

CITY OF GROSSE POINTE WOODS
Electronic Committee-of-the-Whole Meeting Agenda
Monday, May 11, 2020
7:00 p.m.

Mayor Robert E. Novitke has called a meeting of the City Council, meeting as a Committee-of-the-Whole. The meeting will be conducted by video (Zoom) and telephone conference in accordance with the City of Grosse Pointe Woods City Council Resolution adopted May 4, 2020. This notice is being provided to ensure that those wishing to participate in the meeting have an opportunity to do so. Additional instructions are listed below.

Join Zoom Meeting

<https://zoom.us/j/96093092411?pwd=MmZmRFItMlZBM0lOSXoyT0tLQzMzZz09>

Meeting ID: 960 9309 2411

Password: 085447

Join by phone:

Dial by your location

888 788 0099 US Toll-free

877 853 5247 US Toll-free

Meeting ID: 960 9309 2411

Password: 085447

1. Call to Order
2. Roll Call
3. Acceptance of Agenda
4. AEW Flood Potentials/Marina Fees
 - A. Memo 05/06/20 – Director of Public Services
 - B. Water Levels 10/2018 – 10/2020
 - C. Aerial View
 - D. 2020 Projected Revenue/Revenue Loss
5. City-Owned Cell Tower/AT&T Proposals
 - A. Letter 04/30/20 – City Attorney
 - B. Letter 09/16/20 – AT&T
 - C. License Agreement 06/17/96
 - D. Letter 04/06/20 – Black & Veatch
 - E. Building Permit Application w/attachments 04/06/20
6. Workers' Compensation Excess Coverage
 - A. Memo 05/7/20 – Treasurer/Comptroller
 - B. Quotation Sheet 04/13/20 – Midwest Employers Casualty Co.

7. Commission Meetings/Remote Attendance/Training
8. Update Regarding City Hall Clean-Up, Reconstruction, and Costs/Insurance Reimbursement
9. COVID-19 Strategies to Employ Upon Reopening of City Hall
10. Items to Remove from Committee-of-the-Whole
 - A. Agreement: Business Association/Data Use – Remedy Partners
 - B. Jail Lock-Up Agreement
 - C. DTE Street Light Project Funding
 - D. Administrative Clerk II
 - E. Water Billing Payment Agreement Policy
 - F. Medstar Update
 - G. The Avenue in the Woods Business Association-various requests
 - H. Grosse Pointe War Memorial-PEG Agreements
 - I. Rocket Fiber
11. New Business/Public Comment
12. Adjournment

**Lisa Kay Hathaway, MiPMC/MMC
City Clerk**

**IN ACCORDANCE WITH PUBLIC ACT 267 (OPEN MEETINGS ACT)
POSTED AND COPIES GIVEN TO NEWSPAPERS**

The City of Grosse Pointe Woods will provide necessary, reasonable auxiliary aids and services to individuals with disabilities. Closed captioning and audio will be provided for all electronic meetings. All additional requests must be made in advance of a meeting.

Instructions for meeting participation

1. **To join through Zoom:** The meeting may be joined by clicking on the link provided on the agenda at the start time posted on the agenda, enter the meeting identification number, and password. Zoom may provide a couple of additional instructions for first time use. As an alternative to using the link, accessibility to the meeting may be obtained by using the browser at join.zoom.us. If having trouble logging in, try a different browser e.g. Chrome.

Join Zoom Meeting

<https://zoom.us/j/96093092411?pwd=MmZmRFItM1ZBM0lOSXoyT0tLQzMzZz09>

Meeting ID: 960 9309 2411

Password: 085447

2. **Join by telephone:** Dial the toll-free conferencing number provided and enter the meeting identification number, and password. Dial *9 to be heard under Public Comment.

Dial by your location

888 788 0099 US Toll-free

877 853 5247 US Toll-free

Meeting ID: 960 9309 2411

Password: 085447

In an effort to alleviate feedback and disruption of the meeting, choose one of the media options, either phone or Zoom, not both.

Meeting notices are posted on the City of Grosse Pointe Woods website home page at www.gpwmi.us and the on-line calendar, both containing a link to the agenda. The agenda contains all pertinent information including business to be conducted at the meeting, a hyperlink to participate using Zoom, and call-in telephone number with necessary meeting identification, and a password. Agendas will also be posted on six (6) City bulletin boards along Mack Avenue.

The following are procedures by which persons may contact members of the public body to provide input or ask questions:

1. To assist with meeting flow and organization, all public comment will be taken at the end of the meeting unless it is moved to a different location on the agenda upon a consensus of the Committee;
2. The phone-in audience, when making public comment please state your name (optional) when called upon;
3. Audience participants will be muted upon entry and will have a chance to speak during the public comment portion of the meeting at the end of the agenda, at which time the microphones will be unmuted.
4. Those joining by Zoom will also be muted and may use the virtual raised “hand” to request to be heard under Public Comment.
5. Those joining by telephone need to dial in using the phone number provided on the agenda. When prompted, enter the meeting number and the password also located on the agenda. Dial *9 to be heard under Public Comment.
6. The published agenda invites participants from the community to provide written questions, comments, and concerns in advance of the meeting to any Elected Official or the City Clerk regarding relevant City business and may be read under Public Comment. Emails may be sent to:

Mayor Robert E. Novitke	mayornovitke@comcast.net	586 899-2082
Art Bryant, Council Member	arthurwbryant@gmail.com	313 885-2174
Ken Gafa, Council Member	kgafa@comcast.net	313 580-0027
Vicki Granger, Council Member	grangergpw@aol.com	313 882-9878
Mike Koester, Council Member	koester.gpw@gmail.com	313 655-4190
Todd McConaghy, Council Member	todd.mcconaghygpw@yahoo.com	248 765-0628
Lisa Hathaway, City Clerk	lhathaway@gpwmi.us	313 343-2447

You may contact Lisa Hathaway, City Clerk, at lhathaway@gpwmi.us should you have any questions prior to the meeting starting.

cc:

Council – 7
Berschback
Smith
Hathaway
Rec. Secretary
Email Group
Media - Email
Post -8
File

NOTE TO PETITIONERS: YOU, OR A REPRESENTATIVE, ARE REQUESTED TO BE IN ATTENDANCE AT THE MEETING SHOULD COUNCIL HAVE QUESTIONS REGARDING YOUR REQUEST

MEMO 20 - 29

TO: Bruce Smith, City Administrator
FROM: Frank Schulte, Director of Public Services *FS.*
DATE: May 6, 2020
SUBJECT: Lake Levels - Lake Front Park Marina Potential Flood

4A
RECEIVED
MAY - 7 2020
CITY OF GROSSE POINTE WOODS
CLERK'S DEPARTMENT

The city received good news from the U.S. Army Corps of Engineers. Their May 2020 Projection (attached) indicates the mean level of Lake St. Clair to be four inches lower in July (green line) with the highest possibility to be two inches higher in July compared to last year (red line).

The bad news is if the Lake St. Clair were to rise six inches more than last year's record level, all the boat docks would be underwater. The docks have been elevated to their maximum height. The power pedestals are fixed in their positions and there is nothing we can do to elevate them. If the water rises, we will have no choice but to turn the power off in part or all of the Marina for safety reasons and close the Marina.

Attached is a Lake Front Park overview map prepared by Anderson, Eckstein and Westrick, Inc. (AEW). The red area shows flooding in Lake Front Park if lake level reach six inches higher than last July's record high. The blue area represents flooding from a 20-year storm event and release from the Milk River Pumping Station.

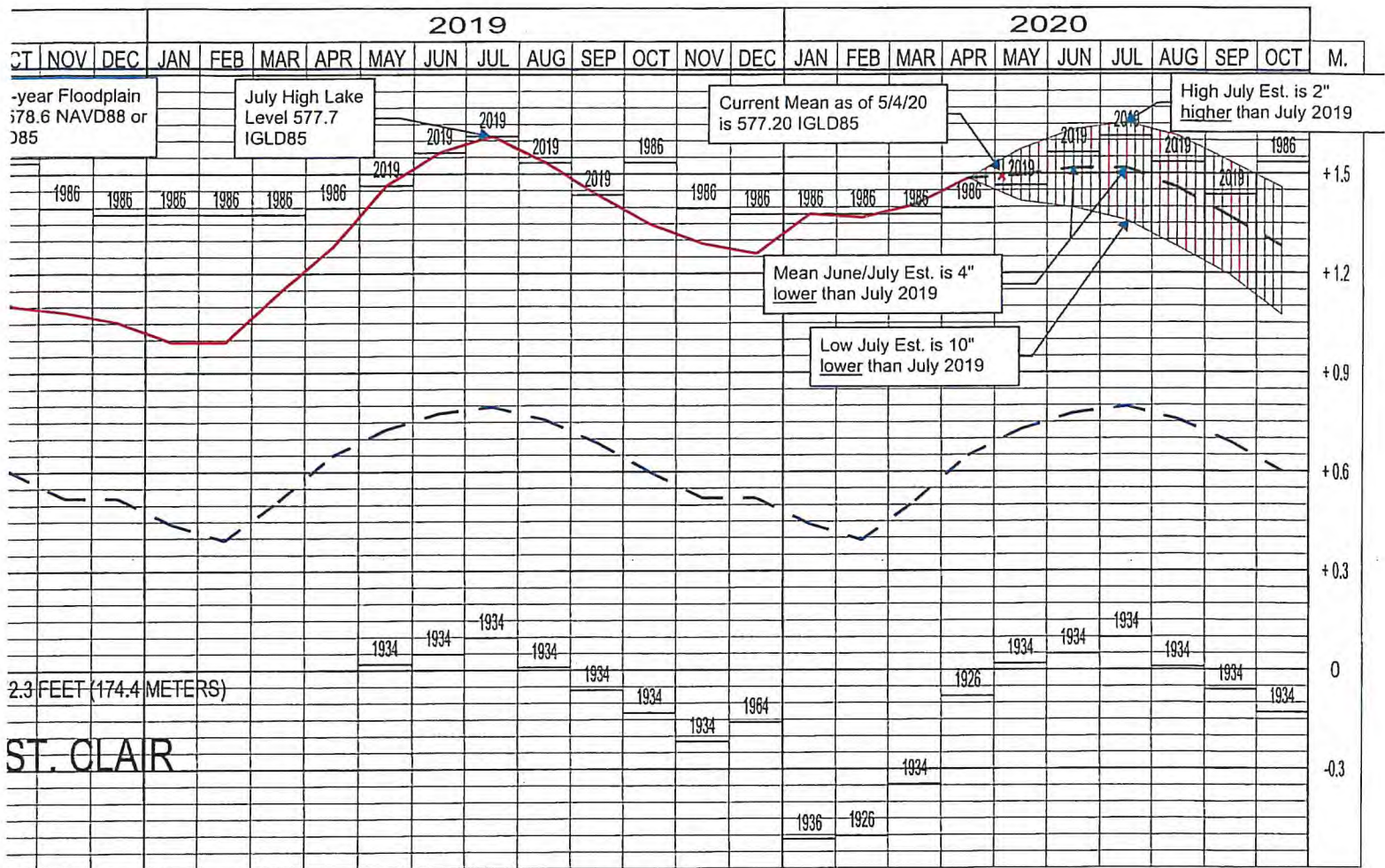
A 20-year storm event would take six pumps running at the Milk River Pumping Station to avoid basement flooding. As you can see, there will be massive flooding in the park and surrounding streets in Saint Clair Shores if this event occurs.

Additional challenges to the marina and Lake Front Park will be when there are strong east winds.

Boaters are concerned about what action the city would take if the marina were forced to close by high lake water levels. Specifically, their concern is that since they have paid for their boat well for the entire season, would they be compensated if the marina were to close and they were unable to use the well they have paid for. My recommendation is to issue a credit towards next season's well fees, based on a prorated basis for the weeks they were unable to use their boat well. The marina is open from May 1, through November 1, for a total of 26 weeks. The cost for an average boat well in the marina is \$892.00 for the season, or \$34.31 per week. If high water levels forced the marina to close for four weeks, a boater would receive credit for those four weeks, or \$137.24, which would be applied toward next year's well fees. Boat well charges vary according to the size of the well. The attached chart shows the actual credit per week for each category.

This is a fair and equitable way to compensate boaters should high lake levels force the marina to close. Similar practices are being proposed at the other municipal marinas in the Grosse Pointes.

LAKE ST. CLAIR WATER LEVELS - MAY 2020



LEGEND

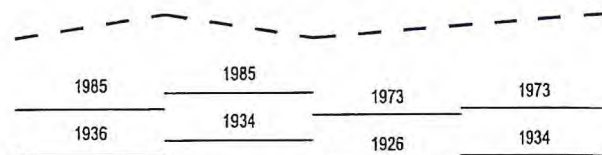
LAKE LEVELS



AVERAGE "

MAXIMUM **

MINIMUM **



** Average, Maximum and Minimum for period 1918-2019

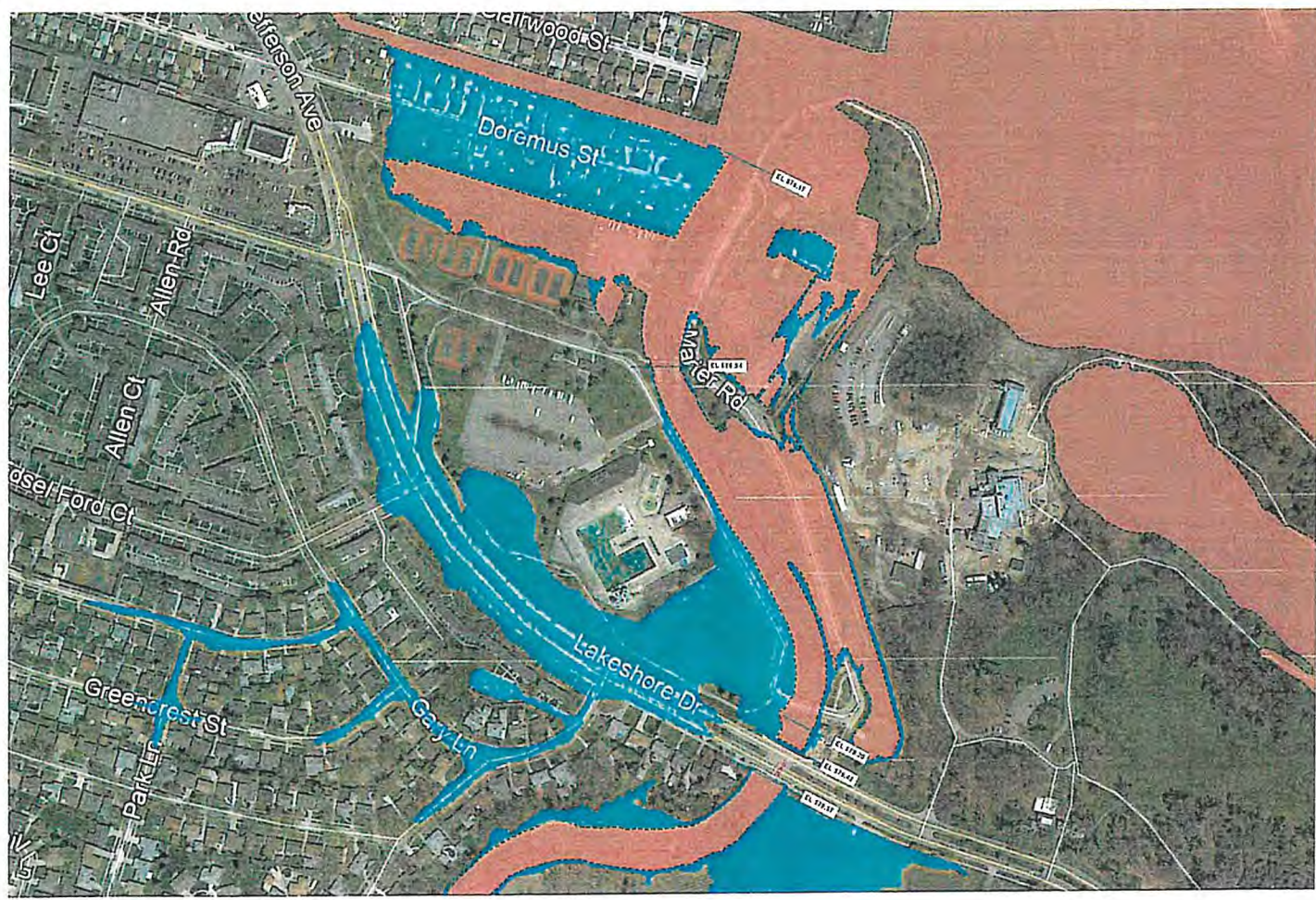
4C



LEGEND

- ESTIMATED FLOODED AREA AT FIRM
- ESTIMATED FLOODED AREA AT PEAK

NOTES
1. THE ESTIMATED FLOOD AREAS WERE PLOTTED USING THE MA
MAINTAINED ROUGHNESS OF 0.05 FOR THE ENTIRE CHANNEL A
LAND FLOOD PRAIRIES.
2. THE ESTIMATED FLOOD AREAS ARE CREATED USING THE CEN
THERFORE THE ACTUAL FLOODED AREAS MAY VARY FROM THE
AREA PROVIDED



4D

2020 LAKE FRONT PARK MARINA PROJECTED REVENUE

Boat Well Category	Total Spaces	Spaces rented (Summer 2020)	Annual Fee (26 weeks)	Revenue
Wet Well 1 (Docks under 21')	17	11	\$703.00	\$7,733.00
Wet Well 2 (Docks 21'-25')	88	61	\$771.00	\$47,031.00
Wet Well 3 (Docks 25'-28')	128	114	\$892.00	\$101,688.00
Dry Dock	11	11	\$525.00	\$5,775.00
Kayak Rack	64	59	\$194.00	\$11,446.00
Floating Docks	23	23	\$498.00	\$11,454.00
Total Projected Revenue				\$185,127.00

LAKE FRONT PARK MARINA WEEKLY CREDIT AMOUNT

Boat Well Category	Total Spaces	Spaces rented (Summer 2020)	Weekly Fee	Revenue Loss for one week of closure
Wet Well 1 (Docks under 21')	17	11	\$27.04	\$297.42
Wet Well 2 (Docks 21'-25')	88	61	\$29.65	\$1,808.88
Wet Well 3 (Docks 25'-28')	128	114	\$34.31	\$3,911.08
Dry Dock	11	11	\$20.19	\$222.12
Kayak Rack	64	59	\$7.46	\$440.23
Floating Docks	23	23	\$19.15	\$440.54
Weekly Credit Amount				\$7,120.27

CHARLES T. BERSCHBACK

Attorney and Counselor at Law
24053 JEFFERSON AVENUE
ST. CLAIR SHORES, MICHIGAN 48080
blbwlaw@yahoo.com

(586) 777-0400
FAX (586) 777-0430

April 30, 2020

RECEIVED
APR 30 2020
CITY OF GROSSE POINTE WOODS
CLERK'S DEPARTMENT

The Honorable Mayor and City Council
City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI 48236

RE: City Owned Cell Tower / AT&T Proposals / COW Agenda

Dear Mayor and Council:

1. Lease Extension: The City owns the cell tower behind City Hall and has leased it to AT&T with a written license agreement dating back to 1996. The final extension of the license agreement expires in the fall of 2021. I have attached a letter from AT&T proposing extension of the lease with up to six renewal terms (five years each) which would run through October 7, 2051. AT&T proposes new annual rent of \$24,000.00 per year with a 2% annual escalator after the first year.
2. AT&T's Upgrade Request: In February of 2020, AT&T submitted a request to upgrade the current equipment on the tower. We dealt with a similar request in 2008. A second amendment to the license agreement was signed allowing them to replace and upgrade some of the antennas and amplifiers on the tower. AT&T's submission indicates there will be no increase to the height of the tower and no groundwork involved, but it does appear that three new additional panel antennas are proposed. A structural analysis has been submitted indicating the proposal will not exceed the load capacity of the tower.

I would like to discuss various options the City may wish to consider regarding these proposals. The license agreement expires in October of 2021. So we need to coordinate any upgrade request with the lease extension. The City may wish to extend the existing lease (one 5 year term or multiples thereof), or begin negotiations with AT&T or another carrier regarding construction of a new tower in a different location on City owned property. Thank you.

Very truly yours,

/s/ Chip Berschback

CHIP BERSCHBACK

CTB:gmr

Enclosure

cc: Bruce Smith
Lisa Hathaway
Cathy Behrens
Gene Tutag



5B

September 16, 2019

City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI 48236

Re: AT&T Lease Expiration Program

FA # 10083371; Lease ID: 60628, A007/3011D/GROSSE POINT, located at 20027 MACK PLAZA, GROSSE POINTE, MI 48236

Dear City of Grosse Pointe Woods,

As you are aware, AT&T Mobility ("AT&T") has partnered with Md7, LLC ("Md7") to work with you to facilitate certain modifications to the cell site lease on your property. These modifications will allow AT&T to meet current business requirements and enhance your site's value to the network. AT&T has asked Md7 to provide services in administering AT&T's Lease Expiration Program (LEP). Md7 has been authorized by AT&T to correspond and discuss how the LEP program may be of benefit to you.

Changes in the Wireless Industry

Recent industry developments are changing how wireless telecommunications carriers operate. In the past, carriers focused on rapidly building out their networks in order to provide the best coverage. Today, while consumers are enjoying greater services and better coverage than ever before, operating costs continue to escalate. As a result, the wireless industry is also focusing on operating networks as efficiently as possible.

What does this mean to me?

AT&T would like to work together with you in extending the current lease which is **set to expire on October 7, 2021**. AT&T is willing to offer the following modifications to secure a longer-term lease with you:

- Commencing **October 08, 2021**: Rent will be **\$24,000.00 per year** based on regional market analysis and operational performance statistics.
- Rent will remain fixed until **October 08, 2022**. On this date, and **every year thereafter**, a **2% escalator** will take effect and be set into place until the termination or expiration of the lease.
- Extend the life of the lease with up to 6 renewal terms (1 term is equal to 5 years), **through October 7, 2051**.

In order to achieve the necessary lease flexibility required for upcoming technological shifts, the following language must be inserted into the existing lease:

■ Expansion of Permitted Use

“Tenant, its personnel, invitees, contractors, agents, or assigns may use the Premises, at no additional cost or expense, for the transmission and reception of any and all communications signals and, with prior written notice to landlord, to modify, supplement, replace, upgrade, expand, including but not limited to the number and type(s) of antennas, or refurbish the equipment and/or improvements thereon (collectively, "Communications Facility"), or relocate the same within the Premises at any time during the term of the Agreement for any reason, **so long as these changes do not exceed the structural capacity of the tower/structure at this height, or at Tenant's sole expense upgrade the structural capacity**, or in order to be in compliance with any current or future federal, state or local mandated application, including but not limited to emergency 911 communication services or for any other reason. Landlord shall reasonably cooperate in obtaining governmental and other use permits or approvals necessary or desirable for the foregoing permitted use. If Landlord does not comply with the terms of this section, in addition to any other rights it may have at law, Tenant may terminate the Agreement and shall have no further liability to Landlord. If Landlord does not comply with the terms of this section, Tenant will have the right to exercise any and all rights available to it under law and equity, including the right to cure Landlord's default and to deduct the costs of such cure from any monies due to Landlord from Tenant.”

AT&T values its affiliation with you and hopes to continue a long and mutually profitable relationship for years to come. Participation in this program is optional and AT&T will continue to abide by the terms of the existing agreement, **including AT&T's rights to not extend the existing lease agreement**. After having reviewed this proposal, please contact me prior to September 23, 2019. Thank you for your consideration.

Sincerely,

Pele Lithyovong

Md7 | Lease Consultant

10590 West Ocean Air Dr.

San Diego, CA 92130

o (858) 926-3903

f (858) 408-3391

plithyovong@md7.com

Authorized Agent for AT&T Mobility

cc: Gregory D. Ohmer

Area Manager Real Estate Transaction, AT&T Mobility



at&t

Submission of this letter does not constitute a modified agreement and is only a proposal. The parties acknowledge and agree that they intend to be bound only upon the execution of an amendment detailing the provisions herein.

50

LOCATION: Grosse Pointe Woods

ID# 3011

LICENSE AGREEMENT

THIS LICENSE AGREEMENT ("License"), dated this 17th day of June, 1996, is entered into by City of Grosse Pointe Woods, having its principal office at 20025 Mack Plaza, Grosse Pointe Woods, Michigan 48236 ("Licensor"); and AT&T WIRELESS PCS, INC., a Delaware corporation having an office at 26957 Northwestern Hwy., Southfield, MI 48034 ("AT&T").

BACKGROUND

A. Licensor owns or otherwise controls certain building(s) and other property and improvements (collectively, "Building") located at 20025 Mack Plaza, in the City of Grosse Pointe Woods, County of Wayne, State of Michigan.

B. To improve or enhance wireless communications, Licensor and AT&T desire that AT&T install and operate a personal communication base station and related antennae, equipment and accessories ("Station") in and/or on the Building.

THEREFORE, the parties agree as follows:

1. LICENSE, ACCESS AND USE.

(a) Licensor licenses to AT&T the use of spaces in and/or on the Building, as indicated on Exhibit A (the "Licensed Premises"). Licensor also grants to AT&T and its representatives the right of access to the Licensed Premises (and other necessary areas of the Building), 24 hours a day, 7 days a week for AT&T's permitted uses.

(b) Licensor permits AT&T to access and use the Licensed Premises to install, operate, maintain, repair, modify, protect, replace and/or remove the Station, at its own expense. AT&T also has the right, reasonably exercised and so as not to interfere with Licensor or other Building occupants, to (i) connect the Station to Licensor's Building electric source and sub-meter, or install separate service and meter, all in a safe manner, (ii) install its own separate telephone line and (iii) connect the base station and antennae by cabling.

(c) AT&T may use such means as are reasonably necessary or appropriate to install and connect the Station, consistent with Exhibit A. If

AT&T wishes to make subsequent changes to the dimensions/location of the Licensed Premises, AT&T will submit a new Exhibit to Licensor for Licensor's approval. Further, Licensor agrees to cooperate with AT&T in arranging for AT&T's installation and operation of, and access to, the Station, without cost to Licensor.

2. TERM.

a. This License runs for five (5) years, plus four (4), five (5) year automatically renewing terms. The initial term begins when AT&T is able to obtain any and all land use and building permits and connections (building, electric, telephone or otherwise) applicable to its installation and operation and AT&T installs the Station ("Commencement Date"). As used in this License, "term" means the initial term and any renewal term.

b. Notwithstanding anything in this License, AT&T may choose, at any time during the term or any renewal term, and for any or no reason, to terminate this License and render it null and void (a) upon thirty (30) day prior written notice to the Licensor, or (b) ten (10) days after delivery of written notice if Licensor has defaulted under this License and fails to cure the default within ten (10) days of written notice of same.

c. Upon execution of this License Agreement by both parties and prior to the Commencement Date, Licensor grants to AT&T, its agents, employees and contractors, a license to enter Licensor's property, including the Licensed Premises, for the purpose of conducting any tests, measurements or other items of due diligence that AT&T may require in order to determine the current status of Licensor's property and its suitability for construction of the Station. AT&T agrees to replace or restore to its original condition any damage caused by such tests, measurements or other similar items.

d. Any environmental reports, studies or other environmental information shall be kept strictly confidential by both parties unless disclosure is required by any statute, ordinance or order of a court of competent jurisdiction.

3. LICENSE FEE.

Beginning with the Commencement Date, but not later than January 5, 1997, AT&T will pay Licensor monthly, in advance, by the fifth (5th) day of each month, a license fee of \$1,500.00. The fee will be prorated for partial months.

4. COMPLIANCE WITH LAWS.

Each party agrees to comply with all applicable laws, rules and regulations respecting its own property and uses. This License is governed by the laws in which the Licensed Premises are located.

5. NON-INTERFERENCE.

Each party agrees not to interfere with operations of the other on the Building, nor to allow third parties to do so.

6. INSURANCE.

AT&T will carry, during the term of this License and at its own expense, the following insurance (a) "All Risk" casualty insurance for the full replacement cost of the Station; and (b) Comprehensive general liability insurance with a "broad form" comprehensive general liability endorsement having a minimum limit of liability of \$1,000,000 for injury or death arising out of one occurrence and \$1,000,000 for damage to property from any one occurrence. Licenser will be named as an additional insured on AT&T's policy.

7. WARRANTY OF TITLE AND RIGHT TO LICENSE.

Licenser represents and warrants (by and through its undersigned representative) that:

(a) Licenser owns or controls the Building or all relevant portions thereof (including the Licensed Premises), unencumbered by any contract, agreement or title covenants, conditions, restrictions, limitations or liens of record or not of record which would adversely affect AT&T's use and enjoyment of the Licensed Premises or access to them;

(b) Licenser has the rights of use and access granted to AT&T under this License;

(c) If a corporation or partnership, Licenser is duly organized/formed, validly existing and in good standing and has all rights, power and authority to make this License and bind itself hereto; and

(d) AT&T, during the term or any renewal term, shall have quiet and peaceful use and enjoyment of the Licensed Premises for its permitted uses. Each party shall be responsible for the reasonable legal fees incurred by the other for the party's breach of this License.

8. MISCELLANEOUS.

(a) All rights granted to AT&T under this License are revocable only when this License expires or sooner terminates, according to its terms.

(b) Licenser is permitted to assign this License over to a successor Licenser, if the successor agrees to be bound by all of Licenser's obligations under this License. Licenser agrees that AT&T may assign this License only to a related or controlling entity agreeing to be bound by all of AT&T's License obligations.

(c) Notices to either party must be given in writing to the address of the party set forth above (if to AT&T, Attn: General Counsel) by overnight or certified mail, return receipt requested. The notice shall be effective when received.

(d) To be valid, a revision of this License must be made in writing and signed by the Director or higher authority of AT&T and an authorized agent of the Licensor.

(e) The terms and conditions contained in this License benefit and bind Licensor and AT&T and each of their respective successors and permitted assigns. References in this License to "he", "she" or "it" are neutral and mean one and the same thing.

(f) This License and the attached exhibit constitute the entire agreement of the parties over this subject matter and supersede all prior offers, negotiations and agreements.

(g) [INTENTIONALLY OMITTED]

(h) AT&T will neither generate or store any hazardous substances nor create any hazardous conditions on or about the Licensed Premises. AT&T agrees to indemnify and hold harmless the City of Grosse Pointe Woods from any liabilities, claims, damages, penalties, liabilities or costs that the City may suffer as a result of the presence of hazardous substances or petroleum in or under the Building, including the licensed premises, unless the presence of such substance was caused by the City or any third party except AT&T. Except as set forth in the next sentence, Licensor hereby agrees to indemnify and defend AT&T from any losses, claims, damages, penalties, liabilities or costs that AT&T may suffer as a result of the presence of hazardous substances or petroleum in, on or under the Building, including the Licensed Premises, unless the presence of such substances was caused by AT&T, its agents, employees, representatives, contractors, consultants, shareholders, officers, directors, parents, subsidiaries, assignees, delegates, or third parties under its control (collectively "AT&T Parties"). Licensor's indemnification obligation as to AT&T in the preceding sentence does not apply to any loss, claim, damage, penalty, liability or cost that AT&T may suffer as a result of the actual, threatened, potential or claimed omission from the Station into the environment of electricity, radiation, microwaves, energy, waves, electromagnetic fields, pulses, noises, vibrations, signals, frequencies, pitches, substances or any other thing of any kind, whether or not such emission was caused by AT&T or by AT&T's use of the Station. This subparagraph shall survive any termination of the License Agreement and/or the Addendum.

[SIGNATURE BLOCKS ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed, or have caused their properly authorized representatives to duly execute, counterparts of this License, on the date and year first above written.

WITNESS OR ATTEST:

Louise S. Warrke
(SEAL)

LICENSOR:

~~BY:~~ CITY OF GROSSE POINTE WOODS
BY: Robert E. Novitke
ITS MAYOR

WITNESS:

Robert E. Novitke

AT&T WIRELESS PCS, INC.

BY: [Signature]

State of Michigan
County of Macomb, Acting in Wayne

The foregoing instrument was acknowledged this 17th day of June, 1996 by Robert E. Novitke, the Mayor, of City of Grosse Pointe Woods, known to me to be the person executing the foregoing document.

By: Tina Louise Seder
Notary Public

My commission expires: 10-09-96

TINA LOUISE SEDER
NOTARY PUBLIC - MACOMB COUNTY, MICH.
ACTING IN WAYNE CO., MICH.
MY COMMISSION EXPIRES 10-09-96

State of Michigan
County of Oakland

The foregoing instrument was acknowledged this 25th day of June, 1996 by Darrel Walker, the Dir of Sys Development, of AT&T Wireless Services, known to me to be the person executing the foregoing document.

By: Virginia E. Calhoun
Notary Public

My commission expires:

VIRGINIA E. CALHOUN
NOTARY PUBLIC - WAYNE COUNTY, MI
MY COMMISSION EXP. 04/04/2001

Approved for Signature

George B. Catlin
George B. Catlin
City Attorney

Date: 6-12-96

ADDENDUM NO. 1 TO LICENSE AGREEMENT

This Addendum No. 1 to License Agreement ("Addendum"), dated this 17th day of June, 1996, is entered into by the City of Grosse Pointe Woods, having its principal office at 20025 Mack Plaza, Grosse Pointe Woods, Michigan 48236 ("Licensor"); and AT&T WIRELESS PCS, INC., a Delaware corporation having an office at 26957 Northwestern Hwy., Southfield, MI 48034 ("AT&T").

WHEREAS, Licensor and AT&T desire to enter into a License Agreement of even date herewith ("License"); and

WHEREAS, the parties desire to supplement the terms of the License Agreement to more fully set forth the entire agreement between the parties.

NOW THEREFORE, in consideration of the mutual promises made by the parties, they agree as follows:

1. In the event that the License is executed by duly authorized representatives of Licensor, and all other requirements of Licensor necessary for AT&T to install the Station are satisfied, AT&T agrees, at its sole cost and expense, to fund the construction of two (2) additional garage bays at Licensor's existing Building. The construction shall be designed to be reasonably consistent with the existing structures. In addition, AT&T agrees, to fund the replacement of the roofing shingles on the entire Public Safety Building.
2. If the installation of the additional garage bays or the installation of AT&T's Station require the relocation of existing water, gas main, sewer, telephone or other similar utility lines, AT&T agrees to fund the cost to relocate the existing utility lines.
3. AT&T agrees that upon completion of the construction of the new tower, AT&T will dismantle and dispose of Licensor's existing communication tower. Upon installation of AT&T's Station, AT&T will pay all necessary charges to relocate Licensor's antennae to the new antennae tower.
4. Upon completion of the installation of AT&T's Station, AT&T agrees to transfer ownership of the tower portion of the Station to Licensor. It is the understanding of the parties that AT&T will transfer ownership of the tower only and AT&T shall retain ownership of any and all cabling, antennae and equipment associated with AT&T's installation. Such transfer of ownership of the tower shall be accomplished by the execution and delivery by AT&T of

a Bill of Sale and/or a Quit Claim deed. If AT&T should terminate this Agreement, Licensor shall have no obligation to pay AT&T for the tower.

5. (a) From and after the date that AT&T transfers ownership of the tower to Licensor, Licensor shall have the right to lease, license or otherwise permit others to install antennae on the tower; provided, however, that (i) any other user shall not interfere with AT&T's permitted use, (ii) one-half (1/2) of all revenue from monthly rental, excluding initial license payments received by Licensor from such other user shall be paid to AT&T until such time as AT&T has recouped all expenses of the installation of AT&T's Station, (iii) from and after the date that AT&T has recouped all expenses of the installation of its Station, One Hundred percent (100%) of all revenue received from such other user shall be retained by Licensor less all costs of maintenance, inspection or upkeep of the tower, but not AT&T equipment, which shall be paid to AT&T, (iv) Licensor shall not be obligated to pay AT&T more than one-half (1/2) of monthly rental, excluding initial license payments, received by Licensor for use of the tower, and (v) AT&T agrees that the maintenance costs of the tower are not cumulative and shall not be carried over from year to year.

(b) The expenses of the installation of AT&T's Station shall be limited to those actual expenses incurred pursuant to License paragraph 2.c. and Addendum paragraphs 1, 2, 3, 6, 9, 10, 11, 12, 20, 21 and 22.

(c) AT&T agrees to provide Licensor with a schedule of all actual expenses of the installation of AT&T's Station, as defined above, at the same time that AT&T delivers the Bill of Sale or Quit Claim deed pursuant to Addendum paragraph 4, above.

6. Prior to installation of the tower portion of the Station, Licensor reserves the right to review AT&T's construction drawings and further reserves the right to require AT&T to modify the exact location of the tower to within no more than 15 feet of its proposed location. After installation of the tower, Licensor reserves the right to relocate the tower to a new location within five hundred (500') feet of the existing location, provided that Licensor pays all costs and expenses of such a move.

7. AT&T shall have access to the Licensed Premises twenty-four (24) hours per day, seven (7) days per week; provided, however, that AT&T employees, agents or contractors visiting the Building shall first present themselves to the dispatch desk and indicate the areas to be visited.

8. The License Fee set forth in Paragraph 3 of the License Agreement shall be increased annually, as of the anniversary date of the Commencement Date, in accordance with the increase in the United States Department of

Labor, Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers as follows: The License Fee in effect immediately prior to the anniversary of the Commencement Date shall be increased by the percentage increase in the Consumer Price Index as published by the Bureau of Labor Statistics immediately prior to the anniversary of the Commencement Date. In no event shall rental fees be decreased by reason of a decrease in the Consumer Price Index.

9. From and after the installation of the tower component of the Station, and so long as AT&T has antennae located on the tower, AT&T agrees to perform maintenance of the tower (but excluding any other parties' proprietary property located on the tower) at its sole cost and expense. In the event of damage or destruction to the tower component of the Station due to an act of God but not due to the fault or negligence of Licensor or any other third party, AT&T hereby agrees to indemnify and defend Licensor from any losses, claims or damages that Licensor may suffer as a result of loss of business caused by said damage or destruction of the tower component of the Station. AT&T will repair the tower within a reasonable time period. Licensor shall have the right to make repairs if AT&T does not act with diligence or within thirty (30) days whichever first occurs, and AT&T agrees to reimburse the Licensor for any such costs.

10. The area identified on Exhibit A for housing of AT&T's equipment other than the tower shall be segregated from the rest of Licensor's public safety garage by the erection, at AT&T's sole cost and expense, of ceiling height partitions and a lockable door. Such installation shall conform to all applicable building codes.

11. In the event that the License is executed by duly authorized representatives of Licensor, and all other requirements necessary for AT&T to install the Station are satisfied, AT&T agrees, at its sole cost and expense, to conduct a camera survey of the existing sewer system adjacent to the Licensor's Building.

12. In the event that, after installation of the antennae tower, Licensor's existing satellite dish requires adjusting for proper operation, AT&T agrees to pay for such adjustment.

13. In the event that any provision of the License Agreement and this Addendum conflict, the provision in the Addendum shall control.

14. Licensor will neither generate or store any hazardous substances nor create any hazardous conditions on or about the Licensed Premises. AT&T hereby agrees to indemnify and defend Licensor and its Council members, employees, attorneys, representatives and agents whether past, present or

future (collectively "Licensor Parties") from any losses, claims, damages, penalties, liabilities or costs that Licensor or the Licensor Parties may suffer as a result of: (i) the presence of hazardous substances or petroleum in, on or under the Building, including the Licensed Premises, unless the presence of such substances was caused by Licensor, the Licensor Parties or any other third party other than AT&T or the AT&T Parties; or (ii) the actual, threatened, potential or claimed emission from the Station into the environment of electricity, radiation, microwaves, energy, waves, electromagnetic fields, pulses, noises, vibrations, signals, frequencies, pitches, substances or any other thing of any kind, whether or not such emission was caused by AT&T or by AT&T's use of the Station. The second and third sentences of this paragraph shall survive any termination of the License Agreement and/or the Addendum.

15. AT&T shall be in default upon failure to pay any license fee within ten (10) days after written notice.

16. Supplementing the provisions of paragraph 8(b) of the License Agreement, it is agreed that any entity that AT&T assigns it rights to under this License Agreement shall be a valid, legally organized entity.

17. AT&T agrees that the tower will be designed by a licensed engineer and manufactured by a competent supplier governed by the laws and regulations for the design and manufacture of such structures. AT&T agrees to have the tower portion of the Station designed to accommodate three (3) PCS or cellular type providers with AT&T being one of those providers. The additional capacity of the tower shall be allocated by the Licensor pursuant to the provisions of paragraph 5 of this Addendum.

18. [INTENTIONALLY OMITTED].

19. This License Agreement and Addendum shall be subject to the prior review and approval of the City of Grosse Pointe Woods Planning Commission and the Board of Zoning Appeals.

20. AT&T may conduct an environmental inspection of the surface and subsurface conditions of the Building and licensed Premises ("Environmental Inspection") within thirty (30) days of the effective date of the License Agreement and the Addendum. Notwithstanding any other provision in the License Agreement or the Addendum, and unless otherwise approved in advance by Licensor, AT&T shall not conduct any Environmental Inspection work after that thirty (30) day period of time, unless AT&T has reasonable suspicion that Environmental contamination has recently occurred. AT&T shall provide to Licensor at least three (3) business day advance notice of the dates and times of the Environmental Inspection work, which dates and

times shall be restricted to weekdays and the hours between 9:00 a.m. and 5:00 p.m. As part of such notice, AT&T shall also provide to Licensors a written description of the Environmental Inspection work to be performed, the identification of the entities who will be performing such work, and the areas to be inspected during the Environmental Inspection.

21. AT&T shall perform Environmental Inspection work in: (i) a safe and workmanlike manner; (ii) accordance with applicable ASTM standards and all other scientific, hydrogeological, engineering and other practices employed by firms performing inspections of the nature and quality of the surface, subsurface and other conditions of properties; and (iii) full compliance with all applicable federal, state of Michigan and local laws, regulations, rules, ordinances, orders and requirements. AT&T shall obtain all permits, licenses and approvals required to perform the Environmental Inspection work. AT&T shall contact the utility communications system MISS-DIG (1-800-482-7171) at least 48 hours prior to undertaking any excavation, boring, drilling or other activity involving the subsurface of the Building or the Licensed Premises.

22. AT&T shall not install any wells in the Building or on the Licensed Premises. AT&T shall undertake any excavation, boring, drilling and other activity involving the subsurface of the Building or the Licensed Premises in a manner which employs techniques necessary to protect groundwater below any confining unit, to not exacerbate any existing conditions, and to prevent any subsidence, impairment, damage or other injury to the Building or the Licensed Premises, or to anything in, under, above or around the Building or the Licensed Premises, from occurring. AT&T shall immediately notify Licensors in the event the Building or the Licensed Premises is damaged in any manner due to the Environmental Inspection work or other activities of AT&T or the AT&T Parties.

23. Unless approved in advance by Licensors, AT&T shall not discuss AT&T's performance of the Environmental Inspection work with any persons or entities that are not parties or representatives of parties to the License Agreement and the Addendum (collectively "Third Parties"). This paragraph shall survive any termination of the License Agreement and/or the Addendum.

24. All Environmental Inspection activities of AT&T in the Building, on the Licensed Premises or otherwise shall be carried out in such a manner so as not to interfere with Licensors' operations, equipment, machinery, personnel or schedule, or with the use of any of Licensors' facilities. Unless approved in advance by Licensors, all Environmental Inspection activities performed by AT&T outside the Licensed Premises: (i) shall be conducted in as discrete, inconspicuous and non-intrusive manner as possible; (ii) shall not be performed on private or residential property; and (iii) shall be undertaken

without disclosing to Third Parties the Environmental Inspection work performed by AT&T except as provided in paragraph 30. below.

25. AT&T, at its sole cost, shall be fully responsible to Licensor for, and shall promptly take all necessary action to properly correct or otherwise address, any act or omission of any of the AT&T Parties which relates to AT&T's performance of the Environmental Inspection. This paragraph shall survive any termination of the License Agreement and/or Addendum.

26. AT&T shall at its sole cost, promptly repair or replace any damage, injury, impairment or alteration to the Building or the Licensed Premises, and to anything on, in, above, under or around the Building or the Licensed Premises, which is associated with the Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.

27. AT&T shall have sole responsibility for the health, safety and welfare of the AT&T Parties in connection with the Environmental Inspection work, and shall exercise due care, and comply with all legal requirements, to protect the health, safety and welfare of all other persons involved in or exposed to the performance of the Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.

28. Except as to liens against the Licensed Premises as set forth in paragraph 29, AT&T shall fully defend, indemnify and hold harmless Licensor and Licensor Parties from any and all obligations and liabilities associated with any negligence, reckless or willful misconduct, act or omission, or breach of the License Agreement or the Addendum on the part of AT&T or the AT&T Parties which is related to AT&T's entry in the Building or upon the Licensed Premises, or which is related to the performance of Environmental Inspection work. This paragraph shall survive any termination of the License Agreement and/or the Addendum.

29. AT&T shall immediately notify Licensor in the event AT&T obtains information that a lien has been or may be asserted against the Licensed Premises by any of the AT&T Parties. AT&T shall immediately pay, satisfy and discharge, and shall fully defend, indemnify and hold harmless, Licensor and the Licensor Parties from any and all obligations and liabilities associated with liens asserted against the Licensed Premises by any of the AT&T Parties. This paragraph shall survive any termination of the License Agreement and/or the Addendum.

30. During the term of this Agreement and thereafter, AT&T and the AT&T Parties shall keep strictly confidential, and shall not report or otherwise disclose to Third Parties (including without limitation the United States

Environmental Protection Agency, the state of Michigan Department of Environmental Quality and any other federal, state, county, municipal, local government or private entity), to Licensor or to the Licensor Parties unless requested pursuant to paragraph 31 below, any knowledge, findings, conclusions, opinions or recommendations of AT&T or the AT&T Parties concerning the environmental conditions of the Building or the Licensed Premises, except: (i) as to information which has come into the public domain other than through AT&T or the AT&T Parties; (ii) as authorized in writing by Licensor or its duly authorized designee; or (iii) as required by law (which requirements do not include the voluntary reporting requirements associated with the performance of a "Baseline Environmental Assessment" pursuant to Part 201 of the Michigan Natural Resources and Environmental Protection Act) or upon order of a court of competent jurisdiction. In the event that AT&T is called upon under a purported requirement of law to disclose information protected by this paragraph, AT&T shall give Licensor sufficient advance written notice thereof to allow Licensor to contest the matter. In the event AT&T decides not to construct the Station, AT&T and the AT&T Parties shall immediately destroy all copies of information protected by this paragraph.

31. Upon, and only upon, the request of Licensor, AT&T shall provide to Licensor copies of all existing data, results, reports and other documents regarding hydrogeological, soil, groundwater or other conditions of the Building or the Licensed Premises which are in the possession or control of AT&T or the AT&T Parties, including, without limitation, all laboratory data and analyses regarding any samples taken from the Building or the Licensed Premises. This paragraph shall survive any termination of the License Agreement and/or the Addendum.

32. In the event that the Licensor finds that it is impractical to perform the obligations of this Agreement by reason of court action or a change in the federal or state laws, the Licensor shall not be liable to AT&T for such failure to perform. In the event the Licensor should be found to be in breach of the terms of this Agreement, any damages paid by the Licensor to AT&T shall be limited to the unrecovered cost of installation of the tower and shall not include any loss of profits.

[SIGNATURE AND NOTARY BLOCKS ON NEXT PAGE]

IN WITNESS WHEREOF, the parties have executed, or have caused their properly authorized representatives to duly execute, counterparts of this License, on the date and year first above written.

WITNESS OR ATTEST:

Luise S. Warnke
(SEAL)

LICENSOR:

CITY OF GROSSE POINTE WOODS
BY: Robert E. Novitke
ITS MAYOR

WITNESS:

Robert E. Novitke

AT&T WIRELESS PCS, INC.

BY: [Signature]

State of Michigan
County of Macomb, Acting in Wayne

The foregoing instrument was acknowledged this 17th day of June, 1996 by Robert E. Novitke, the Mayor, of City of Grosse Pointe Woods, known to me to be the person executing the foregoing document.

By: Tina Louise Seder My commission expires: 10-09-96
Notary Public

TINA LOUISE SEDER
NOTARY PUBLIC MACOMB COUNTY, MICH.
ACTING IN WAYNE CO., MICH.
MY COMMISSION EXPIRES 10-09-96

State of Michigan
County of Oakland

The foregoing instrument was acknowledged this 25th day of June, 1996 by Darrell Walker, the Dir. of Sys. Development, of AT&T Wireless Services, known to me to be the person executing the foregoing document.

By: Virginia E. Calhoun My commission expires: _____
Notary Public

VIRGINIA E. CALHOUN
NOTARY PUBLIC - WAYNE COUNTY, MI
MY COMMISSION EXP. 04/04/2001

Approved for Signature

George B. Catlin
George B. Catlin
City Attorney

Date: 6-12-96

5D



April 6, 2020

VIA Federal Express
City of Grosse Pointe Woods
Building Department
20025 Mack Plaza
Grosse Pointe Woods, MI 48236
Attn: Mr. Greg Tutag, Building Official
313-343-2426

**RE: Application for Building Permit for
Existing Wireless Communication Facility Upgrade
Site Address: 20027 MACK PLAZA, GROSSE POINTE WOODS, MI
AT&T Site FA#10083371 _MACK PLAZA _PACE ID# MRIND045095**

Dear Mr. Tutag,

AT&T is proposing to upgrade its existing wireless communication facility at the above referenced address.

Enclosed please find AT&T's completed Building Permit application, two (2) sets signed and stamped 11 x 17 construction drawings dated 03/24/2020 and the signed and stamped structural calculations dated 03/16/2020 for the above-referenced address. The cost of construction is \$24,000. Please let me know the amount for the permit fee and I will have a check sent directly to you. I will include the separate \$50,000 bond fee check with the building permit fee check. I have also enclosed an addressed pre-paid FedEx envelope for the permit return.

If you should have any questions, concerns, or require any additional information, please feel free to contact me at 949-245-9878 or via email at DelbeneP@bv.com. Thank you very much for your attention to this matter.

Sincerely,

Paul Del Bene

Paul Del Bene
Black & Veatch, Authorized Agent for AT&T

5E

CITY OF GROSSE POINTE WOODS
Building Department
20025 Mack Plaza, Grosse Pointe Woods, MI 48236
Ph 313.343.2426/Fax 313.343.2439

BUILDING PERMIT APPLICATION
ZONING COMPLIANCE AND PLAN REVIEW

COMMERCIAL AND RESIDENTIAL

MI2011-MACK PLAZA-10083371-MRIND045095

ZONING COMPLIANCE INCLUDES: *Drives, Fences, Accessory Structures/Sheds (less than 200 sq ft), Awning, Garage Floors, Patios (non-elevated), Play Structures (NOTE: This list is not all inclusive. If you have any questions, please call the Building Department @ 313-343-2426.*

Property Owner Name: City of Grosse Pointe Woods **Date:** April 6, 2020
GP Woods Address: 20027 Mack Plaza Dr., GPW, MI 48236 **e-mail:** building@gpwmi.us
Work#: (313) 343-2426 **Home/Cell#:** _____

Contractor/Applicant Name: Applicant - Paul Del Bene, Black & Veatch Corp., Authorized Agent for AT&T Mobility
Telephone # 949-245-9878 **Fax #** _____ **Mobile/Cell #** 949-245-9878
Contractor Address: Overland Contracting, Inc., 30150 Telegraph Rd., Ste. 355, Bingham Farms, MI 48025
MI Builder's License # : n/a Commercial **MI Driver's License # :** _____
e-mail address: delbeneP@bv.com (applicant on behalf of OCI)

SPECIFY NATURE OF PROPOSED WORK:

Tower - Install (3) new panel antennas, (3) new RRH and (1) surge protector. Shelter - Install a radio rack.

Value of Construction \$ 24,000.00

Section 23a of State Construction Code Act of 1972, No. 230 of the Public Acts of 1972, being Section 125.1523a of the Michigan Compiled Laws, prohibits a person from conspiring to circumvent the licensing requirements of the State relating to persons who are to perform work on a residential building or a residential structure. Violations of Section 23a are subject to civil fines.

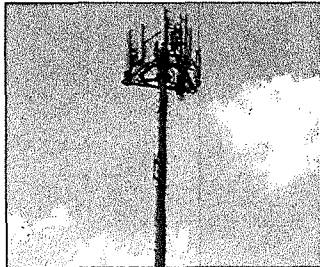
Applicant Signature: Paul Del Bene, Black & Veatch Corporation, Authorized Agent for AT&T Mobility

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and we agree to conform to all applicable laws of this jurisdiction.

FOR OFFICE USE ONLY

Approved: _____ **Denied:** _____ **Zoning Board of Approval Required #** _____
((\$250)
Inspector: _____ **Date:** _____

SITE PHOTO



PROJECT INFORMATION

SITE ADDRESS: 20027 MACK PLAZA DRIVE
GROSSE POINTE WOODS, MI 48236

COUNTY: WAYNE

SITE NAME: MACK PLAZA

SITE NUMBER: M2011

FA NUMBER: 10083371

USID NUMBER: 1793

LATITUDE: 42° 25' 54.99" N

LONGITUDE: 82° 54' 38.00" W

GROUND ELEVATION: 586' AMSL

TOWER OWNER: CITY OF GROSSE POINTE WOODS
20025 MACK PLAZA
GROSSE POINTE WOODS, MI 48236

SITE ACQUISITION MANAGER: KRISTEN CHASE
412.289.5950

CONSTRUCTION MANAGER: FRANK VITO
813.458.5194

LEAD ENGINEER: JORDAN HENRY
813.458.4293

PROJECT MANAGER: STEPHANIE HARDWICK
PHONE: 317.482.2280

APPLICANT: AT&T MOBILITY

CONTACT: -

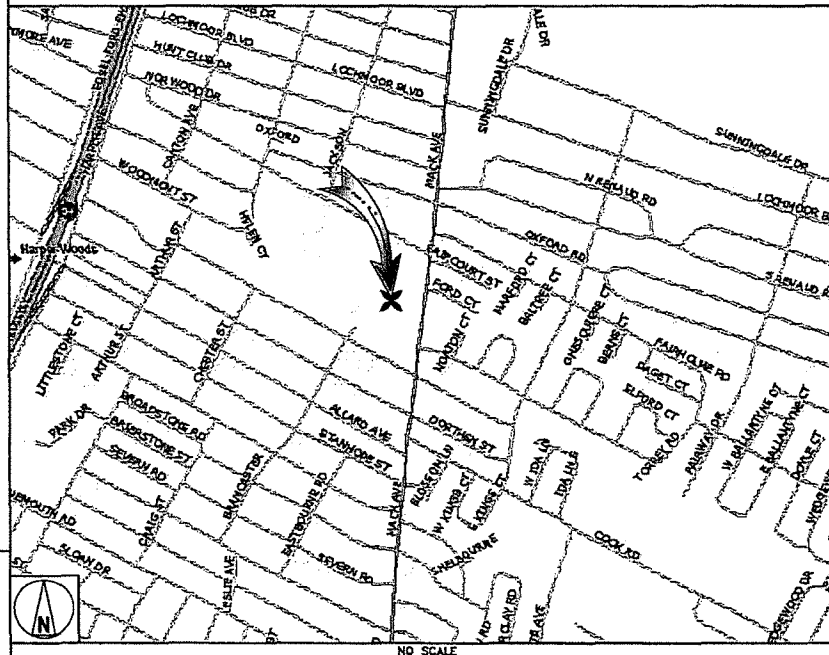
PHONE: -

AT&T MOBILITY

PROJECT: 5G NR RADIO
AT&T SITE ID: MI2011
AT&T FA#: 10083371

MACK PLAZA
GROSSE POINTE WOODS, MI 48236

AREA MAP



ENGINEERING

2015 MICHIGAN BUILDING CODE
2014 MICHIGAN ELECTRICAL CODE
TA-222-G OR LATEST EDITION

DRAWING INDEX

SHEET NO.	SHEET TITLE
TITLE PAGE	TITLE PAGE
C-1	SHELTER PLAN & DC CIRCUIT SCHEDULE
C-2	EQUIPMENT DETAILS
T-1	ELEVATION
T-2	ANTENNA LAYOUTS
T-3	ANTENNA CONFIGURATION
T-4	EQUIPMENT DETAILS
T-5	STRUCTURAL NOTES
T-6	EQUIPMENT NOTES
E-1	ELECTRICAL SECTION NOTES
N-1	GENERAL NOTES
N-2	GENERAL NOTES
	AT&T RF PLUMBING DIAGRAM ATTACHED

APPLICANT/OWNER:

AT&T
MOBILITY

15025 NORTHLAND DR
SOUTHFIELD, MI 48075

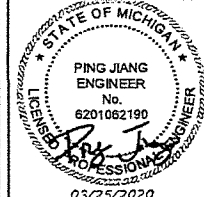
PREPARED BY:



BLACK & VEATCH

6800 W. 115TH ST, SUITE 2232
OVERLAND PARK, KANSAS 66211
(913) 458-3000

PROJECT NUMBER: 129391



IT IS A VIOLATION OF LAW FOR ANY PERSON
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER, TO
ALTER THIS DOCUMENT.

LANDLORD/PROPERTY OWNER SIGNATURE

REV	DATE	DESCRIPTION

PROJECT LOCATION: USID (1793)

MACK PLAZA

20027 MACK PLAZA DRIVE
GROSSE POINTE WOODS, MI 48236

DRAWING DESCRIPTION:

TITLE PAGE

DRAWING NUMBER:

TITLE PAGE

REFERENCE MATERIALS

THESE LITE DRAWINGS ARE BASED ON THE AT&T RFDS DATED 01/08/2020

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

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



TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES
BEFORE YOU DIG IN MICHIGAN, CALL MISS DIG

811 OR (800) 482-7171
www.missdig.org

48 HOURS BEFORE YOU DIG

THESE PLANS ADHERE TO ALL OF THE REQUIREMENTS CALLED OUT IN THE JURISDICTION
PLANNING AND ZONING FOR ANTENNAS AND SUPPORT STRUCTURES WHERE SITE IS LOCATED.
SUBCONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING CONDITIONS ON SITE. IMMEDIATELY
NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK OR BE RESPONSIBLE
FOR THE SAME.



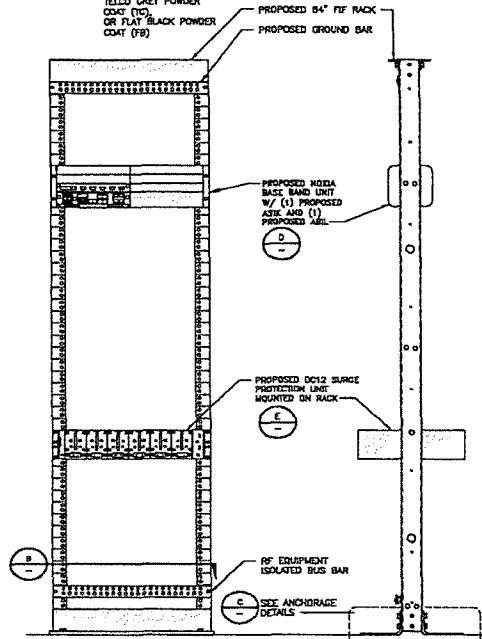
12' 6" 0' 1' 2' 3'

3/8" x 1/4"

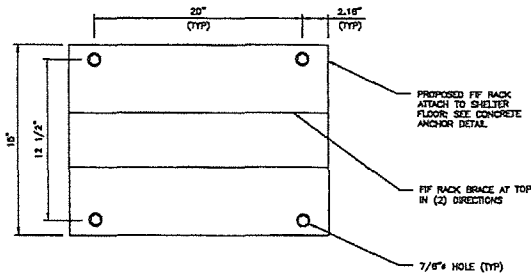
- C-1**

SCOPE OF WORK

DIMENSIONS, HxWxD:	64" x 24.32" x 20"
LOAD RATING:	1200 lbs
COLOR:	GREY
FINISH:	BRUSHED (AL), POLYURETHANE COAT

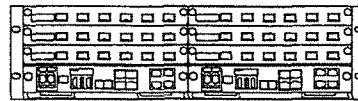


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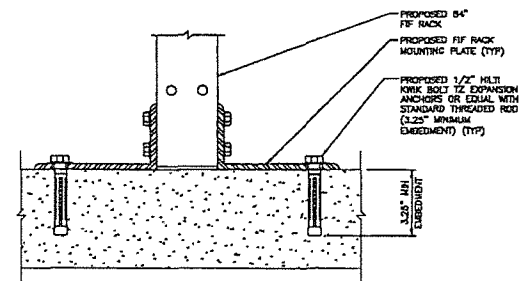


8

DIMENSIONS, HxWxD:	5.04"x17.5"x15.75" (128x447x400 mm)
WEIGHT:	22.27-51.81 lbs (10.1-23.5 kg)
INGRESS PROTECTION:	IP20
OPERATIONAL TEMPERATURE RANGE:	-5°C to 55°C

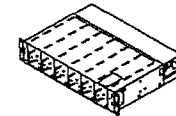


D



C

DIMENSIONS, WHOLE:	483±0.032mm (18.933"±0.001")
NOMINAL OPERATING VOLTAGE:	48 VDC
NOMINAL DISCHARGE CURRENT:	20 kA 8/20-μ
MAXIMUM DISCHARGE CURRENT:	60 kA 8/20-μ
MAXIMUM CONTINUOUS OPERATING VOLTAGE:	75 VDC
VOLTAGE PROTECTION RATING:	400 V
TOTAL WEIGHT:	27 lbs



E

F

6

—

C-2

78'-0"

TOP OF EXISTING TOWER

EXISTING EQUIPMENT
(OTHER CARRIER)

PROPOSED AT&T
ANTENNA TIE HEIGHT
• ELEVATION 87'-0"

PROPOSED & EXISTING
AT&T EQUIPMENT
• ELEVATION 83'-0"

EXISTING EQUIPMENT
(OTHER CARRIER)

(1) PROPOSED #8 DC
POWER TRUNK ROUTED
INSIDE EXISTING MONOPOLE
(SEE NOTE #2 IN DETAIL #5)

EXISTING MONOPOLE

THE PASSING STRUCTURAL ANALYSIS FOR THE EXISTING TOWER AT THIS SITE WAS COMPLETED BY BLACK & VEATCH CORPORATION ON MARCH 16, 2020 CONFORMING TO TIA-222-G. ACCORDING TO THE BLACK & VEATCH CORPORATION STRUCTURAL ANALYSIS, THE TOWER HAS SUFFICIENT CAPACITY.

2

PREPARED BY:

6800 W. 115TH ST, SUITE 2292
OVERLAND PARK, KANSAS 66211
(913) 458-2000

PROJECT NUMBER: 129391

3

STATE OF MICHIGAN
PING JIANG
ENGINEER
No.
6201062190
LICENSED PROFESSIONAL ENGINEER
03/25/2020

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THE DOCUMENT.

4

LANDLORD/PROPERTY OWNER SIGNATURE

PROJECT LOCATION: US10 (1793)

MACK PLAZA
20027 MACK PLAZA DRIVE
GROSSE POINTE WOODS, MI 48236

DRAWING DESCRIPTION:

ELEVATION

DRAWING NUMBER:
T-1

1	NOTES	5
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A1

A2

A3

A4

B1

B2

B3

B4

C1

C2

C3

C4

D1

D2

D3

D4

SECTOR ALPHA

SECTOR BETA

SECTOR GAMMA

EXISTING MONOPOLE

G

EXISTING TWA (TYP OF 6)

EXISTING ANTENNA (TYP OF 9)

EXISTING RRH (TYP OF 12)

EXISTING PLATFORM W/HANDRAIL

EXISTING OCS SURGE PROTECTION UNIT (TYP OF 3)

12 5 0 1 2 3 4

12 5 0 1 2 3 4

3

- 4

- T-2

5

THIS DOCUMENT WAS PREPARED BASED ON THE INFORMATION PROVIDED BY THE CLIENT. THE CLIENT ASSURES THAT THE INFORMATION IS TRUE AND CORRECT. THE CLIENT ASSURES THAT THE INFORMATION IS NOT BEING USED FOR ANY OTHER PURPOSES. THE CLIENT ASSURES THAT THE INFORMATION IS NOT BEING USED FOR ANY OTHER PURPOSES. THE CLIENT ASSURES THAT THE INFORMATION IS NOT BEING USED FOR ANY OTHER PURPOSES.

APPROPRIATE/OWNER
AT&T
MOBILITY
16025 NORTHLAND DR
SOUTHFIELD, MI 48075

PREPARED BY



BLACK & VEATCH

6600 N. 115TH ST., SUITE 2202
OVERLAND PARK, KS 66211
PROJECT NUMBER: 129391

STATE OF MICHIGAN
LICENSED PROFESSIONAL ENGINEER
PING JIANG
ENGINEER
No. 6201082190
03/25/2020

LAND USE/DEVELOPMENT OWNER: SIMULINK

NO.	DATE	REVISION
1	03/25/2020	ISSUED FOR CONSTRUCTION

PROJECT LOCATION: USD (1793)
MACK PLAZA
20027 MACK PLAZA DRIVE
GROSSE POINTE WOODS, MI 48236

DETAILED DESCRIPTION:
ANTENNA CONFIGURATION

DRAWING NUMBER:
T-3

Antenna Requirements (Verify with current RFSS)

Secur	Technology	Final Antenna Configuration	Antenna	Antenna Azimuth	Number of Towers	Number of Risks	Risk Model #	Risk Model #	Number of Surges Protection	Surge Protection Model #
A1	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
A2	UMTS	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
A3	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
A4	5G NR	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
B1	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
B2	UMTS	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
B3	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
B4	5G NR	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
C1	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
C2	UMTS	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
C3	LTE 3G/2G	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-
C4	5G NR	Powermax 6041-5041-12	Existing	-	2	2	Alcatel Lucent 6041-5041-12	Final	-	-

FINAL ANTENNA CONFIGURATION

APPLICANT/OWNER

AT&T
MOBILITY

116025 NORTHLAND DR
SOUTHFIELD, MI 48075

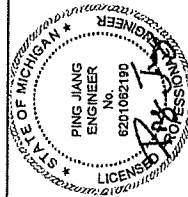
PREPARED BY:



BLACK & VEATCH

6800 W. 115TH ST, SUITE 2202
OVERLAND PARK, KANSAS 66211

PROJECT NUMBER: 129391



03/25/2020

THE UNIVERSITY OF CHICAGO PRESS

DATE	BY	REMARKS
03/22/2004	03/22/2004	REMARKS FOR CONVEYANCE

PROJECT LOCATION: ISID (1793)

WACK PLAZA

20027 MACK PLAZA DRIVE

DEARING DESCRIPTION

DRAWING NUMBER:

9-1

1

EQUIPMENT NOTES

RECOMMENDATIONS

1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT AWS/TM-222 OR APPLICABLE LOCAL CODES.
2. ALL STEEL MEMBERS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 ZINC (HOT-DIP GALVANIZED) TOLERANCES ON IRON AND STEEL PRODUCTS, UNLESS NOTED OTHERWISE.
3. ALL BOLTS, WASHERS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE, UNLESS NOTED OTHERWISE.
4. GALVANIZED GALVANIZED SURFACES SHALL BE REPAIRED BY OILY GALVANIZING IN ACCORDANCE WITH ASTM A780.
5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK WELDS, LOCK WASHERS, OR DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
6. CONTRACTORS SHALL INSTALL ANTENNAS PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
7. ALL UNLASED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
8. PRIOR TO SETTING ANTENNA ADAPTERS AND DOWNLEADS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MANUFACTURER'S INSTRUCTIONS AND ENSURE THAT THEY ARE PLUMB. ANTENNA ADAPTERS SHALL BE SET TO THE ANTENNA MANUFACTURER'S RECOMMENDATIONS. ANTENNA DOWNLEADS SHALL BE TORQUED TO THE ANTENNA MANUFACTURER'S RECOMMENDATIONS.
9. JUMPERS FROM THE TWA'S MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTION.
10. CONTRACTOR SHALL RECORD THE SERIAL #, SECTION, AND POSITION OF EACH ANTENNA INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AIRC.
11. ANTENNAE SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN THE FOLLOWING SEQUENCES:
 12. ALL 1" CONNECTIONS SHALL BE TORQUED BY A TORQUE WRENCH.
 13. ALL 3/4" CONNECTIONS SHALL BE TORQUED TO 9 LB-FT (2 NM).
 14. ALL 1/2" ANTENNA HARDWARE SHALL BE TORQUED TO 43 LB-FT (58 NM).
 15. ALL 1/4" ANTENNA HARDWARE SHALL BE TORQUED UNTIL THE TIGHT WASHER COLLAPSES AND THE COLLAPSING HARDWARE IS NO LONGER LOOSE.
 16. ALL 1/8" TYPE CONNECTIONS SHALL BE TORQUED TO 18-22 LB-FT (24.4 - 29.8 NM).
 17. ALL 1/16" TYPE CONNECTIONS SHALL BE TORQUED TO 13-20 LB-FT (1.7 - 2.3 NM).

POWER & POWER CABLE MOUNTING

7. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL.
8. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL. THE TYPE-T-50 CABLE SHALL BE INSTALLED INTO CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AT AN EXCEPTION, WHERE TYPE-T-50 CABLE IS USED IN CONDUITS, CHAINED CABLE TRAYS, OR CABLE TRAYS, THE MAXIMUM SPACING BETWEEN SUPPORTS OR SPACERS, AT A MAXIMUM OF (6) SIX FEET, SHALL NOT BE EXCEEDED WITHOUT AN APPROVED SUBMITTAL.

STAYIN' CASE & MITEK

17. TYPES AND SIZES OF THE ANTENNA CABLES ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLES, CONTRACTOR SHALL VERIFY ACTUAL CABLE LENGTH BASED ON CONSTRUCTION LOGS AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
18. CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A TOTAL LEVEL.
19. CONTRACTOR SHALL COORDINATE CABLE COLOR SCHEMES PRIOR TO CONSTRUCTION. REFER TO "ANTENNA CABLE COLOR SCHEMES" ATTACHED TO THE PROJECT MANUAL FOR MORE INFORMATION.
20. ALL JUNCTIONS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 4'-0".
21. ALL CABLES SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE. IN AN APPROVED MANNER, IT REMAINS NOT TO EXCEED 2'-0" OC.
22. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING THE INSTALLATION AND GROUNDING OF ALL CABLES, CABLES CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL STANDARDS.
23. CONTRACTOR SHALL GROUND ALL EQUIPMENT INCLUDING ANTENNAS, SET POINTS, TUNER, CABLE BOXES, AND SET POINT CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED PERSON IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.
24. CONTRACTOR SHALL PROVIDE STRAIN-RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. CABLE SUPPORTS SHALL BE INSTALLED AT THE ANTENNA AND SET POINT LOCATIONS. ALL SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

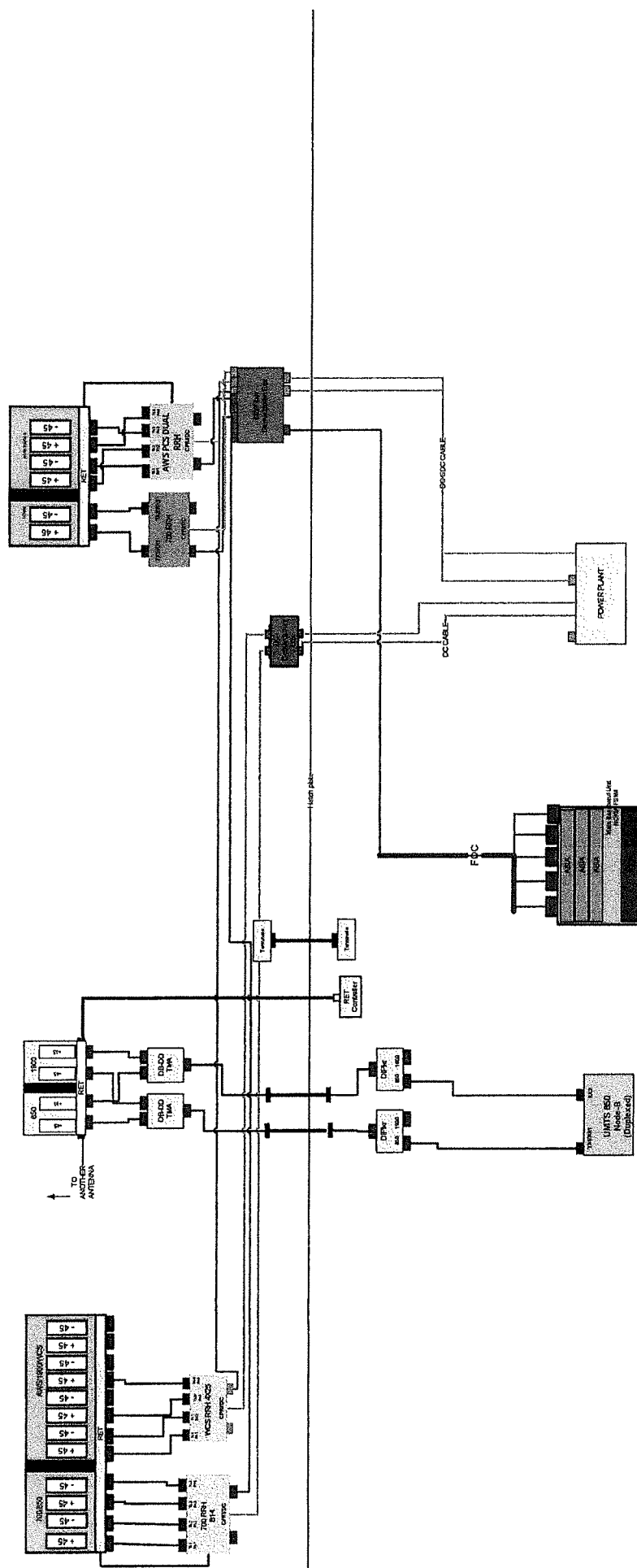
100

- CONTRACTOR TO VERIFY THAT DOWING CABLE HANGERS ARE REMOVABLE SINCE IN HANGERS IF DOWNING CABLES ARE NOT STAGNANT SINCE IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SWAP IN HANGERS IF APPLICABLE.
- FEDERAL CHIEF AND EQUIPMENT NOTES**
- CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TOWER DRIVERS, AND COAK CONFIGURATION, ALL CHANGES PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCING THE TOWER STRUCTURAL ANALYSIS/DIAGON DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR OR CONNECTIVE/CONNECTIONS SHALL BE NONCORROSIVE, EXCEPT THE RFT CONNECTIONS. USING BATTIL WAS AFTER INSTALLATION AND PAINT CONNECTIONS ARE MADE. BUTL TAPE SHOULD BE USED TO SEAL THE JOINTS OF THE BATTIL OVERLAY ON EACH TURN AND EACH LAYER SHALL BE REMOVED THREE TIMES OF THE CORROSIONING SHALL BE SEAMIN WITHOUT REDUCING BATTIL CLIPPING IS NOT ALLOWED.
- IF REQUIRED TO PANT ANTENNAS AND/OR COAK:
- A. TEMPERATURE SHALL BE ABOVE 50° F.
- B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNERS/LANDLORD.
- C. FOR REGULATED TOWERS, FMV/DOC APPROVED PAINT IS REQUIRED.
- D. DO NOT PAINT OVER COLOR OTHER THAN ON EQUIPMENT MODEL NUMBERS.
- ALL CABLES SHALL BE GROUNDING WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
- A. GROUNDING AT THE ANTENNA LEVEL.
- B. GROUNDING AT MID LEVEL. TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING.
- C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
- D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY POINT.
- E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY POINT.
- ALL PROPOSED GROUND BAR CONDUITS ARE TO BE TERMINATED TO THE EXISTING ALUMINUM GROUND BAR CONDUIT. A MINIMUM DISTANCE OF 4'-0" BELOW GROUND BAR. TERMINATIONS MAY BE EXTENDING OR COMPRESSION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAK CONFIGURATION IS THE CORRECT MAKE AND MODELS, PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.
- GROUNDING NOTES**
- GROUNDING IS SHOWN GRAPHICALLY ONLY. EXC.
- CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDINGS SHALL BE IN COMPLIANCE WITH REG SECTION 250 AND TEST GROUNDING AND BONDING REQUIREMENTS (ART-7841) AND MANUFACTURER'S SPECIFICATIONS.
- ALL GROUND CONDUCTORS SHALL BE COPPER OR ALUMINUM CONDUCTORS SHALL BE USED.
- ALL CABLES SHALL BE GROUNDING WITH COAXIAL CABLE GROUNDING KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
- A. GROUNDING AT THE ANTENNA LEVEL.
- B. GROUNDING AT MID LEVEL. TOWERS WHICH ARE OVER 200', ADDITIONAL CABLE GROUNDING REQUIRED.
- C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
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- E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY POINT.
- ALL PROPOSED GROUNDING BAR CONDUITS ARE TO BE TERMINATED TO THE EXISTING ALUMINUM GROUND BAR CONDUIT. A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXTENDING OR COMPRESSION.

GROUNDING NOTES

11. GROUNDING IS SHOWN DIAGNOMATICALLY ONLY.
12. CONDUCTORS SHALL BE GRADED AT EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL CITY, STATE AND FEDERAL REQUIREMENTS (NFPA-70A-1991) AND MANUFACTURER'S SPECIFICATIONS.
13. ALL GROUND CONDUCTORS SHALL BE COPPER OR ALUMINUM CONDUCTORS SHALL BE USED.
14. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUNDING NTS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR GROUNDING.
15. GROUNDING AT THE ANTENNA LEVEL:
 - A. GROUNDING AT LOW AND LEVEL TOWERS WHICH ARE OVER 200', ADDITIONAL CABLE GROUNDING REQUIRED.
 - B. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
 - C. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY POINT.
 - D. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY POINT.
16. ALL PROPOSED GROUNDING BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR OF THE BUILDING. MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE MADE TO THE EXISTING GROUNDING BAR.

MIU2011_SECTOR_A_BEFORE



ATTENTION/OWNER
AT&T
MOBILITY
16025 NORTLAND DR
SOUTHFIELD, MI 48075

BLACK & VEATCH

6800 W. 119TH ST, SUITE 2202
OVERLAND PARK, MISSOURI 66211
(817) 438-2500

PROJECT NUMBER: 129391

STATE OF MICHIGAN
ENGINEER
PING JIANG
No. 6201062190
LICENSED PROFESSIONAL ENGINEER
03/25/2020

IT IS A VIOLATION OF LAW FOR ANY PERSON
TO SIGN THESE DRAWINGS WITHOUT BEING
A LICENSED PROFESSIONAL ENGINEER IN
THE STATE OF MICHIGAN.

LANDLORD/PROPERTY OWNER SIGNATURE

NO.	REVISION	DATE	DESCRIPTION
1	ISSUED FOR CONSTRUCTION		
2			
3			
4			
5			
6			
7			
8			
9			
10			

PROJECT LOCATION: USID (1793)
MACK PLAZA
20007 MACK PLAZA DRIVE
GROSSE POINTE WOODS, MI 48238

ADDITIONAL NOTES

GENERAL NOTES

JOURNAL NUMBER
N-2

1. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.

2. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE PORTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HADGAP ACCESS REQUIRED).

3. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.

34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GRADING STANDARD TECHNICAL SPECIFICATION FOR CONSTRUCTION OF REVISIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LATEST REVISIONS AND FOR THE CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.

36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.

37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE CLIENT. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO THE BEGINNING OF CONSTRUCTION OR BEFORE ANY WORK WITH CONSTRUCTION.

39. NO WASTE REMOVAL LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET F.A. STANDARDS AND REQUIREMENTS.

40. ALL CABLE CHUTE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

41. CONTRACTOR WILL REFER TO LATEST REVISION SHEET PRIOR TO CONSTRUCTION COMMENCING.

GENERAL CONTRACTOR SHALL MAINTAIN THE FOLLOWING REVISIONS SHALL APPLY TO THE GENERAL CONTRACTOR - ORNLAND CONTRACTING INC. (O&C) OWNER - AT&T

2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND ANY PROJECT SPECIFICATIONS.

3. GENERAL CONTRACTOR SHALL NOT THE SITE AND SHALL MAINTAIN ACCESS WITH ALL CONDITIONS AFFECTING THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE FURNISHING AND INSTALLATION OF ALL NECESSARY UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

4. MATERIALS FURNISHED AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST REVISIONS AND THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

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

7. RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

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10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.

12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL JOINTS SHALL BE LAP JOINTS AND SHALL BE PROTECTED ON THE EXTERIOR.

13. CONTRACTOR SHALL KEEP AREA CLEAN, MAINTAIN FENCE, AND PROTECT ALL EXISTING UTILITIES AND STRUCTURES.

14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADINGS AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADINGS AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION OF WORK.

15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK.

16. THE CONTRACTOR SHALL PROTECT EXISTING HYDROLOGICAL FEATURES, CULDS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

17. THE CONTRACTOR SHALL CONDUCT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRUCKS AND CONTRACTORS TO THE SITE AND/OR BUILDING.

19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.

20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDAS, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.

21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 10:1 AND A MINIMUM OF TWO EXTINGUISHERS SHALL BE AVAILABLE AT ALL PORTABLE WORK AREAS WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.

22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING STRUCTURES.

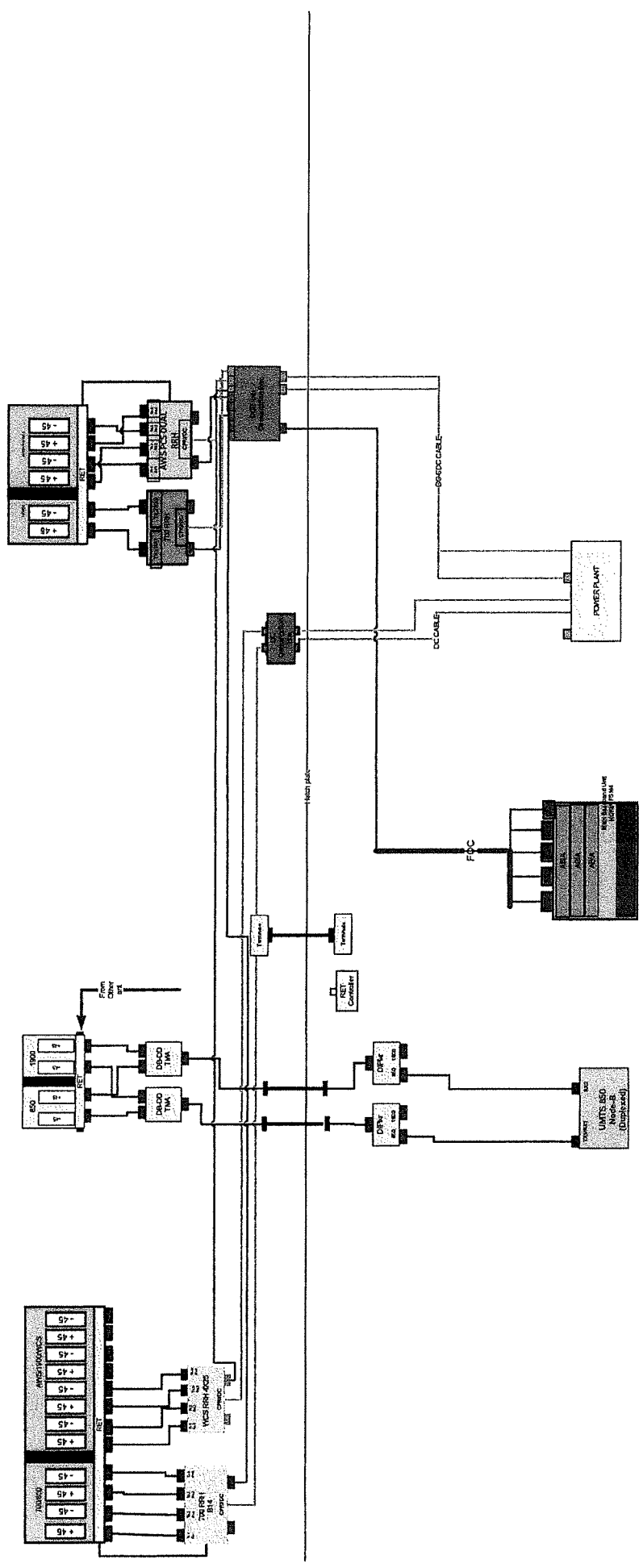
23. NO FILL OR ENHANCEMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR ENHANCEMENT.

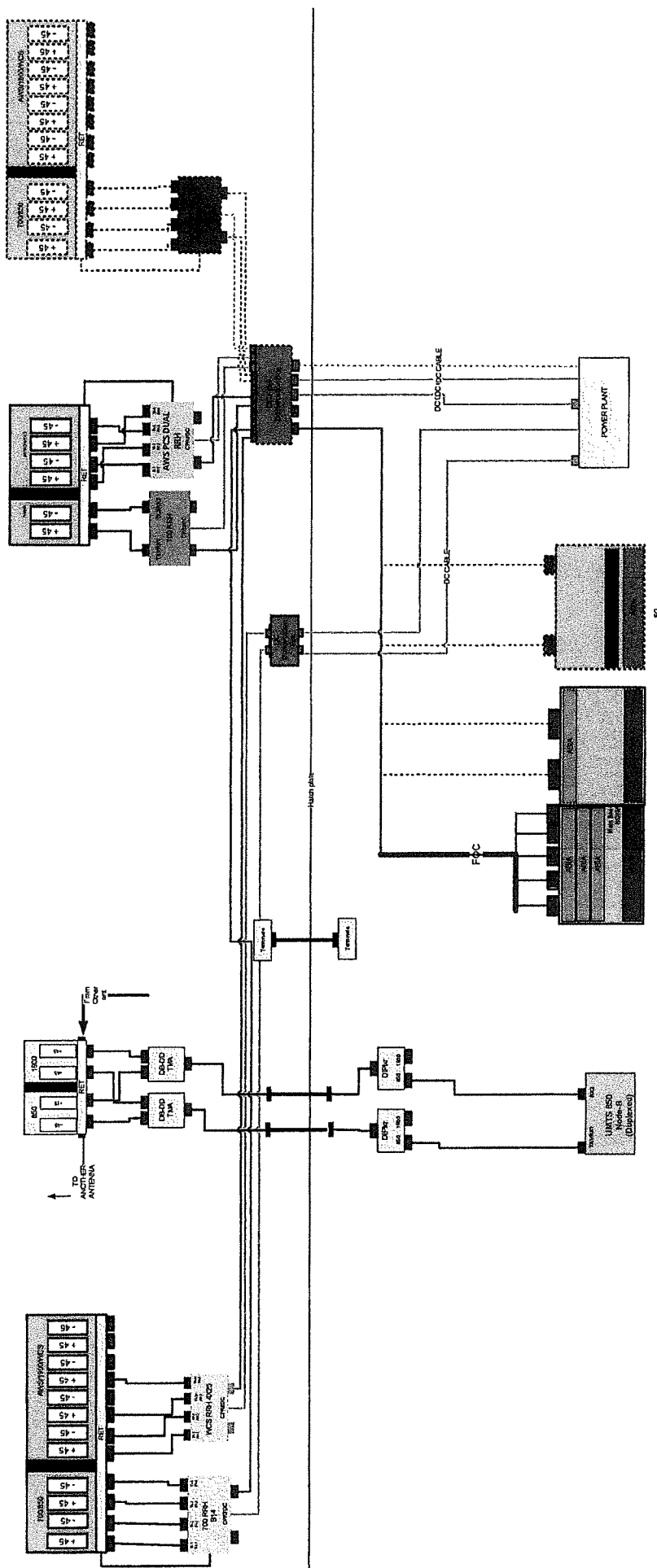
24. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH, UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY. ALL EXISTING MATERIALS SHALL BE REMOVED AND REPLACED WITH FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.

25. ALL NECESSARY RUBBER, STAMPS, DEBERS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.

26. ALL RECORDS, OPERATING AND MAINTENANCE MANUALS, COULDS, SHIP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.

27. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT RECORDS TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.







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Black & Veatch Corp.
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Overland Park, KS 66211

Sedlacek S. Brennan
B&V Ltd. Of Michigan
3550 Green Court
Ann Arbor, MI 48105
(913) 458-6069
SedlacekB@bv.com

Monday, March 16, 2020

RIGOROUS STRUCTURAL ANALYSIS **78' Monopole**

AT&T DESIGNATION:	Site ID:	1793 (MI2011)
	Site FA:	10083371
	Site Name:	Mack Plaza
	AT&T Project:	Non AT&T Owned Tower
	BV Project:	129391 (1793ATTMI-S)
ANALYSIS CRITERIA:	Codes:	TIA-222-G 115 mph Ultimate 3-second Gust IBC 2015 2015 Michigan Building Code
SITE DATA:	20027 Mack Plaza Drive, Gross Pointe Woods, MI 48236, Wayne County Latitude 42.431944, Longitude -82.91 Market: MI/IN 78' Monopole	

B&V Ltd. Of Michigan is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

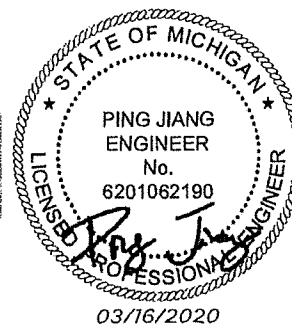
Tower Stress Level with Proposed Equipment:	94.30%	Pass
Connection Stress Level with Proposed Equipment:	95.60%	Pass
Foundation Ratio with Proposed Equipment:	32.60%	Pass

We at B&V Ltd. Of Michigan appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by: B&V Ltd. Of Michigan
Analysis Prepared by: Khushal Patel / Anup Chitale
Analysis Reviewed by: Ping Jiang, P.E.

This analysis was prepared by me or under my direct supervision and to the best of my knowledge and ability complies with the applicable provisions of the governing codes and ordinances.

Digitally signed by
Jiang, Ping
DN: CN=Ping,
Ping,
OU=Professionals,
OU=Corp-NA,
OU=Corp, DC=na,
DC=bvcorp, DC=net,
Date: 2020.03.16
16:29:48-05'00'



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B&V Ltd. Of Michigan
3550 Green Court
Ann Arbor, MI 48105
B&V: 129391 (1793ATTMI-S)

Assumptions, Disclaimers, and Notes

1. This analysis was performed under the assumption that all information provided to Black & Veatch is current and correct. This is to include site data, existing/proposed appurtenance loading, tower/foundation details, and geotechnical data. If this information is not current and correct, this report should be considered obsolete and further analysis will be required.
2. This analysis assumes that the tower structural components and mounts, including all steel sections and attachment hardware, are in good working order and in their original state, free of rust or other forms of corrosion. Furthermore, it is assumed that the tower and the tower foundation have been properly maintained and monitored since the time of construction. This report should be considered obsolete and further analysis will be required if the tower and/or foundation does not meet all of the above specifications.
3. This analysis assumes that all existing and/or proposed equipment mounts on the tower will have adequate capacity to support the existing and proposed equipment loading.
4. Capacity of the structural members is based on theoretical values as shown in the attached TAS form.
5. When applicable, this structural analysis is only valid if the proposed coax cables are stacked as shown in the attached feedline sketch.
6. This analysis assumes that all existing and proposed port cuts are properly installed such that the overall structural capacity of the monopole is not reduced.

General Info	
Site Name	Mack Plaza
Site Number	1793ATTM-S (M12011)
FA Number	10083374
Date of Analysis	3/16/2020
Company Performing Analysis	E&V Ltd. Of Michigan

Design Parameters	
Design Code Used	TIA-222-G IBC 2015
Location of Tower (County, State)	Wayne County, MI
Wind Speed (mph)	115
Ice Thickness (in)	1
Structure Classification (I, II, III)	II
Exposure Category (B, C, D)	B
Topographic Category (1 to 5)	5

Steel Yield Strength (ksi)	
Pole	A607 Gr 60
Base Plate	A572-50
Anchor Bolts	A615-75

Analysis Results (% Maximum Usage)		
Existing/Reserved	REV G	REV F
Tower (%)		
Connection (%)		
Foundation (%)		
Foundation Adequate?	N/A	N/A

Analysis Results (% Maximum Usage)	
Existing/Reserved + Proposed Condition	
Tower (%)	94.30%
Connection (%)	95.60%
Foundation (%)	32.60%
Foundation Adequate?	Yes

Antenna							Mount			Transmission Line				
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Inside/Outside
AT&T	80	83	3	Panel	KMW Communications	EP8Q-564L3H8-L2		1	Site Pro 1	F3P-12 12' Fortress Platform	4	#8 AWG DC Trunk	3/4	Inside
AT&T	80	83	3	Panel	Powerwave	7772.00					1	Fiber Trunk (12-pair)	3/8	Inside
AT&T	80	83	3	Panel	KMW Communications	ET-X-UW-70-16-70-18-4R-AT					1	Fiber Trunk (16-pair)	3/8	Inside
AT&T	80	83	6	TMA	Powerwave	LGP21401								
AT&T	80	83	3	RRH	Alcatel Lucent	RRH240-07L								
AT&T	80	83	3	RRH	Nokia	AirScale Dual RRH 4T4R B25/66 320W AHFIB								
AT&T	80	83	3	RRH	7775	Flexi RRH 4T4R B14 160W FRBI								
AT&T	80	83	3	RRH	Alcatel Lucent	RRH4x25-WCS-4R								
AT&T	80	83	1	SA Box	Raycap	DC6-48-60-18-8C								
AT&T	80	83	1	SA Box	Raycap	DC6-48-60-18-8F								
Unknown	72	74.5	2	Omni	Unknown	5' Omni		2	Unknown	Side Arm	2	AVAS-50	7/8	
Unknown	60	67.5	1	Omni	Unknown	15' Omni		1	Unknown	Side Arm	1	AVAS-50	7/8	

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B & V Ltd. Of Michigan
3550 Green Court
Ann Arbor, MI 48105
Phone: (913) 458-8909
FAX: (913) 458-8136

Job: 1793 Mack Plaza
Project: 129391 (1793ATTMI-S)

Client: AT&T	Drawn by: Khushai Patel	App'd:
Code: TIA-222-G	Date: 03/16/20	Scale: NTS
Path:		Dwg No. E-1

tnxTower B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Job	1793 Mack Plaza	Page 1 of 14
	Project	129391 (1793ATTMI-S)	Date 16:53:05 03/16/20
	Client	AT&T	Designed by Khushal Patel

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Wayne County, Michigan.

Basic wind speed of 89 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 40 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	✓ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	✓ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
✓ Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
✓ Use Code Safety Factors - Guys	Retention Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	✓ Bypass Mast Stability Checks	✓ Consider Feed Line Torque
Always Use Max Kz	✓ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	✓ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	✓ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	✓ Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are
		Known

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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	78.00-43.50	34.50	2.50	18	14.0000	19.5890	0.1875	0.7500	A607-60 (60 ksi)
L2	43.50-0.00	46.00		18	18.8090	26.2600	0.2500	1.0000	A607-60 (60 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/I
L1	14.1870	8.2202	198.1356	4.9034	7.1120	27.8593	396.5319	4.1109	2.1340	11.381
	19.8623	11.5463	549.1002	6.8875	9.9512	55.1792	1098.9228	5.7743	3.1177	16.628
L2	19.4718	14.7266	640.8378	6.5884	9.5550	67.0685	1282.5188	7.3647	2.8704	11.482
	26.6265	20.6389	1764.0279	9.2335	13.3401	132.2352	3530.3769	10.3214	4.1818	16.727

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 78.00-43.50				1	1	1			
L2 43.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
Safety Line 3/8 (Unknown-Existing)	A	No	No	CaAa (Out Of Face)	78.00 - 8.00	1	No Ice 1/2" Ice 1" Ice	0.04 0.14 0.24	0.22 0.75 1.28

#8 AWG DC Trunk (AT&T-Existing)	C	No	No	Inside Pole	78.00 - 0.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.51 0.51 0.51
Fiber Trunk (12-pair)	C	No	No	Inside Pole	78.00 - 0.00	1	No Ice 1/2" Ice	0.00 0.00	0.08 0.08

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		$C_d A_A$ ft ² /ft	Weight plf
(AT&T-Existing) Fiber Trunk (18-pair)	C	No	No	Inside Pole	78.00 - 0.00	1	1" Ice No Ice 1/2" Ice	0.00 0.00 0.00	0.08 0.08 0.08
(AT&T-Existing) #6 AWG DC Trunk (AT&T-Proposed)	C	No	No	Inside Pole	78.00 - 0.00	1	1" Ice No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00 0.00	0.08 0.51 0.51 0.51
*** AVA5-50(7/8) (Unknown-Existing)	C	No	No	Inside Pole	72.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.30 0.30 0.30
*** AVA5-50(7/8) (Unknown-Existing)	C	No	No	Inside Pole	60.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.30 0.30 0.30
*** ***									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft ²	A_F ft ²	$C_d A_A$ In Face ft ²	$C_d A_A$ Out Face ft ²	Weight K
L1	78.00-43.50	A	0.000	0.000	0.000	1.294	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.12
L2	43.50-0.00	A	0.000	0.000	0.000	1.331	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.16

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	$C_d A_A$ In Face ft ²	$C_d A_A$ Out Face ft ²	Weight K
L1	78.00-43.50	A	2.124	0.000	0.000	0.000	15.947	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L2	43.50-0.00	A	1.909	0.000	0.000	0.000	16.410	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.16

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
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Section	Elevation	CP _X	CP _Z	CP _X Ice	CP _Z Ice
	ft	in	in	in	in
L1	78.00-43.50	0.0000	-0.3281	0.0000	-1.4990
L2	43.50-0.00	0.0000	-0.2642	0.0000	-1.3410

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
14" x 2' Top Hat (Unknown-Existing)	C	None		0.0000	78.00	No Ice 1.17 1/2" Ice 1.82 1" Ice 2.02	1.17 1.82 2.02	0.11 0.13 0.16

Site Pro 1 F3P-12 12' Fortress Platform (AT&T-Existing)	C	None		0.0000	80.00	No Ice 21.67 1/2" Ice 26.34 1" Ice 33.27	20.93 25.94 31.74	1.72 2.09 2.61
Miscellaneous [NA 507-1] (AT&T-Existing)	C	None		0.0000	80.00	No Ice 4.56 1/2" Ice 6.39 1" Ice 8.18	4.56 6.39 8.18	0.25 0.31 0.40
2"x2" Mount Pipe (AT&T-Existing)	A	From Face	0.50 0.00 0.00	0.0000	80.00	No Ice 0.34 1/2" Ice 0.47 1" Ice 0.61	0.34 0.47 0.61	0.01 0.01 0.02
2"x2" Mount Pipe (AT&T-Existing)	B	From Face	0.50 0.00 0.00	0.0000	80.00	No Ice 0.34 1/2" Ice 0.47 1" Ice 0.61	0.34 0.47 0.61	0.01 0.01 0.02

EPBQ-654L8H8-L2_TIA w/ Mount Pipe (AT&T-Existing)	A	From Face	3.00 -6.00 3.00	0.0000	80.00	No Ice 18.33 1/2" Ice 19.06 1" Ice 19.81	9.17 10.68 12.22	0.12 0.24 0.36
EPBQ-654L8H8-L2_TIA w/ Mount Pipe (AT&T-Existing)	B	From Face	3.00 -6.00 3.00	0.0000	80.00	No Ice 18.33 1/2" Ice 19.06 1" Ice 19.81	9.17 10.68 12.22	0.12 0.24 0.36
EPBQ-654L8H8-L2_TIA w/ Mount Pipe (AT&T-Existing)	C	From Face	3.00 -6.00 3.00	0.0000	80.00	No Ice 18.33 1/2" Ice 19.06 1" Ice 19.81	9.17 10.68 12.22	0.12 0.24 0.36
7772.00 w/ Mount Pipe (AT&T-Existing)	A	From Face	3.00 -2.00 3.00	0.0000	80.00	No Ice 8.85 1/2" Ice 9.47 1" Ice 10.04	6.54 7.83 8.91	0.07 0.14 0.22
7772.00 w/ Mount Pipe (AT&T-Existing)	B	From Face	3.00 -2.00 3.00	0.0000	80.00	No Ice 8.85 1/2" Ice 9.47 1" Ice 10.04	6.54 7.83 8.91	0.07 0.14 0.22
7772.00 w/ Mount Pipe	C	From Face	3.00	0.0000	80.00	No Ice 8.85	6.54	0.07

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	Client	AT&T	Designed by Khushal Patel

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _I Side ft ²	Weight K
(AT&T-Existing)			-2.00			1/2" Ice 9.47	7.83	0.14
			3.00			1" Ice 10.04	8.91	0.22
ET-X-UW-70-16-70-18-iR-A	A	From Face	3.00	0.0000	80.00	No Ice 11.10	8.68	0.08
T_TIA w/ Mount Pipe			2.00			1/2" Ice 11.79	10.13	0.17
(AT&T-Existing)			3.00			1" Ice 12.49	11.55	0.26
ET-X-UW-70-16-70-18-iR-A	B	From Face	3.00	0.0000	80.00	No Ice 11.10	8.68	0.08
T_TIA w/ Mount Pipe			2.00			1/2" Ice 11.79	10.13	0.17
(AT&T-Existing)			3.00			1" Ice 12.49	11.55	0.26
ET-X-UW-70-16-70-18-iR-A	C	From Face	3.00	0.0000	80.00	No Ice 11.10	8.68	0.08
T_TIA w/ Mount Pipe			2.00			1/2" Ice 11.79	10.13	0.17
(AT&T-Existing)			3.00			1" Ice 12.49	11.55	0.26
NNH4-65C-R6-V3_TIA w/	A	From Face	3.00	0.0000	80.00	No Ice 17.31	10.34	0.16
Mount Pipe			6.00			1/2" Ice 18.04	11.86	0.28
(AT&T-Proposed)			3.00			1" Ice 18.78	13.41	0.40
NNH4-65C-R6-V3_TIA w/	B	From Face	3.00	0.0000	80.00	No Ice 17.31	10.34	0.16
Mount Pipe			6.00			1/2" Ice 18.04	11.86	0.28
(AT&T-Proposed)			3.00			1" Ice 18.78	13.41	0.40
NNH4-65C-R6-V3_TIA w/	C	From Face	3.00	0.0000	80.00	No Ice 17.31	10.34	0.16
Mount Pipe			6.00			1/2" Ice 18.04	11.86	0.28
(AT&T-Proposed)			3.00			1" Ice 18.78	13.41	0.40
AirScale Dual RRH 4T4R	A	From Face	3.00	0.0000	80.00	No Ice 2.23	1.39	0.07
B5/29 240W AHBCB			0.00			1/2" Ice 2.42	1.55	0.09
(AT&T-Proposed)			3.00			1" Ice 2.62	1.72	0.11
AirScale Dual RRH 4T4R	B	From Face	3.00	0.0000	80.00	No Ice 2.23	1.39	0.07
B5/29 240W AHBCB			0.00			1/2" Ice 2.42	1.55	0.09
(AT&T-Proposed)			3.00			1" Ice 2.62	1.72	0.11
AirScale Dual RRH 4T4R	C	From Face	3.00	0.0000	80.00	No Ice 2.23	1.39	0.07
B5/29 240W AHBCB			0.00			1/2" Ice 2.42	1.55	0.09
(AT&T-Proposed)			3.00			1" Ice 2.62	1.72	0.11
(2) LGP21401	A	From Face	3.00	0.0000	80.00	No Ice 1.10	0.35	0.01
(AT&T-Existing)			0.00			1/2" Ice 1.24	0.44	0.02
			3.00			1" Ice 1.38	0.54	0.03
(2) LGP21401	B	From Face	3.00	0.0000	80.00	No Ice 1.10	0.35	0.01
(AT&T-Existing)			0.00			1/2" Ice 1.24	0.44	0.02
			3.00			1" Ice 1.38	0.54	0.03
(2) LGP21401	C	From Face	3.00	0.0000	80.00	No Ice 1.10	0.35	0.01
(AT&T-Existing)			0.00			1/2" Ice 1.24	0.44	0.02
			3.00			1" Ice 1.38	0.54	0.03
RRH2X40-07-L	A	From Face	3.00	0.0000	80.00	No Ice 1.82	1.52	0.06
(AT&T-Existing)			0.00			1/2" Ice 1.99	1.69	0.08
			3.00			1" Ice 2.18	1.86	0.10
RRH2X40-07-L	B	From Face	3.00	0.0000	80.00	No Ice 1.82	1.52	0.06
(AT&T-Existing)			0.00			1/2" Ice 1.99	1.69	0.08
			3.00			1" Ice 2.18	1.86	0.10
RRH2X40-07-L	C	From Face	3.00	0.0000	80.00	No Ice 1.82	1.52	0.06
(AT&T-Existing)			0.00			1/2" Ice 1.99	1.69	0.08
			3.00			1" Ice 2.18	1.86	0.10
AIRSCALE DUAL RRH	A	From Face	3.00	0.0000	80.00	No Ice 2.90	1.53	0.09
4T4R B25/66 320W AHFIB			0.00			1/2" Ice 3.13	1.72	0.11
(AT&T-Existing)			3.00			1" Ice 3.37	1.92	0.13
AIRSCALE DUAL RRH	B	From Face	3.00	0.0000	80.00	No Ice 2.90	1.53	0.09
4T4R B25/66 320W AHFIB			0.00			1/2" Ice 3.13	1.72	0.11
(AT&T-Existing)			3.00			1" Ice 3.37	1.92	0.13
AIRSCALE DUAL RRH	C	From Face	3.00	0.0000	80.00	No Ice 2.90	1.53	0.09
4T4R B25/66 320W AHFIB			0.00			1/2" Ice 3.13	1.72	0.11
(AT&T-Existing)			3.00			1" Ice 3.37	1.92	0.13
Flexi RRH 4T4R B14 160W	A	From Face	3.00	0.0000	80.00	No Ice 2.40	1.25	0.05

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	Client	AT&T	Designed by Khushal Patel

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

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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	78 - 43.5	Pole	Max Tension	30	0.00	0.00	0.00
			Max. Compression	26	-20.21	-1.36	-0.39
			Max. Mx	8	-6.22	-282.59	-0.44
			Max. My	14	-6.22	-0.55	-280.73
			Max. Vy	8	8.32	-282.59	-0.44
			Max. Vx	14	8.30	-0.55	-280.73
			Max. Torque	20			0.54
L2	43.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.74	-1.46	-0.33
			Max. Mx	8	-10.62	-683.90	-1.86
			Max. My	14	-10.62	-1.97	-681.19
			Max. Vy	8	9.11	-683.90	-1.86
			Max. Vx	14	9.09	-1.97	-681.19
			Max. Torque	5			-0.51

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	31	26.74	-1.80	-1.05
	Max. H _x	20	10.64	9.08	0.03
	Max. H _z	2	10.64	0.03	9.07
	Max. M _x	2	681.07	0.03	9.07
	Max. M _z	8	683.90	-9.08	-0.03
	Max. Torsion	17	0.47	4.52	-7.84
	Min. Vert	7	7.98	-7.85	4.51
	Min. H _x	8	10.64	-9.08	-0.03
	Min. H _z	14	10.64	-0.03	-9.07
	Min. M _x	14	-681.19	-0.03	-9.07
	Min. M _z	20	-683.55	9.08	0.03
	Min. Torsion	5	-0.49	-4.52	7.84

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	8.87	0.00	0.00	0.04	-0.13	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	10.64	-0.03	-9.07	-681.07	1.64	0.41
0.9 Dead+1.6 Wind 0 deg - No Ice	7.98	-0.03	-9.07	-669.59	1.66	0.41
1.2 Dead+1.6 Wind 30 deg - No Ice	10.64	4.52	-7.84	-588.92	-340.48	0.49
0.9 Dead+1.6 Wind 30 deg - No Ice	7.98	4.52	-7.84	-578.99	-334.68	0.49
1.2 Dead+1.6 Wind 60 deg - No Ice	10.64	7.85	-4.51	-338.94	-591.40	0.44
0.9 Dead+1.6 Wind 60 deg - No Ice	7.98	7.85	-4.51	-333.23	-581.37	0.44

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Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
Ice						
1.2 Dead+1.6 Wind 90 deg - No Ice	10.64	9.08	0.03	1.86	-683.90	0.26
0.9 Dead+1.6 Wind 90 deg - No Ice	7.98	9.08	0.03	1.82	-672.30	0.26
1.2 Dead+1.6 Wind 120 deg - No Ice	10.64	7.88	4.56	342.17	-593.20	0.02
0.9 Dead+1.6 Wind 120 deg - No Ice	7.98	7.88	4.56	336.39	-583.14	0.02
1.2 Dead+1.6 Wind 150 deg - No Ice	10.64	4.57	7.87	590.82	-343.60	-0.22
0.9 Dead+1.6 Wind 150 deg - No Ice	7.98	4.57	7.87	580.84	-337.76	-0.22
1.2 Dead+1.6 Wind 180 deg - No Ice	10.64	0.03	9.07	681.19	-1.97	-0.39
0.9 Dead+1.6 Wind 180 deg - No Ice	7.98	0.03	9.07	669.68	-1.90	-0.40
1.2 Dead+1.6 Wind 210 deg - No Ice	10.64	-4.52	7.84	589.03	340.15	-0.47
0.9 Dead+1.6 Wind 210 deg - No Ice	7.98	-4.52	7.84	579.07	334.44	-0.47
1.2 Dead+1.6 Wind 240 deg - No Ice	10.64	-7.85	4.51	339.04	591.06	-0.42
0.9 Dead+1.6 Wind 240 deg - No Ice	7.98	-7.85	4.51	333.30	581.12	-0.42
1.2 Dead+1.6 Wind 270 deg - No Ice	10.64	-9.08	-0.03	-1.75	683.55	-0.27
0.9 Dead+1.6 Wind 270 deg - No Ice	7.98	-9.08	-0.03	-1.74	672.05	-0.27
1.2 Dead+1.6 Wind 300 deg - No Ice	10.64	-7.88	-4.56	-342.05	592.85	-0.04
0.9 Dead+1.6 Wind 300 deg - No Ice	7.98	-7.88	-4.56	-336.30	582.88	-0.04
1.2 Dead+1.6 Wind 330 deg - No Ice	10.64	-4.57	-7.87	-590.70	343.26	0.21
0.9 Dead+1.6 Wind 330 deg - No Ice	7.98	-4.57	-7.87	-580.75	337.51	0.21
1.2 Dead+1.0 Ice+1.0 Temp	26.74	0.00	0.00	0.33	-1.46	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	26.74	-0.01	-2.07	-167.66	-0.65	0.16
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	26.74	1.02	-1.79	-144.74	-84.64	0.11
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	26.74	1.78	-1.03	-82.93	-146.35	0.03
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	26.74	2.07	0.01	1.18	-169.24	-0.05
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	26.74	1.80	1.05	85.07	-147.19	-0.13
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	26.74	1.04	1.80	146.25	-86.10	-0.17
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	26.74	0.01	2.07	168.34	-2.34	-0.16
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	26.74	-1.02	1.79	145.41	81.65	-0.11
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	26.74	-1.78	1.03	83.61	143.36	-0.03
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	26.74	-2.07	-0.01	-0.51	166.26	0.05
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	26.74	-1.80	-1.05	-84.39	144.20	0.13
1.2 Dead+1.0 Wind 330	26.74	-1.04	-1.80	-145.58	83.11	0.17

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Load Combination	Vertical K	Shear _x K	Shear _y K	Overturning Moment, M _x kip-ft	Overturning Moment, M _y kip-ft	Torque kip-ft
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	8.87	-0.01	-2.30	-171.76	0.31	0.10
Dead+Wind 30 deg - Service	8.87	1.15	-1.99	-148.52	-85.99	0.13
Dead+Wind 60 deg - Service	8.87	2.00	-1.15	-85.46	-149.28	0.11
Dead+Wind 90 deg - Service	8.87	2.31	0.01	0.50	-172.61	0.07
Dead+Wind 120 deg - Service	8.87	2.00	1.16	86.35	-149.74	0.01
Dead+Wind 150 deg - Service	8.87	1.16	2.00	149.07	-86.78	-0.06
Dead+Wind 180 deg - Service	8.87	0.01	2.30	171.86	-0.60	-0.10
Dead+Wind 210 deg - Service	8.87	-1.15	1.99	148.61	85.70	-0.12
Dead+Wind 240 deg - Service	8.87	-2.00	1.15	85.56	148.99	-0.11
Dead+Wind 270 deg - Service	8.87	-2.31	-0.01	-0.41	172.32	-0.07
Dead+Wind 300 deg - Service	8.87	-2.00	-1.16	-86.25	149.45	-0.01
Dead+Wind 330 deg - Service	8.87	-1.16	-2.00	-148.97	86.48	0.05

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-8.87	0.00	0.00	8.87	0.00	0.000%
2	-0.03	-10.64	-9.07	0.03	10.64	9.07	0.000%
3	-0.03	-7.98	-9.07	0.03	7.98	9.07	0.000%
4	4.52	-10.64	-7.84	-4.52	10.64	7.84	0.000%
5	4.52	-7.98	-7.84	-4.52	7.98	7.84	0.000%
6	7.85	-10.64	-4.51	-7.85	10.64	4.51	0.000%
7	7.85	-7.98	-4.51	-7.85	7.98	4.51	0.000%
8	9.08	-10.64	0.03	-9.08	10.64	-0.03	0.000%
9	9.08	-7.98	0.03	-9.08	7.98	-0.03	0.000%
10	7.88	-10.64	4.56	-7.88	10.64	-4.56	0.000%
11	7.88	-7.98	4.56	-7.88	7.98	-4.56	0.000%
12	4.57	-10.64	7.87	-4.57	10.64	-7.87	0.000%
13	4.57	-7.98	7.87	-4.57	7.98	-7.87	0.000%
14	0.03	-10.64	9.07	-0.03	10.64	-9.07	0.000%
15	0.03	-7.98	9.07	-0.03	7.98	-9.07	0.000%
16	-4.52	-10.64	7.84	4.52	10.64	-7.84	0.000%
17	-4.52	-7.98	7.84	4.52	7.98	-7.84	0.000%
18	-7.85	-10.64	4.51	7.85	10.64	-4.51	0.000%
19	-7.85	-7.98	4.51	7.85	7.98	-4.51	0.000%
20	-9.08	-10.64	-0.03	9.08	10.64	0.03	0.000%
21	-9.08	-7.98	-0.03	9.08	7.98	0.03	0.000%
22	-7.88	-10.64	-4.56	7.88	10.64	4.56	0.000%
23	-7.88	-7.98	-4.56	7.88	7.98	4.56	0.000%
24	-4.57	-10.64	-7.87	4.57	10.64	7.87	0.000%
25	-4.57	-7.98	-7.87	4.57	7.98	7.87	0.000%
26	0.00	-26.74	0.00	-0.00	26.74	-0.00	0.000%
27	-0.01	-26.74	-2.07	0.01	26.74	2.07	0.000%
28	1.02	-26.74	-1.79	-1.02	26.74	1.79	0.000%
29	1.78	-26.74	-1.03	-1.78	26.74	1.03	0.000%
30	2.07	-26.74	0.01	-2.07	26.74	-0.01	0.000%
31	1.80	-26.74	1.05	-1.80	26.74	-1.05	0.000%
32	1.04	-26.74	1.80	-1.04	26.74	-1.80	0.000%
33	0.01	-26.74	2.07	-0.01	26.74	-2.07	0.000%
34	-1.02	-26.74	1.79	1.02	26.74	-1.79	0.000%
35	-1.78	-26.74	1.03	1.78	26.74	-1.03	0.000%
36	-2.07	-26.74	-0.01	2.07	26.74	0.01	0.000%
37	-1.80	-26.74	-1.05	1.80	26.74	1.05	0.000%
38	-1.04	-26.74	-1.80	1.04	26.74	1.80	0.000%
39	-0.01	-8.87	-2.30	0.01	8.87	2.30	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
40	1.15	-8.87	-1.99	-1.15	8.87	1.99	0.000%
41	2.00	-8.87	-1.15	-2.00	8.87	1.15	0.000%
42	2.31	-8.87	0.01	-2.31	8.87	-0.01	0.000%
43	2.00	-8.87	1.16	-2.00	8.87	-1.16	0.000%
44	1.16	-8.87	2.00	-1.16	8.87	-2.00	0.000%
45	0.01	-8.87	2.30	-0.01	8.87	-2.30	0.000%
46	-1.15	-8.87	1.99	1.15	8.87	-1.99	0.000%
47	-2.00	-8.87	1.15	2.00	8.87	-1.15	0.000%
48	-2.31	-8.87	-0.01	2.31	8.87	0.01	0.000%
49	-2.00	-8.87	-1.16	2.00	8.87	1.16	0.000%
50	-1.16	-8.87	-2.00	1.16	8.87	2.00	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	0.00012542
3	Yes	5	0.00000001	0.00005572
4	Yes	6	0.00000001	0.00036704
5	Yes	6	0.00000001	0.00010247
6	Yes	6	0.00000001	0.00034761
7	Yes	6	0.00000001	0.00009558
8	Yes	5	0.00000001	0.00018624
9	Yes	5	0.00000001	0.00008009
10	Yes	6	0.00000001	0.00036184
11	Yes	6	0.00000001	0.00010019
12	Yes	6	0.00000001	0.00036112
13	Yes	6	0.00000001	0.00010001
14	Yes	5	0.00000001	0.00018440
15	Yes	5	0.00000001	0.00008028
16	Yes	6	0.00000001	0.00034752
17	Yes	6	0.00000001	0.00009558
18	Yes	6	0.00000001	0.00036768
19	Yes	6	0.00000001	0.00010266
20	Yes	5	0.00000001	0.00012847
21	Yes	5	0.00000001	0.00005612
22	Yes	6	0.00000001	0.00035577
23	Yes	6	0.00000001	0.00009820
24	Yes	6	0.00000001	0.00035573
25	Yes	6	0.00000001	0.00009817
26	Yes	4	0.00000001	0.00005727
27	Yes	6	0.00000001	0.00021601
28	Yes	6	0.00000001	0.00048847
29	Yes	6	0.00000001	0.00046562
30	Yes	6	0.00000001	0.00021490
31	Yes	6	0.00000001	0.00048512
32	Yes	6	0.00000001	0.00050499
33	Yes	6	0.00000001	0.00021997
34	Yes	6	0.00000001	0.00044816
35	Yes	6	0.00000001	0.00046960
36	Yes	6	0.00000001	0.00020865
37	Yes	6	0.00000001	0.00046782
38	Yes	6	0.00000001	0.00044951
39	Yes	4	0.00000001	0.00036735
40	Yes	5	0.00000001	0.00014305

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41	Yes	5	0.00000001	0.00012556
42	Yes	4	0.00000001	0.00038280
43	Yes	5	0.00000001	0.00013829
44	Yes	5	0.00000001	0.00013765
45	Yes	4	0.00000001	0.00037778
46	Yes	5	0.00000001	0.00012501
47	Yes	5	0.00000001	0.00014324
48	Yes	4	0.00000001	0.00037166
49	Yes	5	0.00000001	0.00013191
50	Yes	5	0.00000001	0.00013176

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	78 - 43.5	19.540	43	2.3451	0.0061
L2	46 - 0	6.615	43	1.3722	0.0020

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
80.00	Site Pro 1 F3P-12 12' Fortress Platform	43	19.540	2.3451	0.0061	7691
78.00	14" x 2' Top Hat	43	19.540	2.3451	0.0061	7691
72.00	2' horizontal 2 1/2"x2 1/2" angle	43	16.808	2.1620	0.0052	6409
60.00	Side Arm Mount [SO 311-1]	43	11.613	1.7964	0.0034	2135

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	78 - 43.5	77.272	8	9.2934	0.0237
L2	46 - 0	26.198	10	5.4419	0.0077

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
80.00	Site Pro 1 F3P-12 12' Fortress Platform	8	77.272	9.2934	0.0237	2009
78.00	14" x 2' Top Hat	8	77.272	9.2934	0.0237	2009
72.00	2' horizontal 2 1/2"x2 1/2" angle	8	66.474	8.5678	0.0201	1674

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
60.00	Side Arm Mount [SO 311-1]	8	45.944	7.1211	0.0133	555

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _n / φP _n
L1	78 - 43.5 (1)	TP19.589x14x0.1875	34.50	0.00	0.0	11.3053	-6.22	775.32	0.008
L2	43.5 - 0 (2)	TP26.26x18.809x0.25	46.00	0.00	0.0	20.6389	-10.62	1414.53	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} / φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} / φM _{uy}
L1	78 - 43.5 (1)	TP19.589x14x0.1875	282.59	302.26	0.935	0.00	302.26	0.000
L2	43.5 - 0 (2)	TP26.26x18.809x0.25	684.81	755.25	0.907	0.00	755.25	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio V _u / φV _n	Actual T _u kip-ft	φT _n kip-ft	Ratio T _u / φT _n
L1	78 - 43.5 (1)	TP19.589x14x0.1875	8.32	387.66	0.021	0.30	606.16	0.000
L2	43.5 - 0 (2)	TP26.26x18.809x0.25	9.13	707.27	0.013	0.02	1514.54	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P _n / φP _n	Ratio M _{ux} / φM _{ux}	Ratio M _{uy} / φM _{uy}	Ratio V _u / φV _n	Ratio T _u / φT _n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	78 - 43.5 (1)	0.008	0.935	0.000	0.021	0.000	0.943	1.000	4.8.2
L2	43.5 - 0 (2)	0.008	0.907	0.000	0.013	0.000	0.914	1.000	4.8.2

tnxTower B&V Ltd. Of Michigan 3550 Green Court Ann Arbor, MI 48105 Phone: (913) 458-6909 FAX: (913) 458-8136	Job	1793 Mack Plaza	Page 14 of 14
	Project	129391 (1793ATTMI-S)	Date 16:53:05 03/16/20
	Client	AT&T	Designed by Khushal Patel

Section Capacity Table

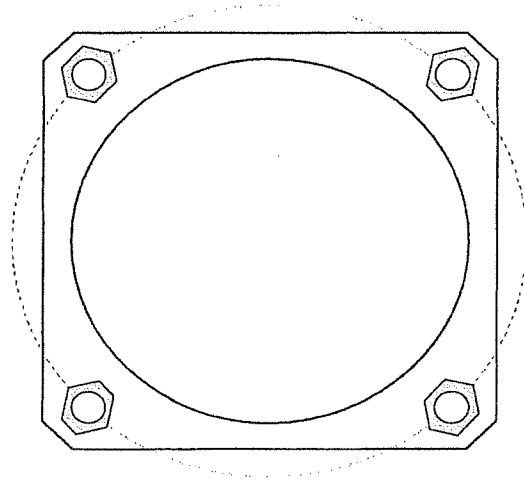
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	σP_{allow} K	% Capacity	Pass Fail
L1	78 - 43.5	Pole	TP19.589x14x0.1875	1	-6.22	775.32	94.3	Pass
L2	43.5 - 0	Pole	TP26.26x18.809x0.25	2	-10.62	1414.53	91.4	Pass
							Summary	
							Pole (L1)	Pass
							RATING =	Pass

Monopole Base Plate Connection

Site Info	
Project #	129391
Site Name	Mack Plaza
WO #	1793ATTMI-S

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
I_{br} (in)	0
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	684.81
Axial Force (kips)	10.62
Shear Force (kips)	9.13



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary	
(4) 2-1/4" ϕ bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 34" BC		<i>(units of klps, kip-in)</i>	
		Pu_c = 243.92	$\phi Pn_t = 260$
		Vu = 2.28	$\phi Vn = n/a$
		Mu = n/a	$\phi Mn = n/a$
			Stress Rating
			95.6%
			Pass
Base Plate Data		Base Plate Summary	
30" OD x 2.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)			
Stiffener Data			
N/A			
Pole Data			
26.26" x 0.25" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ksi)			
		Max Stress (ksi):	30.88 (Flexural)
		Allowable Stress (ksi):	45
		Stress Rating:	68.6% Pass

Drilled Pier Foundation

Project # : 129391
 Site Name: Mack Plaza
 WO# : 1793ATTMI-S

TIA-222 Revision: G
 Tower Type: Monopole

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	684.81	
Axial Force (kips)	10.62	
Shear Force (kips)	9.13	

Material Properties		
Concrete Strength, f _c	3.5	ksi
Rebar Strength, F _y	60	ksi

Pier Design Data		
Depth	24.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 24.5' below grade		
Pier Diameter	5	ft
Rebar Quantity	24	
Rebar Size	10	
Clear Cover to Ties	4	in
Tie Size	4	

Analysis Results		
Soil Lateral Capacity		
D _{req} (ft from TOC)	5.45	-
Soil Safety Factor	6.90	-
Max Moment (kip-ft)	740.84	-
Rating	19.3%	-
Soil Vertical Capacity		
Skin Friction (kips)	185.70	-
End Bearing (kips)	117.81	-
Weight of Concrete (kips)	88.36	-
Total Capacity (kips)	303.51	-
Axial (kips)	98.98	-
Rating	32.6%	-
Reinforced Concrete Capacity		
Critical Depth (ft from TOC)	5.50	-
Critical Moment (kip-ft)	740.83	-
Critical Moment Capacity	3143.68	-
Rating	23.6%	-
Soil Interaction Rating	32.6%	
Structural Foundation Rating	23.6%	

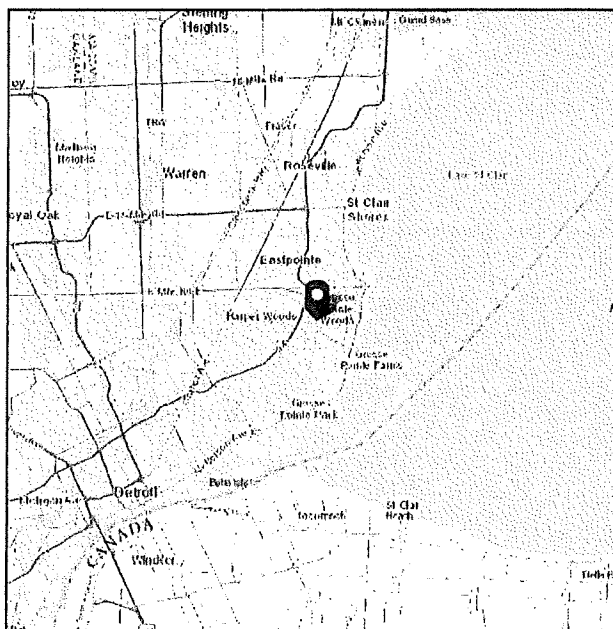
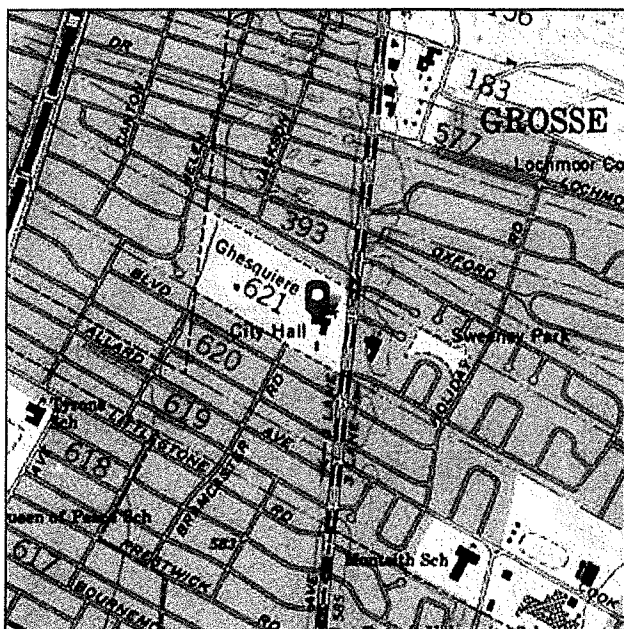
Check Limitation		
N/A	<input checked="" type="checkbox"/>	
Load Z Normalization:	<input type="checkbox"/>	

Soil Profile															
Groundwater Depth		99	ft	# of Layers		3									
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type	
1	0	4.17	4.17	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless	
2	4.17	12.5	8.33	100	150	2	0	1.100	1.100					Cohesive	
3	12.5	24.5	12	100	150	1	0	0.550	0.550			8		Cohesive	

ASCE 7 Hazards Report

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 584.3 ft (NAVD 88)
Latitude: 42.431942
Longitude: -82.91



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	76 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Wed Feb 19 2020

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

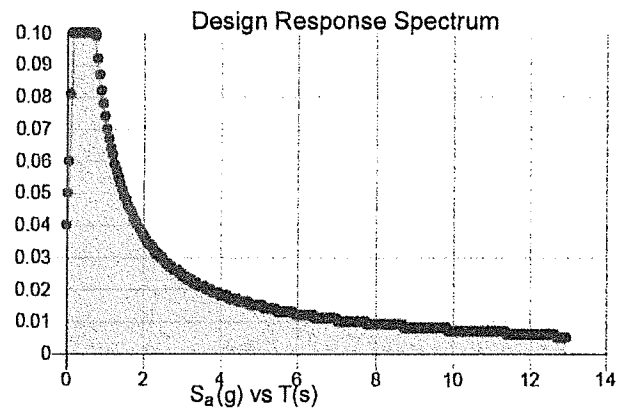
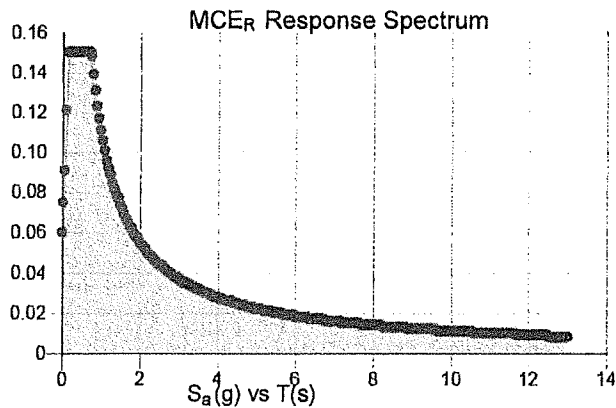
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.094	S_{DS} :	0.1
S_1 :	0.046	S_{D1} :	0.074
F_a :	1.6	T_L :	12
F_v :	2.4	PGA :	0.043
S_{MS} :	0.15	PGA _M :	0.07
S_{M1} :	0.111	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Wed Feb 19 2020

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.



Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 40 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Feb 19 2020

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain.

Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



CITY OF GROSSE POINTE WOODS
MEMORANDUM

6A

RECEIVED

APR 30 2020

CITY OF GROSSE POINTE WOODS
CLERK'S DEPARTMENT

Date: May 7, 2018
To: Mayor and City Council
From: Cathrene Behrens, Treasurer/Comptroller /cb
Re: IBEX Insurance Company – Workers Compensation Excess Coverage

Please find attached a copy of the proposal for the City's Worker's Compensation third party administrative services (York Risk Services) and for our excess workers compensation coverage (Midwest Employers Casualty Co.) provided by Mark Sledzinski of IBEX Insurance Company.

Mr. Sledzinski solicited quotes for the City's excess workers compensation coverage, which is set to expire on June 30, 2020. He reached out to Midwest Employers Casualty Co. (our current carrier) and Safety National Co. who declined to quote based upon the small premium. The following quotes were submitted:

<u>Carrier</u>	<u>Contract Term</u>	<u>Annual Premium</u>	<u>Specific Retention</u>	<u>Premium Savings</u>
Midwest Employers	2 Year	\$59,450	\$450,000	\$0
Midwest Employers	2 Year	\$55,455	\$500,000	\$3,995
Midwest Employers	2 Year	\$50,876	\$550,000	\$8,574
Safety National Co.	No Quote			

The premium of \$59,450 represents a 9% increase over the current premium paid by the City (\$53,378) and I asked why the large increase, Mark advised that the excess premium coverage does have volatility and it is the primary reason that he recommends a two-year contract to "lock-in" the annual premium rate. The difference between the two quotes provided by Midwest Employers Casualty is regarding the specific retention amount that the City would be exposed to. The City currently has a \$450,000 specific retention limit which means that at the time the City has a claim that reaches \$450,000 in expenses our excess policy picks up and begins to pay expenses. Mark advised me no longer offer a specific retention amount of \$500,000 and that the City would be best served by maintaining the current policy terms and a specific retention of \$450,000 so as not to be exposed to the additional \$50,000 or \$100,000 of potential liability. The annual premium the City paid in FY

Based upon Mark's recommendation I would concur that entering into a 2-Year contract with Midwest Employers Casualty Co. would be in the best interests of the City. Specific retention to be maintained at \$450,000 at an annual premium of \$59,450 paid from Fiscal Year 19-20, budget line 632-854-914.000.

Upon receipt of the actual contract from Midwest Employers Casualty Co., it will be forwarded to the City Attorney for review and approval.

Thank you.



Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date: 04/13/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

QUOTE OPTIONS

POLICY TERMS	0226277	0226867				
Named States	MI	MI				
<u>SPECIFIC:</u>						
Specific Limit	STATUTORY	STATUTORY				
Specific Retention	\$450,000	\$450,000				
<u>EMPLOYERS LIABILITY:</u>						
Employers Liability Limit	\$1,000,000	\$1,000,000				
Employers Liability Retention	See Specific	See Specific				
<u>AGGREGATE:</u>						
Aggregate Limit	\$5,000,000	\$5,000,000				
Rate as a % of Normal Premium	442.01%	397.81%				
Estimated Aggregate Retention	\$717,767	\$1,291,983				
Minimum Aggregate Retention	\$703,411	\$1,266,144				
Aggregate Loss Limitation	\$450,000	\$450,000				
<u>RATING BASE:</u>						
Est. Annual Payroll	\$6,836,712	\$6,836,712				
Est. Annual Manual Premium	\$162,387	\$162,387				
Length of Policy (Years)	1.000000	2.000000				
Est. Policy Normal Premium	\$162,387	\$324,774				
Rate as a % of Normal Premium	36.61%	36.61%				
<u>PREMIUM:</u>						
Total Est Policy Prd Premium (including Flat Charges)	\$59,450	\$118,900				
Policy Minimum Premium	\$53,505	\$107,010				
Deposit Premium	\$59,450	\$59,450				
Deposit Flat Charge(s)	NA	NA				
Total Deposit Due	\$59,450	\$59,450				
Terrorism Risk Ins Act of 2002 (incl in Total Deposit Due above)	\$1,784	\$1,784				

CONDITIONS / COMMENTS:

* MECC must be notified of any aircraft changes occurring during the policy period.



Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date: 04/13/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

Quote Option(s) 226867 Include(s) the following Endorsements:

CMB-187	Two Year Policy Short Rate Table
ISI-285	More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11	Amendment to Schedule Item 11
CMB-199	Policyholder Disclosure Notice of Terrorism Insurance
ISI-254-EXC	Aircraft Exclusion
ISI-MI	Michigan

Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits U.S. States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

A. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act through December 31, 2020 is shown in row (A) below. B. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, for the period beyond December 31, 2020 is estimated in row (B) below, and does not include any charges for the portion of losses covered by the United States Government under the Act. (Refer to the paragraph below) and does not include any charges for the portion of losses covered by the United States government under the Act.

Quote Option	0226277	0226867
Portion (A):	\$899	\$899
Portion (B):	\$884	\$884
Combined	\$1,784	\$1,784

Possibility of Additional Premium. The premium for certified acts of terrorism coverage is calculated based in part on the federal participation in payment of terrorism losses as set forth in the Act. The federal program established by the Act is scheduled to terminate at the end of 12/31/20 unless extended by the federal government. If the federal program terminates or if the level or terms of federal participation change, the estimated premium shown in (B) of above may not be appropriate.

When disposition of the federal program is determined, we will recalculate the premium shown in (B) above and will charge additional premium, if indicated.

If we notify you of an additional premium charge, the additional premium will be due as specified in such notice.

Name of Insurer: Midwest Employers Casualty Company
Name of Insured: City of Grosse Pointe Woods



Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2018

Insured: City of Grosse Pointe Woods

Quote Date: 03/07/2018

Policy #: EWC008739

Quote Expiration Date: 60 Days

QUOTE OPTIONS

POLICY TERMS	0214232	0214270	0214271	0214272		
Named States	MI	MI	MI	MI		
SPECIFIC:						
Specific Limit	STATUTORY	STATUTORY	STATUTORY	STATUTORY		
Specific Retention	\$450,000	\$500,000	\$450,000	\$500,000		
EMPLOYERS LIABILITY:						
Employers Liability Limit	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000		
Employers Liability Retention	See Specific	See Specific	See Specific	See Specific		
AGGREGATE:						
Aggregate Limit	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000		
Rate as a % of Normal Premium	343.23%	356.35%	308.91%	320.72%		
Estimated Aggregate Retention	\$688,495	\$714,813	\$1,239,304	\$1,286,684		
Minimum Aggregate Retention	\$674,725	\$700,517	\$1,214,518	\$1,260,950		
Aggregate Loss Limitation	\$450,000	\$500,000	\$450,000	\$500,000		
RATING BASE:						
Est. Annual Payroll	\$6,262,105	\$6,262,105	\$6,262,105	\$6,262,105		
Est. Annual Manual Premium	\$200,593	\$200,593	\$200,593	\$200,593		
Length of Policy (Years)	1.000000	1.000000	2.000000	2.000000		
Est. Policy Normal Premium	\$200,593	\$200,593	\$401,186	\$401,186		
Rate as a % of Normal Premium	26.61%	24.23%	26.61%	24.23%		
PREMIUM:						
Total Est Policy Prd Premium (including Flat Charges)	\$53,378	\$48,604	\$106,756	\$97,208		
Policy Minimum Premium	\$48,040	\$43,743	\$96,080	\$87,487		
Deposit Premium	\$53,378	\$48,604	\$53,378	\$48,604		
Deposit Flat Charge(s)	NA	NA	NA	NA		
Total Deposit Due	\$53,378	\$48,604	\$53,378	\$48,604		
Terrorism Risk Ins Act of 2002	\$1,601	\$1,458	\$1,601	\$1,458		

CONDITIONS / COMMENTS:

* MECC must be notified of any aircraft changes occurring during the policy period.

XONE RSG 3 yr.



Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2018

Insured: City of Grosse Pointe Woods

Quote Date: 03/07/2018

Policy #: EWC008739

Quote Expiration Date: 60 Days

Quote Option(s) 214271, 214272 Include(s) the following Endorsements:

CMB-187	Two Year Policy Short Rate Table
ISI-285	More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11	Amendment to Schedule Item 11
CMB-197	Policyholder Disclosure Notice of Terrorism Insurance
ISI-254-EXC	Aircraft Exclusion
ISI-MI	Michigan



**Policyholder Disclosure
Notice of Terrorism
Insurance Coverage**

Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits United States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, is shown below and does not include any charges for the portion of losses covered by the United States Government under the Act.

	<u>0214232</u>	<u>0214270</u>	<u>0214271</u>	<u>0214272</u>
TRIA Charge	<u>\$1,601</u>	<u>\$1,458</u>	<u>\$1,601</u>	<u>\$1,458</u>

Name of Insurer: Midwest Employers Casualty Company
Name of Insured: City of Grosse Pointe Woods



Excess Workers Compensation Quotation Sheet

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date: 04/23/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

QUOTE OPTIONS

POLICY TERMS	0226868	0226869	0227025	0227026		
Named States	MI	MI	MI	MI		
SPECIFIC:						
Specific Limit	STATUTORY	STATUTORY	STATUTORY	STATUTORY		
Specific Retention	\$500,000	\$500,000	\$550,000	\$550,000		
EMPLOYERS LIABILITY:						
Employers Liability Limit	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000		
Employers Liability Retention	See Specific	See Specific	See Specific	See Specific		
AGGREGATE:						
Aggregate Limit	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000		
Rate as a % of Normal Premium	458.9%	413.01%	475.8%	428.22%		
Estimated Aggregate Retention	\$745,194	\$1,341,349	\$772,637	\$1,390,747		
Minimum Aggregate Retention	\$730,290	\$1,314,522	\$757,185	\$1,362,932		
Aggregate Loss Limitation	\$500,000	\$500,000	\$550,000	\$550,000		
RATING BASE:						
Est. Annual Payroll	\$6,836,712	\$6,836,712	\$6,836,712	\$6,836,712		
Est. Annual Manual Premium	\$162,387	\$162,387	\$162,387	\$162,387		
Length of Policy (Years)	1.000000	2.000000	1.000000	2.000000		
Est. Policy Normal Premium	\$162,387	\$324,774	\$162,387	\$324,774		
Rate as a % of Normal Premium	34.15%	34.15%	31.33%	31.33%		
PREMIUM:						
Total Est Policy Prd Premium (including Flat Charges)	\$55,455	\$110,910	\$50,876	\$101,752		
Policy Minimum Premium	\$49,910	\$99,819	\$45,788	\$91,577		
Deposit Premium	\$55,455	\$55,455	\$50,876	\$50,876		
Deposit Flat Charge(s)	NA	NA	NA	NA		
Total Deposit Due	\$55,455	\$55,455	\$50,876	\$50,876		
Terrorism Risk Ins Act of 2002 (incl in Total Deposit Due above)	\$1,664	\$1,664	\$1,526	\$1,526		

CONDITIONS / COMMENTS:

* MECC must be notified of any aircraft changes occurring during the policy period.



Endorsement Schedule Quotation

Insurer: Midwest Employers Casualty Company

Policy Effective Date: 07/01/2020

Insured: City of Grosse Pointe Woods

Quote Date: 04/23/2020

Policy #: EWC008739

Quote Expiration Date: 60 Days

Quote Option(s) 226869, 227026 Include(s) the following Endorsements:

CMB-187	Two Year Policy Short Rate Table
ISI-285	More Than One Premium Adjustment

The following endorsements apply to all quote options:

CMB-11	Amendment to Schedule Item 11
CMB-199	Policyholder Disclosure Notice of Terrorism Insurance
ISI-254-EXC	Aircraft Exclusion
ISI-MI	Michigan

Coverage for acts of terrorism, as defined in the Terrorism Risk Insurance Act as amended, (the "Act"), is included in the quote for your policy.

As defined in Section 102(1) of the Act: The term "act of terrorism" means any act that is certified by the Secretary of the Treasury—in consultation with the Secretary of Homeland Security, and the Attorney General of the United States—to be an act of terrorism; to be a violent act or an act that is dangerous to human life, property, or infrastructure; to have resulted in damage within the United States, or outside the United States in the case of certain air carriers or vessels or the premises of a United States mission; and to have been committed by an individual or individuals as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the United States Government by coercion. Under your coverage, any losses resulting from certified acts of terrorism may be partially reimbursed by the United States Government under a formula established by the Act.

However, your policy may contain other exclusions which might affect your coverage, such as an exclusion for nuclear events. Under the formula, the United States Government generally reimburses 85% through 2015; 84% beginning on January 1, 2016; 83% beginning on January 1, 2017; 82% beginning on January 1, 2018; 81% beginning on January 1, 2019 and 80% beginning on January 1, 2020 of covered terrorism losses exceeding the statutorily established deductible paid by the insurance company providing the coverage. The Act contains a \$100 billion cap that limits U.S. States Government reimbursement as well as insurers' liability for losses resulting from certified acts of terrorism when the amount of such losses exceeds \$100 billion in any one calendar year. If the aggregate insured losses for all insurers exceed \$100 billion, your coverage may be reduced.

A. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act through December 31, 2020 is shown in row (A) below. B. The portion of your annual premium that is attributable to coverage for acts of terrorism, as defined in the Act, for the period beyond December 31, 2020 is estimated in row (B) below, and does not include any charges for the portion of losses covered by the United States Government under the Act. (Refer to the paragraph below) and does not include any charges for the portion of losses covered by the United States government under the Act.

Quote Option	0226868	0226869	0227025	0227026
Portion (A):	\$839	\$839	\$769	\$769
Portion (B):	\$825	\$825	\$757	\$757
Combined	\$1,664	\$1,664	\$1,526	\$1,526

Possibility of Additional Premium. The premium for certified acts of terrorism coverage is calculated based in part on the federal participation in payment of terrorism losses as set forth in the Act. The federal program established by the Act is scheduled to terminate at the end of 12/31/20 unless extended by the federal government. If the federal program terminates or if the level or terms of federal participation change, the estimated premium shown in (B) of above may not be appropriate.

When disposition of the federal program is determined, we will recalculate the premium shown in (B) above and will charge additional premium, if indicated.

If we notify you of an additional premium charge, the additional premium will be due as specified in such notice.

Name of Insurer: Midwest Employers Casualty Company
Name of Insured: City of Grosse Pointe Woods