City of Coconut Creek, Florida

Telecommunications Site Review
Equipment Upgrade Application

CityScape Consultants, Inc.

7050 West Palmetto Park Road, #15-652
Boca Raton, FL 33433
Tel: 877.438.2851 Fax: 877.220.4593

March 31, 2016

Mr. Scott Stoudenmire
City of Coconut Creek
Deputy Director of Sustainable Development
4800 West Copans Road
Coconut Creek, FL 33063

RE: T-Mobile – (842800 – TMO 700)
Coconut Creek (3601 Vinkemulder Road)

Dear Mr. Stoudenmire,

At your request, on behalf of the City of Coconut Creek ("City"), CityScape Consultants, Inc. ("CityScape") in its capacity as telecommunications consultant for the City, has considered the merits of the above referenced application submitted by Crown Castle on behalf of T-Mobile USA ("Applicant") to upgrade equipment on an existing one hundred ninety (190) foot *lattice* tower. The tower is owned by Crown Castle International and is located at 3601 Vinkemulder Road, Coconut Creek, Florida, *see Figure 1*.

Support Structure & Equipment

The purpose of the proposal is to allow the Applicant to install new equipment for 4G LTE service, which will support higher speed wireless broadband. The proposed modifications to the tower equipment will occur at the one hundred sixty-five (165) foot level, *see Appendix, Exhibit A.* The Applicant currently maintains nine (9) panel antennas (3 per sector) and associated equipment (RRUs/TMAs, etc.) and fourteen (14) feed lines. The Applicant is removing ten (10) RRU's and replacing with twelve (12) RRUs. The new antenna configuration is depicted in *Appendix, Exhibit B*

The Applicant previously submitted applicable letters of compliance with all Federal Communications Commission (FCC) guidelines regarding Radio Frequency (RF) energy and exposure limits and RF interference with other radio services in a letter dated November 19, 2012.

CityScape Consultants, Inc.

Structural Analysis

The Applicant provided a new structural analysis, prepared by GPD Group, dated March 3, 2016. The report indicates that the structure was calculated using ANSI/TIA-222-G and the "C" exposure category. The final configuration will have a new stress rating of 83.9% (foundation) and 103.1% (tower), just under the maximum allowed of 105%, see *Appendix, Exhibit C*. It is noted that the previous analysis from 2014 indicated the loading was 103.5%. The addition of two RRUs herein is minor. The 2014 analysis included a small 2.4GHz broadband antenna and mount at the 137 foot level which does not appear on the current study. The latest analysis also notes a "modification inspection" (no date shown) was made; thus it is believed that this information is the most accurate and that the mount at 137 feet is now empty as noted. Any future additions should be closely monitored to ensure the tower is not overloaded.

Under the Middle Class Tax Relief and Job Creation Act of 2012 ("The Act") any personal wireless facility collocation, modification or upgrade may qualify for streamlined processing. Furthermore, under Section 6409(a) it can qualify for administrative approval if the request meets six criteria, most notably (1) it does not increase the structure height by 10% or 20 feet, whichever is greater, (2) it does not increase the structure width by 20 feet and (3) it does not require any excavation outside the existing ground compound. Section 6409(a) further states that if an application meets the criteria, the application should be approved and not denied. CityScape has determined this application complies with the Act and should be approved.

The submitted application conforms to the requirements of City codes and State of Florida wind codes and structural integrity. Therefore, it is CityScape's recommendation that the City ***approve*** the application with the following conditions:

The facility shall remain secured and protected from unauthorized personnel.

I certify that to the best of my knowledge all of the information included herein is accurate at the time of this report. CityScape is only employed by local governments and has unbiased opinions. All recommendations are based on technical merits without prejudice, according to prevailing laws and codes.

Respectfully submitted,

Jonathan N. Edwards, P.E.
CityScape Consultants, Inc.

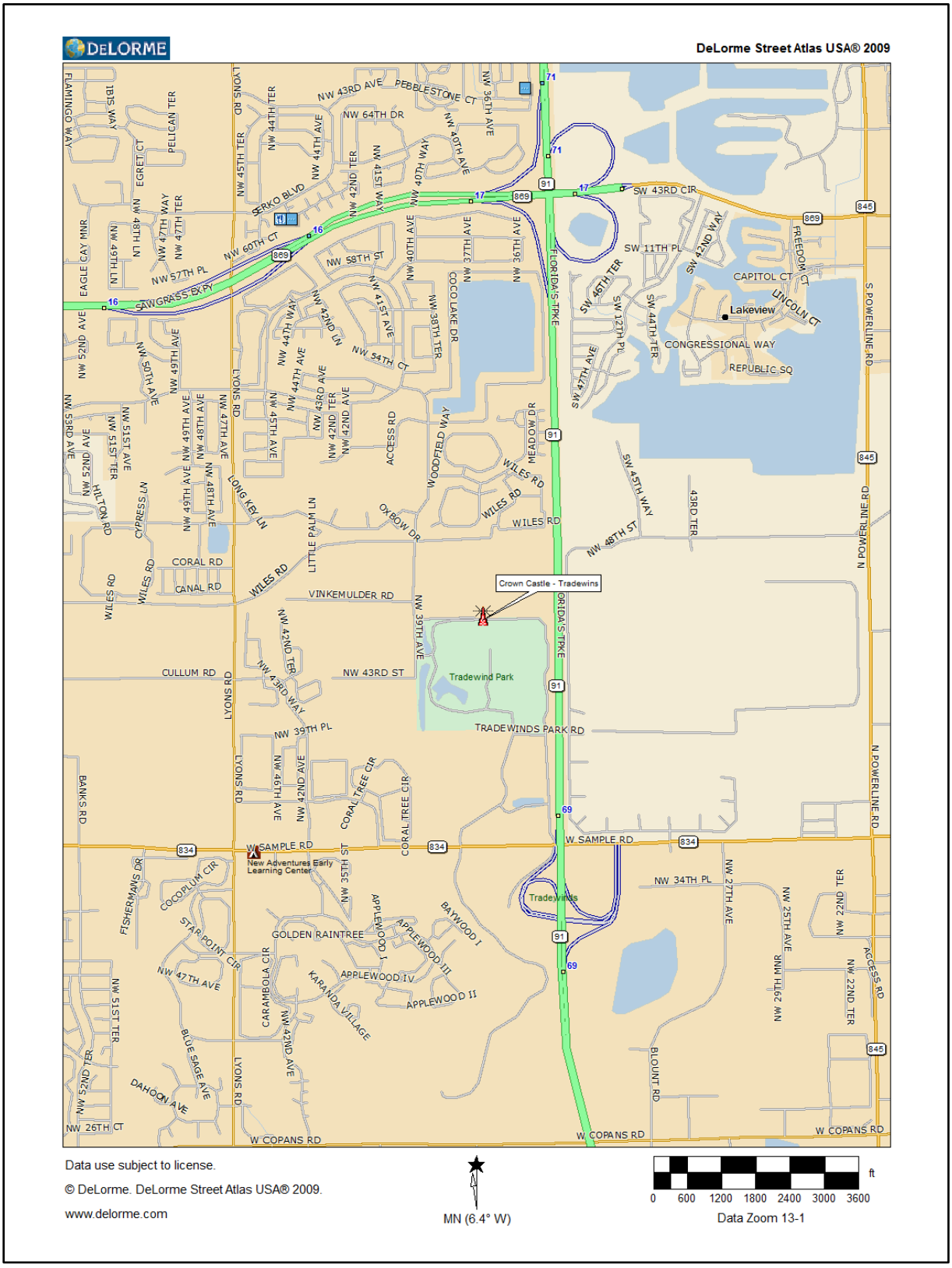

Figure 1 – Site Location

Appendix

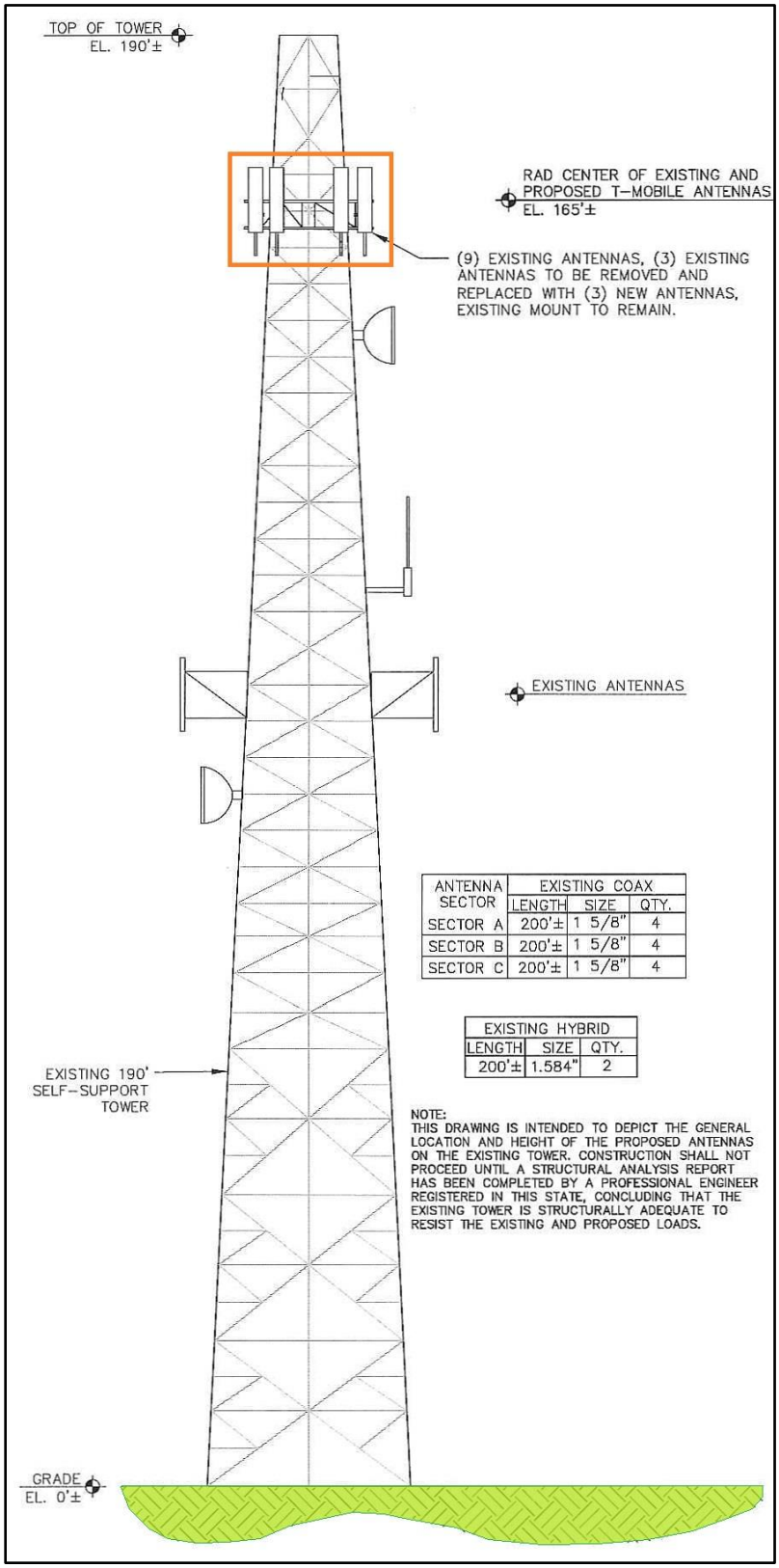

Exhibit A - Existing Support Structure

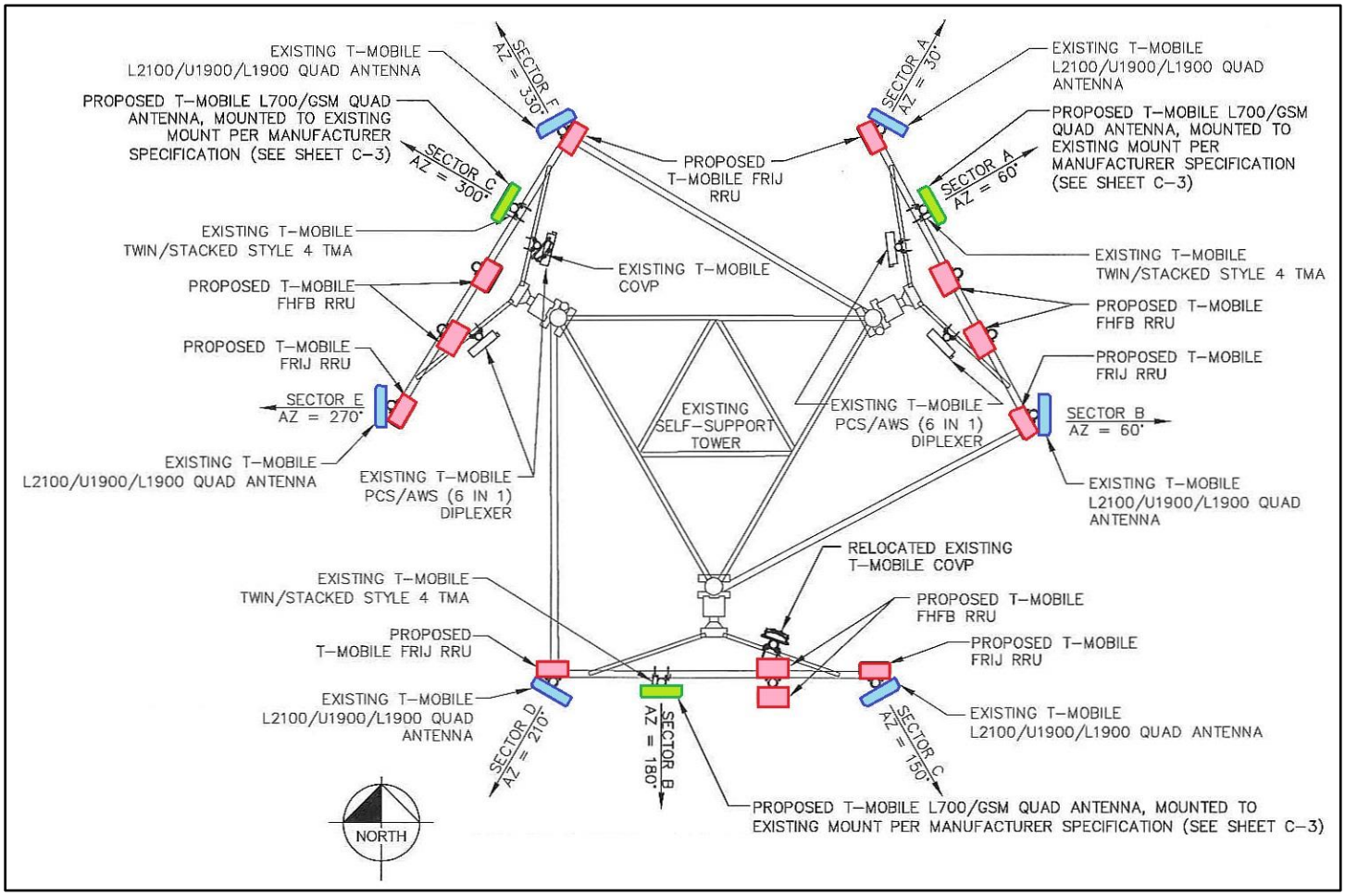

Exhibit B –Proposed Antenna Configuration

CityScape Consultants, Inc.

Date: **March 3, 2016**

GPD GROUP, INC.

Angela Harris
Crown Castle
12725 Morris Road Extension Suite 400
Alpharetta, GA 30004
(678) 366-1275

520 S. Main St., Suite 2531
Akron, OH 44311
(614) 859-1607
dpalkovic@gpdgroup.com

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	6FB1007A
	Carrier Site Name:	Tradewinds AT&T Tower
Crown Castle Designation:	**Crown Castle BU Number:**	842800
	Crown Castle Site Name:	FL01
	Crown Castle JDE Job Number:	367384
	Crown Castle Work Order Number:	1201182
	Crown Castle Application Number:	335241 Rev. 0
Engineering Firm Designation:	**GPD Project Number:**	2016777.842800.08
Site Data:	**4470 Northwest 39th Avenue, Pompano Beach, Broward County, FL 33073** **Latitude *26° 17' 7.11"*, Longitude *-80° 10' 22.04"*** **192.3 Foot - Modified Rohn Self Support Tower**	

Dear Angela Harris,

GPD is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 878010, in accordance with application 335241, revision 0.

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

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

Sufficient Capacity

This analysis has been performed in accordance with the 2014 Florida Building Code, 5th Edition, based on an ultimate 3-second gust wind speed of 170 mph per Section 1620.2, as required by the Exception of Section 1601.1. Exposure Category C and Risk Category II were used in this analysis.

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

Structural analysis prepared by: Eric Schnaus

Respectfully submitted by:

Christopher J. Scheks, P.E.
Florida #: 78737

CHRISTOPHER J. SCHEKS LICENSE No. 78737 STATE OF FLORIDA PROFESSIONAL ENGINEER

3/3/16

NEW RATING 103.1%

Exhibit C – Structural Analysis