



## BOARD OF ADJUSTMENT MEETING

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City Hall Council Chambers, 298 W. Washington  
Thursday, April 21, 2022 at 4:00 PM

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### AGENDA

#### CALL TO ORDER

#### MINUTES

- [1.](#) Approval of March 10, 2022 Minutes

#### PUBLIC HEARING

- [2.](#) Case No.: V2022-003

Applicant Anais Moody is requesting a variance from Section 154.06.6.D.(9) relating to maximum height requirements for property located at 580 W. Vanderbilt Street, being parcel R32708 of S5400 Park Place, Block 1, Lots 1-5 of the City of Stephenville, Erath County, Texas.

- [3.](#) Case No.: V2022-004

Applicant Daniel Toof is requesting a variance from Section 154.05.3.D.(6) relating to minimum depth of rear setback requirements for property located at 191 Davis Avenue, being parcel R76719 of S5200 McAlister Second, Block 2, Lots 17 of the City of Stephenville, Erath County, Texas.

#### ADJOURN

***In accordance with the Americans with Disabilities Act, persons who need accommodation to attend or participate in this meeting should contact City Hall at 254-918-1287 within 48 hours prior to the meeting to request such assistance.***



## BOARD OF ADJUSTMENT MEETING

City Hall Council Chambers, 298 W. Washington  
Thursday, March 10, 2022 at 4:00 PM

### MINUTES

The Board of Adjustment of the City of Stephenville, Texas, convened on Thursday, March 10, 2022 at 4:00 PM, in the Council Chambers at City Hall, 298 West Washington Street, for the purpose of a Regular Business Meeting, with the meeting being open to the public and notice of said meeting, giving the date, time, place and subject thereof, having been posted as prescribed by Chapter 551, Government Code, Vernon's Texas Codes Annotated, with the following members present, to wit:

**MEMBERS PRESENT:** Dr. Moumin Quazi, Chairperson  
David Baskett, Vice Chair  
Darrell Brown  
Ben Tackett  
Kelijon Nance

**OTHERS ATTENDING:** Tina Cox, Board Secretary  
Christina Moon, City Planner

**Prior to meeting, Kelijon Nance was sworn in by City Secretary.**

### CALL TO ORDER

Dr. Moumin Quazi, called the meeting to order at 4:00 p.m.

### MINUTES

- 1. Consider Approval of Minutes – February 10, 2022**  
MOTION by David Baskett, second by Darrell Brown, to approve the minutes. MOTION CARRIED by unanimous vote.

### PUBLIC HEARING

- 2. CASE NO. V2022-002**  
Applicant John Scribner is requesting a variance from Section 154.06.6.D.(5) relating to front setback requirements for property located at 2798 W. Washington Street, being parcel R22338 of A0515 Motley William & City, Lot 6 of the City of Stephenville, Erath County, Texas.

Christina Moon, City Planner, gave the following report:

Mr. Scribner is requesting a variance to allow for the construction of a canopy for drive through ordering station within the 20' setback requirement for corner lot. This lot is one of eight lots in a 20-acre development known as The Stables, which is surrounded by industrial, commercial and retail uses.

Per Section 154.21.1.I. 3.a.1.c., a map showing the setback of main walls of all buildings on the same side of the street within a distance of 200 feet of the applicant's property is not applicable as there are no existing buildings that meet this criteria.

If approved, the canopy and 3 posts will encroach the set-back requirement but have no impact on surrounding properties, existing or proposed utilities, or sight triangles. The encroachment is intended to be a maximum of 15'.

Staff has reviewed the drawings and supports this variance request.

Mathias Haubert, a consultant to the owner, stated that the Chick-fil-A team is anticipating this to be a busy site with a large demand. With that, the drive-thru location as presented allows the most efficient layout to make sure adequate parking and drive-thru stacking are provided. If the drive-thru was shifted, both parking spaces and drive-thru stacking would be reduced. One of the focuses of the Chick-fil-A teams is to get traffic off the streets so traffic does not back up and maximizing the drive-thru and onsite parking is one of the ways we achieve this. Additionally, the encroachment is only for a canopy that is open on all 4 sides. The main building structure itself is presented in compliance with the setbacks.

Chairperson Quazi opened the public hearing.

No one came forward in favor of or against request.

Chairperson Quazi closed the public hearing.

MOTION by David Baskett, second by Ben Tackett, to approve **CASE NO. V2022-002** with a 20-foot building setback variance modification. MOTION CARRIED by unanimous vote.

ADJOURN

The meeting was adjourned at 4:09 p.m.

APPROVED:

ATTEST:

\_\_\_\_\_  
Moumin Quazi, Chair

\_\_\_\_\_  
Tina Cox, Board Secretary

# Board of Adjustment STAFF REPORT



**SUBJECT:** Case No.: V2022-003

Applicant Anais Moody is requesting a variance from Section 154.74.E.2 relating to maximum height requirements for communication towers. The request pertains to property located at W. Vanderbilt Street, being parcel R32708 of S5400 Park Place, Block 1, Lots 1-5 of the City of Stephenville, Erath County, Texas.

**MEETING:** Board of Adjustment – April 21, 2022

**DEPARTMENT:** Development Services

**STAFF CONTACT:** Steve Killen, Director of Development Services

## RECOMMENDATION:

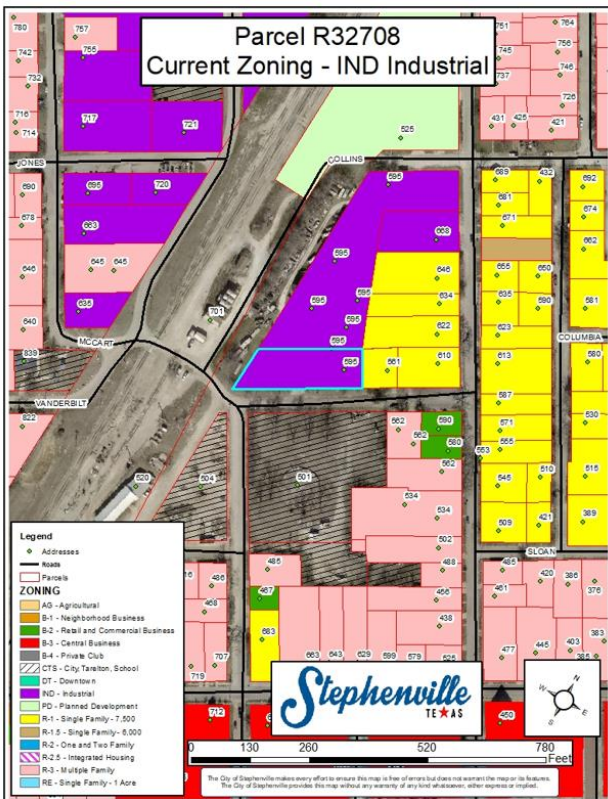
Staff supports the request. The Board, by approving the request, thereby grants special exceptions pursuant to 154.74.E.2, paragraph 10 and 12, to allow the variance for an increase in tower height and equipment mounting at 80’.

## BACKGROUND:

Applicant is requesting a variance to allow an increase in current tower height to 80’ for T-Mobile service strength improvements.

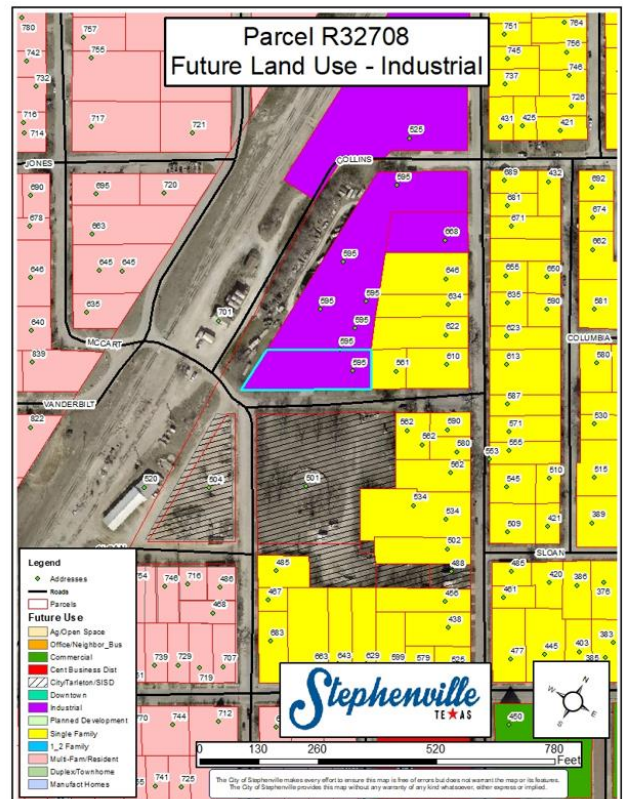
### CURRENT ZONING:

(I) Industrial



### FUTURE LAND USE:

(I) Industrial





- E. *Nonresidential districts ((B-1), (B-2), (B-3), (B-4), (B-5), (I)).* Radio, television, microwave broadcast relay, receiving towers, transmission and re-transmission facilities, satellite receiving only earth stations (home dish antenna), and any electronic emission equipment of a commercial nature shall be allowed in the nonresidential zoning districts if it complies with the following regulations:
1. *Number of antennas per lot:* One antenna facility may be located on a lot of record, co-location is encouraged;
  2. *Height:*
    - a) With the exception of stealth facilities, an antenna facility, exclusive of the height of any attached antenna, shall not exceed 35 feet in height. Provided, however, that an antenna facility shall be permitted additional height at the ratio of one added foot in height for each additional foot of setback beyond the minimum setback required of an accessory building in the zoning district where the antenna facility is located. Regardless of the above, with the exception of stealth facilities, the maximum height for an antenna facility permitted without a special exception in any nonresidential district shall be 80 feet;
    - b) With the exception of stealth facilities, the height of an antenna, including the height of any antenna facility to which they may be fastened or attached, shall not exceed 65 feet in height without a special exception;
    - c) With the exception of stealth facilities, an antenna shall not extend more than fifteen feet above a building on which it is attached;
  3. *Manufacturer's design and specifications:* An antenna facility shall be limited to the number and size of antennas attached to it that are allowed by the antenna facility manufacturer's designs and specifications for maximum wind load requirements;
  4. *Setbacks:* With the exception of stealth facilities, antennas and antenna facilities shall not be permitted in front or side yards;
  5. *Prohibited in easements:* Antenna facilities shall not be permitted in any easement;
  6. *Lights:* No auxiliary or outdoor lighting shall be allowed on antennas located on residentially zoned property except such lights or lighting as may be required by the Federal Aviation Administration or the Federal Communications Commission;
  7. *Construction standards:* A building permit must be obtained prior to the construction and/or installation of a tower, antenna, or mast. Antenna facilities must be installed according to the manufacturers recommendations or under the seal of a registered professional engineer of the State of Texas. Regardless of the above, all such antenna facilities and antennas must meet the current Electronic Industries Association Standard, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and the Building Code;
  8. *Maintenance:* Antenna facilities and antennas obviously not in use or obviously in need of maintenance as determined by the administrative official, shall be removed or brought into compliance within a reasonable amount of time determined by the building official. This shall not preclude immediate action by the administrative official to safeguard life, limb, health, property, and public welfare;
  9. *No extension beyond property lines:* No part of an antenna facility and antennas or any attachment thereto may extend beyond the property lines of the owner of such antenna or antenna facility;
  10. *Special exceptions for noncomplying facilities:* A special exception must be obtained from the board of adjustment for any antenna or tower, which is in a nonresidential zoning district and does not comply with the regulations in this section.
  11. *Stealth facilities:* Stealth facilities, as defined in section 6-10, wireless communication facilities definitions shall be exempt from the height and location requirements of this section. In addition, the administrative official shall be the final authority as to whether or not any facility meets the definition of a "stealth facility."
  12. *Distance from residential properties:* No part of an antenna facility and antennas or any attachment thereto may be constructed within 500 feet of a residential property without a special exception obtained from the board of adjustment.

**VARIANCE:**

## Section 154.21.1.1

1. A variance from the literal enforcement of the Zoning Ordinance in order to achieve a reasonable development of the property. Whenever owing to exceptional and extraordinary conditions, the literal enforcement of the zoning regulations will result in unnecessary hardship in the development of the property, an appeal for a variance may be filed with the Board of Adjustment.

2. When a property owner can show that a strict application of the terms of this ordinance relating to the use, construction or alteration of buildings or structures or the use of land will impose upon him or her practical difficulties or particular hardship, the Board may consider and allow variations of the strict application of the terms of this ordinance if the variation are in harmony with the general purpose and intent of this ordinance, and the Board is satisfied, under the evidence heard by it, that a granting of the variation will not merely serve as a convenience to the applicant, but will alleviate some demonstrable hardship or difficulty so great as to warrant a variation from the Zoning Regulations.

3. The Board may authorize a variance where by reason of exceptional narrowness, shallowness, or shape of specific piece of property of record at the time of the adoption of this ordinance, or by reason of exceptional situation or condition of a specific piece of property, the strict application of a provision of this ordinance would result in peculiar and exceptional practical difficulties and particular hardship upon the owner of the property and amount to a practical confiscation of the property as distinguished from a mere inconvenience to the owner, provided the variation can be granted without substantial detriment to the public good, and without substantially impairing the general purpose and intent of the comprehensive plan as established by the regulations and provisions contained in this ordinance.

(a) Papers required. An appeal for a variance shall include:

1. A site plan, drawn to scale, showing the location and dimension of the lot and of all existing and proposed improvements:

a. When an appeal is based upon hardship resulting from sharp changes in topography or unusual terrain features, the site plan shall include topographic information related to known base points of surveys, and profiles of the particular problem involved, including relationship to topographic features of adjoining properties.

b. When an appeal is submitted for variance of side yard or rear yard requirements, the applicant shall provide the same information for the properties adjoining the common lot line as may be applicable to the appealed requirements.

c. When an appeal is submitted for a variance from front yard setback, or for side yard setback on aside street, the applicant shall furnish a strip map showing the setback of main walls of all buildings on the same side of the street within a distance of 200 feet of the applicant's property.

2. A statement of facts and reasons why the Zoning Regulations should not be applied to the property in question and how the standards governing the Board's action would be satisfied; and

3. A statement by the Enforcing Officer citing the reasons for refusing to issue a permit under the plans submitted.

(b) Basis for action.

1. Before acting on an appeal for variance the Board shall consider:

a. The facts filed with the application;

b. The testimony presented at the public hearing on the appeal;

c. The City Staff's technical report on the appeal; and

d. The Board's findings in its field inspection of the property.

2. The Board may grant an appeal, subject to such terms and conditions as it may fix, provided the applicant has demonstrate to the satisfaction of the Board that the conditions governing the granting of a variance as set forth in the Zoning Regulations are satisfied and that the decisions of the Board would be in the interest of the community and would carry out the spirit and intent of the Zoning Regulations.

**ALTERNATIVES:**

1. Approve the Variance Request
2. Deny the Variance Request

**BOARD OF ADJUSTMENT  
APPEAL APPLICATION**

1. APPLICANT/OWNER: Anais Moody  
First Name Last Name

ADDRESS: 2812 N Norwalk St. Suite 121 4802086534  
Street/P.O. Box Phone No  
Mesa, AZ 85215  
City State Zip Code

2. PROPERTY DESCRIPTION: 580 W Vanderbilt St., Stephenville, TX 76401  
Street Address

3. LEGAL DESCRIPTION: 1-5 1 Park Place  
Lot(s) Block(s) Subdivision: Addition

4. PRESENT ZONING: \_\_\_\_\_  
Zoning District Title

APPLICANTS REQUEST FOR AN APPEAL PERTAINS TO THE FOLLOWING:

- ( ) FOR INTERPRETATION of the meaning or intent of the Zoning Ordinance.
- ( ) FOR A SPECIAL EXCEPTION for use or development of property.
- ( x ) A VARIANCE from the literal enforcement of the Zoning Ordinance in order to achieve a reasonable development of property.

5. APPLICANTS REQUEST IS AS FOLLOWS: T-Mobile is looking to increase the current tower height from 70'  
There is an existing carrier (AT&T) with antennas mounted at the 67' height; however, T-Mobile is looking to mount their antennas  
higher at 80', so we would like to request a variance. This will provide T-Mobile customers in the City of Stephenville with  
improved service.

(Attach an additional sheet if necessary).

Anais Moody  
Signature of Applicant

3.14.22  
Date

Christina Ma  
Signature of City Official Received

March 15, 2022  
Date Received by  
Community Dev. Dept.

FOR OFFICE USE ONLY

CHECKLIST

	<i>Initial(s)</i>	<i>Date</i>
1. Application Received:	_____	_____
2. Application Reviewed as Follows:		
a. General Description of Location (Street, address, or "Northwest Corner of Avenue C and Avenue E").	_____	_____
b. Legal Description of Property (Lot and Block Number/Metes and bounds, Survey and Abstract).	_____	_____
c. Size of Tract by Dimensions and Area. (Shown on Plat drawn to scale).	_____	_____
d. Present Zoning Classification	_____	_____
3. Applicant's Fee \$_____ received.	_____	_____
4. Site Plan Attached.	_____	_____
5. Property owners of record within 200 feet notified by mail.	_____	_____
6. Notice of public hearing posted.	_____	_____
7. Notice of public hearing delivered to newspaper.	_____	_____
8. Application reviewed by city officials: (Initial where applicable)		
a. Community Development Dept.	_____	_____
b. Public Works Department	_____	_____
c. Fire Department	_____	_____
d. Police Department	_____	_____
e. Other Departments (Specify)	_____	_____
9. Agenda packet mailed to board members.	_____	_____



SITE NAME/ID: Stephenville/TX09257-A Transaction: Capitol

Item 2.

**ZONING/PERMITTING COMPLETION FORM**

Address: 580 W. Vanderbilt, Stephenville, TX 76401

Landlord: Robert and Angela Berry

Jurisdiction: City of Stephenville Zoning District: \_\_\_\_\_

Zoning Approval Type: No zoning or permitting approval Case #: \_\_\_\_\_

Approval Date: \_\_\_\_\_ Approved Height: 70 Tower Build Date: \_\_\_\_\_

Conditions of Approval:	Yes	No	N/A
Removal Bond _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Site Plan Submittal _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fall Zone _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Periodic Inspections _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Periodic Reporting _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Approval Renewal _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Additional Conditions _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Transfer of tower requires new Indemnification from new owner.</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

City/County POC/Dept. Betty Chew

Phone: 254-918-1216 Fax: 254-918-1207

Submitted by: Datcha Guba Title: Zoning Compliance

Date: 6/26/06 Telephone #: 561-226-9453

**TO BE COMPLETED BY CORPORATE**

	Yes	No	N/A	
Zoning Approval Attached (required)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ordinance Attached (required)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Building Permit Attached (required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Date Recd</u>
				<u>2/18/05</u>
Certificate of Occupancy or Compliance (CO) attached (required)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>8/17/05</u>

Zoning Manager Approval:  Date 6/28/2006  
Diane E. Borchardt, AICP

Item 2.

CITY OF STEPHENVILLE, TEXAS  
PERMIT NO: 050234

JOB ADDRESS: 580 W VANDERBILT 2/18/2005

LOT NO: 1-5 BLOCK NO: 1 SUBDIVISION: PARK PLACE

OWNER: ROBERT BERRY  
1020 N GRAHAM  
STEPHENVILLE TX 76401

CONTRACTOR: TEXAS TOWER SERVICE 512-801-8818  
2330 MCKOWN DR  
NORMAN OK 73072

DESCRIPTION: 70' MONOPOLE TOWER TDLR NO:  
SQUARE FEET: 0.00 ZONE: IND  
CONSTRUCTION: FLOOD: NO

ELECTRICAL CONTRACTOR: RUTLEDGE ELECTRIC  
PLUMBING CONTRACTOR:  
MECHANICAL CONTRACTOR:  
STRUCTURAL ENGINEER: KEITH JAMES TINDALL  
MECHANICAL ENGINEER:  
ELECTRICAL ENGINEER:  
DRAINAGE ENGINEER:

\*\*\*\*\* NOTICE \*\*\*\*\*

EROSION CONTROL MATERIALS MUST BE IN PLACE BEFORE INSPECTIONS COMMENCE.

TOILET FACILITIES SHALL BE PROVIDED FOR CONSTRUCTION WORKERS AND SUCH FACILITIES SHALL BE MAINTAINED IN A SANITARY CONDITION.

FLOOR ELEVATIONS SHALL BE A MINIMUM OF 1 (ONE) FOOT ABOVE THE STREET CURB OR EDGE OF ALLEY, WHICHEVER IS LOWER. A 6 (SIX) INCH MINIMUM MUST BE MAINTAINED BETWEEN FLOOR ELEVATION AND FINISHED GRADE AT THE PARAMETER OF STRUCTURE. REQUIRED SLAB ELEVATION OF RECORD:

THIS PERMIT BECOMES NULL AND VOID IF WORK OR CONSTRUCTION DOES NOT COMMENCE WITHIN 180 DAYS OF CONSTRUCTION OR IF WORK IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AT ANY TIME AFTER WORK HAS COMMENCED.

THE GRANTING OF THIS PERMIT DOES NOT PRESUME TO GIVE AUTHORITY TO VIOLATE OR CANCEL THE PROVISIONS OF CITY, STATE, OR OTHER LOCAL LAWS REGULATING CONSTRUCTION OR THE PERFORMANCE OF CONSTRUCTION.

VALUATION: \$ 20,000.00 PERMIT FEE: 308.00

I HEREBY CERTIFY THAT I HAVE READ AND EXAMINED THIS PERMIT AND APPLICATION AND KNOW THE SAME TO BE TRUE AND CORRECT. ALL PROVISION AND LAWS, AND ORDINANCES GOVERNING THIS TYPE OF WORK WILL BE COMPLIED WITH WHETHER SPECIFIED OR NOT.

APPLICANT: *[Signature]*

APPROVED: *[Signature]*

*do. no C/O inspection until the letter for waiver of Liability is received by the City of Stephenville.*

INDEMNITY AGREEMENT

This is an Indemnity Agreement between Capitol Towers, LTD., a Texas limited Partnership (hereafter Capitol), and the City of Stephenville (hereafter City).

In consideration of City granting a building permit to Capitol for purposes of erecting a monopole on Part of Lot 1, Block 1, Park Place Addition to the City of Stephenville, Erath County, Texas, and other good and valuable consideration;

Capitol hereby agrees to indemnify and hold City harmless from any damage City might incur due to the construction, erection, operation or maintenance of said monopole; including, but not limited to, damage to streets, power lines, curbs, gutters, vehicles or vehicular traffic or any personal injury.

This agreement is made and enforceable in Erath County, Texas, is subject to the laws of the State of Texas and is binding on the successors and assigns of the parties to this Agreement.

EXECUTED this 4<sup>th</sup> day of April March, 2005.

CAPITOL:

By: [Signature]  
Capitol Towers, LTD

CITY:

By: [Signature]  
RUSSELL E. JERGENS, Mayor

STATE OF TEXAS

§  
§  
§

COUNTY OF ERATH

This instrument was acknowledged before me on March 30<sup>th</sup> 2005 by RUSSELL E. JERGENS, Mayor of the City of Stephenville, a municipal corporation, on behalf of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 30<sup>th</sup> day of March, 2005.

[Signature]  
NOTARY PUBLIC



Item 2.

STATE OF <sup>Oklahoma</sup> TEXAS §  
COUNTY OF <sup>Cleveland</sup> ERATH §

This instrument was acknowledged before me on <sup>April</sup> ~~March~~ 4, 2005 by Brian S. Theriault, VP Texas Towers, and General Partner of Capitol Towers, LTD, a Texas limited partnership, on behalf on said partnership.

*Dianne Theriault*  
#17144  
Exp. 10-11-08

Item 2.

DATE OF ISSUANCE: AUGUST 17, 2005

### CERTIFICATE OF OCCUPANCY

City of Stephenville, Texas

*This Certificate issued pursuant to the requirements of the International Building Code certifying that at the time of issuance the structure was in compliance with the codes and various ordinances of the City of Stephenville, Texas. No change is to be made in any building or the use of any building or premises which is inconsistent with this certificate.*

*Building Address : 580 W. VANDERBILT*

*Business Name : TEXAS TOWER SERVICE*

*Business Owner : TEXAS TOWER SERVICE*

*Property Owner : ROBERT BERRY*

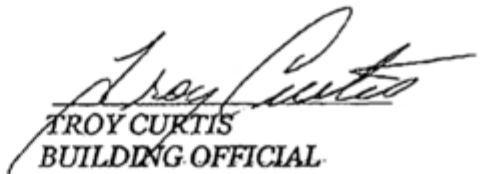
*Legal Description : LOT 1-5, BLOCK 1, PARK PLACE ADDITION*

*Proposed Use : TOWER*

*Zoning : IND*

*Date Inspected : AUGUST 15, 2005*

**DISPLAY IN PUBLIC PLACE**

  
TROY CURTIS  
BUILDING OFFICIAL



**SITE GROUND LEASE AGREEMENT**

This Lease Agreement ("Agreement") is entered into this \_\_\_\_\_ of January 2005, between Capitol Towers, Ltd., a Texas limited partnership, ("Lessee"), and Robert Berry and wife, Angela Berry ("Lessor"). For good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. **Premises** Subject to the following terms and conditions, Lessor leases to Lessee a portion of the real property (the "Property") described in the attached Exhibit A. Lessee's use of the Property shall be limited to that portion of the Property, together with easements for access and utilities, described and depicted in attached Exhibit B (collectively referred to hereinafter as the "Premises"). The Premises are located on a tract of land being Lots 1, 2, 3, 4 and 5, Block 1, Park Place Addition to the City of Stephenville, situated in the County of Erath, in the State of Texas, being more fully described in a Deed filed of record in Volume 1003, Page 478, of the Erath County Deed records, and comprises approximately 2500 square feet, together with ingress and egress.

2. **Term** The term of this Agreement shall be Five (5) years commencing not later than the 1<sup>st</sup> day of \_\_\_\_\_, 2005 or the start of construction, whichever first occurs ("Commencement Date") and terminating on the Fifth anniversary of the Commencement Date (the "Term") unless otherwise terminated as provided in Paragraph 16. Lessee shall have the right to extend the Term for Five (5) successive five (5) year periods (the "Renewal Terms") on the same terms and conditions as set forth herein. This Agreement shall automatically be extended for each successive Renewal Term unless Lessee notifies Lessor of its intention not to exercise its option to renew at least ninety (90) days prior to the expiration of the then existing Term or Renewal Term.

3. **Contingencies** This Agreement is subject to the following contingencies:

(a) Lessee shall obtain all governmental licenses, permits and approvals required for its use of the Premises.

(b) Lessee may perform some or all of the following activities ("Permitted Activities"): surveys, geo-technical soil borings and analyses, Phase I environmental audits, boundary surveys, title searches, radio propagation studies and such other tests and inspections of the Property which Lessee may deem necessary or advisable, which studies SHALL NOT reveal obstructions, encroachments or defects which Lessee determines would interfere with Lessee's intended use of the Property. Lessor consents to Lessee, its employees, agents and independent contractors entering upon the Property and performing the Permitted Activities. Lessee agrees to repair any damage to the Property that might have been caused in connection with any of the Permitted Activities.

4. **Rent** Within 15 days of the Commencement Date and within five (5) days of January 1 of each year thereafter, Lessee shall pay to Lessor as rent \_\_\_\_\_ per year ("Rent"). Rent for any fractional year at the beginning or at the end of the Term or Renewal Term shall be prorated. Rental payments for each Renewal Term shall be increased at the commencement of such Renewal Term by \_\_\_\_\_ over the annual rental payment for the immediately preceding Term or immediately preceding Renewal Term, as applicable.

5. **Use** The Premises may be used by Lessee for any activity in connection with the provision of communications services. Lessor agrees to cooperate with Lessee, at Lessee's expense, in making application for and obtaining all licenses, permits and any and all other necessary approvals that may be required for Lessee's intended use of the Premises.

Site Name: Stephenville

## 6. Facilities; Utilities; Access

(a) Lessee has the right to erect, maintain and operate on the Premises a telecommunications facility, including without limitation, an antenna tower or pole and foundation, utility lines, transmission lines, air conditioned equipment shelter(s), electronic equipment, radio transmitting and receiving antennas, supporting equipment and structures thereto ("Lessee Facilities"). Lessee has the right to do all work necessary to prepare, maintain and alter the Premises for Lessee's business operations. All of Lessee's construction and installation work shall be performed at Lessee's sole cost and expense and in a good and workmanlike manner. The survey and precise location of the Premises and Lessee Facilities shall be subject to the prior written approval of Lessor, which shall be given by initialing and returning to Lessee a copy of the final survey within five (5) business days of submission of the survey to Lessor for its review. Upon Lessor's failure to respond in writing to Lessee's proposed survey within five (5) business days, the survey will be deemed approved. After approval, the survey shall be considered incorporated in this Agreement as Exhibit "B". Notwithstanding any other provision to the contrary, Lessee shall have the right to approve the plans and supervise the work of any future third party carrier ("Future Carrier") co-locating on the Premises.

(b) Title to the Lessee Facilities shall be held by Lessee. All of Lessee Facilities shall remain Lessee's personal property and are not fixtures. Lessee has the right to remove all Lessee Facilities at its sole expense on or before the expiration or earlier termination of the Agreement; provided Lessee repairs any damage to the Premises caused by such removal. Lessor waives any lien rights it may have concerning the Lessee Facilities. Lessor acknowledges that Lessee may now or in the future enter into financing arrangements with financing entities for the financing of the Lessee Facilities (the "Collateral") with a third party financing entity. In connection therewith, Lessor (i) consents to the installation of the Collateral; (ii) disclaims any interest in the Collateral as fixtures or otherwise; and (iii) agrees that the Collateral shall be exempt from execution, foreclosure, sale, levy, attachment, or distress for any Rent due or to become due and that such Collateral may be removed at any time without recourse to legal proceedings ("Lessor Consents"). Within ninety (90) days following termination or expiration of this Agreement, Lessee shall remove any foundations a minimum of three (3) feet below grade level and remove any remaining equipment such as buildings, tower or other structures or equipment installed or owned by the Lessee.

(c) Lessee shall pay for the electricity it consumes in its operations. Lessor agrees to sign such documents or easements as may be required by said utility companies to provide such service. Any easement necessary for such power or other utilities will be at a location acceptable to Lessor and the servicing utility company, and shall run with the Term and Renewal Terms of the Agreement.

(d) Lessee, Lessee's employees, agents, subcontractors, lenders and invitees shall have access to the Premises without notice to Lessor twenty-four (24) hours a day, seven (7) days a week, at no charge. Lessor grants to Lessee, and its agents, employees, contractors, guests and invitees, a non-exclusive right and easement for pedestrian and vehicular ingress and egress across that portion of the Property described in Exhibit B.

(e) Lessor acknowledges that Lessee has or will enter into certain financial arrangements with certain financial institutions as administrative agent for itself and various other lenders ("the Lenders"), also collectively referred to as ("Mortgagee") and in connection therewith the Lenders will take a security interest in certain equipment and the products and proceeds thereof (collectively "the Collateral") to be installed upon the Premises. Lessor acknowledges and represents that the Lessor Consents shall inure to the benefit of Lessee, the Lenders and any replacement or refinancing lenders and their successors and assigns for so long as the Lease Agreement remains in effect.

(f) Lessor further acknowledges and represents that Lessee will sublet a portion of the Premises as well as space on the constructed Tower to Future Carriers for placement of antenna and communication equipment upon the Premises and the constructed Tower. In connection therewith, Lessor consents to the placement of Future Carriers' antenna and communication equipment and acknowledges and represents that the Lessor Consents, as defined herein, shall inure to the benefit of the Future Carriers, their lenders and their successors and assigns.

Site Name: Stephenville

7. **Interference** Lessee shall not use the Premises in any way which interferes with the use of the Property by Lessor, or tenants or licensees of Lessor, with rights to the Property prior in time to Lessee's (subject to Lessee's rights under this Agreement, including non-interference). Similarly, Lessor shall not use, nor shall Lessor permit its tenants, licensees, employees, invitees or agents to use any portion of Lessor's properties in any way which interferes with the operations of Lessee. Such interference shall be deemed a material breach by the interfering party, who shall, upon notice from the other, be responsible for terminating said interference. In the event any such interference does not cease within twenty-four (24) hours of receipt of notice, the parties acknowledge that continuing interference may cause irreparable injury and, therefore, the injured party shall have the right, in addition to any other rights that it may have at law or in equity, to bring action to enjoin such interference or to terminate this Agreement immediately upon notice.

8. **Taxes** Lessee shall pay any personal property taxes assessed on, or any portion of such taxes attributable to, the Lessee Facilities. Lessor shall pay when due all real property taxes and all other fees and assessments attributable to the Premises.

9. **Hold Harmless** Lessee agrees to hold Lessor harmless from claims arising from the installation, use, maintenance, repair or removal of the Lessee Facilities, except for claims arising from the negligence or intentional acts of Lessor, its employees, agents or independent contractors. Lessor agrees to defend, indemnify and hold harmless Lessee from any and all claims arising from the use of the Property excluding the Premises by Lessor, Lessor's agents, assigns and permittees or by third parties.

10. **Condemnation.**

(a) If the Premises shall be acquired by the right of condemnation or eminent domain for any public or quasi-public use or purpose, or sold to a condemning authority under a threat of condemnation, then the term of this Agreement shall cease and terminate as of the date of title vesting in such proceeding (or sale), and all rentals shall be paid up to that date.

(b) In the event of any condemnation, taking, or sale, whether whole or partial, Lessor and Lessee shall be entitled to receive and retain such separate award and portions of lump sum awards as may be allocated to their respective interests in any condemnation proceedings, or as may be otherwise agreed. Termination of this Agreement shall not affect the right of the parties to such awards.

11. **Assignments and Subletting**

(a) Lessee may assign, all or any part of its interest in this Agreement or in the Premises without the prior written consent of Lessor subject to the assignee assuming all of Lessee's obligations herein and subject to any financing entity's interest, if any, in this Agreement as set forth in Paragraph 6 above. Lessor may assign this Agreement upon written notice to Lessee, subject to the assignee assuming all of Lessor's obligations herein, including but not limited to, those set forth in Paragraph 6 above. Lessee may, without Lessor's consent, sublet or license all or any portion of the Premises to one or more entities.

(b) Notwithstanding anything to the contrary contained in this Agreement, Lessee may assign, mortgage, pledge, hypothecate or otherwise transfer without Lessor's consent Lessee's interest in this Agreement to any financing entity, or agent on behalf of any financing entity (hereafter, collectively referred to as "Mortgagees") to whom Lessee (i) has obligations for borrowed money or in respect of guaranties thereof, (ii) has obligations evidenced by bonds, debentures, notes or similar instruments, or (iii) has obligations under or with respect to letters of credit, bankers acceptances and similar facilities or in respect of guaranties thereof. Lessee shall give written notice to Lessor of any such assignment, mortgage, pledge or transfer of Lessee's interest in this Agreement.

(c) Lessor agrees to notify Lessee and Lessee's Mortgagees simultaneously of any default by Lessee and to give Mortgagees the same right to cure any default as Lessee, except that a cure period for any Mortgagee shall not be less than ten (10) days after the receipt of the default notice. If a termination, disaffirmance or rejection of the Agreement by Lessee pursuant to any laws (including any bankruptcy or insolvency laws) shall occur, or if Lessor shall terminate this Agreement for any reason, Lessor will give to the Mortgagees the right to enter upon the Premises during a thirty (30) day period commencing upon the Site Name: Stephenville

Mortgagees' receipt of such notice for the purpose of removing Lessee's Facilities. Lessor acknowledges that any Mortgagees shall be third-party beneficiaries of this Agreement.

12. **Warranty of Title and Quiet Enjoyment** Lessor warrants that: (i) Lessor owns the Property in fee simple and has rights of access thereto and the Property is free and clear of all liens, encumbrances and restrictions other than those of record; (ii) Lessor has full right to make and perform this Agreement; and (iii) Lessor covenants and agrees with Lessee that upon Lessee paying the Rent and observing and performing all the terms, covenants and conditions on Lessee's part to be observed and performed, Lessee may peacefully and quietly enjoy the Premises. Both parties agree that Lessor may subject its interest in the Premises to a mortgage loan, provided that any such lender shall agree to be bound by the terms of this Agreement, and such lender shall not disturb Lessee's use or possession of the Premises in the event of a foreclosure of such lien and shall not join Lessee as a party defendant in any such foreclosure proceedings, so long as Lessee is not in default under the terms of this Agreement.

13. **Repairs** Lessee shall not be required to make any repairs to the Premises or Property unless such repairs shall be necessitated by reason of the default or neglect of Lessee. Except as set forth in Paragraph 6 above, Lessee shall remove its personal property within ninety (90) days following expiration or termination of this Agreement. Within ninety (90) days following termination or expiration of this Agreement, Lessee shall remove any foundations to a depth of three (3) feet below grade and restore the Premises as nearly as is reasonably possible to its original condition, reasonable wear and tear excepted. Lessee will not be responsible for the replacement of any trees, shrubs, or other vegetation, nor will Lessee be required to remove from the Premises or the Property any underground facilities.

14. **Notices** All notices, requests, demands, rent payments and other communications hereunder shall be in writing and shall be deemed given if personally delivered or mailed, certified mail, return receipt requested, or sent by overnight carrier to the following addressed:

If to Lessor, to:

Robert Berry and wife, Angela Berry  
1766 CR 424  
Stephenville, Texas 76401-8881  
(254) 965-3194

If to Lessee, to:

Capitol Towers, Ltd.  
2330 McKown Drive, Suite A  
Norman, OK 73072  
Tel: (405) 329-5522

15. **Hazardous Materials** Lessee represents, warrants and covenants to Lessor that Lessee shall at no time during the Term and any Renewal Term of this Agreement use or permit the Premises to be used in violation of any Environmental Regulations. Lessee shall not introduce any Hazardous Materials onto the Premises, except for those contained in its back-up power batteries, propane and such other properly stored, reasonable quantities of common materials used in its telecommunications operations. Lessor represents, warrants and covenants that the Premises and Property have not been used for the generation, storage, treatment or disposal of Hazardous Materials. In addition, Lessor represents, warrants and covenants that no Hazardous Materials or underground storage tanks are located on or near the Premises or Property. During the Term and any Renewal Term, Lessor shall handle, store and dispose of all Hazardous Materials it brings onto the Premises in accordance with all federal, state and local laws and regulations, and shall impose on any lessee, licensee or other party using any portion of the Property the same obligations. If Hazardous Materials are deposited as a result of any act or omission of Lessor, Lessee shall have the right to terminate this Agreement, and Lessor shall indemnify and hold Lessee harmless from any and all claims arising out of such Hazardous Materials or under any Environmental Regulations, which indemnity shall survive the termination of this Agreement. For the purposes of these provisions, "Hazardous Materials" means any chemical, pollutant or waste that is presently identified as hazardous, toxic or dangerous under any applicable federal, state or local law or regulations. As used herein, "Environmental Regulations" shall mean all laws, statutes, regulations and judicial interpretations of the United States and the State where the Premises are located or either of them which relate to the prevention or elimination of pollution or the protection of the environment.

Site Name: Stephenville

16. **Defaults and Remedies.** This Agreement may be terminated on thirty (30) days prior written notice as follows: (i) by either party upon a default of any covenant or term thereof by the other party, which default is not cured within sixty (60) days of receipt of written notice of default, provided that the grace period for any monetary default is ten (10) business days from receipt of written notice, and, provided further that any non-monetary default which cannot be cured within such sixty (60) day period shall not be a default hereunder so long as such defaulting party diligently proceeds to cure such default upon receipt of notice thereof; or (ii) by Lessee for any reason or no reason, provided Lessee delivers written notice of early termination to Lessor no later than thirty (30) days prior to the Commencement Date; or (iii) after the Commencement Date by Lessee if Lessee determines that the Premises are not appropriate for its operations for economic or technological reasons, including, without limitation, signal interference. In the case of any default under this provision by either party, notice of such default shall be given to all subtenants (carriers) of the Lessee.

17. **Miscellaneous**

(a) This Agreement applies to and binds the heirs, successors, executors, personal representatives, administrators and assigns of the parties to this Agreement.

(b) This Agreement is governed by the laws of the State in which the Premises are located.

(c) Lessor agrees promptly to execute and deliver to Lessee a recordable Memorandum of this Agreement in the form of Exhibit C; Lessor acknowledges that any Mortgagees of Lessee, in order to protect such Mortgagees' interests with respect to Lessee's interests in this Agreement and Lessee's Facility, may file or record such documentation as is normal and customary in order to protect the interest of such Mortgagees.

(d) Lessor agrees to use its best efforts to obtain a Subordination, Non-disturbance and Attornment Agreement in the form attached as Exhibit D hereto.

(e) This Agreement (including the Exhibits) constitutes the entire agreement between the parties and supersedes all prior written and verbal agreements, representations, promises or understandings between the parties. Any amendments to this Agreement must be in writing and executed by both parties.

(f) If any provision of this Agreement is invalid or unenforceable with respect to any party, the remainder of this Agreement or the application of such provision to persons other than those as to whom it is held invalid or unenforceable, will not be affected and each provision of this Agreement will be valid and enforceable to the fullest extent permitted by law.

(g) The prevailing party in any action or proceeding in court or mutually agreed upon arbitration proceeding to enforce the terms of this Agreement is entitled to receive its reasonable attorneys' fees and other reasonable enforcement costs and expenses from the non-prevailing party.

Site Name: Stephenville



IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

**LESSOR:**

By: Robert Berry

Name: Robert Berry

Date: 1-5-05

Tax ID.#: 454-43-4706

By: Angela Berry

Name: Angela Berry

Date: 1-5-05

Tax ID.#: 466 619701

**LESSEE:**

Capitol Towers, Ltd.,  
a Texas Limited Partnership

By: Brian S. Theriault

Name: Brian S. Theriault, VP of Texas Tower  
Service, Inc., as General Partner

Date: 1-7-05

Site Name: Stephenville

EXHIBIT A  
DESCRIPTION OF LAND

to the Agreement dated January \_\_\_\_\_, 2005, by and between Robert Berry and wife, Angela Berry, as Lessor, and Capitol Towers, Ltd., a Texas limited partnership, as Lessee.

The Land is described and/or depicted as follows (metes and bounds description) Tracts or Parcels of land, together with ingress and egress, out of Lots 1-5 inclusive, Block 1, Park Place Addition to the city of Stephenville, County of Erath, in the State of Texas, being more fully described in a Deed filed of record in Volume 1003, Page 478, of the Erath County Deed Records.

Site Name: Stephenville

## EXHIBIT B

## DESCRIPTION OF PREMISES

to the Agreement dated January \_\_\_\_, 2005, by and between Robert Berry and wife, Angela Berry, as Lessor, and Capitol Towers, Ltd., a Texas limited partnership, as Lessee.

The Premises are described and/or depicted as follows: 50 feet by 50 feet parcel, and to include ingress, egress and utility easements, out of the land described in Exhibit A. **THE ACTUAL PREMISES WILL BE DETERMINED BY A SURVEY AND APPROVED, IN WRITING, BY LESSOR AND LESSEE, AND ATTACHED HERETO AND MADE A PART HEREOF.**

**A DRAWING WILL BE PREPARED FOR YOUR REVIEW  
AND ATTACHED FOR YOUR APPROVAL.**

## Notes:

1. This Exhibit may be replaced by a land survey of the Premises once it is received by Lessee.
2. Setback of the Premises from the Land's boundaries shall be the distance required by the applicable governmental authorities.
3. Width of access road shall be the width required by the applicable governmental authorities, including police and fire departments.

Site Name: Stephenville

EXHIBIT C

MEMORANDUM OF AGREEMENT

CLERK: Please return this document to:

Cimarron Land Services, Inc.  
928 Robtrice Court  
Edmond, OK 73034  
(405) 359-1681

This Memorandum of Agreement is entered into on this \_\_\_\_ day of \_\_\_\_\_, 2005, by and between Robert Berry and wife, Angela Berry, (hereinafter referred to as "Lessor") and Capitol Towers, Ltd., with offices at 2330 McKown Drive, Suite A, Norman, OK 73072, (hereinafter referred to as "Lessee").

1. Lessor and Lessee entered into a Site Ground Lease Agreement ("Agreement") on the \_\_\_\_ day of January \_\_\_\_\_, 2005, for the purpose of installing, operating and maintaining a radio communications facility and other improvements. All of the foregoing is set forth in the Agreement.
2. The term of the Agreement is for Five (5) years commencing not later than the 1st day of \_\_\_\_\_, 2005 or the start of construction, whichever first occurs ("Commencement Date"), and terminating on the fifth (5<sup>th</sup>) anniversary of the Commencement Date with five (5) successive Five (5) year options to renew.
3. The Land which is the subject of the Agreement is described in Exhibit A annexed hereto. The portion of the Land being leased to Lessee (the "Premises") is described in Exhibit B annexed hereto.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Agreement as of the \_\_\_\_ day of \_\_\_\_\_, 2005.

LESSOR:

By: Robert Berry

Name: Robert Berry

Date: 1/5/05

By: Angela Berry

Name: Angela Berry

Date: 1-5-05

LESSEE:

Capitol Towers, Ltd.,  
a Texas limited partnership

By: Brian S. Theriault

Name: Brian S. Theriault, VP of Texas Tower Service, Inc., as General Partner

Title: Vice President

Date: 1-7-05

Site Name: Stephenville

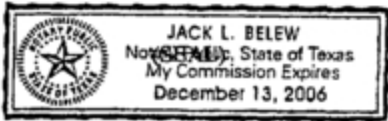
ACKNOWLEDGEMENTS

STATE OF TEXAS )

COUNTY OF ERATH )

On this 5<sup>th</sup> day of January, 2005, before me the undersigned Notary Public, personally appeared Robert Berry and wife, Angela Berry, to me known to be the identical persons who executed in the name of the maker thereof to the within and foregoing instrument and acknowledged to me that she executed the same as her free and voluntary act and deed, in the capacity and for the uses and purposes set forth therein.

Given under my hand and seal the day and year first written above.



*Jack L. Belew*

Notary Public in  
And for the State of Texas

Commission expires: \_\_\_\_\_

Site Name: Stephenville

STATE OF OKLAHOMA )  
COUNTY OF OKLAHOMA )

On this 7<sup>th</sup> day of January, 2005, before me the undersigned Notary Public, personally appeared Brian S. Theriault, Vice President for Texas Tower Service, Inc., as General Partner of Capitol Towers, Ltd., a Texas Limited Partnership, to me known to be the identical person who executed in the name of the maker thereof to the within and foregoing instrument and acknowledged to me that he executed the same as his free and voluntary act and deed, in the capacity and for the uses and purposes set forth therein.

Given under my hand and seal the day and year first written above.

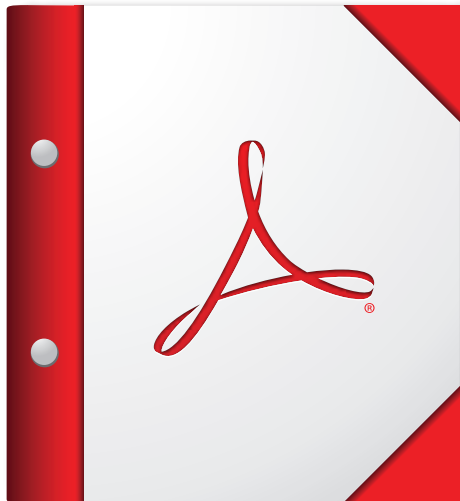


Brian Theriault

Notary Public in  
and for the State of Oklahoma

Commission Number: 17144

Site Name: Stephenville



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**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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**Post-Mod Structural Analysis Report**

**Existing 79 ft Sabre Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: TX09257-A**

**Customer Site Name: Stephenville B**

**Carrier Name: T-Mobile (App#: 107892, v4)**

**Carrier Site ID / Name: DA01789B / DA01789B**

**Site Location: 580 W Vanderbilt**

**Stephenville, Texas**

**Erath County**

**Latitude: 32.222124**

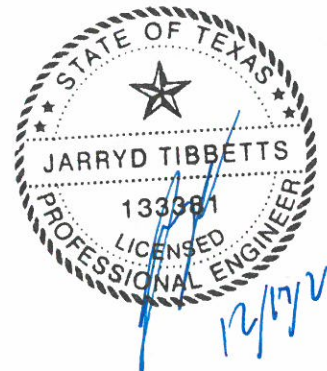
**Longitude: -98.208694**

**Analysis Result:**

**Max Structural Usage: 75.6% [Pass]**

**Max Foundation Usage: 72.4% [Pass]**

**Report Prepared By: Walter Velez**



Tower Engineering Solutions, LLC  
Texas Registered Engineering Firm  
F-15688





**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## **Post-Mod Structural Analysis Report**

**Existing 79 ft Sabre Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: TX09257-A**

**Customer Site Name: Stephenville B**

**Carrier Name: T-Mobile (App#: 107892, v4)**

**Carrier Site ID / Name: DA01789B / DA01789B**

**Site Location: 580 W Vanderbilt**

**Stephenville, Texas**

**Erath County**

**Latitude: 32.222124**

**Longitude: -98.208694**

### **Analysis Result:**

**Max Structural Usage: 75.6% [Pass]**

**Max Foundation Usage: 72.4% [Pass]**

**Report Prepared By: Walter Velez**

## Introduction

The purpose of this report is to summarize the analysis results on the 79 ft Sabre Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Original structural design report prepared by Sabre Communications Corporation. Dated 02-08-2005. Job No 05-01062. Drawing No 05-01062-PE. Previous structural report prepared by Tower Engineering Solutions. Dated 11-19-2021. TES Project No 119454.
<b>Foundation Drawing</b>	Original foundation report prepared by Sabre Communications Corporation. Dated 02-08-2005. Job No 05-01062.
<b>Geotechnical Report</b>	Geotechnical report prepared by Terracon. Dated 02-08-2005. Project No 03055023.
<b>Modification Drawings</b>	N/A
<b>Mount Analysis</b>	Antenna mount analysis report prepared by Tower Engineering Solutions. Dated 11-15-2021. TES Project No 119317.
<b>Proposed Modification</b>	Tower Engineering Solutions Job # 119731

## Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

<b>Wind Speed Used in the Analysis:</b>	Ultimate Design Wind Speed $V_{ult} = 115.0$ mph (3-Sec. Gust)
<b>(Based on IBC 2015 IBC)</b>	Nominal Design Wind Speed $V_{asd} = 89.0$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	30 mph (3-Sec. Gust) with 3/4" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-G-2 & IBC 2015
<b>Exposure Category:</b>	B
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_5 = 0.069$ , $S_1 = 0.041$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

## Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	67.0	6	Commscope SBNHH-1D65B - Panel	Platform w/ Hand Rails w/ Reinforcement Kit (Site Pro1 PRK-1245) & Reinforcement Kit (SitePro1 PRK-SFS)	(6) 1 5/8" Coax; (1) 3/8" RET Line; (7) 7/8" DC Power; (3) 1/2" Fiber	AT&T
2		6	Commscope JAHH-65B-R3B - Panel			
3		6	Andrew ETD819G-12UB TMA's			
4		3	Ericsson RRUS-32 B66 RRU's			
5		3	Ericsson RRUS 32 RRU's			
6		3	Ericsson RRUS 11 RRU's			
7		3	Ericsson RRUS 4478 B14 RRU's			
8		3	Ericsson RRUS 4478 B5 RRU's			
9		3	Ericsson RRUS 4415 B25 RRU's			
10		3	Ericsson RRUS 32 B2 RRU's			
11		3	Raycap DC6-48-60-18-8F DC Surge			
12		1	Raycap DC6-48-60-18-8C DC Surge			

## Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
13	80.0	3	Commscope FFVV-65C-R3 - Panel	Platform w/ Hand Rails (PVLPPGS 12M HR AP1)	(2) 1.55" Hybrid	T-Mobile
14		3	Nsn AEHC - Panel			
15		3	Nokia AHFIG RRU's			
16		3	Nokia AHLOA RRU's			
17		2	Nokia HCS 2.0 Tower			

All transmission lines are considered running inside of the pole shafts. Please see the attached coax layout for the line placement considered in the analysis.

## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>75.6%</b>	<b>56.1%</b>	<b>29.7%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	333.0	6.0	6.3
Analysis Reactions	621.7	9.0	18.6
Factored Reactions*	449.6	8.1	8.5

\* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

## **Operational Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6145 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard and tafter the following proposed modification is successfully completed.

- Proposed modification design drawing by **TES** Job # 119731

## **Pre-Mod Installation Determination**

We have also checked this tower to determine if the proposed T-Mobile equipment loading can be installed prior to the completion of the required modifications.

Since the proposed equipment will be installed on the proposed extension, the Carrier cannot install their proposed loading prior to the mods completion.

## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

# Usage Diagram - Max Ratio 59.51% at 60.0ft

Item 2.

**Structure:** TX09257-A-SBA  
**Site Name:** Stephenville B  
**Height:** 79.00 (ft)  
**Base Elev:** 1.000 (ft)

**Code:** EIA/TIA-222-G  
**Exposure:** B  
**Gh:** 1.1

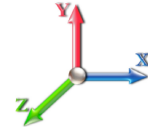
12/17/2021



Page: 1

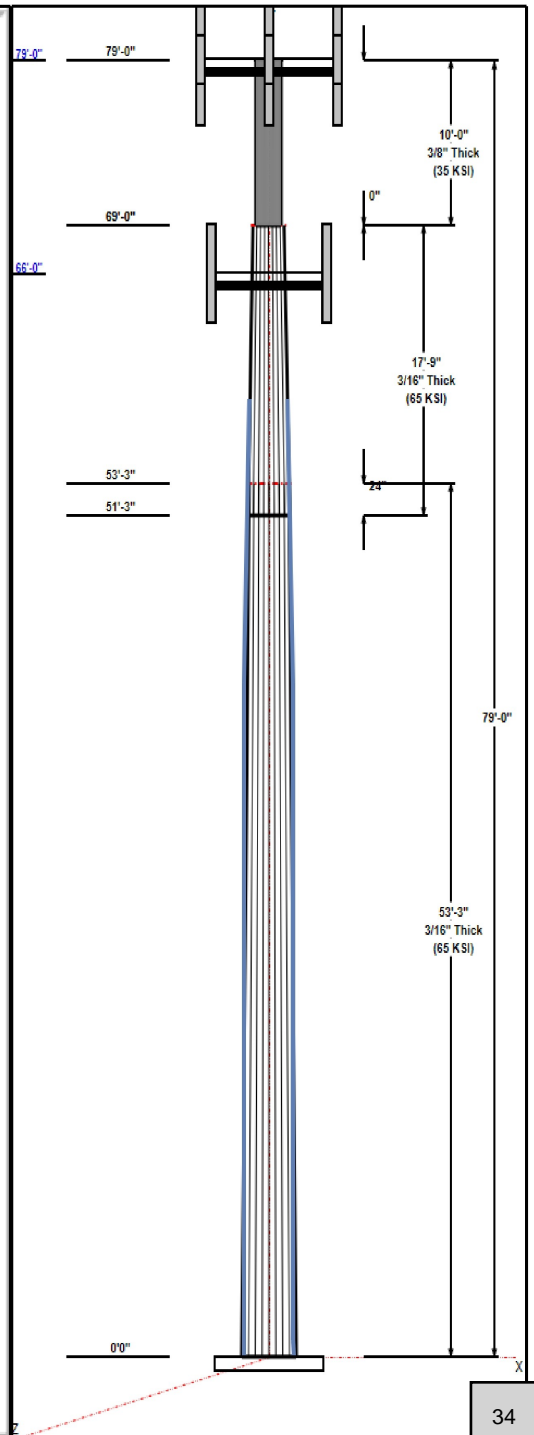
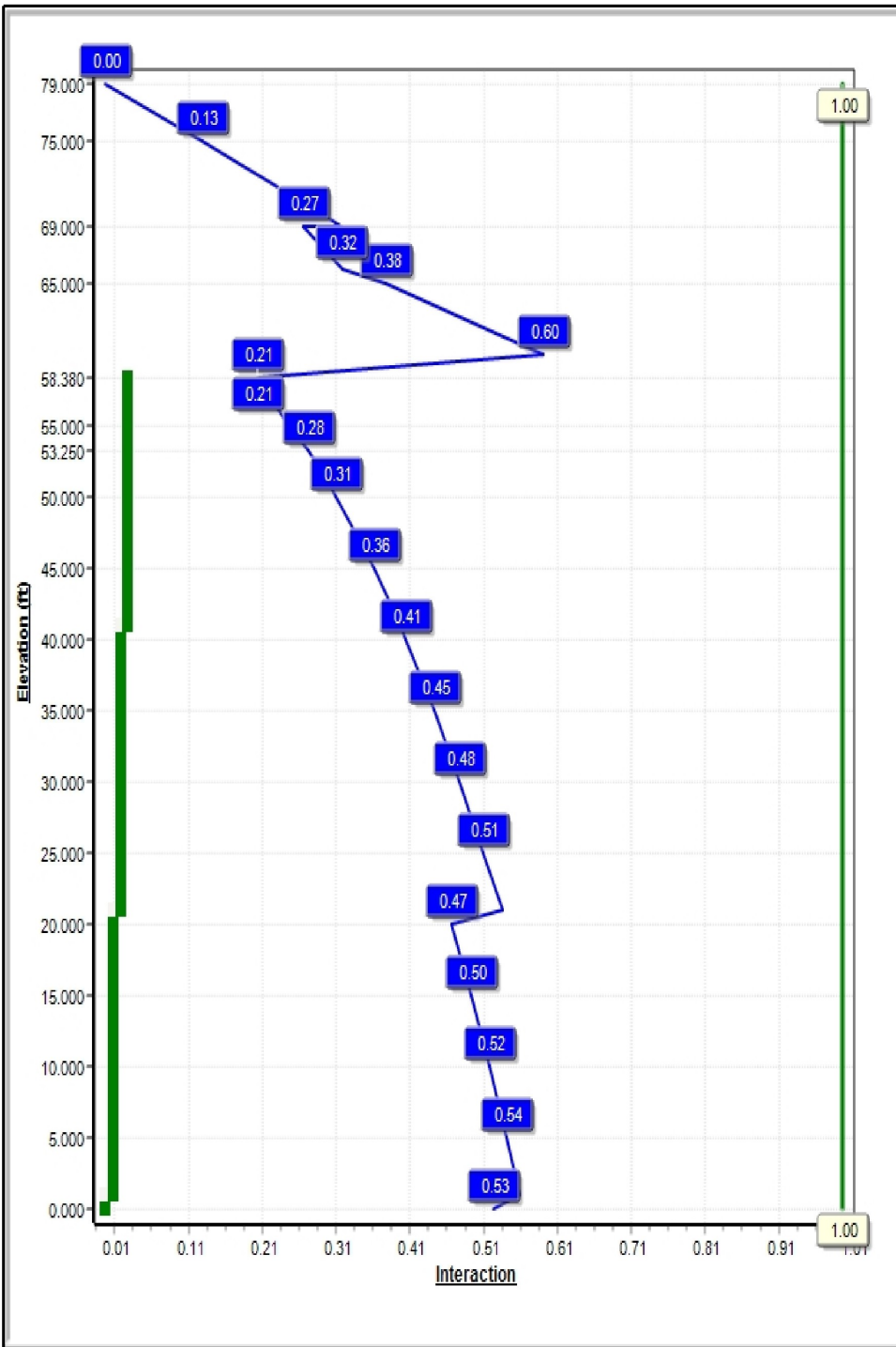
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.60

**Load Case : 1.2D + 1.6W 89 mph Wind**



**Iterations:** 23

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**Type:** Custom  
**Site Name:** Stephenville B  
**Height:** 79.00 (ft)  
**Base Elev:** 1.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.17036

12/17/2021



Page: 2

**Shaft Properties**

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	14.31	23.38	0.188		0.17036	65
2	17.75	12.00	15.02	0.188	Slip	0.17036	65
3	10.00	10.75	10.75	0.375	Butt	0.00000	35

**Discrete Appurtenances**

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
79.00	82.50	1	Lightning Rod @ 80'	---
79.00	79.00	3	Commscope	T-Mobile
79.00	79.00	3	Nsn AEHC	T-Mobile
79.00	79.00	3	Nokia AHFIG RRU's	T-Mobile
79.00	79.00	3	Nokia AHLOA RRU's	T-Mobile
79.00	79.00	2	Nokia HCS 2.0 Tower	T-Mobile
79.00	79.00	1	Platform w/ Hand Rails	T-Mobile
66.00	66.00	1	Reinforcement Kit (Site	AT&T
66.00	66.00	1	Reinforcement Kit	AT&T
66.00	66.00	1	Collar Mount	AT&T
66.00	66.00	6	Commscope	AT&T
66.00	66.00	6	Commscope	AT&T
66.00	66.00	6	Andrew ETD819G-12UB	AT&T
66.00	66.00	3	Ericsson RRUS-32 B66	AT&T
66.00	66.00	3	Ericsson RRUS 32 RRU's	AT&T
66.00	66.00	3	Ericsson RRUS 11 RRU's	AT&T
66.00	66.00	3	Ericsson RRUS 4478 B14	AT&T
66.00	66.00	3	Ericsson RRUS 4478 B5	AT&T
66.00	66.00	3	Ericsson RRUS 4415 B25	AT&T
66.00	66.00	3	Ericsson RRUS 32 B2	AT&T
66.00	66.00	3	Raycap DC6-48-60-18-8F	AT&T
66.00	66.00	1	Raycap DC6-48-60-18-8C	AT&T
66.00	66.00	1	Platform w/ Hand Rails	AT&T

**Linear Appurtenances**

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	79.00	Inside	1.55" Hybrid	T-Mobile
3.00	66.00	Inside	1 5/8" Coax	AT&T
3.00	66.00	Inside	1/2" Fiber	AT&T
3.00	66.00	Inside	3/8" RET Line	AT&T
3.00	66.00	Inside	7/8" DC Power	AT&T
20.00	60.00	Outside	6"x1.0" Link Plate	TES
0.00	20.00	Outside	6"x1.25" Link Plate	TES

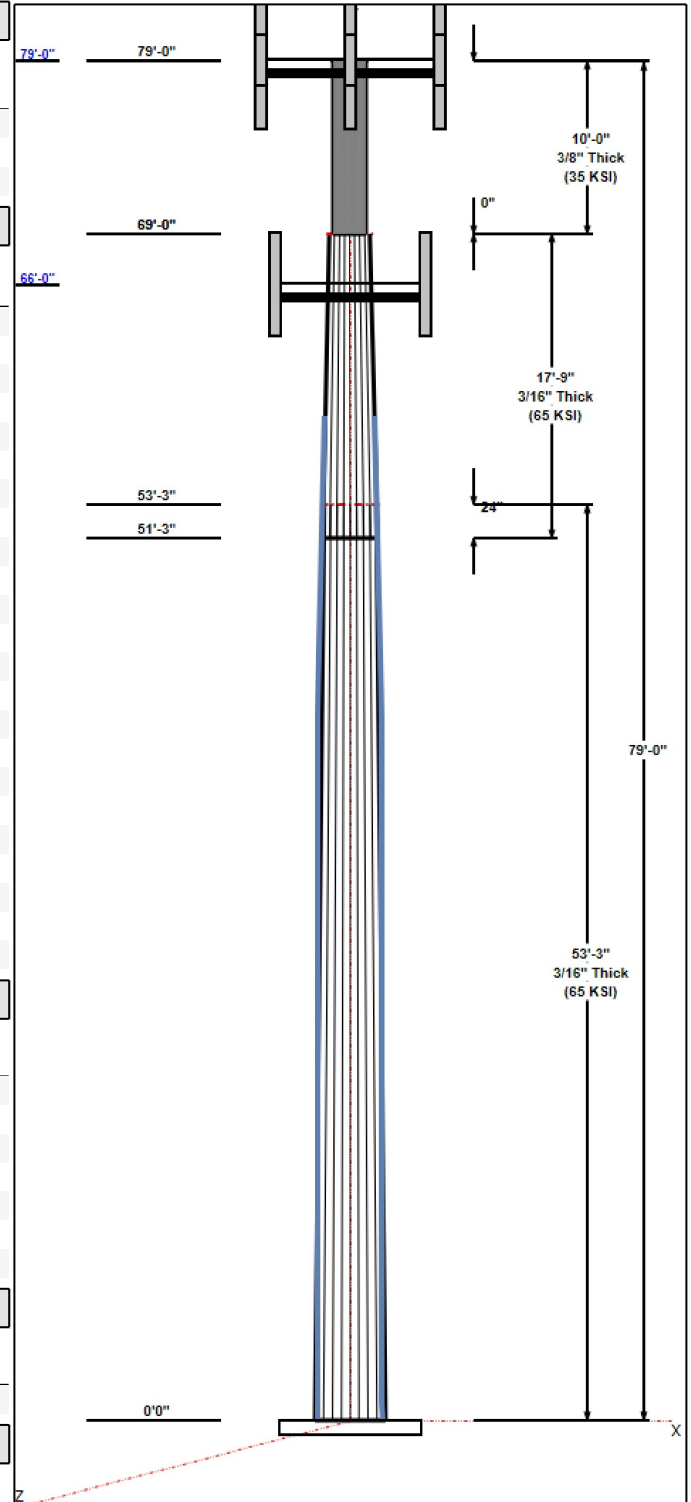
**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
12	1.25" A449	81.0	Radial

**Base Plate**

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.2500	31.0	60.0	Round

**Reactions**





Type: Custom  
Site Name: Stephenville B  
Height: 79.00 (ft)  
Base Elev: 1.00 (ft)

Base Shape: 18 Sided  
Taper: 0.00000

12/17/2021



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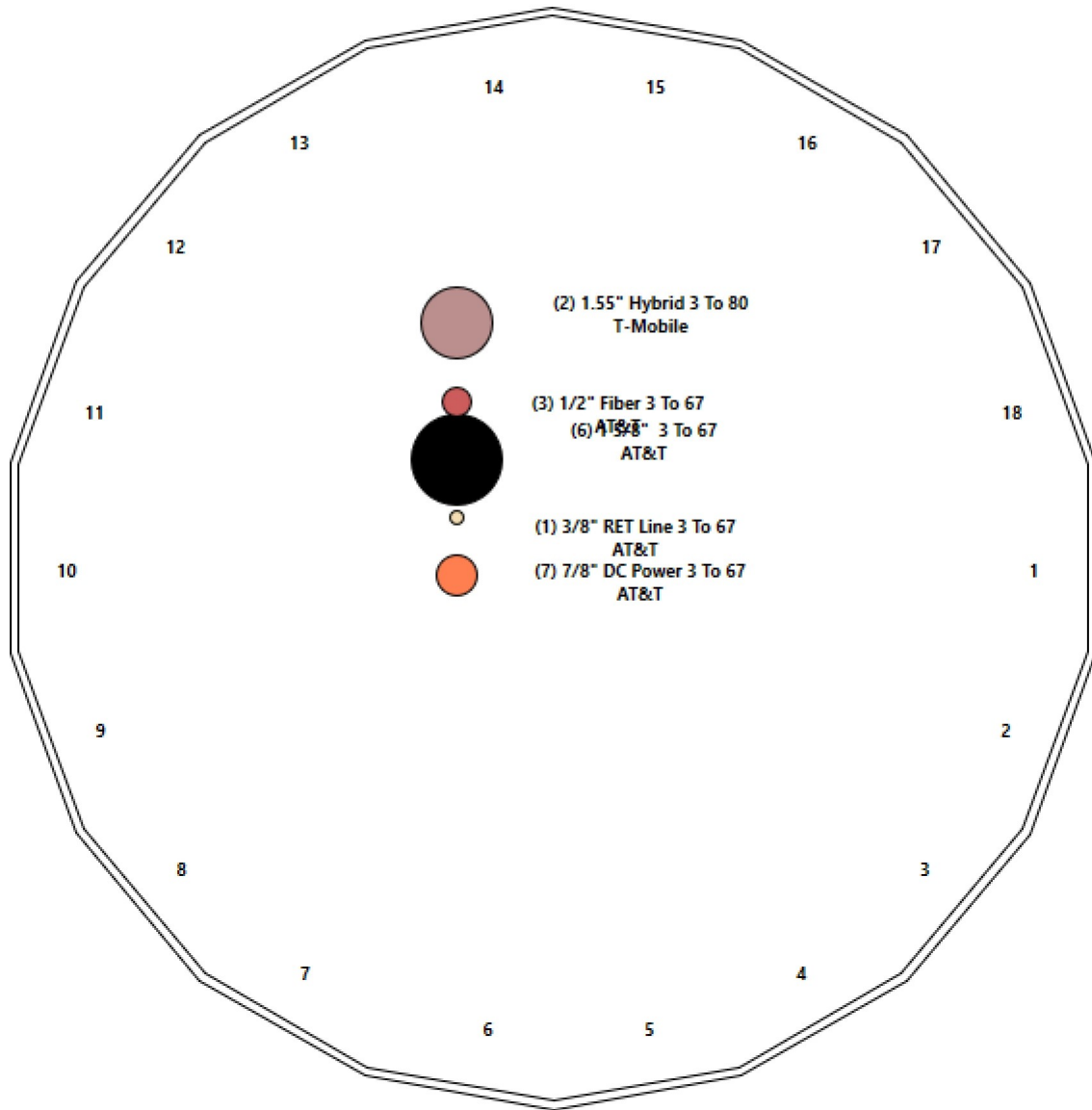
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 89 mph Wind	621.7	9.0	18.6
0.9D + 1.6W 89 mph Wind	610.5	9.0	13.9
1.2D + 1.0Di + 1.0Wi 30 mph Wind	70.2	1.0	30.6
1.2D + 1.0E	33.7	0.4	18.6
0.9D + 1.0E	33.0	0.4	14.0
1.0D + 1.0W 60 mph Wind	175.9	2.6	15.5

Type: Monopole  
Site Name: Stephenville B  
Height: 79.00 (ft)

12/17/2021



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## Shaft Properties

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.1875	65		0.00	2,012
2	18	17.750	0.1875	65	Slip	24.00	479
3	R	10.000	0.3750	35	Flange	0.00	416
<b>Total Shaft Weight:</b>							<b>2,907</b>

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	23.38	0.00	13.80	937.97	20.58	124.69	14.31	53.25	8.40	211.70	12.04	76.31	0.170362
2	15.02	51.25	8.83	245.55	12.72	80.13	12.00	69.00	7.03	123.93	9.87	64.00	0.170362
3	10.75	69.00	12.22	164.58	0.00	28.67	10.75	79.00	12.22	164.58	0.00	28.67	0.000000

### Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
0.00	1.00	3	SOL 2 1/4" William R71	128	150	5.25	5/8" Hollo Bolt	12.00	M20 NexGen2			
1.00	21.00	3	LNP LP6X125-BW-20B	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
21.00	41.00	3	LNP LP6X100-G-20BC	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		
41.00	58.38	3	LNP LP6X100-G-20CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8

## Load Summary

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	79.00	Lightning Rod @ 80'	1	35.00	1.05	1.00	64.50	3.279	1.00	0.00	3.50
2	79.00	Commscope FFVV-65C-R3	3	124.56	21.12	0.72	546.87	22.921	0.72	0.00	0.00
3	79.00	Nsn AEHC	3	99.20	6.73	0.69	255.21	7.709	0.69	0.00	0.00
4	79.00	Nokia AHFIG RRU's	3	70.50	2.75	0.67	132.20	3.349	0.67	0.00	0.00
5	79.00	Nokia AHLOA RRU's	3	84.00	2.20	0.67	140.99	2.775	0.67	0.00	0.00
6	79.00	Nokia HCS 2.0 Tower	2	19.00	3.20	0.67	91.86	4.333	0.67	0.00	0.00
7	79.00	Platform w/ Hand Rails (PVLPPGS	1	1925.00	31.90	1.00	3817.91	52.812	1.00	0.00	0.00
8	66.00	Reinforcement Kit (Site Pro1	1	464.91	9.50	1.00	764.33	18.677	1.00	0.00	0.00
9	66.00	Reinforcement Kit (SitePro1	1	197.00	6.30	1.00	450.75	12.386	1.00	0.00	0.00
10	66.00	Collar Mount	1	150.60	2.50	0.80	344.58	4.915	0.80	0.00	0.00
11	66.00	Commscope SBNHH-1D65B	6	40.00	8.16	0.83	224.63	9.353	0.83	0.00	0.00
12	66.00	Commscope JAHH-65B-R3B	6	63.30	9.11	0.83	273.08	10.347	0.83	0.00	0.00
13	66.00	Andrew ETD819G-12UB TMA's	6	31.00	1.84	0.60	65.06	2.665	0.60	0.00	0.00
14	66.00	Ericsson RRUS-32 B66 RRU's	3	53.00	2.74	0.67	132.70	3.408	0.67	0.00	0.00
15	66.00	Ericsson RRUS 32 RRU's	3	60.00	2.74	0.67	139.70	3.408	0.67	0.00	0.00
16	66.00	Ericsson RRUS 11 RRU's	3	50.71	2.78	0.67	128.82	3.409	0.67	0.00	0.00
17	66.00	Ericsson RRUS 4478 B14 RRU's	3	59.40	2.02	0.67	97.66	2.605	0.67	0.00	0.00
18	66.00	Ericsson RRUS 4478 B5 RRU's	3	59.90	1.84	0.67	105.00	2.346	0.67	0.00	0.00
19	66.00	Ericsson RRUS 4415 B25 RRU's	3	46.00	1.84	0.67	83.92	2.373	0.67	0.00	0.00
20	66.00	Ericsson RRUS 32 B2 RRU's	3	53.00	2.74	0.67	132.70	3.408	0.67	0.00	0.00
21	66.00	Raycap DC6-48-60-18-8F DC Surge	3	32.80	3.70	0.67	91.63	5.325	0.67	0.00	0.00
22	66.00	Raycap DC6-48-60-18-8C DC Surge	1	20.00	1.90	0.67	68.68	2.818	0.67	0.00	0.00
23	66.00	Platform w/ Hand Rails	1	1600.00	32.00	1.00	3537.25	57.761	1.00	0.00	0.00
<b>Totals:</b>			<b>63</b>	<b>7,615.52</b>			<b>18,570.52</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	79.00	(2) 1.55" Hybrid	0.00	Inside
3.00	66.00	(6) 1 5/8" Coax	0.00	Inside
3.00	66.00	(3) 1/2" Fiber	0.00	Inside
3.00	66.00	(1) 3/8" RET Line	0.00	Inside
3.00	66.00	(7) 7/8" DC Power	0.00	Inside
20.00	60.00	(3) 6"x1.0" Link Plate	0.00	Outside
0.00	20.00	(3) 6"x1.25" Link Plate	0.00	Outside

## Shaft Section Properties

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Increment Length:** 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in <sup>2</sup> )	Ixp (in <sup>4</sup> )	Iyp (in <sup>4</sup> )	Weight (lb)
0.00	RB1	0.1875	23.380	13.802	938.0	20.58	124.69	65	77	0.0	12.24	2437.5	1526.0	
1.00	RT1 RB2	0.1875	23.210	13.701	917.5	20.42	123.78	65	77	46.8	22.50	2077.3	1319.8	76.6
5.00		0.1875	22.528	13.295	838.4	19.78	120.15	65	78	183.7	22.50	1964.7	1249.4	306.2
10.00		0.1875	21.676	12.788	746.1	18.97	115.61	65	79	221.9	22.50	1828.5	1164.2	382.8
15.00		0.1875	20.825	12.281	660.8	18.17	111.06	65	80	213.3	22.50	1697.2	1082.1	382.8
20.00		0.1875	19.973	11.774	582.3	17.37	106.52	65	81	204.6	22.50	1570.9	1003.1	382.8
21.00	RT2 RB3	0.1875	19.802	11.673	567.4	17.21	105.61	65	81	39.9	18.00	1208.3	772.5	61.2
25.00		0.1875	19.121	11.267	510.3	16.57	101.98	65	82	156.1	18.00	1131.9	724.7	245.0
30.00		0.1875	18.269	10.760	444.5	15.77	97.44	65	83	187.4	18.00	1039.9	667.2	306.2
35.00		0.1875	17.417	10.254	384.6	14.97	92.89	65	83	178.8	18.00	952.0	612.2	306.2
40.00		0.1875	16.566	9.747	330.3	14.17	88.35	65	83	170.1	18.00	868.0	559.7	306.2
41.00	RT3 RB4	0.1875	16.395	9.645	320.1	14.01	87.44	65	83	33.0	18.00	851.7	549.5	61.2
45.00		0.1875	15.714	9.240	281.4	13.37	83.81	65	83	128.5	18.00	788.0	509.7	245.0
50.00		0.1875	14.862	8.733	237.6	12.57	79.26	65	83	152.9	18.00	712.0	462.1	306.2
51.25	Bot - Section 2	0.1875	14.649	8.606	227.4	12.37	78.13	65	83	36.9	18.00	693.6	450.7	76.6
53.25	Top - Section 1	0.1875	14.683	8.626	229.0	12.40	78.31	65	83	117.3	18.00	696.5	452.5	122.5
55.00		0.1875	14.385	8.449	215.2	12.12	76.72	65	83	50.8	18.00	671.2	436.6	107.2
58.38	RT4	0.1875	13.809	8.106	190.0	11.58	73.65	65	83	95.2	18.00	623.6	406.9	207.0
60.00		0.1875	13.533	7.942	178.7	11.32	72.18	65	83	44.2				
65.00		0.1875	12.681	7.435	146.6	10.52	67.63	65	83	130.8				
66.00		0.1875	12.511	7.334	140.7	10.35	66.73	65	83	25.1				
69.00	Top - Section 2	0.1875	12.000	7.030	123.9	9.87	64.00	65	83	73.3				
69.00	Bot - Section 3	0.3750	10.750	12.223	164.6	4.94	32.00	35	35					
70.00		0.3750	10.750	12.223	164.6	0.00	28.67	35	35	41.6				
75.00		0.3750	10.750	12.223	164.6	0.00	28.67	35	35	208.0				
79.00		0.3750	10.750	12.223	164.6	0.00	28.67	35	35	166.4				
<b>Total Weight</b>										<b>2906.6</b>	<b>3882.0</b>			

## Wind Loading - Shaft

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

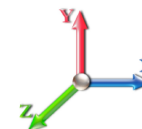


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**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



**Iterations** 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	13.485	14.83	147.32	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2	1.00	0.70	13.485	14.83	146.24	0.650	0.000	1.00	1.971	1.28	30.4	0.0	56.2
5.00		1.00	0.70	13.485	14.83	141.95	0.650	0.000	4.00	7.741	5.03	119.4	0.0	220.5
10.00		1.00	0.70	13.485	14.83	136.58	0.650	0.000	5.00	9.351	6.08	144.3	0.0	266.3
15.00		1.00	0.70	13.485	14.83	131.21	0.650	0.000	5.00	8.991	5.84	138.7	0.0	255.9
20.00		1.00	0.70	13.485	14.83	125.85	0.650	0.000	5.00	8.631	5.61	133.1	0.0	245.6
21.00	RT2 RB3	1.00	0.70	13.485	14.83	124.77	0.650	0.000	1.00	1.683	1.09	26.0	0.0	47.9
25.00		1.00	0.70	13.485	14.83	120.48	0.650	0.000	4.00	6.587	4.28	101.6	0.0	187.3
30.00		1.00	0.71	13.623	14.99	115.70	0.650	0.000	5.00	7.910	5.14	123.3	0.0	224.9
35.00		1.00	0.74	14.218	15.64	112.69	0.650	0.000	5.00	7.549	4.91	122.8	0.0	214.5
40.00		1.00	0.77	14.756	16.23	109.19	0.650	0.000	5.00	7.189	4.67	121.4	0.0	204.2
41.00	RT3 RB4	1.00	0.77	14.858	16.34	108.44	0.650	0.000	1.00	1.395	0.91	23.7	0.0	39.6
45.00		1.00	0.79	15.249	16.77	105.29	0.650	0.000	4.00	5.434	3.53	94.8	0.0	154.2
50.00		1.00	0.82	15.705	17.28	101.06	0.650	0.000	5.00	6.468	4.20	116.2	0.0	183.5
51.25	Bot - Section 2	1.00	0.82	15.814	17.40	99.96	0.650	0.000	1.25	1.561	1.01	28.2	0.0	44.3
53.25	Top - Section 1	1.00	0.83	15.985	17.58	98.16	0.650	0.000	2.00	2.514	1.63	46.0	0.0	140.7
55.00		1.00	0.84	16.131	17.74	99.13	0.650	0.000	1.75	2.152	1.40	39.7	0.0	61.0
58.38	RT4	1.00	0.85	16.403	18.04	95.97	0.650	0.000	3.38	4.032	2.62	75.7	0.0	114.2
60.00		1.00	0.86	16.530	18.18	94.41	0.650	0.000	1.62	1.874	1.22	35.4	0.0	53.1
65.00		1.00	0.88	16.906	18.60	89.47	0.650	0.000	5.00	5.546	3.60	107.3	0.0	157.0
66.00	Appurtenance(s)	1.00	0.88	16.979	18.68	88.46	0.650	0.000	1.00	1.066	0.69	20.7	0.0	30.2
69.00	Top - Section 2	1.00	0.89	17.193	18.91	85.38	0.650	0.000	3.00	3.111	2.02	61.2	0.0	88.0
70.00		1.00	0.90	17.263	18.99	75.47	0.600	0.000	1.00	0.896	0.54	16.3	0.0	49.9
75.00		1.00	0.91	17.601	19.36	76.21	0.600	0.000	5.00	4.479	2.69	83.3	0.0	249.5
79.00	Appurtenance(s)	1.00	0.93	17.861	19.65	76.77	0.600	0.000	4.00	3.583	2.15	67.6	0.0	199.6
<b>Totals:</b>									<b>79.00</b>			<b>1,877.0</b>		<b>3,487.9</b>

## Discrete Appurtenance Forces

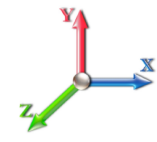
Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.6W 89 mph Wind	<b>Iterations</b> 23
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.60	



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	79.00	Nokia AHFIG RRU's	3	17.861	19.647	0.50	0.75	4.15	253.80	0.000	0.000	130.32	0.00	0.00
2	79.00	Lightning Rod @ 80'	1	18.081	19.889	1.00	1.00	1.05	42.00	0.000	3.500	33.41	0.00	116.95
3	79.00	Commscope	3	17.861	19.647	0.54	0.75	34.21	448.42	0.000	0.000	1075.56	0.00	0.00
4	79.00	Nsn AEHC	3	17.861	19.647	0.52	0.75	10.45	357.12	0.000	0.000	328.45	0.00	0.00
5	79.00	Platform w/ Hand Rails	1	17.861	19.647	1.00	1.00	31.90	2310.00	0.000	0.000	1002.81	0.00	0.00
6	79.00	Nokia AHLOA RRU's	3	17.861	19.647	0.50	0.75	3.32	302.40	0.000	0.000	104.26	0.00	0.00
7	79.00	Nokia HCS 2.0 Tower	2	17.861	19.647	0.50	0.75	3.22	45.60	0.000	0.000	101.10	0.00	0.00
8	66.00	Reinforcement Kit (Site	1	16.979	18.677	0.75	0.75	7.13	557.89	0.000	0.000	212.92	0.00	0.00
9	66.00	Platform w/ Hand Rails	1	16.979	18.677	1.00	1.00	32.00	1920.00	0.000	0.000	956.25	0.00	0.00
10	66.00	Raycap DC6-48-60-18-8C	1	16.979	18.677	0.50	0.75	0.95	24.00	0.000	0.000	28.53	0.00	0.00
11	66.00	Raycap DC6-48-60-18-8F	3	16.979	18.677	0.50	0.75	5.58	118.08	0.000	0.000	166.68	0.00	0.00
12	66.00	Ericsson RRUS 32 B2	3	16.979	18.677	0.50	0.75	4.13	190.80	0.000	0.000	123.43	0.00	0.00
13	66.00	Ericsson RRUS 4415 B25	3	16.979	18.677	0.50	0.75	2.77	165.60	0.000	0.000	82.89	0.00	0.00
14	66.00	Ericsson RRUS 4478 B5	3	16.979	18.677	0.50	0.75	2.77	215.64	0.000	0.000	82.89	0.00	0.00
15	66.00	Ericsson RRUS 4478 B14	3	16.979	18.677	0.50	0.75	3.05	213.84	0.000	0.000	91.00	0.00	0.00
16	66.00	Ericsson RRUS 11 RRU's	3	16.979	18.677	0.50	0.75	4.19	182.56	0.000	0.000	125.23	0.00	0.00
17	66.00	Ericsson RRUS 32 RRU's	3	16.979	18.677	0.50	0.75	4.13	216.00	0.000	0.000	123.43	0.00	0.00
18	66.00	Ericsson RRUS-32 B66	3	16.979	18.677	0.50	0.75	4.13	190.80	0.000	0.000	123.43	0.00	0.00
19	66.00	Andrew ETD819G-12UB	6	16.979	18.677	0.45	0.75	4.97	223.20	0.000	0.000	148.46	0.00	0.00
20	66.00	Commscope	6	16.979	18.677	0.62	0.75	34.03	455.76	0.000	0.000	1016.79	0.00	0.00
21	66.00	Commscope	6	16.979	18.677	0.62	0.75	30.48	288.00	0.000	0.000	910.76	0.00	0.00
22	66.00	Collar Mount	1	16.979	18.677	0.64	0.80	1.60	180.72	0.000	0.000	47.81	0.00	0.00
23	66.00	Reinforcement Kit	1	16.979	18.677	0.75	0.75	4.72	236.40	0.000	0.000	141.20	0.00	0.00
<b>Totals:</b>									<b>9,138.62</b>			<b>7,157.61</b>		

## Total Applied Force Summary

Item 2.

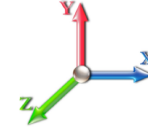
<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.6W 89 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		30.41	148.02	0.00	0.00
5.00		119.41	624.10	0.00	0.00
10.00		144.26	815.99	0.00	0.00
15.00		138.70	805.64	0.00	0.00
20.00		133.14	795.29	0.00	0.00
21.00		25.96	139.46	0.00	0.00
25.00		101.62	553.68	0.00	0.00
30.00		123.27	682.79	0.00	0.00
35.00		122.79	672.44	0.00	0.00
40.00		121.36	662.09	0.00	0.00
41.00		23.70	131.18	0.00	0.00
45.00		94.80	520.56	0.00	0.00
50.00		116.21	641.39	0.00	0.00
51.25		28.24	158.73	0.00	0.00
53.25		45.97	323.90	0.00	0.00
55.00		39.72	221.28	0.00	0.00
58.38		75.66	423.80	0.00	0.00
60.00		35.44	201.45	0.00	0.00
65.00		107.26	247.34	0.00	0.00
66.00	(47) attachments	4402.40	5427.51	0.00	0.00
69.00		61.19	101.51	0.00	0.00
70.00		16.33	54.42	0.00	0.00
75.00		83.25	272.11	0.00	0.00
79.00	(16) attachments	2843.50	3977.02	0.00	116.95
<b>Totals:</b>		<b>9,034.58</b>	<b>18,601.67</b>	<b>0.00</b>	<b>116.95</b>



## Linear Appurtenance Segment Forces (Factored)

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.6W 89 mph Wind	<b>Iterations</b> 23
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.60	

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	6"x1.25" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	91.87
5.00	6"x1.25" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	367.49
10.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	459.36
15.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	459.36
20.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	459.36
21.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	73.51
25.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	294.05
30.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.623	0.00	367.56
35.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	14.218	0.00	367.56
40.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	14.756	0.00	367.56
41.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	14.858	0.00	73.51
45.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	15.249	0.00	294.05
50.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	15.705	0.00	367.56
51.25	6"x1.0" Link Plate	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	15.814	0.00	91.89
53.25	6"x1.0" Link Plate	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	15.985	0.00	147.02
55.00	6"x1.0" Link Plate	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	16.131	0.00	128.65
58.38	6"x1.0" Link Plate	Yes	3.38	0.000	0.00	0.00	0.00	0.000	0.000	16.403	0.00	248.47
60.00	6"x1.0" Link Plate	Yes	1.62	0.000	0.00	0.00	0.00	0.000	0.000	16.530	0.00	119.09
<b>Totals:</b>											<b>0.0</b>	<b>4,777.9</b>

## Calculated Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.6W 89 mph Wind	<b>Iterations</b> 23
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.60	

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-18.60	-9.05	0.00	-621.74	0.00	621.74	958.95	479.48	913.66	457.51	0.00	0.000	0.000	0.527
1.00	-18.42	-9.08	0.00	-612.69	0.00	612.69	954.23	477.12	902.43	451.89	0.01	-0.071	0.000	0.562
5.00	-17.74	-9.06	0.00	-576.39	0.00	576.39	935.00	467.50	857.86	429.57	0.20	-0.373	0.000	0.545
10.00	-16.87	-9.02	0.00	-531.09	0.00	531.09	910.20	455.10	803.00	402.10	0.79	-0.749	0.000	0.522
15.00	-16.01	-8.97	0.00	-486.00	0.00	486.00	884.53	442.27	749.15	375.13	1.77	-1.127	0.000	0.497
20.00	-15.18	-8.88	0.00	-441.14	0.00	441.14	858.01	429.00	696.42	348.73	3.15	-1.504	0.000	0.470
21.00	-15.01	-8.91	0.00	-432.26	0.00	432.26	852.60	426.30	686.02	343.52	3.48	-1.582	0.000	0.539
25.00	-14.40	-8.89	0.00	-396.63	0.00	396.63	830.62	415.31	644.90	322.93	4.95	-1.934	0.000	0.513
30.00	-13.65	-8.84	0.00	-352.19	0.00	352.19	799.45	399.72	592.50	296.69	7.21	-2.364	0.000	0.480
35.00	-12.92	-8.78	0.00	-307.99	0.00	307.99	761.79	380.89	537.71	269.26	9.91	-2.785	0.000	0.447
40.00	-12.23	-8.68	0.00	-264.08	0.00	264.08	724.12	362.06	485.59	243.16	13.05	-3.192	0.000	0.409
41.00	-12.07	-8.69	0.00	-255.40	0.00	255.40	716.59	358.30	475.48	238.09	13.72	-3.275	0.000	0.400
45.00	-11.51	-8.63	0.00	-220.65	0.00	220.65	686.46	343.23	436.12	218.38	16.60	-3.586	0.000	0.365
50.00	-10.84	-8.51	0.00	-177.49	0.00	177.49	648.80	324.40	389.31	194.94	20.55	-3.943	0.000	0.315
51.25	-10.67	-8.49	0.00	-166.85	0.00	166.85	639.39	319.69	378.02	189.29	21.59	-4.030	0.000	0.301
53.25	-10.33	-8.45	0.00	-149.86	0.00	149.86	640.90	320.45	379.83	190.20	23.31	-4.163	0.000	0.277
55.00	-10.09	-8.42	0.00	-135.08	0.00	135.08	627.72	313.86	364.27	182.40	24.85	-4.269	0.000	0.250
58.38	-9.66	-8.33	0.00	-106.63	0.00	106.63	602.26	301.13	335.13	167.82	27.94	-4.447	0.000	0.208
58.38	-9.66	-8.33	0.00	-106.63	0.00	106.63	602.26	301.13	335.13	167.82	27.94	-4.447	0.000	0.208
60.00	-9.41	-8.34	0.00	-93.14	0.00	93.14	590.06	295.03	321.60	161.04	29.46	-4.524	0.000	0.595
65.00	-9.13	-8.26	0.00	-51.45	0.00	51.45	552.40	276.20	281.59	141.01	34.52	-5.100	0.000	0.382
66.00	-4.11	-3.40	0.00	-43.19	0.00	43.19	544.87	272.43	273.91	137.16	35.60	-5.191	0.000	0.323
69.00	-4.00	-3.34	0.00	-32.99	0.00	32.99	522.27	261.13	251.50	125.94	38.93	-5.422	0.000	0.270
69.00	-4.00	-3.34	0.00	-32.99	0.00	32.99	385.02	192.51	160.54	106.00	38.93	-5.422	0.000	0.322
70.00	-3.94	-3.33	0.00	-29.65	0.00	29.65	385.02	192.51	160.54	106.00	40.08	-5.494	0.000	0.290
75.00	-3.67	-3.23	0.00	-13.02	0.00	13.02	385.02	192.51	160.54	106.00	45.93	-5.679	0.000	0.133
79.00	0.00	-2.84	0.00	-0.12	0.00	0.12	385.02	192.51	160.54	106.00	50.71	-5.724	0.000	0.001

## Wind Loading - Shaft

Item 2.

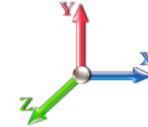
<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	13.485	14.83	147.32	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2	1.00	0.70	13.485	14.83	146.24	0.650	0.000	1.00	1.971	1.28	30.4	0.0	42.1
5.00		1.00	0.70	13.485	14.83	141.95	0.650	0.000	4.00	7.741	5.03	119.4	0.0	165.3
10.00		1.00	0.70	13.485	14.83	136.58	0.650	0.000	5.00	9.351	6.08	144.3	0.0	199.7
15.00		1.00	0.70	13.485	14.83	131.21	0.650	0.000	5.00	8.991	5.84	138.7	0.0	191.9
20.00		1.00	0.70	13.485	14.83	125.85	0.650	0.000	5.00	8.631	5.61	133.1	0.0	184.2
21.00	RT2 RB3	1.00	0.70	13.485	14.83	124.77	0.650	0.000	1.00	1.683	1.09	26.0	0.0	35.9
25.00		1.00	0.70	13.485	14.83	120.48	0.650	0.000	4.00	6.587	4.28	101.6	0.0	140.5
30.00		1.00	0.71	13.623	14.99	115.70	0.650	0.000	5.00	7.910	5.14	123.3	0.0	168.7
35.00		1.00	0.74	14.218	15.64	112.69	0.650	0.000	5.00	7.549	4.91	122.8	0.0	160.9
40.00		1.00	0.77	14.756	16.23	109.19	0.650	0.000	5.00	7.189	4.67	121.4	0.0	153.1
41.00	RT3 RB4	1.00	0.77	14.858	16.34	108.44	0.650	0.000	1.00	1.395	0.91	23.7	0.0	29.7
45.00		1.00	0.79	15.249	16.77	105.29	0.650	0.000	4.00	5.434	3.53	94.8	0.0	115.7
50.00		1.00	0.82	15.705	17.28	101.06	0.650	0.000	5.00	6.468	4.20	116.2	0.0	137.6
51.25	Bot - Section 2	1.00	0.82	15.814	17.40	99.96	0.650	0.000	1.25	1.561	1.01	28.2	0.0	33.2
53.25	Top - Section 1	1.00	0.83	15.985	17.58	98.16	0.650	0.000	2.00	2.514	1.63	46.0	0.0	105.5
55.00		1.00	0.84	16.131	17.74	99.13	0.650	0.000	1.75	2.152	1.40	39.7	0.0	45.8
58.38	RT4	1.00	0.85	16.403	18.04	95.97	0.650	0.000	3.38	4.032	2.62	75.7	0.0	85.7
60.00		1.00	0.86	16.530	18.18	94.41	0.650	0.000	1.62	1.874	1.22	35.4	0.0	39.8
65.00		1.00	0.88	16.906	18.60	89.47	0.650	0.000	5.00	5.546	3.60	107.3	0.0	117.7
66.00	Appurtenance(s)	1.00	0.88	16.979	18.68	88.46	0.650	0.000	1.00	1.066	0.69	20.7	0.0	22.6
69.00	Top - Section 2	1.00	0.89	17.193	18.91	85.38	0.650	0.000	3.00	3.111	2.02	61.2	0.0	66.0
70.00		1.00	0.90	17.263	18.99	75.47	0.600	0.000	1.00	0.896	0.54	16.3	0.0	37.4
75.00		1.00	0.91	17.601	19.36	76.21	0.600	0.000	5.00	4.479	2.69	83.3	0.0	187.2
79.00	Appurtenance(s)	1.00	0.93	17.861	19.65	76.77	0.600	0.000	4.00	3.583	2.15	67.6	0.0	149.7
<b>Totals:</b>									<b>79.00</b>			<b>1,877.0</b>		<b>2,616.0</b>

## Discrete Appurtenance Forces

Item 2.

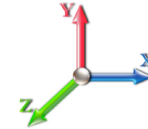
<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	79.00	Nokia AHFIG RRU's	3	17.861	19.647	0.50	0.75	4.15	190.35	0.000	0.000	130.32	0.00	0.00	
2	79.00	Lightning Rod @ 80'	1	18.081	19.889	1.00	1.00	1.05	31.50	0.000	3.500	33.41	0.00	116.95	
3	79.00	Commscope	3	17.861	19.647	0.54	0.75	34.21	336.31	0.000	0.000	1075.56	0.00	0.00	
4	79.00	Nsn AEHC	3	17.861	19.647	0.52	0.75	10.45	267.84	0.000	0.000	328.45	0.00	0.00	
5	79.00	Platform w/ Hand Rails	1	17.861	19.647	1.00	1.00	31.90	1732.50	0.000	0.000	1002.81	0.00	0.00	
6	79.00	Nokia AHLOA RRU's	3	17.861	19.647	0.50	0.75	3.32	226.80	0.000	0.000	104.26	0.00	0.00	
7	79.00	Nokia HCS 2.0 Tower	2	17.861	19.647	0.50	0.75	3.22	34.20	0.000	0.000	101.10	0.00	0.00	
8	66.00	Reinforcement Kit (Site	1	16.979	18.677	0.75	0.75	7.13	418.42	0.000	0.000	212.92	0.00	0.00	
9	66.00	Platform w/ Hand Rails	1	16.979	18.677	1.00	1.00	32.00	1440.00	0.000	0.000	956.25	0.00	0.00	
10	66.00	Raycap DC6-48-60-18-8C	1	16.979	18.677	0.50	0.75	0.95	18.00	0.000	0.000	28.53	0.00	0.00	
11	66.00	Raycap DC6-48-60-18-8F	3	16.979	18.677	0.50	0.75	5.58	88.56	0.000	0.000	166.68	0.00	0.00	
12	66.00	Ericsson RRUS 32 B2	3	16.979	18.677	0.50	0.75	4.13	143.10	0.000	0.000	123.43	0.00	0.00	
13	66.00	Ericsson RRUS 4415 B25	3	16.979	18.677	0.50	0.75	2.77	124.20	0.000	0.000	82.89	0.00	0.00	
14	66.00	Ericsson RRUS 4478 B5	3	16.979	18.677	0.50	0.75	2.77	161.73	0.000	0.000	82.89	0.00	0.00	
15	66.00	Ericsson RRUS 4478 B14	3	16.979	18.677	0.50	0.75	3.05	160.38	0.000	0.000	91.00	0.00	0.00	
16	66.00	Ericsson RRUS 11 RRU's	3	16.979	18.677	0.50	0.75	4.19	136.92	0.000	0.000	125.23	0.00	0.00	
17	66.00	Ericsson RRUS 32 RRU's	3	16.979	18.677	0.50	0.75	4.13	162.00	0.000	0.000	123.43	0.00	0.00	
18	66.00	Ericsson RRUS-32 B66	3	16.979	18.677	0.50	0.75	4.13	143.10	0.000	0.000	123.43	0.00	0.00	
19	66.00	Andrew ETD819G-12UB	6	16.979	18.677	0.45	0.75	4.97	167.40	0.000	0.000	148.46	0.00	0.00	
20	66.00	Commscope	6	16.979	18.677	0.62	0.75	34.03	341.82	0.000	0.000	1016.79	0.00	0.00	
21	66.00	Commscope	6	16.979	18.677	0.62	0.75	30.48	216.00	0.000	0.000	910.76	0.00	0.00	
22	66.00	Collar Mount	1	16.979	18.677	0.64	0.80	1.60	135.54	0.000	0.000	47.81	0.00	0.00	
23	66.00	Reinforcement Kit	1	16.979	18.677	0.75	0.75	4.72	177.30	0.000	0.000	141.20	0.00	0.00	
<b>Totals:</b>									<b>6,853.97</b>			<b>7,157.61</b>			

## Total Applied Force Summary

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

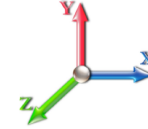


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**Load Case:** 0.9D + 1.6W 89 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		30.41	111.02	0.00	0.00
5.00		119.41	468.07	0.00	0.00
10.00		144.26	611.99	0.00	0.00
15.00		138.70	604.23	0.00	0.00
20.00		133.14	596.46	0.00	0.00
21.00		25.96	104.59	0.00	0.00
25.00		101.62	415.26	0.00	0.00
30.00		123.27	512.09	0.00	0.00
35.00		122.79	504.33	0.00	0.00
40.00		121.36	496.57	0.00	0.00
41.00		23.70	98.38	0.00	0.00
45.00		94.80	390.42	0.00	0.00
50.00		116.21	481.04	0.00	0.00
51.25		28.24	119.05	0.00	0.00
53.25		45.97	242.93	0.00	0.00
55.00		39.72	165.96	0.00	0.00
58.38		75.66	317.85	0.00	0.00
60.00		35.44	151.08	0.00	0.00
65.00		107.26	185.50	0.00	0.00
66.00	(47) attachments	4402.40	4070.64	0.00	0.00
69.00		61.19	76.13	0.00	0.00
70.00		16.33	40.82	0.00	0.00
75.00		83.25	204.08	0.00	0.00
79.00	(16) attachments	2843.50	2982.77	0.00	116.95
<b>Totals:</b>		<b>9,034.58</b>	<b>13,951.26</b>	<b>0.00</b>	<b>116.95</b>

## Linear Appurtenance Segment Forces (Factored)

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.6W 89 mph Wind	<b>Iterations</b> 23
<b>Dead Load Factor</b> 0.90	
<b>Wind Load Factor</b> 1.60	

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	6"x1.25" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	68.90
5.00	6"x1.25" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	275.62
10.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	344.52
15.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	344.52
20.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	344.52
21.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	55.13
25.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	13.485	0.00	220.54
30.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	13.623	0.00	275.67
35.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	14.218	0.00	275.67
40.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	14.756	0.00	275.67
41.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	14.858	0.00	55.13
45.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	15.249	0.00	220.54
50.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	15.705	0.00	275.67
51.25	6"x1.0" Link Plate	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	15.814	0.00	68.92
53.25	6"x1.0" Link Plate	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	15.985	0.00	110.27
55.00	6"x1.0" Link Plate	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	16.131	0.00	96.48
58.38	6"x1.0" Link Plate	Yes	3.38	0.000	0.00	0.00	0.00	0.000	0.000	16.403	0.00	186.35
60.00	6"x1.0" Link Plate	Yes	1.62	0.000	0.00	0.00	0.00	0.000	0.000	16.530	0.00	89.32
<b>Totals:</b>											<b>0.0</b>	<b>3,583.4</b>

## Calculated Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.6W 89 mph Wind	<b>Iterations</b>	23
<b>Dead Load Factor</b> 0.90		
<b>Wind Load Factor</b> 1.60		

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-13.95	-9.04	0.00	-610.47	0.00	610.47	958.95	479.48	913.66	457.51	0.00	0.000	0.000	0.515
1.00	-13.81	-9.06	0.00	-601.43	0.00	601.43	954.23	477.12	902.43	451.89	0.01	-0.070	0.000	0.550
5.00	-13.29	-9.01	0.00	-565.20	0.00	565.20	935.00	467.50	857.86	429.57	0.19	-0.366	0.000	0.533
10.00	-12.62	-8.94	0.00	-520.14	0.00	520.14	910.20	455.10	803.00	402.10	0.77	-0.735	0.000	0.509
15.00	-11.96	-8.87	0.00	-475.41	0.00	475.41	884.53	442.27	749.15	375.13	1.74	-1.104	0.000	0.484
20.00	-11.33	-8.77	0.00	-431.05	0.00	431.05	858.01	429.00	696.42	348.73	3.09	-1.473	0.000	0.458
21.00	-11.20	-8.78	0.00	-422.28	0.00	422.28	852.60	426.30	686.02	343.52	3.41	-1.550	0.000	0.525
25.00	-10.73	-8.74	0.00	-387.14	0.00	387.14	830.62	415.31	644.90	322.93	4.85	-1.893	0.000	0.500
30.00	-10.16	-8.67	0.00	-343.44	0.00	343.44	799.45	399.72	592.50	296.69	7.06	-2.312	0.000	0.467
35.00	-9.60	-8.60	0.00	-300.07	0.00	300.07	761.79	380.89	537.71	269.26	9.70	-2.723	0.000	0.434
40.00	-9.07	-8.49	0.00	-257.09	0.00	257.09	724.12	362.06	485.59	243.16	12.77	-3.120	0.000	0.396
41.00	-8.95	-8.49	0.00	-248.61	0.00	248.61	716.59	358.30	475.48	238.09	13.43	-3.200	0.000	0.388
45.00	-8.51	-8.42	0.00	-214.66	0.00	214.66	686.46	343.23	436.12	218.38	16.24	-3.503	0.000	0.354
50.00	-8.01	-8.30	0.00	-172.56	0.00	172.56	648.80	324.40	389.31	194.94	20.09	-3.850	0.000	0.304
51.25	-7.88	-8.28	0.00	-162.18	0.00	162.18	639.39	319.69	378.02	189.29	21.11	-3.935	0.000	0.291
53.25	-7.62	-8.23	0.00	-145.62	0.00	145.62	640.90	320.45	379.83	190.20	22.79	-4.064	0.000	0.268
55.00	-7.44	-8.20	0.00	-131.21	0.00	131.21	627.72	313.86	364.27	182.40	24.30	-4.167	0.000	0.241
58.38	-7.11	-8.12	0.00	-103.50	0.00	103.50	602.26	301.13	335.13	167.82	27.31	-4.340	0.000	0.200
58.38	-7.11	-8.12	0.00	-103.50	0.00	103.50	602.26	301.13	335.13	167.82	27.31	-4.340	0.000	0.200
60.00	-6.92	-8.11	0.00	-90.35	0.00	90.35	590.06	295.03	321.60	161.04	28.79	-4.414	0.000	0.574
65.00	-6.70	-8.02	0.00	-49.80	0.00	49.80	552.40	276.20	281.59	141.01	33.73	-4.972	0.000	0.366
66.00	-3.02	-3.29	0.00	-41.78	0.00	41.78	544.87	272.43	273.91	137.16	34.78	-5.061	0.000	0.310
69.00	-2.94	-3.23	0.00	-31.91	0.00	31.91	522.27	261.13	251.50	125.94	38.03	-5.284	0.000	0.259
69.00	-2.94	-3.23	0.00	-31.91	0.00	31.91	385.02	192.51	160.54	106.00	38.03	-5.284	0.000	0.309
70.00	-2.89	-3.22	0.00	-28.68	0.00	28.68	385.02	192.51	160.54	106.00	39.15	-5.354	0.000	0.278
75.00	-2.69	-3.12	0.00	-12.59	0.00	12.59	385.02	192.51	160.54	106.00	44.85	-5.532	0.000	0.126
79.00	0.00	-2.84	0.00	-0.12	0.00	0.12	385.02	192.51	160.54	106.00	49.50	-5.576	0.000	0.001

## Wind Loading - Shaft

Item 2.

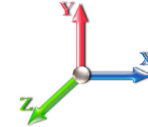
<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 30 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	1.532	1.69	0.00	1.200	1.057	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2	1.00	0.70	1.532	1.69	0.00	1.200	1.133	1.00	2.160	2.59	4.4	34.2	90.4
5.00		1.00	0.70	1.532	1.69	0.00	1.200	1.265	4.00	8.584	10.30	17.4	149.2	369.7
10.00		1.00	0.70	1.532	1.69	0.00	1.200	1.344	5.00	10.471	12.57	21.2	191.7	458.0
15.00		1.00	0.70	1.532	1.69	0.00	1.200	1.395	5.00	10.154	12.18	20.5	192.1	448.0
20.00		1.00	0.70	1.532	1.69	0.00	1.200	1.434	5.00	9.825	11.79	19.9	190.2	435.7
21.00	RT2 RB3	1.00	0.70	1.532	1.69	0.00	1.200	1.440	1.00	1.923	2.31	3.9	37.9	85.8
25.00		1.00	0.70	1.532	1.69	0.00	1.200	1.465	4.00	7.564	9.08	15.3	149.5	336.8
30.00		1.00	0.71	1.548	1.70	0.00	1.200	1.491	5.00	9.152	10.98	18.7	182.5	407.4
35.00		1.00	0.74	1.615	1.78	0.00	1.200	1.513	5.00	8.810	10.57	18.8	177.5	392.0
40.00		1.00	0.77	1.677	1.84	0.00	1.200	1.533	5.00	8.466	10.16	18.7	171.9	376.0
41.00	RT3 RB4	1.00	0.77	1.688	1.86	0.00	1.200	1.537	1.00	1.651	1.98	3.7	34.1	73.7
45.00		1.00	0.79	1.733	1.91	0.00	1.200	1.551	4.00	6.468	7.76	14.8	132.7	286.9
50.00		1.00	0.82	1.784	1.96	0.00	1.200	1.567	5.00	7.774	9.33	18.3	159.4	342.9
51.25	Bot - Section 2	1.00	0.82	1.797	1.98	0.00	1.200	1.571	1.25	1.888	2.27	4.5	39.4	83.7
53.25	Top - Section 1	1.00	0.83	1.816	2.00	0.00	1.200	1.576	2.00	3.039	3.65	7.3	63.5	204.2
55.00		1.00	0.84	1.833	2.02	0.00	1.200	1.581	1.75	2.614	3.14	6.3	54.7	115.7
58.38	RT4	1.00	0.85	1.864	2.05	0.00	1.200	1.591	3.38	4.928	5.91	12.1	102.6	216.8
60.00		1.00	0.86	1.878	2.07	31.82	1.200	1.595	1.62	2.305	2.77	5.7	48.4	101.5
65.00		1.00	0.88	1.921	2.11	30.16	1.200	1.608	5.00	6.885	8.26	17.5	142.2	299.2
66.00	Appurtenance(s)	1.00	0.88	1.929	2.12	29.82	1.200	1.610	1.00	1.334	1.60	3.4	28.2	58.3
69.00	Top - Section 2	1.00	0.89	1.953	2.15	28.78	1.200	1.617	3.00	3.920	4.70	10.1	81.8	169.8
70.00		1.00	0.90	1.961	2.16	25.44	1.200	1.619	1.00	1.166	1.40	3.0	24.5	74.4
75.00		1.00	0.91	2.000	2.20	25.69	1.200	1.631	5.00	5.838	7.01	15.4	123.3	372.9
79.00	Appurtenance(s)	1.00	0.93	2.029	2.23	25.88	1.200	1.639	4.00	4.676	5.61	12.5	99.2	298.9
<b>Totals:</b>									<b>79.00</b>			<b>293.3</b>	<b>6,098.7</b>	



## Discrete Appurtenance Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 30 mph Wind	<b>Iterations</b> 22
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.00	

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	79.00	Nokia AHFIG RRU's	3	2.029	2.232	0.50	0.75	5.05	359.10	0.000	0.000	11.27	0.00	0.00
2	79.00	Lightning Rod @ 80'	1	2.054	2.260	1.00	1.00	3.28	62.50	0.000	3.500	7.41	0.00	25.93
3	79.00	Commscope	3	2.029	2.232	0.54	0.75	37.13	1715.35	0.000	0.000	82.89	0.00	0.00
4	79.00	Nsn AEHC	3	2.029	2.232	0.52	0.75	11.97	714.45	0.000	0.000	26.72	0.00	0.00
5	79.00	Platform w/ Hand Rails	1	2.029	2.232	1.00	1.00	52.81	3581.91	0.000	0.000	117.90	0.00	0.00
6	79.00	Nokia AHLOA RRU's	3	2.029	2.232	0.50	0.75	4.18	430.18	0.000	0.000	9.34	0.00	0.00
7	79.00	Nokia HCS 2.0 Tower	2	2.029	2.232	0.50	0.75	4.35	195.13	0.000	0.000	9.72	0.00	0.00
8	66.00	Reinforcement Kit (Site	1	1.929	2.122	0.75	0.75	14.01	762.22	0.000	0.000	29.73	0.00	0.00
9	66.00	Platform w/ Hand Rails	1	1.929	2.122	1.00	1.00	57.76	3257.25	0.000	0.000	122.57	0.00	0.00
10	66.00	Raycap DC6-48-60-18-8C	1	1.929	2.122	0.50	0.75	1.42	57.58	0.000	0.000	3.00	0.00	0.00
11	66.00	Raycap DC6-48-60-18-8F	3	1.929	2.122	0.50	0.75	8.03	244.47	0.000	0.000	17.04	0.00	0.00
12	66.00	Ericsson RRUS 32 B2	3	1.929	2.122	0.50	0.75	5.14	429.89	0.000	0.000	10.90	0.00	0.00
13	66.00	Ericsson RRUS 4415 B25	3	1.929	2.122	0.50	0.75	3.58	251.16	0.000	0.000	7.59	0.00	0.00
14	66.00	Ericsson RRUS 4478 B5	3	1.929	2.122	0.50	0.75	3.54	315.83	0.000	0.000	7.50	0.00	0.00
15	66.00	Ericsson RRUS 4478 B14	3	1.929	2.122	0.50	0.75	3.93	300.41	0.000	0.000	8.33	0.00	0.00
16	66.00	Ericsson RRUS 11 RRU's	3	1.929	2.122	0.50	0.75	5.14	416.89	0.000	0.000	10.90	0.00	0.00
17	66.00	Ericsson RRUS 32 RRU's	3	1.929	2.122	0.50	0.75	5.14	455.09	0.000	0.000	10.90	0.00	0.00
18	66.00	Ericsson RRUS-32 B66	3	1.929	2.122	0.50	0.75	5.14	429.89	0.000	0.000	10.90	0.00	0.00
19	66.00	Andrew ETD819G-12UB	6	1.929	2.122	0.45	0.75	7.19	348.36	0.000	0.000	15.27	0.00	0.00
20	66.00	Commscope	6	1.929	2.122	0.62	0.75	38.65	1714.45	0.000	0.000	82.01	0.00	0.00
21	66.00	Commscope	6	1.929	2.122	0.62	0.75	34.93	1395.79	0.000	0.000	74.13	0.00	0.00
22	66.00	Collar Mount	1	1.929	2.122	0.64	0.80	3.15	308.40	0.000	0.000	6.68	0.00	0.00
23	66.00	Reinforcement Kit	1	1.929	2.122	0.75	0.75	9.29	403.15	0.000	0.000	19.71	0.00	0.00
<b>Totals:</b>									<b>18,149.43</b>			<b>702.44</b>		

## Total Applied Force Summary

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



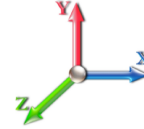
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 30 mph Wind

**Iterations** 22

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		4.37	187.49	0.00	0.00
5.00		17.36	797.46	0.00	0.00
10.00		21.18	1040.31	0.00	0.00
15.00		20.54	1031.95	0.00	0.00
20.00		19.87	1020.88	0.00	0.00
21.00		3.89	183.52	0.00	0.00
25.00		15.30	728.29	0.00	0.00
30.00		18.70	897.50	0.00	0.00
35.00		18.79	882.79	0.00	0.00
40.00		18.74	867.45	0.00	0.00
41.00		3.68	172.03	0.00	0.00
45.00		14.79	680.45	0.00	0.00
50.00		18.31	835.34	0.00	0.00
51.25		4.48	206.83	0.00	0.00
53.25		7.29	401.33	0.00	0.00
55.00		6.32	288.26	0.00	0.00
58.38		12.12	550.20	0.00	0.00
60.00		5.71	261.33	0.00	0.00
65.00		17.46	389.59	0.00	0.00
66.00	(47) attachments	440.58	11167.19	0.00	0.00
69.00		10.11	183.32	0.00	0.00
70.00		3.02	78.89	0.00	0.00
75.00		15.41	395.42	0.00	0.00
79.00	(16) attachments	277.78	7375.53	0.00	25.93
<b>Totals:</b>		<b>995.78</b>	<b>30,623.38</b>	<b>0.00</b>	<b>25.93</b>

## Linear Appurtenance Segment Forces (Factored)

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 30 mph Wind	<b>Iterations</b> 22
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.00	

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	6"x1.25" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	97.14
5.00	6"x1.25" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	391.63
10.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	491.95
15.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	493.56
20.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	494.78
21.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	79.66
25.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	1.532	0.00	319.20
30.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.548	0.00	399.78
35.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.615	0.00	400.45
40.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.677	0.00	401.05
41.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	1.688	0.00	80.23
45.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	1.733	0.00	321.27
50.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	1.784	0.00	402.09
51.25	6"x1.0" Link Plate	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	1.797	0.00	100.55
53.25	6"x1.0" Link Plate	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	1.816	0.00	160.95
55.00	6"x1.0" Link Plate	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	1.833	0.00	140.89
58.38	6"x1.0" Link Plate	Yes	3.38	0.000	0.00	0.00	0.00	0.000	0.000	1.864	0.00	272.31
60.00	6"x1.0" Link Plate	Yes	1.62	0.000	0.00	0.00	0.00	0.000	0.000	1.878	0.00	130.56
<b>Totals:</b>											<b>0.0</b>	<b>5,178.0</b>

## Calculated Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 30 mph Wind	<b>Iterations</b>	22
<b>Dead Load Factor</b> 1.20		
<b>Wind Load Factor</b> 1.00		

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.62	-1.00	0.00	-70.17	0.00	70.17	958.95	479.48	913.66	457.51	0.00	0.000	0.000	0.075
1.00	-30.44	-1.00	0.00	-69.18	0.00	69.18	954.23	477.12	902.43	451.89	0.00	-0.008	0.000	0.075
5.00	-29.64	-1.01	0.00	-65.16	0.00	65.16	935.00	467.50	857.86	429.57	0.02	-0.042	0.000	0.073
10.00	-28.60	-1.01	0.00	-60.12	0.00	60.12	910.20	455.10	803.00	402.10	0.09	-0.085	0.000	0.070
15.00	-27.56	-1.00	0.00	-55.10	0.00	55.10	884.53	442.27	749.15	375.13	0.20	-0.127	0.000	0.067
20.00	-26.54	-0.99	0.00	-50.08	0.00	50.08	858.01	429.00	696.42	348.73	0.36	-0.170	0.000	0.063
21.00	-26.36	-1.00	0.00	-49.08	0.00	49.08	852.60	426.30	686.02	343.52	0.39	-0.179	0.000	0.073
25.00	-25.63	-1.00	0.00	-45.08	0.00	45.08	830.62	415.31	644.90	322.93	0.56	-0.219	0.000	0.069
30.00	-24.73	-1.00	0.00	-40.07	0.00	40.07	799.45	399.72	592.50	296.69	0.82	-0.268	0.000	0.065
35.00	-23.85	-1.00	0.00	-35.07	0.00	35.07	761.79	380.89	537.71	269.26	1.12	-0.316	0.000	0.061
40.00	-22.98	-0.98	0.00	-30.08	0.00	30.08	724.12	362.06	485.59	243.16	1.48	-0.362	0.000	0.057
41.00	-22.81	-0.99	0.00	-29.10	0.00	29.10	716.59	358.30	475.48	238.09	1.56	-0.372	0.000	0.056
45.00	-22.13	-0.98	0.00	-25.15	0.00	25.15	686.46	343.23	436.12	218.38	1.88	-0.407	0.000	0.052
50.00	-21.29	-0.97	0.00	-20.23	0.00	20.23	648.80	324.40	389.31	194.94	2.33	-0.448	0.000	0.046
51.25	-21.08	-0.97	0.00	-19.02	0.00	19.02	639.39	319.69	378.02	189.29	2.45	-0.458	0.000	0.044
53.25	-20.68	-0.96	0.00	-17.08	0.00	17.08	640.90	320.45	379.83	190.20	2.64	-0.473	0.000	0.041
55.00	-20.39	-0.96	0.00	-15.40	0.00	15.40	627.72	313.86	364.27	182.40	2.82	-0.485	0.000	0.038
58.38	-19.84	-0.95	0.00	-12.16	0.00	12.16	602.26	301.13	335.13	167.82	3.17	-0.505	0.000	0.033
58.38	-19.84	-0.95	0.00	-12.16	0.00	12.16	602.26	301.13	335.13	167.82	3.17	-0.505	0.000	0.033
60.00	-19.58	-0.95	0.00	-10.63	0.00	10.63	590.06	295.03	321.60	161.04	3.34	-0.514	0.000	0.099
65.00	-19.19	-0.94	0.00	-5.87	0.00	5.87	552.40	276.20	281.59	141.01	3.92	-0.580	0.000	0.076
66.00	-8.03	-0.39	0.00	-4.92	0.00	4.92	544.87	272.43	273.91	137.16	4.04	-0.590	0.000	0.051
69.00	-7.85	-0.38	0.00	-3.75	0.00	3.75	522.27	261.13	251.50	125.94	4.42	-0.616	0.000	0.045
69.00	-7.85	-0.38	0.00	-3.75	0.00	3.75	385.02	192.51	160.54	106.00	4.42	-0.616	0.000	0.056
70.00	-7.77	-0.38	0.00	-3.37	0.00	3.37	385.02	192.51	160.54	106.00	4.55	-0.625	0.000	0.052
75.00	-7.37	-0.36	0.00	-1.47	0.00	1.47	385.02	192.51	160.54	106.00	5.22	-0.646	0.000	0.033
79.00	0.00	-0.28	0.00	-0.03	0.00	0.03	385.02	192.51	160.54	106.00	5.76	-0.651	0.000	0.000

## Seismic Segment Forces (Factored)

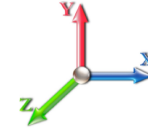
Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0E				<b>Iterations</b> 21
<b>Gust Response Factor</b>	1.10	<b>Sds</b>	0.07	<b>Ss</b> 0.07
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>S1</b> 0.04
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.26	<b>SA</b> 0.02
				<b>Seismic Importance Factor</b> 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.01	0.01	0.00	
1.00	RT1 RB2	46.79	0.00	0.03	0.01	0.23	
5.00		183.72	0.01	0.06	0.03	1.74	
10.00		221.89	0.04	0.07	0.04	2.54	
15.00		213.26	0.08	0.07	0.04	2.60	
20.00		204.64	0.13	0.07	0.03	2.62	
21.00	RT2 RB3	39.89	0.14	0.07	0.03	0.51	
25.00		156.12	0.20	0.06	0.02	2.04	
30.00		187.39	0.28	0.05	0.01	2.28	
35.00		178.76	0.38	0.02	0.01	1.56	
40.00		170.14	0.50	-0.01	0.01	0.38	
41.00	RT3 RB4	32.99	0.52	-0.02	0.01	0.02	
45.00		128.52	0.62	-0.06	0.02	-0.69	
50.00		152.89	0.77	-0.11	0.05	-1.56	
51.25	Bot - Section 2	36.88	0.81	-0.11	0.06	-0.39	
53.25	Top - Section 1	117.28	0.87	-0.12	0.08	-1.21	
55.00		50.84	0.93	-0.12	0.10	-0.47	
58.38	RT4	95.20	1.04	-0.10	0.15	-0.44	
60.00		44.23	1.10	-0.07	0.19	-0.06	
65.00		130.81	1.29	0.10	0.32	1.77	
66.00	Appurtenance(s)	4507.8	1.33	0.16	0.36	78.29	
69.00	Top - Section 2	73.31	1.45	0.38	0.48	2.24	
70.00		41.59	1.49	0.47	0.53	1.48	
75.00		207.96	1.71	1.14	0.82	13.45	
79.00	Appurtenance(s)	3299.1	1.89	1.98	1.14	308.20	
<b>Totals:</b>		<b>10,522.1</b>				<b>417.1</b>	<b>Total Wind: 9,034.6</b>

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

## Calculated Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0E							<b>Iterations</b> 21
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.07		<b>Ss</b> 0.07
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.07		<b>S1</b> 0.04
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.26	<b>SA</b>	0.02	<b>Seismic Importance Factor</b>	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-18.60	-0.42	0.00	-33.70	0.00	33.70	958.95	479.48	913.66	457.51	0.00	0.00	0.00	0.038
1.00	-18.45	-0.43	0.00	-33.28	0.00	33.28	954.23	477.12	902.43	451.89	0.00	0.00	0.00	0.037
5.00	-17.83	-0.43	0.00	-31.58	0.00	31.58	935.00	467.50	857.86	429.57	0.01	-0.02	0.037	0.037
10.00	-17.01	-0.43	0.00	-29.43	0.00	29.43	910.20	455.10	803.00	402.10	0.04	-0.04	0.035	0.035
15.00	-16.21	-0.44	0.00	-27.27	0.00	27.27	884.53	442.27	749.15	375.13	0.10	-0.06	0.034	0.034
20.00	-15.41	-0.43	0.00	-25.09	0.00	25.09	858.01	429.00	696.42	348.73	0.17	-0.08	0.033	0.033
21.00	-15.27	-0.44	0.00	-24.66	0.00	24.66	852.60	426.30	686.02	343.52	0.19	-0.09	0.037	0.037
25.00	-14.72	-0.44	0.00	-22.91	0.00	22.91	830.62	415.31	644.90	322.93	0.27	-0.11	0.036	0.036
30.00	-14.04	-0.44	0.00	-20.70	0.00	20.70	799.45	399.72	592.50	296.69	0.40	-0.13	0.034	0.034
35.00	-13.36	-0.45	0.00	-18.49	0.00	18.49	761.79	380.89	537.71	269.26	0.55	-0.16	0.033	0.033
40.00	-12.70	-0.45	0.00	-16.26	0.00	16.26	724.12	362.06	485.59	243.16	0.73	-0.18	0.031	0.031
41.00	-12.57	-0.45	0.00	-15.82	0.00	15.82	716.59	358.30	475.48	238.09	0.77	-0.19	0.031	0.031
45.00	-12.05	-0.45	0.00	-14.02	0.00	14.02	686.46	343.23	436.12	218.38	0.94	-0.21	0.029	0.029
50.00	-11.41	-0.45	0.00	-11.77	0.00	11.77	648.80	324.40	389.31	194.94	1.17	-0.23	0.026	0.026
51.25	-11.25	-0.45	0.00	-11.20	0.00	11.20	639.39	319.69	378.02	189.29	1.23	-0.24	0.025	0.025
53.25	-10.92	-0.45	0.00	-10.30	0.00	10.30	640.90	320.45	379.83	190.20	1.33	-0.25	0.024	0.024
55.00	-10.70	-0.45	0.00	-9.50	0.00	9.50	627.72	313.86	364.27	182.40	1.42	-0.25	0.023	0.023
58.38	-10.28	-0.45	0.00	-7.97	0.00	7.97	602.26	301.13	335.13	167.82	1.60	-0.27	0.020	0.020
58.38	-10.28	-0.45	0.00	-7.97	0.00	7.97	602.26	301.13	335.13	167.82	1.60	-0.27	0.020	0.020
60.00	-10.08	-0.46	0.00	-7.24	0.00	7.24	590.06	295.03	321.60	161.04	1.69	-0.27	0.062	0.062
65.00	-9.83	-0.46	0.00	-4.95	0.00	4.95	552.40	276.20	281.59	141.01	2.01	-0.32	0.053	0.053
66.00	-4.40	-0.35	0.00	-4.49	0.00	4.49	544.87	272.43	273.91	137.16	2.07	-0.33	0.041	0.041
69.00	-4.30	-0.35	0.00	-3.43	0.00	3.43	522.27	261.13	251.50	125.94	2.29	-0.35	0.036	0.036
69.00	-4.30	-0.35	0.00	-3.43	0.00	3.43	385.02	192.51	160.54	106.00	2.29	-0.35	0.044	0.044
70.00	-4.25	-0.35	0.00	-3.08	0.00	3.08	385.02	192.51	160.54	106.00	2.36	-0.36	0.040	0.040
75.00	-3.97	-0.33	0.00	-1.34	0.00	1.34	385.02	192.51	160.54	106.00	2.75	-0.38	0.023	0.023
79.00	0.00	-0.31	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	3.07	-0.38	0.000	0.000

## Seismic Segment Forces (Factored)

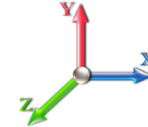
Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0E				<b>Iterations</b> 20
<b>Gust Response Factor</b>	1.10	<b>Sds</b>	0.07	<b>Ss</b> 0.07
<b>Dead Load Factor</b>	0.90	<b>Seismic Load Factor</b>	1.00	<b>S1</b> 0.04
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.26	<b>SA</b> 0.02
				<b>Seismic Importance Factor</b> 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1	0.00	0.00	0.01	0.01	0.00	
1.00	RT1 RB2	46.79	0.00	0.03	0.01	0.23	
5.00		183.72	0.01	0.06	0.03	1.74	
10.00		221.89	0.04	0.07	0.04	2.54	
15.00		213.26	0.08	0.07	0.04	2.60	
20.00		204.64	0.13	0.07	0.03	2.62	
21.00	RT2 RB3	39.89	0.14	0.07	0.03	0.51	
25.00		156.12	0.20	0.06	0.02	2.04	
30.00		187.39	0.28	0.05	0.01	2.28	
35.00		178.76	0.38	0.02	0.01	1.56	
40.00		170.14	0.50	-0.01	0.01	0.38	
41.00	RT3 RB4	32.99	0.52	-0.02	0.01	0.02	
45.00		128.52	0.62	-0.06	0.02	-0.69	
50.00		152.89	0.77	-0.11	0.05	-1.56	
51.25	Bot - Section 2	36.88	0.81	-0.11	0.06	-0.39	
53.25	Top - Section 1	117.28	0.87	-0.12	0.08	-1.21	
55.00		50.84	0.93	-0.12	0.10	-0.47	
58.38	RT4	95.20	1.04	-0.10	0.15	-0.44	
60.00		44.23	1.10	-0.07	0.19	-0.06	
65.00		130.81	1.29	0.10	0.32	1.77	
66.00	Appurtenance(s)	4507.8	1.33	0.16	0.36	78.29	
69.00	Top - Section 2	73.31	1.45	0.38	0.48	2.24	
70.00		41.59	1.49	0.47	0.53	1.48	
75.00		207.96	1.71	1.14	0.82	13.45	
79.00	Appurtenance(s)	3299.1	1.89	1.98	1.14	308.20	
<b>Totals:</b>		<b>10,522.1</b>				<b>417.1</b>	<b>Total Wind: 9,034.6</b>

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

## Calculated Forces

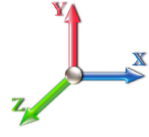
Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>12/17/2021</b>
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0E		<b>Iterations</b> 20
<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.07	<b>Ss</b> 0.07
<b>Dead Load Factor</b> 0.90	<b>Seismic Load Factor</b> 1.00	<b>S1</b> 0.04
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.26	<b>SA</b> 0.02
	<b>Seismic Importance Factor</b> 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-13.95	-0.42	0.00	-33.00	0.00	33.00	958.95	479.48	913.66	457.51	0.00	0.00	0.00	0.035
1.00	-13.84	-0.42	0.00	-32.58	0.00	32.58	954.23	477.12	902.43	451.89	0.00	0.00	0.00	0.035
5.00	-13.37	-0.43	0.00	-30.88	0.00	30.88	935.00	467.50	857.86	429.57	0.01	-0.02	0.034	0.034
10.00	-12.76	-0.43	0.00	-28.75	0.00	28.75	910.20	455.10	803.00	402.10	0.04	-0.04	0.033	0.033
15.00	-12.16	-0.43	0.00	-26.61	0.00	26.61	884.53	442.27	749.15	375.13	0.10	-0.06	0.032	0.032
20.00	-11.56	-0.43	0.00	-24.47	0.00	24.47	858.01	429.00	696.42	348.73	0.17	-0.08	0.030	0.030
21.00	-11.45	-0.43	0.00	-24.04	0.00	24.04	852.60	426.30	686.02	343.52	0.19	-0.09	0.035	0.035
25.00	-11.04	-0.43	0.00	-22.32	0.00	22.32	830.62	415.31	644.90	322.93	0.27	-0.11	0.034	0.034
30.00	-10.53	-0.43	0.00	-20.16	0.00	20.16	799.45	399.72	592.50	296.69	0.39	-0.13	0.032	0.032
35.00	-10.02	-0.43	0.00	-18.00	0.00	18.00	761.79	380.89	537.71	269.26	0.54	-0.15	0.030	0.030
40.00	-9.53	-0.43	0.00	-15.82	0.00	15.82	724.12	362.06	485.59	243.16	0.71	-0.18	0.029	0.029
41.00	-9.43	-0.44	0.00	-15.39	0.00	15.39	716.59	358.30	475.48	238.09	0.75	-0.18	0.028	0.028
45.00	-9.04	-0.44	0.00	-13.64	0.00	13.64	686.46	343.23	436.12	218.38	0.91	-0.20	0.027	0.027
50.00	-8.56	-0.44	0.00	-11.45	0.00	11.45	648.80	324.40	389.31	194.94	1.14	-0.22	0.024	0.024
51.25	-8.44	-0.44	0.00	-10.90	0.00	10.90	639.39	319.69	378.02	189.29	1.20	-0.23	0.024	0.024
53.25	-8.19	-0.44	0.00	-10.02	0.00	10.02	640.90	320.45	379.83	190.20	1.30	-0.24	0.022	0.022
55.00	-8.03	-0.44	0.00	-9.26	0.00	9.26	627.72	313.86	364.27	182.40	1.39	-0.25	0.021	0.021
58.38	-7.71	-0.44	0.00	-7.77	0.00	7.77	602.26	301.13	335.13	167.82	1.56	-0.26	0.019	0.019
58.38	-7.71	-0.44	0.00	-7.77	0.00	7.77	602.26	301.13	335.13	167.82	1.56	-0.26	0.019	0.019
60.00	-7.56	-0.44	0.00	-7.05	0.00	7.05	590.06	295.03	321.60	161.04	1.65	-0.26	0.057	0.057
65.00	-7.37	-0.44	0.00	-4.84	0.00	4.84	552.40	276.20	281.59	141.01	1.96	-0.31	0.048	0.048
66.00	-3.30	-0.34	0.00	-4.39	0.00	4.39	544.87	272.43	273.91	137.16	2.02	-0.32	0.038	0.038
69.00	-3.23	-0.34	0.00	-3.36	0.00	3.36	522.27	261.13	251.50	125.94	2.23	-0.34	0.033	0.033
69.00	-3.23	-0.34	0.00	-3.36	0.00	3.36	385.02	192.51	160.54	106.00	2.23	-0.34	0.040	0.040
70.00	-3.18	-0.34	0.00	-3.02	0.00	3.02	385.02	192.51	160.54	106.00	2.31	-0.35	0.037	0.037
75.00	-2.98	-0.33	0.00	-1.31	0.00	1.31	385.02	192.51	160.54	106.00	2.68	-0.37	0.020	0.020
79.00	0.00	-0.31	0.00	0.00	0.00	0.00	385.02	192.51	160.54	106.00	3.00	-0.37	0.000	0.000



## Wind Loading - Shaft

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

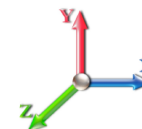


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1	1.00	0.70	6.129	6.74	99.31	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT1 RB2	1.00	0.70	6.129	6.74	98.59	0.650	0.000	1.00	1.971	1.28	8.6	0.0	46.8
5.00		1.00	0.70	6.129	6.74	95.70	0.650	0.000	4.00	7.741	5.03	33.9	0.0	183.7
10.00		1.00	0.70	6.129	6.74	92.08	0.650	0.000	5.00	9.351	6.08	41.0	0.0	221.9
15.00		1.00	0.70	6.129	6.74	88.46	0.650	0.000	5.00	8.991	5.84	39.4	0.0	213.3
20.00		1.00	0.70	6.129	6.74	84.84	0.650	0.000	5.00	8.631	5.61	37.8	0.0	204.6
21.00	RT2 RB3	1.00	0.70	6.129	6.74	84.12	0.650	0.000	1.00	1.683	1.09	7.4	0.0	39.9
25.00		1.00	0.70	6.129	6.74	81.22	0.650	0.000	4.00	6.587	4.28	28.9	0.0	156.1
30.00		1.00	0.71	6.192	6.81	78.00	0.650	0.000	5.00	7.910	5.14	35.0	0.0	187.4
35.00		1.00	0.74	6.462	7.11	75.97	0.650	0.000	5.00	7.549	4.91	34.9	0.0	178.8
40.00		1.00	0.77	6.706	7.38	73.61	0.650	0.000	5.00	7.189	4.67	34.5	0.0	170.1
41.00	RT3 RB4	1.00	0.77	6.753	7.43	73.10	0.650	0.000	1.00	1.395	0.91	6.7	0.0	33.0
45.00		1.00	0.79	6.931	7.62	70.98	0.650	0.000	4.00	5.434	3.53	26.9	0.0	128.5
50.00		1.00	0.82	7.138	7.85	68.13	0.650	0.000	5.00	6.468	4.20	33.0	0.0	152.9
51.25	Bot - Section 2	1.00	0.82	7.187	7.91	67.39	0.650	0.000	1.25	1.561	1.01	8.0	0.0	36.9
53.25	Top - Section 1	1.00	0.83	7.265	7.99	66.17	0.650	0.000	2.00	2.514	1.63	13.1	0.0	117.3
55.00		1.00	0.84	7.331	8.06	66.83	0.650	0.000	1.75	2.152	1.40	11.3	0.0	50.8
58.38	RT4	1.00	0.85	7.455	8.20	64.70	0.650	0.000	3.38	4.032	2.62	21.5	0.0	95.2
60.00		1.00	0.86	7.513	8.26	63.65	0.654	0.000	1.62	1.874	1.22	10.1	0.0	44.2
65.00		1.00	0.88	7.684	8.45	60.32	0.685	0.000	5.00	5.546	3.80	32.1	0.0	130.8
66.00	Appurtenance(s)	1.00	0.88	7.717	8.49	59.63	0.692	0.000	1.00	1.066	0.74	6.3	0.0	25.1
69.00	Top - Section 2	1.00	0.89	7.814	8.60	57.56	0.714	0.000	3.00	3.111	2.22	19.1	0.0	73.3
70.00		1.00	0.90	7.846	8.63	50.88	0.755	0.000	1.00	0.896	0.68	5.8	0.0	41.6
75.00		1.00	0.91	8.000	8.80	51.38	0.747	0.000	5.00	4.479	3.35	29.5	0.0	208.0
79.00	Appurtenance(s)	1.00	0.93	8.118	8.93	51.76	0.742	0.000	4.00	3.583	2.66	23.7	0.0	166.4
<b>Totals:</b>									<b>79.00</b>			<b>548.5</b>		<b>2,906.6</b>

## Discrete Appurtenance Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind	<b>Iterations</b> 22
<b>Dead Load Factor</b> 1.00	
<b>Wind Load Factor</b> 1.00	

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	79.00	Nokia AHFIG RRU's	3	8.118	8.930	0.50	0.75	4.15	211.50	0.000	0.000	37.02	0.00	0.00	
2	79.00	Lightning Rod @ 80'	1	8.218	9.039	1.00	1.00	1.05	35.00	0.000	3.500	9.49	0.00	33.22	
3	79.00	Commscope	3	8.118	8.930	0.54	0.75	34.21	373.68	0.000	0.000	305.52	0.00	0.00	
4	79.00	Nsn AEHC	3	8.118	8.930	0.52	0.75	10.45	297.60	0.000	0.000	93.30	0.00	0.00	
5	79.00	Platform w/ Hand Rails	1	8.118	8.930	1.00	1.00	31.90	1925.00	0.000	0.000	284.85	0.00	0.00	
6	79.00	Nokia AHLOA RRU's	3	8.118	8.930	0.50	0.75	3.32	252.00	0.000	0.000	29.61	0.00	0.00	
7	79.00	Nokia HCS 2.0 Tower	2	8.118	8.930	0.50	0.75	3.22	38.00	0.000	0.000	28.72	0.00	0.00	
8	66.00	Reinforcement Kit (Site	1	7.717	8.488	0.75	0.75	7.13	464.91	0.000	0.000	60.48	0.00	0.00	
9	66.00	Platform w/ Hand Rails	1	7.717	8.488	1.00	1.00	32.00	1600.00	0.000	0.000	271.63	0.00	0.00	
10	66.00	Raycap DC6-48-60-18-8C	1	7.717	8.488	0.50	0.75	0.95	20.00	0.000	0.000	8.10	0.00	0.00	
11	66.00	Raycap DC6-48-60-18-8F	3	7.717	8.488	0.50	0.75	5.58	98.40	0.000	0.000	47.35	0.00	0.00	
12	66.00	Ericsson RRUS 32 B2	3	7.717	8.488	0.50	0.75	4.13	159.00	0.000	0.000	35.06	0.00	0.00	
13	66.00	Ericsson RRUS 4415 B25	3	7.717	8.488	0.50	0.75	2.77	138.00	0.000	0.000	23.55	0.00	0.00	
14	66.00	Ericsson RRUS 4478 B5	3	7.717	8.488	0.50	0.75	2.77	179.70	0.000	0.000	23.55	0.00	0.00	
15	66.00	Ericsson RRUS 4478 B14	3	7.717	8.488	0.50	0.75	3.05	178.20	0.000	0.000	25.85	0.00	0.00	
16	66.00	Ericsson RRUS 11 RRU's	3	7.717	8.488	0.50	0.75	4.19	152.13	0.000	0.000	35.57	0.00	0.00	
17	66.00	Ericsson RRUS 32 RRU's	3	7.717	8.488	0.50	0.75	4.13	180.00	0.000	0.000	35.06	0.00	0.00	
18	66.00	Ericsson RRUS-32 B66	3	7.717	8.488	0.50	0.75	4.13	159.00	0.000	0.000	35.06	0.00	0.00	
19	66.00	Andrew ETD819G-12UB	6	7.717	8.488	0.45	0.75	4.97	186.00	0.000	0.000	42.17	0.00	0.00	
20	66.00	Commscope	6	7.717	8.488	0.62	0.75	34.03	379.80	0.000	0.000	288.82	0.00	0.00	
21	66.00	Commscope	6	7.717	8.488	0.62	0.75	30.48	240.00	0.000	0.000	258.71	0.00	0.00	
22	66.00	Collar Mount	1	7.717	8.488	0.64	0.80	1.60	150.60	0.000	0.000	13.58	0.00	0.00	
23	66.00	Reinforcement Kit	1	7.717	8.488	0.75	0.75	4.72	197.00	0.000	0.000	40.11	0.00	0.00	
<b>Totals:</b>									<b>7,615.52</b>						<b>2,033.15</b>

## Total Applied Force Summary

Item 2.

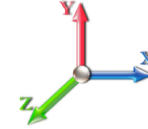
<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		8.64	123.35	0.00	0.00
5.00		33.92	520.08	0.00	0.00
10.00		40.98	679.99	0.00	0.00
15.00		39.40	671.36	0.00	0.00
20.00		37.82	662.74	0.00	0.00
21.00		7.37	116.21	0.00	0.00
25.00		28.87	461.40	0.00	0.00
30.00		35.02	568.99	0.00	0.00
35.00		34.88	560.36	0.00	0.00
40.00		34.47	551.74	0.00	0.00
41.00		6.73	109.31	0.00	0.00
45.00		26.93	433.80	0.00	0.00
50.00		33.01	534.49	0.00	0.00
51.25		8.02	132.28	0.00	0.00
53.25		13.06	269.92	0.00	0.00
55.00		11.28	184.40	0.00	0.00
58.38		21.49	353.17	0.00	0.00
60.00		10.12	167.87	0.00	0.00
65.00		32.13	206.11	0.00	0.00
66.00	(47) attachments	1250.91	4522.93	0.00	0.00
69.00		19.10	84.59	0.00	0.00
70.00		5.83	45.35	0.00	0.00
75.00		29.46	226.76	0.00	0.00
79.00	(16) attachments	812.25	3314.19	0.00	33.22
<b>Totals:</b>		<b>2,581.68</b>	<b>15,501.40</b>	<b>0.00</b>	<b>33.22</b>

## Linear Appurtenance Segment Forces (Factored)

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind	<b>Iterations</b> 22
<b>Dead Load Factor</b> 1.00	
<b>Wind Load Factor</b> 1.00	

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	6"x1.25" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	76.56
5.00	6"x1.25" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	306.24
10.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	382.80
15.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	382.80
20.00	6"x1.25" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	382.80
21.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	61.26
25.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	245.04
30.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.192	0.00	306.30
35.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.462	0.00	306.30
40.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.706	0.00	306.30
41.00	6"x1.0" Link Plate	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	61.26
45.00	6"x1.0" Link Plate	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.931	0.00	245.04
50.00	6"x1.0" Link Plate	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	306.30
51.25	6"x1.0" Link Plate	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.187	0.00	76.58
53.25	6"x1.0" Link Plate	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.265	0.00	122.52
55.00	6"x1.0" Link Plate	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	7.331	0.00	107.21
58.38	6"x1.0" Link Plate	Yes	3.38	0.000	0.00	0.00	0.00	0.000	0.000	7.455	0.00	207.06
60.00	6"x1.0" Link Plate	Yes	1.62	0.000	0.00	0.00	0.00	0.000	0.000	7.513	0.00	99.24
<b>Totals:</b>											<b>0.0</b>	<b>3,981.6</b>

## Calculated Forces

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind	<b>Iterations</b>	22
<b>Dead Load Factor</b>	1.00	
<b>Wind Load Factor</b>	1.00	

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-15.50	-2.58	0.00	-175.89	0.00	175.89	958.95	479.48	913.66	457.51	0.00	0.000	0.000	0.155
1.00	-15.38	-2.59	0.00	-173.31	0.00	173.31	954.23	477.12	902.43	451.89	0.00	-0.020	0.000	0.163
5.00	-14.85	-2.58	0.00	-162.95	0.00	162.95	935.00	467.50	857.86	429.57	0.06	-0.105	0.000	0.158
10.00	-14.17	-2.56	0.00	-150.05	0.00	150.05	910.20	455.10	803.00	402.10	0.22	-0.212	0.000	0.151
15.00	-13.49	-2.55	0.00	-137.23	0.00	137.23	884.53	442.27	749.15	375.13	0.50	-0.318	0.000	0.144
20.00	-12.83	-2.52	0.00	-124.50	0.00	124.50	858.01	429.00	696.42	348.73	0.89	-0.425	0.000	0.136
21.00	-12.71	-2.52	0.00	-121.98	0.00	121.98	852.60	426.30	686.02	343.52	0.98	-0.447	0.000	0.156
25.00	-12.24	-2.51	0.00	-111.89	0.00	111.89	830.62	415.31	644.90	322.93	1.40	-0.546	0.000	0.149
30.00	-11.67	-2.50	0.00	-99.32	0.00	99.32	799.45	399.72	592.50	296.69	2.04	-0.668	0.000	0.139
35.00	-11.10	-2.48	0.00	-86.83	0.00	86.83	761.79	380.89	537.71	269.26	2.80	-0.786	0.000	0.129
40.00	-10.55	-2.45	0.00	-74.44	0.00	74.44	724.12	362.06	485.59	243.16	3.69	-0.901	0.000	0.118
41.00	-10.44	-2.45	0.00	-71.99	0.00	71.99	716.59	358.30	475.48	238.09	3.88	-0.924	0.000	0.116
45.00	-10.00	-2.43	0.00	-62.19	0.00	62.19	686.46	343.23	436.12	218.38	4.69	-1.012	0.000	0.106
50.00	-9.46	-2.40	0.00	-50.02	0.00	50.02	648.80	324.40	389.31	194.94	5.80	-1.113	0.000	0.092
51.25	-9.33	-2.39	0.00	-47.02	0.00	47.02	639.39	319.69	378.02	189.29	6.10	-1.137	0.000	0.088
53.25	-9.06	-2.38	0.00	-42.24	0.00	42.24	640.90	320.45	379.83	190.20	6.58	-1.175	0.000	0.081
55.00	-8.87	-2.37	0.00	-38.07	0.00	38.07	627.72	313.86	364.27	182.40	7.02	-1.205	0.000	0.073
58.38	-8.52	-2.35	0.00	-30.05	0.00	30.05	602.26	301.13	335.13	167.82	7.89	-1.255	0.000	0.061
58.38	-8.52	-2.35	0.00	-30.05	0.00	30.05	602.26	301.13	335.13	167.82	7.89	-1.255	0.000	0.061
60.00	-8.35	-2.35	0.00	-26.25	0.00	26.25	590.06	295.03	321.60	161.04	8.32	-1.276	0.000	0.177
65.00	-8.14	-2.32	0.00	-14.50	0.00	14.50	552.40	276.20	281.59	141.01	9.75	-1.439	0.000	0.118
66.00	-3.65	-0.96	0.00	-12.18	0.00	12.18	544.87	272.43	273.91	137.16	10.06	-1.464	0.000	0.095
69.00	-3.56	-0.94	0.00	-9.29	0.00	9.29	522.27	261.13	251.50	125.94	11.00	-1.530	0.000	0.081
69.00	-3.56	-0.94	0.00	-9.29	0.00	9.29	385.02	192.51	160.54	106.00	11.00	-1.530	0.000	0.097
70.00	-3.52	-0.94	0.00	-8.35	0.00	8.35	385.02	192.51	160.54	106.00	11.32	-1.550	0.000	0.088
75.00	-3.29	-0.91	0.00	-3.65	0.00	3.65	385.02	192.51	160.54	106.00	12.97	-1.602	0.000	0.043
79.00	0.00	-0.81	0.00	-0.03	0.00	0.03	385.02	192.51	160.54	106.00	14.32	-1.614	0.000	0.000

# Final Analysis Summary

Item 2.

<b>Structure:</b> TX09257-A-SBA	<b>Code:</b> EIA/TIA-222-G	12/17/2021
<b>Site Name:</b> Stephenville B	<b>Exposure:</b> B	
<b>Height:</b> 79.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 1.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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## Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 89 mph Wind	9.0	0.00	18.60	0.00	0.00	621.74
0.9D + 1.6W 89 mph Wind	9.0	0.00	13.95	0.00	0.00	610.47
1.2D + 1.0Di + 1.0Wi 30 mph Wind	1.0	0.00	30.62	0.00	0.00	70.17
1.2D + 1.0E	0.4	0.00	18.60	0.00	0.00	33.70
0.9D + 1.0E	0.4	0.00	13.95	0.00	0.00	33.00
1.0D + 1.0W 60 mph Wind	2.6	0.00	15.50	0.00	0.00	175.89

## Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 89 mph Wind	-9.41	-8.34	0.00	-93.14	0.00	-93.14	590.06	295.03	321.60	161.04	60.00	0.595
0.9D + 1.6W 89 mph Wind	-6.92	-8.11	0.00	-90.35	0.00	-90.35	590.06	295.03	321.60	161.04	60.00	0.574
1.2D + 1.0Di + 1.0Wi 30 mph Wind	-19.58	-0.95	0.00	-10.63	0.00	-10.63	590.06	295.03	321.60	161.04	60.00	0.099
1.2D + 1.0E	-10.08	-0.46	0.00	-7.24	0.00	-7.24	590.06	295.03	321.60	161.04	60.00	0.062
0.9D + 1.0E	-7.56	-0.44	0.00	-7.05	0.00	-7.05	590.06	295.03	321.60	161.04	60.00	0.057
1.0D + 1.0W 60 mph Wind	-8.35	-2.35	0.00	-26.25	0.00	-26.25	590.06	295.03	321.60	161.04	60.00	0.177

## Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	1.0	(3) SOL-2 1/4" William R71	-335.1	-4.02	25.3	203.5	50.5			271.5	25.3			203.51	459.1	468.91	0.443
1.0	21.0	(3) LNP-LP6X125-BW-20B	-405.3	-9.73	25.3	271.5	25.3			236.0	25.3			271.49	395.0	360.94	0.752
21.0	41.0	(3) LNP-LP6X100-G-20BC	-468.3	-11.24	25.3	218.2	25.3			165.2	25.3			218.19	297.8	288.75	0.756
41.0	58.4	(3) LNP-LP6X100-G-20CT	-554.5	-13.31	25.3	165.2	25.3			85.2	25.3	4	8	165.18	297.8	288.75	0.572



Pier Foundation Design For Monopole			Date
			12/17/2021
Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:	Stephenville B	Structure Height (Ft.):	79
Site Number:	TX09257-A-SBA	Engineer Name:	W. Velez
Engr. Number:	119731	Engineer Login ID:	

**Foundation Info Obtained from:**

**Structure Type:**

**Analysis or Design?**

**Base Reactions (Factored):**

Axial Load (Kips):	18.6	Shear Force (Kips):	9.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	621.7

**Foundation Geometries:**

Diameter of Pier (ft.):	4.0	Depth of Base B. G. S. :	19.0 ft.
Pier Height A. G. (ft.):	1.00		

**Material Properties and Reabr Info:**

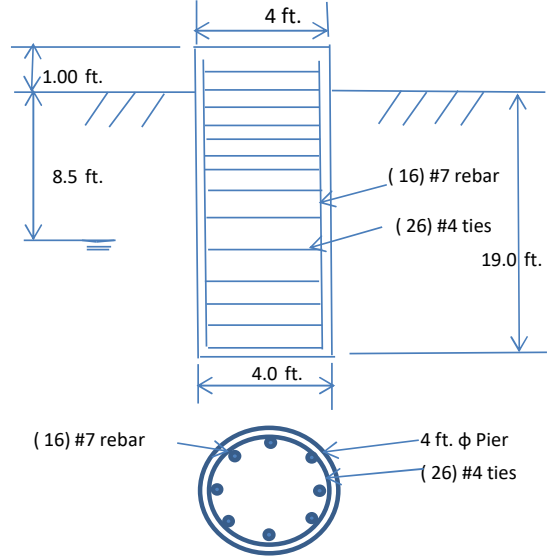
Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000 ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60 ksi
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	4
Qty. of Vertical Rebars:	16	Tie Spacing:	12.0 in.
Concrete Cover (in.):	3	Concrete unit weight:	150.0 pcf

**Soil Design Parameters:**

Water Table B.G.S. (ft):	8.5	Unit weight of water:	62.4 psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30 (°)

Skin Frictions are to be obtained from: **Soil Report**

Acceptable overstress (  $\leq$  5.0%



**Monopole Pier Foundation**

Depth of Layers (ft)		$\gamma_{soil}$	$\phi$	Cohesion	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types						
Top	Bottom	(pcf)	(°)	(psf)									
0.0	3.0	100	0	0	0	0	Clay						
3.0	15.0	110	0	1600	800	0	Clay						
15.0	20.0	120	0	4000	1300	24000	Clay						

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75
Total Dry Soil Volume from Conical Failure (cu. Ft.):	2887	Dry Soil Weight from Conical Failure:	307 Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	804	Buoyant Soil Weight from Conical Failure (K)	56 Kips
Total Dry Concrete Volume (cu. Ft.):	119	Total Dry Concrete Weight:	17.9 Kips
Total Buoyant Concrete Volume (cu. Ft.):	131.9	Total Buoyant Concrete Weight:	11.56 Kips
Total Effective Concrete Weight (Kips):	29.5	Total Effective Soil Weight:	363.0 Kips
Total Effective Vertical Load on Base (Kips):	27.6		

**Check Soil Capacities:**

Allowable Foundation Overturning Resistance (kips-ft.):	3805.5	>	Design Factored Moment (kips-ft):	748	Usage	0.20	OK!
Factor of Safety of Passive Soil Resistance against Moment:	5.09	OK!					

**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

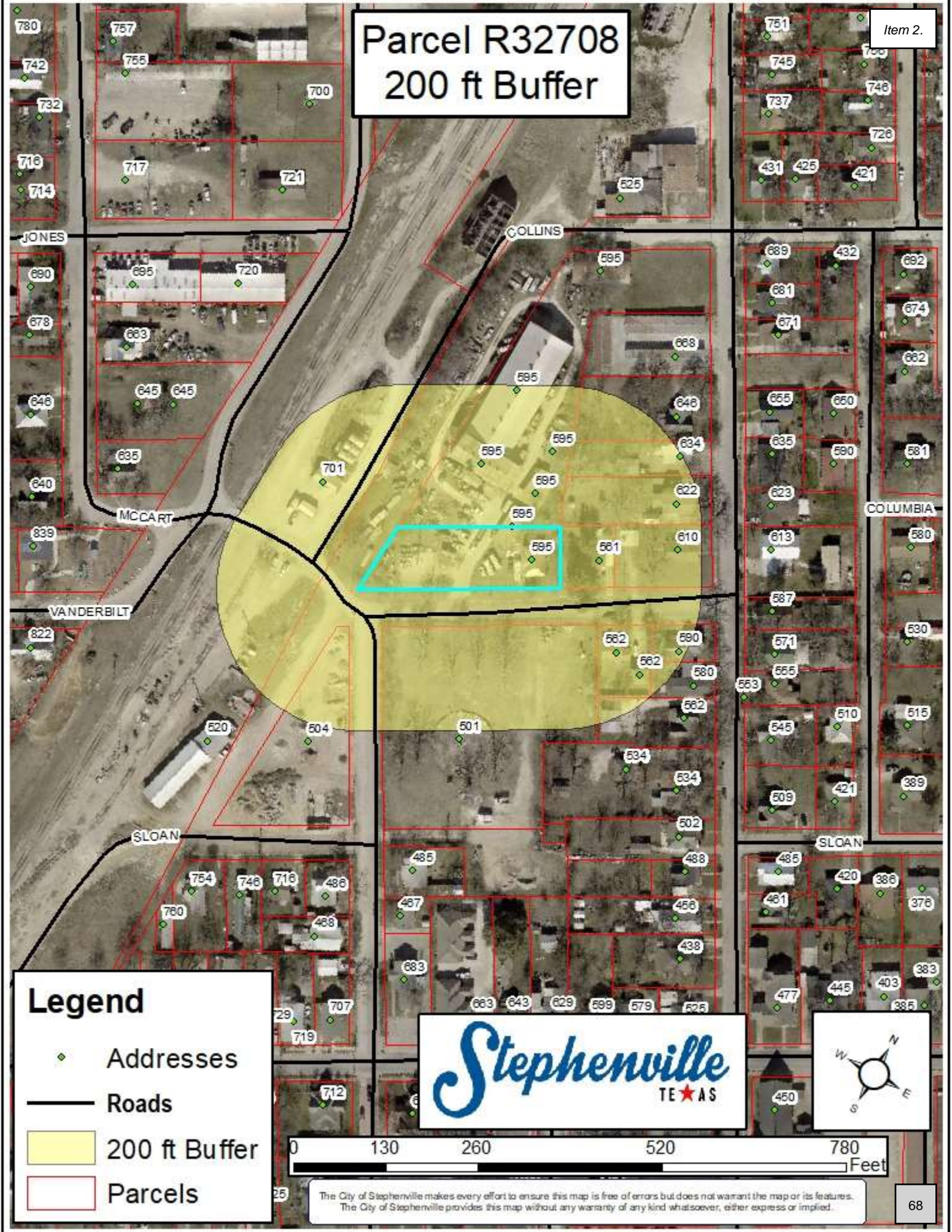
Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.60	Tie / Stirrup Area (sq. in./each):	0.20	Usage	
Calculated Moment Capacity (Mn,Kips-Ft):	909.0	>	Design Factored Moment (Mu, K-Ft):	658.2	0.72 OK!
Calculated Shear Capacity (Kips):	298.8	>	Design Factored Shear (Kips):	78.2	0.26 OK!
Calculated Tension Capacity (Tn, Kips):	518.4	>	Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	3182	>	Design Factored Axial Load (Pu Kips):	18.6	0.01 OK!
Moment & Axial Strength Combination:	0.72	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			



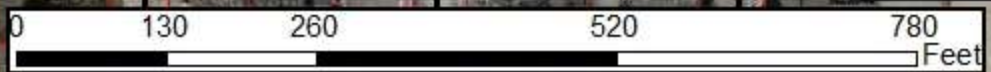
# Parcel R32708 200 ft Buffer

Item 2.



## Legend

- ◆ Addresses
- Roads
- 200 ft Buffer
- Parcels



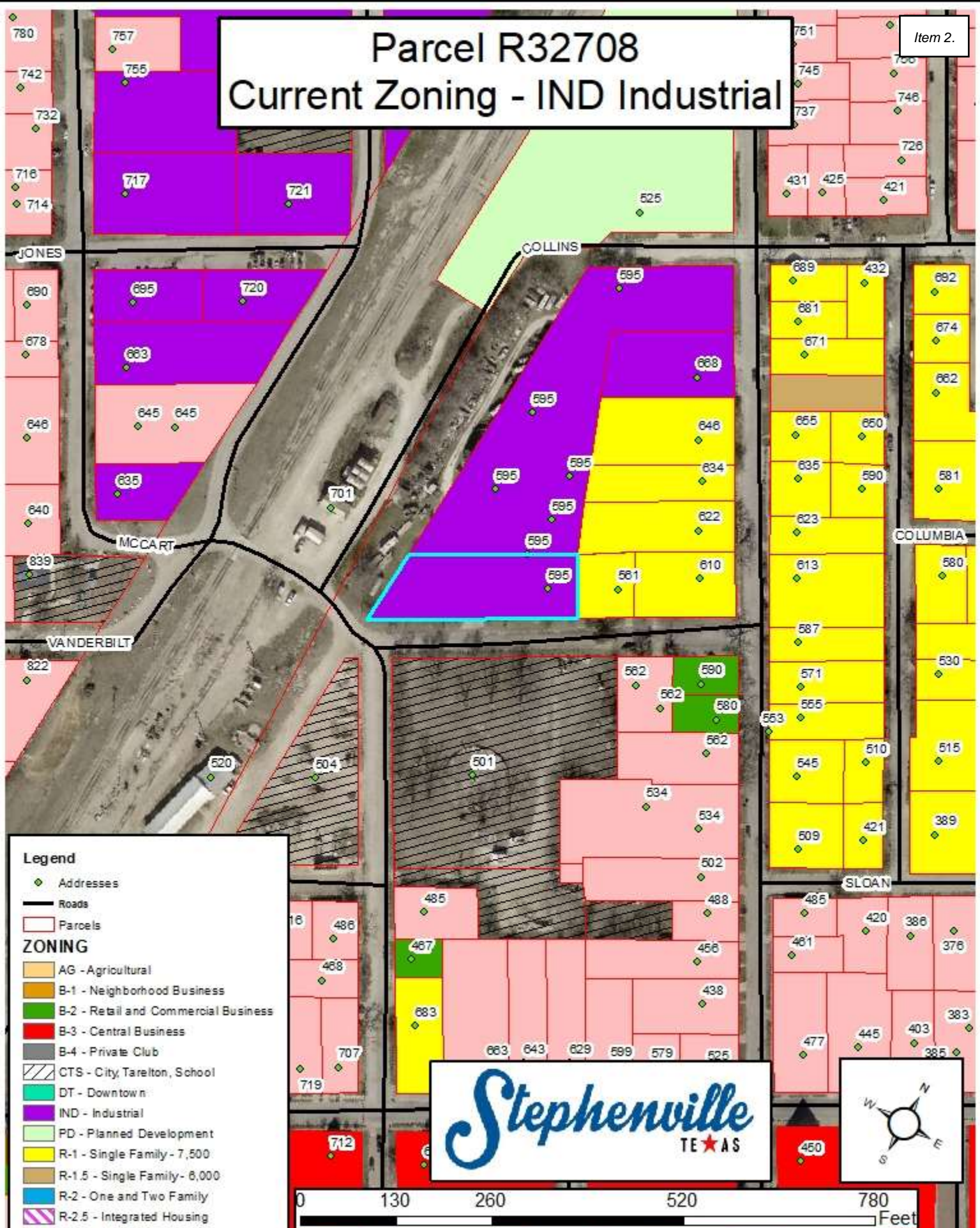
The City of Stephenville makes every effort to ensure this map is free of errors but does not warrant the map or its features. The City of Stephenville provides this map without any warranty of any kind whatsoever, either express or implied.



# Parcel R32708

## Current Zoning - IND Industrial

Item 2.

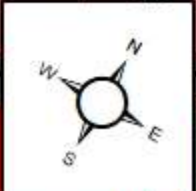


**Legend**

- ◆ Addresses
- Roads
- ▭ Parcels

**ZONING**

- AG - Agricultural
- B-1 - Neighborhood Business
- B-2 - Retail and Commercial Business
- B-3 - Central Business
- B-4 - Private Club
- CTS - City, Tarrant, School
- DT - Downtown
- IND - Industrial
- PD - Planned Development
- R-1 - Single Family - 7,500
- R-1.5 - Single Family - 8,000
- R-2 - One and Two Family
- R-2.5 - Integrated Housing
- R-3 - Multiple Family
- RE - Single Family - 1 Acre

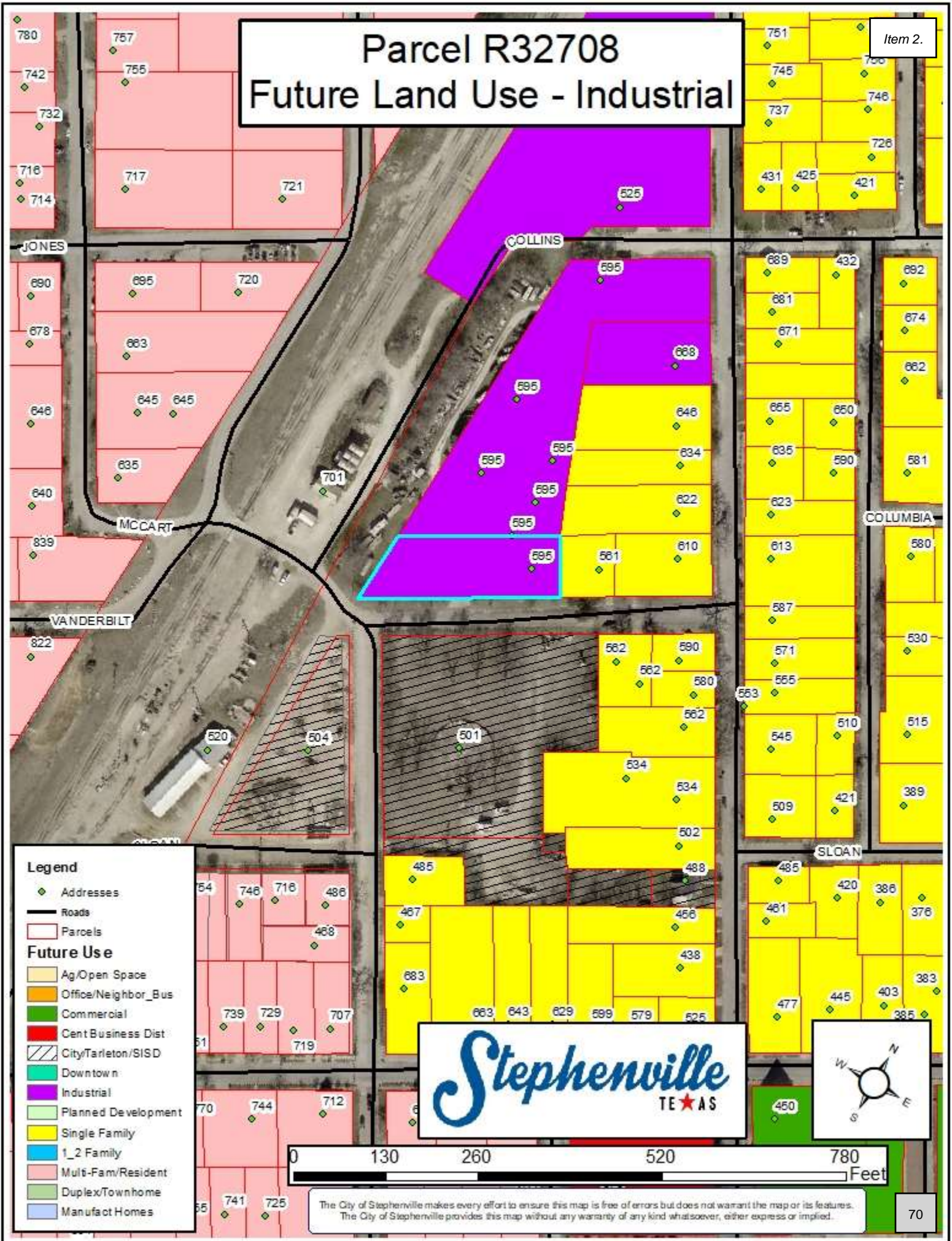


The City of Stephenville makes every effort to ensure this map is free of errors but does not warrant the map or its features. The City of Stephenville provides this map without any warranty of any kind whatsoever, either express or implied.



# Parcel R32708 Future Land Use - Industrial

Item 2.



**Legend**

- ◆ Addresses
- Roads
- ▭ Parcels

**Future Use**

- ▭ Ag/Open Space
- ▭ Office/Neighbor\_Bus
- ▭ Commercial
- ▭ Cent Business Dist
- ▭ City/Tarleton/SISD
- ▭ Downtown
- ▭ Industrial
- ▭ Planned Development
- ▭ Single Family
- ▭ 1\_2 Family
- ▭ Multi-Fam/Resident
- ▭ Duplex/Townhome
- ▭ Manufact Homes



The City of Stephenville makes every effort to ensure this map is free of errors but does not warrant the map or its features. The City of Stephenville provides this map without any warranty of any kind whatsoever, either express or implied.



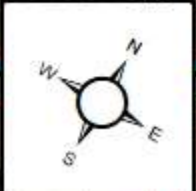
# Parcel R32708 Water & Sewer Utilities

Item 2.



### Legend

- ◆ Addresses
- Roads
- Parcels
- Sewer Lines
- Water Lines



The City of Stephenville makes every effort to ensure this map is free of errors but does not warrant the map or its features. The City of Stephenville provides this map without any warranty of any kind whatsoever, either express or implied.



# Parcel R32708 Address List

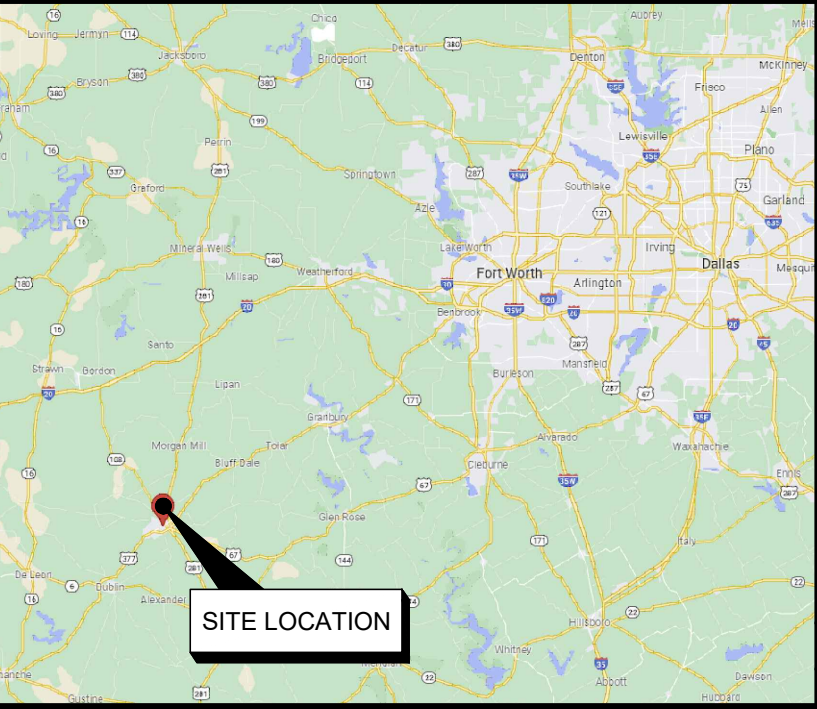
Item 2.

Parcel ID	Parcel Address	Parcel Owner	Owner Address	City	State	Zip Code
R000032722	501 N PADDOCK	CITY OF STEPHENVILLE	298 W WASHINGTON	STEPHENVILLE	TX	76401-4257
R000032741	500 N PADDOCK	CITY OF STEPHENVILLE	298 W WASHINGTON	STEPHENVILLE	TX	76401-4257
R000033242	634 RACE	FANNING ROBIN	897 CR456	STEPHENVILLE	TX	76401-7153
R000014966	0 N PADDOCK & VANDERBILT	FORT WORTH & WESTERN RAILROAD	6300 RIDGLEA PLACE STE 1200	FORT WORTH	TX	76116-5738
R000033243	622 N RACE	HATCH BRENNEN & STEVE D HATCH	622 N RACE	STEPHENVILLE	TX	76401
R000032719	590 RACE	HAYES WAYNE LEROY	PO BOX 2410	STEPHENVILLE	TX	76401
R000032720	580 RACE	HAYES WAYNE LEROY	PO BOX 2410	STEPHENVILLE	TX	76401
R000032711	610 RACE	LACSON GABRIEL	610 RACE	STEPHENVILLE	TX	76401
R000032708	595 W VANDERBILT	LEE MARCHELLE	695 PRAIRIE WIND BLVD	STEPHENVILLE	TX	76401
R000033239	595 W VANDERBILT	LEE MARCHELLE	695 PRAIRIE WIND BLVD	STEPHENVILLE	TX	76401
R000033241	646 N RACE	ROMILLY JORDAN & LAUREN ROMILLY	646 N RACE ST	STEPHENVILLE	TX	76401
R000032718	562 VANDERBILT	SALAZAR IVAN	562 W VANDERBILT	STEPHENVILLE	TX	76401
R000032721	562 N RACE	SCHOROVSKY KRISTINE & KYLE SCHOROVSKY	25180 KANSAS AVE	LOS MOLINOS	CA	96055
R000032709	561 VANDERBILT	STORMS ROSA MARIA	20670 CR163	STEPHENVILLE	TX	76401-8033

**GENERAL NOTES**

1. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTORS SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
2. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
3. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
4. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
5. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
6. THE SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
7. THE SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
8. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWING MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. ALL SAFETY PRECAUTIONS MUCH BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

**LOCATION MAP**



**HANDICAP REQUIREMENTS**

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.

**PLUMBING REQUIREMENTS**

FACILITY HAS NO SANITARY OR POTABLE WATER



**COVERAGE STRATEGY NSD**

T-MOBILE SITE NUMBER  
**DA01789B**

**80' MONOPOLE TOWER**

SBA SITE NUMBER  
**TX09257-A**

SITE ADDRESS  
580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

**SITE SUMMARY**

SITE TYPE: PROPOSED EQUIPMENT INSTALLATION  
 TECHNOLOGY TYPE: COVERAGE STRATEGY  
 CABINET TYPE: DELTA SSC & DELTA BATTERY CABINET  
 BACKHAUL TYPE: NOT REQUIRED

SITE ADDRESS: 580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

SITE LATITUDE: N 32.222124'  
 SITE LONGITUDE: W -98.208694'

JURISDICTION: ----

POWER COMPANY: ONCOR  
 TELEPHONE COMPANY: ----

TOWER OWNER/MANAGER: SBA COMMUNICATION CORPORATION  
 5900 BROKEN SOUND PKWY NW  
 BOCA RATON, FL 33487  
 PHONE: (800) 827-5722

WIRELESS CARRIER: T-MOBILE  
 CONTACT: NOT PROVIDED  
 PHONE: NOT PROVIDED

PERMITTING AGENT: SBA COMMUNICATION CORPORATION  
 5900 BROKEN SOUND PKWY NW  
 BOCA RATON, FL 33487  
 PHONE: (800) 827-5722

ENGINEER: SMW ENGINEERING  
 730 E. PARK BLVD SUITE 204  
 PLANO, TX 75074  
 CONTACT: JUDSON C SOMMERVILLE, PE  
 PHONE: (205) 283-5720

**BUILDING CODES**

ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE (AS ADOPTED BY LOCAL JURISDICTION):

- INDUSTRIAL CODE (ANSI)
- OCCUPATIONAL SAFETY AND HEALTH STANDARDS (OSHA)
- NATIONAL ELECTRICAL CODE
- INTERNATIONAL BUILDING CODE
- UNIFORM MECHANICAL CODE
- INTERNATIONAL ENERGY CONSERVATION CODE

**APPROVALS**

DEPARTMENT	NAME/SIGNATURE	DATE
DEVELOPMENT MANAGER		
PROPERTY/TOWER OWNER		
SITE ACQUISITION MANAGER		
CONSTRUCTION MANAGER		
RF ENGINEER		
OPERATIONS MANAGER		

**PROJECT SCOPE**

THE PROPOSED PROJECT SCOPE WILL CONSIST OF CONSTRUCTING A NEW TELECOMMUNICATIONS BASE STATION INSTALLATION ON AN EXISTING TOWER SITE. THE PROPOSED CONSTRUCTION WILL INCLUDE THE INSTALLATION OF ANTENNA, RADIOS, CABLES AND RELATED EQUIPMENT ON THE TOWER AS WELL AS THE RADIOS, CABINETS, UTILITIES AND ANCILLARY EQUIPMENT ON THE GROUND.


**SHEET INDEX**

T-1	TITLE SHEET
C-1	OVERALL SITE PLAN
C-1.1	PROPOSED ENLARGED EQUIPMENT PLAN
C-2	TOWER ELEVATION & ANTENNA PLAN
C-2.1	MOUNT DETAIL
C-3	RFDS
C-4	RFDS
C-5	RFDS PLUMBING DIAGRAM
C-6	ICE BRIDGE DETAILS
C-7	CONCRETE FOUNDATION DETAILS & NOTES
C-8	EQUIPMENT DETAILS
C-9	PPC DETAILS
C-10	EROSION CONTROL DETAILS
C-11	EROSION CONTROL SPECIFICATIONS
E-1	ONE-LINE DIAGRAM
E-2	ELECTRICAL UTILITY PLAN
E-3	GROUNDING PLAN
E-4	EQUIPMENT CONDUIT DETAIL
E-5	EQUIPMENT SCHEMATIC
E-6	ELECTRICAL & GROUNDING DETAILS

**ONE CALL**



TEXAS ONE-CALL  
 STATE WIDE CALL: 811  
 CALL BEFORE YOU DIG



7668 WARREN PARKWAY  
 FRISCO BRIDGES TECH CAMPUS  
 FRISCO, TX 75034

PLANS PREPARED FOR:

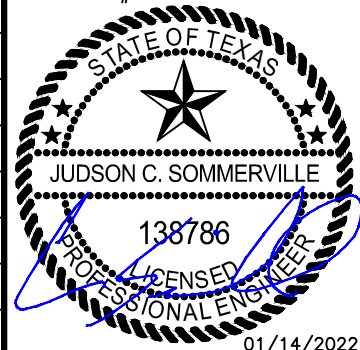


8051 CONGRESS AVE  
 BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



JUDSON C. SOMMERVILLE  
 138786  
 LICENSED PROFESSIONAL ENGINEER  
 01/14/2022

SITE INFORMATION:  
**DA01789B**  
 580 W VANDERBILT  
 STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION:
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B SBA SITE ID: TX09257-A

SHEET NAME:  
**TITLE SHEET**

SMW #: 19-10142 SHEET NUMBER: **T-1**

DESIGNER: --  
 CHECKED BY: JE  
 ENGINEER: JCS

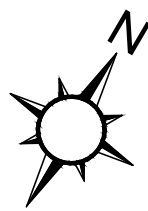
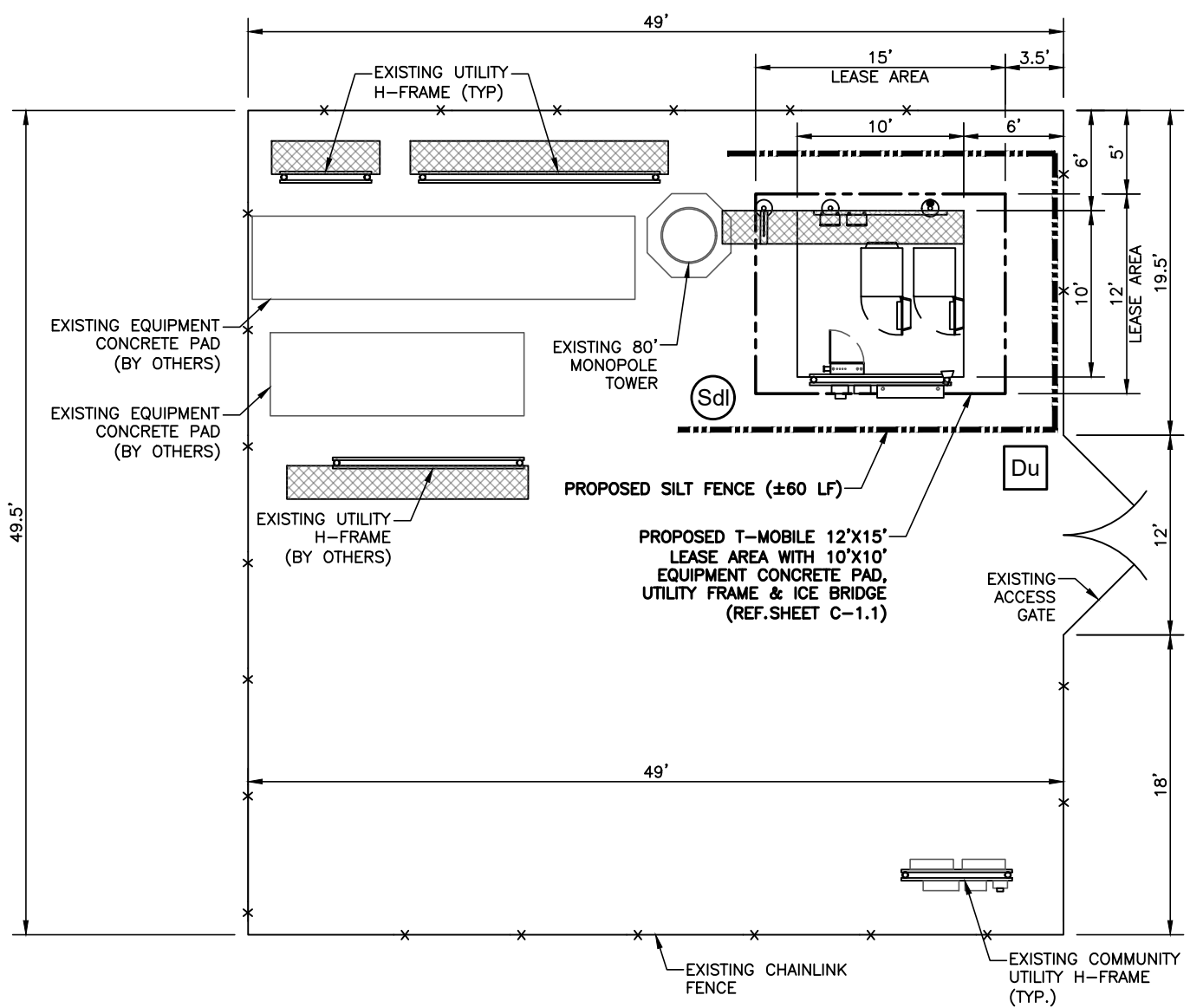
SUBJECT PROPERTY IS LOCATED IN PANEL #48237C0308A, DATED 02/12/2021 WHICH IS IN BASE FLOOD ZONE "X" AND IS NOT A SPECIAL FLOOD HAZARD AREA PER FEMA.

UTILITY NOTE:  
THERE ARE NOT ANY EXISTING STORM OR SANITARY SEWER LINES OR BURIED UTILITIES ON THE PARENT TRACK WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION.

TRENCHING NOTE:  
DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.

**(Sdl)** TYPE C SEDIMENT BARRIER - TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE & ENTERING NATURAL DRAINAGE AREAS OR STORM DRAINAGE SYSTEMS.

**[Du]** DISTURBED AREA DUST CONTROL - TO CONTROL THE SURFACE AND AIR MOMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.



**1** OVERALL SITE PLAN  
SCALE: 1" = 10'  
10' 0' 5' 10'

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

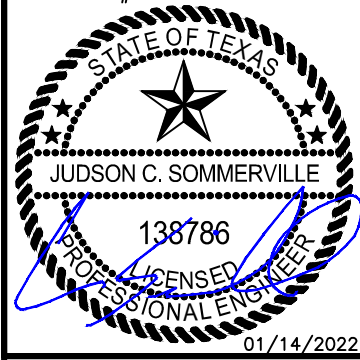


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

DA01789B

580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

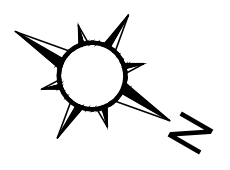
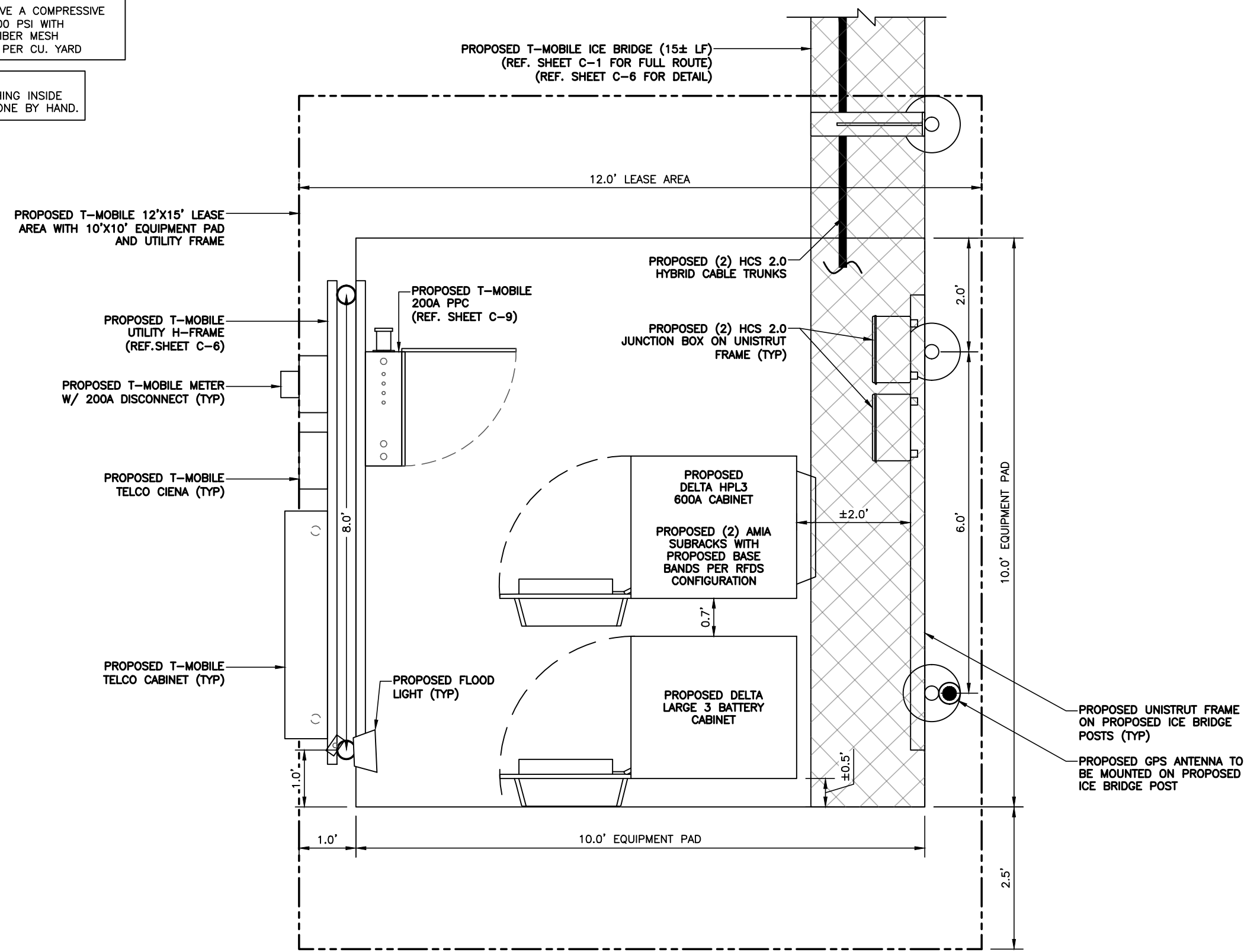
SHEET NAME:  
**OVERALL SITE PLAN**

SMW #: 19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

SHEET NUMBER:  
**C-1**

**CONCRETE PAD NOTES:**  
 1. ALL CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF  $f_c' = 3000$  PSI WITH COMMERCIAL GRADE FIBER MESH REINFORCEMENT 1.5# PER CU. YARD

**TRENCHING NOTE:**  
 DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.

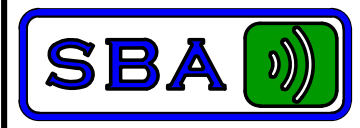


**1** PROPOSED ENLARGED EQUIPMENT PLAN  
 SCALE: 1" = 2'



7668 WARREN PARKWAY  
 FRISCO BRIDGES TECH CAMPUS  
 FRISCO, TX 75034

PLANS PREPARED FOR:

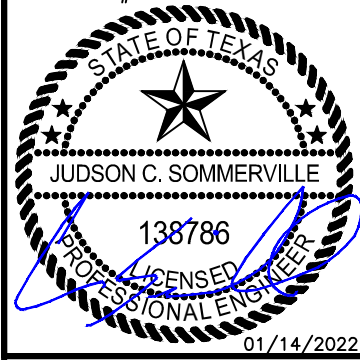


8051 CONGRESS AVE  
 BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

DA01789B

580 W VANDERBILT  
 STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

SHEET NAME:  
**PROPOSED ENLARGED EQUIPMENT PLAN**

SMW #: 19-10142  
 DESIGNER: --  
 CHECKED BY: JE  
 ENGINEER: JCS

SHEET NUMBER:  
**C-1.1**



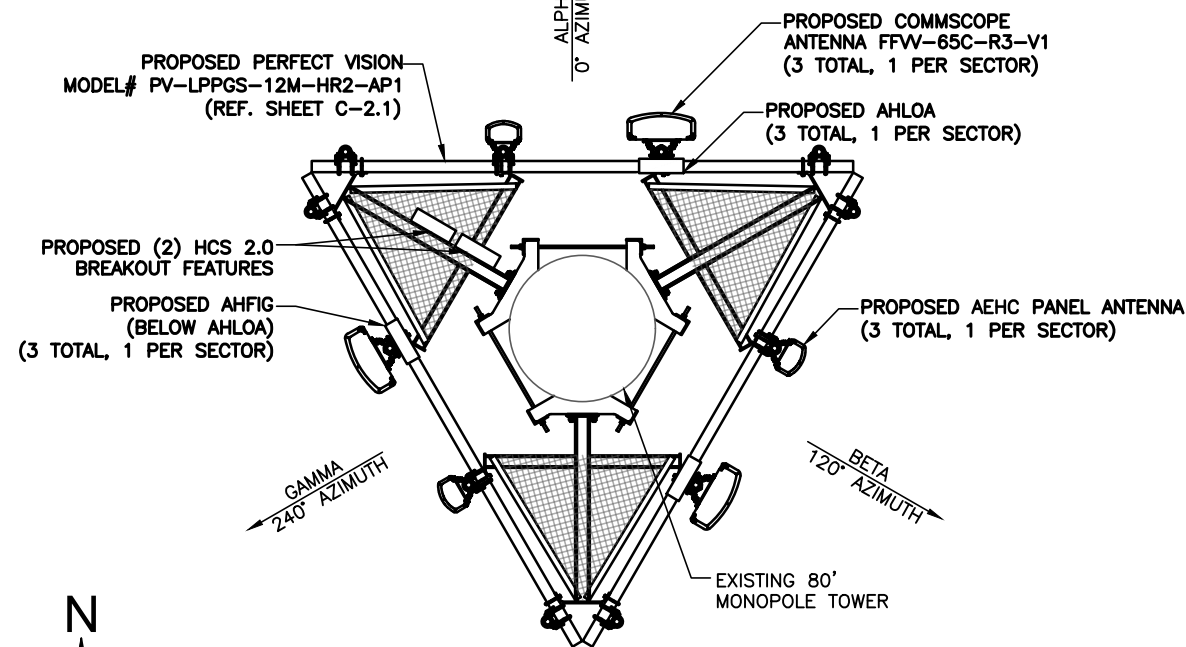
**STRUCTURAL NOTES:**

- SMW HAS NOT PERFORMED A STRUCTURAL ANALYSIS OF THE EXISTING TOWER OR ANTENNA MOUNT. REFER TO STRUCTURAL ANALYSIS OR STRUCTURAL LETTER BY OTHERS FOR ADDITIONAL INFORMATION.
- IF THE TOWER STRUCTURAL ANALYSIS SHOWS THE NEED FOR TOWER REINFORCEMENT REFER TO TOWER REINFORCEMENT DESIGN PRIOR TO THE INSTALLATION OF ANY PROPOSED EQUIPMENT.
- REFER TO TOWER STRUCTURAL ANALYSIS FOR PROPOSED CABLE ROUTING AND ATTACHMENT DETAILS.
- TOWER ELEVATION SHOWN IS NOT DRAWN TO SCALE AND IS INTENDED ONLY FOR REFERENCE PURPOSES. REFER TO ORIGINAL TOWER DESIGN FOR ADDITIONAL INFORMATION.

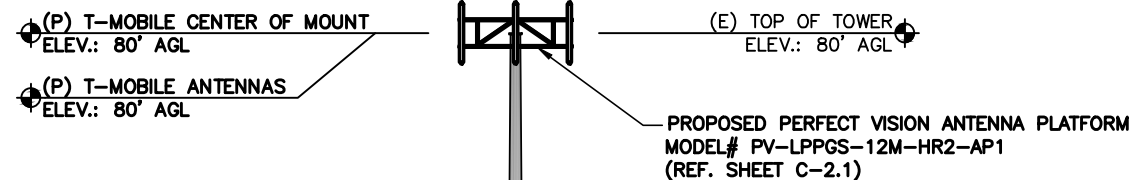
**ANTENNA NOTES:**

- THE PRE-APPLICATION & LEASE DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
- CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH T-MOBILE PCS PM.
- CONTRACTOR SHALL VERIFY HEIGHT AND DIRECTION OF MICROWAVE DISHES WITH T-MOBILE PROJECT MANAGER (WHEN APPLICABLE).
- ALL ANTENNA AZIMUTHS TO BE FROM MAGNETIC NORTH.
- CONTRACTOR TO USE EXISTING ANTENNA TOP HAT.

**AZIMUTH NOTE:**  
FIELD VERIFY ANTENNA AZIMUTHS WITH RFDS PRIOR TO CONSTRUCTION



**2 PROPOSED ANTENNA ORIENTATION PLAN**  
SCALE: N.T.S.



PROPOSED (2) HCS 2.0 TRUNK W/ BREAKOUT FEATURE

EXISTING 80' MONOPOLE TOWER

**TOWER MODIFICATION NOTE:** MODIFICATION AND DESIGN DRAWINGS FOR EXISTING MONOPOLE TOWER PERFORMED BY TOWER ENGINEERING SOLUTIONS, DATED 12/21/2021. CONTRACTOR SHALL VERIFY TOWER MODIFICATION COMPLETE PRIOR TO INSTALLATION OF ANY NEW EQUIPMENT. NO NEW EQUIPMENT SHALL BE INSTALLED PRIOR TO TOWER MODIFICATION.

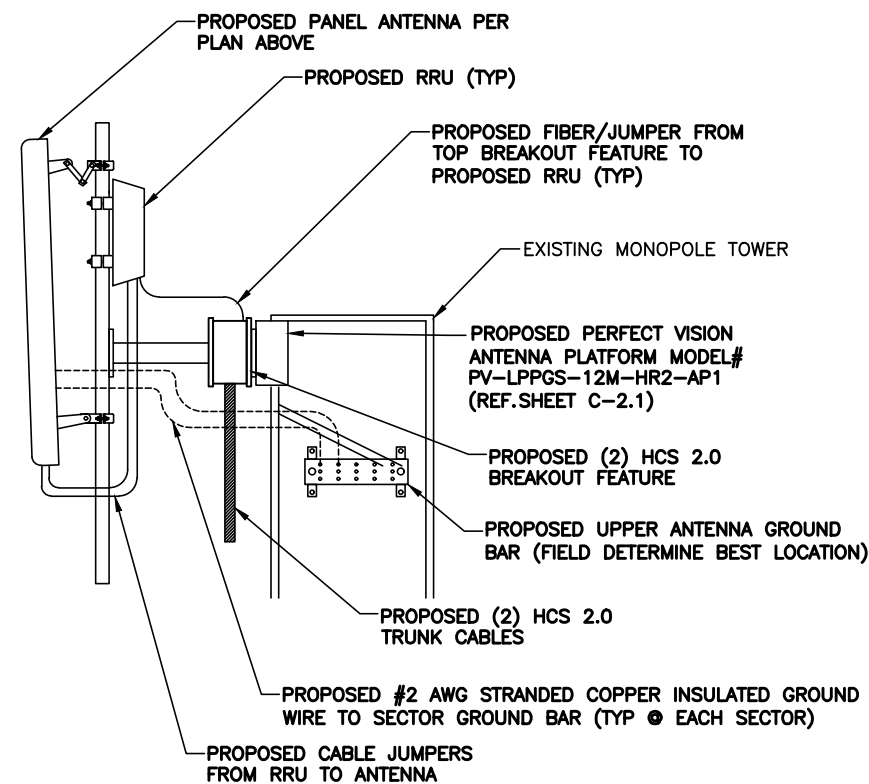
**POST-MOD SA NOTE:** POST-MOD STRUCTURAL ANALYSIS PERFORMED BY TOWER ENGINEERING SOLUTIONS, DATED 12/17/2021. REFER TO POST-MOD STRUCTURAL ANALYSIS FOR COAX ROUTING REQUIREMENTS.

**PASSING MOUNT ANALYSIS NOTE:** PASSING MOUNT ANALYSIS PERFORMED BY TOWER ENGINEERING SOLUTIONS, DATED 11/15/2021. REFER TO MOUNT ANALYSIS FOR STRUCTURAL INTEGRITY OF MOUNTS UNDER NEW LOADING.

**EXISTING ANTENNAS NOTE:** EXISTING ANTENNAS OTHER THAN T-MOBILE OMITTED FOR CLARITY

**1 TOWER ELEVATION**  
SCALE: N.T.S.

(E) GROUND ELEVATION  
ELEV.: 0'-0" AGL



**3 UMTS AND LTE ANTENNA MOUNT DETAIL**  
SCALE: N.T.S.

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

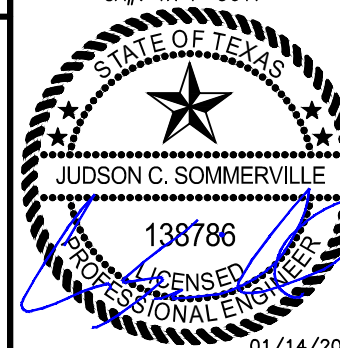


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

DA01789B

580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID:  
DA01789B

SBA SITE ID:  
TX09257-A

SHEET NAME:

**TOWER ELEVATION & ANTENNA PLAN**

SMW #:  
19-10142

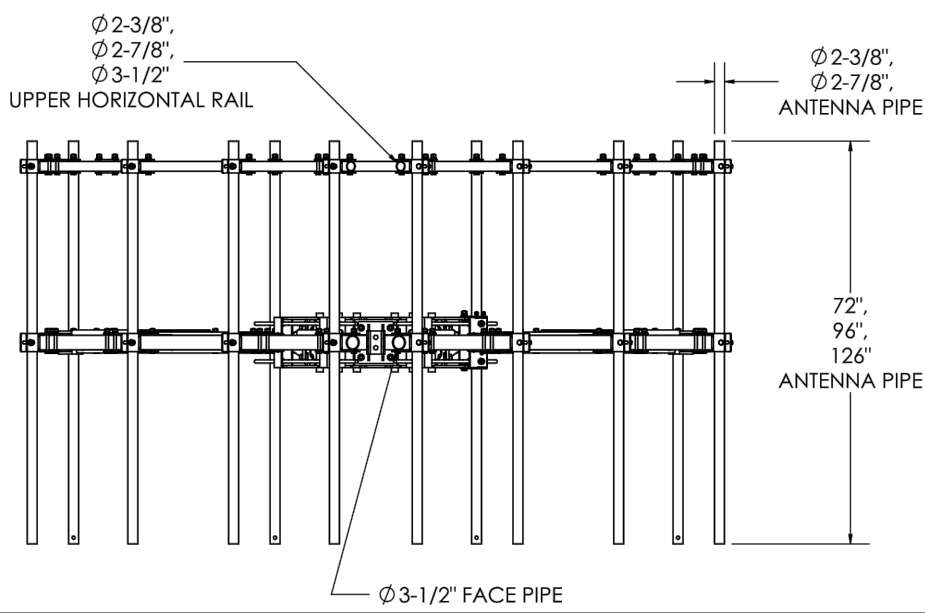
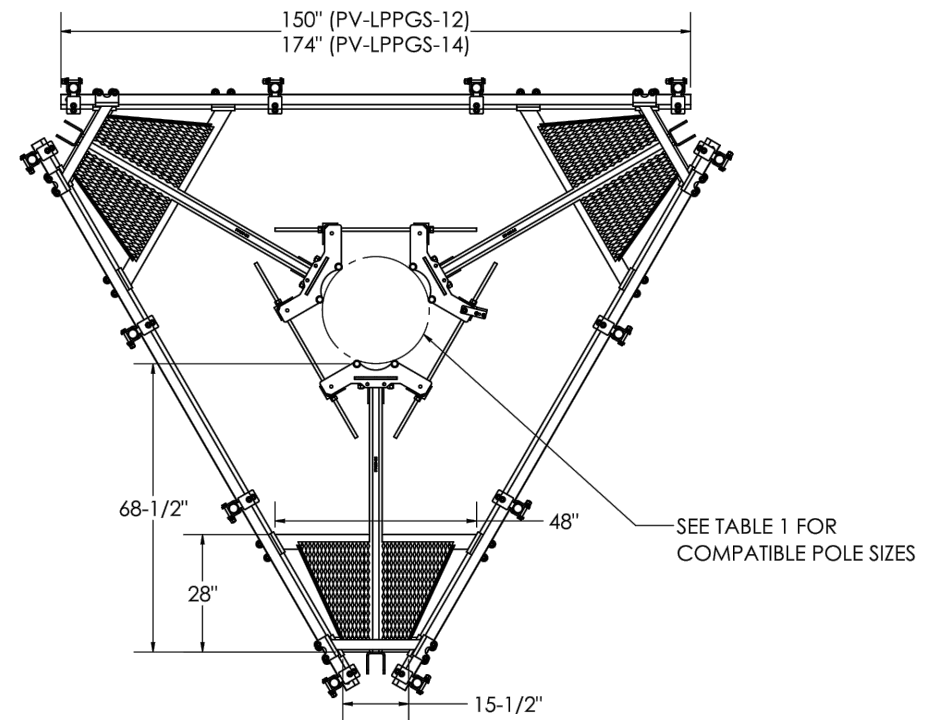
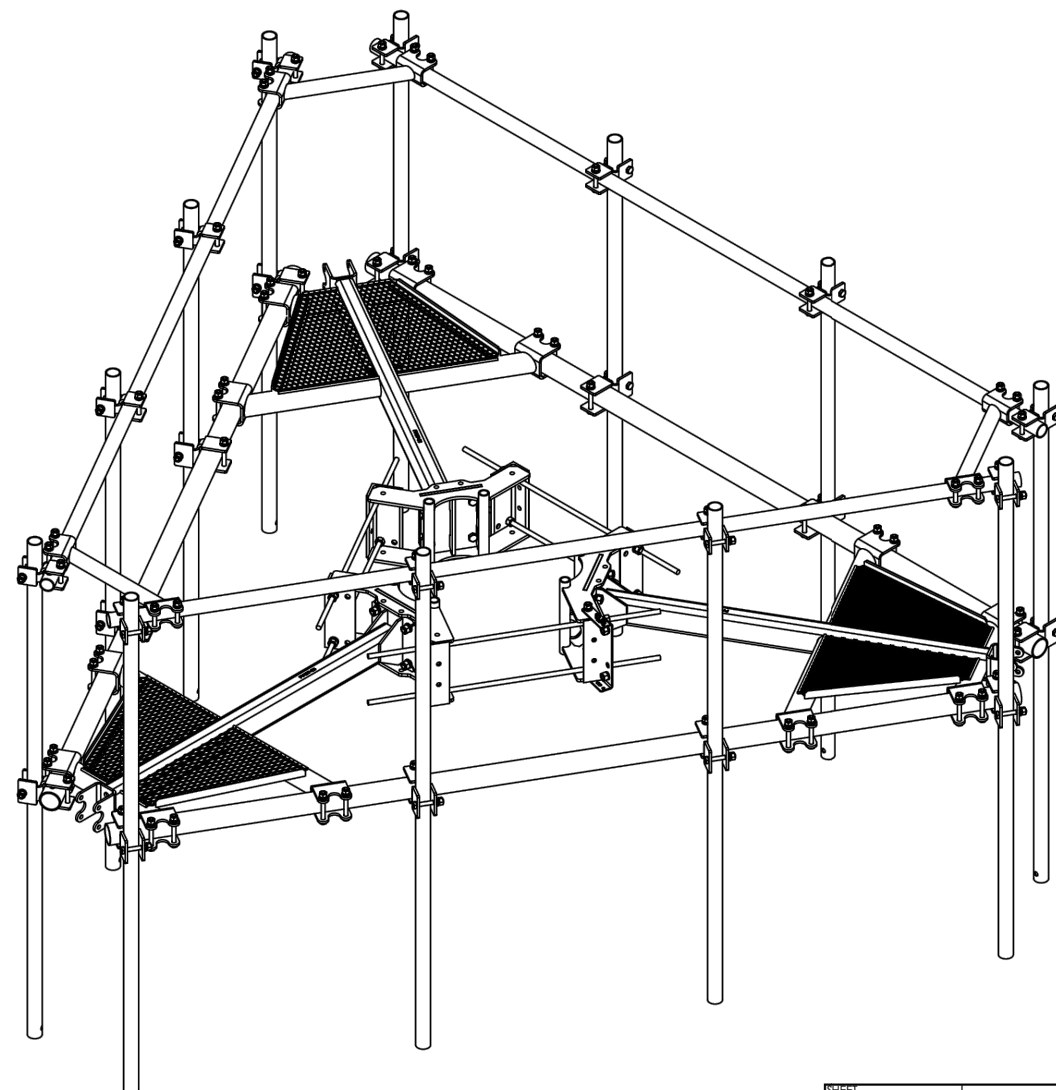
SHEET NUMBER:

**C-2**

DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

# PV-LPPGS MONOPOLE GUARDIAN MOUNT

SEE SHEET 2 - TABLE 1 FOR FULL CONFIGURATION DETAILS



SHEET 1 OF 13	THIRD ANGLE PROJECTION 	CATEGORY	02_Monopole	4	ADDED PKBK VIEWS, ORGANIZED ACC	11/1/19	<b>PERFECT VISION</b>	
		SERIES	01_Triangular	3	ACC UPDATE	8/27/19		
11/8/2019	SCALE 1:36	TYPE	PV-LPPGS_GUARDIAN MOUNT	2	MASTER PART # UPDATE	8/22/19	MONOPOLE GUARDIAN MOUNT	
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4°, BEND ±2° ALL OTHERS: ±1/16"		BY	DJN	1	FULL RELEASE	8/14/19		
		CHECKED	SJS	0	INITIAL RELEASE	1/16/19	DOCUMENT NUMBER	
		STATUS	APPROVED	REV	DESCRIPTION	DATE	LPPGS-ENG-01-R4	
							REV	4

C:\PMS\Steel\Catalog\SMW\Working Files\Engineering Details

**PROPRIETARY AND CONFIDENTIAL** THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF PERFECTVISION MFG. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF PERFECTVISION MFG IS PROHIBITED.

**1** MOUNT DETAIL  
SCALE: N.T.S.

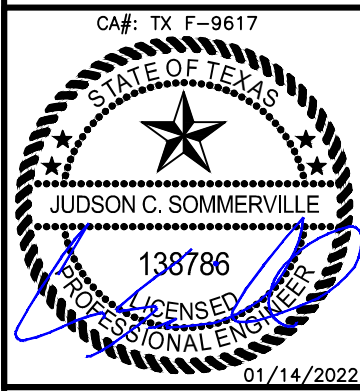
DETAILS BY OTHERS NOTE:  
DETAILS SHOWN ON THIS PAGE WERE PROVIDED BY OTHERS AND ARE NOT CARRIED UNDER THE SIGNATURE AND SEAL OF SMW AND/OR IT'S ENGINEERS.

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034



8051 CONGRESS AVE  
BOCA RATON, FL 33487



SITE INFORMATION:  
**DA01789B**  
580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B  
SBA SITE ID: TX09257-A

SHEET NAME:  
**MOUNT DETAIL**

SMW #:  
19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

SHEET NUMBER:  
**C-2.1**

1/25/22, 2:29 PM

DA01789B\_Coverage Strategy\_1\_2022-01-25

RAN Template: 56790EZ\_SR\_T  
A&L Template: 56790EZ\_SR\_T

DA01789B\_Coverage Strategy\_1

Print Name: Standard (2)  
PORs: Coverage Strategy\_Small-Scale Coverage Enhancement

Section 1 - Site Information

Site ID: DA01789B  
Status: Final  
Version: 1  
Project Type: Coverage Strategy  
Approved: 1/7/2022 7:28:02 AM  
Approved By: Bahadur.Merawat1@T-Mobile.com  
Last Modified: 1/7/2022 7:28:02 AM  
Last Modified By: Bahadur.Merawat1@T-Mobile.com

Site Name: SBA Stephenville  
Site Class: Monopole  
Site Type: Structure Non Building  
Plan Year: 2020  
Market: DALLAS TX  
Vendor: Nokia  
Landlord: SBA

Latitude: 32.22211600  
Longitude: -98.20870300  
Address: 580 W Vanderbilt St  
City, State: Stephenville, TX  
Region: SOUTH

RAN Template: 56790EZ_SR_T	AL Template: 56790EZ_SR_T
Sector Count: 3	Antenna Count: 6
Coax Line Count: 0	TMA Count: 0
	RRU Count: 6

1/25/22, 2:29 PM

DA01789B\_Coverage Strategy\_1\_2022-01-25

Proposed RAN Equipment				
Template: 56790EZ_SR_T				
Enclosure	1	2	3	4
Enclosure Type	Generic 600A Site Support Cabinet	Tower Top Mount (Nokia)	Ancillary Equipment (Nokia)	Generic Battery Cabinet for 600A SSC
Baseband	ASIB (L1900, L700, L600, L2100) ASIL (N2500) ASIB (L2500) FSMF (G1900)			
Baseband Submodule	ABIA (x 2) (L1900, L2100) ABIA (L700, L600) ABIO (N600, N1900 (DARK), N2100 (DARK)) ABIC (x 3) (L2500) ABIO (N2500)			
Baseband Subrack	AMIA (x 2)			
Hybrid Cable System	Extra Amplifier for PowerPlus Voltage Booster Voltage Booster PowerPlus w/ 2 Amplifier Raycap	Nokia HCS 2.0 Jumper Cable Airscale *Select Length* (x 9)	Nokia HCS 2.0 Trunk *Select Length* (x 2)	
Junction Box			Nokia HCS 2.0 Tower Junction Box (x 2)	
Power subsystem	Rectifier Shelf *Select size* Breakers *Select size*			Batteries *Select size*
Radio		AHLOA (x 3) (L700, L600, N600) AHFIG (x 3) (L1900, L2100, G1900, N1900 (DARK), N2100 (DARK))		
Transport System	CSR IXRe V2 (Gen2)			

**RAN Scope of Work:**

01/03/2021: RFDS revised with updated 5G baseband cards,  
7/7/2021  
RFDS redesigned with Anchor config.

Equipment on top:  
(3) FFVV-65C- R3-V1+ (3) AEHC  
(3) AHFIG + (3) AHLOA  
(2) HCS 2.0 trunk  
(9) HCS 2.0 jumpers

Note  
(3) AHFIG + (3) AHLOA will connect to 1st HCS 2.0, which will need a Voltage booster.  
(3) AEHC will connect to 2nd HCS 2.0

TX/RX frequencies:  
Block - 600 Downlink (MHz) Uplink (MHz)  
B. C. D. E 622-642 668-688  
Block - 700 Downlink (MHz) Uplink (MHz)  
A 729-734 699-704  
Block - PCS Downlink (MHz) Uplink (MHz)  
B3\_B4 1950-1960 1870-1880  
Block - AWS Downlink (MHz) Uplink (MHz)  
D.F 2135-2140, 2145-2155 1735-1740, 1745-1755  
Anchor Downlink (MHz) Uplink (MHz)  
2496 - 2690 2496 - 2690

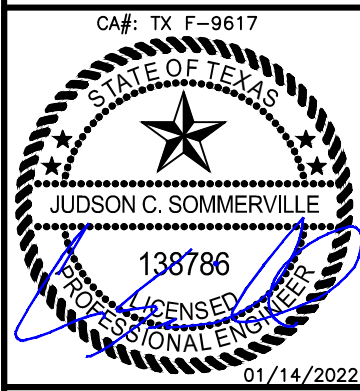
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DETAILS SHOWN ON THIS PAGE WERE PROVIDED BY OTHERS AND ARE NOT CARRIED UNDER THE SIGNATURE AND SEAL OF SMW AND/OR IT'S ENGINEERS.



7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034



8051 CONGRESS AVE  
BOCA RATON, FL 33487



SITE INFORMATION:  
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STEPHENVILLE, TEXAS 76401

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T-MOBILE SITE ID: DA01789B  
SBA SITE ID: TX09257-A

SHEET NAME:  
**RFDS**

SMW #: 19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

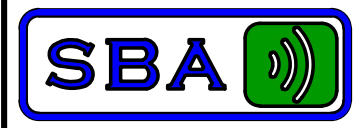
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FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

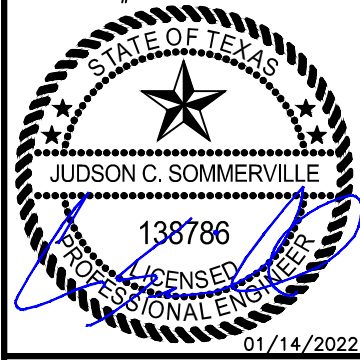


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

DA01789B

580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

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T-MOBILE SITE ID: DA01789B SBA SITE ID: TX09257-A

SHEET NAME: RFDS

SMW #: 19-10142 SHEET NUMBER: C-4  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

1/25/22, 2:29 PM DA01789B\_Coverage Strategy\_1\_2022-01-25  
RAN Template: 56790EZ\_SR\_T A&L Template: 56790EZ\_SR\_T  
DA01789B\_Coverage Strategy\_1  
Print Name: Standard (2)  
PORs: Coverage Strategy\_Small-Scale Coverage Enhancement

Section 6 - A&L Equipment

Existing Template: Custom  
Proposed Template: 56790EZ\_SR\_T

Sector 1 (Proposed) view from front (Note: the images show view from behind)					
Coverage Type	A - Outdoor Macro				
Antenna	1		2		
Antenna Model	Commscope - FFVV-65C-R3-V1 (Octo)		AEHC (Active Antenna - Massive MIMO)		
Azimuth	0		0		
M. Tilt	0		0		
Height	80		80		
Ports	P1	P2	P3	P4	P5
Active Tech.	L700 L600 N600	L700 L600 N600	L1900 L2100 G1900	L1900 L2100 G1900	L2500 N2500
Dark Tech.			N1900 N2100	N1900 N2100	
Restricted Tech.					
Decomm. Tech.					
E. Tilt					
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					

1/25/22, 2:29 PM DA01789B\_Coverage Strategy\_1\_2022-01-25  
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DA01789B\_Coverage Strategy\_1  
Print Name: Standard (2)  
PORs: Coverage Strategy\_Small-Scale Coverage Enhancement

Sector 2 (Proposed) view from front (Note: the images show view from behind)

Coverage Type	A - Outdoor Macro				
Antenna	1		2		
Antenna Model	Commscope - FFVV-65C-R3-V1 (Octo)		AEHC (Active Antenna - Massive MIMO)		
Azimuth	120		120		
M. Tilt	0		0		
Height	80		80		
Ports	P1	P2	P3	P4	P5
Active Tech.	L700 L600 N600	L700 L600 N600	L1900 L2100 G1900	L1900 L2100 G1900	L2500 N2500
Dark Tech.			N1900 N2100	N1900 N2100	
Restricted Tech.					
Decomm. Tech.					
E. Tilt					
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					

1/25/22, 2:29 PM DA01789B\_Coverage Strategy\_1\_2022-01-25  
RAN Template: 56790EZ\_SR\_T A&L Template: 56790EZ\_SR\_T  
DA01789B\_Coverage Strategy\_1  
Print Name: Standard (2)  
PORs: Coverage Strategy\_Small-Scale Coverage Enhancement

Sector 3 (Proposed) view from front (Note: the images show view from behind)

Coverage Type	A - Outdoor Macro				
Antenna	1		2		
Antenna Model	Commscope - FFVV-65C-R3-V1 (Octo)		AEHC (Active Antenna - Massive MIMO)		
Azimuth	240		240		
M. Tilt	0		0		
Height	80		80		
Ports	P1	P2	P3	P4	P5
Active Tech.	L700 L600 N600	L700 L600 N600	L1900 L2100 G1900	L1900 L2100 G1900	L2500 N2500
Dark Tech.			N1900 N2100	N1900 N2100	
Restricted Tech.					
Decomm. Tech.					
E. Tilt					
Cables					
TMA's					
Diplexers / Combiners					
Radio					
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					

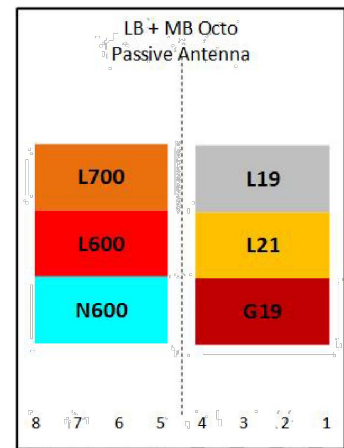
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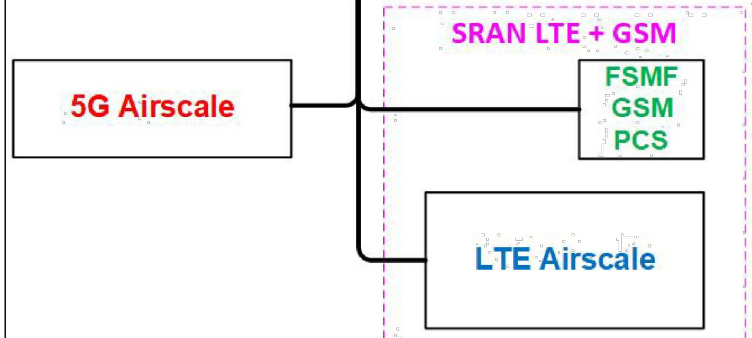
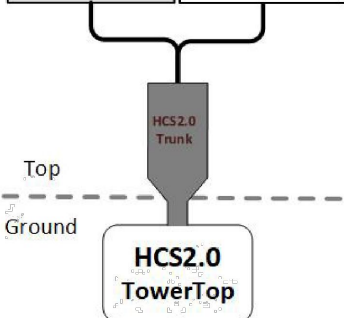
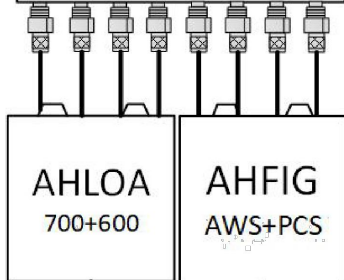
DA01789B\_Coverage Strategy\_1\_2022-01-25

### Configuration 6790S\_SR (Alpha, Beta & Gamma)

\*for 5G and LTE Airscale BB dimensioning refer to fiber port matrices



- Lowband**  
 L700 – 5 MHz  
 L600 – 10 MHz  
 N600 – 10 MHz
- Midband**  
 L2100 – 20 MHz  
 L1900 – 20 MHz  
 SRAN – GSM



Notes:

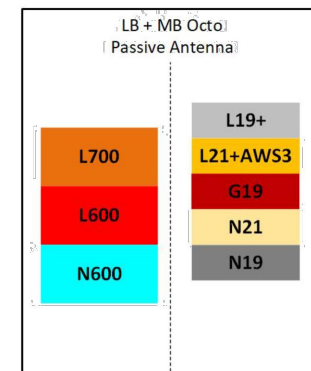
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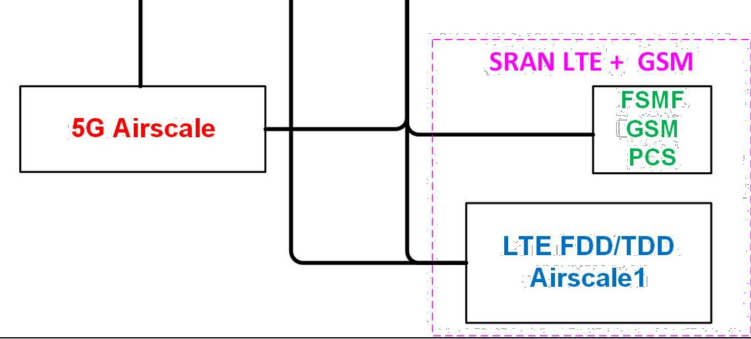
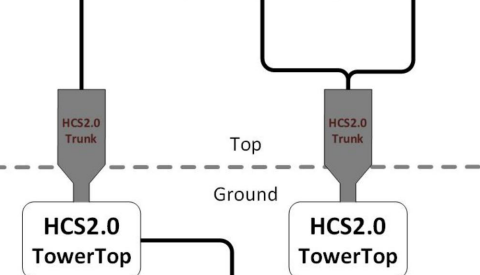
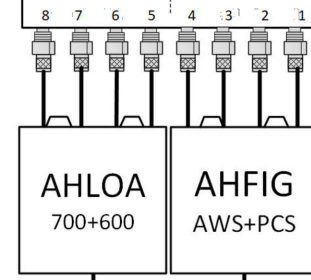
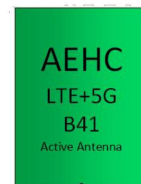
56790EZ\_SR\_T.jpg

### Configuration 56790EZ\_SR\_T (Alpha, Beta & Gamma)

\* For 5G and LTE Airscale BB dimensioning refer to Fiber Port matrices.



- FDD - Lowband**  
 B12 (L700) – 5 MHz  
 B71 (L600) – 10 MHz  
 B71 (N600) – 15 MHz
- FDD - Midband**  
 B4/B66 (L2100) – 20 MHz  
 B66 (N2100) – 20MHz  
 B66 (AWS3) – 5MHz  
 B2 (L1900) – 20 MHz  
 B25 (L1900) – 20 MHz  
 B25 (N1900) – 20MHz  
 SRAN – GSM PCS



Notes:

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 FRISCO BRIDGES TECH CAMPUS  
 FRISCO, TX 75034

PLANS PREPARED FOR:

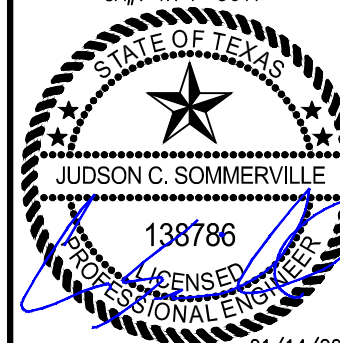


8051 CONGRESS AVE  
 BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



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DA01789B

SBA SITE ID:  
TX09257-A

SHEET NAME:

RFDS

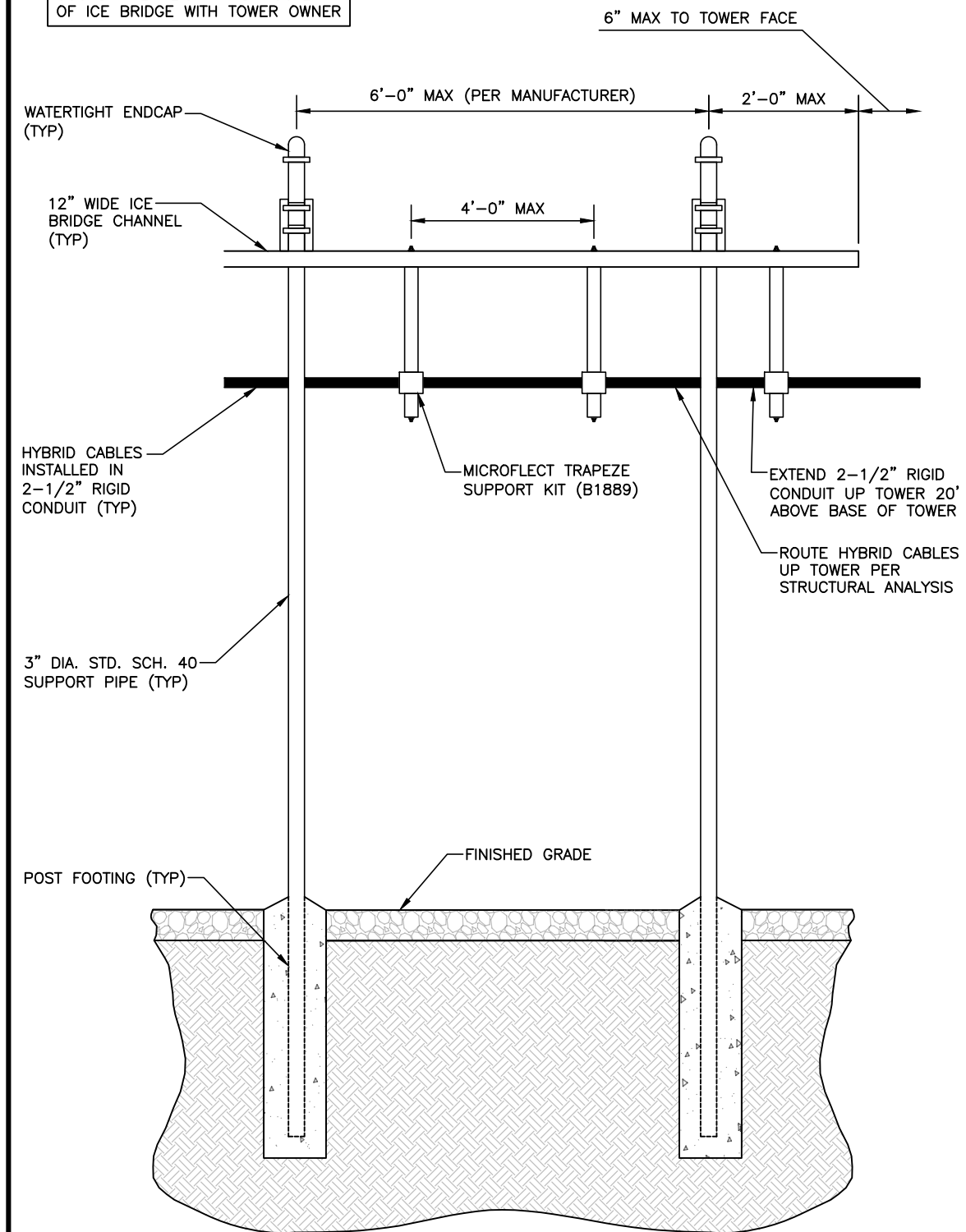
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19-10142

SHEET NUMBER:

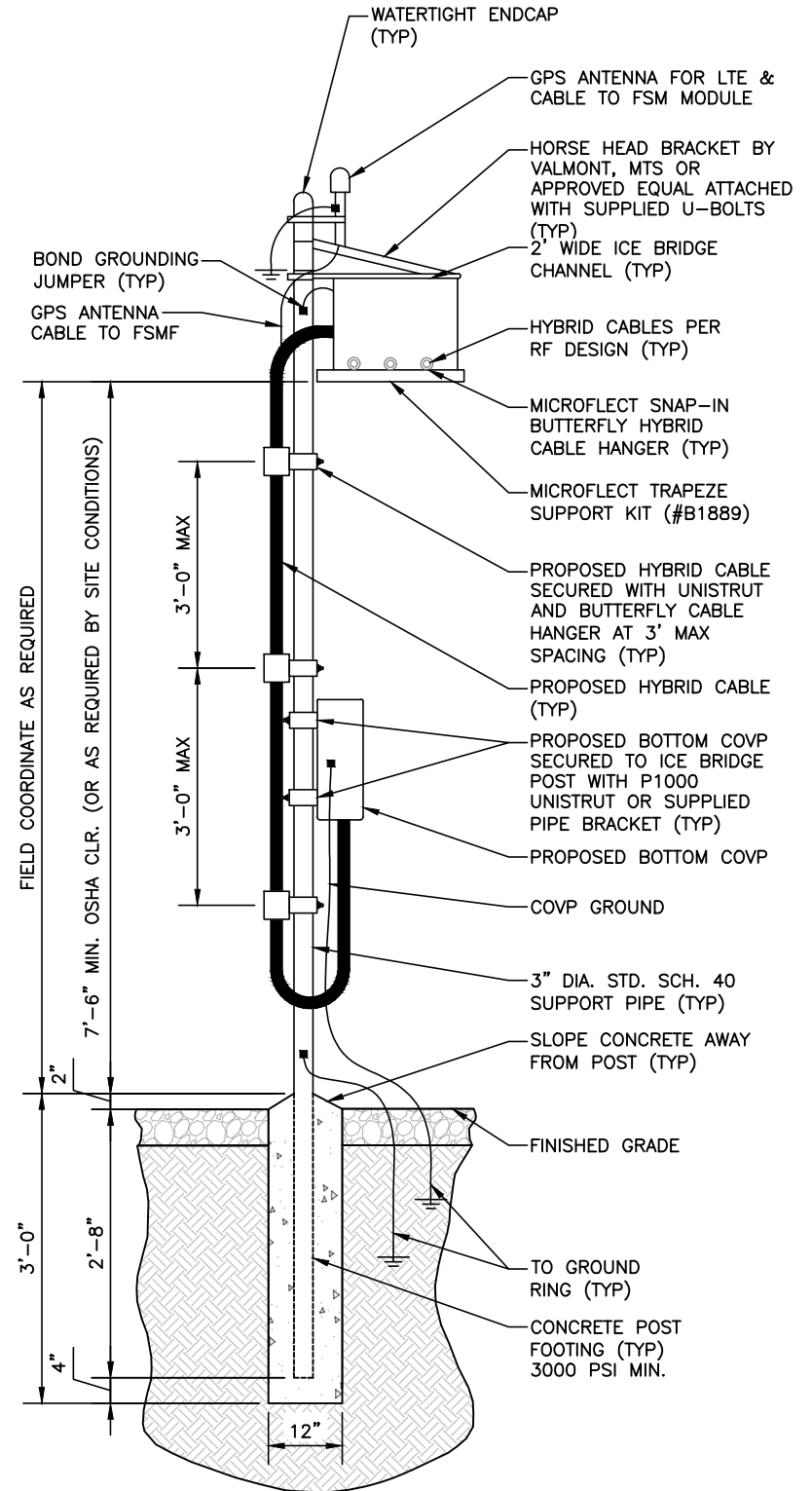
C-5

DESIGNER: --  
 CHECKED BY: JE  
 ENGINEER: JCS

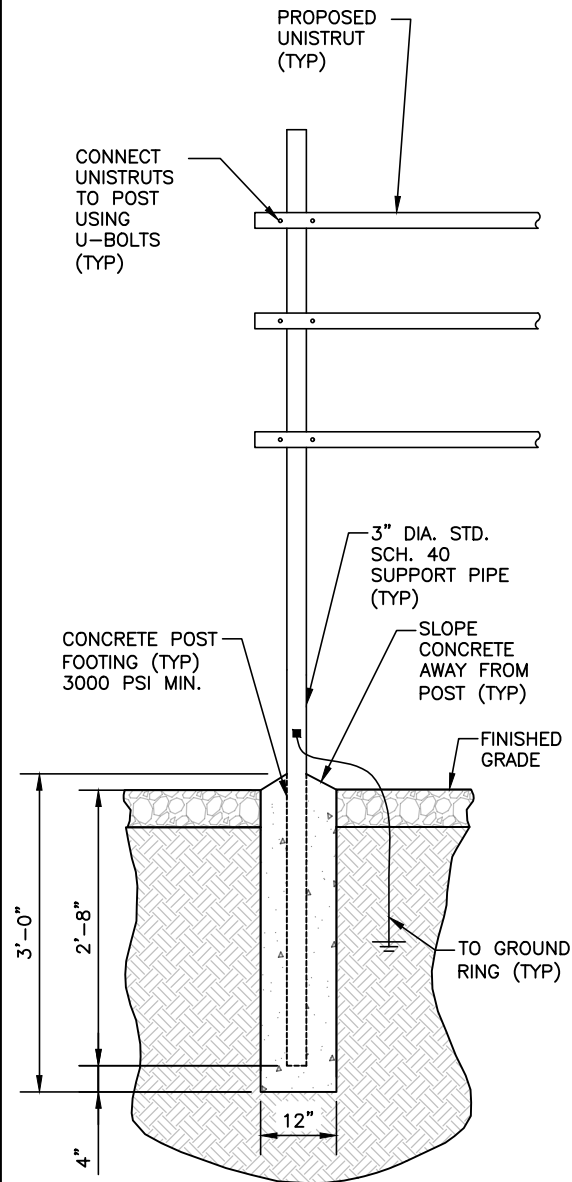
ICE BRIDGE NOTE:  
PRIOR TO CONSTRUCTION FIELD  
COORDINATE HEIGHT AND ROUTE  
OF ICE BRIDGE WITH TOWER OWNER



1 ICE BRIDGE ELEVATION  
SCALE: N.T.S.



2 ICE BRIDGE SECTION (WITH 1 SUPPORT POST)  
SCALE: N.T.S.



3 H-FRAME MOUNTING  
SCALE: N.T.S.

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

**SBA**

8051 CONGRESS AVE  
BOCA RATON, FL 33487

**SMW**  
ENGINEERING GROUP, INC.

TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617

STATE OF TEXAS

JUDSON C. SOMMERVILLE

138786

PROFESSIONAL ENGINEER

01/14/2022

SITE INFORMATION:

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STEPHENVILLE, TEXAS 76401

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T-MOBILE SITE ID: DA01789B

SBA SITE ID: TX09257-A

SHEET NAME:

ICE BRIDGE DETAILS

SMW #: 19-10142

DESIGNER: --

CHECKED BY: JE

ENGINEER: JCS

SHEET NUMBER: C-6

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

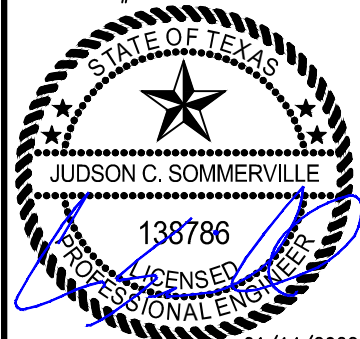


8051 CONGRESS AVE  
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TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



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T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

SHEET NAME:  
**CONCRETE PAD  
DETAILS & NOTES**

SMW #: 19-10142      SHEET NUMBER: C-7  
 DESIGNER: --  
 CHECKED BY: JE  
 ENGINEER: JCS

REINFORCED CONCRETE NOTES:

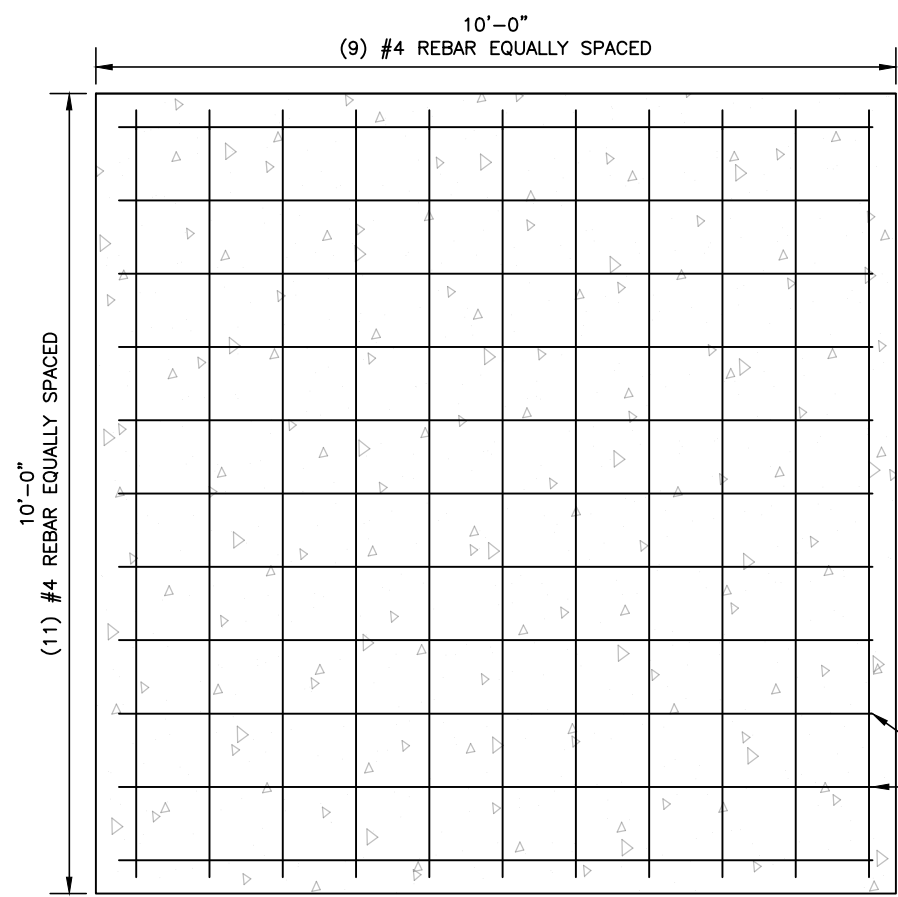
1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI SPECIFICATIONS FOR THE DESIGN & CONSTRUCTION OF CAST-IN-PLACE CONCRETE, AND WHERE CODES CONFLICT THE MORE STRINGENT NATIONAL OR LOCAL CODE SHALL GOVERN.
2. SITECAST CONCRETE FOR SLABS AND POST FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. CONCRETE TESTING IS NOT REQUIRED FOR SLABS AND POST FOOTINGS UNLESS NOTED OTHERWISE.

SLUMP - 4" MIN. / 6" MAX.  
AIR ENTRAINMENT - 2% TO 3% BY VOLUME

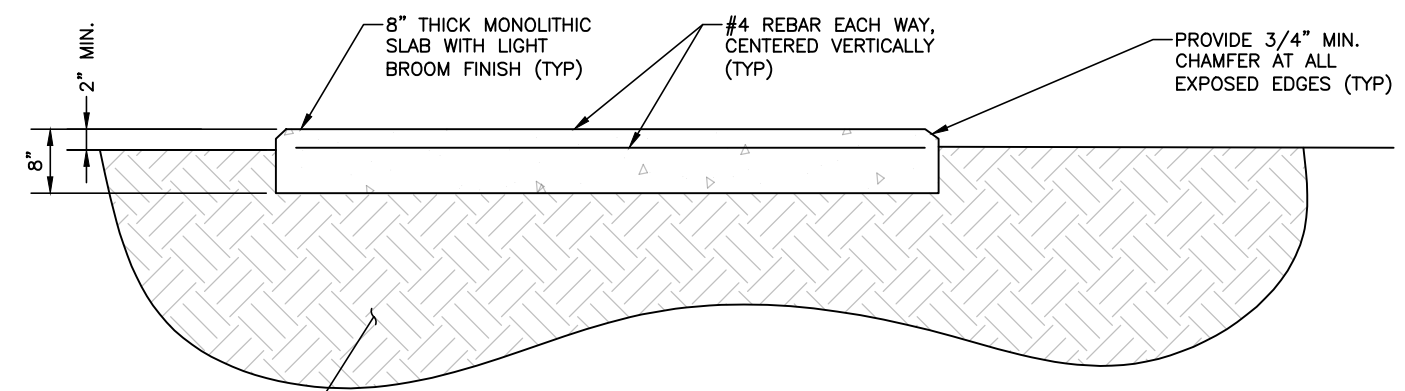
CLASSES OF CONCRETE				
CLASS	28 DAY STRENGTH (PSI)	MAX WATER/CEMENT RATIO	PLACEMENT LOCATION	NOTES
TYPE I	3000	0.55	SLABS & POST FOOTINGS	NORMAL WEIGHT
TYPE II*	5000	0.45	SLABS & POST FOOTINGS	HIGH EARLY STRENGTH

\*IF REQUIRED BY THE CONSTRUCTION SCHEDULE THE CONTRACTOR MAY SUBSTITUTE TYPE III HIGH EARLY STRENGTH CONCRETE WITH THE APPROVAL OF THE CONSTRUCTION MANAGER.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES FOR REBAR SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO. LAPS FOR WELDED WIRE FABRIC SHALL BE AT LEAST 8", UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:  
 CONCRETE CAST AGAINST EARTH.....3"  
 CONCRETE EXPOSED TO EARTH OR WEATHER  
 #6 AND LARGER.....2"  
 #5 AND SMALLER & W.W.F.....1-1/2"
5. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4"
6. INSTALLATION OF CONCRETE ANCHORS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO THE ANCHOR MANUFACTURER'S SPECIFICATIONS FOR MATERIAL STRENGTH, EMBEDMENT DEPTH, SPACING, AND EDGE DISTANCE OR AS DETAILED ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD, HILTI, OR APPROVED EQUAL. IF THE MANUFACTURER'S SPECIFICATIONS AND DETAILS ARE FOUND TO CONFLICT WITH THAT SHOWN HEREIN, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE CONTRACTOR SHALL VERIFY FROST LINE AND FOOTING DEPTH REQUIREMENTS WITH THE JURISDICTION HAVING AUTHORITY PRIOR TO CONSTRUCTION AND CONSULT THE ENGINEER ACCORDINGLY.
8. THE CONTRACTOR SHALL VERIFY ALL ELECTRICAL CONDUIT SIZES AND PENETRATION LOCATIONS PRIOR TO POURING THE SLAB.



#4 REBAR EACH WAY (TYP)



FOUNDATION BEARING ON SUBSTANTIALLY CONSOLIDATED SUBGRADE OR SUBGRADE COMPACTED TO 98% STANDARD PROCTOR DENSITY (TYP)

**1** MONOLITHIC EQUIPMENT SLAB DETAIL  
SCALE: N.T.S.

**1** REINFORCED CONCRETE NOTES  
SCALE: N.T.S.





**Specifications**

<b>Model</b>	<b>HP-Large 3 Power Cabinet</b>
<b>1. General</b>	
Construction	Aluminum enclosure
Dimensions (W x H x D)	30 x 72 x 35 in. (762 x 1829 x 889mm), Depth with Door: 41 in. (1041mm)
Weight	~551 lbs (~270kg) (without customer equipment or batteries)
Internal rack dimension	Total Equipment space, 30RU: Horizontal rack: 19" x 27RU Vertical rack: 19" x 3RU  Power System space: 23" x 12RU

Mounting options	Pad-mount, plinth option
Finish	Polyester Powder Paint (Tan)
Safety	UL Listed, IEC / EN 60950

<b>2. Environment</b>	
Operating temperature	-40°C to +50°C (-40°F to +122°F) with solar load. IP55
Protection class	designed to GR-487
Acoustics	5°C delta T: 70 dBA @6000W, 65dBA @5000W heat load
Humidity (relative)	95%, non-condensing (Max.)

<b>3. Thermal management</b>	
Cooling Equipment:	Direct Air Cooling 6000V, 5°C delta T (6) centrifugal redundant fans (3) Merv-13 or optional GORE filters front door (3) Merv-13 filters rear hatch
Heating Equipment:	Forced air heating (2) 1000W AC heaters

**4. Equipment**

Cable Entry	Knock-out plate on each upper side wall Additional knockouts each side (1) 3" conduit hole with hole plug
Door latch	3 point latching, 5/16 nut driver tool, pad-locking capability
Primary ground	10 double-hole 1/4"-20 threaded holes on 5/8" center ground bar
Lifting Ears	4 Lifting Tabs
Standard equipment	AC Load Center: 240V dual feed / (1) 200A + (1)100A 208V single feed / (1) 200A AC Surge Protection for each breaker feed GFCI Receptacle 120V (6 form-C) Alarm Termination block (1) Thermal Probe 605A/ 54V (336kW) redundant Power System with DIN rail distribution: 12 rectifier positions (qty 3x55A DPR3000 rectifiers included) 52 poles for load (qty 1x150A, 3x10A load circuit breakers included) 16 poles for battery (qty 2x200A battery circuit breakers included) (2) SB350 generator connector LVD over-ride switch (2) SB175 Battery connections (2) SB350 Battery connections  Front Door: (6) DC powered centrifugal fans with (3) MERV-13 filters, (GORE option) Clogged Filter alarm pressure switch Door intrusion alarm (2) 1000W AC powered heaters LED interior cabinet light  Rear Hatch: Exhaust vent with (3) MERV-13 filters

<b>5. Ordering information</b>	
Cabinet	ESOA600-HCU01 HP-Large 3 600A Power Equipment Cabinet
Rectifier	ESR-48/60A D-A 48V / 56A 3000W, 96.4%, CAN communication
Controller (Spare)	TPS1020028AU17 Orion TOUCH Controller
Plinth, 6"	37993318816900-S Plinth for V1/V2, HPL2, HPL3, LB2 cabinets only

Delta Group Website:  
[www.deltaww.com](http://www.deltaww.com)  
Product Website:  
[www.deltapowersolutions.com](http://www.deltapowersolutions.com)

United States of America & Canada:  
Delta Electronics U.S. Inc.  
2925 E. Plano Parkway  
Plano, TX (Texas) 75074

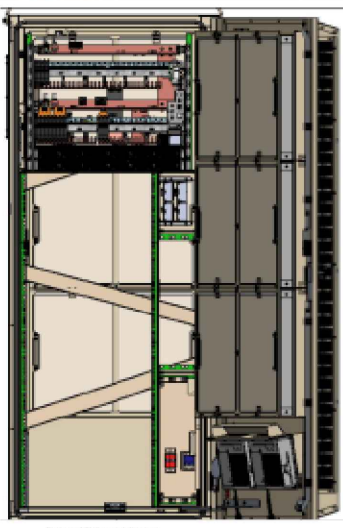
Sales and Support:  
Sales: [DEUSTPS.Sales@deltaww.com](mailto:DEUSTPS.Sales@deltaww.com)  
Orders: [DEUSTPS.Orders@deltaww.com](mailto:DEUSTPS.Orders@deltaww.com)

Field Support:  
1-877-DELTA-08 option 3  
(877-335-8208 option 3)  
[DEUSTPS.Support@deltaww.com](mailto:DEUSTPS.Support@deltaww.com)

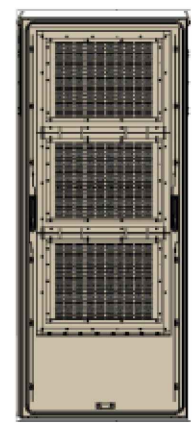
Installation Services:  
[DEUSTPS.Services@deltaww.com](mailto:DEUSTPS.Services@deltaww.com)

RMA:  
[DEUSTPS.RMA@deltaww.com](mailto:DEUSTPS.RMA@deltaww.com)

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Front Door Open



Rear Hatch View

\*All specifications are subject to change without prior notice.



**Specifications**

<b>Model</b>	<b>Large 3 Battery (LB3) Cabinet</b>
<b>1. General</b>	
Construction	Aluminum enclosure
Dimensions (W x H x D)	30 x 72 x 35 in. (762 x 1829 x 889mm), Depth with door: 41 in. (1041mm)
Weight	~540lbs (245kg) (without batteries)
Internal rack dimension	4 battery trays to support up to 210Ah batteries
Mounting options	Pad-mount, plinth option
Finish	Polyester Powder Paint (Tan)
Safety	UL Listed, IEC / EN 60950

<b>2. Environment</b>	
Operating temperature	-40C to +50C (-4CF to +122F) with solar load.
Protection class	IP55 designed to GR-487
Acoustics	65 dBA
Humidity (relative)	95%, non-condensing (Max.)

<b>3. Thermal management</b>	
Cooling	Direct Air Cooling (4) Axial Fans. Filters: F6 front and rear
Heating	Forced air heating (2) 1000W AC heaters

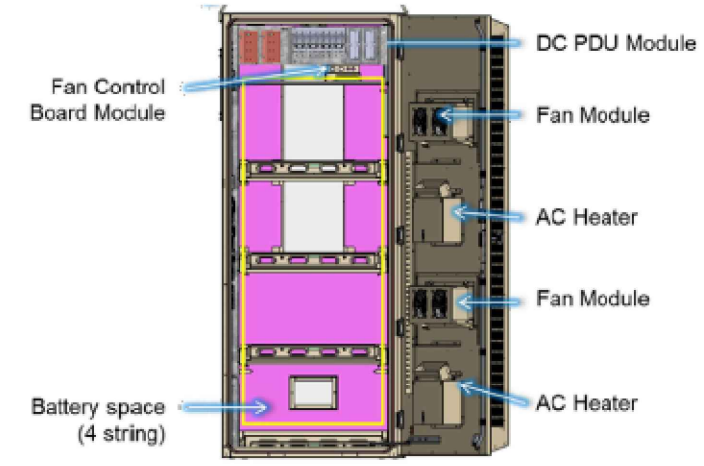
<b>4. Equipment</b>	
Cable Entry	Knock-out plate on each upper side wall Additional knockouts each side
Door latch	3 point latching, 5/16 Nut driver tool, pad-locking capability
Lifting Ears	4 eye bolts

Standard equipment	AC Load Center with AC Surge protection and GFCI outlet Left or Right side AC entry options (2) 1000W AC powered heater  DC Load Center (ODA bulk feed bus bar (4) 20050A DIN rail battery breakers (4) 2-hole lug landings (2) Anderson SB350 input connectors to daisy chain 2nd battery cabinet 2AWG battery cables from breakers to trays  Configurable trays for (4) strings of up to 210Ah batteries Door intrusion switch LED interior cabinet light Fan Control Board, factory wired alarms via RJ45 output (fan & breaker alarms) Cabinet Connection kit (2) 4/0 cables with SB350 disconnects to connect to power cabinet
--------------------	---

**5. Ordering information**

Cabinet	ESOF015-ECV04	Large Battery 3 Cabinet
Plinth, 6"	37993318816900-S	Plinth for V1/V2, HPL2, LB2 cabinets only

\*All specifications are subject to change without prior notice.



Delta Group Website:  
[www.deltaww.com](http://www.deltaww.com)  
Product Website:  
[www.deltapowersolutions.com](http://www.deltapowersolutions.com)  
United States of America & Canada:  
Delta Electronics U.S. Inc.  
2925 E. Plano Parkway  
Plano, TX (Texas) 75074  
Sales and Support:  
Sales: [DEUSTPS.Sales@deltaww.com](mailto:DEUSTPS.Sales@deltaww.com)  
Orders: [DEUSTPS.Orders@deltaww.com](mailto:DEUSTPS.Orders@deltaww.com)  
Field Support:  
1-877-DELTA-08 option 3  
(877-335-8208 option 3)  
[DEUSTPS.Support@deltaww.com](mailto:DEUSTPS.Support@deltaww.com)  
Installation Services:  
[DEUSTPS.Services@deltaww.com](mailto:DEUSTPS.Services@deltaww.com)  
RMA:  
[DEUSTPS.RMA@deltaww.com](mailto:DEUSTPS.RMA@deltaww.com)  
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7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

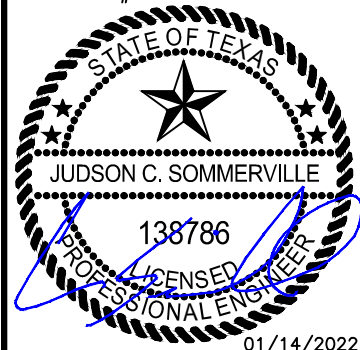


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

**DA01789B**  
580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION:
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B SBA SITE ID: TX09257-A

SHEET NAME:

**EQUIPMENT DETAILS**

SMW #: 19-10142	SHEET NUMBER: <b>C-8</b>
DESIGNER: --	
CHECKED BY: JE	
ENGINEER: JCS	

**1 DELTA HPLA 3 POWER CABINET**  
SCALE: N.T.S.

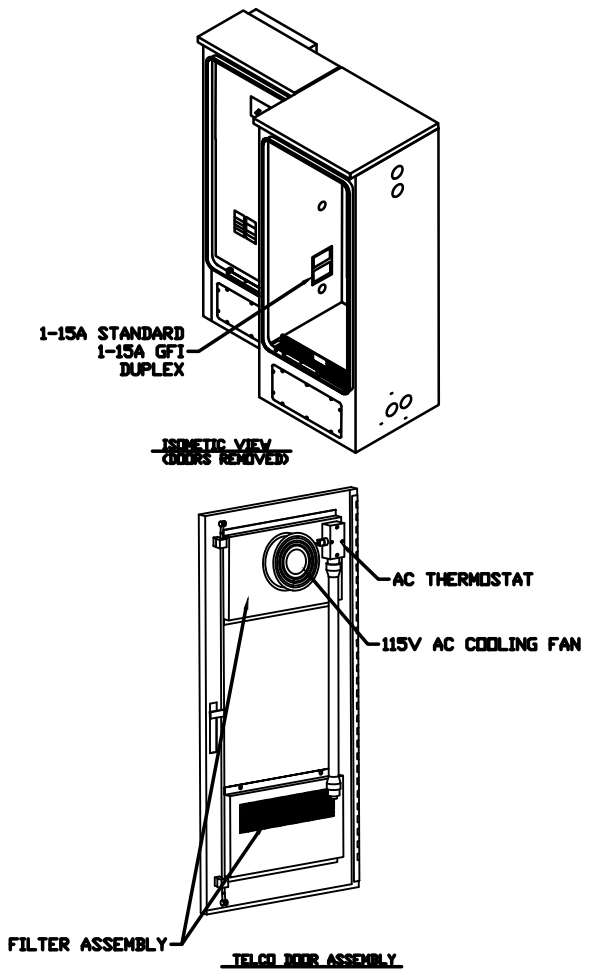
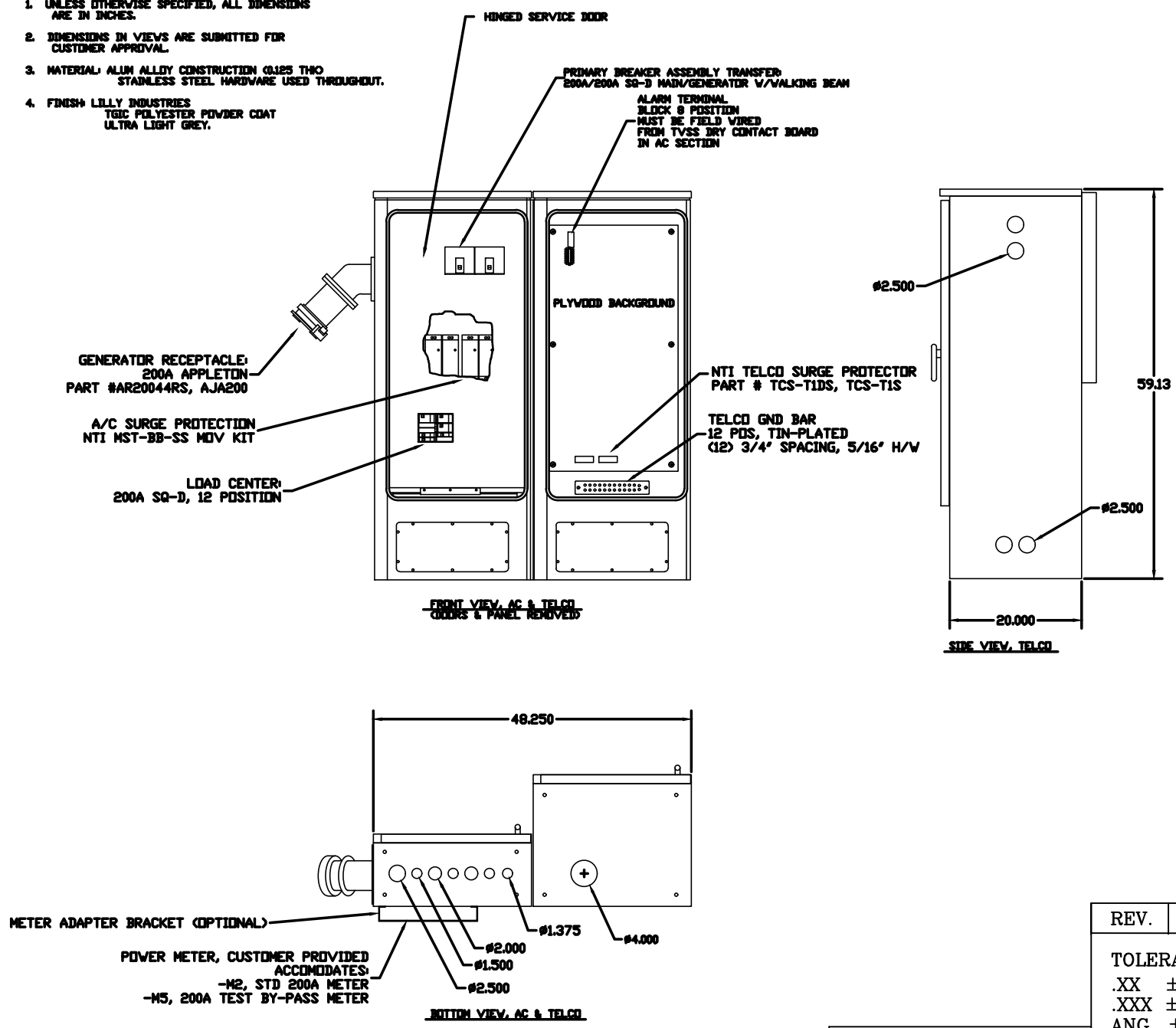
DETAILS BY OTHERS NOTE:  
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**2 DELTA HPLA 3 BATTERY CABINET**  
SCALE: N.T.S.



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- NOTES  
 1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.  
 2. DIMENSIONS IN VIEWS ARE SUBMITTED FOR CUSTOMER APPROVAL.  
 3. MATERIAL: ALUM ALLOY CONSTRUCTION (1/8" THK) STAINLESS STEEL HARDWARE USED THROUGHOUT.  
 4. FINISH: LILLY INDUSTRIES TGIC POLYESTER POWDER COAT ULTRA LIGHT GREY.



REV.	BY	DESCRIPTION	APP.	DATE
TOLERANCE:		NORTHERN TECHNOLOGIES, INC. 23123 E. MISSION AVE. LIBERTY LAKE, WA. 99019		
.XX ±.01				
.XXX ±.005				
ANG. ± 1/2°		TITLE: ASSY., PPC CABINET, N2116-W02		
SCALE: N/A		DO NOT SCALE DRAWING	NTI PART NO: N2116-W02	
DRAWN BY: C. DAINIO		DATE: 12-27-00	DRAWING NO: 020510 1of3	
APP. BY: JM S.		DATE: 12-28-00		

THIS DRAWING IS CONFIDENTIAL AND PROPRIETARY TO NORTHERN TECHNOLOGIES INC.

**T-Mobile**

7668 WARREN PARKWAY  
 FRISCO BRIDGES TECH CAMPUS  
 FRISCO, TX 75034

PLANS PREPARED FOR:

**SBA**

8051 CONGRESS AVE  
 BOCA RATON, FL 33487

**SMW**

ENGINEERING GROUP, INC.

TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617

STATE OF TEXAS

JUDSON C. SOMMERVILLE

138786

PROFESSIONAL ENGINEER

01/14/2022

SITE INFORMATION:

DA01789B

580 W VANDERBILT  
 STEPHENVILLE, TEXAS 76401

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SBA SITE ID: TX09257-A

SHEET NAME:  
**PPC SPECIFICATIONS**

SMW #: 19-10142

DESIGNER: --

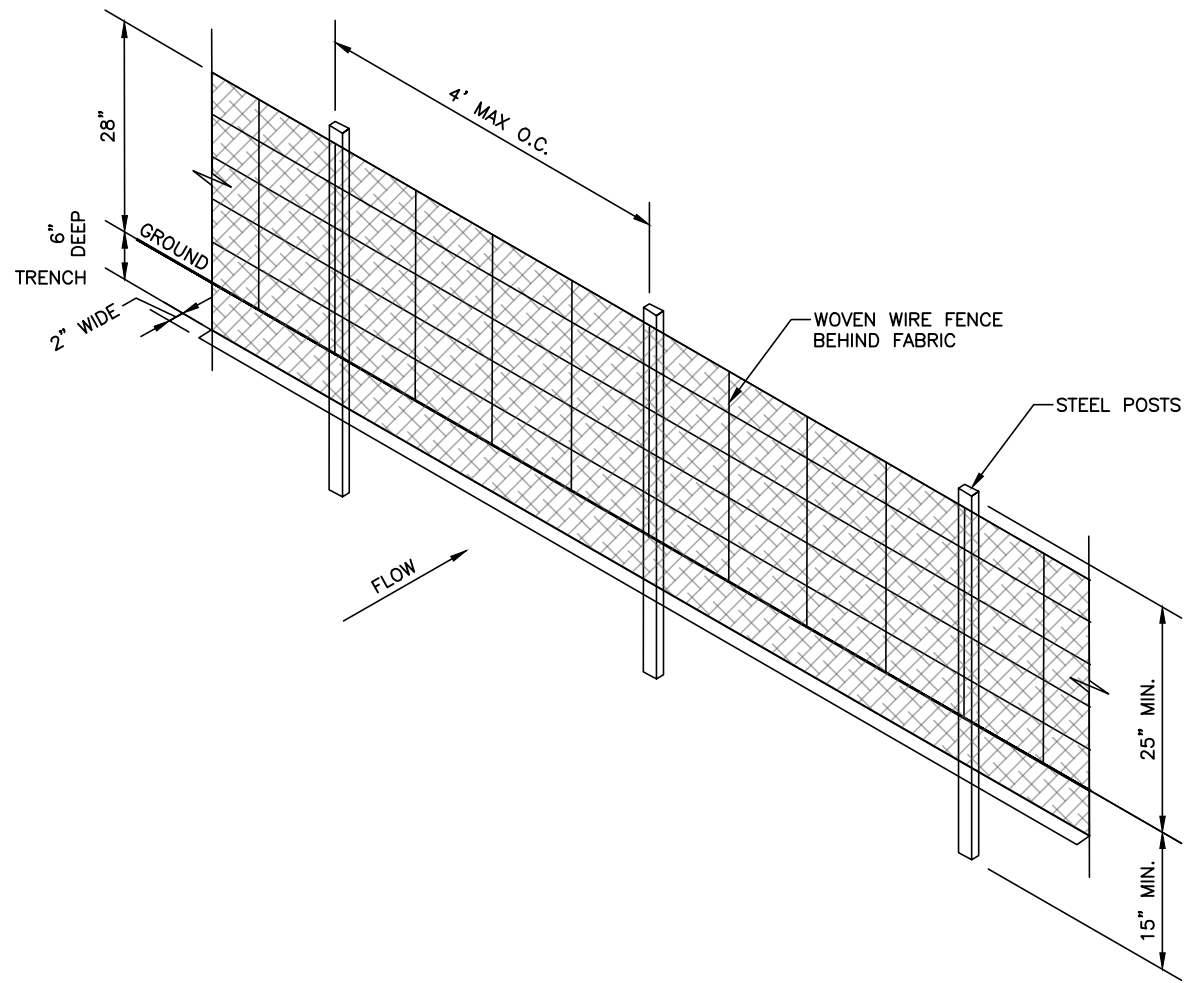
CHECKED BY: JE

ENGINEER: JCS

SHEET NUMBER:  
**C-9**

DETAILS BY OTHERS NOTE:  
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 CARRIED UNDER THE SIGNATURE AND  
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- MAINTENANCE:
1. INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
  2. REMOVE SEDIMENT FROM BARRIER WHEN TWO-THIRDS FULL.
  3. DISPOSE OF SEDIMENT SO THAT IT WILL NOT ENTER THE BARRIER AGAIN AND STABILIZE IT WITH VEGETATION.
  4. REPLACE FILTER FABRIC WHEN DETERIORATED.
  5. DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
  6. MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
  7. REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.



① SdI TYPE C SEDIMENTATION BARRIER DETAIL  
SCALE: N.T.S.

THIS SECTION WAS INTENTIONALLY LEFT BLANK

② NOT USED  
SCALE: N/A

**T-Mobile**

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FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

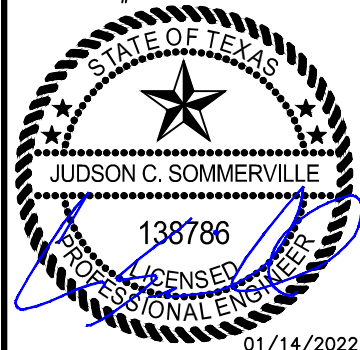


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BOCA RATON, FL 33487



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CA#: TX F-9617



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SHEET NAME:  
**EROSION CONTROL DETAILS**

SMW #: 19-10142      SHEET NUMBER: **C-10**

DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

PIEDMONT VEGETATIVE COVERS

CALENDAR MONTH	TEMPORARY SEED	APPLICATION RATE/ACRE	PERMANENT SEED	APPLICATION RATE/ACRE
1. JANUARY	RYE GRASS	20-40 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA	8-10 LB. 30-40 LB.
2. FEBRUARY			UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
3. MARCH	RYE ANNUAL LESPEDZA WEEPING LOVE GRASS	2-3 BU. 20-25 LB. 4-6 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
4. APRIL	RYE BROWN TOP MULLET ANNUAL LESPEDZA SUDAN ANNUAL	2-3 BU. 30-40 LB. 20-25 LB. 35 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
5. MAY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 BU. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
6. JUNE	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
7. JULY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 LB. 35 LB. 30-40 LB.		
8. AUGUST	RYE GRASS WEEPING LOVE GRASS	40-50 LB. 4-6 LB.		
9. SEPTEMBER			TALL FESCUE	30-50 LB.
10. OCTOBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
11. NOVEMBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
12. DECEMBER	RYE RYE GRASS WHEAT	2-3 BU. 40-50 LB. 2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.

- USE A MINIMUM OF 40 LBS. SCARIFIED SEED. THE REMAINING MAY BE UNSCARIFIED, CLEAN HULLED SEED.
- USE EITHER COMMON SERIAL OR INTERSTATE SERICEA LESPEDEZA

**Ds2** DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

**Ds3** DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

HYDRAULIC SEEDING EQUIPMENT: WHEN HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED, NO GRADING AND SHAPING OF SEEDED PREPARATIONS WILL BE REQUIRED. THE FERTILIZER, SEED, AND WOOD CELLULOSE FIBER MULCH WILL BE MIXED WITH WATER AND SUPPLIED IN A SLURRY. ALL SLURRY INGREDIENTS MUST BE COMBINED TO FORM A HOMOGENEOUS MIXTURE, AND SPREAD UNIFORMLY OVER THE AREA WITH ONE HOUR AFTER MIXTURE IS MADE. STRAW OR HAW MULCH AND ASPHALT EMULSION WILL BE APPLIED WITH BLOWER-TYPE MULCH SPREADING EQUIPMENT WITHIN 24 HOURS AFTER SEEDING. THE MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

- A. SEEDING WITH MULCH: (HYDRAULIC SEEDING EQUIPMENT ON SLOPES 3:1 AND STEEPER)
- |                              |               |
|------------------------------|---------------|
| AGRICULTURAL LIMESTONE #75   | 400 LBS/ACRE  |
| FERTILIZER, 05-10-15         | 500 LBS/ACRE  |
| MULCH (STRAW OR HAY)         | 5000 LBS/ACRE |
| MULCH (WOOD CELLULOSE FIBER) | 1000 LBS/ACRE |

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
SERICIA LESPEDEZA, SCARIFIED WEEPING LOVE GRASS, OR COMMON BERMUDA, HULLED	60 LBS. 4 LBS. 6 LBS.	3/1-6/15
FESCUE SERICEA LESPEDEZA, UNCERTIFIED	40 LBS. 60 LBS.	4/1-10/31
FESCUE SERICEA LESPEDEZA, UNCERTIFIED RYE	40 LBS. 75 LBS. 50 LBS.	11/1-12/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15-8/31

- B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL  
FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE
- C. SECOND YEAR TREATMENT:  
FERTILIZER (0-20-20 OR EQUIVALENT) 500 LBS/ACRE

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE, AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A CULTIPACKER-SEEDER, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESH PREPARED SEEDBED AND COVERED LIGHTLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD EITHER BY BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT WAS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION ARE AS FOLLOWS:

- A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)

AGRICULTURAL LIMESTONE #15	400 LBS/ACRE
FERTILIZER, 5-10-15	1500 LBS/ACRE
MULCH (STRAW OR HAY)	5000 LBS/ACRE

SEED SPECIES	APPLICATION RATE/ACRE
COMMON BERMUDA, HULLED	10 LBS.
FESCUE	50 LBS.
FESCUE RYE GRASS	50 LBS. 50 LBS.
HAY MULCH FOR TEMPORARY COVER	5000 LBS.

- B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL  
FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE
- C. SECOND YEAR TREATMENT:  
FERTILIZER (0-20-20 OR EQUIVALENT) 800 LBS/ACRE

**Ds2** DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

**Ds3** DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)



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FRISCO, TX 75034

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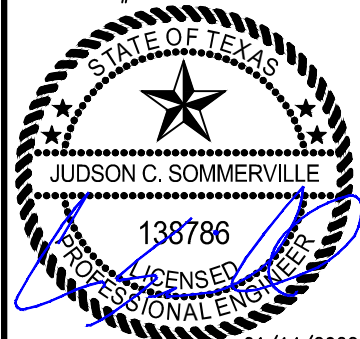


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

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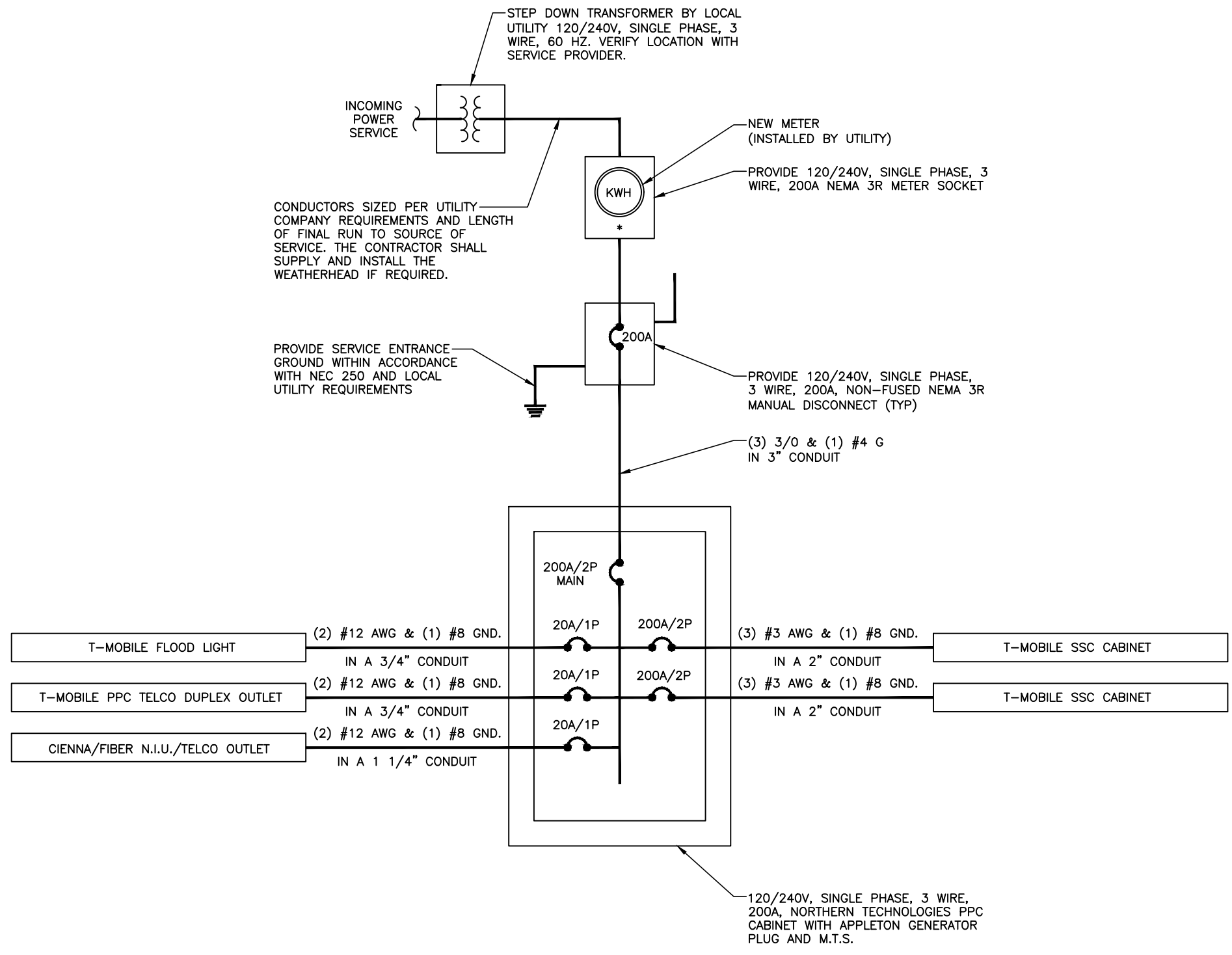
580 W VANDERBILT  
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T-MOBILE SITE ID: DA01789B SBA SITE ID: TX09257-A

SHEET NAME:  
**EROSION CONTROL SPECIFICATIONS**

SMW #: 19-10142 SHEET NUMBER: C-11  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

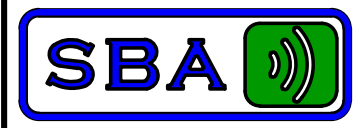


**1** ONE-LINE DIAGRAM  
SCALE: N.T.S.

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

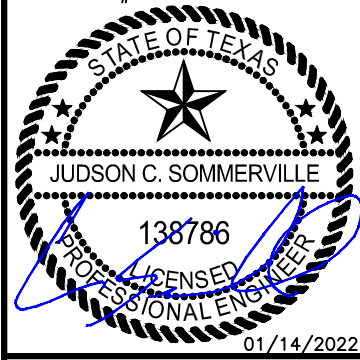


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T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

SHEET NAME:

ONE-LINE DIAGRAM

SMW #: 19-10142      SHEET NUMBER: E-1

DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

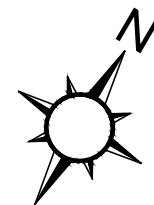
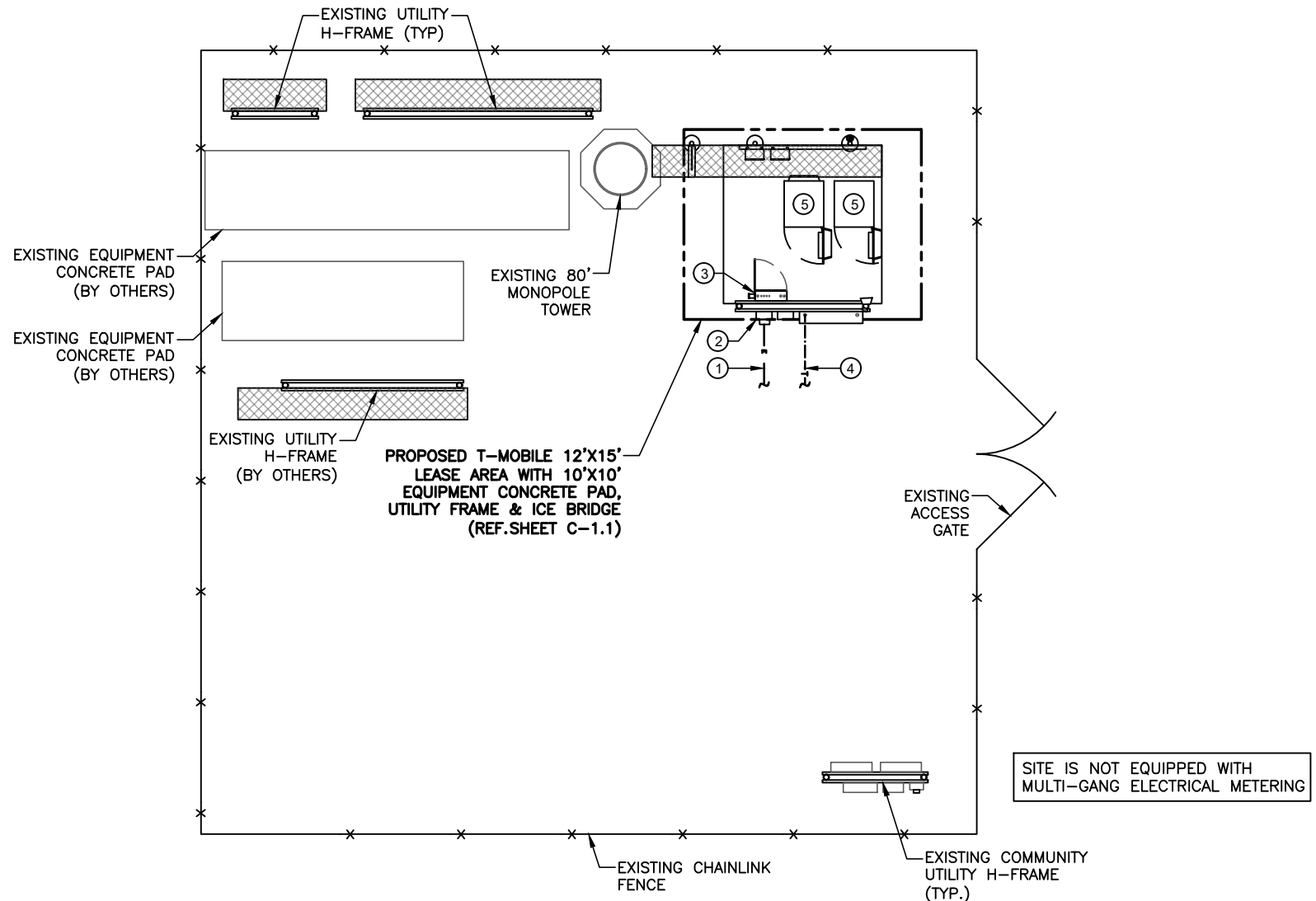
**ELECTRICAL KEY NOTES:**

- ① PROPOSED 3" PVC CONDUIT WITH (3) 3/0 + #4G FROM POWER SOURCE (FIELD DETERMINE) TO PROPOSED METER/DISCONNECT ON UTILITY H-FRAME. COORDINATE WITH THE LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.
- ② PROPOSED METER WITH 200A MANUAL DISCONNECT. COORDINATE WITH LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.
- ③ PROPOSED 200A NORTHERN TECHNOLOGIES PPC CABINET WITH INTEGRATED 200A APPLETON GENERATOR BACKUP PLUG.
- ④ PROPOSED 2" PVC CONDUIT WITH PULL STRING FOR TELCO FROM TELCO SOURCE (FIELD DETERMINE) TO PROPOSED TELCO BOX ON UTILITY H-FRAME.
- ⑤ PROPOSED T-MOBILE EQUIPMENT (REF. SHEET E-4 FOR ENLARGED UTILITY PLAN)

SCH 80 PVC NOTE:  
CONTRACTOR SHALL USE SCH 80 PVC UNDER ANY DRIVEWAY OR VEHICLE ACCESS POINTS.

UTILITY NOTE:  
THERE ARE NOT ANY EXISTING STORM OR SANITARY SEWER LINES OR BURIED UTILITIES ON THE PARENT TRACK WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION.

TRENCHING NOTE:  
DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.



① ELECTRICAL UTILITY PLAN  
SCALE: 1" = 10'  
10' 0' 5' 10'

**T-Mobile**  
7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:  
**SBA**  
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BOCA RATON, FL 33487

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CA#: TX F-9617  
STATE OF TEXAS  
JUDSON C. SOMMERVILLE  
138786  
LICENSED PROFESSIONAL ENGINEER  
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SHEET NAME:  
**ELECTRICAL UTILITY PLAN**

SMW #: 19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

SHEET NUMBER:  
**E-2**



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7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

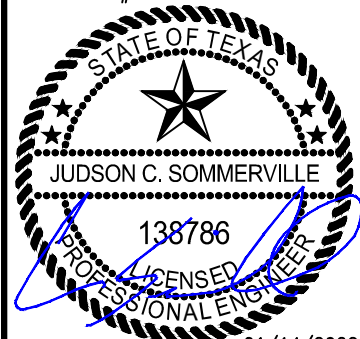


8051 CONGRESS AVE  
BOCA RATON, FL 33487



TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617



SITE INFORMATION:

DA01789B

580 W VANDERBILT  
STEPHENVILLE, TEXAS 76401

#	DATE	DESCRIPTION:
0	11/30/21	ISSUED FOR CLIENT REV.
1	01/14/22	REVISED PER CLIENT COMMENTS
2	02/14/22	ISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

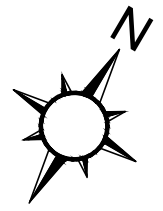
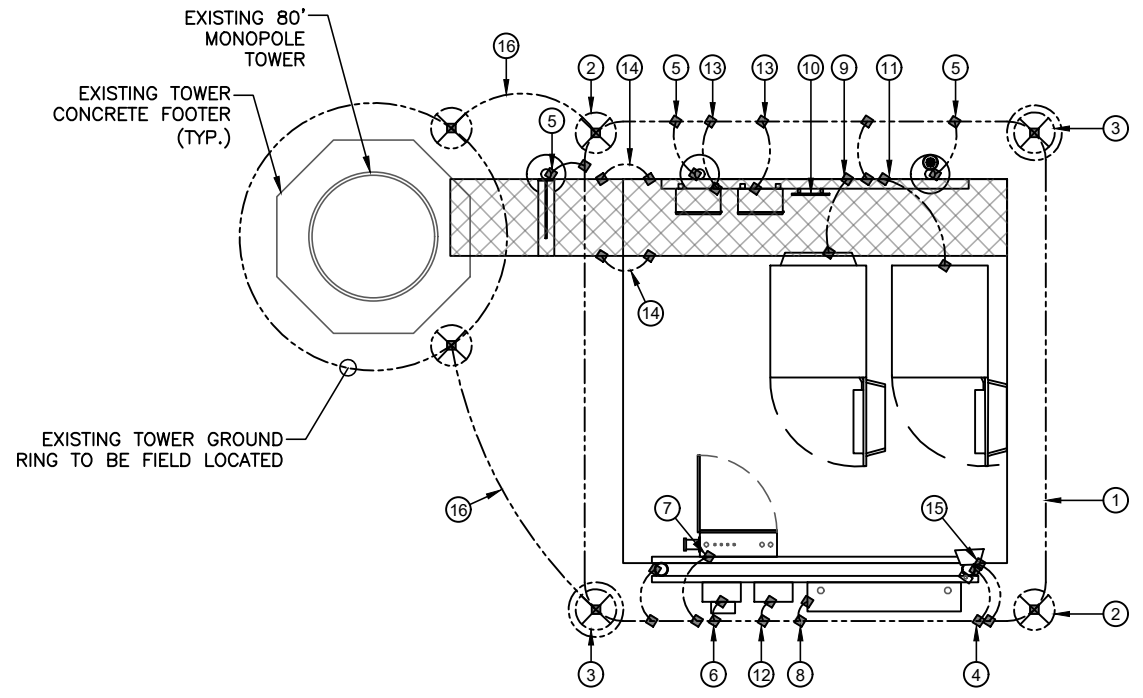
SHEET NAME:  
**GROUNDING PLAN**

SMW #: 19-10142      SHEET NUMBER: **E-3**  
 DESIGNER: --  
 CHECKED BY: JE  
 ENGINEER: JCS

**GROUNDING KEY NOTES:**

- ① PROPOSED #2 BARE TINNED SOLID COPPER GROUND RING (TYP)
- ② PROPOSED 5/8" DIA. X 8' LONG STEEL SHAFT COPPER CLAD GROUND ROD (TYP)
- ③ PROPOSED GROUND ROD WITH COVERED PVC TEST WELL (TYP)
- ④ GROUND PROPOSED UTILITY FRAME POST WITH CADWELD CONNECTION TO BASE PLATE (TYP)
- ⑤ GROUND PROPOSED ICE BRIDGE POST WITH CADWELD CONNECTION TO BASE (TYP)
- ⑥ GROUND PROPOSED METER/DISCONNECT PER NEC 250 AND LOCAL UTILITY REQUIREMENTS (TYP)
- ⑦ GROUND PROPOSED PPC POWER PANEL PER NEC 250 AND LOCAL UTILITY REQUIREMENTS (TYP)
- ⑧ GROUND PROPOSED TELCO CABINET GROUND BAR WHERE REQUIRED BY TELCO BACKHAUL (TYP)
- ⑨ GROUND PROPOSED HPL3 CABINET MAIN GROUND BAR WITH 2-HOLE LUG CONNECTION (TYP)
- ⑩ PROVIDE 12 POSITION MAIN EQUIPMENT COLLECTOR GROUND BAR ATTACHED TO UNISTRUT FRAME WITH STANDOFF INSULATORS, GROUND WITH (2) CADWELDED CONNECTIONS, 1 PER SITE (TYP)
- ⑪ GROUND PROPOSED L3B CABINET MAIN GROUND BAR WITH 2-HOLE LUG CONNECTION (TYP)
- ⑫ GROUND PROPOSED TELCO CIENA (TYP)
- ⑬ GROUND 2.0 JUNCTION BOX TO COLLECTOR GROUND BAR WITH #2 OR #6 GROUND CONDUCTOR PER MANUFACTURER'S SPECIFICATIONS (TYP)
- ⑭ GROUND ICE BRIDGE CHANNEL SECTIONS WITH 2-HOLE LUG CONNECTION. BOND ADJOINING CHANNEL SECTIONS TOGETHER WITH 2-HOLE LUG JUMPERS (TYP)
- ⑮ GROUND ALL METALLIC OBJECTS WITHIN 6' OF THE PROPOSED EQUIPMENT TO BURIED GROUND RING (TYP)
- ⑯ GROUND PROPOSED T-MOBILE BURIED EQUIPMENT GROUND RING TO EXISTING SITE GROUND RING. CONDUCT GROUNDING SYSTEM TEST AND INCLUDE IN THE CLOSEOUT PACKAGE TO T-MOBILE. ADDITIONAL GROUNDING MAY BE REQUIRED PENDING THE RESULTS OF THE GROUNDING SYSTEM TEST (TYP x2)
- ⑰ GROUNDING CONNECTION DETAILS (SEE SHEET E-6)

**TRENCHING NOTE:**  
DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.

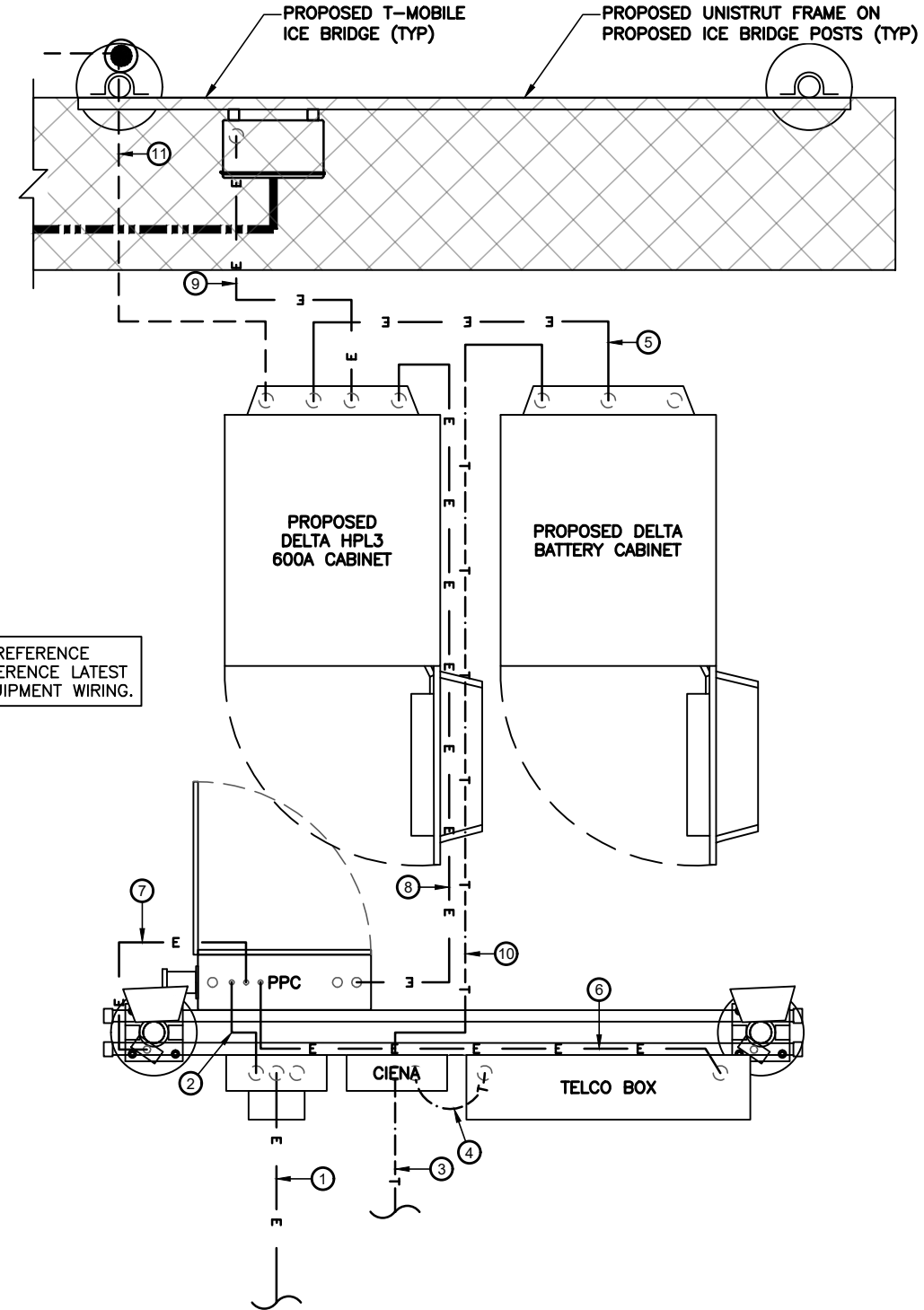


**1** GROUNDING PLAN  
SCALE: N.T.S.

CONDUIT KEY NOTES:

- ① PROPOSED 3" PVC CONDUIT FROM POWER SOURCE TO METER / MAIN DISCONNECT AT UTILITY H-FRAME (TYP)
- ② PROPOSED 2" PVC CONDUIT FOR POWER FROM MAIN SERVICE DISCONNECT TO PROPOSED PPC ON UTILITY H-FRAME (TYP)
- ③ PROPOSED 2" PVC CONDUIT FROM MAIN TELCO BOX TO T-MOBILE CIENA ON UTILITY H-FRAME. PROVIDE PULLSTRINGS IN ACCORDANCE WITH UTILITY REQUIREMENTS (TYP)
- ④ PROPOSED 2" PVC CONDUIT FOR TELCO FROM PROPOSED CIENA TO TELCO CABINET (TYP)
- ⑤ PROPOSED FLEX CONDUITS FROM DELTA SSC CABINET TO DELTA BATTERY CABINET AS NEEDED (TYP)
- ⑥ PROPOSED 3/4" PVC FLEX CONDUIT FROM T-MOBILE PPC TO TELCO POWER SUPPLY (TYP)
- ⑦ PROPOSED 3/4" PVC FLEX CONDUIT FROM PPC POWER PANEL TO HALOGEN FLOOD LIGHT SWITCH (TYPx2)
- ⑧ PROPOSED 2" PVC FLEX CONDUIT FOR POWER FROM T-MOBILE PPC TO DELTA SSC CABINET MAIN BREAKER (TYP)
- ⑨ PROPOSED 1" PVC FLEX CONDUIT FROM SSC CABINET TO 2.0 JUNCTION BOX (TYP)
- ⑩ PROPOSED 1" PVC FLEX COINDUIT FOR ALARM CABLES FROM DELTA CABINET TO CIENA (TYP)
- ⑪ ROUTE PROPOSED GPS CABLE TO TRUEPOSITION UNIT MOUNTED IN SSC RADIO BAY (TYP)

SCHEMATICS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL REFERENCE LATEST T-MOBILE STANDARDS FOR EQUIPMENT WIRING.



① EQUIPMENT CONDUIT DETAIL  
SCALE: N.T.S.

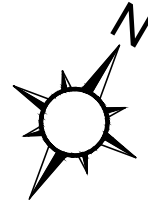
VERIFICATION NOTE:  
CONTRACTOR TO VERIFY WITH T-MOBILE THE LOCATION OF CONDUIT WITHIN CONCRETE PAD PRIOR TO INSTALLATION.

TRENCHING NOTE:  
DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.

CONDUIT NOTE:  
ALL CONDUITS SHALL BE SECURED TO THE TOP OF THE CONCRETE SLAB WITH RIGID CLIPS SIZED PER NEED (TYP)

ALL PROPOSED CONDUITS SCHEDULES SHALL BE FOLLOWING T-MOBILE'S LATEST STANDARDS.

CONDUIT NOTE:  
ALL CONDUITS SHALL BE SECURED TO THE TOP OF THE CONCRETE SLAB WITH RIGID CLIPS SIZED PER NEED (TYP)



7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

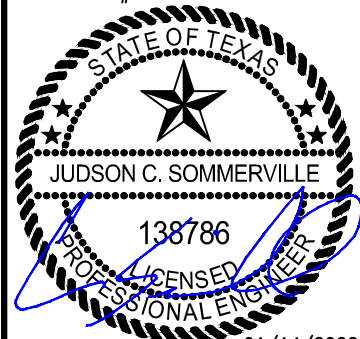


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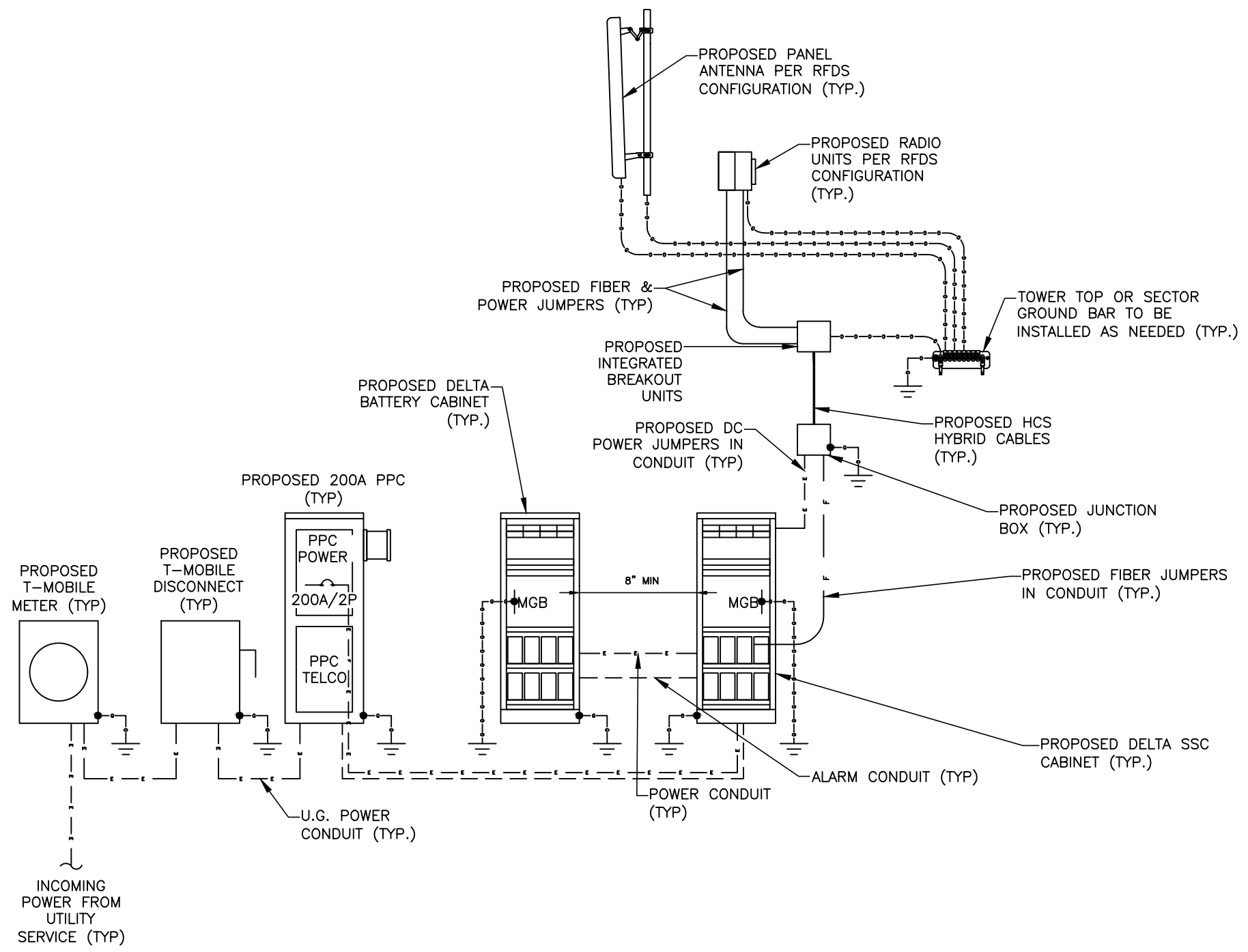
T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

SHEET NAME:  
**EQUIPMENT CONDUIT DETAIL**

SMW #: 19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

SHEET NUMBER:  
**E-4**

T-MOBILE ANTENNA CABLE COLOR CODES SHALL BE PROVIDED BY THE LOCAL T-MOBILE MARKET PRIOR TO CONSTRUCTION.



**1** EQUIPMENT POWER, TELCO & GROUNDS SCHEMATIC  
SCALE: N.T.S.

**T-Mobile**

7668 WARREN PARKWAY  
FRISCO BRIDGES TECH CAMPUS  
FRISCO, TX 75034

PLANS PREPARED FOR:

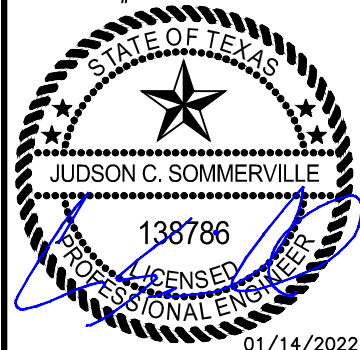


8051 CONGRESS AVE  
BOCA RATON, FL 33487



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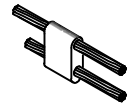
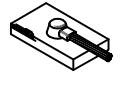

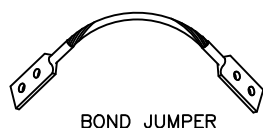
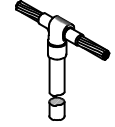


T-MOBILE SITE ID: DA01789B      SBA SITE ID: TX09257-A

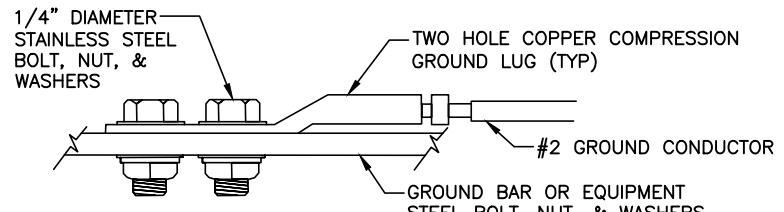
SHEET NAME:  
**EQUIPMENT SCHEMATIC**

SMW #: 19-10142      SHEET NUMBER: **E-5**  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS

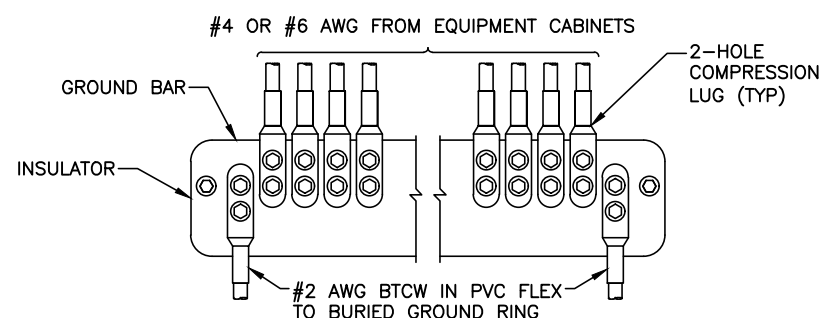


- ALL WORK IS TO COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AND ANY LOCAL ORDINANCES, CODES, AND ALL OTHER ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL PERMITS AND RELATED FEES.
- ALL EQUIPMENT AND MATERIAL FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE UNDERWRITERS LABORATORIES (U.L.) LISTED, NEW, FREE FROM DEFECTS, AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER OR HIS REPRESENTATIVE. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIAL, OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS AND LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
- ALL WORK SHALL BE EXECUTED IN A WORKMAN LIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED. CONTRACTOR SHOULD AVOID DAMAGE TO EXISTING UTILITIES WHEREVER POSSIBLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO ELECTRICAL WORK, AND SHALL RESTORE ALL EXISTING LANDSCAPING, SPRINKLER SYSTEMS, CONDUITS, WIRING, PIPING, ETC. DAMAGED BY THE ELECTRICAL WORK TO MATCH EXISTING CONDITIONS.
- ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEMS, TELEPHONE AND COMMUNICATION SYSTEMS, PANELBOARDS, CONDUIT, CONTROL WIRING, GROUNDING, ETC. AS INDICATED ON ELECTRICAL DRAWINGS AND/OR AS REQUIRED BY GOVERNING CODES.
- PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING SITE LOCATIONS AND CONDITIONS AND UTILITY SERVICE REQUIREMENTS OF THE JOB, AND BY REFERENCE TO ENGINEERING AND EQUIPMENT SUPPLIERS' DRAWINGS. SHOULD THERE BE ANY QUESTION OR PROBLEM CONCERNING THE NECESSARY PROVISIONS TO BE MADE. PROPER DIRECTIONS SHALL BE OBTAINED BEFORE PROCEEDING WITH ANY WORK.
- PROVIDE POWER AND TELEPHONE TO SERVICE POINTS PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL CONTACT UTILITY SERVICE PLANNERS AND OBTAIN ALL SERVICE REQUIREMENTS AND INCLUDE COSTS FOR SUCH IN THEIR BID.
- SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT WITHSTAND RATING EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL ON THE UTILITY TRANSFORMER SECONDARY, THE INSULATION SHALL BE FREE FROM ANY SHORT CIRCUITS AND GROUNDS. CONTRACTOR TO OBTAIN THE AVAILABLE SHORT CIRCUIT CURRENT FROM THE ELECTRICAL SERVICE PROVIDER.
- ALL WIRES SHALL BE STRANDED COPPER WITH THHN/THWN AND 600 VOLTS INSULATION. ALL GROUND CONDUCTORS TO BE PROPERLY SIZED COPPER. (STRANDED OR SOLID)
- IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS, THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE HIGHEST STANDARD OF PERFORMANCE SHALL PREVAIL.
- SERVICE CONDUITS SHALL HAVE NO MORE THAN (4) -50' BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS. PULL WIRES AND CAPS SHALL BE PROVIDED AT ALL SPARE CONDUITS FOR FUTURE USE.
- ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND LOCAL WIND SPEED REQUIREMENTS AND DESIGNED FOR OUTDOOR EXPOSURE.
- ALL COAX, POWER AND TELEPHONE SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" SCH. 80 PVC RADIUS SWEEPS TO EQUIPMENT, PULLBOXES, GUY, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.
- FUSE TYPE SHALL BE BUSSMAN RKI LOW PEAK FUSE (LPN-RK-140).
- UPON COMPLETION OF THE JOB, THE CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE OWNER.
- GENERAL GROUNDING CRITERIA  
1ST STEP: GROUND TO EXISTING BUILDING STRUCTURAL STEEL AND TO THE EXISTING COLD WATER METAL PIPE LINE. (WHERE APPLICABLE) THEN TEST GROUNDING RESISTANCE FOR 5 OHMS OR LESS OVERALL GROUND RESISTANCE. WHERE THE EFFECTIVE RESISTANCE DOES NOT MEET THIS CRITERIA, PROVIDE SUPPLEMENTAL GROUNDING AND RE-TEST UNTIL GROUND RESISTANCE FALLS BELOW THIS LEVEL.
- SUPPLEMENTAL GROUND MAY CONSIST OF ONE OR MORE OF THE FOLLOWING:  
COUNTERPOISE, USER GROUND, GROUND ROD AND/OR GROUND WELL IN EXTREMELY ADVERSE SOIL CONDITIONS. WHERE THE EXISTING BUILDING STEEL DOES NOT PROVIDE AN EFFECTIVE GROUND RESISTANCE, THEN THE CONTRACTOR SHALL PROVIDE A SEPARATE GROUND CONDUCTOR FROM ROOF MOUNTED BTS EQUIPMENT LOCATIONS EITHER DOWN THROUGH THE INSIDE OF THE BUILDING OR DOWN THE OUTSIDE OF THE BUILDING, DEPENDING UPON OWNER PREFERENCE. WHERE THE GROUND CONDUCTOR FROM THE ROOF MOUNTED EQUIPMENT IS ROUTED IN CONDUIT, THE CONDUIT SHALL BE EFFECTIVELY GROUNDED TO THE GROUND CONDUCTOR AT BOTH ENDS OF THE CONDUIT. (GUY INSTALLATIONS):  
  
FOR INSTALLATIONS WHERE WOODEN STRUCTURES, TOWERS, CONCRETE SILOS ETC. ARE ENCOUNTERED A PARATE DOWNLEAD SHALL BE PROVIDED FROM THE 3 ANTENNAS SEPARATED BY A MINIMUM OF 12 INCHES FROM THE COAXIAL CABLES. THE GROUND CONDUCTOR SHALL BE SECURELY FASTENED TO THE EXTERIOR OF OUTSIDE STRUCTURES WITH NONMETALLIC GROUND STRAPS EVERY 10 FEET. AGAIN, AS FOR TENANT IMPROVEMENT PROJECTS, TEST THE GROUND RESISTANCE FOR GUY INSTALLATIONS AND PROCEED PER THE ABOVE STEPS.
- CONTRACTOR TO COLOR PHASE CONDUCTORS BLACK (B PHASE), RED (A PHASE), WHITE (NEUTRAL), AND GREEN (GROUND).
- CONTRACTOR TO PROVIDE GUTTER TAP.
- THERE SHALL BE A MINIMUM CLEARANCE OF 48" BETWEEN FRONT OF ELECTRICAL EQUIPMENT AND ANY WALL OR OBSTRUCTION.

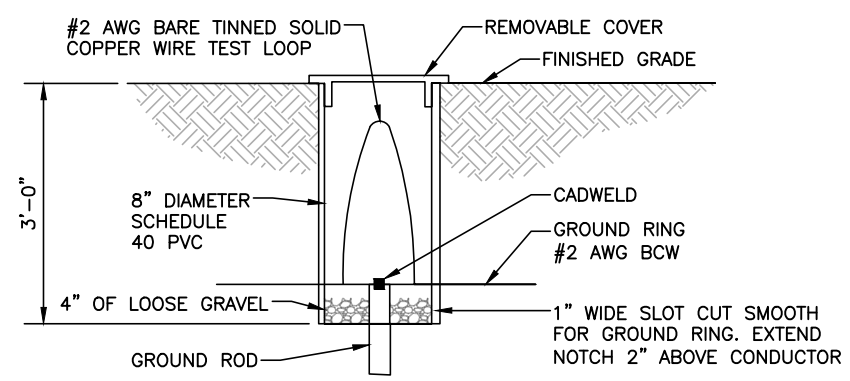
CADWELD CONNECTIONS OR APPROVED EQUAL		BURNDY CONNECTIONS OR APPROVED EQUAL	
 <b>PARALLEL HORIZONTAL CONDUCTORS</b> PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT	 <b>HORIZONTAL STEEL SURFACE TO FLAT STEEL SURFACE OR HORIZONTAL PIPE</b> TYPE HS	 <b>VERTICAL PIPE</b> CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	 <b>BOND JUMPER</b> FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2
 <b>THROUGH CABLE TO GROUND ROD</b> THROUGH CABLE TO TOP OF GROUND ROD TYPE GT	 <b>VERTICAL STEEL SURFACE</b> CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS		 <b>COPPER LUGS</b> TWO HOLE - LONG BARREL LENGTH TYPE YA-2



**1** TWO HOLE LUG CONNECTION DETAIL  
SCALE: N.T.S.



**2** GROUND BAR DETAIL  
SCALE: N.T.S.



**3** TEST WELL DETAIL  
SCALE: N.T.S.

**T-Mobile**  
7668 WARREN PARKWAY  
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FRISCO, TX 75034

PLANS PREPARED FOR:  
**SBA**  
8051 CONGRESS AVE  
BOCA RATON, FL 33487

**SMW**  
ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

CA#: TX F-9617  
**STATE OF TEXAS**  
JUDSON C. SOMMERVILLE  
138786  
LICENSED PROFESSIONAL ENGINEER  
01/14/2022

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SHEET NAME:  
**ELECTRICAL & GROUNDING DETAILS**

SMW #: 19-10142  
DESIGNER: --  
CHECKED BY: JE  
ENGINEER: JCS  
SHEET NUMBER:  
**E-6**



**Commercial Building Permit Checklist**

<b><u>ITEMS FOR SUBMITTAL</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>DIVISION</u></b>
<input type="checkbox"/> <b>Zoning and Platting has been completed</b>	The property has a filed plat and zoning is appropriate for Use	Planning
<input type="checkbox"/> <b>Completed Building Permit Application</b>	With all associated signatures and information. All blanks of the application must be completed with the requested information or N/A where appropriate	All
<input type="checkbox"/> <b>Commercial Permit Checklist</b>	All items noted on the "Commercial Building Permit Checklist" must be addressed on the submitted building plans. Please discuss your project with a member of the building division for clarification of any noted item.	Building/Fire
<input type="checkbox"/> <b>Detailed Site Plan</b>	To scale, indicating all applicable setbacks, property line location, associated streets, and placement of proposed improvements. Please see samples provided.	All
<input type="checkbox"/> <b>1 Set of Plans</b>	Required for all new construction or significant modification of existing construction, per the building division staff. Please refer to additional instruction sheet regarding information required for commercial structures.	Building
<input type="checkbox"/> <b>Property Survey</b>	If available for all new construction including additions or expansions	All
<input type="checkbox"/> <b>Land Use Information</b>	Provide details of existing and proposed land use, including operations, personnel specifications, services provided, etc. (floor plan/layout required)	All
<input type="checkbox"/> <b>Parking Plan</b>	Required	Planning
<input type="checkbox"/> <b>Landscaping Plan</b>	Required for all non-residential projects	Planning
<input type="checkbox"/> <b>ADA Registration #</b>	For all non-residential projects over \$50,000 of valuation	Building
<input type="checkbox"/> <b>Energy Code</b>	Required	Building
<input type="checkbox"/> <b>Asbestos Survey</b>	Required for all alteration, renovation or Demolition	Building
<input type="checkbox"/> <b>Drainage Plan</b>	May be required for development. See Subdivision regulations.	Public Works
<input type="checkbox"/> <b>Digital Submission</b>	Submit all plans digitally	Building/Planning

**\*\*\* PRE-SUBMITTAL DETERMINATION:** If the project has been through pre-submittal meeting, input CASE # at top of form. A pre-submittal meeting is required if the project involves any of the following: Zoning change, platting or subdividing property, new structures, house conversion to non-residential, land disturbance > than 5,000 sq. feet, new parking lot, expansion or rehabilitation of existing parking lot, new water or sewer tap; **A PERMIT APPLICATION CANNOT BE ACCEPTED UNTIL AFTER THE PRE-SUBMITTAL MEETING.**





# COMMERCIAL - BUILDING PERMIT APPLICATION

Physical Address/Intersection: 580 W Vanderbilt St., Stephenville, TX 76401		Name of Project: DA01789B_ TX09257-A TMO NSD		Within a NFIP Floodway: <input type="radio"/> YES <input type="radio"/> NO	
Abstract/Addition:		Acres/Block:	Lot(s):	Applicant/Owner Phone Number: 480-208-6534	
Applicant/Owner: Anais Moody - SBA Comm. (Tower owner)			Applicant/Owner E-mail: amoody@sbsite.com		
Mailing Address: 2812 N Norwalk, Suite 122		City: Mesa	State: AZ	Zip: 85215	
Contractor's Name: Casson Mark Corp - Paul Casson	Contractor's Phone Number: 214-802-9398	Contractor's Mailing Address & Zip email: paul.casson@cmarkcorp.com		VALUATION (PARTS & LABOR ONLY) \$75,000	

CLASS OF WORK	STRUCTURE USE	STRUCTURE USE	WORK DESCRIPTION
<input type="checkbox"/> NEW	<input type="checkbox"/> Single Family	<input type="checkbox"/> Storage	Living Area: ___ #Units ___ ft <sup>2</sup>
<input checked="" type="checkbox"/> ADDITION	<input type="checkbox"/> Duplex	<input type="checkbox"/> Carport	Garage Area: ___ #Units ___ ft <sup>2</sup>
<input type="checkbox"/> ALTERATION	<input type="checkbox"/> Multi-Family	<input type="checkbox"/> Patio	Additions: ___ #Units ___ ft <sup>2</sup>
<input type="checkbox"/> REPAIR	<input checked="" type="checkbox"/> Other: cell tower	<input type="checkbox"/> Other: _____	Accessory: ___ #Units ___ ft <sup>2</sup>
<input type="checkbox"/> DEMOLITION	<b>STRUCTURE</b> <input type="checkbox"/> Attached <input type="checkbox"/> Detached		Primary Exterior Material: _____ Total Primary Ext. %: _____ Secondary Exterior Material: _____ Total Secondary Ext. %: _____

Mechanical Sub-Contractor's Name	Mechanical Contractor's Phone #	Mechanical Contractor's Mailing Address	Texas Contractor's License #
Electrical Sub-Contractor's Name	Electrical Contractor's Phone #	Electrical Contractor's Mailing Address	Texas Contractor's License #
Plumbing Sub-Contractor's Name	Plumbing Contractor's Phone #	Plumbing Contractor's Mailing Address	Texas Contractor's License #
Other's Name	Other's Phone #	Other's Mailing Address	Texas Other's License #

Architect Name	Architect Phone #	Architect Mailing Address	Texas Architectural License #
Structural Engineer Name SMW Engineering- Judson Sommerville	Structural Engineer Phone # 205-283-5720	Structural Engineer Mailing Address 730 E Park Blvd. Suite 204, Plano, TX 75074	Texas Engineering License #
Mechanical Engineer Name	Mechanical Engineer Phone #	Mechanical Engineer Mailing Address	Texas Engineering License #
Electrical Engineer Name	Electrical Engineer Phone #	Electrical Engineer Mailing Address	Texas Engineering License #
Plumbing Sub-Contractor's Name	Plumbing Engineer Phone #	Plumbing Engineer Mailing Address	Texas Engineering License #
Civil Engineer Name	Civil Engineer Phone #	Civil Engineer Mailing Address	Texas Engineering License #

**INCLUDED WITH APPLICATION**

(please refer to back page for reference)

- |  |  |  |   |
|--|--|--|---|
| <input checked="" type="checkbox"/> Site Plan                  | <input type="checkbox"/> TDLR #          | <input type="checkbox"/> MEP Plan        | <input type="checkbox"/> Landscaping Plan |
| <input type="checkbox"/> Survey                                | <input type="checkbox"/> COM check       | <input type="checkbox"/> Foundation Plan | <input type="checkbox"/> Irrigation Plan  |
| <input type="checkbox"/> Building Plan                         | <input type="checkbox"/> Asbestos Report | <input type="checkbox"/> Digital Plan    | <input type="checkbox"/> Civil Plan       |
| <input checked="" type="checkbox"/> Other: structural analysis |  |  |   |

**CITY OF STEPHENVILLE USE ONLY**

Received \_\_\_/\_\_\_/\_\_\_ .m.

Approved \_\_\_/\_\_\_/\_\_\_ .m.

Contacted \_\_\_/\_\_\_/\_\_\_ .m.

Current Zoning Classification \_\_\_\_\_

**NOTICE – PLEASE READ BEFORE SIGNING**

A minimum 48-hour review period begins at 9:00 a.m. on the day following receipt of this application. No work shall be performed, nor any accepted until a permit has been issued.

Applicant Signature: 	Applicants Name (Print): Anais Moody	Date: 2.16.22
--------------------------	---	------------------

Prior to issuance of a Building Permit, the following items should be submitted in the office of Community Development with an Application for Building Permit. After receiving the necessary items, a review period shall begin.

### COMMERCIAL / INDUSTRIAL STRUCTURES

1. A scale drawn\* site plan containing the following:
  - (a) All lot lines and lot dimensions
  - (b) All existing and proposed structures
  - (c) Distances between lot lines and buildings ( existing and proposed)
  - (d) Distances between buildings
  - (e) Finished floor elevations
  - (f) Proposed routing of drainage water showing all drain ways, curbs, retaining walls, etc.
  - (g) All required parking spaces and loading areas
  - (h) Driveway approach
  - (i) Neighboring Driveway Approach
  - (j) All existing & proposed utilities
2. A scale drawn\* plan of the building containing the following:
  - (a) All exterior walls and dimensions
  - (b) All interior walls and partitions
  - (c) Location of all plumbing fixtures, HVAC units and electrical appliances
  - (d) Engineered Mechanical, Plumbing, Electrical & Structural
3. Engineered drainage plan.
4. Landscape plan. *Landscape plan is not required to be prepared by a registered or certified professional).*
5. Was an asbestos survey performed in accordance with Texas Asbestos Health Protection Rules (TAHPR) and the National Emission Standards for Hazardous Air Pollutants (NESHAP)? Yes \_\_\_\_\_ No\* \_\_\_\_\_

Date of survey: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ TDH Inspector License No. \_\_\_\_\_

*\*If the answer is No, then as the owner/operator of the renovation/demolition site, I understand that it is my responsibility to have this asbestos survey conducted in accordance with Texas Asbestos Health Protection Rules (TAHPR) and the National Emission Standards for Hazardous Air Pollutants (NESHAP) prior to a renovation/demolition permit being issued by the City of Stephenville.*

6. Com Check report
7. TDLR – AB Registration Number: \_\_\_\_\_
8. Provide a digital format of a final site plan, floor plan and drainage plan on all commercial and multi-family structures.

#### Digital Submittal

- a. All electronic files are to be provided in AutoCAD 2009 dwg. file format or later versions.
  - b. All external references files must be combined with the dwg submittal.
  - c. CD-R may be 650MB, 700MB or larger, (NO ZIP or EXE files shall be submitted with drawings.)
9. NOTE: Under certain conditions, some or all of the following may be required:
    - a. Structural engineering as per TEPA rules
    - b. Other items as may be required by the Staff

### NOTICE – PLEASE READ BEFORE ISSUING A PERMIT

*Two (2) copies of the Form Board Survey is required to be submitted to the City of Stephenville prior to any foundation inspection on all new structures.*



# GRADING & EXCAVATION APPLICATION

Application Date:		G & E Permit No:		START Date:	COMPLETION Date:
Abstract/Addition:		Acres/Block:	Lot(s):	Physical Address:	
Applicant/Owner:			Name of Project:		
Mailing Address:			City:	State:	Zip:
Phone Number:	Fax Number:	E-mail:		Within a NFIP Floodway: <input type="radio"/> YES <input type="radio"/> NO	

**TASK (check appropriate areas)**

- SOIL EXCAVATION
- ASPHALT REMOVAL
- SIDEWALK REMOVAL
- OTHER \_\_\_\_\_
- Subdivision
- Commercial
- Industrial
- Alteration
- Placement of Fill
- Other: \_\_\_\_\_

**Location, Depth and Description of Work: (Site drawings required)**

**INVESTIGATION RESULTS**

- Electrical Power Distribution (Red)
- Storm Drain Lines (Purple)
- Communication (Orange)
- Natural Gas Distribution (Yellow)
- Sanitary Sewer Lines (Green)
- Television Cable (Orange)
- Water Distribution (Blue)
- Irrigation (White)

2) Is any additional information required? (  ) YES (  ) NO  
If so, please state: \_\_\_\_\_

3) Were any other federal, state or local permits submitted? (  ) YES (  ) NO  
If so, please state: \_\_\_\_\_

**Applicant/Spotters Comments:**

Applicant Signature:	Applicants Name (Print):	Date:
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**Permit Conditions:**

1. This permit is task specific (*Identified on page 1 of this application and approved plans*).
2. This permit is required for each excavation activity over 12 inches or any excavation beneath concrete sidewalks or asphalt.
3. This permit is valid from the proposed start date to the proposed completion date. The Excavator is responsible for maintaining spotter's marks after permit is issued. Request a Re-spot if spotter's marks are not clearly visible.
4. This permit and all attachment shall be kept at the excavation site during excavation activities.
5. This permit is not intended to be a complete work release document. Other documents or attachment may be required prior to work.
6. This permit is not intended for the installation of utility lines and foundations.

**General Requirements:**

A Grading and Excavation Permit is required for the following activates:

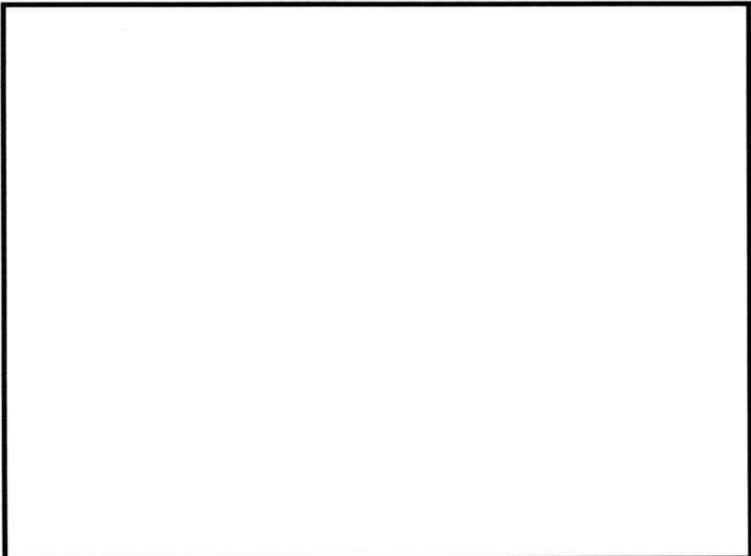
1. Digging, saw cutting, drilling, coring or trenching into soil, concrete sidewalks, or asphalt to a depth greater than 12 inches or into soil beneath concrete sidewalks or asphalt.
2. Excavation into subsurface soil in buildings beneath slabs greater than two inches.
3. Scraping, blading or excavation of any area previously undisturbed or that appears to be undisturbed, such as areas covered with native vegetation, and blading or improvements to previously unimproved roads or paths.
4. Any additional fill material introduced to the site for development.

**Suspending Work!**

Any and all individuals working under this permit are authorized and required to stop any work activity if:

- Conditions differ from those that have been investigated.
- Unusual odors are discovered during earth work activities.
- Soils are stained
- Buried debris or visible signs of contaminations are observed.
- There is any question about the validity of this permit or accuracy of the spotting or utility location.
- Any utility line located, not identified by the site plan and/or spotter.

**Pre-Site Picture:**



**System Contacts:**

<b>In the event of an <span style="color: red;">EMERGENCY:</span> Dial 911</b>	
<i>Utility</i>	<i>Phone No.</i>
<b>Electrical, Gas, Communication</b>	Dig Tess - Dial 811
<b>Water and Sanitary Sewer</b>	City of Stephenville - (254)918-1257
<b>Cable Television</b>	Northland Cable (254) 918-4189





WATER/SEWER TAP APPLICATION  
298 W Washington St, Stephenville, TX 76401  
(254) 918-1213 \* [Permits@StephenvilleTx.Gov](mailto:Permits@StephenvilleTx.Gov)

DATE: \_\_\_\_\_  
PROJECT ADDRESS: \_\_\_\_\_  
OWNER'S NAME: \_\_\_\_\_  
OWNERS' PHONE NUMBER: \_\_\_\_\_  
EMAIL: \_\_\_\_\_

CHECK ITEMS REQUESTED BELOW

WATER TAP CHARGES: STREET REPAIR COSTS ARE ADDITIONAL- SEE BELOW

3/4 INCH TAP	\$726.00	_____
1 INCH TAP	\$899.00	_____
1 1/2 INCH TAP	\$1,436.00	_____
2 INCH TAP	\$1,949.00	_____

SEWER TAP CHARGES: STREET REPAIR COSTS ARE ADDITIONAL- SEE BELOW

4 INCH TAP	\$504.00	_____
6 INCH TAP	\$602.00	_____
MANHOLE	ATCOST	_____

The city provides residential and commercial water meters up to 1-inch diameter. The cost of city-approved water meters larger than 1-inch shall be borne by the developer. For an "at -cost" quote or information on construction Fire Hydrant contact customer service 254-918-1226 Lane Sharp [LSharp@stephenvilletx.gov](mailto:LSharp@stephenvilletx.gov)

**\*\*PLEASE NOTE THAT A WATER/SEWER TAP OR METER WILL NOT BE SET UNTIL A WATER ACCOUNT HAS BEEN OPENED\*\*\***

PERMIT #: \_\_\_\_\_ DATE: \_\_\_\_\_

ISSUED BY: \_\_\_\_\_

## Contractor Acknowledgements

**ONLY individual contractors should complete this form  
& MUST BE Signed by the \*\*MASTER LICENSE\*\* HOLDER.**

**Construction Address:** \_\_\_\_\_

General Contractor/Builder: \_\_\_\_\_ Cell # \_\_\_\_\_

GC/Builders Address: \_\_\_\_\_ Office Phone: \_\_\_\_\_

### **MASTER ELECTRICIAN'S STATEMENT**

I, \_\_\_\_\_, do acknowledge that **I will be doing the electrical work** for the Construction at the above stated address. I further acknowledge that the above stated contractor will be obtaining the electrical permit for this project.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ License # \_\_\_\_\_

Company name, address & phone number: \_\_\_\_\_

### **MASTER PLUMBER'S STATEMENT**

I, \_\_\_\_\_, do acknowledge that **I will be doing the plumbing work** for the Construction at the above stated address. I further acknowledge that the above stated contractor will be obtaining the electrical permit for this project.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ License # \_\_\_\_\_

Company name, address & phone number: \_\_\_\_\_

### **MECHANICAL/HVAC STATEMENT**

I, \_\_\_\_\_, do acknowledge that **I will be doing the mechanical/HVAC work** for the Construction at the above stated address. I further acknowledge that the above stated contractor will be obtaining the electrical permit for this project.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_ License

# \_\_\_\_\_ Company name, address & phone  
number: \_\_\_\_\_

# Board of Adjustment STAFF REPORT



**SUBJECT:** Case No.: V2022-004

Applicant Daniel Toof is requesting a variance from Section 154.05.3.D.(6) relating to minimum depth of rear setback requirements for property located at 191 Davis Avenue, being parcel R76719 of S5200 McAlister Second, Block 2, Lots 17 of the City of Stephenville, Erath County, Texas.

**MEETING:** Board of Adjustment – April 21, 2022

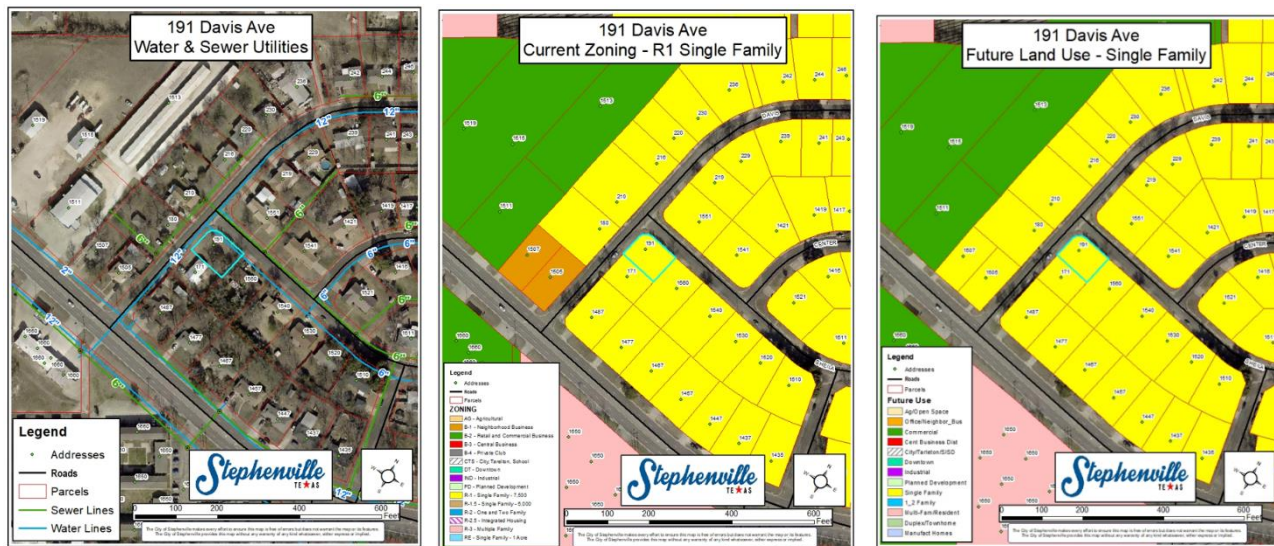
**DEPARTMENT:** Development Services

**STAFF CONTACT:** Steve Killen

## BACKGROUND:

Mr. Toof is requesting a variance to allow for the construction of single family residence. Mr. Toof, based on the footprint of the structure, will not be able to meet the setback requirements and meet the minimum of 1500 square foot. He is requesting a 10' variance, reducing the rear setback to 15'.

## PROPERTY PROFILE:



## ZONING REQUIREMENTS:

### 5.3.D Height, Area, Yard and Lot Coverage Requirements.

- (1) Maximum density: one dwelling unit per lot.
- (2) Minimum lot area: 7,500 ft<sup>2</sup>.
- (3) Minimum lot width and lot frontage: 75 feet.
- (4) Minimum lot depth: 100 feet.
- (5) Minimum depth of front setback: 25 feet.

(6) Minimum depth of rear setback: 25 feet.

(7) Minimum width of side setback:

(a) Internal lot: seven feet.

(b) Corner lot: 25 feet from intersecting side street.

### **VARIANCE:**

#### Section 154.21.1.1

1. A variance from the literal enforcement of the Zoning Ordinance in order to achieve a reasonable development of the property. Whenever owing to exceptional and extraordinary conditions, the literal enforcement of the zoning regulations will result in unnecessary hardship in the development of the property, an appeal for a variance may be filed with the Board of Adjustment.

2. When a property owner can show that a strict application of the terms of this ordinance relating to the use, construction or alteration of buildings or structures or the use of land will impose upon him or her practical difficulties or particular hardship, the Board may consider and allow variations of the strict application of the terms of this ordinance if the variation are in harmony with the general purpose and intent of this ordinance, and the Board is satisfied, under the evidence heard by it, that a granting of the variation will not merely serve as a convenience to the applicant, but will alleviate some demonstrable hardship or difficulty so great as to warrant a variation from the Zoning Regulations.

3. The Board may authorize a variance where by reason of exceptional narrowness, shallowness, or shape of specific piece of property of record at the time of the adoption of this ordinance, or by reason of exceptional situation or condition of a specific piece of property, the strict application of a provision of this ordinance would result in peculiar and exceptional practical difficulties and particular hardship upon the owner of the property and amount to a practical confiscation of the property as distinguished from a mere inconvenience to the owner, provided the variation can be granted without substantial detriment to the public good, and without substantially impairing the general purpose and intent of the comprehensive plan as established by the regulations and provisions contained in this ordinance.

(a) Papers required. An appeal for a variance shall include:

1. A site plan, drawn to scale, showing the location and dimension of the lot and of all existing and proposed improvements:

a. When an appeal is based upon hardship resulting from sharp changes in topography or unusual terrain features, the site plan shall

include topographic information related to known base points of surveys, and profiles of the particular problem involved, including relationship to topographic features of adjoining properties.

b. When an appeal is submitted for variance of side yard or rear yard requirements, the applicant shall provide the same information for

the properties adjoining the common lot line as may be applicable to the appealed requirements.

c. When an appeal is submitted for a variance from front yard setback, or for side yard setback on aside street, the applicant shall furnish a strip map showing the setback of main walls of all buildings on the same side of the street within a distance of 200 feet of the applicant's property.

2. A statement of facts and reasons why the Zoning Regulations should not be applied to the property in question and how the standards governing the Board's action would be satisfied; and

3. A statement by the Enforcing Officer citing the reasons for refusing to issue a permit under the plans submitted.

(b) Basis for action.

(1) Before acting on an appeal for variance the Board shall consider:

a. The facts filed with the application;

- b. The testimony presented at the public hearing on the appeal;
  - c. The City Staff's technical report on the appeal; and d. The Board's findings in its field inspection of the property.
- (2) The Board may grant an appeal, subject to such terms and conditions as it may fix, provided

**ALTERNATIVES:**

1. Approve the Variance Request
2. Deny the Variance Request



**BOARD OF ADJUSTMENT  
APPEAL APPLICATION**

1. APPLICANT/OWNER: Daniel Toof  
First Name Last Name

ADDRESS: 142 Crenshaw Ct 254-405-2032  
Street/P.O. Box Phone No

Stephenville TX 76401  
City State Zip Code

2. PROPERTY DESCRIPTION: 191 Davis Ave  
Street Address

3. LEGAL DESCRIPTION: 17 2 Mealster Second  
Lot(s) Block(s) Addition

4. PRESENT ZONING: \_\_\_\_\_  
Zoning District Title

**APPLICANTS REQUEST FOR AN APPEAL PERTAINS TO THE FOLLOWING:**

- FOR INTERPRETATION of the meaning or intent of the Zoning Ordinance.
- FOR A SPECIAL EXCEPTION for use or development of property.
- A VARIANCE from the literal enforcement of the Zoning Ordinance in order to achieve a reasonable development of property.

5. APPLICANTS REQUEST IS AS FOLLOWS: Request adjustmat of buildings  
backset to rear of new proposed house to 15'  
instead of 25' 10' Variance  
(Attach an additional sheet if necessary).

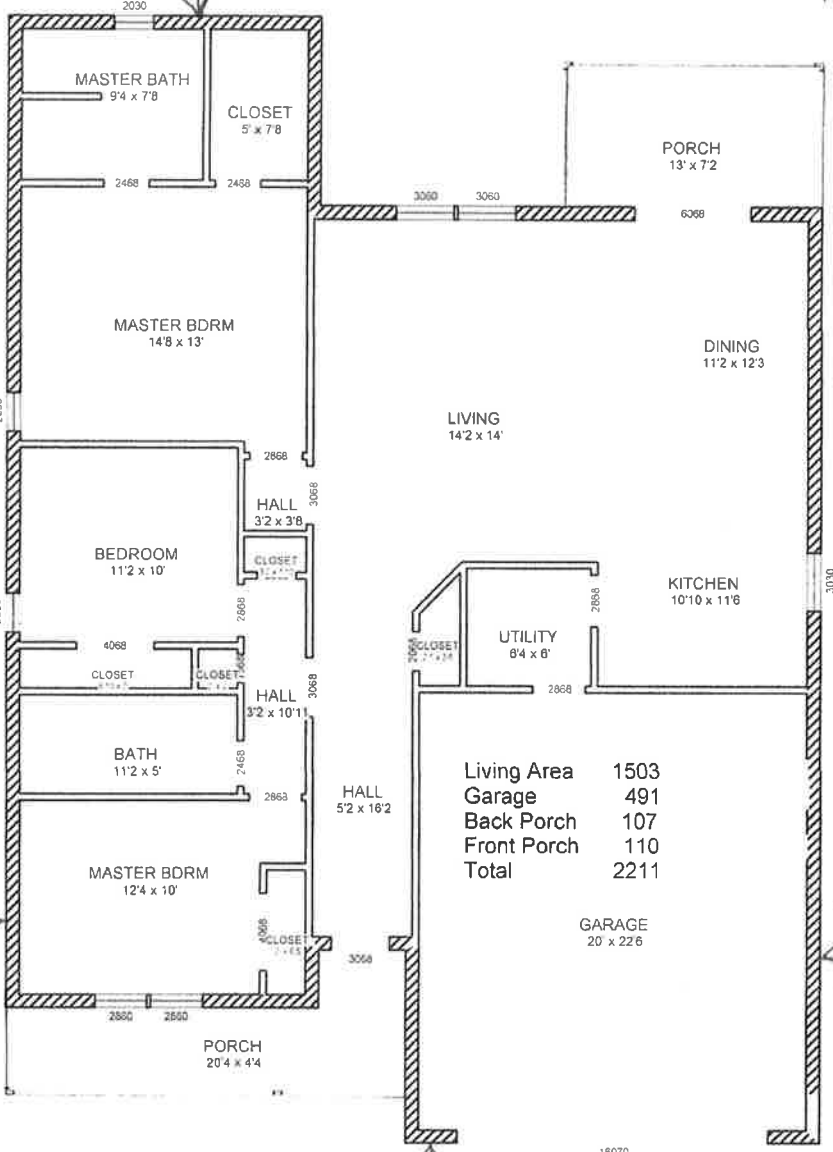
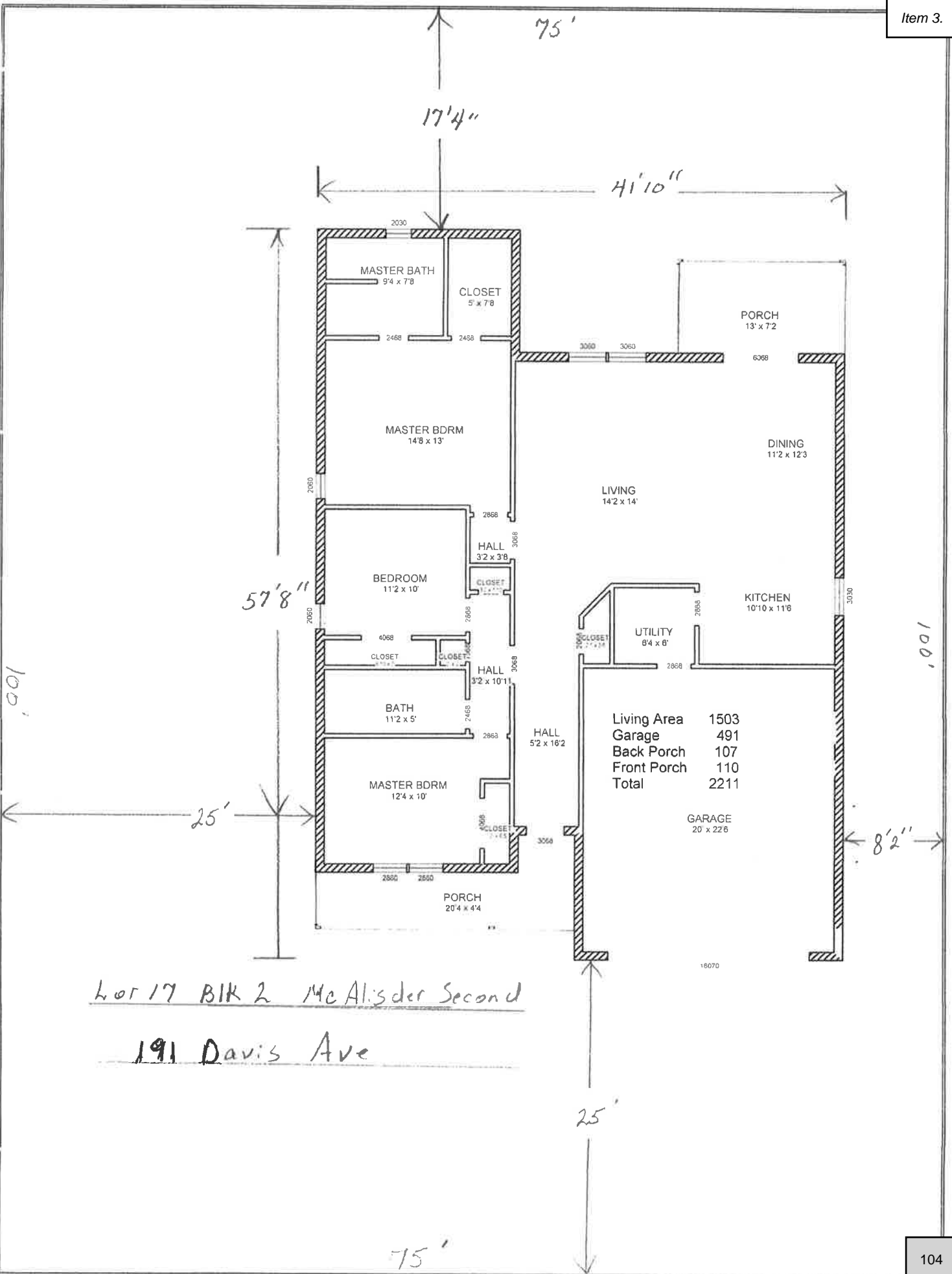
[Signature]  
Signature of Applicant

\_\_\_\_\_  
Date

Christina Ma  
Signature of City Official Received

03-15-2022  
Date Received by  
Community Dev. Dept.

Sheila

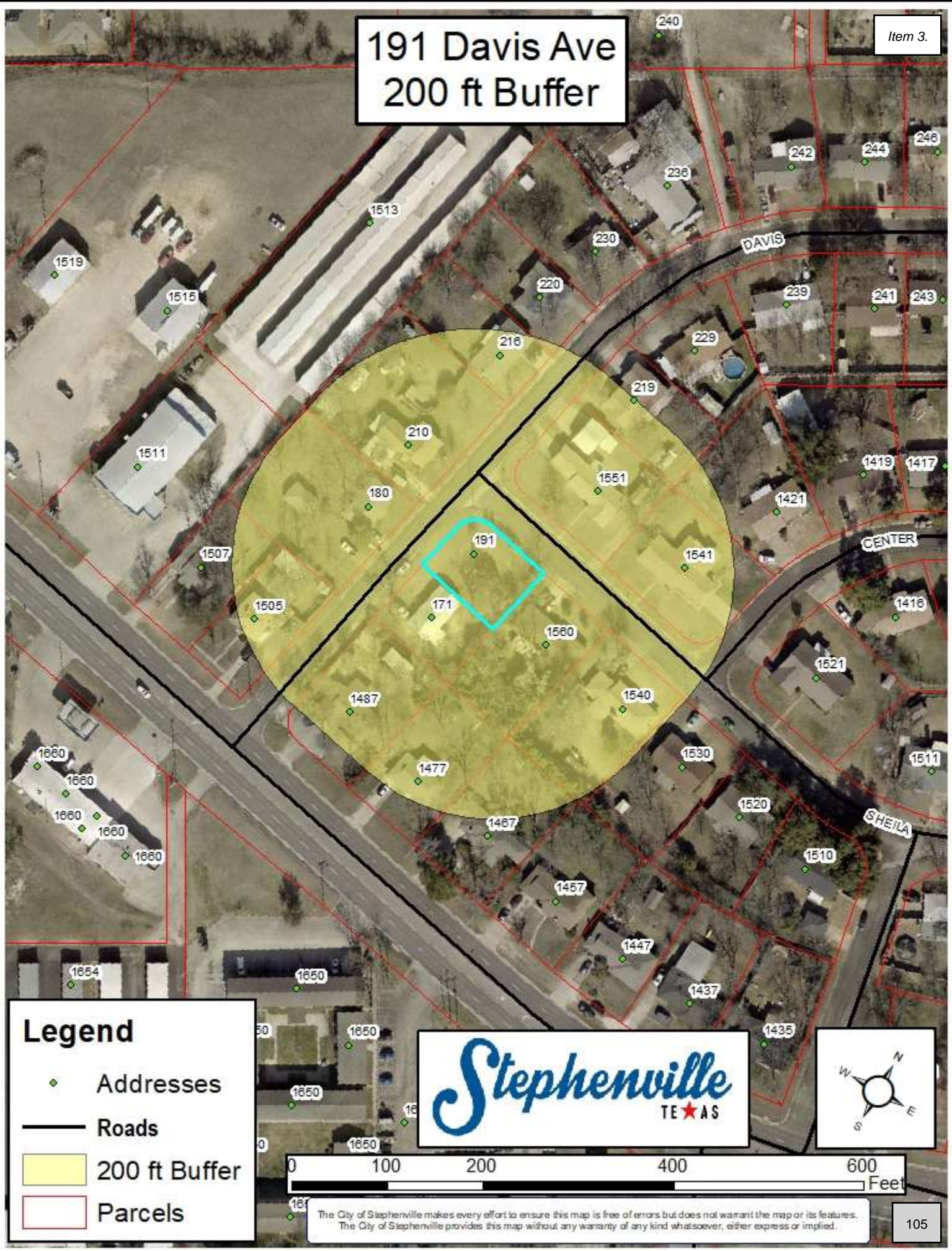


Lot 17 Bk 2 McAlister Second  
191 Davis Ave



# 191 Davis Ave 200 ft Buffer

Item 3.



## Legend

- ◆ Addresses
- Roads
- 200 ft Buffer
- Parcels

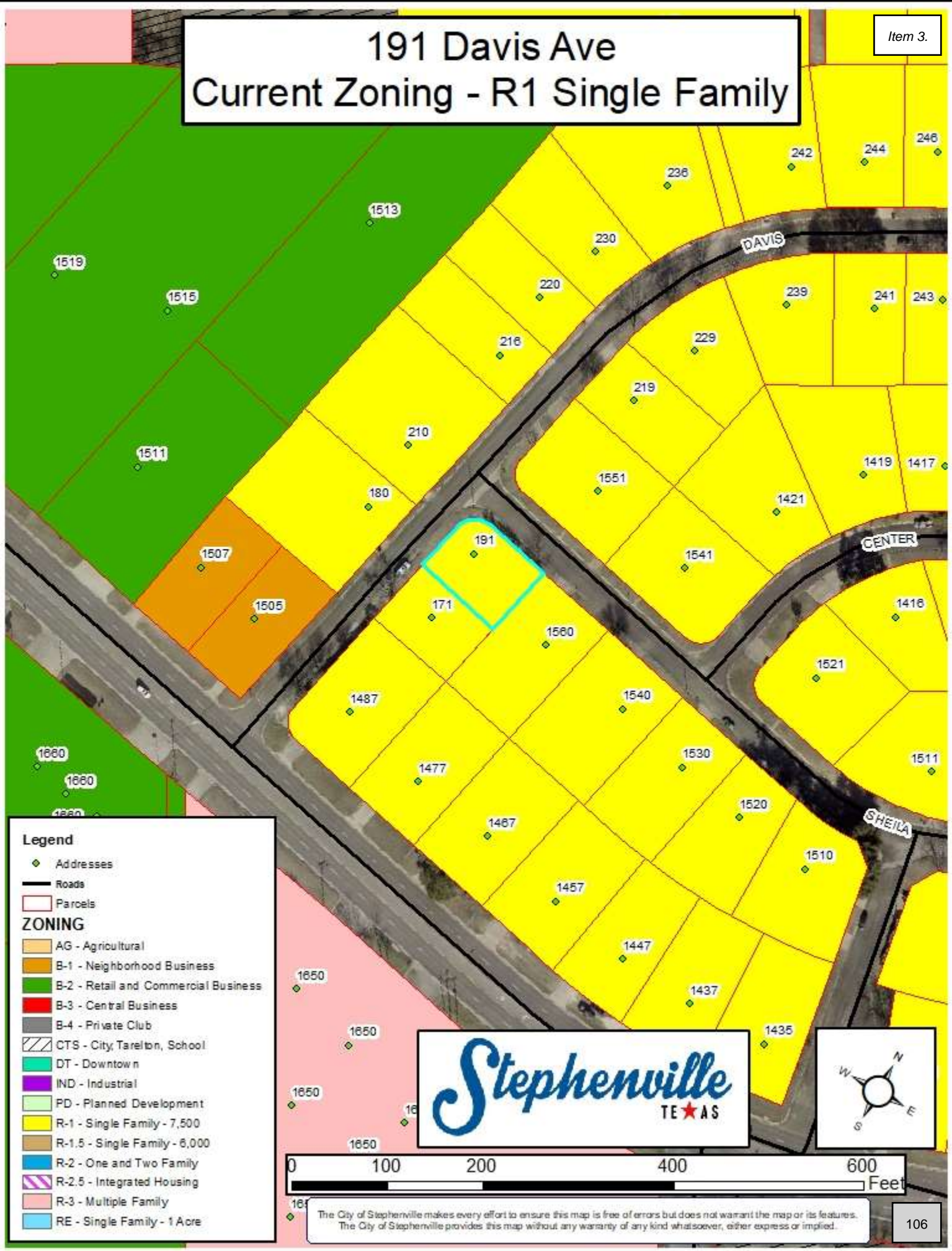


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# 191 Davis Ave Current Zoning - R1 Single Family

Item 3.



### Legend

- ◆ Addresses
- Roads
- ▭ Parcels
- ZONING**
- AG - Agricultural
- B-1 - Neighborhood Business
- B-2 - Retail and Commercial Business
- B-3 - Central Business
- B-4 - Private Club
- ▨ CTS - City, Tarrant, School
- DT - Downtown
- IND - Industrial
- PD - Planned Development
- R-1 - Single Family - 7,500
- R-1.5 - Single Family - 6,000
- R-2 - One and Two Family
- R-2.5 - Integrated Housing
- R-3 - Multiple Family
- RE - Single Family - 1 Acre

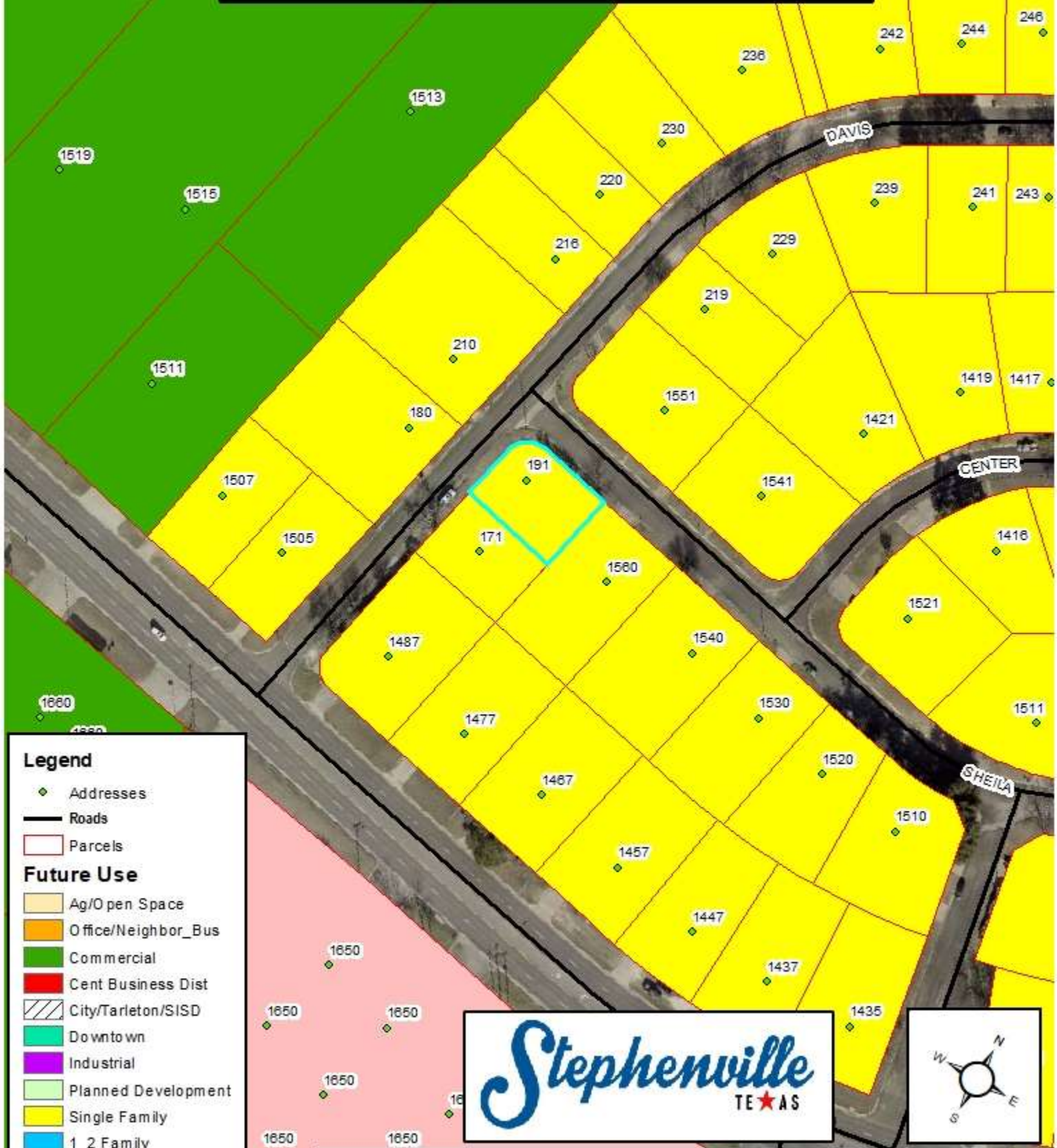


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# 191 Davis Ave Future Land Use - Single Family

Item 3.



**Legend**

- ◆ Addresses
- Roads
- Parcels

**Future Use**

- Ag/Open Space
- Office/Neighbor\_Bus
- Commercial
- Cent Business Dist
- City/Tarleton/SISD
- Downtown
- Industrial
- Planned Development
- Single Family
- 1\_2 Family
- Multi-Fam/Resident
- Duplex/Townhome
- Manufact Homes



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# 191 Davis Ave Water & Sewer Utilities

Item 3.



### Legend

- ◆ Addresses
- Roads
- ▭ Parcels
- Sewer Lines
- Water Lines



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# 191 Davis Ave. Address List

Item 3.

Parcel ID	Parcel Address	Parcel Owner	Owner Address	City	State	Zip Code
R000032655	180 DAVIS AVE	BROWN CARRIE	180 DAVIS AVE	STEPHENVILLE	TX	76401
R000032625	219 DAVIS AVE	CONNELLY DENNIS D & GARRY G	219 DAVIS AVE	STEPHENVILLE	TX	76401
R000032623	1541 SHEILA	HALEY BARBARA JUNE	1541 SHEILA	STEPHENVILLE	TX	76401
R000032580	1477 LINGLEVILLE RD	HARGROVE ERIC & NATASHA	14777 N US281	STEPHENVILLE	TX	76401
R000032658	1507 LINGLEVILLE RD	HARRIS DALE & DEBORAH	102 WILLOW LANE	STEPHENVILLE	TX	76401
R000032579	1467 LINGLEVILLE RD	HOLLAND JASON & COURTNEY HOLLAND	1467 LINGLEVILLE RD	STEPHENVILLE	TX	76401
R000032584	1540 SHEILA	HOLLAND KENNETH & JOYCE	1540 SHEILA	STEPHENVILLE	TX	76401
R000032654	210 DAVIS AVE	LEJEUNE FREDDIE	210 DAVIS AVE	STEPHENVILLE	TX	76401
R000032656	1505 LINGLEVILLE RD	LUCAS ROBERT PAUL & FRIEDA LINDA	1505 LINGLEVILLE	STEPHENVILLE	TX	76401-0000
R000032583	1560 SHEILA	MORALES JULIAN & JOEY DEANN MORALES	1560 SHEILA	STEPHENVILLE	TX	76401
R000032651	220 DAVIS AVE	MORRIS WILLIAM	220 DAVIS AVE	STEPHENVILLE	TX	76401
R000032652	216 DAVIS AVE	NELSON KAREN E	455 PR1093	STEPHENVILLE	TX	76401-0000
R000032624	1551 SHEILA	RAMSEY JANUS DON	1551 SHEILA DR	STEPHENVILLE	TX	76401-0000
R000032581	1487 W LINGLEVILLE RD	SHELL JOHN	1487 W LINGLEVILLE ROAD	STEPHENVILLE	TX	76401-2123
R000032585	1530 SHEILA	THREE SISTERS EQUITY LP	181 S GRAHAM	STEPHENVILLE	TX	76401
R000076719	191 DAVIS	TOOF DANIEL & DANIELLE	142 CRENSHAW CT	STEPHENVILLE	TX	76401
R000032582	171 DAVIS AVE	TOOF DANIEL & DANIELLE	142 CRENSHAW CT	STEPHENVILLE	TX	76401
R000032622	1421 CENTER	WADE MICHAEL R & LINDA G	1421 CENTER DR	STEPHENVILLE	TX	76401-0000