

KNOXVILLE/KNOX COUNTY METROPOLITAN PLANNING COMMISSION USE ON REVIEW REPORT

► FILE #: 1-L-14-UR AGENDA ITEM #: 39

POSTPONEMENT(S): 1/9/2014 **AGENDA DATE: 2/13/2014**

► APPLICANT: AT&T WIRELESS

OWNER(S): AT&T

TAX ID NUMBER: 50 17101

JURISDICTION: County Commission District 8

STREET ADDRESS: 6514 Babelay Rd

LOCATION: Southeast side of Babelay Rd., east of Harris Rd.

► APPX. SIZE OF TRACT: 38.19 acres

SECTOR PLAN: Northeast County

GROWTH POLICY PLAN: Rural Area

ACCESSIBILITY: Access is via Babelay Rd., a minor collector street with a 20' pavement width

within a 40' right-of-way.

UTILITIES: Water Source: Northeast Knox Utility District

Sewer Source: Knoxville Utilities Board

WATERSHED: Woods Creek

► ZONING: A (Agricultural)

EXISTING LAND USE: Residences and vacant land

► PROPOSED USE: 195' monopole commercial telecommunications tower

HISTORY OF ZONING: None noted

SURROUNDING LAND
USE AND ZONING:

North: Residences / A (Agricultural)

South: Vacant land / A (Agricultural)

East: Vacant land / A (Agricultural)

West: Residences and vacant land / A (Agricultural)

NEIGHBORHOOD CONTEXT: The site is located in an area of agricultural and rural residential use that has

developed under A (Agricultural) zoning.

STAFF RECOMMENDATION:

► APPROVE the request for a 195' monopole commercial telecommunications tower in the A (Agricultural) zoning district subject to 8 conditions.

- 1. Meeting all applicable requirements of the Knox County Zoning Ordinance.
- 2. Meeting the Utility Access Driveway standards and all other applicable requirements of the Knox County Fire Prevention Bureau.
- 3. Meeting all applicable requirements of the Knox County Department of Engineering and Public Works.
- 4. Designing the tower and equipment area to support up to 5 telecommunication carrier antenna arrays (presently designed for 4).
- 5. Installing the evergreen landscaping screen along the fenced enclosure, as identified on the tree planting plan, within six months of the tower becoming operational.

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- 6. Contacting the Tennessee Valley Authority regarding the proposed driveway crossing (and associated grading) of utility easement for the overhead powerline.
- 7. Since the FAA does not require any lighting for this facility, there shall be no lighting on the tower.
- 8. At the time of the request for a building permit, posting a bond or other approved financial surety that would ensure the removal of the tower if it is abandoned.

With the conditions noted above, this request meets all criteria for a use-on-review in the A zoning district.

COMMENTS:

This is a request for a new 195' monopole commercial telecommunications tower to be located within a 10,000 square foot lease area located on a portion of a 38.19 acre tract. The subject property is zoned A (Agricultural) and telecommunication towers are considered as a use on review in this district. Access to the site is by an easement off of Babelay Rd., a minor collector street. The driveway is required to meet the Utility Access Driveway standards of the Knox County Fire Prevention Bureau which requires a 16' wide paved access driveway.

The proposed tower is required to be located 214.5 feet (110% of the tower height) from the nearest residence. The proposed tower exceeds that minimum standard since the nearest residence is over 1000' from the base of the tower. The applicant is proposing an 8' high security fence around the tower and equipment area. The FAA does not require any lighting for a tower of this height.

The applicant states that there are no existing structures in the area that can be used for antenna placement to obtain the required 4G coverage. The applicant is proposing up to 4 telecommunication carrier antenna arrays on this tower. AT&T will be the principal client for the tower. A letter has been submitted stating that American Towers LLC agrees to make all of its facilities available to other wireless providers.

Attached to the staff report are several support documents, including a report from MPC's tower consultant, Mr. Larry E. Perry. Mr. Perry's report describes the proposal and highlights his findings. Mr. Perry recommends that the applicant design the tower to hold up to 5 sets of antenna arrays and feedlines. Mr. Perry concludes that the 195' monopole tower is technically justified by the materials submitted by the applicant (see attached report).

EFFECT OF THE PROPOSAL ON THE SUBJECT PROPERTY, SURROUNDING PROPERTY AND THE COMMUNITY AS A WHOLE

- 1. The proposed development will have minimal impact on local services since utilities are available to serve this site.
- 2. The tower site, being located in an area made up of primarily large tracts, should have minimal impact on nearby residences.

CONFORMITY OF THE PROPOSAL TO CRITERIA ESTABLISHED BY THE KNOXVILLE ZONING ORDINANCE

- 1. With the recommended conditions, the proposed commercial telecommunications tower at this location meets the standards required in the A (Agricultural) zoning district.
- 2. The proposed tower is consistent with the general standards for uses permitted on review: The proposed development is consistent with the adopted plans and policies of the General Plan, North County Sector Plan and Wireless Communications Facility Plan. The use is in harmony with the general purpose and intent of the Zoning Ordinance. Since this site is in a rural area, the use will not significantly injure the value of adjacent property. The use will not draw additional traffic through residential areas.

CONFORMITY OF THE PROPOSAL TO ADOPTED PLANS

- 1. The Northeast County Sector Plan proposes agricultural uses on this property and hillside protection.
- 2. Under the guidelines for tower placement in the Wireless Communications Facility Plan this proposed tower falls within the "Opportunity Area" and "Sensitive Area". The proposed tower site is located in a pasture area which the Plan considers to be an "Opportunity Area" for the location of telecommunication towers. The Plan takes a neutral position on tall monopole towers located in a pasture area. The proposed tower site is also located on a hill below a ridgeline which the Plan considers to be a "Sensitive Area" for the location of telecommunication towers. The Plan takes a neutral position on tall monopole towers located in this area.
- 3. The site is located within the Rural Area on the Knoxville-Knox County-Farragut Growth Policy Plan map.

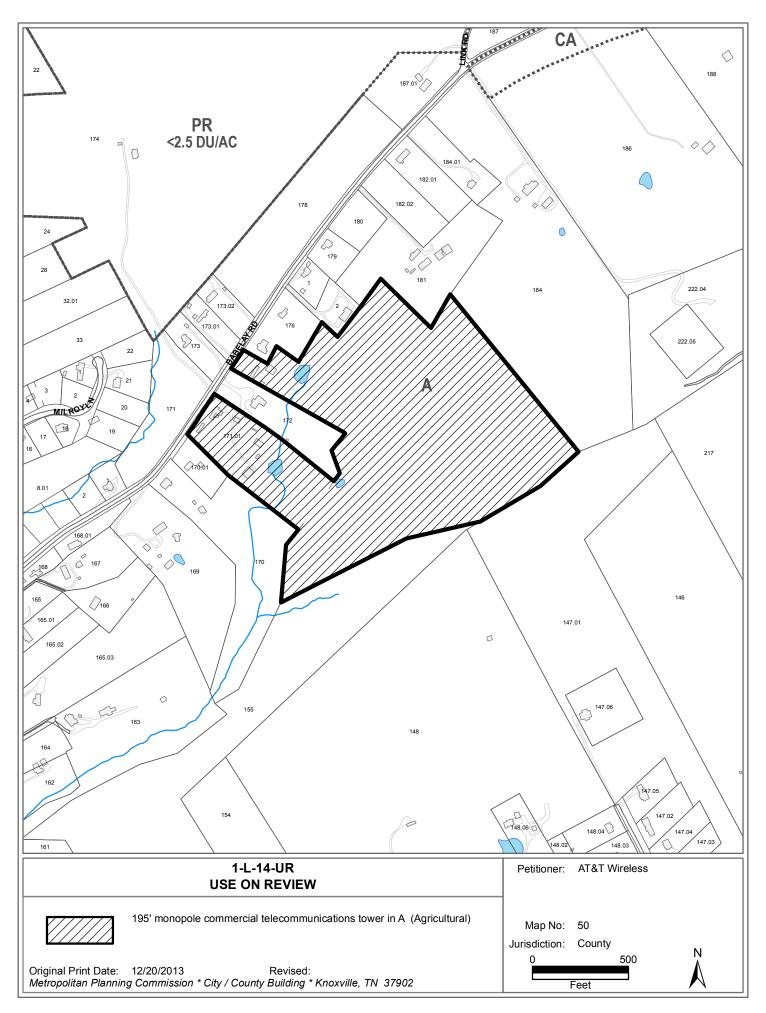
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ESTIMATED TRAFFIC IMPACT: Not required.

ESTIMATED STUDENT YIELD: Not applicable.

MPC's approval or denial of this request is final, unless the action is appealed to the Knox County Board of Zoning Appeals. The date of the Knox County Board of Zoning Appeals hearing will depend on when the appeal application is filed. Appellants have 30 days to appeal an MPC decision in the County.

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RF Affidavit

November 21, 2013

Re: Babelay Cell Site

AT&T has determined that a new Wireless Communications Facility is required in Knox County, TN. A proposed tower at 6540 Babelay Road, Knoxville, TN 37924 has been accepted by RF Engineering. The primary focus of this facility is to cover Rutledge Pike, Millertown Pike, Babelay Road, Harris Road, and Washington Pike, as well as the surrounding roads and neighborhoods. These roads and highways are main thoroughfares for those traveling in Knox County.

RF Propagation plots are attached showing predicted before and after coverage levels. The attached maps show the pre and post coverage for the area affected for the spectrum bands that will be improved.

The proposed site meets <u>AT&T</u>'s radio frequency and network design requirements for improving its coverage and capacity needs at 195 ft. AGL. There are no facilities that exist to provide the needed coverage of the area. AT&T is collocated on all the adjacent sites.

The closest existing AT&T sites that would hand off to this proposed site are, on average, 2.52 miles away from the needed coverage zone.

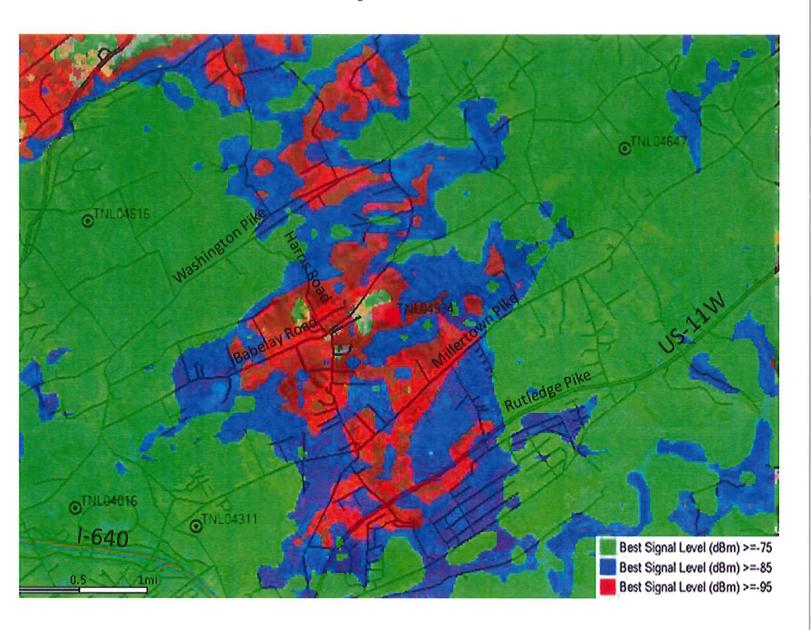
AT&T certifies that all of its equipment will be installed and operated in keeping with applicable FAA and FCC rules and regulations, as well as appropriate industry standards. The construction of this facility, including AT&T's installation of transmitter/Receiver equipment, will not interfere with the usual and customary transmission or reception of radio, television, and general public use communications equipment.

Submitted by:

Gerald M. Winters Jr. – RAN Design Engineer – AT&T Mobility

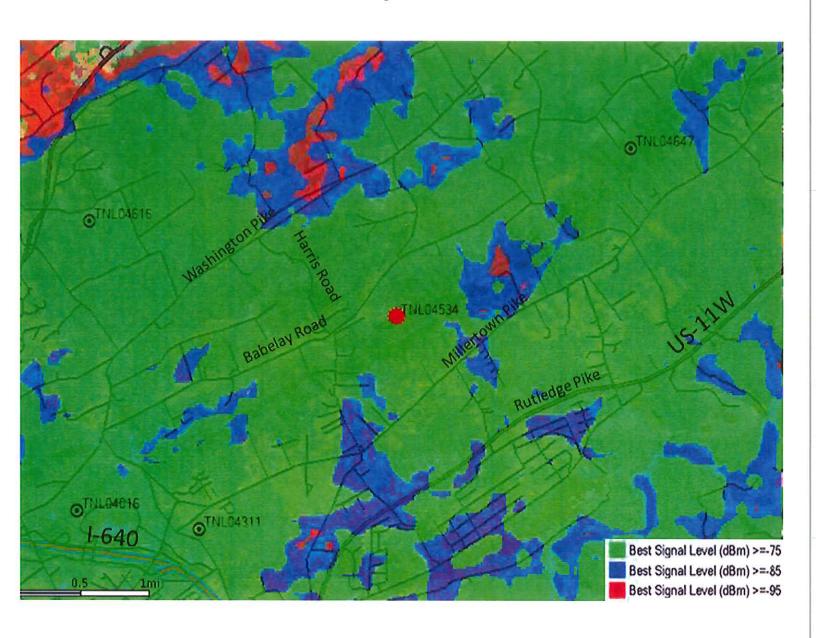


Babelay Before





Babelay After





Knox MPC 400 Main Street, Suite 403 Knoxville, TN 37902 ATTN: Tom Brechko

> Application of American Towers LLC to construct a new Wireless Telecommunications Tower for the following site:

Site Name: Babelay TN, Site No. 282092 Site Address: 6514 Babelay Road, Knoxville, Tennessee, 37924

AMERICAN TOWERS LLC

American Towers LLC ("AT") is one of the leading independent owners and operators of shared wireless infrastructure. The core business of American Towers LLC involves the engineering, deployment, marketing, ownership, operation and leasing of shared wireless communications sites. The sharing of infrastructure among multiple services lies at the heart of American Tower's business philosophy. Our portfolio of wireless communication sites, including existing towers and rooftops, enables our customers to serve their markets more efficiently and with sensitivity to local planning and zoning jurisdictions. American Towers LLC designs all of our facilities for multiple collocation opportunities for our customers. We endeavor to assist communities in reducing the number of towers in a given jurisdiction by supplying our customers with locations that are ready for them "Just in Time" for their coverage design and wireless performance needs. As one of the largest tower companies in the world, American Towers LLC has master lease agreements, negotiated at arms-length, with all major wireless carriers licensed to operate in Tennessee. In negotiating the rental rates of these master lease agreements, American Towers LLC considers the competitive environment of its business and the presence of other major tower companies such as Crown Castle and SBA. This ensures that American Towers LLC charges only reasonable rates to service providers.

Collocation Certification

American Towers LLC agrees to comply with the Zoning Ordinance of Knox County, Tennessee and/or the Code of Ordinances of the City of Knoxville, Tennessee and is willing to permit other user(s) to attach communication equipment which do not interfere with the primary purpose of the tower, provided that such other users agree to negotiate a reasonable compensation to the owner from such liability as may result from such attachment.

American Towers LLC

Rv

Michael S. Queenan

Zoning Attorney



Jacobs Engineering 5449 Bells Ferry Road Acworth, GA 301002 USA Phone: 770-701-2500 Fax: 770-701-2501

November 22, 2013

RE:

Cell Site Name: Babelay Fixed Asset #: 12939179

No suitable facilities exist that would allow service to be provided to the proposed coverage area.

Thomas A. Porter

Site Acquisition Contractor

| L, | LAND USE/WIRELESS FACILITIES MATRIX | Co-Location | Stealth Structure | Low Monopole Below 90' | Moderate Monopole 90'-150' | Tall Monopole 150′- 199′ | Lattice Tower | Guyed Tower |
|------------|---|-------------|----------------------|------------------------------|----------------------------------|--------------------------------|------------------|----------------|
| MP(| Industrial/Business Park | | | | | | | |
| | Industrial Use | | | | | | | |
| | Pre-approved Government-owned Property | | | | | | | |
| | Urban Expressway Corridor | | | | | | | |
| | Rural/Heavily Wooded | | | | | | | |
| | Pasture | | | | | \bigvee | | |
| 0dd 014 | Central Business District | | | | | | | |
| 0 | Office/Commercial Corridor | | | | | | | |
| | Shopping Center | | | | | | | |
| | | | | | | | | |
| SA | Within 500' of a Residence | | | | | | | |
| ARE | Rural Residential | | | | | | | |
| BΛI | Non-residential Property in Residential Area (durch, cemetery, library, etc.) | | | | | | | |
| TISV | Multi-family Residential | | | | | | | |
| SEI | On Hill below Ridgeline | | | | | \bigvee | | |
| | | | | | | | | |
| | Conservation Open Space | | | | | | | |
| St | Scenic Highway | | | | | | | |
| /BE/ | Public Park | | | | | | | |
| CE h | Ridgetop/Ridgeline | | | | | | | |
| | L | | | | | | | |
| | Historic District/Site | | | | | | | |
| | Single-family Residential | | | | | | | |
| lten | Vacant Residential Lot | | | | | | | |
| h # 39 | | Encouraged | | | Neutral | 1-7-1 | -T- 14- NK | Discouraged |
| | | | | | | | | |

MPC February 13, 2014

Agenda Item # 39

ATT WIRELESS

Telecommunications Tower Site Review

USE ON REVIEW APPLICATION # 1-L-14-UR

CONSULTANT'S SUMMARY

Babelay Site

Knox County

Location: 6514 Babelay Road near Harris Road--Northeast

Knox County

Proposed Tower Height: 195 foot monopole

Address: 6514 Babelay Road

Knoxville, Tennessee

District: # 8 County Map Number: 050 Parcel 171.10

Use: Telecommunications antenna support structure

Zoning: A (Agricultural)/IISLPA

Land Planning Area: Planned Growth--Agricultural

Variances and waivers: None

Need: The applicant is AT&T Wireless a licensed cellular carrier by the Federal Communications Commission and possibly other users. The applicant has proven a need for the site for its coverage requirements for its 4G service.

Instant Proposal: Construct a 195 foot monopole type support structure.

Consultant's Recommendation: The site and application meets the requirements of the Ordinance, but with the following provisions: The structure should be designed initially that it will support 4 additional carriers' set of antennas for a total of 5 sets of future antennas and feedlines.

REPORT TO

METROPOLITAN PLANNING COMMISSION

for

Proposed Telecommunications Tower Site Located at 6514 Babelay Road Knoxville, TN known as

BABELAY SITE

ATT WIRELESS

1-L-14-UR

COMPLIANCE WITH

THE MPC TELECOMMUNICATIONS FACILITY ORDINANCE 12/16/2013

The proposed site for the applicant is a 195 foot monopole antenna support structure (including antennas and lightning rod) to be located southeast of Babelay Road near Harris Road in Northeast Knox County. The supporting material from applicant has been reviewed for technical and Federal/State legal compliance As well as with the Knox County Wireless Communication Facilities Plan from 2002. This is a new telecommunications site. This site is known as a capacity site. This means that there is some coverage at the site at the present, but the capacity of the existing coverage does not provide sufficient signal levels for the new 4G (4th Generation) technology.

REQUESTED

- 1. Location. The location is within the County of Knox in District 8 and is located on Tax Map Number: 050 Parcel: 171.01
- 2. **Zoning.** A (Agricultural) an IIP/SLPA
- 3. Land Planning Area: Planned Growth--Rural Area
- 4. Proposed Tower Height: 195 foot monopole
- 5. **Address:** 6514 Babelay Road Knoxville, Tennessee
- 6. **Tower height.** The requested height is 195 feet above ground level should support up to 4 additional telecommunications carrier antennas for a total of 5 users. Lighting will **not** be required on this structure.

- 7. **Variances**. The set back requirements in Article 4.92.02(4)(b) of the Ordinance for Knox County for "A" sites requires that the structure be set back a minimum distance of 110% of the structure height or in this case 215 feet from the nearest dwelling unit (residence). The proposed site meets that requirement and no variances are required as the nearest dwelling is more than 1,000 feet from the base of the monopole. Also the setback from Babelay Road is more than 1,000 feet and easily meets the the Ordinance requirements. No variances are requested nor required.
- 8. **Site**. This application is for the construction of a new monopole type antenna support structure to be located in the corner of an agricultural field on Babelay Road near a wooded area to the south and southwest.
- 9. **Use**. This antenna support structure will be used for telecommunications with the present state of the art communications technology using (Personal Communication Service) PCS and cellular communication sources. The applicant is ATT Wireless and there are 3 possible additional telecommunications users for the facility according to the application, but it is recommended that the structure be initially designed for a total of 5 users, 4 in addition to the current applicant. This will eliminate the need for additional towers in this area by other carriers in the future.
- 10. **Setbacks**. The setback requirements are that the facility must be 110% height of the tower from any dwelling unit (215 feet in this case) and 50 feet from the centerline a roadway right of way. The applicant meets that requirement and no variances are required.
- 11. **Height**. The proposed structure is for 195 feet with no lighting required.

EVALUATION

The following is a list of items reviewed:

Zoning Ordinance for Knoxville Tennessee by Metropolitan Planning Commission---Telecommunication Facilities Section (as amended thru October 1, 2004)

Knoxville Wireless Communications Facilities Plan dated 2002.

Check for other existing towers capable of supporting the load and elevation clearance requested by the applicant herein and within 1 mile radius of site.

Check for Antenna Support Structure stress analysis for co-location users' equipment support.

Review support structure drawings and specifications with applicant

Review FAA lighting and marking requirements and proposals

Review FCC requirements regarding signal coverage, towers and lighting

Review applicant's justification for site in compliance with the FCC's requirements for telecommunication company providers compliance with required coverage for the use of the general public.

Review Site plan by applicant

Check Zoning

Check setbacks for building and antenna support structure

Check for compliance with Wireless Communication Facility Plan

Check proximity to other structures and district boundaries

Check nature of surrounding land uses

Check design of tower for esthetic changes

Check height requirements necessary for coverage

Check separation from other towers

Check frequencies proposed for possible interference to TV and radio reception in the immediate vicinity of the structure.

DISCUSSION

I visited the proposed tower site that is a part of this review.

The site elevation at this location is about 1210 feet. It is located in the corner of an agricultural field near a wooded area on Babelay Road near Harris Road in Northeast Knox County.

The request is for a 195 foot monopole of which ATT will use the top 15 feet and the additional usable lower 100 feet is for other carriers' expansion.

This a "capacity" site. By that is meant that there is coverage in this area, but that the capacity of the present coverage is not sufficient to allow for the use of the new 4G technology this is used with handheld devices that are so popular. The use of 4G technology reduces the signal coverage area somewhat while increasing the speed of the data that is transmitted, thus the requirement for this additional site.

The applicant proposed to design the tower for 3 additional users for a total of 4, however, it is my recommendation that the structure be initially designed for a total of 5 carrier antennas and feedlines allowing for future co-locaters without the need for additional towers in the immediate vicinity. There are 7 carriers in the local area (of a total of 13 licensed by the FCC) and as the 4G technology becomes more popular, the other carriers are going to need similar coverage in the area and thus the recommendation for the added design capability of the monopole.

The proposed structure should not affect adjacent property as it is on

a parcel of land that is zoned agricultural and is fairly isolated.

EMS access to the site would be via Babelay Road on an elevated road that appears to exceed the 15% maximum allowed by EMS. Others will need to confirm this however. The area under the power lines is pretty steep.

Using the MPC's Wireless Facilities Matrix the site qualifies as an OPPORTUNITY AREA site in that it is less than 199 feet in height and located in an agricultural area. It is NEUTRAL with regard to land use. (See attached Exhibit 7 Chart)

There are no other antenna support structures within 1 mile of this site.

DISCUSSION RE FACILITIES PLAN

The Facilities plan is a guideline adopted by the MPC in 2002 for the placement and appearance of wireless communications facilities. The following discussion is based on this application and how it relates to the Plan. The plan is an advisory plan and not a legal requirement.

- (1) **View Protection**--The structure (195 feet) coupled with no lighting requirements and even though located near the intersection of Babelay Road and Harris Road and being a monopole should have little impact on the view aesthetics of the area.
- (2) Land Use Compatibility---The site will be unmanned and will have no impact on noise, traffic or air pollution.
- (3) **Design Compatibility**---The new structure will be a monopole type structure less than 199 feet and which is one of the least obtrusive type antenna support structures from a visibility viewpoint.
- (A) **Opportunity Area**---This location is in an OPPORTUNITY AREA and is NEUTRAL land use by the Matrix due to its height.

SUMMARY

(1) The proposed antenna support structure is a 195 foot monopole including antennas. Lighting will NOT be required for this structure by the FAA due to its proposed height.

- (2) A review of the structure stress analysis on the proposed structure and specifications support the use of the monopole by three other potential users in the future, but the recommendation here is for four other users in the initial design of the structure.
- (3) The structure design meets or exceeds FCC and EIA requirements.
- (4) The area surrounding the site is zoned Agriculture. There are no residences within 1,000 feet of the structure.
- (5) There is no general use technology (such as satellite communications) that is available at the present time nor in the immediate future that would negate the need for the structure. However, should such a technology become available and the structure of no further use, the Ordinance at Article 4.92 requires it to be removed.
- (6) The proposed equipment housing facility is an outdoor cabinet and will have no impact on the aesthetics of the adjacent land uses. The landscape plan indicates that the compound will be enclosed with a safety chain link fence with landscaping.
- (7) The applicant has received authorization from the various governmental agencies, including the Federal Communications Commission, to provide communication service to the citizens of Knoxville, Tennessee.
- (8) The requested site will have minimal impact on the community when considering the service it will provide for the immediate area in the use of handheld devices using the 4 G technology.
- (9) There are no other antenna support structures within 1 mile of the proposed site that are usable for the coverage required.
- (10) There is no waiver required or requested.
- (11) The proposed site and structure will have no environmental impact within the federal guidelines.
- (12) Assuming that there are 5 carriers operating cellular or PCS transmitters/receivers at this site and all are operating at the same time, the radiation produced by the combination of all the users at the same time using the standards and protocols proposed and used by the carriers today, will be considerably below that established by the Federal Communications Commission and the EPA as creating any danger to humans or animals.

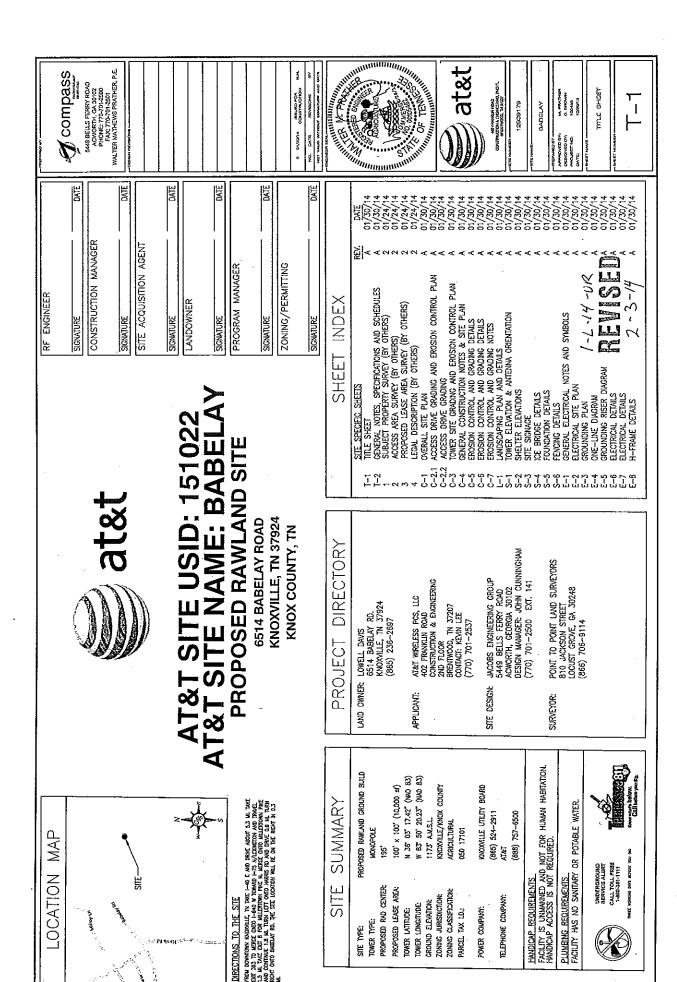
- (13) There is a need for the structure in this area to provide for the 4G wide spectrum wireless data service and for other wireless voice and data services to be provided under government regulation by the various proposed carriers who plan to use the site.
- (14) Access road for emergency personnel will be via Babelay Road. However, the site is an unmanned site. It should be noted that the access road rises about 180 feet over about a 140 foot strip uner the power lines and that may exceed the 15% allowed by EMS. Others will need to confirm this.
- (15) There are no other antenna structures within a 1 mile radius that would allow the coverage needed by the applicant for this area.

RECOMMENDATION

In light of the analysis and review of documents, it is my professional opinion that the applicant meets all requirements of the Ordinance and the federal requirements with following provisions: The structure should be designed initially that it will support 4 additional carriers set of antennas for a total of 5 sets of antennas and feedlines to allow for future growth without adding additional structures in the area.

Respectfully submitted,

Larry Perry Consultant to MPC



MONOPOLE

SITE

195

PROPOSED RAD CENTER PROPOSED LEASE AREA:

TOWER TYPE:

10171 030

GROUND ELEVATION: ZONING JURISDICTION: ZONING CLASSIFICATION:

TOWER LONGITUDE:

TOWER LATITUDE:

DIRECTIONS TO THE SITE

INSIGE WORKING DAYS BOTORE YOU GO UNDERGROUND SERVICE ALERT CALL TOLL PREE 1-800-351-1111

LOCATION MAP

TELEPHONE COMPANY:

POWER COMPANY: PARCEL TAX 1D.;

