

Community Development Department Memorandum 

Date: July 16, 2009

TO: Janesville Plan Commission

FROM: Vicky Miller, Development Specialist *UM*

SUBJECT: Public Hearing, Conditional Use Permit to construct a wireless communication tower on a portion of the Rock County 4-H Fairgrounds located at 1515 Craig Avenue (Rock County on behalf of T-Mobile Central, LLC)

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**I. RECOMMENDATION**

The Community Development Department recommends that following the closure of the public hearing, the Plan Commission approve the requested conditional use permit to allow the construction of a communication tower of 100 feet in height on a portion of the Rock County 4H Fairgrounds subject to the following conditions:

1. That the tower be limited in height to 100 feet and constructed as a stealth tower as proposed by T-Mobile with accommodation for four antenna carrier spaces.
2. That the design for the tower be altered to consist of a flagpole stealth design similar in appearance to the existing tower located on the site. The tower must include a round ornamental ball to be placed at the top of the structure and component hardware for the operation of a flag.
3. That the tower be painted a color or utilize a steel finish, to match or complement the existing tower as determined by Staff.
4. That additional evergreen plantings must be placed along the east side of the wooden fence enclosure. The height of the fence enclosure shall not exceed 8 feet.
5. That in the event that the Rock County Fairgrounds is relocated to another site, the tower and all associated equipment shall be removed from the site within 24 months of the relocation of the Fair to a new site. Removal of the tower and associated equipment shall include removal of the tower foundation to a depth of ten feet below ground surface.

**II. REQUEST**

Rock County, the owner of the Rock County 4-H Fairgrounds on behalf of T-Mobile Central, LLC is requesting the approval of a conditional use permit to erect a cellular telephone tower on a portion of the Rock County 4-H Fairgrounds located between Craig Avenue, Randall Avenue, Memorial Drive and east of Ringold Street.

The proposed structure would be a stealth monopole facility of 100 feet in total height and would be able to accommodate four wireless antenna arrays. An array is the set of panels for each cellular service provider that would be located on the tower. The

arrays would be a stealth design and be mounted on the inside of the tower. The proposed tower would replace an existing light pole and therefore, the design also includes a light to be installed at a height of approximately 32 feet above ground level.

A similar tower was approved last year at the fairgrounds for Cricket Communications. The proposed tower would be placed on the opposite end (west side) of the grandstand approximately 270 feet from the existing tower (see Map 1). Staff believes the proposed location would balance the appearance of the two towers on the site. Since the existing tower resembles a flagpole, Staff believes the new tower should also be equipped with the necessary components to operate a flag in a manner that complements the other existing facility on the site. Staff's recommendation includes a condition to that effect.

The tower would be 38 inches in diameter at the base, narrowing to 30 inches from the midpoint of the structure to the peak. It would be constructed of engineered steel and painted a color to complement the existing tower on the fairgrounds. T-Mobile intends to occupy the top two antenna arrays on the tower which will expand capacity of their service area on the city's east side. The two remaining array sites would remain available to accommodate future carriers.

### III. ANALYSIS

- A. The subject site consists of a 30 foot by 35 foot lease area within the 18 acre Fairgrounds site. (Comparatively, the lease space is 200 square feet smaller than that of the existing tower.) The site would be approximately 500 feet south of the Memorial Drive frontage, approximately 700 feet west of the eastern most line of the Fairgrounds along Randall Avenue and 300 feet from the west property line of the fairgrounds. The tower would be 350 feet north of the Craig Avenue property line and would be 100 feet in height.
- B. The tower would be a stealth design that matches the style and appearance of the existing tower at the Fairgrounds. As indicated above, Staff is recommending that the stealth design be slightly modified to resemble a flagpole facility. The tower would be able to support the equipment for up to four carriers (or three in this case since T-Mobile will be utilizing the uppermost two arrays.) Associated equipment cabinets would be located within the lease area to support the facilities on the tower. As proposed the tower and lease area would include an opaque wood privacy fence around the lease area to help screen the ground equipment. In addition, arborvitae would be planted around the north, south and west sides of the lease area to provide additional screening. Staff is recommending that similar plantings also be placed along the east side of the enclosure.
- C. The tower is being proposed at this location to facilitate expansion of the T-Mobile service area to the east side of Janesville. Staff has seen a continuous demand for carrier coverage in this area of the city as additional service providers enter the Janesville market.
- D. The 4H Fairgrounds property is unique in that it is zoned R2, Limited General Residence District and is essentially a non-conforming use that is entirely surrounded by other residential uses and a religious institution to the east. All

communications towers in excess of 30 feet in height are listed as a conditional use within the Zoning Ordinance.

- E. T-Mobile has provided Staff with maps of their service coverage which illustrate the need for additional coverage in the east side area. Copies of those service area maps are attached for your review.
- F. The City started requiring review of tower facilities as a conditional use permit in 1997. With that the City has established local criteria for review of towers as they relate to the conditional use permit approval requirements of the Zoning Ordinance. The review of the request as it relates to the criteria is outlined below:

**1. All possibilities for co-location have been exhausted:**

Co-location is the installation of two or more service providers' transmission facilities on the same tower, building or other structure. The purpose of co-location is to maximize the use of available resources and minimize the installation of additional towers and limiting the presence of these large and potentially obtrusive facilities within the community.

Staff has had multiple conversations with several carriers over the past several years as it relates to service needs on the east side of the community. T-Mobile's coverage level is weak in this area and all of the co-locates on the existing Fairground's tower are in use. The proposal has been brought forward based upon a number of conditions including what facilities are already available in the area, where the customer base is located, where other facilities have been proposed and/or denied and what sites can possibly meet the approval requirements.

Considering that this area of the city is almost entirely developed with residential uses, there are very limited opportunities to place a tower in a location that can effectively provide service to this density of population-customer base, and likewise, minimize the impact on those area residents. The Fairgrounds represents a unique opportunity to address those concerns, which were documented in Plan Commission review and approval of the previous stealth tower request.

**2. Minimum setback of 500 feet from a major arterial street:**

The intent of this criterion is to recognize that arterial streets generally carry large volumes of traffic and the installation of such a facility near one of these streets increases the likelihood that the facility will be visible to many people. Such streets are also major entry corridors into the Community.

This proposed tower would be located one and a half blocks (660 feet as measured from aerial photography) away from the nearest arterial street (Milwaukee Street). The proposed tower would meet this criterion. In addition, the existing 100 foot tower demonstrates that the proposed tower would not be visible from Milwaukee Street.

**3. Minimum setback from existing and planned residential structure of 2.5 times the height of the tower:**

The intent of providing a minimum setback from residential uses is to separate such a facilities from residential uses for primarily aesthetic, land use and safety purposes.

The closest residential structure to the site would be approximately 340 feet south of the tower location. This criterion would locate a tower at least 250 feet from the closest residential structure.

**4. Compliance with the Rock County Airport overlay Zoning District:**

The property is not located within the boundaries of the airport overlay zoning district, so compliance with this criteria is not applicable. Since the tower is less than 200 feet in height, the tower will not be required to be lighted with a strobe or red and white paint as mandated by the FAA.

**5. Appropriateness of lot size; design and structural integrity of the tower:**

Communication towers can vary in forms and this generally is based upon the overall height of the structure. Certain structures may be less obtrusive in design than others depending upon the site characteristics and the surrounding landscape and uses. The proposed 100 foot stealth flagpole is an example of fitting a facility into the general landscape.

The Fairgrounds was originally established in the late 1800's on the fringe of the Janesville urban area to provide for county-wide activities, as was customary with the establishment of most fairground sites in Wisconsin. Over time, the City grew well beyond the Fairground property, completely surrounding the site with urban residential development. In this respect, the Fairgrounds became a nonconforming use within the residential zoning district. In most other cases, County Fairground sites have been relocated to more suitable locations along the urban fringe. This will eventually occur but until relocation is implemented, the fairgrounds can be an appropriate location for the implementation of such a facility as long as the tower is designed to blend in with the urban landscape.

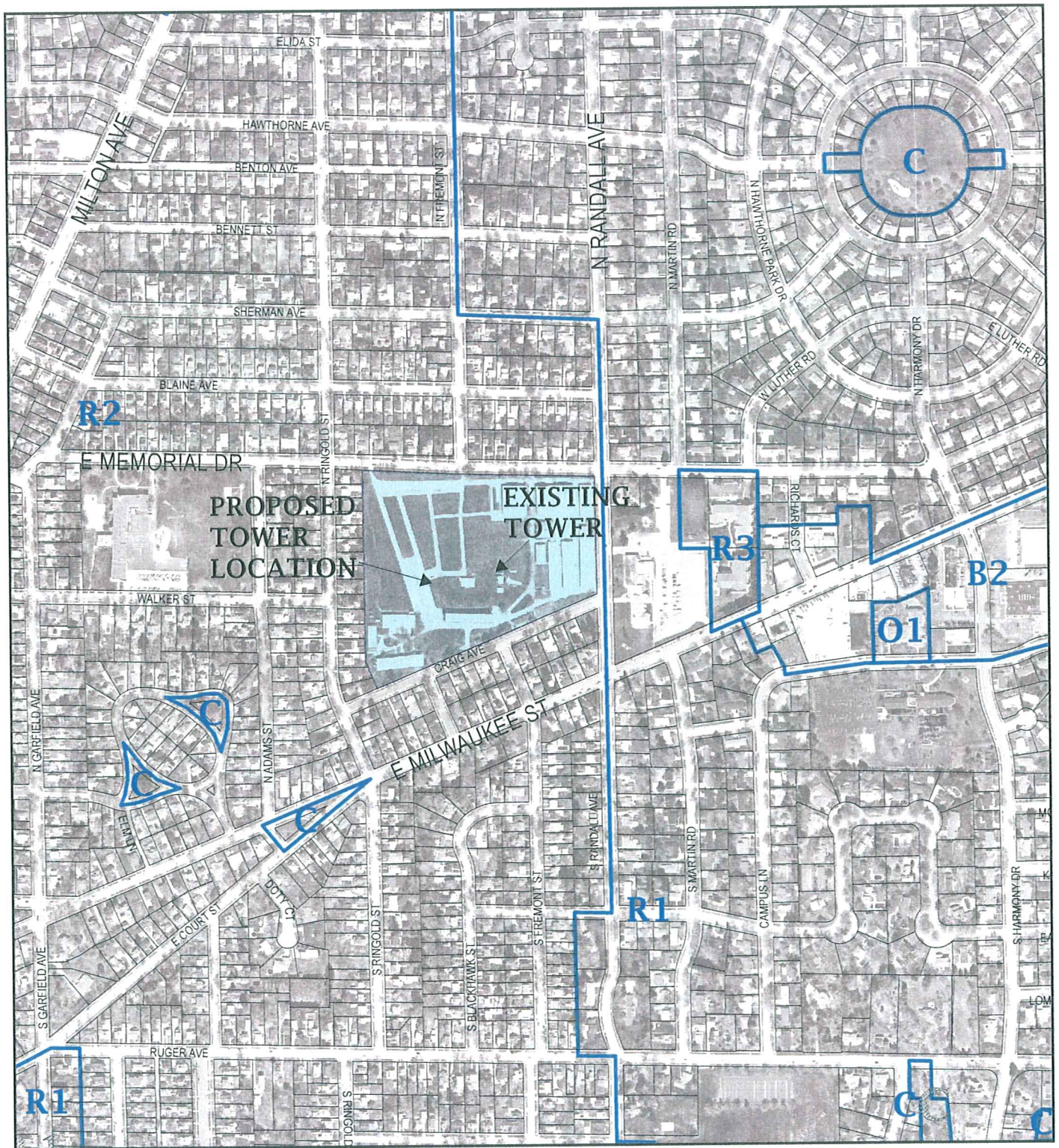
Furthermore, there has been ongoing public discussion regarding the possibility of the 4H Fairgrounds being relocated to another site in or nearby the City. With this in mind, the most likely redevelopment prospect for the Fairgrounds is single and two-family residential development. The potential negative impact of a long-term land lease for a tower on the Fairgrounds could adversely affect the potential future redevelopment of the site. To address this Staff is recommending a requirement for removal of the facility within two years of the relocation of the Fairgrounds to another site. It is Staff's understanding that this provision is included in the lease agreement that the County has prepared for the applicant.

- G. The Community Development Department has received one phone call in favor of this proposal. The caller stated he had been a resident in this area since 1948 and was pleased the Fairgrounds could serve another purpose. In addition, a public meeting was held in June. Of the 4 citizens in attendance, two were opposed. Rock County administrators also indicated they had received a number of calls supporting approval of the proposed tower.

- H. The Rock County Agricultural/Land Conservation Committee has reviewed and approved the proposal in this location.
- I. Given the fact that the applicant has exhausted their co-location possibilities, that there are limited other sites on the east side of the community, that the recommendation addresses the long term redevelopment of the fairgrounds Staff believes that this is the right proposal for cellular service on the east side of Janesville.

c: Duane Cherek  
Brad Cantrell





Legend		Subject Site	Parking Overlay District	Zoning District Boundaries
R1	Single-Family & Two Family Residence District			
R1D	Two Family Residence District			
R2	Limited General Residence District			
R3	General Residence District			
R3M	Medium Density Residence District			
R4	Central Residence District			
O1	Office / Residence District			
O2	Central Office / Residece District			
O3	Neighborhood Office District			
B1	Neighborhood Convenience District			
B2	Community Shopping District			
B3	General Commercial District			
B4	Business Highway District			
B5	Central Buusiness District			
B6	Central Service District			
BT	Business Technology District			
M1	Light Industrial District			
M2	General Industrial District			
M3	Central Light Industrial District			
M4	Central General Industrial District			
A	Agricultural District			
M	Mining District			
C	Conservancy District			

Date: 6-18-09  
 Scale: 1"=600'  
 Map Coordinate: N-16

LOCATION / ZONING MAP  
**CONDITIONAL USE PERMIT**  
**1515 CRAIG AVENUE**

**MAP 1**

**CITY OF JANESVILLE**  
**PLANNING SERVICES**



**PHOTO SIMULATION DESCRIPTION:**

HEIGHT OF PROPOSED STEALTH POLE SCALED FROM HEIGHT OF EXISTING LIGHT TO BE REPLACED.

**PHOTO SIMULATION  
 ROCK COUNTY FAIR GROUNDS  
 JANESVILLE, WISCONSIN**

SHEET TITLE:

ISSUE DATE:  
 PHOTO (MS) - 5/14/09

REVISIONS:

DRAWN BY:  
 CHECKED BY:  
 ECL  
 PLOT DATE:  
 5/14/2009  
 PROJECT NUMBER:  
 4167  
 FILE NAME:  
 PS4.dgn

SHEET NUMBER:

**PS-4**





PROPOSED EVERGREEN  
LANDSCAPING (TYP)

PROPOSED TELCO CABINET  
MOUNTED TO FENCE

PROPOSED MULTI-CARRIER  
ELECTRIC METER BANK  
MOUNTED TO FENCE

PROPOSED 30'-0" x 30'-0" T-MOBILE  
LEASE AREA & WOODEN FENCED  
(7' TALL) COMPOUND

PROPOSED BURIED ELECTRIC,  
VERIFY EXACT ROUTING W/  
LOCAL UTILITY PROVIDER

PROPOSED 8" WIDE  
UTILITY EASEMENT

PROPOSED BURIED TELCO,  
VERIFY EXACT ROUTING W/  
LOCAL UTILITY PROVIDER

EXISTING LIGHT POLE  
TO BE REMOVED

EXISTING TELCO PEDESTAL # 21,  
VERIFY EXACT SOURCE W/  
LOCAL UTILITY PROVIDER

GRASS

PROPOSED 12' WIDE  
ACCESS GATE

ASPHALT

PROPOSED 30'-0" WIDE  
ACCESS EASEMENT & BURIED CONDUIT

3000  
BITS

FUTURE  
BITS

7.5'

PLUG

PROPOSED T-MOBILE EQUIPMENT  
ON 7'-0" x 14'-0" CONCRETE PAD

POSSIBLE FUTURE  
CARRIER LEASE AREA

EXISTING FENCE - SHORT  
SECTION TO BE REMOVED

TERMINATE EXISTING FENCE  
INTO PROPOSED PRIVACY FENCE

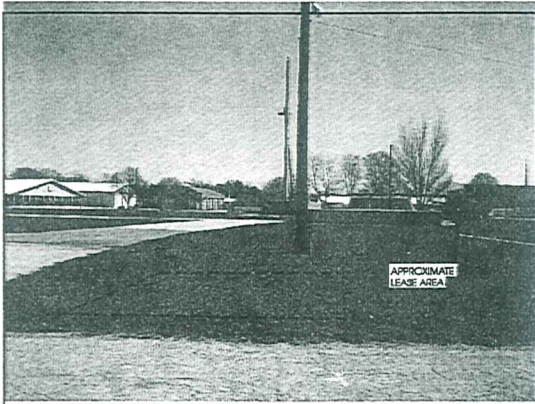
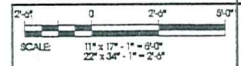
EXISTING FENCE

30'-0" FENCED COMPOUND AND LEASE AREA

GRASS

PROPOSED 30' WIDE  
ACCESS EASEMENT

PROPOSED EVERGREEN  
LANDSCAPING (TYP)



SITE OVERVIEW (LOOKING EAST)

**COMPOUND PLAN**  
**ROCK COUNTY FAIRGROUNDS**  
**[#ML70549A]**  
**JANESVILLE, WISCONSIN**

SHEET TITLE

SCALE DATE:  
ISSUING DRAWINGS - 05/05/09

REVISIONS:  
ISSUING DRAWINGS - 06/26/09

DRAWN BY:  
TAS  
CHECKED BY:  
DCL  
PLCT DATE:  
8/26/2009  
PROJECT NUMBER:  
4167  
FILE NAME:  
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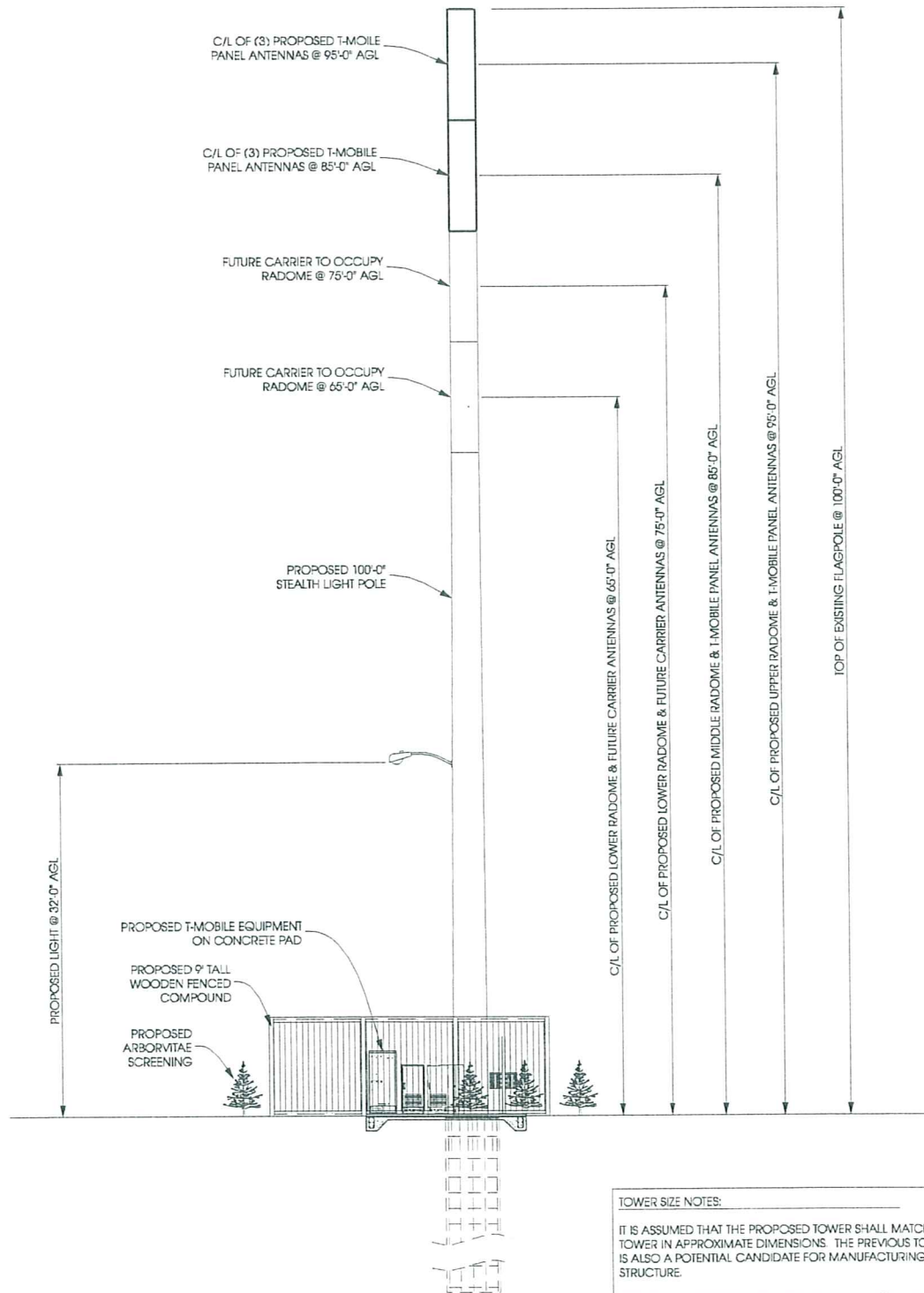
SHEET NUMBER

**NOTES:**

FOUNDATIONS SHOWN ARE TYPICAL AND DO NOT REPRESENT ACTUAL CONDITIONS

CONTRACTOR TO VERIFY HEIGHT AND DIRECTION OF ANTENNA WITH PROJECT MANAGER

ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH



**TOWER SIZE NOTES:**

IT IS ASSUMED THAT THE PROPOSED TOWER SHALL MATCH THE EXISTING TOWER IN APPROXIMATE DIMENSIONS. THE PREVIOUS TOWER VENDOR IS ALSO A POTENTIAL CANDIDATE FOR MANUFACTURING THE PROPOSED STRUCTURE.

ASSUMED DIMENSIONS: RADOME (4) 10' TALL x 30" DIAM., TOWER BASE 36" DIAM., TOWER HEIGHT 100'

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A  
A-1

**TOWER PROFILE [WEST ELEVATION]**

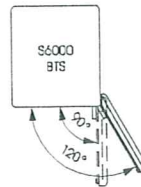
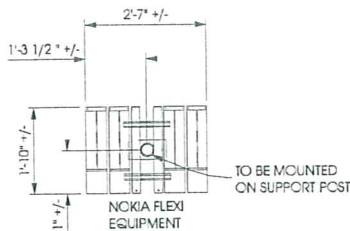
11X17 - 1" = 15'-0"  
22X34 - 1" = 7'-6"

CONDUIT ROUTING NOTES

SOURCE	CONDUIT ROUTE
PPC	1-1/4" ELEC. STUBUP TO PRIMARY BTS 1-1/4" ELEC. STUBUP TO FUTURE BTS 1-1/4" ELEC. FEED TO BBU
BBU	1-1/4" ELEC. FEED TO PRIMARY BTS 1/2" ALARM FEED (SOLID CAT5) TO PRIMARY BTS 1-1/4" ELEC. STUBUP TO FUTURE BTS 3/4" ELEC. STUBUP TO FLEXI
TELECO HOFFMAN	1" TELECO STUBUP FOR PREPRO TO PRIMARY BTS. 1" TELECO STUBUP TO FLEXI
PRIMARY BTS	1" TELECO STUBUP TO FLEXI

UMTS READY NOTES:

1. ANDREW UMTS ANTENNAS INSTALLED
2. DUAL MHA TMAS INSTALLED ON THE CENTER PIPE
3. RET CABLES INSTALLED FROM ANT. TO ANT. AND THEN INTO THE AWS SIDE OF THE TMA.
4. UMTS COAX COLOR CODED WITH GREEN TAPE
5. UMTS CUT BACK TO FLEXI LOCATION.
6. FLEXI POST INSTALLED
7. INSTALL ONE (1) 30-AMP TWO-POLE BREAKER IN THE BBU FOR THE FLEXI.



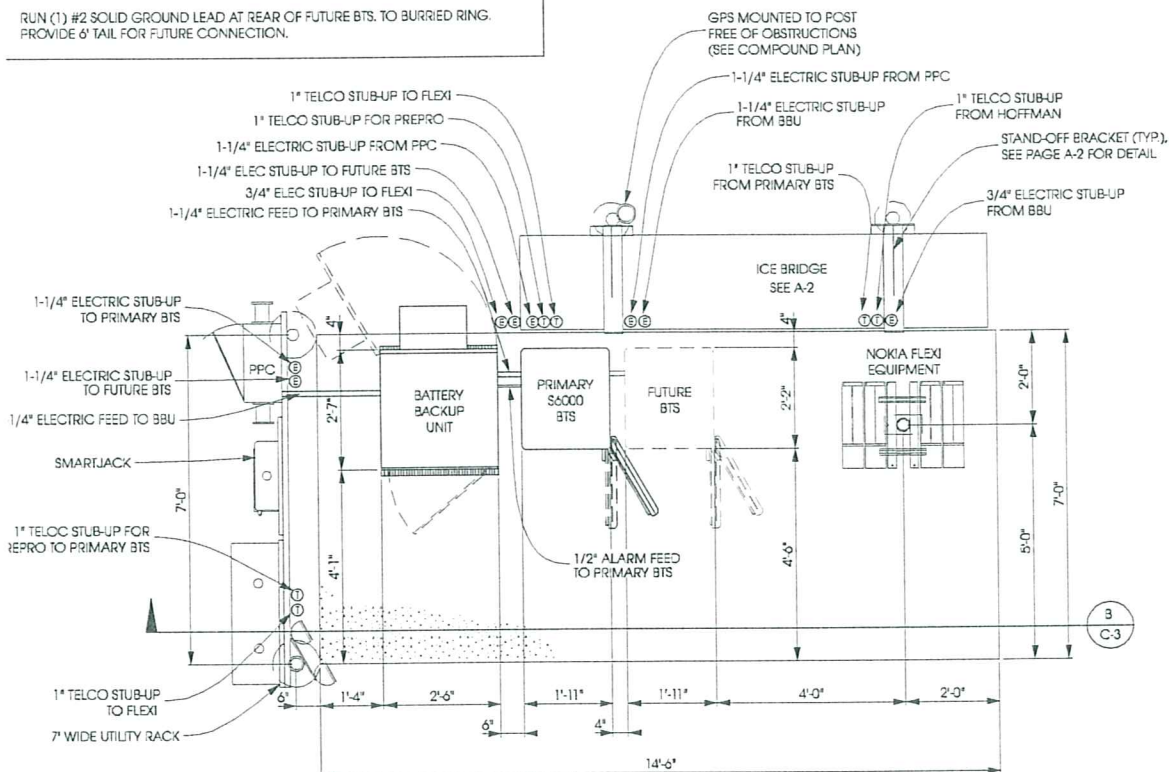
FOR ALL CONDUITS ROUTED TO FLEXI, REDUCE TO 6' LONG 1/2" SEAL TIGHT CONDUIT DUE TO LIMITED CONNECTION SPACE. LEAVE (2) SEALTIGHT CONNECTORS IN ZIPLOCK BAG DUCT-TAPPED TO TAILS

FOR ALL EMPTY CONDUITS INSTALL 1/4" FILL CORD AND CAP END.

RUN (2) #2 GREEN STRANDED GROUNDS FROM THE GROUND RING TO THE FLEXI LOCATION. PROVIDE TWO BROWN 2-HOLE LUGS FOR TERMINATION.

BOND FLEXI BASE WITH #2 SOLID LEAD TO BURIED GROUND RING.

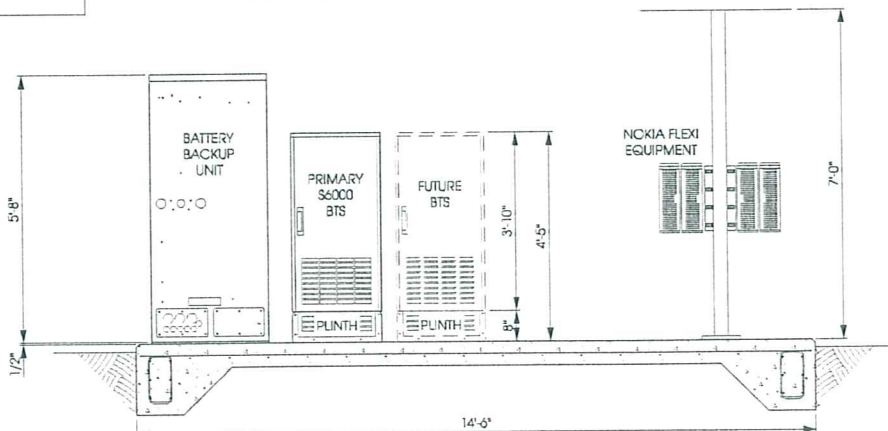
RUN (1) #2 SOLID GROUND LEAD AT REAR OF FUTURE BTS. TO BURIED RING. PROVIDE 6' TAIL FOR FUTURE CONNECTION.



NOTES:  
ICE BRIDGE POSTS INSTALLED TO AVOID CONFLICT WITH COAX & UTILITY ROUTING

**B EQUIPMENT SLAB PLAN**

A-1 11X17 - 1/4" = 1'-0"  
22X34 - 1/2" = 1'-0"



**C EQUIPMENT SLAB SECTION**

A-1 11X17 - 1/4" = 1'-0"  
22X34 - 1/2" = 1'-0"

**Edge Consulting Engineers, Inc.**  
624 W. Lake Street  
P.O. Box 144, Janesville, WI 53578  
608.244.1449 voice  
608.644.1549 fax  
www.edgeconsulting.com

**ANTENNA DETAILS  
ROCK COUNTY FAIRGROUNDS  
[#ML70549A]  
JANESVILLE, WISCONSIN**

SHEET TITLE:

ISSUE DATE:  
ZONING DRAWINGS - 05/06/09

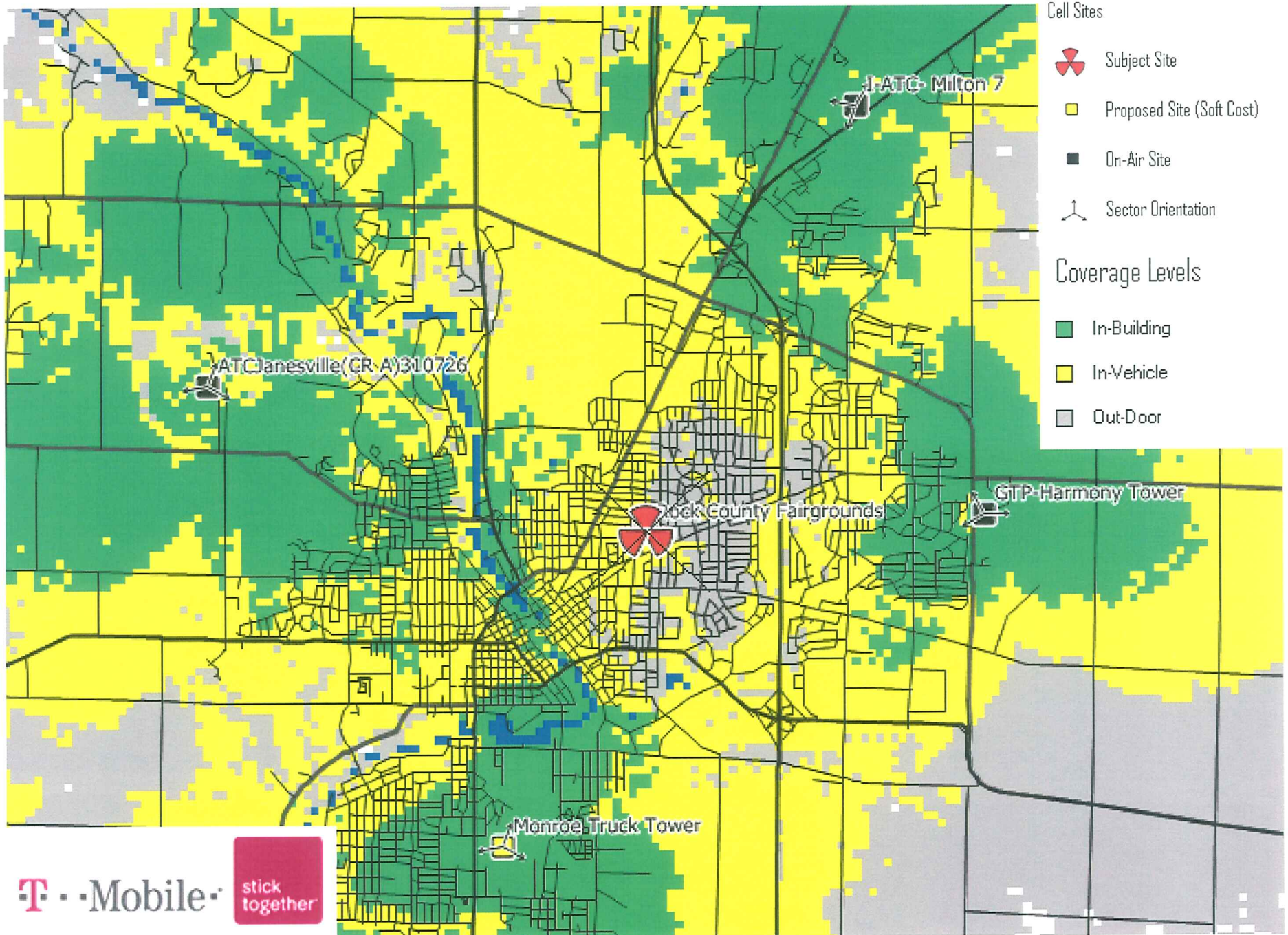
REVISIONS:  
ZONING DRAWINGS - 05/26/09

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**A-1**

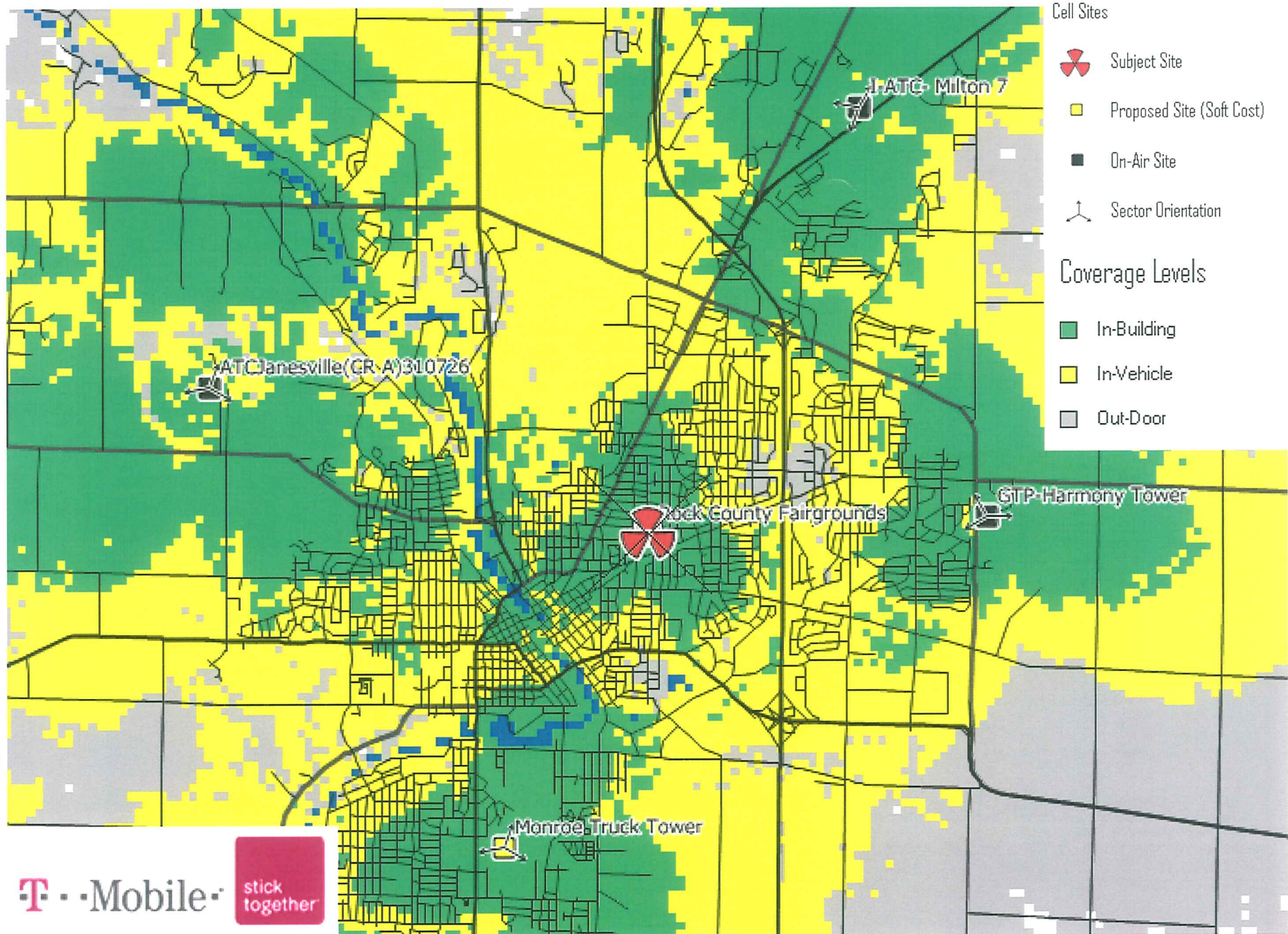
BEFORE TOWER INSTALLATION



T-Mobile

stick together

AFTER TOWER INSTALLATION



T-Mobile

stick together



1515 Craig Ave  
Rock County  
Fairgrounds

Existing Stealth Tower,  
Enclosure and Screening

