Preservation Officers (THPOs), and the Council to discuss improved coordination of Section 106 compliance regarding wireless communications projects affecting historic properties; and,

WHEREAS, the FCC, the Council and the Working Group have developed this Collocation Programmatic Agreement in accordance with 36 CFR Section 800.14(b) to address the Section 106 review process as it applies to the collocation of antennas (collocation being defined in Stipulation I.A below); and,

WHEREAS, the FCC encourages collocation of antennas where technically and economically feasible, in order to reduce the need for new tower construction; and,

WHEREAS, the parties hereto agree that the effects on historic properties of collocations of antennas on towers, buildings and structures are likely to be minimal and not adverse, and that in the cases where an adverse effect might occur, the procedures provided and referred to herein are proper and sufficient, consistent with Section 106, to assure that the FCC will take such effects into account; and

WHEREAS, the execution of this Nationwide Collocation Programmatic Agreement will streamline the Section 106 review of collocation proposals and thereby reduce the need for the construction of new towers, thereby reducing potential effects on historic properties that would otherwise result from the construction of those unnecessary new towers; and,

WHEREAS, the FCC and the Council have agreed that these measures should be incorporated into a Nationwide Programmatic Agreement to better manage the Section 106 consultation process and streamline reviews for collocation of antennas; and,

WHEREAS, since collocations reduce both the need for new tower construction and the potential for adverse effects on historic properties, the parties hereto agree that the terms of this Agreement should be interpreted and implemented wherever possible in ways that encourage collocation; and

WHEREAS, the parties hereto agree that the procedures described in this Agreement are, with regard to collocations as defined herein, a proper substitute for the FCC's compliance with the Council's rules, in accordance and consistent with Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800; and

WHEREAS, the FCC has consulted with the National Conference of State Historic Preservation Officers (NCSHPO) and requested the President of NCSHPO to sign this Nationwide Collocation Programmatic Agreement in accordance with 36 CFR Section 800.14(b)(2)(iii); and,

WHEREAS, the FCC sought comment from Indian tribes and Native Hawaiian Organizations regarding the terms of this Nationwide Programmatic Agreement by letters of January 11, 2001 and February 8, 2001; and,

WHEREAS, the terms of this Programmatic Agreement do not apply on "tribal lands" as defined under Section 800.16(x) of the Council's regulations, 36 CFR § 800.16(x) ("Tribal lands means all lands within the exterior boundaries of any Indian reservation and all dependent Indian communities."); and,

WHEREAS, the terms of this Programmatic Agreement do not preclude Indian tribes or Native Hawaiian Organizations from consulting directly with the FCC or its licensees, tower companies and applicants for antenna licenses when collocation activities off tribal lands may affect historic properties of religious and cultural significance to Indian tribes or Native Hawaiian organizations; and,

WHEREAS, the execution and implementation of this Nationwide Collocation Programmatic Agreement will not preclude members of the public from filing complaints with the FCC or the Council regarding adverse effects on historic properties from any existing tower or any activity covered under the terms of this Programmatic Agreement.

NOW THEREFORE, the FCC, the Council, and NCSHPO agree that the FCC will meet its Section 106 compliance responsibilities for the collocation of antennas as follows.

STIPULATIONS

The FCC, in coordination with licensees, tower companies and applicants for antenna licenses, will ensure that the following measures are carried out.

I. DEFINITIONS

For purposes of this Nationwide Programmatic Agreement, the following definitions apply.

A. "Collocation" means the mounting or installation of an antenna on an existing tower, building or structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

B. "Tower" is any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities.

C. "Substantial increase in the size of the tower" means:

1) The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or

2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or

3) The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or

4) The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

II. APPLICABILITY

A. This Nationwide Collocation Programmatic Agreement applies only to the collocation of antennas as defined in Stipulation I.A, above.

B. This Nationwide Collocation Programmatic Agreement does not cover any Section 106 responsibilities that federal agencies other than the FCC may have with regard to the collocation of antennas.

III. COLLOCATION OF ANTENNAS ON TOWERS CONSTRUCTED ON OR BEFORE MARCH 16, 2001

A. An antenna may be mounted on an existing tower constructed on or before March 16, 2001 without such collocation being reviewed under the consultation process set forth under Subpart B of 36 CFR Part 800, unless:

1. The mounting of the antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.C, above; or

2. The tower has been determined by the FCC to have an effect on one or more historic properties, unless such effect has been found to be not adverse through a no adverse effect finding, or if found to be adverse or potentially adverse, has been resolved, such as through a conditional no adverse effect determination, a Memorandum of Agreement, a

programmatic agreement, or otherwise in compliance with Section 106 and Subpart B of 36 CFR Part 800; or

3. The tower is the subject of a pending environmental review or related proceeding before the FCC involving compliance with Section 106 of the National Historic Preservation Act; or

4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

IV. COLLOCATION OF ANTENNAS ON TOWERS CONSTRUCTED AFTER MARCH 16, 2001

A. An antenna may be mounted on an existing tower constructed after March 16, 2001 without such collocation being reviewed under the consultation process set forth under Subpart B of 36 CFR Part 800, unless:

1. The Section 106 review process for the tower set forth in 36 CFR Part 800 and any associated environmental reviews required by the FCC have not been completed; or

2. The mounting of the new antenna will result in a substantial increase in the size of the tower as defined in Stipulation I.C, above; or

3. The tower as built or proposed has been determined by the FCC to have an effect on one or more historic properties, unless such effect has been found to be not adverse through a no adverse effect finding, or if found to be adverse or potentially adverse, has been resolved, such as through a conditional no adverse effect determination, a Memorandum of Agreement, a programmatic agreement, or otherwise in compliance with Section 106 and Subpart B of 36 CFR Part 800; or

4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

V. COLLOCATION OF ANTENNAS ON BUILDINGS AND NON-TOWER STRUCTURES OUTSIDE OF HISTORIC DISTRICTS

A. An antenna may be mounted on a building or non-tower structure without such collocation being reviewed under the consultation process set forth under Subpart B of 36 CFR Part 800, unless:

1. The building or structure is over 45 years old;[1] or

[1] Suitable methods for determining the age of a building include, but are not limited to: (1) obtaining the opinion of a consultant who meets the Secretary of Interior's Professional Qualifications Standards (36 CFR Part 61) or (2)

2. The building or structure is inside the boundary of a historic district, or if the antenna is visible from the ground level of the historic district, the building or structure is within 250 feet of the boundary of the historic district; or

3. The building or non-tower structure is a designated National Historic Landmark, or listed in or eligible for listing in the National Register of Historic Places based upon the review of the licensee, tower company or applicant for an antenna license; or

4. The collocation licensee or the owner of the tower has received written or electronic notification that the FCC is in receipt of a complaint from a member of the public, a SHPO or the Council, that the collocation has an adverse effect on one or more historic properties. Any such complaint must be in writing and supported by substantial evidence describing how the effect from the collocation is adverse to the attributes that qualify any affected historic property for eligibility or potential eligibility for the National Register.

B. Subsequent to the collocation of an antenna, should the SHPO/THPO or Council determine that the collocation of the antenna or its associated equipment installed under the terms of Stipulation V has resulted in an adverse effect on historic properties, the SHPO/THPO or Council may notify the FCC accordingly. The FCC shall comply with the requirements of Section 106 and 36 CFR Part 800 for this particular collocation.

VI. RESERVATION OF RIGHTS

Neither execution of this Agreement, nor implementation of or compliance with any term herein shall operate in any way as a waiver by any party hereto, or by any person or entity complying herewith or affected hereby, of a right to assert in any court of law any claim, argument or defense regarding the validity or interpretation of any provision of the National Historic Preservation Act (16 U.S.C. §§ 470 *et seq.*) or its implementing regulations contained in 36 CFR Part 800.

VII. MONITORING

A. FCC licensees shall retain records of the placement of all licensed antennas, including collocations subject to this Nationwide Programmatic Agreement, consistent with FCC rules and procedures.

B. The Council will forward to the FCC and the relevant SHPO any written objections it receives from members of the public regarding a collocation activity or general compliance with the provisions of this Nationwide Programmatic Agreement within thirty (30) days following receipt of the written objection. The FCC will forward a copy of the written objection to the appropriate licensee or tower owner.

VIII. AMENDMENTS

If any signatory to this Nationwide Collocation Programmatic Agreement believes that this Agreement should be amended, that signatory may at any time propose amendments, whereupon the signatories will consult to consider the amendments. This agreement may be amended only upon the written concurrence of the signatories.

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consulting public records.

IX. TERMINATION

A. If the FCC determines that it cannot implement the terms of this Nationwide Collocation Programmatic Agreement, or if the FCC, NCSHPO or the Council determines that the Programmatic Agreement is not being properly implemented by the parties to this Programmatic Agreement, the FCC, NCSHPO or the Council may propose to the other signatories that the Programmatic Agreement be terminated.

B. The party proposing to terminate the Programmatic Agreement shall notify the other signatories in writing, explaining the reasons for the proposed termination and the particulars of the asserted improper implementation. Such party also shall afford the other signatories a reasonable period of time of no less than thirty (30) days to consult and remedy the problems resulting in improper implementation. Upon receipt of such notice, the parties shall consult with each other and notify and consult with other entities that are either involved in such implementation or that would be substantially affected by termination of this Agreement, and seek alternatives to termination. Should the consultation fail to produce within the original remedy period or any extension, a reasonable alternative to termination, a resolution of the stated problems, or convincing evidence of substantial implementation of this Agreement in accordance with its terms , this Programmatic Agreement shall be terminated thirty days after notice of termination is served on all parties and published in the Federal Register.

C. In the event that the Programmatic Agreement is terminated, the FCC shall advise its licensees and tower construction companies of the termination and of the need to comply with any applicable Section 106 requirements on a case-by-case basis for collocation activities.

X. ANNUAL MEETING OF THE SIGNATORIES

The signatories to this Nationwide Collocation Programmatic Agreement will meet on or about September 10, 2001, and on or about September 10 in each subsequent year, to discuss the effectiveness of this Agreement, including any issues related to improper implementation, and to discuss any potential amendments that would improve the effectiveness of this Agreement.

XI. DURATION OF THE PROGRAMMATIC AGREEMENT

This Programmatic Agreement for collocation shall remain in force unless the Programmatic Agreement is terminated or superseded by a comprehensive Programmatic Agreement for wireless communications antennas.

Execution of this Nationwide Programmatic Agreement by the FCC, NCSHPO and the Council, and implementation of its terms, evidence that the FCC has afforded the Council an opportunity to comment on the collocation as described herein of antennas covered under the FCC's rules, and that the FCC has taken into account the effects of these collocations on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

FEDERAL COMMUNICATIONS COMMISSION

_____ Date: _____

ADVISORY COUNCIL ON HISTORIC PRESERVATION

_____ Date: _____

NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS

_____ Date: _____

TOWN OF NEWBURGH
APPLICATION FOR
SUBDIVISION/SITE PLAN REVIEW

RETURN TO: Town of Newburgh Planning Board
308 Gardnertown Road
Newburgh, New York 12550

DATE RECEIVED: _____ **TOWN FILE NO:** 2012-16
(Application fee returnable with this application)

1. **Title of Subdivision/Site Plan (Project name):**
   Sprint modification to existing facility at 409 Quaker St.

2. **Owner of Lands to be reviewed:** (Tower Owner)
   Name Global Signal Acquisitions II LLC
   Address c/o Crown Castle
   500 West Cummings Park, Suite 3600, Woburn, MA 01801
   Phone 781-970-0057

3. **Applicant Information (If different than owner):**
   Name Sprint Nextel Corp.
   Address 1 International Blvd., Suite 800
   Mahwah, NJ 07495
   Representative Cara M. Bonomolo, Snyder & Snyder, LLP
   Phone 914-333-0700
   Fax 914-333-0743
   Email cbonomolo@snyderlaw.net

4. **Subdivision/Site Plan prepared by:**
   Name ComEx Engineering of NY
   Address 283 Bailey Road
   Purling, NY 12470
   Phone/Fax 862-209-4300 / 862-209-4301

5. **Location of lands to be reviewed:**
   409 Quaker St.

6. **Zone** AR **Fire District** Cronomer Vly
   Acreage 23.9 **School District** N/A

7. **Tax Map: Section** 11 **Block** 1 **Lot** 143

8. **Project Description and Purpose of Review:**
   Number of existing lots _____ **Number of proposed lots** _____
   Lot line change _____
   Site plan review _____
   Clearing and grading _____
   Other Amended Special Permit for modification to existing wireless telecommunications facility

PROVIDE A WRITTEN SINGLE PAGE DESCRIPTION OR NARRATIVE OF THE PROJECT

9. **Easements or other restrictions on property:**
   (Describe generally) None Known

10. **The undersigned hereby requests approval by the Planning Board of the above identified application and scheduling for an appearance on an agenda:**

Signature Sprint Nextel Corp. By: _____ **Title** Attorney for Applicant
Cara M. Bonomolo, Snyder & Snyder, LLP.

Date: _____

NOTE: **If property abuts and has its access to a County or State Highway or road, the following information must be placed on the subdivision map or site plan: entrance location, entrance profile, sizing of pipe (minimum length of pipe to be 24 feet).**

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEXTEL COMMUNICATIONS OF THE MID-ATLANTIC, INC.

ATTN: ROBIN J. COHEN
NEXTEL COMMUNICATIONS OF THE MID-ATLANTIC, IN
12502 SUNRISE VALLEY DRIVE, M/S: VARESA0209
RESTON, VA 20196

Call Sign	File Number
WQKS984	
Radio Service	
CY - 1910-1915/1990-1995 MHz Bands, Market Area	

FCC Registration Number (FRN): 0002154086

Grant Date	Effective Date	Expiration Date	Print Date
09-01-2009	11-17-2010	03-03-2016	01-27-2011

Market Number	Channel Block	Sub-Market Designator
BEA010	G	2

Market Name
New York-No. New Jer.-Long Isl

1st Build-Out Date	2nd Build-Out Date	3rd Build-Out Date	4th Build-Out Date
03-03-2016			

Waivers/Conditions:

This authorization is conditioned on licensee's continued compliance with license conditions adopted by the Commission in the 800 MHz public safety proceeding, WT Docket 02-55, including but not limited to conditions contained in paragraphs 346, 351, 352,355, 356 of Improving Public Safety Communications in the 800 MHz Band, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, 19 FCC Rcd 14969 (2004); as amended by Erratum, WT Docket No. 02-55 (rel. Sept. 10, 2004) and Second Erratum, 19 FCC Rcd 19651 (2004) and Third Erratum, 19 FCC Rcd 21818 (2004).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission
Wireless Telecommunications Bureau
Radio Station Authorization

LICENSEE NAME: WIRELESSCO, L.P.

LUISA L. LANCETTI
WIRELESSCO, L.P.
401 9TH STREET, NW, SUITE 400
WASHINGTON DC 20004

FCC Registration Number (FRN)	
0002316545	
Call Sign	**File Number**
KNLF204	0002109382
Radio Service	
CW - PCS Broadband	

Grant Date	Effective Date	Expiration Date	Print Date
05-23-2005	05-23-2005	06-23-2015	05-24-2005

Market Number	Channel Block	Sub-Market Designator
MTA001	B	3

Market Name: New York

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-23-2000	06-23-2005		

SPECIAL CONDITIONS OR WAIVERS/CONDITIONS

The licensee hereof is authorized for the period indicated, to operate a radio transmitting station in accordance with the terms and conditions hereinafter described. This authorization is subject to the provisions of the Communications Act of 1934, as amended, subsequent Acts of Congress, International treaties and agreements to which the United States is a signatory, and all pertinent rules and regulations of the Federal Communications Commission, contained in Title 47 of the code of Federal Regulations.

Conditions:
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 606.

A graphical representation of the geographic area authorized to this call sign may be generated by selecting Search 'Licenses' at the following web address: http://wireless.fcc.gov/uls/index.html.

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEXTEL OF NEW YORK, INC .

ATTN: ROBIN J. COHEN
NEXTEL OF NEW YORK, INC .
12502 SUNRISE VALLEY DRIVE, M/S: VARESA0209
RESTON, VA 20196

Call Sign	File Number
WPLM574	0004470698
Radio Service	
YH - SMR, 806-821/851-866 MHz. Auctioned (Rebanded YC license)	

FCC Registration Number (FRN): 0003293537

Grant Date	Effective Date	Expiration Date	Print Date
05-29-2008	11-17-2010	06-17-2018	11-17-2010

Market Number	Channel Block	Sub-Market Designator
BEA010	X	3

Market Name
New York-No. New Jer.-Long Isl

1st Build-Out Date	2nd Build-Out Date	3rd Build-Out Date	4th Build-Out Date
06-17-2001	06-17-2003		

Waivers/Conditions:

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

1. Sprint will provide appropriate co-channel protection to incumbent licensees pursuant to Section 90.621(b) of the Commission's co-channel protection rules. 2. Sprint will provide adjacent-channel protection in accordance with the standard adopted by the Commission in the 800 MHz Second Memorandum Opinion and Order based on the petition filed by NPSPAC Region 8 (New York Metropolitan Area). 3. Sprint will not use and will protect the five nationwide mutual aid channels in the 821-824/866-869 MHz band in each NPSPAC region in which it operates until rebanding is complete in that region. 4. At least 60 days prior to initiating service in the 821-824/866-869 MHz band pursuant to its modified EA licenses. 3. Sprint must provide written notification to every NPSPAC licensee in the

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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affected NPSPAC region(s), at the contact address listed in ULS, that it intends to use its modified licenses to operate in the 821-824/866-869 MHz band.In addition, Sprint must provide the same written notification to the Regional Planning Coordinator(s) for the affected NPSPAC region(s). 5. Sprint will notify the administrator of the CTIA interference website of any new geographic areas in which Sprint deploys facilities in the 821-824/866-869 MHz band. 6. In the event of an interference complaint, Sprint Nextel will strictly adhere to the Commission's mandated interference response timelines and requirements specified in Section 90.674 of the Commission's rules. 7. Until the conclusion of band "reconfiguration in the affected NPSPAC region(s), Sprint will protect public safety systems in the 821-824/866-869 MHz band in accordance with the "interim" interference standard specified by the Commission in the 800 MHz Supplemental Order." In addition, Sprint Nextel will employ the additional protection methods identified in the 800 MHz Supplemental Order to protect public safety systems in the 821-824/866-869 MHz band that do not meet the signal strength threshold under Commission's interim rule but that do meet the threshold under the Commission's final interference rules. * For complete text of applicable conditions, see DA 08-1074.

PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street • Suite 1500 • Columbus, Ohio 43215

Date: **April 26, 2012**

Molly Carder
Crown Castle USA Inc.
3530 Toringdon Way, Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 East Broad Street #1500
Columbus, OH 43215
(614) 221-6679
dkramer@pjfweb.com

Subject: **Structural Analysis Report**

Carrier Designation:	*Sprint PCS* Co-Locate	
	Carrier Site Number:	AL03XC062
	Carrier Site Name:	Thruway-Plattekill
Crown Castle Designation:	**Crown Castle BU Number:**	874661
	Crown Castle Site Name:	THRUWAY-PLATTEKILL
	Crown Castle JDE Job Number:	181665
	Crown Castle Work Order Number:	478241
	Crown Castle Application Number:	144714 Rev. 0
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37512-0827B
Site Data:	**409 Quaker Street, Wallkill, Orange County, NY**	
	Latitude *41° 34' 42.28"*, Longitude *-74° 5' 18.14"*	
	150 Foot - Monopole Tower	

Dear Molly Carder,

Paul J. Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 456887, in accordance with application 144714, revision 0.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

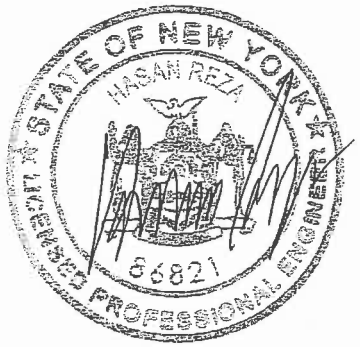
The analysis has been performed in accordance with the TIA-222-G standard and local code requirements based upon a wind speed of 90 mph 3-second gust, exposure category C with topographic category 1 and crest height of 0 feet.

We at *Paul J. Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle USA Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

D. Scott Kramer

D. Scott Kramer, P.E.
Project Engineer



MAY 0 1 2012

tnxTower Report - version 6.0.3.0

PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street • Suite 1500 • Columbus, Ohio 43215

Date: **April 26, 2012**

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Respectfully submitted by:

D. Scott Kramer, P.E.
Project Engineer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150-ft Monopole tower designed by PIROD MANUFACTURES INC. in August of 1996.

The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-E.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 90 mph with no ice, 40 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category C with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
150	150	3	alcatel lucent	1900MHz RRH (65MHz)	3	1 1/4	-
		3		800 EXTERNAL NOTCH FILTER			
		3		800MHZ RRH			
		2	powerwave technologies	P40-16-XLPP-RR-A w/ Mount Pipe			
		9	rfs celwave	ACU-A20-N			
		1		APXVSPP18-C-A20 w/ Mount Pipe			
148	148	1	alcatel lucent	2X ODU COUPLER	2	1/4	-
		1	rfs celwave	SBX2-107AMPT			
		2	alcatel lucent	9500 (M-PRe) V2 ODU			
		1	tower mounts	Pipe Mount [PM 501-1]			
		1		Side Arm Mount [SO 102-1]			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
150	152	3	decibel	ASP-955	6	1 5/8	3
	151	4	dapa	58000 w/Mount Pipe			
	150	1	tower mounts	14' Low Profile Square Platform	-	-	1
134	134	12	ems wireless	RV90-12-00DA-2 w/Mount Pipe	12	1 1/4	1
		1	tower mounts	Platform Mount [LP 403-1]			
124	124	3	kathreinscala	800 10504 w/ Mount Pipe	-	-	2
		3		800 10504 w/ Mount Pipe	1	3/8	1
		1	tower mounts	T-Arm Mount [TA 602-3]	12	1 5/8	
16	16	1	lucent	KS24019-L112A	1	1/2	1
		1	tower mounts	Side Arm Mount [SO 309-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment to be Removed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Gifford Engineering	2162348	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Pirod	1427175	CCISITES
4-TOWER STRUCTURAL ANALYSIS REPORTS	PJF	2596114	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Pirod	1610805	CCISITES

3.1) Analysis Method

tnxTower (version 6.0.3.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) In accordance with discussions with CCI Corporate Engineering: Based on the assumption that the monopole manufacturer (ROHN/PiRod) has designed the flange plates at splices to adequately develop the full capacity of the unreinforced shaft section using unpublished and/or proprietary methodologies, we are assuming that if our analysis shows that both the existing shaft and the existing flange bolts are at a usage capacity of 100% or less, then the existing flange plates are at a usage capacity of 100% or less and no additional analysis of the flange plate is required.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	150 - 120	Pole	P24x3/8	1	-9.95	1052.07	34.3	Pass
L2	120 - 100	Pole	P30x3/8	2	-13.32	1311.06	47.3	Pass
L3	100 - 80	Pole	P36x3/8	3	-17.29	1490.10	53.4	Pass
L4	80 - 60	Pole	P42x3/8	4	-21.84	1668.87	56.5	Pass
L5	60 - 40	Pole	P48x3/8	5	-26.99	1847.49	58.2	Pass
L6	40 - 20	Pole	P54x3/8	6	-32.73	2026.00	59.2	Pass
L7	20 - 0	Pole	P60x3/8	7	-39.12	2204.43	59.8	Pass
							Summary	
						Pole (L7)	59.8	Pass
						Rating =	59.8	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flanged Connection	120	38.8	Pass
1	Flanged Connection	100	54.6	Pass
1	Flanged Connection	80	61.8	Pass
1	Flanged Connection	60	65.4	Pass
1	Flanged Connection	40	67.4	Pass
1	Flanged Connection	20	59.2	Pass
1	Anchor Rods	0	47.5	Pass
1	Base Plate	0	59.8	Pass
1	Base Foundation Steel	0	26.4	Pass
1	Base Foundation Soil Interaction	0	43.0	Pass

Structure Rating (max from all components) =	67.4%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

1) Tower is located in Orange County, New York.
2) Basic wind speed of 90 mph.
3) Structure Class II.
4) Exposure Category C.
5) Topographic Category 1.
6) Crest Height 0.00 ft.
7) Nominal ice thickness of 0.7500 in.
8) Ice thickness is considered to increase with height.
9) Ice density of 56 pcf.
10) A wind speed of 40 mph is used in combination with ice.
11) Temperature drop of 50 °F.
12) Deflections calculated using a wind speed of 60 mph.
13) A non-linear (P-delta) analysis was used.
14) Pressures are calculated at each section.
15) Stress ratio used in pole design is 1.
16) Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	√ Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans For Wind Area	Ignore Redundant Members in FEA
√ Use Code Stress Ratios	Use Clear Spans For KL/r	SR Leg Bolts Resist Compression
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	All Leg Panels Have Same Allowable
Escalate Ice	√ Bypass Mast Stability Checks	Offset Girt At Foundation
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Consider Feedline Torque
Use Special Wind Profile	√ Project Wind Area of Appurt.	Include Angle Block Shear Check
Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	SR Members Have Cut Ends	√ Include Shear-Torsion Interaction
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
Add IBC .6D+W Combination		

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	150.00-120.00	30.00	P24x3/8	A53-B-42 (42 ksi)	
L2	120.00-100.00	20.00	P30x3/8	A53-B-42 (42 ksi)	
L3	100.00-80.00	20.00	P36x3/8	A53-B-42 (42 ksi)	
L4	80.00-60.00	20.00	P42x3/8	A53-B-42 (42 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L5	60.00-40.00	20.00	P48x3/8	A53-B-42 (42 ksi)	
L6	40.00-20.00	20.00	P54x3/8	A53-B-42 (42 ksi)	
L7	20.00-0.00	20.00	P60x3/8	A53-B-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 150.00-120.00				1	1	1		
L2 120.00-100.00				1	1	1		
L3 100.00-80.00				1	1	1		
L4 80.00-60.00				1	1	1		
L5 60.00-40.00				1	1	1		
L6 40.00-20.00				1	1	1		
L7 20.00-0.00				1	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
150-FT								
CAT5e(1/4")	C	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.04
						1/2" Ice	0.00	0.04
						1" Ice	0.00	0.04
HB114-1-0813U4-M5J(1 1/4")	C	No	Inside Pole	150.00 - 0.00	3	No Ice	0.00	1.20
						1/2" Ice	0.00	1.20
						1" Ice	0.00	1.20
134-FT								
LDF6-50A(1-1/4")	C	No	Inside Pole	134.00 - 0.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	0.66
						1" Ice	0.00	0.66
124-FT								
860 10014(3/8)	C	No	Inside Pole	124.00 - 0.00	1	No Ice	0.00	0.00
						1/2" Ice	0.00	0.00
						1" Ice	0.00	0.00
AT158J50(1 5/8")	C	No	Inside Pole	124.00 - 0.00	12	No Ice	0.00	0.70
						1/2" Ice	0.00	0.70
						1" Ice	0.00	0.70
16-FT								
LDF4-50A(1/2")	C	No	Inside Pole	16.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-120.00	A	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.25
L2	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40
L3	100.00-80.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40
L4	80.00-60.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40
L5	60.00-40.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40
L6	40.00-20.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40
L7	20.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.40

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-120.00	A	1.727	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.25
L2	120.00-100.00	A	1.692	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40
L3	100.00-80.00	A	1.658	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40
L4	80.00-60.00	A	1.617	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40
L5	60.00-40.00	A	1.564	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40
L6	40.00-20.00	A	1.486	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40
L7	20.00-0.00	A	1.331	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.40

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	150.00-120.00	0.0000	0.0000	0.0000	0.0000
L2	120.00-100.00	0.0000	0.0000	0.0000	0.0000
L3	100.00-80.00	0.0000	0.0000	0.0000	0.0000
L4	80.00-60.00	0.0000	0.0000	0.0000	0.0000
L5	60.00-40.00	0.0000	0.0000	0.0000	0.0000
L6	40.00-20.00	0.0000	0.0000	0.0000	0.0000
L7	20.00-0.00	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
134-FT EXISTING									
(4) RV90-12-00DA-2 w/Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	6.31 7.02 7.61	4.93 6.02 6.82	0.05 0.10 0.16
(4) RV90-12-00DA-2 w/Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	6.31 7.02 7.61	4.93 6.02 6.82	0.05 0.10 0.16
(4) RV90-12-00DA-2 w/Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	6.31 7.02 7.61	4.93 6.02 6.82	0.05 0.10 0.16
Platform Mount [LP 403-1]	C	None		0.0000	134.00	No Ice 1/2" Ice 1" Ice	18.85 24.30 29.75	18.85 24.30 29.75	1.50 1.80 2.09
124-FT PROPOSED									
Kathrein 800 10504 w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
Kathrein 800 10504 w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
Kathrein 800 10504 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
Kathrein 800 10504 w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
Kathrein 800 10504 w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
Kathrein 800 10504 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	3.47 3.84 4.23	3.05 3.68 4.33	0.04 0.07 0.11
T-Arm Mount [TA 602-3]	C	None		0.0000	124.00	No Ice 1/2" Ice 1" Ice	11.59 15.44 19.29	11.59 15.44 19.29	0.77 0.99 1.21
124-FT EXISTING									
16-FT EXISTING									
KS24019-L112A	C	From Face	2.00 0.00 0.00	0.0000	16.00	No Ice 1/2" Ice	0.10 0.18 0.26	0.10 0.18 0.26	0.01 0.01 0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Side Arm Mount [SO 309-1]	C	None		0.0000	16.00	1" Ice No Ice 1/2" Ice 1" Ice	2.82 4.07 5.32	2.20 3.16 4.12	0.04 0.06 0.08
150-FT EXISTING P40-16-XLPP-RR-A w/ Mount Pipe	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	9.37 9.91 10.45	4.83 5.57 6.27	0.07 0.13 0.20
P40-16-XLPP-RR-A w/ Mount Pipe	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	9.37 9.91 10.45	4.83 5.57 6.27	0.07 0.13 0.20
APXVSPP18-C-A20 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	30.0000	150.00	No Ice 1/2" Ice 1" Ice	8.50 9.15 9.77	6.95 8.13 9.02	0.08 0.15 0.22
800 EXTERNAL NOTCH FILTER	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	0.77 0.89 1.02	0.37 0.46 0.56	0.01 0.02 0.02
800 EXTERNAL NOTCH FILTER	B	From Face	4.00 0.00 0.00	60.0000	150.00	No Ice 1/2" Ice 1" Ice	0.77 0.89 1.02	0.37 0.46 0.56	0.01 0.02 0.02
800 EXTERNAL NOTCH FILTER	C	From Face	4.00 0.00 0.00	30.0000	150.00	No Ice 1/2" Ice 1" Ice	0.77 0.89 1.02	0.37 0.46 0.56	0.01 0.02 0.02
(3) ACU-A20-N	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
(3) ACU-A20-N	B	From Face	4.00 0.00 0.00	60.0000	150.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
(3) ACU-A20-N	C	From Face	4.00 0.00 0.00	30.0000	150.00	No Ice 1/2" Ice 1" Ice	0.08 0.12 0.17	0.14 0.19 0.25	0.00 0.00 0.00
1900MHz RRH (65MHz)	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	2.70 2.94 3.18	2.77 3.01 3.26	0.06 0.08 0.11
1900MHz RRH (65MHz)	B	From Face	4.00 0.00 0.00	60.0000	150.00	No Ice 1/2" Ice 1" Ice	2.70 2.94 3.18	2.77 3.01 3.26	0.06 0.08 0.11
1900MHz RRH (65MHz)	C	From Face	4.00 0.00 0.00	30.0000	150.00	No Ice 1/2" Ice 1" Ice	2.70 2.94 3.18	2.77 3.01 3.26	0.06 0.08 0.11
800MHZ RRH	B	From Face	4.00 0.00 0.00	-30.0000	150.00	No Ice 1/2" Ice 1" Ice	2.49 2.71 2.93	2.07 2.27 2.48	0.05 0.07 0.10
800MHZ RRH	B	From Face	4.00 0.00 0.00	60.0000	150.00	No Ice 1/2" Ice 1" Ice	2.49 2.71 2.93	2.07 2.27 2.48	0.05 0.07 0.10
800MHZ RRH	C	From Face	4.00 0.00 0.00	30.0000	150.00	No Ice 1/2" Ice	2.49 2.71 2.93	2.07 2.27 2.48	0.05 0.07 0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
2X ODU COUPLER	C	From Face	4.00 0.00 0.00	30.0000	148.00	1" Ice No Ice 1/2" Ice 1" Ice	0.25 0.33 0.41	0.13 0.19 0.25	0.01 0.01 0.01
(2) 9500 (M-PRe) V2 ODU	C	From Face	4.00 0.00 0.00	30.0000	148.00	1" Ice No Ice 1/2" Ice 1" Ice	0.92 1.05 1.19	0.47 0.57 0.68	0.01 0.02 0.03
14' Low Profile Square Platform	C	None		0.0000	150.00	No Ice 1/2" Ice 1" Ice	32.00 38.00 44.00	32.00 38.00 44.00	1.75 2.25 2.75
**									
Pipe Mount [PM 501-1]	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice	3.47 4.45 5.43	1.67 2.10 2.53	0.05 0.06 0.07
Side Arm Mount [SO 102-1]	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.50 1.74 1.98	1.50 1.75 2.00	0.03 0.04 0.04

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
SBX2-107AMPT	C	Paraboloid w/Shroud (HP)	From Face	1.00 0.00 0.00	30.0000		148.00	2.33	No Ice 1/2" Ice 1" Ice	4.28 4.59 4.90	0.03 0.05 0.07

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 150.00-120.00	135.00	1.348	27	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L2 120.00-100.00	110.00	1.291	25	50.000	A	0.000	50.000	50.000	100.00	0.000	0.000
					B	0.000	50.000		100.00	0.000	0.000
					C	0.000	50.000		100.00	0.000	0.000
L3 100.00-80.00	90.00	1.238	24	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L4 80.00-60.00	70.00	1.174	23	70.000	A	0.000	70.000	70.000	100.00	0.000	0.000
					B	0.000	70.000		100.00	0.000	0.000
					C	0.000	70.000		100.00	0.000	0.000
L5 60.00-40.00	50.00	1.094	22	80.000	A	0.000	80.000	80.000	100.00	0.000	0.000
					B	0.000	80.000		100.00	0.000	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	80.000		100.00	0.000	0.000
L6 40.00-20.00	30.00	0.982	19	90.000	A	0.000	90.000	90.000	100.00	0.000	0.000
					B	0.000	90.000		100.00	0.000	0.000
					C	0.000	90.000		100.00	0.000	0.000
L7 20.00-0.00	10.00	0.85	17	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_z	q_z psf	t_z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-120.00	135.00	1.348	5	1.7269	68.635	A	0.000	68.635	68.635	100.00	0.000	0.000
						B	0.000	68.635		100.00	0.000	0.000
						C	0.000	68.635		100.00	0.000	0.000
L2 120.00-100.00	110.00	1.291	5	1.6919	55.640	A	0.000	55.640	55.640	100.00	0.000	0.000
						B	0.000	55.640		100.00	0.000	0.000
						C	0.000	55.640		100.00	0.000	0.000
L3 100.00-80.00	90.00	1.238	5	1.6583	65.528	A	0.000	65.528	65.528	100.00	0.000	0.000
						B	0.000	65.528		100.00	0.000	0.000
						C	0.000	65.528		100.00	0.000	0.000
L4 80.00-60.00	70.00	1.174	5	1.6171	75.390	A	0.000	75.390	75.390	100.00	0.000	0.000
						B	0.000	75.390		100.00	0.000	0.000
						C	0.000	75.390		100.00	0.000	0.000
L5 60.00-40.00	50.00	1.094	4	1.5636	85.212	A	0.000	85.212	85.212	100.00	0.000	0.000
						B	0.000	85.212		100.00	0.000	0.000
						C	0.000	85.212		100.00	0.000	0.000
L6 40.00-20.00	30.00	0.982	4	1.4858	94.953	A	0.000	94.953	94.953	100.00	0.000	0.000
						B	0.000	94.953		100.00	0.000	0.000
						C	0.000	94.953		100.00	0.000	0.000
L7 20.00-0.00	10.00	0.85	3	1.3312	104.437	A	0.000	104.437	104.437	100.00	0.000	0.000
						B	0.000	104.437		100.00	0.000	0.000
						C	0.000	104.437		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-120.00	135.00	1.348	11	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L2 120.00-100.00	110.00	1.291	10	50.000	A	0.000	50.000	50.000	100.00	0.000	0.000
					B	0.000	50.000		100.00	0.000	0.000
					C	0.000	50.000		100.00	0.000	0.000
L3 100.00-80.00	90.00	1.238	10	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	0.000
L4 80.00-60.00	70.00	1.174	9	70.000	A	0.000	70.000	70.000	100.00	0.000	0.000
					B	0.000	70.000		100.00	0.000	0.000
					C	0.000	70.000		100.00	0.000	0.000
L5 60.00-40.00	50.00	1.094	9	80.000	A	0.000	80.000	80.000	100.00	0.000	0.000
					B	0.000	80.000		100.00	0.000	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	80.000		100.00	0.000	0.000
L6 40.00-20.00	30.00	0.982	8	90.000	A	0.000	90.000	90.000	100.00	0.000	0.000
					B	0.000	90.000		100.00	0.000	0.000
					C	0.000	90.000		100.00	0.000	0.000
L7 20.00-0.00	10.00	0.85	7	100.000	A	0.000	100.000	100.000	100.00	0.000	0.000
					B	0.000	100.000		100.00	0.000	0.000
					C	0.000	100.000		100.00	0.000	0.000

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	150 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.65	-6.60	-1.06
			Max. Mx	8	-9.99	-194.22	10.47
			Max. My	2	-9.96	-11.27	202.15
			Max. Vy	8	10.33	-194.22	10.47
			Max. Vx	2	-10.69	-11.27	202.15
			Max. Torque	4			-5.43
L2	120 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25.29	-6.76	-1.08
			Max. Mx	8	-13.36	-414.82	17.93
			Max. My	2	-13.33	-17.84	429.81
			Max. Vy	8	11.71	-414.82	17.93
			Max. Vx	2	-12.07	-17.84	429.81
			Max. Torque	4			-5.43
L3	100 - 80	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.73	-6.88	-1.10
			Max. Mx	8	-17.32	-664.59	25.38
			Max. My	2	-17.30	-24.38	686.66
			Max. Vy	8	13.25	-664.59	25.38
			Max. Vx	2	-13.61	-24.38	686.66
			Max. Torque	4			-5.42
L4	80 - 60	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.93	-6.96	-1.11
			Max. Mx	8	-21.87	-946.41	32.81
			Max. My	2	-21.85	-30.87	975.52
			Max. Vy	8	14.92	-946.41	32.81
			Max. Vx	2	-15.27	-30.87	975.52
			Max. Torque	4			-5.42
L5	60 - 40	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.89	-6.96	-1.11
			Max. Mx	8	-27.01	-1262.16	40.19
			Max. My	2	-27.00	-37.29	1298.27
			Max. Vy	8	16.65	-1262.16	40.19
			Max. Vx	2	-17.00	-37.29	1298.27
			Max. Torque	4			-5.42
L6	40 - 20	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.54	-6.96	-1.11
			Max. Mx	8	-32.74	-1612.23	47.49
			Max. My	2	-32.74	-43.63	1655.27
			Max. Vy	8	18.35	-1612.23	47.49
			Max. Vx	2	-18.69	-43.63	1655.27
			Max. Torque	4			-5.42
L7	20 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.88	-6.96	-1.16
			Max. Mx	8	-39.12	-1996.51	54.67
			Max. My	2	-39.12	-49.88	2046.37
			Max. Vy	8	20.02	-1996.51	54.67
			Max. Vx	2	-20.36	-49.88	2046.37
			Max. Torque	4			-5.42

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	59.88	-0.00	-0.00
	Max. H_x	21	29.34	20.00	-0.31
	Max. H_z	2	39.12	-0.31	20.35
	Max. M_x	2	2046.37	-0.31	20.35
	Max. M_z	8	1996.51	-20.01	0.36
	Max. Torsion	16	5.37	10.23	-17.71
	Min. Vert	23	29.34	17.20	9.90

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. H_x	8	39.12	-20.01	0.36
	Min. H_z	14	39.12	0.29	-20.30
	Min. M_x	14	-2039.33	0.29	-20.30
	Min. M_z	20	-1990.52	20.00	-0.31
	Min. Torsion	4	-5.42	-10.25	17.76

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	32.60	0.00	0.00	0.29	-1.70	-0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	39.12	0.31	-20.35	-2046.37	-49.88	5.41
0.9 Dead+1.6 Wind 0 deg - No Ice	29.34	0.31	-20.35	-2032.87	-48.95	5.38
1.2 Dead+1.6 Wind 30 deg - No Ice	39.12	10.25	-17.76	-1792.36	-1037.13	5.42
0.9 Dead+1.6 Wind 30 deg - No Ice	29.34	10.25	-17.76	-1780.52	-1029.69	5.40
1.2 Dead+1.6 Wind 60 deg - No Ice	39.12	17.47	-10.44	-1064.39	-1750.74	4.04
0.9 Dead+1.6 Wind 60 deg - No Ice	29.34	17.47	-10.44	-1057.36	-1738.61	4.02
1.2 Dead+1.6 Wind 90 deg - No Ice	39.12	20.01	-0.36	-54.67	-1996.51	1.61
0.9 Dead+1.6 Wind 90 deg - No Ice	29.34	20.01	-0.36	-54.32	-1982.78	1.61
1.2 Dead+1.6 Wind 120 deg - No Ice	39.12	17.18	9.94	987.76	-1705.53	-1.25
0.9 Dead+1.6 Wind 120 deg - No Ice	29.34	17.18	9.94	981.16	-1693.77	-1.23
1.2 Dead+1.6 Wind 150 deg - No Ice	39.12	9.73	17.48	1749.84	-957.20	-3.82
0.9 Dead+1.6.Wind 150 deg - No Ice	29.34	9.73	17.48	1738.16	-950.40	-3.80
1.2 Dead+1.6 Wind 180 deg - No Ice	39.12	-0.29	20.30	2039.33	43.30	-5.32
0.9 Dead+1.6 Wind 180 deg - No Ice	29.34	-0.29	20.30	2025.71	43.48	-5.30
1.2 Dead+1.6 Wind 210 deg - No Ice	39.12	-10.23	17.71	1786.42	1029.08	-5.37
0.9 Dead+1.6 Wind 210 deg - No Ice	29.34	-10.23	17.71	1774.45	1022.77	-5.35
1.2 Dead+1.6 Wind 240 deg - No Ice	39.12	-17.43	10.41	1059.16	1740.99	-4.02
0.9 Dead+1.6 Wind 240 deg - No Ice	29.34	-17.43	10.41	1051.98	1730.00	-4.00
1.2 Dead+1.6 Wind 270 deg - No Ice	39.12	-20.00	0.31	47.96	1990.52	-1.64
0.9 Dead+1.6 Wind 270 deg - No Ice	29.34	-20.00	0.31	47.48	1977.91	-1.64
1.2 Dead+1.6 Wind 300 deg - No Ice	39.12	-17.20	-9.90	-981.14	1704.70	1.20
0.9 Dead+1.6 Wind 300 deg - No Ice	29.34	-17.20	-9.90	-974.78	1694.01	1.19
1.2 Dead+1.6 Wind 330 deg - No Ice	39.12	-9.70	-17.51	-1754.34	947.43	3.94
0.9 Dead+1.6 Wind 330 deg - No Ice	29.34	-9.70	-17.51	-1742.81	941.78	3.92
1.2 Dead+1.0 Ice+1.0 Temp	59.88	0.00	0.00	1.16	-6.96	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	59.88	0.04	-4.86	-476.03	-13.10	1.04
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	59.88	2.44	-4.23	-414.53	-247.08	1.03

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	59.88	4.19	-2.46	-242.65	-417.33	0.74
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	59.88	4.82	-0.05	-6.00	-477.76	0.27
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	59.88	4.16	2.40	235.42	-411.70	-0.28
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	59.88	2.38	4.19	411.57	-237.08	-0.76
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	59.88	-0.04	4.86	477.16	-1.42	-1.03
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	59.88	-2.44	4.22	415.83	232.33	-1.02
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	59.88	-4.19	2.46	244.06	402.31	-0.74
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	59.88	-4.82	0.04	7.18	463.34	-0.27
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	59.88	-4.16	-2.40	-232.12	398.10	0.27
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	59.88	-2.37	-4.20	-410.04	222.06	0.78
Dead+Wind 0 deg - Service	32.60	0.08	-5.06	-506.29	-13.57	1.34
Dead+Wind 30 deg - Service	32.60	2.55	-4.41	-443.42	-257.93	1.35
Dead+Wind 60 deg - Service	32.60	4.34	-2.60	-263.23	-434.56	1.00
Dead+Wind 90 deg - Service	32.60	4.97	-0.09	-13.31	-495.39	0.40
Dead+Wind 120 deg - Service	32.60	4.27	2.47	244.69	-423.37	-0.31
Dead+Wind 150 deg - Service	32.60	2.42	4.34	433.31	-238.16	-0.95
Dead+Wind 180 deg - Service	32.60	-0.07	5.05	504.96	9.48	-1.32
Dead+Wind 210 deg - Service	32.60	-2.54	4.40	442.37	253.48	-1.34
Dead+Wind 240 deg - Service	32.60	-4.33	2.59	262.35	429.69	-1.00
Dead+Wind 270 deg - Service	32.60	-4.97	0.08	12.07	491.45	-0.41
Dead+Wind 300 deg - Service	32.60	-4.27	-2.46	-242.64	420.70	0.30
Dead+Wind 330 deg - Service	32.60	-2.41	-4.35	-434.01	233.28	0.98

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-32.60	0.00	0.00	32.60	0.00	0.000%
2	0.31	-39.12	-20.35	-0.31	39.12	20.35	0.000%
3	0.31	-29.34	-20.35	-0.31	29.34	20.35	0.000%
4	10.25	-39.12	-17.76	-10.25	39.12	17.76	0.000%
5	10.25	-29.34	-17.76	-10.25	29.34	17.76	0.000%
6	17.47	-39.12	-10.44	-17.47	39.12	10.44	0.000%
7	17.47	-29.34	-10.44	-17.47	29.34	10.44	0.000%
8	20.01	-39.12	-0.36	-20.01	39.12	0.36	0.000%
9	20.01	-29.34	-0.36	-20.01	29.34	0.36	0.000%
10	17.18	-39.12	9.94	-17.18	39.12	-9.94	0.000%
11	17.18	-29.34	9.94	-17.18	29.34	-9.94	0.000%
12	9.73	-39.12	17.48	-9.73	39.12	-17.48	0.000%
13	9.73	-29.34	17.48	-9.73	29.34	-17.48	0.000%
14	-0.29	-39.12	20.30	0.29	39.12	-20.30	0.000%
15	-0.29	-29.34	20.30	0.29	29.34	-20.30	0.000%
16	-10.23	-39.12	17.71	10.23	39.12	-17.71	0.000%
17	-10.23	-29.34	17.71	10.23	29.34	-17.71	0.000%
18	-17.43	-39.12	10.41	17.43	39.12	-10.41	0.000%
19	-17.43	-29.34	10.41	17.43	29.34	-10.41	0.000%
20	-20.00	-39.12	0.31	20.00	39.12	-0.31	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
21	-20.00	-29.34	0.31	20.00	29.34	-0.31	0.000%
22	-17.20	-39.12	-9.90	17.20	39.12	9.90	0.000%
23	-17.20	-29.34	-9.90	17.20	29.34	9.90	0.000%
24	-9.70	-39.12	-17.51	9.70	39.12	17.51	0.000%
25	-9.70	-29.34	-17.51	9.70	29.34	17.51	0.000%
26	0.00	-59.88	0.00	-0.00	59.88	-0.00	0.000%
27	0.04	-59.88	-4.86	-0.04	59.88	4.86	0.000%
28	2.44	-59.88	-4.23	-2.44	59.88	4.23	0.000%
29	4.19	-59.88	-2.46	-4.19	59.88	2.46	0.000%
30	4.82	-59.88	-0.05	-4.82	59.88	0.05	0.000%
31	4.16	-59.88	2.40	-4.16	59.88	-2.40	0.000%
32	2.38	-59.88	4.19	-2.38	59.88	-4.19	0.000%
33	-0.04	-59.88	4.86	0.04	59.88	-4.86	0.000%
34	-2.44	-59.88	4.22	2.44	59.88	-4.22	0.000%
35	-4.19	-59.88	2.46	4.19	59.88	-2.46	0.000%
36	-4.82	-59.88	0.04	4.82	59.88	-0.04	0.000%
37	-4.16	-59.88	-2.40	4.16	59.88	2.40	0.000%
38	-2.37	-59.88	-4.20	2.37	59.88	4.20	0.000%
39	0.08	-32.60	-5.06	-0.08	32.60	5.06	0.000%
40	2.55	-32.60	-4.41	-2.55	32.60	4.41	0.000%
41	4.34	-32.60	-2.60	-4.34	32.60	2.60	0.000%
42	4.97	-32.60	-0.09	-4.97	32.60	0.09	0.000%
43	4.27	-32.60	2.47	-4.27	32.60	-2.47	0.000%
44	2.42	-32.60	4.34	-2.42	32.60	-4.34	0.000%
45	-0.07	-32.60	5.05	0.07	32.60	-5.05	0.000%
46	-2.54	-32.60	4.40	2.54	32.60	-4.40	0.000%
47	-4.33	-32.60	2.59	4.33	32.60	-2.59	0.000%
48	-4.97	-32.60	0.08	4.97	32.60	-0.08	0.000%
49	-4.27	-32.60	-2.46	4.27	32.60	2.46	0.000%
50	-2.41	-32.60	-4.35	2.41	32.60	4.35	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00013913
3	Yes	5	0.00000001	0.00006920
4	Yes	5	0.00000001	0.00032162
5	Yes	5	0.00000001	0.00015765
6	Yes	5	0.00000001	0.00021380
7	Yes	5	0.00000001	0.00010333
8	Yes	4	0.00000001	0.00064017
9	Yes	4	0.00000001	0.00042470
10	Yes	5	0.00000001	0.00019139
11	Yes	5	0.00000001	0.00009309
12	Yes	5	0.00000001	0.00026285
13	Yes	5	0.00000001	0.00012941
14	Yes	5	0.00000001	0.00010913
15	Yes	5	0.00000001	0.00005444
16	Yes	5	0.00000001	0.00020505
17	Yes	5	0.00000001	0.00009952
18	Yes	5	0.00000001	0.00028492
19	Yes	5	0.00000001	0.00013976
20	Yes	5	0.00000001	0.00005062
21	Yes	4	0.00000001	0.00097159
22	Yes	5	0.00000001	0.00021478
23	Yes	5	0.00000001	0.00010538
24	Yes	5	0.00000001	0.00017025
25	Yes	5	0.00000001	0.00008290
26	Yes	4	0.00000001	0.00013791
27	Yes	5	0.00000001	0.00022533
28	Yes	5	0.00000001	0.00024174
29	Yes	5	0.00000001	0.00024132
30	Yes	5	0.00000001	0.00022979

31	Yes	5	0.00000001	0.00023588
32	Yes	5	0.00000001	0.00023656
33	Yes	5	0.00000001	0.00022693
34	Yes	5	0.00000001	0.00023112
35	Yes	5	0.00000001	0.00022682
36	Yes	5	0.00000001	0.00021181
37	Yes	5	0.00000001	0.00021806
38	Yes	5	0.00000001	0.00022243
39	Yes	4	0.00000001	0.00023349
40	Yes	4	0.00000001	0.00030733
41	Yes	4	0.00000001	0.00017867
42	Yes	4	0.00000001	0.00007552
43	Yes	4	0.00000001	0.00011618
44	Yes	4	0.00000001	0.00023111
45	Yes	4	0.00000001	0.00021762
46	Yes	4	0.00000001	0.00021141
47	Yes	4	0.00000001	0.00024314
48	Yes	4	0.00000001	0.00008485
49	Yes	4	0.00000001	0.00014277
50	Yes	4	0.00000001	0.00015234

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 120	11.800	40	0.7219	0.0139
L2	120 - 100	7.442	40	0.6289	0.0064
L3	100 - 80	5.026	40	0.5105	0.0038
L4	80 - 60	3.120	40	0.3906	0.0023
L5	60 - 40	1.704	40	0.2790	0.0014
L6	40 - 20	0.739	40	0.1771	0.0008
L7	20 - 0	0.183	40	0.0845	0.0003

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	P40-16-XLPP-RR-A w/ Mount Pipe	40	11.800	0.7219	0.0139	59541
148.00	SBX2-107AMPT	40	11.498	0.7174	0.0133	59541
134.00	(4) RV90-12-00DA-2 w/Mount Pipe	40	9.407	0.6824	0.0095	18606
124.00	Kathrein 800 10504 w/ Mount Pipe	40	7.984	0.6470	0.0072	11452
16.00	KS24019-L112A	40	0.124	0.0671	0.0002	12976

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 120	47.608	4	2.9067	0.0560
L2	120 - 100	30.047	4	2.5385	0.0256
L3	100 - 80	20.298	4	2.0616	0.0153
L4	80 - 60	12.600	4	1.5779	0.0093
L5	60 - 40	6.882	4	1.1269	0.0055
L6	40 - 20	2.983	4	0.7153	0.0030
L7	20 - 0	0.739	4	0.3410	0.0013

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	P40-16-XLPP-RR-A w/ Mount Pipe	4	47.608	2.9067	0.0560	14980
148.00	SBX2-107AMPT	4	46.389	2.8894	0.0537	14980
134.00	(4) RV90-12-00DA-2 w/Mount Pipe	4	37.966	2.7517	0.0382	4680
124.00	Kathrein 800 10504 w/ Mount Pipe	4	32.232	2.6109	0.0288	2880
16.00	KS24019-L112A	4	0.502	0.2708	0.0010	3213

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	150 - 120 (1)	P24x3/8	30.00	0.00	0.0	27.8325	-9.95	1052.07	0.009
L2	120 - 100 (2)	P30x3/8	20.00	0.00	0.0	34.9011	-13.32	1311.06	0.010
L3	100 - 80 (3)	P36x3/8	20.00	0.00	0.0	41.9697	-17.29	1490.10	0.012
L4	80 - 60 (4)	P42x3/8	20.00	0.00	0.0	49.0383	-21.84	1668.87	0.013
L5	60 - 40 (5)	P48x3/8	20.00	0.00	0.0	56.1069	-26.99	1847.49	0.015
L6	40 - 20 (6)	P54x3/8	20.00	0.00	0.0	63.1755	-32.73	2026.00	0.016
L7	20 - 0 (7)	P60x3/8	20.00	0.00	0.0	70.2440	-39.12	2204.43	0.018

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	150 - 120 (1)	P24x3/8	207.82	623.72	0.333	0.00	623.72	0.000
L2	120 - 100 (2)	P30x3/8	438.65	947.86	0.463	0.00	947.86	0.000
L3	100 - 80 (3)	P36x3/8	698.66	1338.81	0.522	0.00	1338.81	0.000
L4	80 - 60 (4)	P42x3/8	990.67	1796.56	0.551	0.00	1796.56	0.000
L5	60 - 40 (5)	P48x3/8	1316.55	2321.11	0.567	0.00	2321.11	0.000
L6	40 - 20 (6)	P54x3/8	1676.64	2912.46	0.576	0.00	2912.46	0.000
L7	20 - 0 (7)	P60x3/8	2070.79	3570.61	0.580	0.00	3570.61	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	150 - 120 (1)	P24x3/8	10.85	526.03	0.021	5.43	1019.71	0.005
L2	120 - 100 (2)	P30x3/8	12.22	655.53	0.019	5.42	1598.37	0.003
L3	100 - 80 (3)	P36x3/8	13.76	745.05	0.018	5.42	2189.07	0.002
L4	80 - 60 (4)	P42x3/8	15.43	834.44	0.018	5.42	2868.84	0.002
L5	60 - 40 (5)	P48x3/8	17.15	923.75	0.019	5.42	3637.70	0.001
L6	40 - 20 (6)	P54x3/8	18.85	1013.00	0.019	5.42	4495.63	0.001
L7	20 - 0 (7)	P60x3/8	20.51	1102.21	0.019	5.42	5442.62	0.001

Pole Interaction Design Data

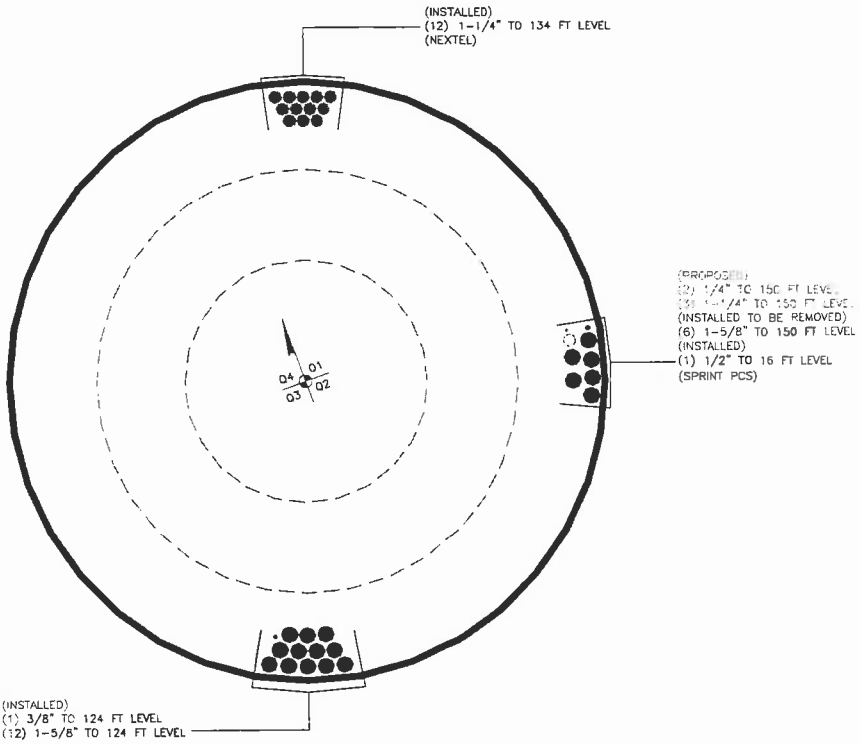
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	150 - 120 (1)	0.009	0.333	0.000	0.021	0.005	0.343 ✔	1.000	4.8.2 ✔
L2	120 - 100 (2)	0.010	0.463	0.000	0.019	0.003	0.473 ✔	1.000	4.8.2 ✔
L3	100 - 80 (3)	0.012	0.522	0.000	0.018	0.002	0.534 ✔	1.000	4.8.2 ✔
L4	80 - 60 (4)	0.013	0.551	0.000	0.018	0.002	0.565 ✔	1.000	4.8.2 ✔
L5	60 - 40 (5)	0.015	0.567	0.000	0.019	0.001	0.582 ✔	1.000	4.8.2 ✔
L6	40 - 20 (6)	0.016	0.576	0.000	0.019	0.001	0.592 ✔	1.000	4.8.2 ✔
L7	20 - 0 (7)	0.018	0.580	0.000	0.019	0.001	0.598 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	150 - 120	Pole	P24x3/8	1	-9.95	1052.07	34.3	Pass
L2	120 - 100	Pole	P30x3/8	2	-13.32	1311.06	47.3	Pass
L3	100 - 80	Pole	P36x3/8	3	-17.29	1490.10	53.4	Pass
L4	80 - 60	Pole	P42x3/8	4	-21.84	1668.87	56.5	Pass
L5	60 - 40	Pole	P48x3/8	5	-26.99	1847.49	58.2	Pass
L6	40 - 20	Pole	P54x3/8	6	-32.73	2026.00	59.2	Pass
L7	20 - 0	Pole	P60x3/8	7	-39.12	2204.43	59.8	Pass
						Summary		
						Pole (L7)	59.8	Pass
						RATING =	**59.8**	**Pass**

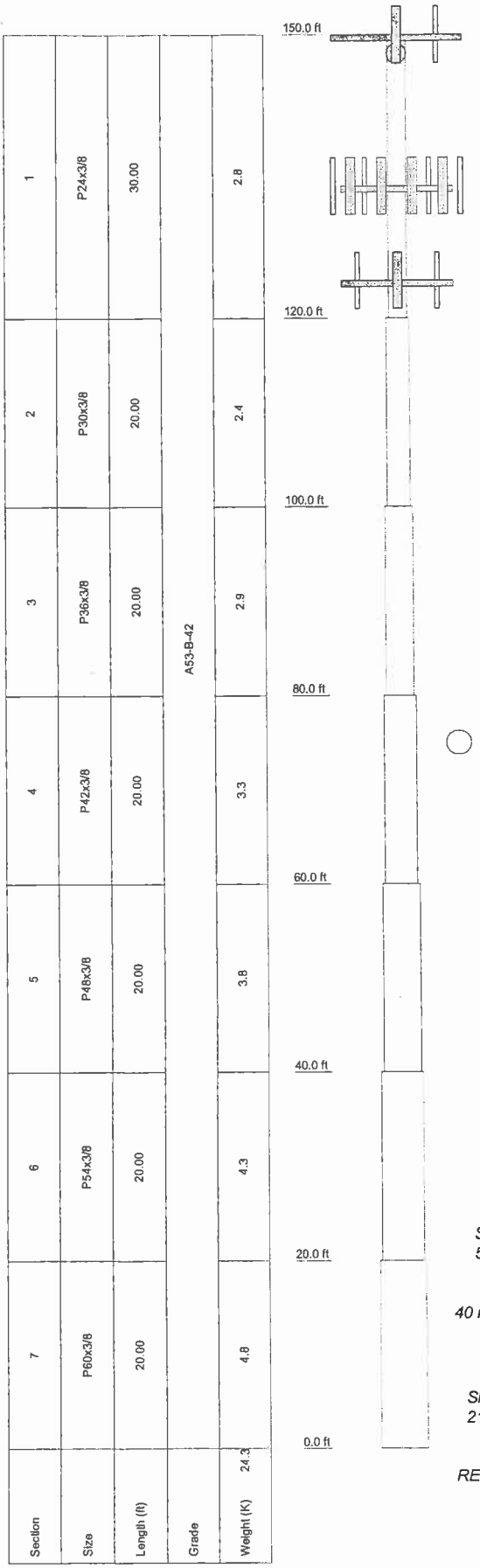
APPENDIX B

BASE LEVEL DRAWING



APPENDIX C

ADDITIONAL CALCULATIONS



Section	Size	Length (ft)	Grade	Weight (K)
1	P24x3/8	30.00		2.8
2	P30x3/8	20.00		2.4
3	P36x3/8	20.00		2.9
4	P42x3/8	20.00		3.3
5	P48x3/8	20.00		3.8
6	P54x3/8	20.00		4.3
7	P60x3/8	20.00		4.8
				24.3

ALL REACTIONS ARE FACTORED

AXIAL 60 K

SHEAR 5 K — *MOMENT 483 kip-ft*

TORQUE 1 kip-ft
40 mph WIND - 0.7500 in ICE

AXIAL 39 K

SHEAR 21 K — *MOMENT 2071 kip-ft*

TORQUE 5 kip-ft
REACTIONS - 90 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
P40-16-XLPP-RR-A w/ Mount Pipe	150	(2) 9500 (M-PRe) V2 ODU	148
P40-16-XLPP-RR-A w/ Mount Pipe	150	Pipe Mount [PM 501-1]	148
APXVSPP18-C-A20 w/ Mount Pipe	150	Side Arm Mount [SO 102-1]	148
800 EXTERNAL NOTCH FILTER	150	SBX2-107AMPT	148
800 EXTERNAL NOTCH FILTER	150	(4) RV90-12-00DA-2 w/Mount Pipe	134
800 EXTERNAL NOTCH FILTER	150	(4) RV90-12-00DA-2 w/Mount Pipe	134
(3) ACU-A20-N	150	Platform Mount [LP 403-1]	134
(3) ACU-A20-N	150	(4) RV90-12-00DA-2 w/Mount Pipe	134
(3) ACU-A20-N	150	Kathrein 800 10504 w/ Mount Pipe	124
1900MHz RRH (65MHz)	150	Kathrein 800 10504 w/ Mount Pipe	124
1900MHz RRH (65MHz)	150	T-Arm Mount [TA 602-3]	124
1900MHz RRH (65MHz)	150	Kathrein 800 10504 w/ Mount Pipe	124
800MHZ RRH	150	Kathrein 800 10504 w/ Mount Pipe	124
800MHZ RRH	150	Kathrein 800 10504 w/ Mount Pipe	124
800MHZ RRH	150	Kathrein 800 10504 w/ Mount Pipe	124
14' Low Profile Square Platform	150	KS24019-L112A	16
2X ODU COUPLER	148	Side Arm Mount [SO 309-1]	16

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi			

TOWER DESIGN NOTES

1. Tower is located in Orange County, New York.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 90 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 59.8%

Paul J. Ford and Company
250 East Broad Street #1500
Columbus, OH 43215
Phone: (614) 221-6679
FAX: (614) 448-4105

Job: *150-Ft Monopole: Thruway-Plattekill*			
Project: *37512-0827B / BU# 874661*			
Client: CCI	Drawn by: D. Scott Kramer, P.E.	App'd:	
Code: TIA-222-G	Date: 05/01/12	Scale: NTS	
Path: C:\TOWER\375_Crown_Castle\2012\37512-0827 BU 874661\37512-0827B.eri		Dwg No. E-1	

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	207.82	ft-kips
Axial, Pu:	9.95	kips
Shear, Vu:	10.85	kips
Elevation:	120	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria:	TIA G	<-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	17		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	27		

Plate Data		
Diam:	30	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	4.44	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	24	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results

Bolt Tension Capacity, φ*Tn,**B1**:	54.54	kips	Rigid / φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), **B**:	54.53	kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	21.15	Kips	
Min. PL "tc" for **B** cap. **w/o** Pry:	0.970	in	
Min PL "treq" for actual **T w/ Pry:**	0.455	in	
Min PL "t1" for actual **T w/o Pry:**	0.604	in	
T allowable w/o Prying:	54.54	kips	α'<0 case
Prying Force, q:	0.00	kips	
Total Bolt Tension=Tu+q:	21.15	kips	
Non-Prying Bolt Stress Ratio, Tu/B:	38.8%	Pass	

Exterior Flange Plate Results Flexural Check — Rigid / TIA G / φ*Fy / Comp. Y.L. Length: 12.37

Compression Side Plate Stress:	Rohn/Pirod, OK	
Allowable Plate Stress:	32.4	ksi
Compression Plate Stress Ratio:	Rohn/Pirod, OK	
No Prying		
Tension Side Stress Ratio, (treq/t)^2:	13.3%	Pass

n/a

Stiffener Results	N/A for Rohn / Pirod
Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A
Pole Results	
Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Moment:	207.82	ft-kips
Axial:	9.95	kips
Shear:	10.85	kips
Exterior Flange Run, T+q:	21.15	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Manufacturer:	Pirod

Elevation: 120 feet

Bolt Data			
Qty:	17		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	27	in	

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	21.2	Kips, Ext. Flange Tu+q
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5	Kips
Bolt Stress Ratio:	38.8%	Pass

Plate Data		
Plate Outer Diam:	29.25	in
Plate Inner Diam:	24	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	5.41	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	22.3	Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod	OK
Allowable Plate Stress, φ*Fy:	32.4	ksi
Plate Stress Ratio:	Rohn/Pirod	OK

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Data		
Pole OuterDiam:	30	in
Thick:	0.375	in
Pole Inner Diam:	29.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Pole Results

Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	438.65	ft-kips
Axial, Pu:	13.32	kips
Shear, Vu:	12.22	kips
Elevation:	100	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria: TIA G <-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	21		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	33		

Plate Data		
Diam:	36	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	4.49	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	30	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results — Rigid

Bolt Tension Capacity, φ*Tn,B1:	54.54 kips	φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), B:	54.53 kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	29.75 Kips	
Min. PL "tc" for B cap. w/o Pry:	0.964 in	
Min PL "treq" for actual T w/ Pry:	0.536 in	
Min PL "t1" for actual T w/o Pry:	0.712 in	
T allowable w/o Prying:	54.54 kips	α'<0 case
Prying Force, q:	0.00 kips	
Total Bolt Tension=Tu+q:	29.75 kips	
Non-Prying Bolt Stress Ratio, Tu/B:	54.6% Pass	

Exterior Flange Plate Results Flexural Check — Rigid

Compression Side Plate Stress:	Rohn/Pirod, OK	TIA G
Allowable Plate Stress:	32.4 ksi	φ*Fy
Compression Plate Stress Ratio:	Rohn/Pirod, OK	Comp. Y.L. Length:
No Prying		13.75
Tension Side Stress Ratio, (treq/t)^2:	18.4% Pass	

n/a

Stiffener Results	N/A for Rohn / Pirod
Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A
Pole Results	
Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Manufacturer:	Pirod

Reactions		
Moment:	438.65	ft-kips
Axial:	13.32	kips
Shear:	12.22	kips
Exterior Flange Run, T+q:	29.75	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Elevation: 100 feet

Bolt Data			
Qty:	21		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	33	in	

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	29.8	Kips, Ext. Flange Tu+q
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5	Kips
Bolt Stress Ratio:	54.6%	Pass

Plate Data		
Plate Outer Diam:	35.25	in
Plate Inner Diam:	30	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	5.27	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	31.0	Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod	OK
Allowable Plate Stress, φ*Fy:	32.4	ksi
Plate Stress Ratio:	Rohn/Pirod	OK

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Data		
Pole OuterDiam:	36	in
Thick:	0.375	in
Pole Inner Diam:	35.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	698.66	ft-kips
Axial, Pu:	17.29	kips
Shear, Vu:	13.76	kips
Elevation:	80	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria: TIA G <-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	25		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	39		

Plate Data		
Diam:	42	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	4.52	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	36	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results | Rigid

Bolt Tension Capacity, φ*Tn,**B1**:	54.54 kips	φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), **B**:	54.53 kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	33.70 Kips	
Min. PL "tc" for **B** cap. **w/o** Pry:	0.961 in	
Min PL "treq" for actual **T w/ Pry:**	0.568 in	
Min PL "t1" for actual **T w/o Pry:**	0.755 in	
T allowable w/o Prying:	54.54 kips	α'<0 case
Prying Force, q:	0.00 kips	
Total Bolt Tension=Tu+q:	33.70 kips	
Non-Prying Bolt Stress Ratio, Tu/B:	61.8% Pass	

Exterior Flange Plate Results Flexural Check | Rigid

Compression Side Plate Stress:	Rohn/Pirod, OK	TIA G
Allowable Plate Stress:	32.4 ksi	φ*Fy
Compression Plate Stress Ratio:	Rohn/Pirod, OK	Comp. Y.L. Length:
No Prying		15.00
Tension Side Stress Ratio, (treq/t)^2:	20.7% Pass	

n/a

Stiffener Results	N/A for Rohn / Pirod
Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A
Pole Results	
Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Manufacturer:	Pirod

Reactions		
Moment:	698.66	ft-kips
Axial:	17.29	kips
Shear:	13.76	kips
Exterior Flange Run, T+q:	33.7	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Elevation: 80 feet

Bolt Data			
Qty:	25		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	39	in	

Plate Data		
Plate Outer Diam:	41.25	in
Plate Inner Diam:	36	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	5.18	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Pole OuterDiam:	42	in
Thick:	0.375	in
Pole Inner Diam:	41.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	33.7 Kips, Ext. Tu=Interior Tu
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5 Kips
Bolt Stress Ratio:	61.8% Pass

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	35.1 Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod OK
Allowable Plate Stress, φ*Fy:	32.4 ksi
Plate Stress Ratio:	Rohn/Pirod OK

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	990.67	ft-kips
Axial, Pu:	21.84	kips
Shear, Vu:	15.43	kips
Elevation:	60	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria: TIA G <-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	29		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	45		

Plate Data		
Diam:	48	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	4.55	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	42	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results

			Rigid
Bolt Tension Capacity, φ*Tn,**B1**:	54.54	kips	φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), **B**:	54.53	kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	35.69	Kips	
Min. PL "tc" for **B** cap. **w/o** Pry:	0.958	in	
Min PL "treq" for actual **T w/ Pry**:	0.583	in	
Min PL "t1" for actual **T w/o Pry**:	0.775	in	
T allowable w/o Prying:	54.54	kips	α'<0 case
Prying Force, q:	0.00	kips	
Total Bolt Tension=Tu+q:	35.69	kips	
Non-Prying Bolt Stress Ratio, Tu/B:	65.4%	Pass	

Exterior Flange Plate Results Flexural Check

		Rigid
Compression Side Plate Stress:	Rohn/Pirod, OK	TIA G
Allowable Plate Stress:	32.4 ksi	φ*Fy
Compression Plate Stress Ratio:	Rohn/Pirod, OK	Comp. Y.L. Length:
No Prying		16.16
Tension Side Stress Ratio, (treq/t)^2:	21.8% Pass	

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Moment:	990.67	ft-kips
Axial:	21.84	kips
Shear:	15.43	kips
Exterior Flange Run, T+q:	35.69	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Elevation: 60 feet

Manufacturer:	Pirod

Bolt Data			
Qty:	29		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	45	in	

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	35.7	Kips, Ext. Flange Tu+q
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5	Kips
Bolt Stress Ratio:	65.4%	Pass

Plate Data		
Plate Outer Diam:	47.25	in
Plate Inner Diam:	42	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	5.12	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	37.2	Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod	OK
Allowable Plate Stress, φ*Fy:	32.4	ksi
Plate Stress Ratio:	Rohn/Pirod	OK

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Data		
Pole OuterDiam:	48	in
Thick:	0.375	in
Pole Inner Diam:	47.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	1316.55	ft-kips
Axial, Pu:	26.99	kips
Shear, Vu:	17.15	kips
Elevation:	40	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria: TIA G <-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	33		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	51		

Plate Data		
Diam:	54	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	4.57	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	48	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results

		Rigid
Bolt Tension Capacity, φ*Tn,B1:	54.54 kips	φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), B:	54.53 kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	36.73 Kips	
Min. PL "tc" for B cap. w/o Pry:	0.956 in	
Min PL "treq" for actual T w/ Pry:	0.590 in	
Min PL "t1" for actual T w/o Pry:	0.784 in	
T allowable w/o Prying:	54.54 kips	α'<0 case
Prying Force, q:	0.00 kips	
Total Bolt Tension=Tu+q:	36.73 kips	
Non-Prying Bolt Stress Ratio, Tu/B:	67.4% Pass	

Exterior Flange Plate Results Flexural Check

		Rigid
Compression Side Plate Stress:	Rohn/Pirod, OK	TIA G
Allowable Plate Stress:	32.4 ksi	φ*Fy
Compression Plate Stress Ratio:	Rohn/Pirod, OK	Comp. Y.L. Length:
No Prying		17.23
Tension Side Stress Ratio, (treq/t)^2:	22.3% Pass	

n/a

Stiffener Results	N/A for Rohn / Pirod
Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A
Pole Results	
Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Moment:	1316.55	ft-kips
Axial:	26.99	kips
Shear:	17.15	kips
Exterior Flange Run, T+q:	36.73	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Manufacturer:	Pirod

Elevation: 40 feet

Bolt Data			
Qty:	33		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	51	in	

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	36.7	Kips, Ext. Tu=Interior Tu
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5	Kips
Bolt Stress Ratio:	67.4%	Pass

Plate Data		
Plate Outer Diam:	53.25	in
Plate Inner Diam:	48	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	5.07	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	38.4	Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod	OK
Allowable Plate Stress, φ*Fy:	32.4	ksi
Plate Stress Ratio:	Rohn/Pirod	OK

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Data		
Pole OuterDiam:	54	in
Thick:	0.375	in
Pole Inner Diam:	53.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Mu	1676.64	ft-kips
Axial, Pu:	32.73	kips
Shear, Vu:	18.85	kips
Elevation:	20	feet

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Pole Manufacturer:	Pirod

If No stiffeners, Criteria:	TIA G	<-Only Applcable to Unstiffened Cases

Bolt Data			
Qty:	45		
Diameter (in.):	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle (in.):	57		

Plate Data		
Diam:	60	in
Thick, t:	1.25	in
Grade (Fy):	36	ksi
Strength, Fu:	58	ksi
Single-Rod B-eff:	3.77	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

Pole Data		
Diam:	54	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Flange Bolt Results | Rigid

Bolt Tension Capacity, φ*Tn,B1:	54.54 kips	φ*Tn
Adjusted φ*Tn (due to Vu=Vu/Qty), B:	54.54 kips	φTn[(1-(Vu/φVn)^2]^0.5
Max Bolt directly applied Tu:	30.65 Kips	
Min. PL "tc" for B cap. w/o Pry:	1.052 in	
Min PL "treq" for actual T w/ Pry:	0.602 in	
Min PL "t1" for actual T w/o Pry:	0.789 in	
T allowable w/o Prying:	54.54 kips	α'<0 case
Prying Force, q:	0.00 kips	
Total Bolt Tension=Tu+q:	30.65 kips	
Non-Prying Bolt Stress Ratio, Tu/B:	56.2% Pass	

Exterior Flange Plate Results Flexural Check | Rigid

Compression Side Plate Stress:	Rohn/Pirod, OK	TIA G
Allowable Plate Stress:	32.4 ksi	φ*Fy
Compression Plate Stress Ratio:	Rohn/Pirod, OK	Comp. Y.L. Length:
No Prying		18.25
Tension Side Stress Ratio, (treq/t)^2:	23.2% Pass	

n/a

Stiffener Results	N/A for Rohn / Pirod
Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	N/A
Plate Comp. (AISC Bracket):	N/A
Pole Results	
Pole Punching Shear Check:	N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev G

Site Data

BU#: *874661*
Site Name: *THRUWAY-PLATTEKILL*
App #:

Reactions		
Moment:	1676.64	ft-kips
Axial:	32.73	kips
Shear:	18.85	kips
Exterior Flange Run, T+q:	30.65	kips

Bolt Threads:
N-Included
Vn=φ(0.45*Ab*Fu)
φ=0.75, φ*Vn (kips):
31.81

Manufacturer:	Pirod

Elevation: 20 feet

Bolt Data			
Qty:	45		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	0	<-- Disregard	
N/A:	0	<-- Disregard	
Circle:	57	in	

Interior Flange Bolt Results

Maximum Bolt Tension, Tu:	30.7	Kips, Ext. Flange Tu+q
Adjusted φ*Tn (due to Vu=Vu/Qty)	54.5	Kips
Bolt Stress Ratio:	56.2%	Pass

Plate Data		
Plate Outer Diam:	59.25	in
Plate Inner Diam:	54	in (Hole @ Ctr)
Thick:	1.25	in
Grade:	36	ksi
Effective Width:	4.14	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	32.1	Kips, Ext. Cu=Interior Cu
Plate Stress:	Rohn/Pirod	OK
Allowable Plate Stress, φ*Fy:	32.4	ksi
Plate Stress Ratio:	Rohn/Pirod	OK

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	0	
Groove Depth:	0	in **
Groove Angle:	0	degrees
Fillet H. Weld:	0	<-- Disregard
Fillet V. Weld:	0	in
Width:	0	in
Height:	0	in
Thick:	0	in
Notch:	0	in
Grade:	0	ksi
Weld str.:	0	ksi

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Data		
Pole OuterDiam:	60	in
Thick:	0.375	in
Pole Inner Diam:	59.25	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *874661*
Site Name:
App #:

Pole Manufacturer:	*Pirod*

Anchor Rod Data		
Qty:	48	
Diam:	1	in
Rod Material:	Other	
Strength (Fu):	150	ksi
Yield (Fy):	105	ksi
Bolt Circle:	63	in

Plate Data		
Diam:	66	in
Thick:	1.25	in
Grade:	36	ksi
Single-Rod B-eff:	3.93	in

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:	Fillet	
Groove Depth:	0.25	<-- Disregard
Groove Angle:	45	<-- Disregard
Fillet H. Weld:	0.25	in
Fillet V. Weld:	0.3125	in
Width:	5	in
Height:	18	in
Thick:	0.75	in
Notch:	0.5	in
Grade:	36	ksi
Weld str.:	70	ksi

Pole Data		
Diam:	60	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions		
Mu:	2071	ft-kips
Axial, Pu:	39	kips
Shear, Vu:	21	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria:	AISC LRFD	<-Only Applcable to Unstiffened Cases

Anchor Rod Results

		Rigid
Max Rod (Cu+ Vu/ή):	34.6 Kips	AISC LRFD
Allowable Axial, Φ*Fu*Anet:	72.7 Kips	φ*Tn
Anchor Rod Stress Ratio:	47.5% Pass	

Base Plate Results Flexural Check

			Rigid
Base Plate Stress:	Rohn/Pirod,	OK	AISC LRFD
Allowable Plate Stress:	32.4 ksi		φ*Fy
Base Plate Stress Ratio:	Rohn/Pirod,	OK	Y.L. Length: 19.21

n/a

Stiffener Results N/A for Rohn / Pirod

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

General Information:
==========
File Name: G:\TOWER\375_Crown_Castle\2012\37512-0827 BU 874661\37512-0827b.col
Project: 37512-0827a
Column:
Code: ACI 318-08
Engineer: DSK
Units: English

Run Option: Investigation
Run Axis: X-axis
Slenderness: Not considered
Column Type: Structural

Material Properties:
==========
f'c = 3 ksi
Ec = 3122.02 ksi
fy = 60 ksi
Es = 29000 ksi
Ultimate strain = 0.003 in/in
Betal = 0.85

Section:
==========
Rectangular: Width = 90 in
Depth = 90 in

Gross section area, Ag = 8100 in^2
Ix = 5.4675e+006 in^4
Iy = 5.4675e+006 in^4
rx = 25.9808 in
ry = 25.9808 in
Xo = 0 in
Yo = 0 in

Reinforcement:
==========
Bar Set: ASTM A615

Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)	Size	Diam (in)	Area (in^2)
# 3	0.38	0.11	# 4	0.50	0.20	# 5	0.63	0.31
# 6	0.75	0.44	# 7	0.88	0.60	# 8	1.00	0.79
# 9	1.13	1.00	# 10	1.27	1.27	# 11	1.41	1.56
# 14	1.69	2.25	# 18	2.26	4.00			

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.
phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Layout: Circular
Pattern: All Sides Equal (Cover to longitudinal reinforcement)
Total steel area: As = 45.00 in^2 at rho = 0.56% (Note: rho < 1.0%)
Minimum clear spacing = 4.65 in

45 #9 Cover = 3 in

Factored Loads and Moments with Corresponding Capacities:
==========

No.	Pu kip	Mux k-ft	PhiMnx k-ft	PhiMn/Mu	NA depth in	Dt depth in	eps_t	Phi
1	39.00	2186.00	8278.90	3.787	9.65	86.34	0.02386	0.900

*** End of output ***

PJF job no. **37512-0827** Project name **bu# 874661**

Foundation Loads:

Pole weight or tower leg compression = **39** kips
Horizontal load at top of pier = **21** kips
Overturning moment at top of pier= **2071** ft-kips

Soil Properties:

Soil density = **130** pcf
Ultimate soil bearing capacity = **8** ksf
Depth to water table = **99** ft

LRFD resistance factors:

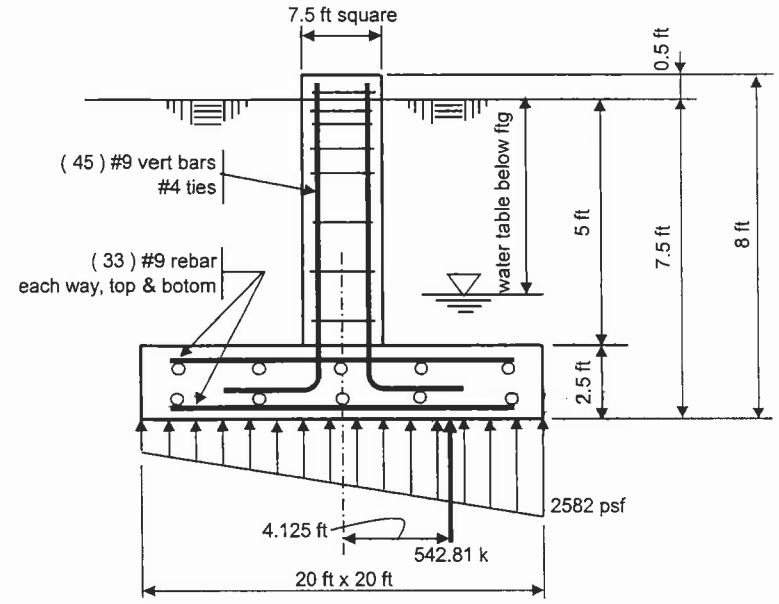
phi factor for soil bearing = **0.75**
limit states soil bearing resistance = **6** ksf

Dimensions:

The pier shape is **Square**
Pier width = **7.5** ft square
Pier height above grade = **0.5** ft
depth to bottom of footing = **7.5** ft
Footing thickness = **2.5** ft
Footing width = **20** ft
Footing length = **20** ft

Concrete:

Concrete strength = **3** ksi
Rebar strength = **60** ksi



Concrete Volume = **48.495** cubic yards

Summary Results:

Maximum Net Soil Bearing = **2.5818** ksf < 6 ksf okay — stress ratio = **0.4303** in Soil Bearing

Punching shear stress = **9.5412** ksi < 219.09 ksi okay — stress ratio = **0.044** in Punching Shear

Bending Shear stress = **23.93** ksi < 109.54 ksi okay — stress ratio = **0.218** in Bending Shear

Bending Moment = **580.34** ft-k < 3519 okay — stress ratio = **0.165** in Bending Moment

Total pier reinforcing steel = **45** sq in > 40.5 sq in = min steel

Total pad reinforcing steel = **33** sq in > 5.47 sq in = min steel

September 04, 2012

Re: Sprint Nextel Corp.
AL03XC062
409 Quaker Street, Wallkill NY 12589

Dear Members of the Planning Board:

I am a Senior Radio Frequency Engineer for Alcatel Lucent and I am assigned to design and optimize the Sprint Nextel Corp. ("Sprint") public utility personal wireless service base station facility ("Facility") at the above referenced site ("Site").

Sprint requests approval to modify its existing Facility at the Site by adding and replacing transmission equipment. The proposed modification will not substantially change the physical dimensions of the existing Facility.

The proposed Facility modification is necessary in order for Sprint to provide reliable public utility personal wireless services within the Town of Newburgh. Sprint provides personal wireless services to its customers using federally licensed radio spectrum assigned by the Federal Communications Commission in both the 800 MHz and 1900 MHz frequency bands. Sprint also operates various wireless networks using IDEN, CDMA, EVDO and LTE technologies.

As Sprint's networks evolve to meet the demands of its customers, it is essential for Sprint to install modern equipment and antennas in order to provide reliable wireless voice and data services. The proposed equipment will include multi-mode radios that will allow Sprint to transmit at different frequencies using different technologies, including LTE technology. Likewise, the proposed antennas are quad-pole multi-band high gain antennas that will allow Sprint to operate using its multiple frequency bands and technologies, including LTE technology. The proposed equipment and antennas will improve the reliability, coverage and capacity of Sprint's voice and data networks across Sprint's various FCC licensed frequency bands and significantly increase the data speeds of Sprint's network by utilizing the latest LTE technology. Without the proposed modifications Sprint will be unable to provide reliable wireless voice and data service using the latest technologies.

The Site will be configured as follows:

1. The site will have three (3) sectors each with one (1) quad pole antenna, wherein both 800MHz and 1900MHz transmit and receive will be contained within the same radome.

2. The site will transmit within the following licensed frequency ranges: 1950 - 1965 MHz, 1990 - 1995MHz and 862 - 869 MHz.

3. The site will receive within the following frequency ranges: 1870- 1885 MHz, 1910 - 1915 MHz and 817 - 824 MHz.

4. The combined Effective Radiated Power (ERP) per sector is as follows:
   Sector A - (1900 MHz) 3162 Watts, (800 MHz) 537 Watts
   Sector B - (1900 MHz) 3162 Watts, (800 MHz) 537 Watts
   Sector C - (1900 MHz) 3020 Watts, (800 MHz) 537 Watts

5. Each sector will also have two Remote Radio Heads (RRH), one for 800 MHz and one for 1900 MHz operation. In the past the Digital to Analog (D/A) and Analog to Digital (A/D) conversion and Modulation/Demodulation of the transmit/receive signal was performed within the radios at the base of the structure. The signal was then fed to/from the antennas via lossy coaxial cables. The RRH's moves that process closer to the antennas thus eliminating significant loss by replacing the main feed lines with fiberoptic cable and reducing the size and number of coaxial cables and improving the coverage of the cell site.

Thank you for your consideration.

Very truly yours,

David A. Mendes

David A. Mendes

14-16-4 (12/95) - Text 12

PROJECT I.D. NUMBER

617.20
Appendix C
State Environmental Quality Review

SHORT ENVIRONMENTAL ASSESSMENT FORM
For UNLISTED ACTIONS Only

Part 1 - PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT/SPONSOR Sprint Nextel Corp.	2. PROJECT NAME Sprint Wireless Telecommunications Services Facility Modification

3. PROJECT LOCATION:
Municipality: Town of Newburgh

4. PRECISE LOCATION: Street address and road intersections, prominent landmarks, etc., or provide map

409 Quaker Street, Wallkill, NY

5. PROPOSED ACTION IS:
☐New ☐Expansion [x]Modification/alteration

6. DESCRIBE PROJECT BRIEFLY: Modification of existing co-located wireless telecommunications service facility, consisting of the replacement of four (4) existing panel antennas with the installation of three (3) panel antennas and related equipment on the Existing Monopole. Also, two related equipment cabinets at the base of the Existing Monopole will be replaced and an additional equipment cabinet will be installed, on the existing previously approved equipment platform within the existing fenced compound.

7. AMOUNT OF LAND AFFECTED:
Initially: 0 sq. ft. Ultimately: 0 sq. ft.

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS?

[x]Yes ☐No if No, describe briefly

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT?

[X]Residential [ ] Industrial [ ]Commercial ☐Agriculture ☐Park/Forest/Open space [X]Other
Describe: Existing Wireless Telecommunications Services Facilities

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
[x]Yes ☐No If yes, list agency name and permit/approval
(i) FCC license, (ii) Building Permit from Town of Newburgh Building Inspector, (iii) Amended Special Permit from the Town of Newburgh Planning Board.

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?

[X]Yes [ ]No If yes, list agency(s) and permit/approval
(i) FCC License, (ii) Existing special permit from Planning Board for existing facility

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐Yes [x]No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Sprint Nextel Corp. Date: _____

Signature: _____, as attorney

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

PART II-ENVIRONMENTAL ASSESSMENT (To be completed by Agency)

A. DOES ACTION EXCEED ANY TYPE 1 THRESHOLD IN 6 NYCRR, PART 617.47 If yes, coordinate the review process and use the FULL EAF. ☐Yes [x]No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency. [ ]Yes [X]No

C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible.)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic patterns, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly: No.

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly: No.

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly: No.

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly: No.

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly: No.

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly: No.

C7. Other impacts (including changes in use of either quantity or type of energy)? Explain briefly: No.

D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CRITICAL ENVIRONMENTAL AREA (CEA)? ☐Yes [x]No If Yes, explain briefly:

E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS? ☐Yes [x]No If Yes, explain briefly:

Part III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question D of Part II was checked yes, the determination and significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

☐ Check this box if you have identified one or more potentially large or significant adverse impacts which **MAY** occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

[x] Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts **AND** provide on attachments as necessary, the reasons supporting this determination:

Town of Newburgh Planning Board
Name of Lead Agency

Date

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer(If different from responsible officer)