



GROWTH AND RESOURCE MANAGEMENT DEPARTMENT  
PLANNING AND DEVELOPMENT SERVICES DIVISION  
CURRENT PLANNING ACTIVITY  
123 W. Indiana Avenue, Room 202, DeLand, FL 32720  
(386) 943-7059

**PUBLIC HEARING:** February 11, 2014 - Planning and Land Development  
Regulation Commission (PLDRC)

**CASE NO:** S-14-014

**SUBJECT:** Special exception for a communication tower on Prime  
Agriculture (A-1) and Resource Corridor (RC) zoned property.

**LOCATION:** Osteen Maytown Road, Osteen

**APPLICANT:** James Morris, attorney for owner

**OWNER:** JAS Properties

**STAFF:** Carol McFarlane, AICP, Planner II

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## I. SUMMARY OF REQUEST

The applicant is requesting approval of a 225-foot monopole communication tower on a 419-acre parcel. The anchor tenants at the proposed tower will be Verizon Wireless and AT&T Mobility with the tower capable of accommodating up to five wireless service providers. Also, the applicant is requesting a waiver to section 72-293(23)(h)(2) and (3), *Landscaping*, to waive the planting requirements around the base of the tower.

Specifically, the applicant is requesting a:

Special exception for a communication tower exceeding 70 feet in height above ground level (225-foot monopole tower) and a waiver to section 72-293(23)(h)(2) and (3), *Landscaping*, on Prime Agriculture (A-1) and Resource Corridor (RC) zoned property.

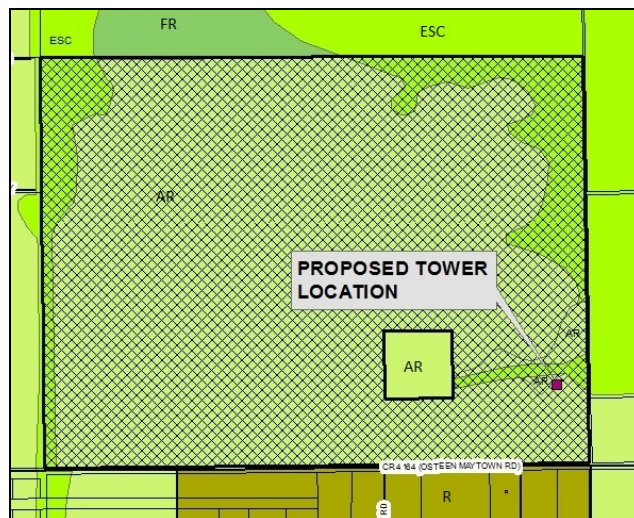
*Staff Recommendation:* Forward to county council with a recommendation of approval with the staff recommended conditions.

## II. SITE INFORMATION

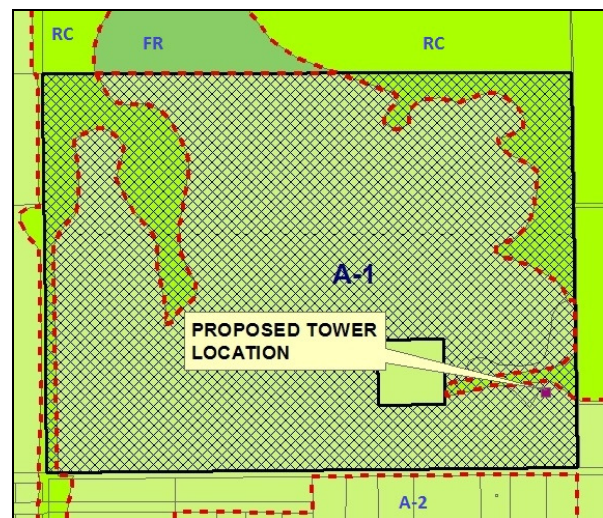
1. Location: The property is located on the north side of Osteen Maytown Road at its intersection of Shoreline Drive, in the community of Osteen.
2. Parcel Number(s): 9211-00-00-0020
3. Property Size:  $\pm$  419 acres
4. Council District: 3
5. Zoning: A-1, Prime Agriculture and RC, Resource Corridor
6. Future Land Use: AR, Agricultural Resource and ESC, Environmental Systems Corridor
7. ECO Map: No
8. NRMA Overlay: Yes
9. Adjacent Zoning and Land Use:

DIRECTION	ZONING	FUTURE LAND USE	CURRENT USE
North:	FR and RC	FR and ESC	State Conservation Lands
East:	RC and A-1	ESC and AR	Vacant
South:	A-1 and A-2	R	Single-Family Residences
West:	A-1	AR	Single Family Residence and Pastureland

### 10. Location Maps



**Future Land Use Map**



**Zoning Map**

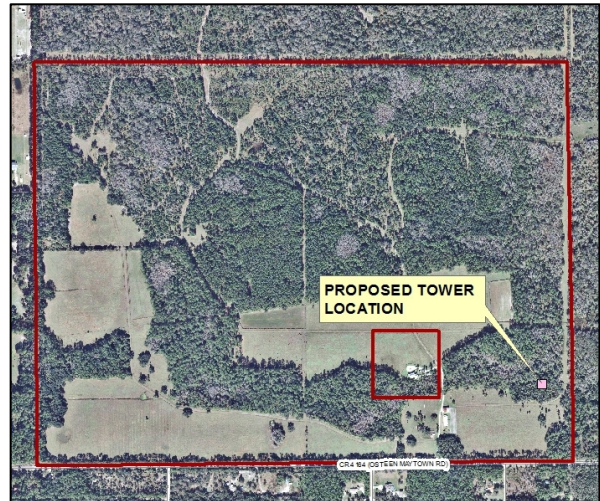
### III. BACKGROUND AND PREVIOUS ACTIONS

The subject 419-acre parcel is currently being used as pastureland and is developed with agricultural buildings. There is a ten-acre cutout of the parcel in the southeast quarter of the parcel that was developed as a single-family residence in 1995. The property has split zoning, with the majority being Prime Agriculture, and some portions of Resource Corridor in the wooded areas. The opposite side of Osteen Maytown Road is comprised of five and ten-acre residential lots that have been developed as exempt subdivisions.

### IV. REVIEW CRITERIA AND ANALYSIS

#### Special Exception Site Plan

The applicant is requesting a special exception for a communication tower exceeding 70 feet (225 feet) in height. The site plan submitted by the applicant shows a ground lease area of 80 feet by 80 feet located in the southeast area of the parcel. The tower will be separated from the east property line by 260 feet and from the south property line by 790 feet. A 25-foot access and utility easement provides access to the site from Osteen Maytown Road. According to the applicant's submitted plans, the proposed communication tower and lease area is designed to accommodate at least five tenants and their equipment. The initial tower tenants will be Verizon Wireless and AT&T Mobility. The lease area is proposed to be fenced with a locked entry gate.



**2012 Aerial Map**

It should be noted that previous submissions of this special exception proposed the tower to be located within 718 feet of the nearest residence. The applicant has worked with county staff to propose a tower location on the site that would meet the distance separation requirement of 1,000 feet from the nearest single-family residence.

#### Waiver Request

The applicant is also requesting a waiver to the planting requirements of the special exception. Specifically, section 72-293(23)(h)(2) and (3), Landscaping, which requires a row of trees and a continuous hedge row to be planted around the perimeter of the security fencing. The reasoning for this is that the proposed tower location is within dense vegetation. The required 15-foot perimeter landscape buffer is still shown on the plans. Staff is recommending that the perimeter planting requirements be waived on the condition that, during site plan review, it shall be demonstrated that the required plantings can be met by existing vegetation. In the case that the existing vegetation cannot meet the required plantings, supplementary plantings will be provided.

## Communication Tower Requirements

Section 72-293(23) of the zoning code contains a list of requirements and conditions that an applicant must meet to find this special exception request in compliance with the ordinance. Below is an analysis of section 72-293(23) of the zoning code.

*d. Factors considered in the granting of special exceptions. The Planning and Land Development Regulation Commission or the County Council as the case may be, shall consider the following factors in determining whether to issue a special exception, although the Planning and Land Development Regulation Commission or the County Council as the case may be, may waive or reduce the burden of one or more of these criteria as to the applicant if the Planning and Land Development Regulation Commission or the County Council as the case may be, concludes that the goals of this article are better served thereby.*

*1. Height of the proposed communication tower;*

The height of the proposed communication tower is 225 feet, as shown on the plan, with the top of the tallest antenna to reach 230 feet. The applicant has submitted a letter from both Verizon Wireless and AT&T Mobility Radio Frequency (RF) Design Engineers with before and after signal coverage maps to demonstrate the need for the tower in this proposed location and at the proposed height. It is stated that both this tower and the tower proposed under S-14-013 will fill a coverage gap that currently exists along Osteen Maytown Road.

*2. Proximity of the communication tower to residential structures;*

According to the survey submitted by the applicant, the nearest residence to the center of the proposed communication tower site is located 1,003 feet to the south. The required distance separation between a communications tower and a residential unit is 1,000 feet.

*3. Nature of uses on adjacent and nearby properties;*

The parcel to the west is currently used as pastureland and is also developed with a single-family residence. To the south is a residential neighborhood with 5-acre parcels. The properties to the east are currently undeveloped and classified by the Property Appraiser's Office as non-agricultural acreage. Two out of three of the properties to the east are owned by the same owner as the subject of this special exception. The property to the north is owned by the Saint Johns River Water Management District.

*4. Surrounding topography;*

The subject parcel is generally flat and characterized as pastureland for the area closest to the road, and wooded towards the rear. The property to the east is vacant and wooded, and the property to the south is wooded, but contains residential homes. The property to the west is similar to the subject property, in that it is pastureland with some wooded areas. The property to the north is wooded.



5. *Surrounding tree coverage and foliage;*

There is a moderate amount of trees on the site, with cleared pastureland being the dominating vegetative pattern. There is a row of trees along Osteen Maytown Road, and the tower is proposed to be located in a large treed area. The applicant is requesting that the requirement that perimeter landscaping be provided is waived, since the tower is proposed to be located in a treed area on the property.

6. *Design of the communication tower, with particular reference to design characteristics that have the effect of reducing or eliminating visual obtrusiveness;*

The tower will be a monopole structure with antennas that will protrude from the pole. The proposal by the applicant is to have a galvanized steel finish to help reduce visual appearance and help it blend with the sky.

7. *Proposed ingress and egress;*

The ingress and egress is shown to be a 25-foot wide access and utility easement connecting to Osteen Maytown Road, which is a county-maintained local road. Any driveways or curb cuts will be reviewed by the county and constructed after a use permit is issued.

8. *Safety aspects relating to the proposed communication tower; and*

The tower will be designed and constructed in accordance with all applicable Florida Building Codes as well as other applicable standards as required. An engineer's statement from Ehresmann Engineering Inc., has been submitted with the application to demonstrate that the tower has been designed for a wind speed of 137 mph, and that the tower shall be designed to fold in on itself at the halfway point during a severe storm event. The tower will be setback a distance of more than half the height of the tower so that in the case of a catastrophic event the tower will fall wholly on the parcel.

9. *Availability of suitable existing communication towers and other structures. No new communication towers shall be permitted unless the applicant demonstrates to the reasonable satisfaction of the planning and land development regulation commission (PLDRC) or the county council as the case may be, that no existing communication tower or structure can accommodate the applicant's proposed tower. Evidence submitted to the county to demonstrate that no existing communication tower or structure can accommodate the applicant's proposed antenna shall be for any of the reasons provided as follows:*

- i. No existing communication towers or structures are located within the geographic area required to meet applicant's engineering requirements; or*
- ii. Existing communication towers or structures are not of sufficient height to meet applicant's engineering requirements; or*
- ii. Existing communication towers or structures do not have sufficient structural strength to support applicant's proposed antenna and related equipment; or*
- iv. The applicant's proposed antenna would cause electromagnetic interference with the antenna on the existing communication towers or structures, or the antenna*

*on the existing communication towers or structures would cause interference with the applicant's proposed antenna; or*

- v. The applicant demonstrates that there are other limiting factors, including adverse economic reasons that render existing communication towers and structures unsuitable.*

There is a communication tower approximately 6,178 feet (1.17 miles) east of the proposed lease area owned by Entravision Communications. This tower was approved under special exception S-11-037 by the county council on October 6, 2011 as a 499-foot tall guyed tower. Construction of the tower was considered finalized by the County's building department on July 6, 2012. The completed guyed tower is 496 feet in height, and is approved for a minimum of four future carriers. At this time, no cellular service companies have submitted permits to co-locate at this site, and the tower is used to broadcast radio and television communications. The next closest communication tower to the subject property is 3.5 miles to the west.

The special exception to allow the Entravision tower (S-11-037) located on Pell Road was approved with the intent of co-locating a minimum of four additional cellular communication carriers. The purpose of co-locating is to reduce the total number of communication towers that would be constructed in any given area, thus reducing visual blight that is associated with such towers. Cellular coverage in this area has already been provided for by approval of the special exception for the Entravision Tower, located on 495 Pell Road, Osteen. The Entravision tower is of sufficient height to meet what is required by both AT&T and Verizon. However, a statement from a structural engineer has been submitted which states that the tower on Pell Road is not structurally capable of supporting any antennae at the height that either AT&T or Verizon require. In 2012, the county council passed a resolution to provide for pass-through costs for a third party to review and verify technical data submitted with certain applications. The council can direct staff to hire a consultant through the bidding process to review and verify the structural specifications of the Pell Road tower.

Both carriers have submitted statements by Radio Frequency (RF) Design Engineers stating that the Entravision tower will not meet their coverage design objectives. Verizon Wireless has submitted an optimum search ring exhibit that shows a 1.0-mile radius, with the center originating roughly on the southwestern corner of the subject parcel. This search ring was chosen to meet the coverage goals for both companies' customers, and the Entravision tower resides outside of that search ring by 0.17 miles. Verizon Wireless also mentioned safety hazards associated with co-locating on broadcast towers as a second reason of why co-locating on the Entravision tower should be avoided.

*e. Setbacks and separation.*

Under this section, communication towers must be set back a distance equal to one-half of the height of the communication tower from the property line. At a proposed height of 225 feet, the required distance separation is 112.5 feet. The special exception site plan submitted with this application is showing a separation of 260 feet from the center of the tower to the east property line.

Also under this section, communication towers must be separated from each other as listed in the table Tower to Tower Separation Requirements. The nearest communication

tower to the site is the 496-foot Entravision guyed communications tower on Pell Road. The distance separation requirement between a guyed tower and monopole tower exceeding 170 feet in height is 1,500 feet. The actual distance between the guyed tower on Pell Road and this proposed tower is approximately 6,178 feet, or 1.17 miles.

As previously noted in this report, the distance separation requirement between a proposed communication tower and existing residential dwellings is addressed under paragraph (e). The section requires a 1,000-foot separation between the two uses. The nearest residence is located 1,003 feet from the proposed lease area.

f. *Design and lighting standards.*

The proposed monopole is designed to have a galvanized steel finish to blend the visual appearance of the tower with the sky. All towers over 200 feet in height are required to meet FAA lighting standards.

g. *Security fencing.*

The site plan submitted shows a 6-foot high security fence topped with barbed wire and a locked vehicular access gate.

h. *Landscaping.*

The applicant is requesting a waiver to the County's zoning code requirements which require a row of shrubs and trees along the perimeter on the basis that the proposed location of the tower is in an area that is heavily vegetated. The required 15-foot perimeter landscape buffer is still shown on the plans. Staff is recommending that the perimeter planting requirements be waived on the condition that, during site plan review, it shall be demonstrated that the required plantings can be met by existing vegetation. In the case that the existing vegetation cannot meet the required plantings, supplementary plantings will be provided.

i. *Camouflaged towers.*

This tower is not proposed to be camouflaged.

Special Exception Review Criteria

Under subsection 72-415(8) *Reasons for denial*, the commission may recommend denial of any application for a special exception, and the county council may deny the application for one or more of the following reasons:

**(a) *It is inconsistent with the purpose or intent of this article.***

Approval of this tower may have a detrimental effect on the character of the community by introducing a visual intrusion to the surrounding neighborhood and the scenic highway. Tower/antenna co-location may already be available on the Entravision tower situated  $\pm 1.17$  miles east of the project site, thus approval of this tower may be unnecessary. Otherwise, construction of a tower would have a de minimis effect on traffic patterns and fire safety,

and will not affect the availability of light and air. The special exception will have no effect on the provision of essential governmental services. If the application is approved, staff is recommending certain conditions, such as lighting consistent with FAA requirements, and requiring that all applicable permitting be issued, to be applied to the approval of this request in order to meet this criterion.

***(b) It is inconsistent with any element of the comprehensive plan.***

The comprehensive plan does not contain any specific goals, objectives, or policies that apply to this special exception request. However, the plan does provide the following Land Use Location Criteria:

Towers and Antennae:

- (1) Towers and antennae shall be located in accordance with Part 77, Subchapter E, Airspace, of Title 14 of the Code of Federal Regulations and County Land Development Regulations.
- (2) The Airport Height Restrictions shall be used as a guide in determining the height of towers and antennae surrounding a public airport.

Staff finds that the application is consistent with this policy. The tower site is more four (4) statute miles from the nearest public or private airport or helipad of record.

In addition, Osteen Maytown Road is a state designated scenic highway (the River of Lakes Heritage Corridor) and is proposed to be adopted into the comprehensive plan as a part of the County's scenic highway program. Most of the policies in the comprehensive plan that govern the County's scenic highways program guide the designation and maintenance of the scenic highways. The following policy from the transportation element is applicable to this project:

*2.3.3.4 Infrastructure and utility structures, such as cellular communications, water, sewer, and energy transmission should be designed and located to minimize adverse visual impacts upon the scenic qualities of Florida State designated scenic highways. Utilities should be located underground to the maximum extent possible in an effort to minimize visual impacts along the corridors.*

This tower was originally proposed to be located a distance of 494 feet from Osteen Maytown Road. At a height of 225 feet, the tower would have been visible from the road. The applicant has accepted county staff recommendations and is proposing a location that is set further back from the road (790 feet), for the benefit of the residences on the southern side of Osteen Maytown Road, and for the traveling public. This new location will minimize the visual impacts of the tower.

***(c) It will adversely affect the public interest.***

The proposed special exception has both potential positive and negative impacts. A positive impact is improved cellular coverage for those living in the vicinity and those traveling along Osteen Maytown Road. Additionally, the tower will be designed to accommodate up to five communication carriers, thereby reducing the need for other



towers in the area. Some potential adverse impacts of the proposed special exception include visual and aesthetic impacts.

In the adopted River of Lakes Heritage Corridor Scenic Highway Corridor Management Plan (CMP), one of the stated land use and zoning actions listed in the management plan is to promote appropriate setbacks and landscape screening to protect scenic views. A 225-foot communication tower will exceed the current height of vegetation along this section of the scenic highway and may visually impact the scenic views intended for preservation and enhancement by the management plan. The applicant is proposing that the tower be setback a distance of 790 feet from the road, within an area that is heavily treed. This will provide some screening of the tower from the traveling public.

***(d) It does not meet the expressed requirements of the applicable special exception.***

There are specific conditions listed in section 72-293, Special exceptions, of the zoning code for this request, of which a detailed analysis is discussed in the section above, Communication Tower Requirements. Staff does not have sufficient expertise or information to dispute the applicant's assertions that the nearby Entravision tower is not capable of meeting the collocation needs of the two proposed cellular carriers. As discussed in paragraph 9, above, the county council has authorized staff to hire a consultant for a third party review of special exception applications.

***(e) The applicant will not be able to meet all requirements imposed by federal, state or local governments, or by the county council.***

There is no evidence that the applicant cannot meet the federal or state requirements.

***(f) Notwithstanding the provisions of article XIV of the land development code [appendix A], it will generate undue traffic congestion.***

The proposed unmanned communication tower site will not cause undue traffic congestion as it will not be open to the public. After initial tower construction, site generated traffic will be limited to occasional service checks and installation of new equipment cabinets.

***(g) It will create a hazard or a public nuisance, or be dangerous to individuals or to the public.***

The proposed special exception is unlikely to create a public hazard or be dangerous to individuals or to the public with code compliance and imposition of appropriate special exception conditions because of distances to existing dwellings

***(h) It will materially alter the character of surrounding neighborhoods or adversely affect the value of surrounding land, structures or buildings.***

The construction of a communication tower that is 225 feet in height should not materially alter the current character of the surrounding area, or adversely affect the value of the surrounding properties.

***(i) It will adversely affect the natural environment, natural resources or scenic beauty, or cause excessive pollution.***

The special exception may have a negative impact upon the scenic qualities of Osteen Maytown Road, as a part of the state designated scenic highway the River of Lakes Heritage Corridor. However, the development proposal is subject to the minimum environmental protections established in the land development code and if approved, shall be reviewed for compliance during any site plan and building permit review.

## **V. STAFF RECOMMENDATION**

Staff recommends approval of this application for a special exception for a communication tower exceeding 70 feet in height above ground level (225-foot tall monopole) and a waiver to section 72-293(23)(h), Landscaping, on Prime Agriculture (A-1) and Resource Corridor (RC) zoned property with the following conditions:

1. The special exception approval is for a single, self-supported monopole tower with a maximum height not to exceed 225 feet (AGL), and that is structurally designed for co-location of a minimum of five wireless carriers.
2. All permits shall be obtained from the Federal Aviation Administration (FAA), and Federal Communications Commission (FCC) and/or any other applicable federal, state, or local governmental agencies as required and submitted to the Growth and Resource Management Department (GRM). The facility shall be maintained and operated in full accordance with all applicable federal, state, and local regulations and permits.
3. Development of the parcel shall be subject to submittal of a site plan to the Land Development Division for review and approval prior to building permit application. The site plan must comply with applicable zoning and land development code requirements. The tower site shall be developed in accordance with the site plans prepared by Kimley Horn and Associates, dated January 23, 2014, as may be modified by these conditions and/or modified by further County review and/or modified by the FAA/FCC and/or other permitting requirements. In addition, any environmental issues with regard to tree clearing and gopher tortoise burrows shall be resolved prior to an issuance of a site plan approval and/or building permit.
4. The tower shall be lighted per the written specifications of FAA Advisory Circular 70/7460-1K Change 2 Chapter 4, so that the tower is visible to aircraft in daylight and nighttime conditions.
5. Thirty years from the date of rendition, the tower special exception shall expire and a new special exception shall be obtained, or the tower shall be dismantled and removed from the property within ninety days of expiration.
6. If the tower is unused for a period of 180 consecutive days, the tower shall be deemed abandoned. Determination of the date of abandonment shall be made by the zoning enforcement official, who shall have the right to request documentation and/or affidavits from the tower owner regarding its usage. Upon such

abandonment, the owner/operator of the tower shall have 90 days within which to file a new special exception application to reactivate the use of the tower, or to dismantle and remove the tower.

## **VI. ATTACHMENTS**

- Written Explanation
- Verizon Letter of Explanation
- AT&T Letter of Explanation
- Engineer's Statement - Wind and Buckle
- Engineer's Statement - Structural Letter
- Engineer's Statement – Revised Structural Letter
- Special Exception Site Plan
- Site Photo
- Maps

## **VII. AUTHORITY AND PROCEDURE**

Pursuant to Section 72-415, the County Council shall hold a public hearing after due public notice on all recommendations from the commission. It may accept, reject, modify, return, or seek additional information on those recommendations. No approval of a special exception application shall be made unless, upon motion, four members of the county council concur. The county council will thereafter forward its decision to the applicant.

Any new information to be presented at the planning and land development regulation commission for any application will be grounds to continue an application to the next planning and land development regulation commission. Applicants shall inform and provide staff with the new information prior to the planning and land development regulation commission.

Any new information to be presented at the county council meeting that was not previously presented to the planning and land development regulation commission for any application will be grounds to return an application to the planning and land development regulation commission for further review. Applicants shall inform and provide staff with the new information prior to the council meeting.

## Written Description

### The Request

This special exception request is to erect a communication tower at the property described in the attached legal description in Volusia County Florida and for a waiver of the setback from (1) residences that are less than 1,000 ft from the tower but at least 500 feet from it.

The request tower is 225 ft Monopole, will be cable of serving multiple carriers and will be of monopole construction. The tower and all modification thereto will meet or exceed the standards and regulations of the FAA, the FCC, and any other agency of the federal government with the authority to regulate communication towers and antennas.

The purpose of the tower construction is to provide for a communication tower, initially for cellular phone service provider Verizon Wireless and AT&T, but to accommodate other future uses. Their request includes up to six unmanned communication equipment structures, typically being one unmanned communication equipment structure for each service provider. The site and tower structure are planned to accommodate up to six users. No existing communication towers or structures are located within the geographic area to meet applicants engineering requirements.

### Additional information in support of the application

Maytown Road and the surrounding area has no (ZERO) cell service. This becomes a 911 issue for the people who travel the road and live in the area. This goes for the proposed bike path and the people who will use the new bike path. The one tower that is in the area is over a mile away and is out of search area for the design to bring service to all of Maytown Road. This tower connects with another proposed tower covering the East side of Maytown Road. The two towers have to be designed certain miles apart to cover the entire road. The property leased is approximately 6,400 sq. ft of a larger parcel of approximately 115 acres. The nearest existing offsite communication tower is 1.7 miles away, to the East. Construction and development of the 6,400 sq. ft leased area will be generally in accordance with the attached project drawings. The tower shall be either maintain galvanized steel finished or, subject to any applicable standards of the FAA, be painted a neutral color, so as to reduce visual obtrusiveness. The tower shall be enclosed by security fencing not less than six feet in height and shall also be equipped with an appropriate anti-climbing device: provided, however, that the zoning enforcement official may waive such requirements, as it deems appropriate.



Access to the communication tower shall be through a locked gate. Attached copies of the site plan demonstrate that the tower will be located and buffered for compatibility with the surrounding land use. Additional supporting documentation demonstrates that the proposed tower substantially meets all further requirements necessary for this special exception request. A coverage map showing all of FCC registered towers in the area including those that have not yet been constructed, is attached. Note that there are no towers in the search ring.

## Mercury Towers



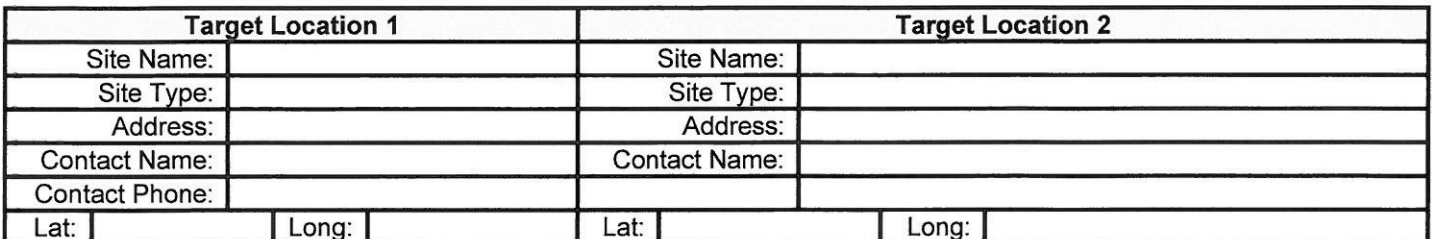
If granted the opportunity Mercury towers will build the 225 ft Monopole to hold 5 carriers. Mercury tower core business is to build and own communication towers then lease space to the carriers. Mercury Towers financial success is driven by leasing tower space to the carriers and other FCC approved licenses. Mercury Towers business model is to only build towers in locations where there is a high demand from carriers to add it's equipment to.

The height of the pole is 225 ft and the antennas top measurement will be 230 ft

Tim O'Shaughnessy

Handwritten signature of Tim O'Shaughnessy.

Verizon statement of need and before coverage maps and after coverage maps





Verizon Wireless  
3503 Technological Avenue  
Orlando, FL. 32817



October 22, 2013

RE: Search Ring location – 80261 Maytown Road

To Whom It May Concern:

Verizon Wireless transmits our voice service over the PCS "B" 1900MHz block of frequencies. As such we are somewhat handicapped as opposed to some of our competitors that operate in the lower frequency bands. The lower the frequency the better the propagation characteristics, resulting in a larger coverage area per cell site.

The location of this search ring is based on the existing coverage footprint of our network, and the ability to maintain contiguous service for our customers as we expand our coverage area on the Eastern side of Osteen. If we were to utilize the proposed Entravision tower it would create coverage holes or weak coverage areas within our newly expanded footprint, in the very areas where we are trying to bring service to current and potential customers.

In summary the Entravision tower is too far East to be a good fit for our network. Additionally, collocating on Broadcast towers creates safety hazards for our technicians and climbers working on and around these types of towers. Typically we try to avoid mounting our antennas on these types of towers for that reason.

Please feel free to call me with any questions or concerns at 407-903-3036.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter C. Nason", written over a horizontal line.

Peter Nason  
Sr. RF Design Engineer (Orlando)  
Verizon Wireless

Verizon Wireless  
3503 Technological Avenue  
Orlando, FL. 32817



October 22, 2013

RE: Statement of Need and Design Objective for Proposed Tower – 80261 Maytown Road

To Whom It May Concern:

Verizon Wireless continually strives to provide the best possible service to our growing number of customers in the Volusia County area. In order to keep up with the ongoing expansion of new communities and businesses, we sometimes need to add additional transmitter locations to provide adequate wireless coverage. It was found through customer complaints, drive testing, and coverage simulations that the area along Maytown Road is lacking sufficient wireless coverage needed to provide an acceptable level of service to our customers. Customers in this area are unable to complete and receive calls at their homes and businesses.

To correct the situation, Verizon Wireless will need to add an additional wireless transmitter in this area to provide the enhanced coverage needed for adequate system performance. This transmitter has been proposed to be located on the North side of Maytown Road, near the intersection of Elizabeth Lane. The design height of 190ft is required in order for it to interface properly with the other surrounding Verizon Wireless cell sites. The coverage that will be provided by this new site will greatly improve the in-building service in this area. We feel that the placement of this new transmitter will meet our design objectives and fill the coverage gap that currently exists in this area.

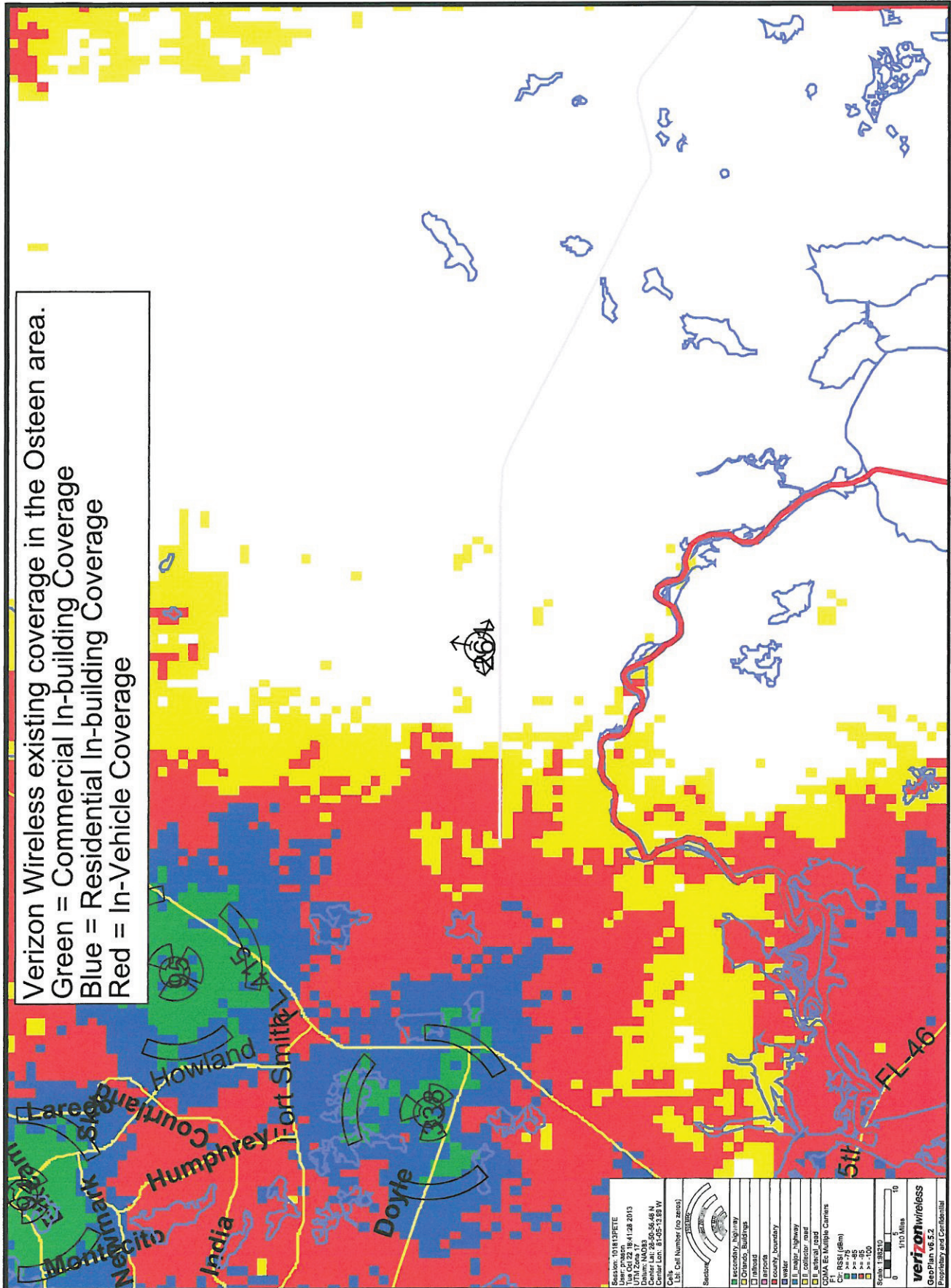
Please feel free to call me with any questions or concerns at 407-903-3036.

Sincerely,

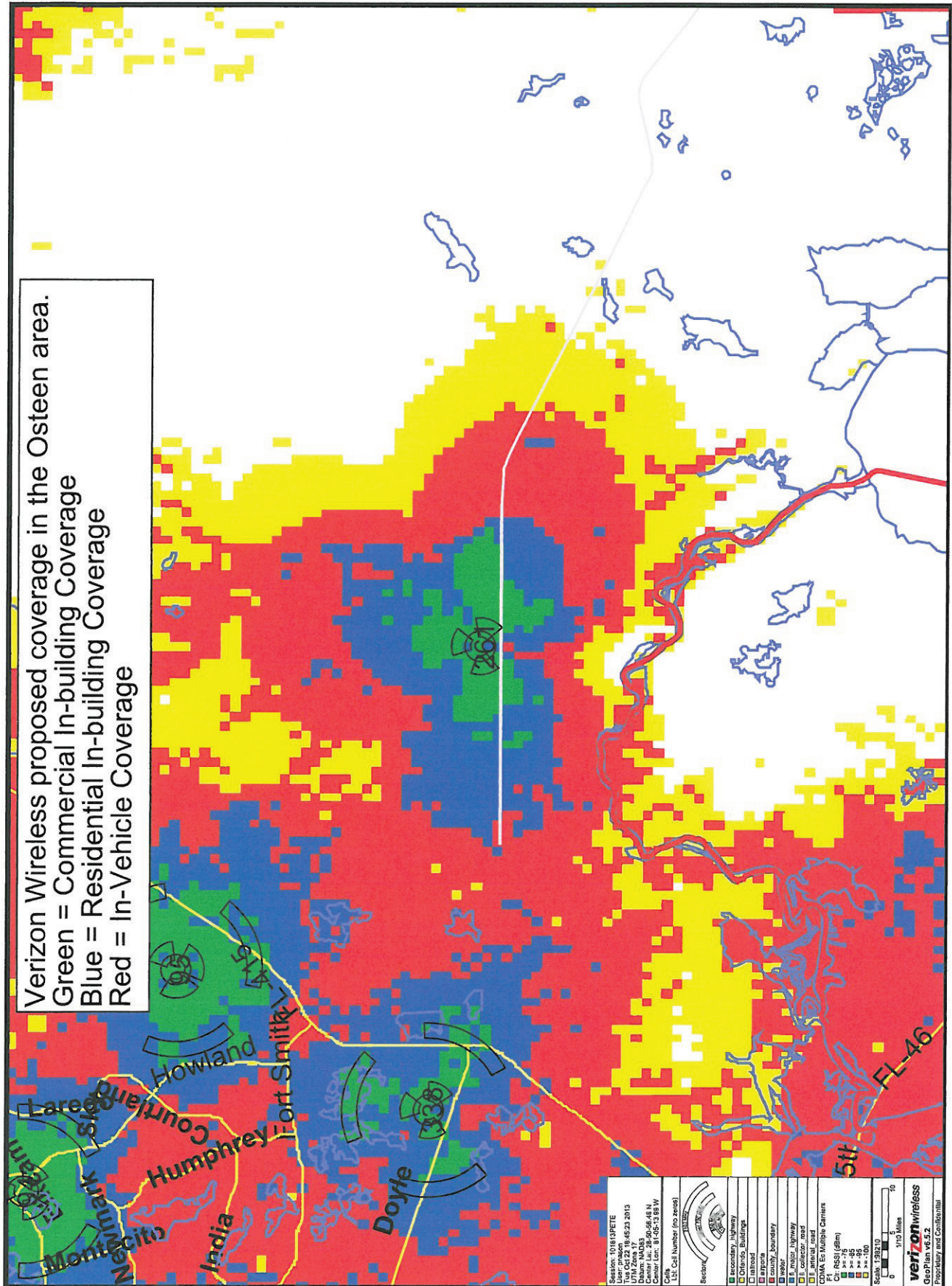
A handwritten signature in black ink, appearing to read "Peter C. Nason", written over a horizontal line.

Peter Nason  
Sr. RF Design Engineer (Orlando)  
Verizon Wireless











AT&T statement of need and before coverage maps and after coverage maps



October 8<sup>th</sup>, 2013

City of Osteen  
Volusia County

Board Members,

I respectfully submit this letter as an explanation of our need for a new telecommunications site in Osteen. As the system design engineer for AT&T Mobility responsible for this area I have performed a thorough analysis of this area of east Deltona/west Osteen and the interaction of the sites within that area. My study included field visits and computer analysis with sophisticated RF modeling that takes into account the following variables: (A) The physical characteristics of the frequencies allotted by the FCC to AT&T; (B) The allowable power outputs of those frequencies; (C) The AT&T Mobility equipment specifications; (D) The location of existing AT&T Mobility and other facilities; (E) The topography and building density of the area; (F) The optimum coverage using the minimum use of new tower sites. There was no existing structure within the area to meet AT&T Mobility's coverage objective and AT&T is pursuing a raw land candidate. These factors were quantified and values extrapolated using RF modeling software to arrive at a design objective or search area. The site identified as AT&T Mobility's West Maytown Road site would be located in the vicinity of 1395 Osteen Maytown Road, Osteen, FL 32764 to fit the capacity and coverage objective. The search area was based on the proposed site's location relative to the current surrounding sites and capacity enhancement needed within this area. After running numerous propagation modules, the height of 225 feet was selected in order to provide adequate capabilities between the surrounding sites and sufficient capacity to meet the needs of the area.

The frequency plan for this site is also in accordance with FCC requirements and will not interfere with Public Safety bands assigned by the FCC. AT&T is licensed by the FCC to use the A and B bands in Volusia County. Specific frequencies are as follows:

- A band frequencies: RX - 824.2 MHz to 846.4 MHz and TX - 869.2 MHz to 891.4 MHz.
- B band frequencies: RX - 835 MHz to 849 MHz and TX - 880.0 MHz to 894 MHz.

Based on FCC licensing of spectrum there is sufficient frequency separation between the licensed AT&T spectrum and the licensed county and city Public Safety spectrum to ensure they will not be interferers with one another. In my professional opinion as a radio frequency design engineer there are no other facilities, in the proper location and at the required height, which will provide the coverage to meet our requirement of providing excellent service to your citizens in this area.

Sincerely,

A handwritten signature in black ink, appearing to read "JG" or "Jim Graf".

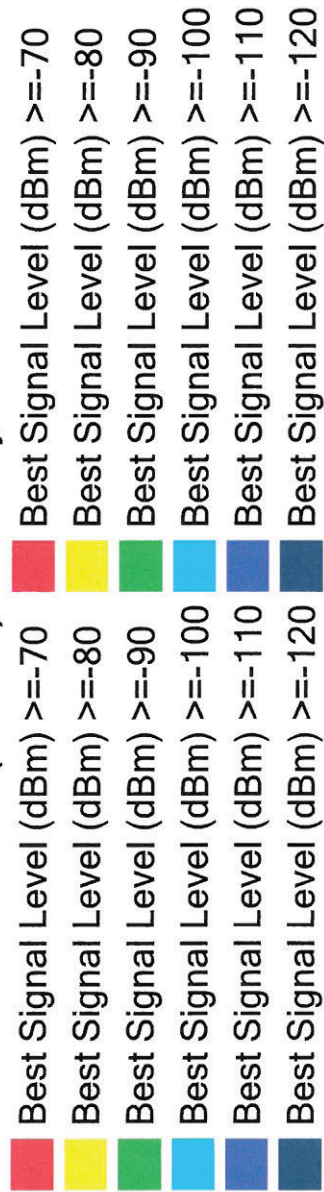
Jim Graf  
RF Design & Performance Engineer  
AT&T Mobility



Before AT&T's West Maytown Road Site

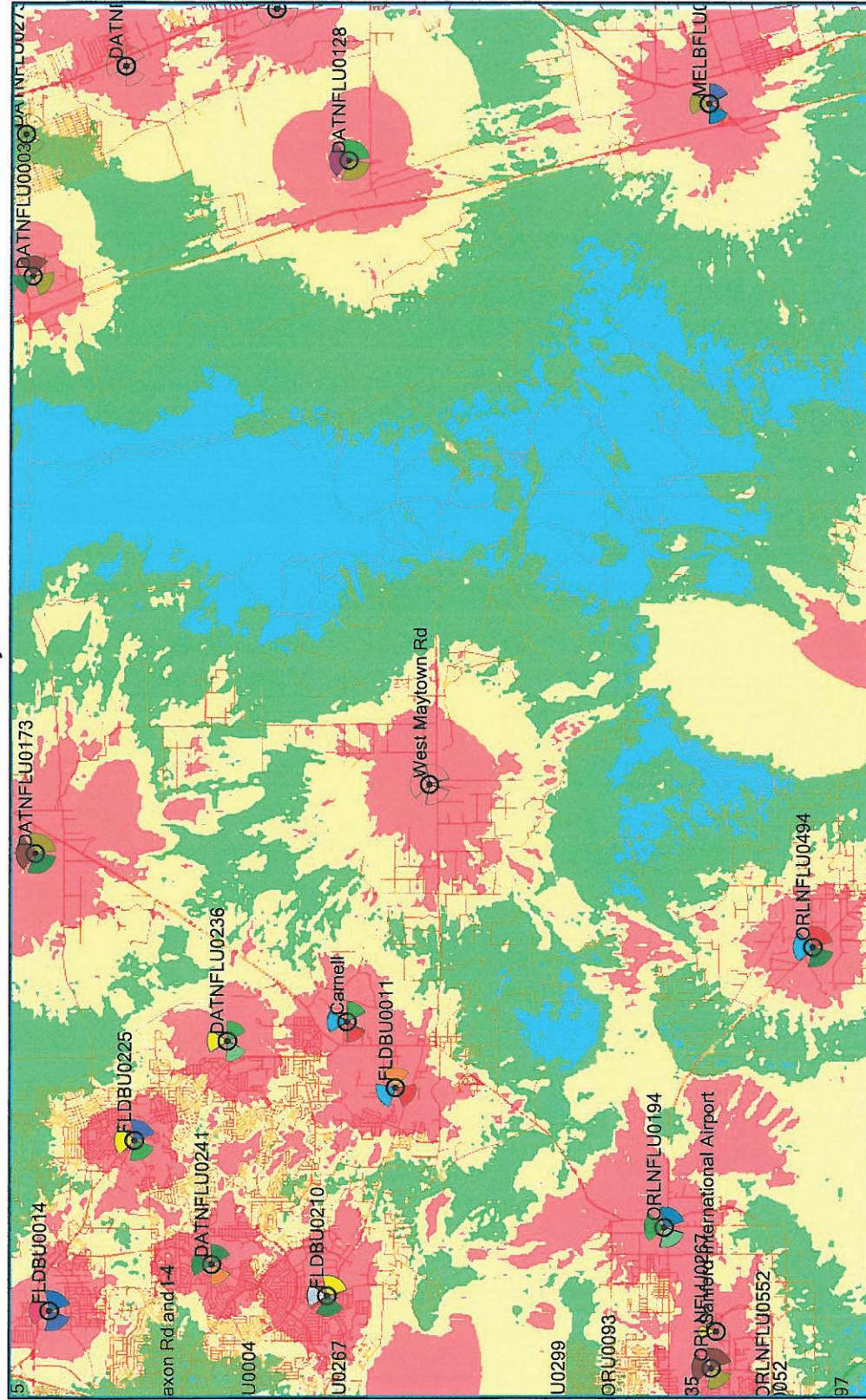


North Deland After - ALL (Outdoor) West Maytown Rd Before



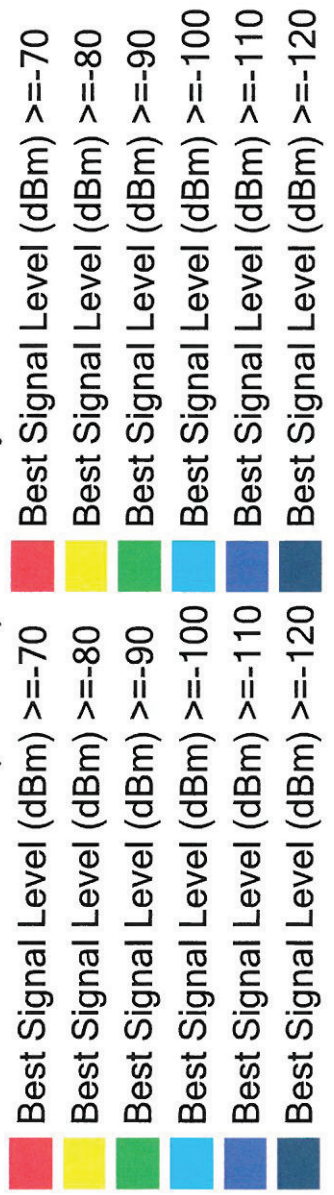


# After AT&T's West Maytown Road Site



Scale: 1:180,366

## North Deland After - ALL (Outdoor) West Maytown Rd After - Candidate 1 212'





4400 West 31<sup>st</sup> St – Yankton, SD 57078

Phone: (605) 665-7532 Fax: (605) 665-9780

<http://www.ehresmannengineering.com>

E-Mail: [j.rueb@ehresmannengineering.com](mailto:j.rueb@ehresmannengineering.com)

November 22, 2013

Mr. Tim O'Shaughnessy  
Mercury Towers  
1123 Solana Avenue  
Winter Park, FL 32789  
407-435-0423

Subject: Proposed 225' Ehresmann Engineering Inc. Monopole  
Site: MT118 Maytown West, FL  
Location: Osteen, FL (Volusia County)  
EEI JO: #89860-013

Dear Mr. O'Shaughnessy,

In response to your request, the 225' Ehresmann monopole @ MT 118 Maytown West, FL is designed to safely support (5) cellular carrier levels listed below:

Elevation 225'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 215'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 205'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 195'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 185'	(12) 8' x 1' Panels on 12' Low Profile Platform

The monopole structure meets current safety and design standards of the Telecommunications Industry Association Standard TIA-222-G and 2010 Florida Building Code with the following criteria:

- 137 mph ultimate wind (3 second gust)
- 106 mph wind and no ice (3 second gust)
- 30 mph wind and 1/2" ice (3 second gust)
- Structure Class II
- Exposure Category C
- Topographic Category 1

This tower design standard takes into account several load and resistance factors to provide sufficient strength and stability for the design loading and criteria as outlined above. Therefore it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of built-in safety factors.




Should the wind speed increase beyond the capacity of the built-in safety factors to the point of failure of one or more structural elements, the most likely location of failure would be within the monopole shaft section. This would result in a buckling failure mode, where the steel shaft bends beyond its elastic limit (the point where the shaft does not return to its normal shape when the wind load is removed).

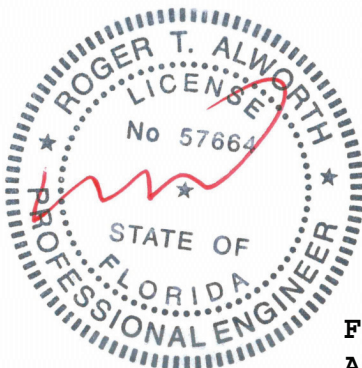
During this local buckling a relatively small portion of the pole shaft distorts and merely kinks the steel causing the pole to buckle at the location of the highest combined stress ratio in the upper portion of the monopole and "folds over" onto the portion below within a 112.5' fall radius. In the unlikely event of total separation due to extreme wind conditions (i.e. hurricane), a section of the pole may collapse to the ground.

Please note that this letter only applies to a monopole designed and manufactured by Ehresmann Engineering Inc.

If you have any questions, please feel free to call us @ (605) 665-7532.

Sincerely,

  
Jeff Rueb



FL Certificate of  
Authorization: 26626

Nov 22, 2013



9138 S. STATE STREET, SUITE 101 (801) 990-1775  
SANDY, UTAH 84070 (801) 990-1776 FAX

---

Antenna Support Structures – Guyed and Self-Supporting Towers and Monopoles – Steel Fabrication  
Structural Analysis – Inspection – Specifications – Project Management – Detailing – P.E. Certification

Elevation 496'  
Elevation 461' - 491'  
Elevation 315' - 385'  
Elevation 290'  
Elevation 248'  
Beacon/Spur  
SHPX-4AC  
SHPX-8AC  
6' Grid Dish  
Mid Level Beacon

### Existing Loading

125 mph wind and no ice (3 second gust)  
Structure Class II  
Exposure Category C  
Topographic Category 1

loading:

In response to your request we completed a structural analysis of the existing 496' ERI Guyed Tower located on Pell Road in Deltona Florida. The document furnished to complete this analysis was ERI dwg E01 dated 6/28/11 which included tower steel sizes and tower loading.

The purpose of the review was to determine whether the tower could support the cell phone antennas required by Verizon and AT&T to provide coverage along Maytown Road in Volusia County from Highway I-95 on the east and SR-415 on the west. Our analysis indicates that the ERI guyed tower was only designed to support the antenna loading listed below at the design wind

Dear Mr. O'Shaughnessy,

Subject: Existing 496' ERI Guyed Tower  
Site: WNUE Deltona, FL aka Potential MT118 Maytown West, FL  
Location: Osteen, FL (Volusia County)  
EEI JO: #89861-013

Mr. Tim O'Shaughnessy  
Mercury Towers  
1123 Solana Avenue  
Winter Park, FL 32789  
407-435-0423

December 10, 2013



4400 West 31<sup>st</sup> St – Yankton, SD 57078  
Phone: (605) 665-7532 Fax: (605) 665-9780  
http://www.ehresmannengineering.com  
E-Mail: j.rueb@ehresmannengineering.com



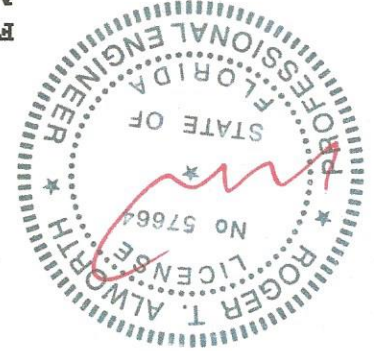
Antenna Support Structures – Guyed and Self-Supporting Towers and Monopoles – Steel Fabrication  
Structural Analysis – Inspection – Specifications – Project Management – Detailing – P.E. Certification

9138 S. STATE STREET, SUITE 101 (801) 990-1775  
SANDY, UTAH 84070 (801) 990-1776 FAX



Dec 11, 2013

FL Certificate of  
Authorization: 26626



Jeff Rueb  
Design Engineer

Sincerely,

If you have any questions, please feel free to call us @ (605) 665-7532.

Elevation 225'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 215'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 205'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 195'	(12) 8' x 1' Panels on 12' Low Profile Platform
Elevation 185'	(12) 8' x 1' Panels on 12' Low Profile Platform

#### Proposed Loading

Our structural calculations indicate that the existing guyed tower will not support the proposed or anticipated Verizon and AT&T antennas needed at the elevations listed below. In fact it will not support the proposed top cell carrier at 225' elevation.

**RECEIVED**

By Dora Rockefeller at 11:30 am, Jan 24, 2014

4400 West 31<sup>st</sup> St – Yankton, SD 57078

Phone: (605) 665-7532 Fax: (605) 665-9780

<http://www.ehresmannengineering.com>E-Mail: [j.rueb@ehresmannengineering.com](mailto:j.rueb@ehresmannengineering.com)

January 9, 2014

Mr. Tim O'Shaughnessy  
 Mercury Towers  
 1123 Solana Avenue  
 Winter Park, FL 32789  
 407-435-0423

Subject: Existing 496' ERI Guyed Tower  
 Site: WNUE Deltona, FL aka Potential MT118 Maytown West, FL  
 Location: Osteen, FL (Volusia County)  
 EEI JO: #89862-013

Dear Mr. O'Shaughnessy,

In response to your request we completed a structural analysis of the existing 496' ERI Guyed Tower located on Pell Road in Deltona Florida. The Deltona guyed tower (36" face width) was originally designed in 2011 for broadcast antennas and does not pass a structural analysis for one additional cell carrier of (12) 8' panels as discussed in our previous letter. See attached structural analysis cover sheet indicating that the tower is overstressed to 184.1% at the wind speed and loading listed below.

125 mph wind and no ice (3 second gust)  
 Structure Class II  
 Exposure Category C  
 Topographic Category 1

**Existing Loading**

Elevation 496'	Beacon/Spur
Elevation 461'- 491'	SHPX-4AC
Elevation 315'- 385'	SHPX-8AC
Elevation 290'	6' Grid Dish
Elevation 248'	Mid Level Beacon

**Proposed Loading**

Elevation 225'	(12) 8' x 1' Panels on 12' Low Profile Platform
----------------	---

We have been in the tower design/manufacturing business since 1982 and build our own guyed towers in addition to monopoles and self-supporting towers. As a rule of thumb we do not design or manufacture guyed towers over 400' tall with a face width less than 48". This could explain why the 36" Deltona tower will not meet TIA-222-Rev G standards for additional cellular carriers.

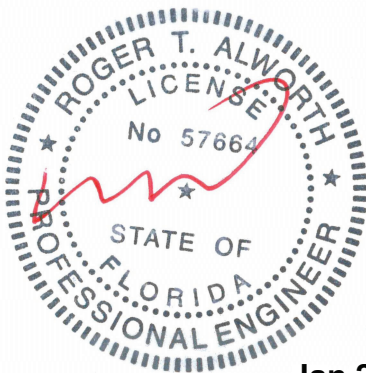
Due to the level of overstressing, we would not recommend modifying the Deltona tower to support additional cellular loading. Our only recommendation would be to replace the tower with a new one designed to support multiple cellular carriers.

If you have any questions, please feel free to call us @ (605) 665-7532.

Sincerely,



Jeff Rueb  
Design Engineer



FL Certificate of  
Authorization: 26626

Jan 21, 2014

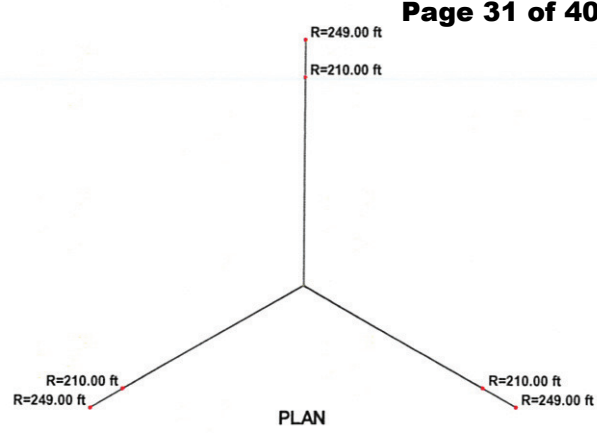
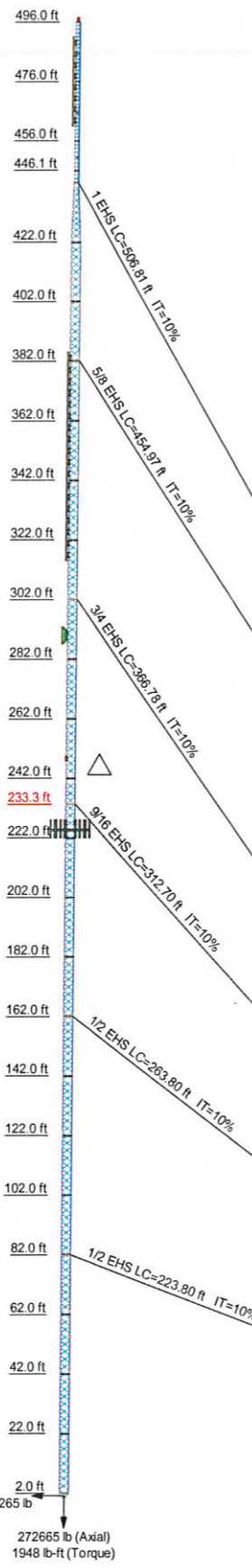


9138 S. STATE STREET, SUITE 101 (801) 990-1775  
SANDY, UTAH 84070 (801) 990-1776 FAX

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Antenna Support Structures – Guyed and Self-Supporting Towers and Monopoles – Steel Fabrication  
Structural Analysis – Inspection – Specifications – Project Management – Detailing – P.E. Certification





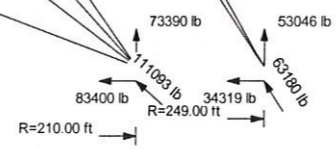
## PLAN

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting	496	(4) 8' x 1' Panel (Proposed)	225
SHPX-4AC	491 - 461	(4) 8' x 1' Panel (Proposed)	225
SHPX-8AC	385 - 315	(4) 8' x 1' Panel (Proposed)	225
6' Grid Dish	290	12' LP Platform (Proposed)	225
Mid Level Beacon	248		

MARK	SIZE	MARK	SIZE
A	SR 2 1/2	D	8 @ 1.21667
B	SR 3/4	E	3 @ 1.31111
C	SR 9/16	F	10 @ 1.98333

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

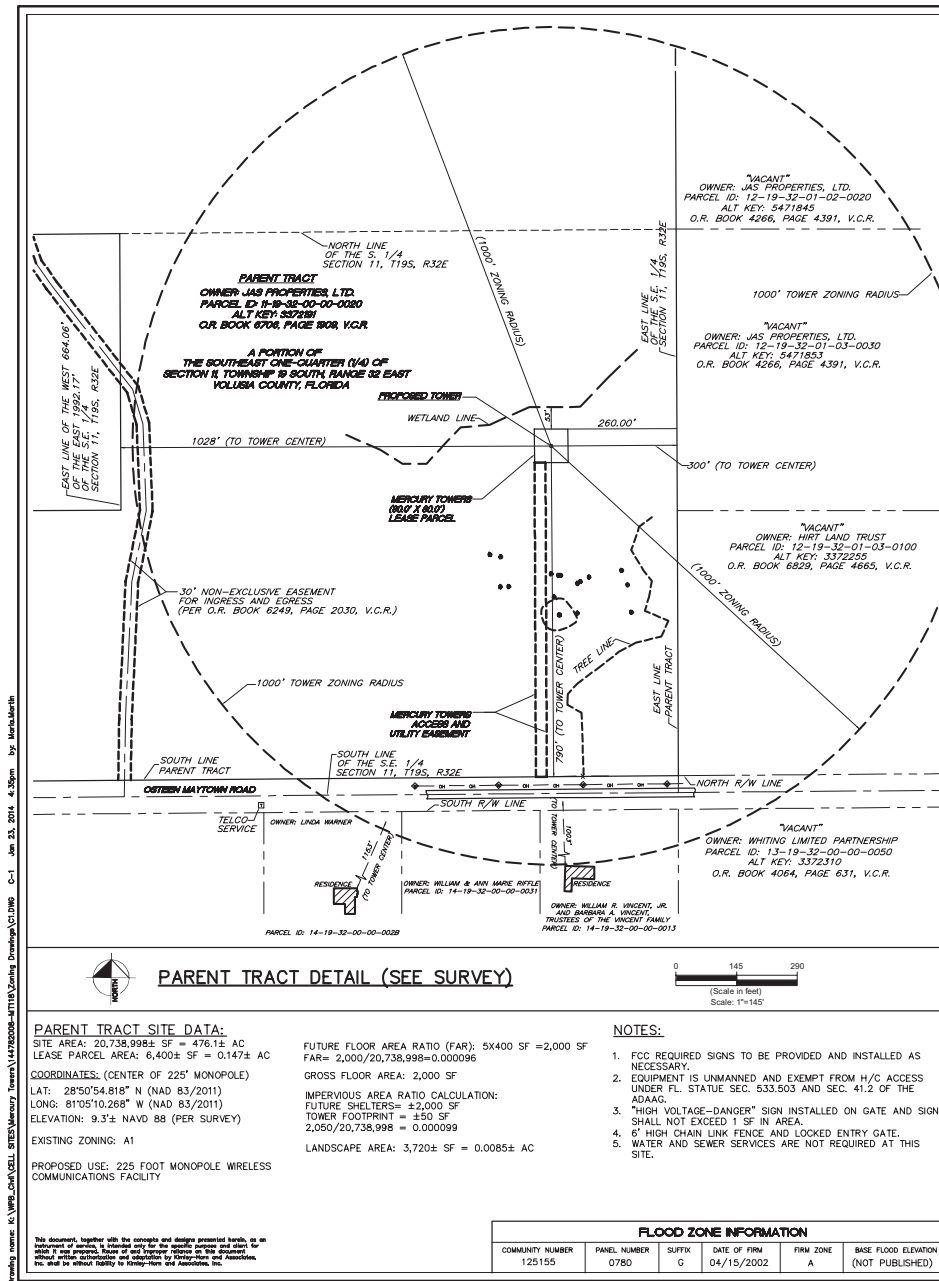
1. Tower is located in Volusia County, Florida.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-G Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. Weld together tower sections have flange connections.
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Welds are fabricated with ER-70S-6 electrodes.
11. TOWER RATING: 184.1%



ALL REACTIONS ARE FACTORED

<b>Ehresmann Engineering</b> 4400 W. 31st. Street Yankton, SD 57078 Phone: (605) 665-7532 FAX: (605) 665-9870	<b>Job: 89861 - MT118 Maytown West, FL</b>			
	<b>Project: 500' ERI Tower</b>			
	<b>Client: Mercury Towers</b>	<b>Drawn by: JS</b>	<b>App'd:</b>	
	<b>Code: TIA-222-G</b>	<b>Date: 12/04/13</b>	<b>Scale: NTS</b>	
	<b>Path: C:\Users\RISA Analysis\89861 - MT118 Maytown West, FL</b>			<b>Dwg No. E-1</b>





**DESCRIPTION OF MERCURY TOWERS LEASE PARCEL**

A PARCEL OF LAND BEING A PORTION OF THE SOUTHEAST ONE-QUARTER (1/4) OF SECTION 11, TOWNSHIP 19 SOUTH, RANGE 32 EAST, VOLUSIA COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, TOWNSHIP 19 SOUTH, RANGE 32 EAST, (FOUND 5/8" IRON ROD IN ASPHALT CUTOUT WITH NO I.D.);

THENCE ON A GRID BEARING OF N00°14'00"W ALONG THE EAST LINE OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, A DISTANCE OF 668.86 FEET (REFERENCED BY THE NORTHEAST CORNER OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, FOUND 3" X 3" CONCRETE MONUMENT WITH SECTION DISK "D.D. MOODY NO. 261, BEARING N00°14'20"W AND DISTANCE OF 2690.42 FEET);

THENCE S89°45'40"W A DISTANCE OF 260.00 FEET TO THE POINT OF BEGINNING;

THENCE S00°14'20"E A DISTANCE OF 80.00 FEET;

THENCE S89°45'40"W A DISTANCE OF 80.00 FEET;

THENCE N00°14'20"W A DISTANCE OF 80.00 FEET;

THENCE N89°45'40"E A DISTANCE OF 80.00 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND SITUATE WITHIN VOLUSIA COUNTY, FLORIDA, CONTAINING 6,400.00 SQUARE FEET MORE OR LESS.

**DESCRIPTION OF MERCURY TOWERS ACCESS AND UTILITY EASEMENT**

A PARCEL OF LAND BEING A PORTION OF THE SOUTHEAST ONE-QUARTER (1/4) OF SECTION 11, TOWNSHIP 19 SOUTH, RANGE 32 EAST, VOLUSIA COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, TOWNSHIP 19 SOUTH, RANGE 32 EAST, (FOUND 5/8" IRON ROD IN ASPHALT CUTOUT WITH NO I.D.);

THENCE ON A GRID BEARING OF N00°14'00"W ALONG THE EAST LINE OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, A DISTANCE OF 668.86 FEET (REFERENCED BY THE NORTHEAST CORNER OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, FOUND 3" X 3" CONCRETE MONUMENT WITH SECTION DISK "D.D. MOODY NO. 261, BEARING N00°14'20"W AND DISTANCE OF 2690.42 FEET);

THENCE S89°45'40"W A DISTANCE OF 260.00 FEET;

THENCE S00°14'20"E A DISTANCE OF 80.00 FEET;

THENCE S89°45'40"W A DISTANCE OF 54.00 FEET TO THE POINT OF BEGINNING;

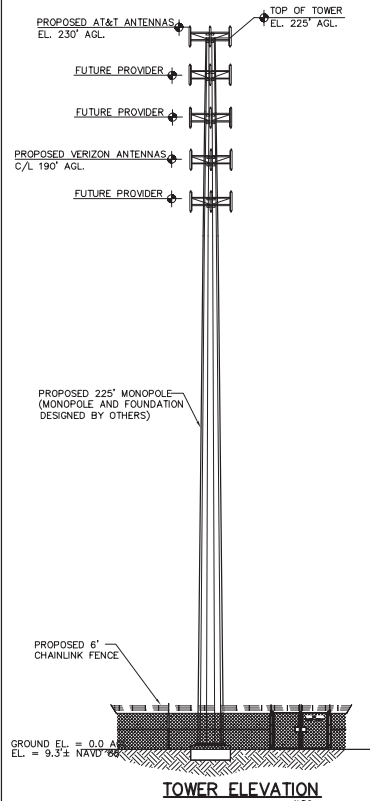
THENCE S00°14'20"E A DISTANCE OF 750.06 FEET TO A POINT ON A LINE 40.00 FEET NORTH OF THE SOUTH LINE OF THE SOUTHEAST ONE-QUARTER (1/4) OF SAID SECTION 11, SAID POINT ALSO BEING ON THE NORTH RIGHT-OF-WAY LINE OF OSTEEN MAYTOWN ROAD (80 FOOT PUBLIC RIGHT-OF-WAY);

THENCE S89°32'30"W ALONG SAID PARALLEL LINE AND SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 26.00 FEET;

THENCE N00°14'20"W A DISTANCE OF 750.16 FEET;

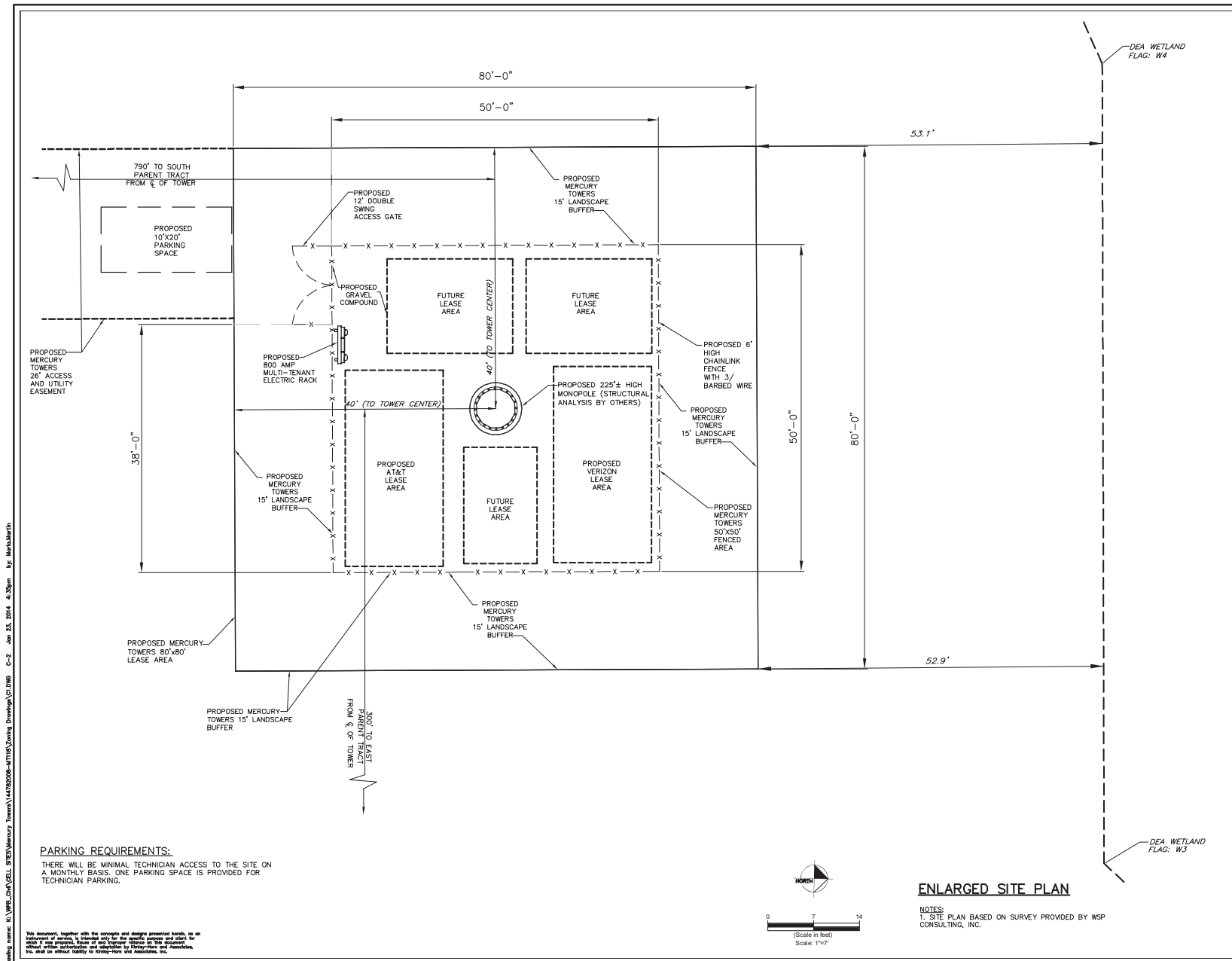
THENCE N89°45'40"E A DISTANCE OF 26.00 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND SITUATE WITHIN VOLUSIA COUNTY, FLORIDA, CONTAINING 19,502.84 SQUARE FEET MORE OR LESS.



- NOTE:**
1. ALL PROPOSED ATTACHMENTS TO TOWER BASED ON STRUCTURAL ANALYSIS BY OTHERS.
  2. TOWER IS DESIGNED FOR A TOTAL OF FIVE WIRELESS SERVICE PROVIDERS. LOCATION OF FUTURE PROVIDERS IS APPROXIMATE.
  3. CONTRACTOR TO COORDINATE ANTENNA MOUNTS W/ OWNER
  4. CONTRACTOR TO REFER TO STRUCTURAL ANALYSIS (BY OTHERS)

<b>Mercury Towers, LLC</b> 1123 Solana Avenue Winter Park, FL 32789	
<b>PROJECT INFORMATION:</b>	
MT118-MAYTOWN ROAD WEST	
1340 OSTEEN MAYTOWN ROAD OSTEEN, FL 32784 VOLUSIA COUNTY	
<b>CURRENT ISSUE DATE:</b>	
JANUARY 23, 2014	
<b>ISSUED FOR:</b>	
ZONING DRAWINGS	
<b>REV.:</b>	<b>DATE:</b>
<b>SEAL:</b>	
<b>PLANS PREPARED BY:</b>	
 © 2014 KIMLEY-HORN AND ASSOCIATES, INC. 1920 WEKIVA WAY, SUITE 200 WEST PALM BEACH, FLORIDA 33411 (561) 845-0665 FID# CA00000698	
<b>PROVIDER:</b>	
<b>Mercury Towers, LLC</b> 1123 Solana Avenue Winter Park, FL 32789	
<b>DRAWN BY:</b>	<b>CHK.:</b>
MM	LF
<b>LICENSURE:</b>	
MARIA VICTORIA MARTIN PE 72397	
<b>SHEET TITLE:</b>	
PARENT TRACT DETAIL & TOWER ELEVATION	
<b>SHEET NUMBER:</b>	<b>REVISION:</b>
C-1	
<b>KHA Job #:</b>	
144782008	



Mercury Towers, LLC  
1123 Solana Avenue  
Winter Park, FL 32789

## PROJECT INFORMATION:

MT118-MAYTOWN ROAD WEST

1340 OSTEEN MAYTOWN ROAD  
OSTEEN, FL 32764  
VOLUSIA COUNTY

## CURRENT ISSUE DATE:

JANUARY 23, 2014

## ISSUED FOR:

ZONING DRAWINGS

## REV.: DATE: DESCRIPTION:

REV.	DATE	DESCRIPTION

## SEAL:



## PLANS PREPARED BY:

**Kimley-Horn and Associates, Inc.**  
© 2014 KIMLEY-HORN AND ASSOCIATES, INC.  
1920 WEKIVA WAY, SUITE 200  
WEST PALM BEACH, FLORIDA 33411  
(561) 845-0665  
FID# CA00000698

## PROVIDER:

Mercury Towers, LLC  
1123 Solana Avenue  
Winter Park, FL 32789

## DRAWN BY: CHK.: APV.:

MM LF LR

## LICENSURE:

MARIA VICTORIA MARTIN PE 72397

## SHEET TITLE:

ENLARGED SITE PLAN

## SHEET NUMBER: REVISION:

C-2

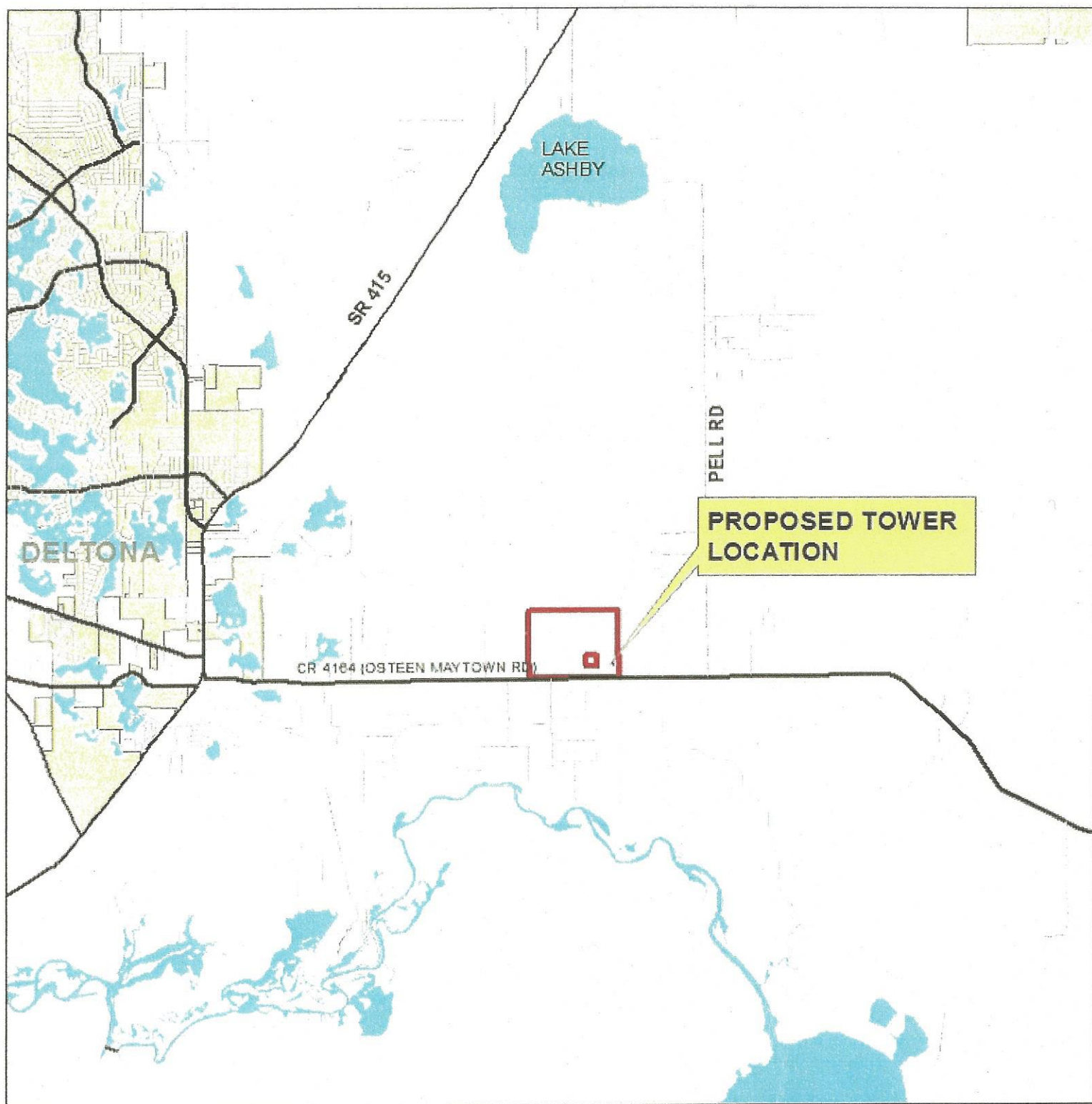
## KHA Job #:

144782008



Osteen Maytown Road  
looking at Driveway





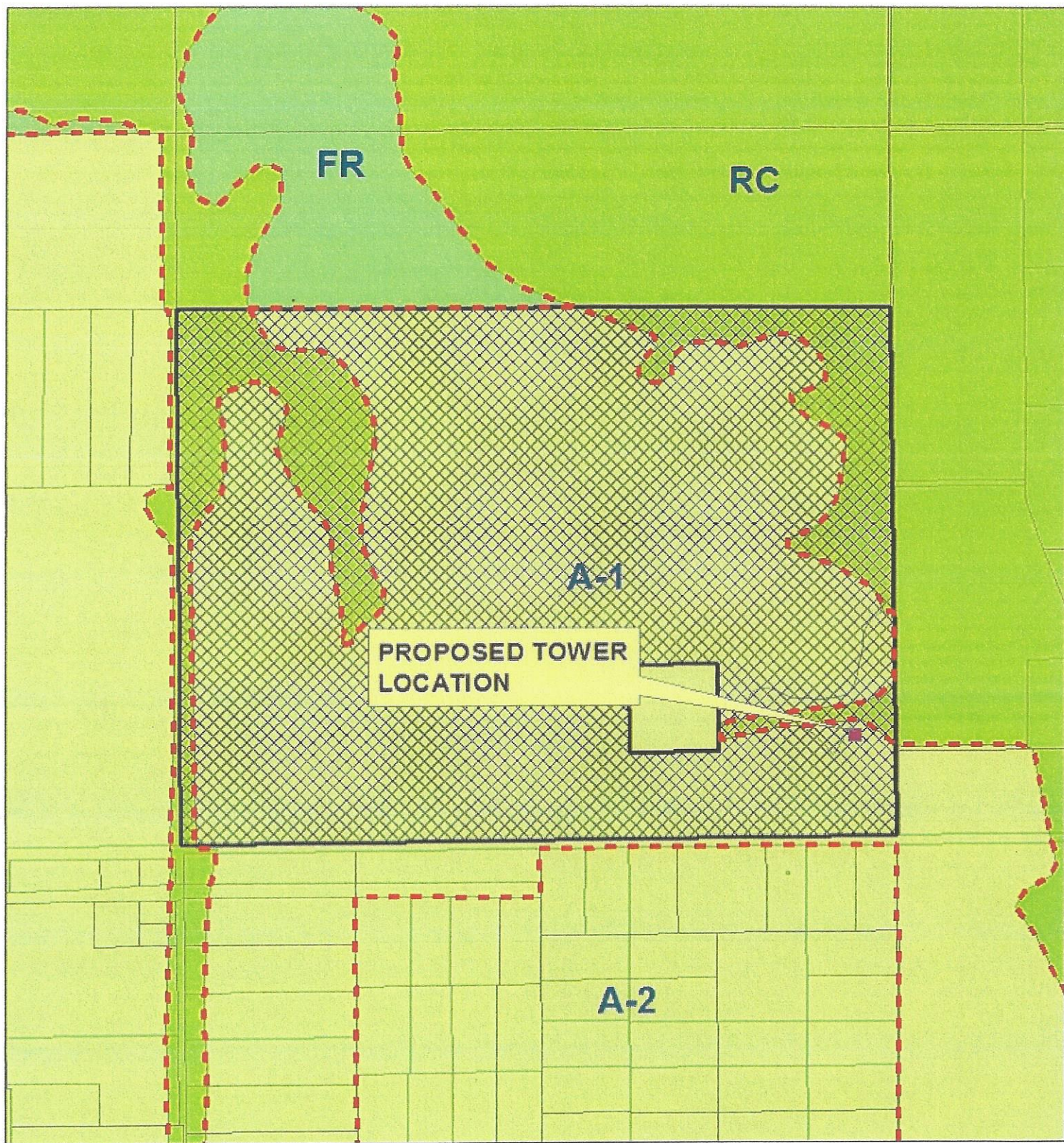
**LOCATION MAP**

1 inch = 8,000 feet

 PARENT PARCEL

**SPECIAL EXCEPTION**  
 **CASE NUMBER**  
**S-14-014**





**ZONING CLASSIFICATION**

1 inch = 1,000 feet

- |  |  |
|--|--|
|  AGRICULTURAL      |  RESOURCE CORRIDOR  |
|  FORESTRY RESOURCE |  80'x80' LEASE AREA |



**SPECIAL EXCEPTION  
CASE NUMBER**



PARENT PARCEL

**S-14-014**





**AERIAL**

IMAGE YEAR: 2012

1 inch = 800 feet

**SPECIAL EXCEPTION**

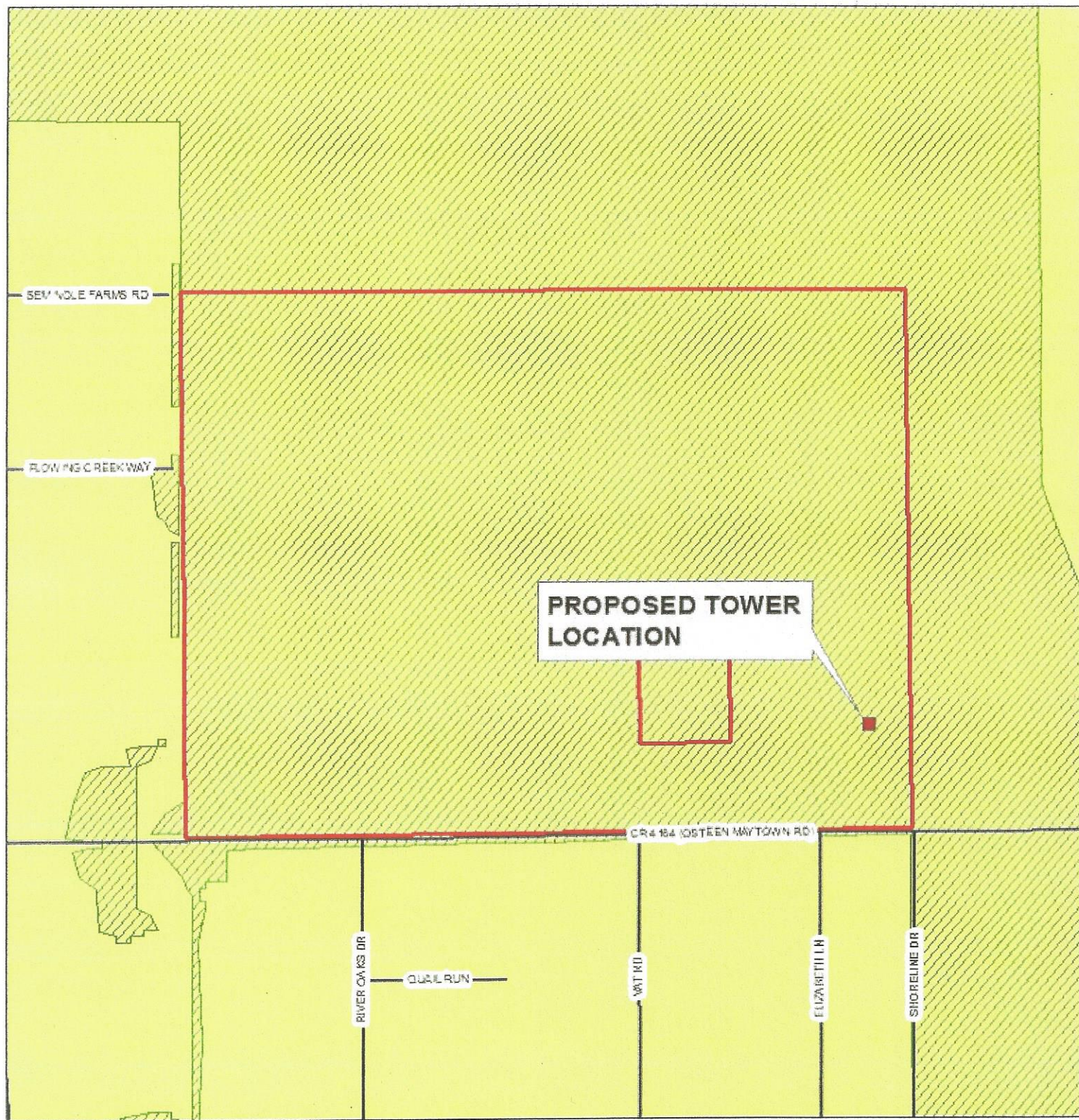
**CASE NUMBER**

**S-14-014**

 PARENT PARCEL     80'x80' LEASE AREA







**ECO/NRMA**

1 inch = 1,000 feet

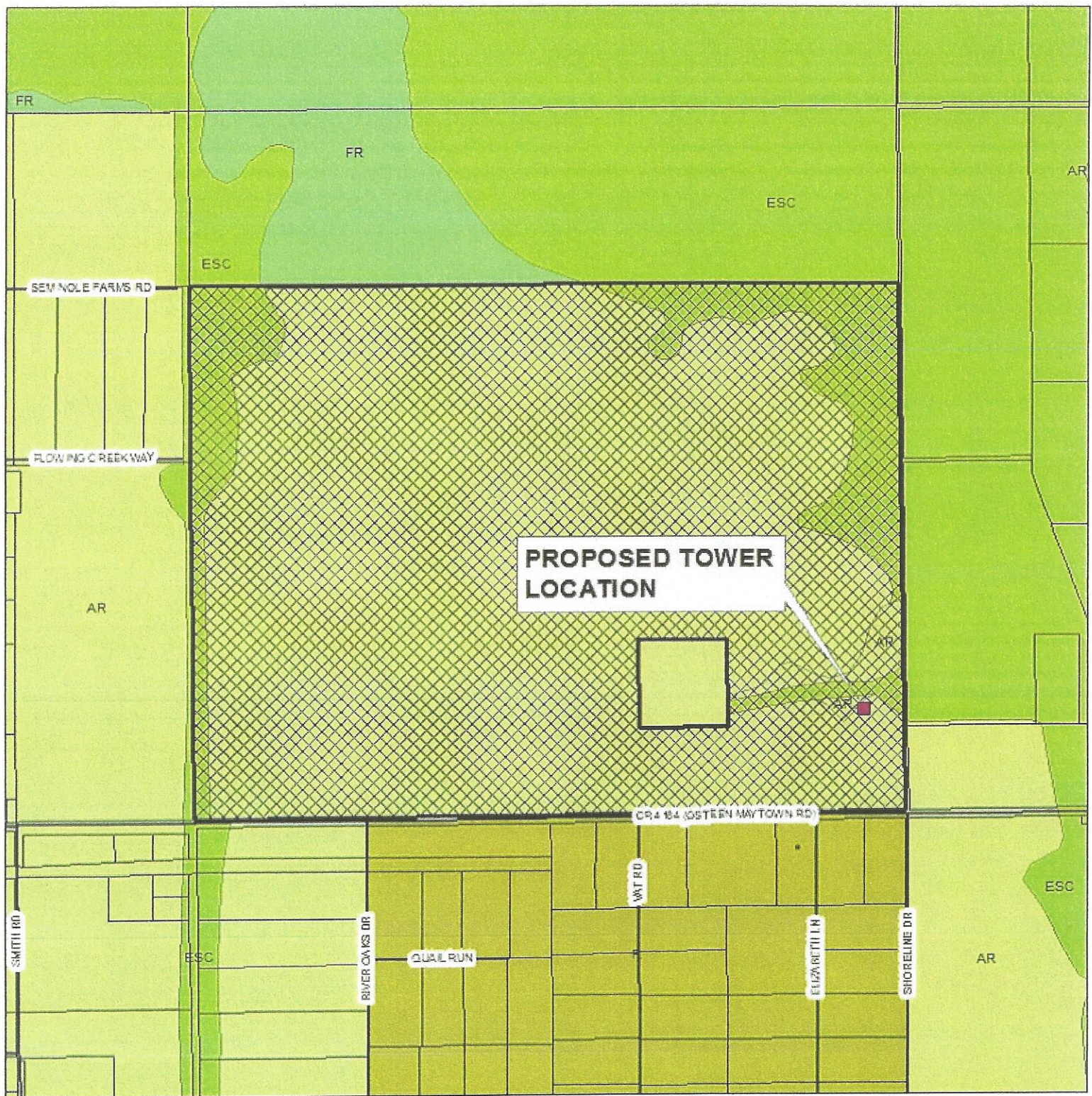
**SPECIAL EXCEPTION**

- PARENT PARCEL
- ECO
- NRMA
- 80'X80' LEASE AREA



**CASE NUMBER**  
**S-14-014**






### FUTURE LAND USE DESIGNATION

1 inch = 1,000 feet

### SPECIAL EXCEPTION


 AGRICULTURE RESOURCE (6)

 FORESTRY RESOURCE (2)

**CASE NUMBER**

 ENVIRONMENTAL SYSTEMS CORRIDOR (3)

 RURAL (1)

 80'x80' LEASE AREA

 PARENT PARCEL



**S-14-014**