

▶ **FILE #:** 8-J-12-UR

AGENDA ITEM #: 41

AGENDA DATE: 8/9/2012

▶ **APPLICANT:** U. S. CELLULAR CORPORATION

OWNER(S): John Locascio

TAX ID NUMBER: 38 108

JURISDICTION: County Commission District 7

▶ **LOCATION:** Northeast side of Andersonville Pike., south side of E. Emory Rd., northwest side of Maynardville Pike.

▶ **APPX. SIZE OF TRACT:** 3 acres

SECTOR PLAN: North County

GROWTH POLICY PLAN: Planned Growth Area

ACCESSIBILITY: Access is via Andersonville Pike., a major collector street with a 18' pavement width within a 55' right-of-way.

UTILITIES: Water Source: Hallsdale-Powell Utility District

Sewer Source: Hallsdale-Powell Utility District

WATERSHED: Beaver Creek

▶ **ZONING:** CA (General Business)

▶ **EXISTING LAND USE:** Church

▶ **PROPOSED USE:** 195' Monopole Telecommunications Tower

HISTORY OF ZONING: None noted

SURROUNDING LAND USE AND ZONING: North: Church and school / A (Agricultural)

South: Mixed businesses / CA (General Business)

East: Mixed businesses / CA (General Business)

West: Shopping center / SC (Shopping Center)

NEIGHBORHOOD CONTEXT: The site is located in a commercial corridor area that includes a mix of commercial businesses and institutional uses.

STAFF RECOMMENDATION:

▶ **APPROVE the request for a 195' monopole telecommunications tower in the A zoning district and a waiver of the landscaping requirements around the tower enclosure, subject to 5 conditions.**

1. Modifying the monopole tower design to utilize close mount antenna arrays.
2. Meeting all applicable requirements of the Knox County Zoning Ordinance.
3. Meeting all applicable requirements of the Knox County Department of Engineering and Public Works.
4. Since the FAA does not require any lighting for this facility, there shall be no lighting on the tower.
5. 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 foot monopole telecommunications tower to be located within an 800 square foot lease area located on a portion of the parking lot for Beaver Dam Baptist Church. The subject property is zoned A (Agricultural) and telecommunication towers are considered as a use on review in this district. The proposed tower site will have access to Andersonville Pike through the parking lot and access drive for the church.

The proposed tower is required to be located 214.5 feet (110% of the tower height) from the nearest residence. The proposed tower far exceeds that minimum standard since the nearest residence is over 700' from the proposed tower. The applicant is proposing a 6' high security fence topped with three strands of barbed wire around the tower and equipment area. Due to the height of the tower, FAA does not require lighting for the tower.

The applicant is requesting a waiver of the landscaping requirements around the tower enclosure due to existing site conditions (parking lot layout and detention facilities) that restrict compliance. The applicant is proposing to attach a wood privacy screen onto the security fencing around the enclosure. Staff is recommending approval of the waiver.

The applicant states that there are no existing structures in the area that can be used for antenna placement to obtain the required coverage. The tower will support up to 3 telecommunication carrier antenna arrays. U. S. Cellular Corporation will be the principal user for the tower. An agreement has been submitted stating that U. S. Cellular Corporation 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 concludes that the proposed tower is technically justified by the materials submitted by the applicant (see attached report). Mr. Perry has recommended that the applicant design the tower to hold up to 5 antenna arrays (3 are proposed) and consider a shorter structure. Staff has discussed these issues with the applicant. The limited lease area for the site restricts the area available for ground equipment and limits the maximum number of antenna arrays to three. The applicant had also looked at a shorter tower at this site but it would not meet their technical requirements for providing the needed coverage.

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 the required utilities are available to serve this site.
2. The proposed tower will not negatively impact surrounding properties since it is located within a commercial corridor area.

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 commercial corridor, the use will not significantly injure the value of adjacent property. The use will not draw additional traffic through residential areas.

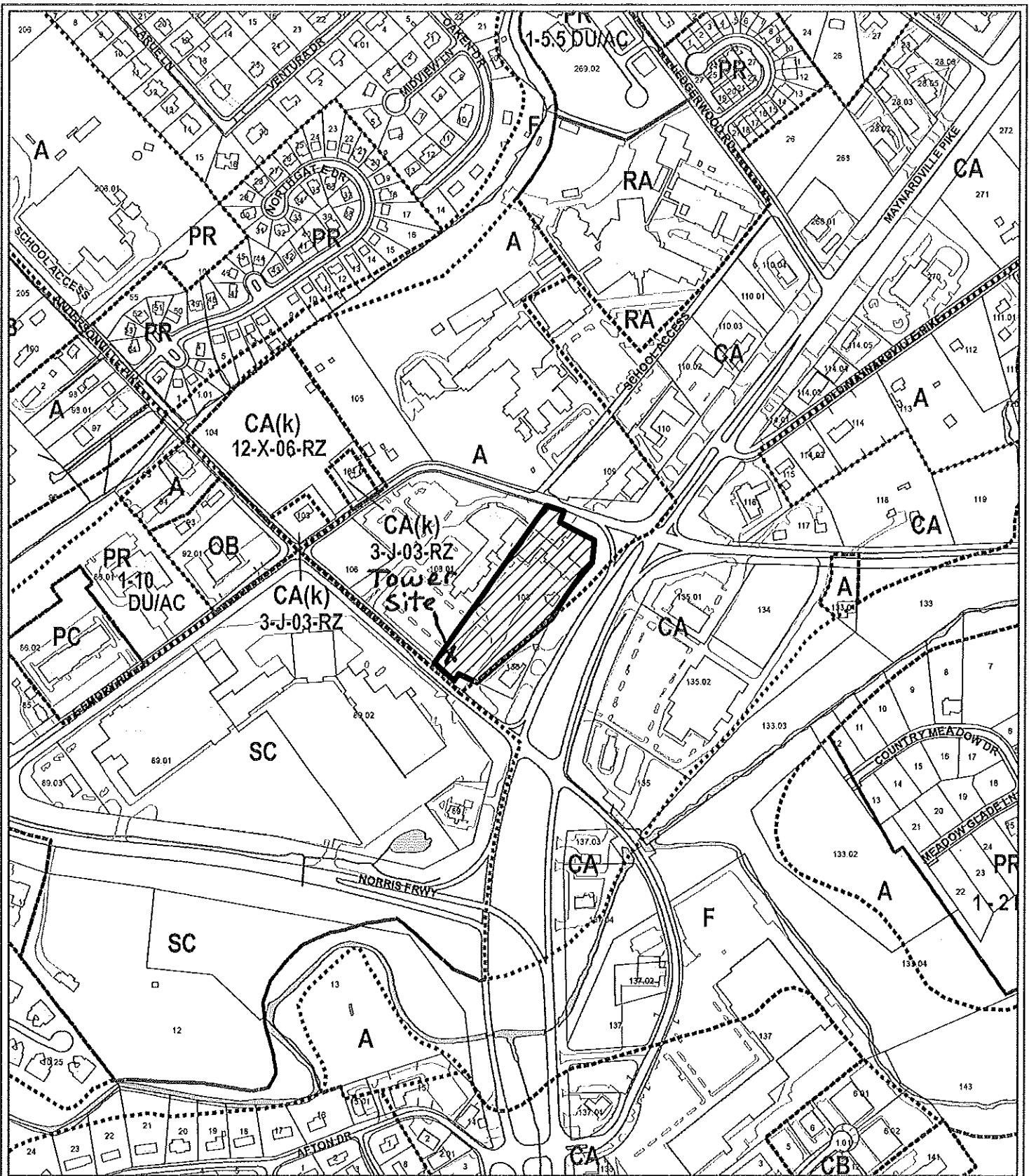
CONFORMITY OF THE PROPOSAL TO ADOPTED PLANS

1. The North County Sector Plan proposes public/institutional uses on this property. With the minimal site alteration required for the proposed tower, the proposed development is consistent with this land designation.
2. Under the guidelines for tower placement in the Wireless Communications Facility Plan, this proposed tower would be considered a tall monopole. The tower falls within the "Opportunity Area" of the Land Use/Wireless Facilities Matrix since the proposed tower site is located in an "office/commercial corridor". The Plan takes a neutral position on tall monopoles located in an "office/commercial corridor".
3. The site is located within the Planned growth Area on the Knoxville-Knox County-Farragut Growth Policy Plan map.

ESTIMATED TRAFFIC IMPACT: Not calculated.

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.



8-J-12-UR
 USE ON REVIEW

Petitioner: U. S. Cellular Corporation



195' Monopole Telecommunications Tower in A (Agricultural)

Original Print Date: 7/17/2012 Revised:
 Metropolitan Planning Commission * City / County Building * Knoxville, TN 37902

Map No: 38

Jurisdiction: County



US CELLULAR
Telecommunications Tower Site Review
USE ON REVIEW APPLICATION # 8-J-12-UR
CONSULTANT'S SUMMARY

Bonita Vista Site

Knoxville County

Location: 4328 E. Emory Road near Andersonville Pike--Halls Community
Knox County

Proposed Tower Height: 195 foot monopole

Address: 4328 E. Emory Road
Knoxville, Tennessee

District: # 7 County **Map Number:** 038 **Parcel** 108

Use: Telecommunications antenna support structure

Zoning: A (Agricultural)

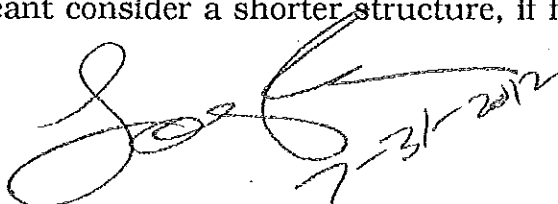
Land Planning Area: Planned Growth---Public/Institutional

Variations and waivers: A waiver of the landscaping requirement in section 4.92.02(4) is requested in that instead of landscaping as required by the Ordinance, a 6 foot privacy wood fence is erected inside a chain link safety fence enclosing the site. This is at the request of the landowner church in keeping with the aesthetics of the area.

Need: The applicant is US Cellular 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: (1) 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; and/or (2) that the applicant consider a shorter structure, if feasible, for this location.



A handwritten signature in black ink, followed by the date "7-31-2012". The signature is stylized and appears to be "Joe".

**REPORT TO
METROPOLITAN PLANNING COMMISSION**

for

Proposed Telecommunications Tower Site
Located at 4328 E. Emory Road
Knoxville, TN known as

BONITA VISTA SITE

US CELLULAR

8-J-12-UR

COMPLIANCE WITH

THE MPC TELECOMMUNICATIONS FACILITY ORDINANCE

7/31/2012

The proposed site for the applicant is a 195 foot monopole antenna support structure (including antennas and lightning rod) to be located northeast of Andersonville Pike in Northeast Knox County on Emory Road. 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 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 7** and is located on **Tax Map Number: 038 Parcel: 108**
 2. **Zoning.** A (Agricultural)
 3. **Land Planning Area:** Planned Growth--Public/Institutional
 4. **Proposed Tower Height:** 195 foot monopole
 5. **Address:** 4328 E. Emory Road
Knoxville, Tennessee
3. **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.

4. **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 500 feet from the base of the monopole. Also the setback from Andersonville Pike is 50 feet as required by the Ordinance. However, the applicant is requesting a variance on section 4.92.02(4) requirement for landscaping the site. The site is located on the corner of church parking lot and the site owner has requested that a wooded fence be placed around the facility instead of landscaping. The wood fence will be attached to the chain link fence enclosing the entire compound. The requested wood privacy fence meets the intent of the Zoning Ordinance.

5. **Site.** This application is for the construction of a new monopole type antenna support structure to be located in the corner of a parking lot of a church on E. Emory Road.

6. **Use.** This antenna support structure will be used for telecommunications with the present state of the art communications technology using PCS and cellular communication sources. The applicant is US Cellular Corporation 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.

7. **Setbacks.** The setback requirements are that the facility must be 110% height of the tower from any dwelling unit and 50 feet from the centerline a roadway right of way. The applicant meets that requirement and no variances are required.

8. **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 surrounding foliage and tree coverage

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 and discussed the area with the applicant.

The site elevation at this location is 1024 feet. It is located in the corner of the parking lot for the Beaver Dam Baptist Church on Andersonville Pike.

The request is for a 195 foot monopole of which US Cellular 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. This is a tall monopole for this fairly congested area of the Halls community and it should be able to accommodate 5 users.

The proposed structure should not affect adjacent property as it is on a parcel of land that is zoned agricultural but is used by a church for its parking lot.

EMS access to the site would be via Andersonville Pike and the Church parking lot on level ground.

Using the MPC's Wireless Facilities Matrix the site qualifies as an OPPORTUNITY AREA site in that it is less than 199 feet and located in a commercial area of business.

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 Andersonville Pike and East Emory 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 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 but is really essentially a commercial area in a pretty congested intersection of Halls. There are no residences within 500 feet of the tower.

(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 and the cabinets and base of the structure will be enclosed with a wooded fence.

(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 a waiver required and the applicant is requesting a

variance on the landscape requirements in 4.92.02(4) in that the site is located on the corner of a parking lot and the church landowner has requested a wooden privacy fence instead of the landscaping requirements of the Ordinance.

(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.

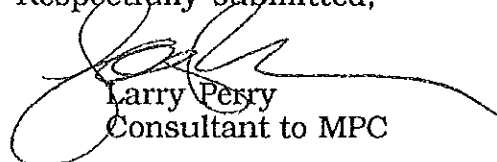
(14) Access road for emergency personnel will be via Andersonville Pike and the church parking lot. However, the site is an unmanned site.

(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: (1) 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; and/or (2) that the applicant consider a shorter structure, if feasible, for this location.

Respectfully submitted,


Larry Pery
Consultant to MPC

MEMO TO MPC MEMBERS RE TOWERS

Larry Perry, Consultant to Knoxville MPC

As MPC members and City/County administrators, you are going to see more applications for new structures (towers) from several cellular carriers over the next several months. I think you need to know what this is all about and why they are needed. Let me see if I can explain it in a non technical way for you.

Cellular technologies have always been confusing, but we didn't always have to worry about which technology our cell phone or our cellular provider employed. When cell phones were only used for voice transmissions, we got whatever technology was available and we were pretty happy with it. Of course, times have changed and things have become a bit more complicated.

Now many of us not only talk on a cell phone, we use our cell phones to check email, surf the Web, text our friends, play games, and do many other things with applications called "apps". This means that we transfer both voice and data over the cellular connections. To accommodate our growing need for increased transmissions, cellular technologies have changed considerably. You have probably heard the terms 2G, 3G, and 4G. These are generations that represent the advancements in cellular technology. Although these various technologies are quite complex, I'll give you a brief history, hopefully, without any techno-babble.

Let's start at the beginning when the only cellular technology was 1G, that is first generation. This was actually the equivalent of telephone technology. It was a narrow band (think two lane highway), analog service that only accommodated voice transmissions.

The next generation was 2G. This was the first digital cell service, so it was more efficient. It provided voice transmissions with limited data transmissions.

The big step forward, however, was 3G. This is a digital broadband service that uses packet data transmission. You don't need to understand all the underlying technology. All you need to know is that this makes for much higher data speeds allowing you to surf the Web and get email on your cell phone quickly and easily.

Although 3G was good, the up-and-coming 4G technology is even better. Cellular transmission speeds have a lot of variables like the underlying technology, the carrier, the location of the cell tower, and the amount of congestion on the network, so it is difficult to tell you exactly how speedy 4G will be. You can, however, expect full 4G to be about 10 times faster than 3G, and in the future, it has the possibility of being even faster. At their current speeds, this new technology

has transmission speeds similar to those you get on your PC with a cable or DSL connection. With 4G, unlike 3G, voice and data will be transmitted over the same connection. Also, delays will go down dramatically, so there will be a much faster response time.

In order to accomplish this faster speed, the transmission systems have to be upgraded with a wider bandwidth (think 12 lane highway compared to a 2 lane highway). The faster the data is sent to your hand held device, the wider the road (bandwidth) has to be. But the wider the bandwidth the shorter the coverage area for the most part. Remember in the early 1G voice only cellular days, there was roughly one tower about every two miles. Then along came 2 G (digital telephone) and the towers were about every mile. When 3 G (data and voice) came along, the towers moved even closer because the coverage area was reduced because of the speed with which the information (voice and data) was being sent. Now along comes 4G where you can do about anything with your had held device and the speed has increased many many times over the original 1 G Voice only network and the coverage area is reduced significantly, thus the need for more towers. Many schools are doing away with printed books and going to hand held devices for learning (and texting). So the demand for more and faster service is growing exponentially.

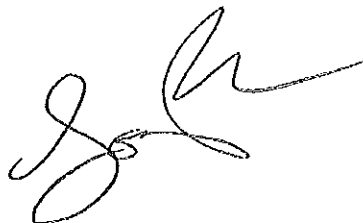
All of the national carriers are working hard to get their 4G networks in place. As a matter of fact, 4G is coming faster than ever expected it. Many large cities already have 4G including parts of Knoxville. You can check out the carrier's websites for details about where each has enabled 4G.

The 4G technology will actually reduce the cost per megabyte for the cellular networks. However, because US Cellular, AT&T, Verizon, and Sprint will all be trying to recoup the investment costs for implementing this new technology, you can expect cellular providers, at least initially, to charge a premium for 4G.

4G phones will be backwardly compatible with the 3G network of the cellular provider that you use. So if you are in an area where 4G is not available, your 4G cell phone will be able to automatically jump on the 3G network.

For those of you who use your cell phone only for voice calls, the upgrade to 4G, won't mean much, but those of you who use a smartphone will see a big change in the near future.

Hopefully this will help you understand the current need for additional towers by the various cellular carriers (incidentally there are now 13 different licensed carriers in the US...not all are in Knoxville yet!!!!)

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**EXHIBIT 7.
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
Opportunity Areas							
Industrial/Business Park							
Industrial Use							
Pre-approved Government-owned Property							
Urban Expressway Corridor							
Rural/Heavily Wooded							
Pasture							
Central Business District							
Office/Commercial Corridor					*		
Shopping Center							

Sensitive Areas							
Within 500' of a residence							
Rural Residential							
Non-residential Properties in a Residential Area (church, cemetery, library, etc.)							
Multi-family Residential							
On Hill Below Ridgeline							

Avoidance Areas							
Conservation Open Space							
Scenic Highway							
Public Park							
Ridge Top/Ridge Line							
Scenic Vista							
Historic District/Site							
Single-family Residential							
Vacant Residential Lot							

Encouraged
 Neutral
 Discouraged

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R.R. KRAMER (1888-1966)
CARTER B. WALL (1915-1968)
ANDREW JOHNSON (1918-1985)
JACKSON C. KRAMER (1921-1993)
R. ARNOLD KRAMER (1918-1993)

July 2, 2012

Metropolitan Planning Commission
City-County Building, Suite 403
400 Main Avenue
Knoxville, Tennessee 37902

**Re: U.S. Cellular Corporation / Bonta Vista Site
Application for Tower Site Use-On-Review**

Dear Sir or Madam:

Please be advised that the undersigned represents U.S. Cellular Corporation ("USCC"). USCC hereby files the enclosed Use-On-Review Application and requests that it be placed on the agenda for the August 9, 2012 Metropolitan Planning Commission meeting. Such Use-On-Review Application requests approval for a proposed cellular communications monopole to be located on property owned by Beaver Dam Baptist Church at 4328 E. Emory Road, Knoxville, Knox County, Tennessee. Accordingly, enclosed herewith please find the following items:

1. Completed Application Form as signed by an authorized representative of USCC and as signed by an authorized representative of the property owner, Beaver Dam Baptist Church.
2. Information Summary and Table of Contents.
3. Ten (10) copies of the Development Plan with Exhibits 1 through 14 attached.
4. Our firm's check in the amount of Two Thousand Four Hundred Dollars (\$2,400.00), made payable to the Metropolitan Planning Commission. This check represents payment of (i) \$900.00, which amount is double the usual \$450.00 fee for filing a Use-on-Review Application for a site in an agricultural zone that is

less than one (1) acre, and (ii) \$1,500.00 for the escrow deposit relative to the Professional Engineering Consultant's fee.

As noted, USCC is proposing that a cellular communications monopole be placed on a parcel consisting of approximately eight hundred (800) square feet leased from the owner, Beaver Dam Baptist Church, and located at 4328 E. Emory Road, Knoxville, Knox County, Tennessee. USCC has entered into a lease with the property owner for the proposed site.

USCC recognizes that pursuant to Article 4.92.02(1)(f) of the Knox County Zoning Ordinance, a professional engineering consultant qualified in the design and installation of wireless communications facilities may be employed to review its application. Accordingly, the One Thousand Five Hundred Dollar (\$1,500.00) escrow fee specified in the Zoning Ordinance is enclosed. USCC further understands that such fee shall not exceed One Thousand Five Hundred Dollars (\$1,500.00) in total.

USCC proposes to construct a 195 foot monopole. Since the proposed monopole will be less than 200 feet in height, FAA Regulations will not require the monopole to be lighted. In addition, as required by Article 4.92.02(1)(a) of the Knox County Zoning Ordinance, the monopole will be constructed to support at least three (3) antenna arrays for co-location purposes. USCC's letter of intent setting forth its commitment to permit co-location on the proposed monopole is included with the Application as Exhibit 5.

The monopole is proposed for this area in order for USCC to provide additional spectrum capacity for its network. The explosive growth in usage of hand-held devices (*i.e.*, smart phones) requires that USCC significantly increase the capacity of its network to transmit data. New technology known as "4G LTE" supports data transmission and provides the necessary additional capacity. Installation of 4G LTE technology requires that USCC split its current spectrum between its existing CDMA/EVDO network and 4G LTE technology, which necessitates additional antennae. Thus, this tower will provide additional capacity and relieve spectrum usage at USCC's existing Harrill Hills, Fountain City, Halls and Cedar Grove sites.

Radio frequency coverage maps showing coverage with and without the proposed monopole are attached to the Application as Exhibits 8 and 9.

In an effort to address tower proliferation concerns, USCC performed a search in the proposed coverage area for other existing towers on which co-location might be possible. As noted on Exhibit 3, no existing towers or other suitable structures are located within a one-mile search ring.

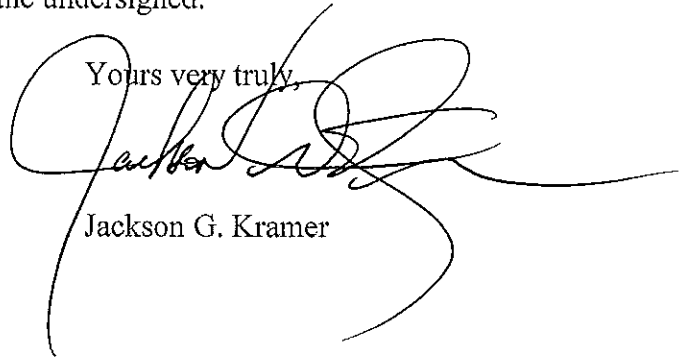
USCC also searched for other existing structures within the area of the proposed site on which co-location might be feasible. No suitable existing structures are present in this area.

This proposed monopole is also consistent with the Goals, Objectives and Policies of the Wireless Communications Facilities Plan ("Plan") adopted by the Metropolitan Planning Commission in September, 2002. The proposed site is located on an agriculturally-zoned parcel and is surrounded by other commercially-zoned parcels.

In addition, the proposed monopole meets the Plan's objective of being separated from any nearby residents by a distance of more than five hundred (500) feet, and also meets the Zoning Ordinance requirement of being separated from any residential structure by a distance of at least one hundred ten percent (110%) of the tower height (in this instance, two hundred fourteen and one-half (214.5) feet). As shown by the Zoning Setback Drawing attached as Exhibit 2 to the Application, no residential structures are located within two hundred fourteen and one-half (214.5) feet of the proposed site. Further, at the property owner's request, the equipment compound will be shielded by a wood privacy fence.

Thank you very much for your assistance in this matter. Should you need any additional information, please do not hesitate to contact the undersigned.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Jackson G. Kramer', written over a large, stylized flourish that extends to the right and loops back down.

Jackson G. Kramer

JGK/tsg
Enclosures

KRAMER RAYSON LLP
ATTORNEYS AT LAW

POST OFFICE BOX 629
KNOXVILLE, TENNESSEE 37901-0629

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THOMAS M. HALE
JACKSON G. KRAMER
BEECHER A. BARTLETT, JR.
ROBERT W. KNOLTON
JOHN C. BURGIN, JR.
CHARLES M. FINN
ROBERT A. CRAWFORD
JOHN E. WINTERS
ROBERT L. BOWMAN
STEVEN E. KRAMER
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105 DONNER DRIVE, SUITE A
OAK RIDGE, TENNESSEE 37830
TELEPHONE 865 220-5134
TELECOPIER 865 220-5132

R.R. KRAMER (1888-1966)
CARTER B. WALL (1915-1968)
ANDREW JOHNSON (1918-1985)
JACKSON C. KRAMER (1921-1993)
R. ARNOLD KRAMER (1918-1993)

July 30, 2012

VIA HAND-DELIVERY

Mr. Tom Brechko
Metropolitan Planning Commission
City-County Building, Suite 403
400 Main Avenue
Knoxville, TN 37902

**Re: U.S. Cellular Corporation
Use-On-Review Application No. 8-J-12-UR
Bonta Vista – Site No. 223526**

Dear Mr. Brechko:

In accordance with our conversations at our recent meeting on July 16, 2012, U.S. Cellular Corporation hereby submits five (5) copies of certain revised Construction Drawings as set forth below relative to its pending Use-On-Review Application No. 8-J-12-UR, which is scheduled to be heard on Thursday, August 9, 2012. Such Use-On-Review Application requests approval of a cellular communications monopole at 4328 E. Emory Road, Knoxville, Tennessee 37938, in Knox County, Tennessee.

Specifically, please note the following changes to the construction documents:

1. You had requested a revised setback exhibit confirming that all required setbacks are met. Article 4.92.02(2)(a) of the Knox County, Tennessee Zoning Ordinance requires that towers be set back from all "Dwelling Units" a distance equal to 110% of the tower height (here, 214.5 feet). As you will recall, there are no "Dwelling Units" within 214.5 feet of the proposed site. Further, this proposed tower also meets the minimum setback distance from adjacent property lines required for the Agricultural

Mr. Tom Brechko
Metropolitan Planning Commission
July 30, 2012
Page 2

District (i.e., fifty (50) feet). I enclose herewith five (5) copies of revised Exhibit 2 (Sheet C0.01 of the Site Development Plan), which confirms that the proposed site meets the minimum setback requirements.

2. You had also requested a revised exhibit showing (i) drainage patterns, (ii) the location of the existing striped parking spaces and the location of the five (5) parking spaces which will no longer be available, and (iii) a notation clarifying that the wood privacy fence is to be attached to the chain link fence surrounding the proposed compound. Accordingly, I enclose herewith five (5) copies of revised Sheet C1.01 of the Development Plan setting forth such additional information.
3. Further, you had also requested more detail concerning the type of wood privacy fence proposed and the manner in which it would be attached to the chain link fence. I enclose herewith five (5) copies of revised Sheet C5.04 of the Development Plan showing such detail.

Thank you for your assistance in this matter. Please do not hesitate to contact me if you have any questions.

With kind regards, I am

Yours very truly,


Jackson G. Kramer

JGK/tsg

Enclosures

cc: Mr. John Locascio
Mr. Charles Burton

INFORMATION SUMMARY AND TABLE OF CONTENTS

USE ON REVIEW APPLICATION FOR

U. S. CELLULAR'S BONTA VISTA SITE NUMBER 223526

1. Site Plan - Construction Drawings, attached as Exhibit 1
2. Zoning Setback Drawing attached as Exhibit 2
3. No towers registered with the FCC as Telecommunications Towers were found on the FCC data base within a one-mile search ring (See Exhibit 3).
4. & 5. Application is made directly by the carrier -

U.S. Cellular Corporation
9731 Cogdill Road, Suite 200
Knoxville, Tennessee 37932

Contact: John Locascio, Senior Project Manager
Telephone: (865) 777-7039
Facsimile: (865) 777-7012

6. Basic Tower Information:
 - (a) U. S. Cellular Corporation ("USCC") proposes a monopole one hundred ninety-five (195) feet in height. The monopole will be located on property owned by Beaver Dam Baptist Church at 4328 E. Emory Road, Knox County, Tennessee. The equipment compound and the base of the monopole will be enclosed within a chain link fence six (6) feet in height. A wood privacy fence will be attached to the exterior of the chain link fence.
 - (b) The monopole will be one hundred ninety-five (195) feet in height.
 - (c) Since the monopole will be less than two hundred (200) feet in height, no FAA lighting will be necessary.
 - (d) The specifications for an almost identical monopole are provided in Exhibit 4. The monopole is designed and will be constructed to permit co-location for at least two (2) additional carriers.
 - (e) The leasehold area is twenty (20) feet by forty (40) feet. An area approximately nineteen (19) feet by thirty-nine (39) feet will be enclosed

by a chain link fence to which a wood privacy fence will be attached. See Construction Drawings, pp. C1.01 and C5.04. The monopole and all ancillary equipment will be located within this fenced compound.

7. USCC's Letter of Intent committing itself to allow shared use of the proposed monopole is attached as Exhibit 5. Other likely candidates for co-location:

AT&T
Verizon
Sprint/Nextel
T-Mobile
Cricket (Leap Wireless)

8. Zoning Map:

Proposed site and adjacent properties are zoned "A." Site zoning and zoning of adjacent parcels are shown on Exhibit 6. Map of larger area within one mile of proposed site to be provided by the Metropolitan Planning Commission. General map of area attached as Exhibit 7.

9. Coverage Map without proposed site - Exhibit 8

10. Coverage Map with proposed site - Exhibit 9

11. Proposed landscaping – As set forth in more detail in Exhibit 11, at the property owner's request, USCC will enclose the entire leasehold compound with a wood privacy fence. Section 4.92.02(4)(b) of the Knox County, Tennessee Zoning Ordinance contemplates that such privacy fences may achieve the desired screening in lieu of landscaping.

12. Technical Justifications Narrative - Exhibit 10

13. Variances or Waivers from Ordinance - Exhibit 11

14. Photographs of proposed site – Collective Exhibit 12

15. Google Earth photographs showing approximate locations from which photographs in Collective Exhibit 12 were taken – Collective Exhibit 13

16. Safety Statements - Exhibit 14



Metropolitan Planning Commission
of Knoxville/Knox County
4th Floor, City-County Building
400 Main Avenue
Knoxville, Tennessee 37902

June 26, 2012

**Re: U.S. Cellular Corporation
Proposed Bonta Vista Site**

Dear Sir or Madam:

This letter is written to confirm U.S. Cellular Corporation's ("USCC") commitment to shared use of its proposed cellular communications tower site at 4328 E. Emory Road in Knox County, Tennessee.

As you are aware, Knox County Zoning Ordinance Article 4.92.02(1)(a) requires that any proposed communications tower 130 feet in height or greater be built to accommodate at least three antenna arrays for co-location purposes. USCC is proposing that the tower on E. Emory Road be 195 feet in height. USCC hereby states that it will construct the tower to accommodate the required three antenna arrays.

Furthermore, please accept this letter as confirmation that pursuant to Knox County Zoning Ordinance Article 4.92.02(1)(b), USCC and its successors are committed to allowing shared use of the tower at rental rates commensurate to those being charged in similar situations, so long as any additional user agrees in writing to meet reasonable terms and conditions concerning use of USCC=s tower and so long as space on such tower remains available.

I trust that this letter is sufficient to address the inquiries posed concerning shared use. However, should you need additional information, please do not hesitate to contact either the undersigned at (865) 777-7039 or USCC=s attorney, Jackson G. Kramer, at (865) 525-5134.

Yours very truly,

A handwritten signature in black ink, appearing to read "John Locascio".

John Locascio
Senior Project Manager

TECHNICAL JUSTIFICATION FOR PROPOSED NEW TOWER
U.S. CELLULAR SITE NAME: BONTA VISTA
U.S. CELLULAR SITE: 223526

Prepared by: Isaac Ndiaye
Sr. RF Engineer
U.S. Cellular®

Proposal: Install CDMA Spectrum Relief Antennae on a new monopole to be constructed on a site located at 4328 E. Emory Road, Knox County, Tennessee on an eight hundred (800) square foot parcel, more or less, leased from the property owner, Beaver Dam Baptist Church.

Tower: U.S. Cellular Corporation ("USCC") proposes to construct a 195 ft. above ground level monopole. The height of 195 ft. is necessary in order for signals to carry over the surrounding terrain and connect with USCC's existing network. Because the height of the monopole is less than 200 feet above ground level, FAA regulations do not require any lighting.

RF Justification: USCC proposes to build this facility in this area to provide additional capacity to its existing customers. With the explosive growth in usage of handheld devices (i.e., smart phones), the need for increased capacity to transmit data has grown tremendously. The newest technology which supports data transmission and provides the requisite capacity is known as "4G LTE" technology. To facilitate the rollout of 4G LTE in USCC's local network, USCC is splitting its current spectrum between the existing network (CDMA/EVDO) and the future 4G LTE network. Such "spectrum splitting" requires additional antennae to address the increased demand for spectrum usage. Specifically, this proposed monopole will relieve spectrum usage on adjacent USCC antennae at USCC's Harrill Hills, Fountain City, Halls and Cedar Grove sites, thus providing sufficient spectrum to install LTE 4G technology. This necessary spectrum relief, as shown by USCC's coverage maps, can be efficiently corrected by a full cell site at this proposed location.

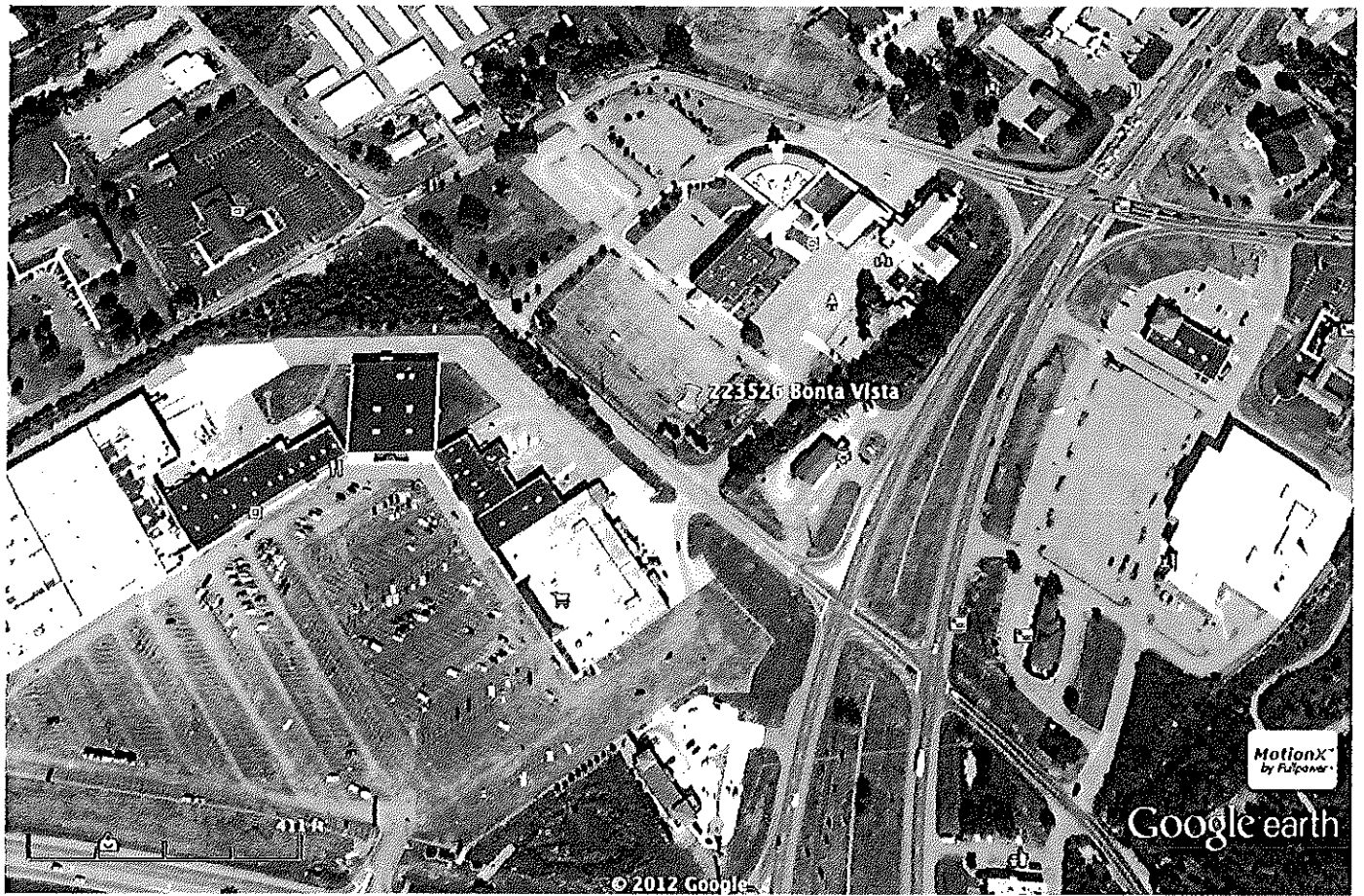
Co-location: The alternatives of co-locating USCC's equipment and antennae on existing structures in the surrounding area were considered. In accordance with the Knox County Zoning Ordinance, a search was performed to identify any existing registered structures within one mile of the proposed site. No towers are located within one mile of the proposed site.

EXHIBIT 11

List of Variances and/or Waivers from Zoning Ordinance Requirements

Applicant is requesting one (1) variance from the Knox County, Tennessee Zoning Ordinance relative to landscaping.

Landscaping Variance and/or Waiver: Article 4.92.02(4) sets forth landscaping requirements for telecommunications towers. Section 4.92.02(4)(b) states that “new or existing vegetation, earth berms, existing topographic features, walls, fences, building and features other than those described above may be used to meet the requirements of these regulations if the code administrator finds that they achieve the same degree of screening as 4.a.” As can be seen from photographs of the proposed site attached as Collective Exhibit 12 and the Google Earth photographs attached as Collective Exhibit 13, the proposed site is situated in the corner of the property owner's parking area. At the property owner's request, USCC will enclose the entire leasehold compound with a wood privacy fence. Such wood privacy fence will be placed just outside and will be attached to the chain link fence enclosing the compound. Further, there is existing landscaping adjacent to the south and west sides of the leasehold compound that will remain in place. Requiring landscaping on the sides of the equipment compound adjacent to the property owner's parking area would require significant encroachment into the traffic aisles, blocking traffic flow and rendering a number of the property owner's parking spaces unusable. Section 4.92.02(4)(b) of the Zoning Ordinance, quoted above, clearly contemplates that privacy fences such as that proposed here can be used to meet screening goals set forth in the Ordinance. USCC therefore respectfully submits that such privacy fence will accomplish the desire screening objectives set forth in the Zoning Ordinance, and in accordance with the property owner's request, Applicant respectfully requests a waiver of such landscaping requirements.



Google earth

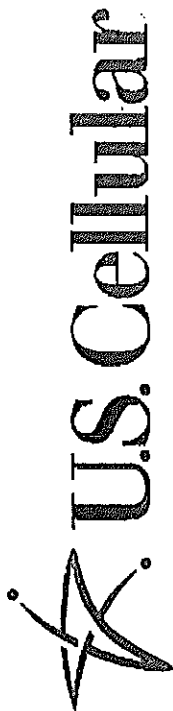


BONTA VISTA: PHOTO PERSPECTIVES



Google earth





9731 COGDILL ROAD,
SUITE 200
KNOXVILLE, TN 37932
(865) 777-7030

UTILITY DATA

POWER: KUB
CONTACT: CUSTOMER SERVICE
PHONE: (865) 524-2911

PHONE: TDS
CONTACT: CUSTOMER SERVICE
PHONE: (888) 837-3050

911 ADDRESSING: KNOX COUNTY ADDRESSING
PHONE: (865) 215-2237

POLICE DEPT: PHONE: 911

FIRE DEPT: PHONE: 911

ZONING/BUILDING PERMIT: KNOX COUNTY
CONTACT: TOM BRECHKO
PHONE: (865) 215-2300

KNOX CO CODES ADMINISTRATION
CONTACT: ROY BRADEN
PHONE: (865) 215-2325

SITE SUMMARY

SITE NAME
"BONITA VISTA" TOWER SITE

SITE NUMBER
#223526

U.S. CELLULAR SITE ADDRESS TO BE PROVIDED AFTER MPC APPROVAL

PROPERTY OWNER
BEAVER DAM BAPTIST CHURCH
4328 E EMERY ROAD
KNOXVILLE, TN 37936

APPLICANT
U.S. CELLULAR CORPORATION
9731 COGDILL ROAD, SUITE 200
KNOXVILLE, TN 37932

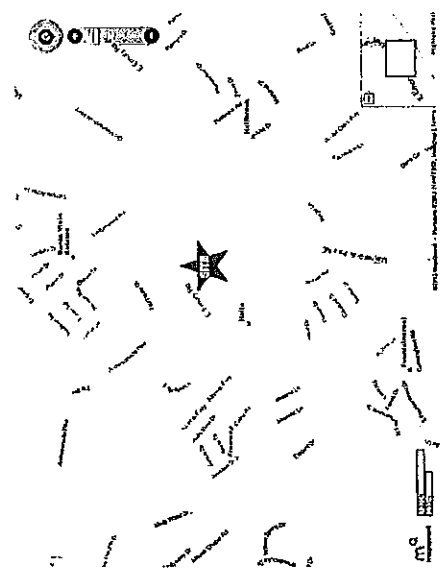
AREA
800 SQ. FT. (0.02 ACRES)

PROPOSED TOWER INFORMATION
TOWER TYPE - MONOPOLE
LATITUDE - 36° 05' 4.32" N
LONGITUDE - 83° 59' 42.11" W
HEIGHT - 195'
GROUND ELEVATION - 1023.67'

ZONING
A

PARCEL NUMBERS
PARCEL ID - 0381081

DEED REFERENCE - BK NO. PG 193
BK 1469, PG 952

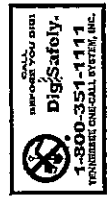


DIRECTIONS

DRIVING DIRECTIONS FROM CLIENT MARKET OFFICE (467 N. AND PELLISSIPPI AVENUE) TO THE TOWER SITE: FROM MARKET OFFICE, TURN LEFT ON BROADWAY, FOLLOW N BROADWAY FOR 4.3 MILES UNTIL IT TURNS INTO MAYNARDVILLE PIKE AND TURN LEFT ONT O ANDERSONVILLE PIKE. FROM ANDERSONVILLE PIKE, TURN RIGHT INTO THE FIRST CHURCH PARKING LOT TO THE SITE ON THE RIGHT.

SHEET INDEX

SHEET NUMBER	DESCRIPTION
1 OF 2	SURVEY
2 OF 2	LEGAL DESCRIPTIONS
CIVIL PLANS	
C0.01	SETBACK EXHIBIT
C1.01	SITE PLAN
C1.02	NOTES
C2.01	TOWER ELEVATION
C3.01	DETAILS
C3.02	NOTES & DETAILS
C3.03	DETAILS
C3.04	DETAILS
ELECTRICAL PLANS	
E1.01	ELECTRICAL PLAN
E1.02	ELECTRICAL NOTES
E1.03	ELECTRICAL DETAILS
E2.01	GROUNDING PLAN
E2.02	GROUNDING NOTES
E2.03	GROUNDING DETAILS



US Cellular
9731 COGDILL ROAD
KNOXVILLE, TN 37932
(865) 777-7030

DATE: 05-09-12

REVISIONS:

SHEET #

COVER

ENGINEERING AND DEVELOPMENT SERVICES, INC.
1225 W. MARKET STREET
KNOXVILLE, TN 37901
PHONE: (615) 774-7771
FAX: (615) 774-7771
www.visionpe.com

COVER SHEET

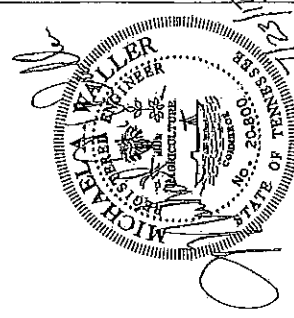
"BONITA VISTA" TOWER SITE
LOCATED IN: KNOX COUNTY, TENNESSEE
CONTRACT DOCUMENTS
PREPARED FOR U.S. CELLULAR
U.S. CELLULAR SITE NO: 223526

PROJECT # 081210-75 EJM/ST

8-J-12-UR

PROJECT # 081210-75

E.I.M. # 11/11/12

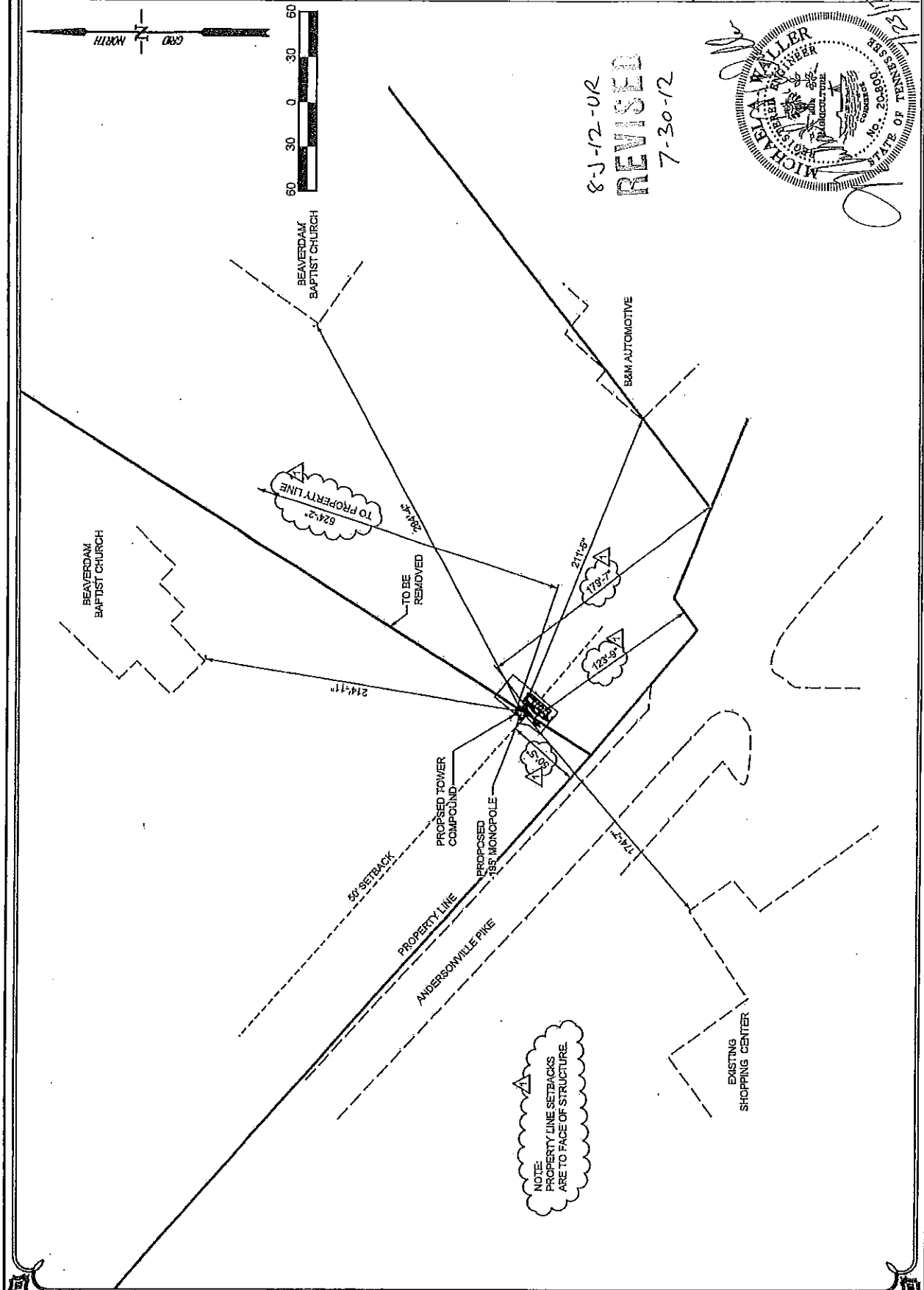


SETBACK EXHIBIT
BONTA VISTA TOWER SITE
LOCATED IN: KNOX COUNTY, TENNESSEE
CONSTRUCTION DOCUMENTS
PREPARED FOR U.S. CELLULAR
U.S. CELLULAR SITE NO. 223526

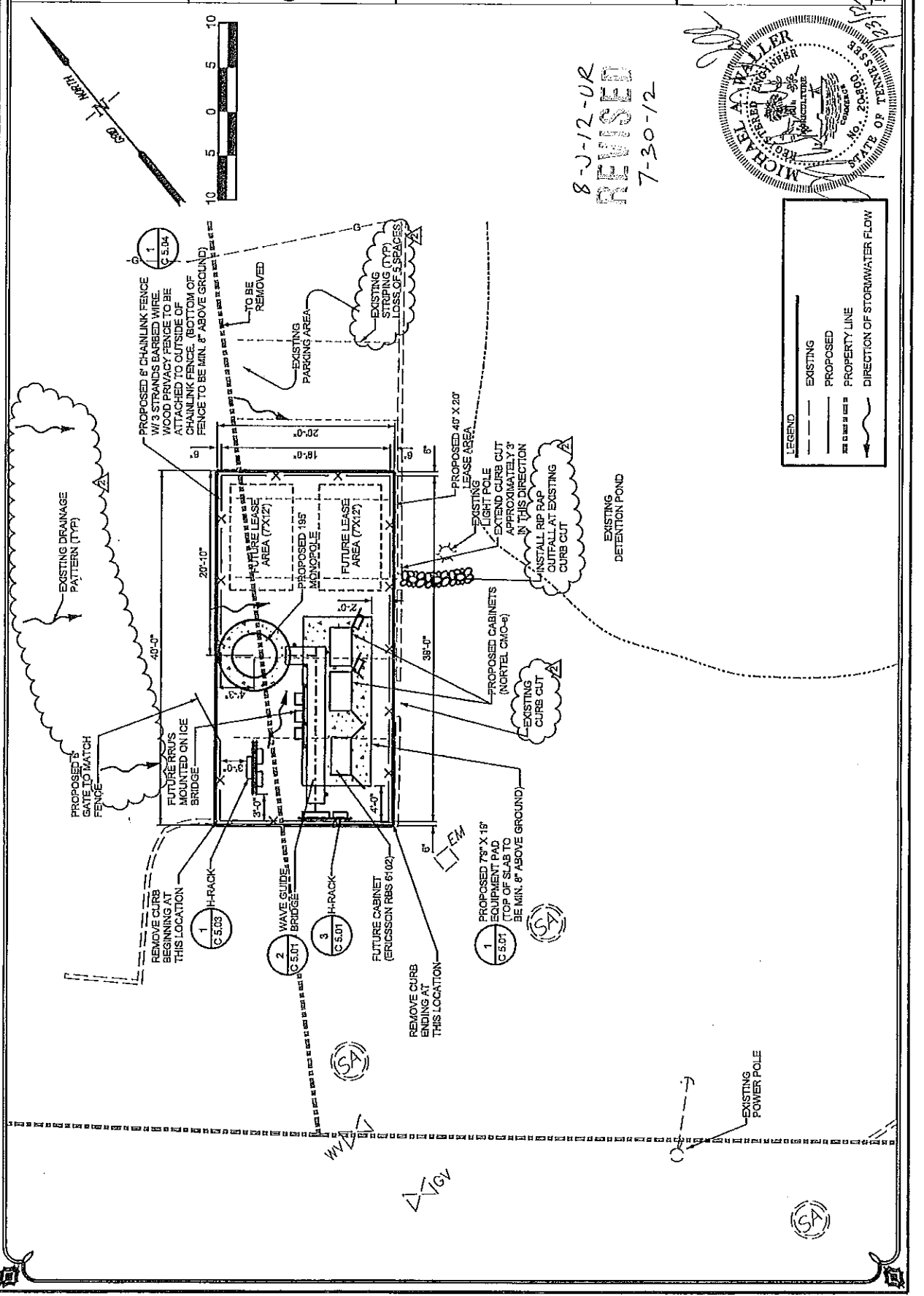
VISION
ENGINEERING AND ARCHITECTURE, INC.
445 PINECREEK DRIVE
KNOXVILLE, TN 37920
PHONE: (615) 774-7711
FAX: (615) 774-9987
www.visioneda.com

DATE: 05-08-12
REVISIONS:
07-23-12
SHEET # **CO.01**

U.S. Cellular
6751 COBBLE ROAD
KNOXVILLE, TN 37922
PH: 615-771-7948



8-J-12-UR
REVISED
7-30-12



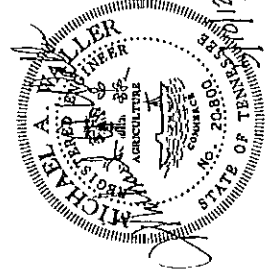
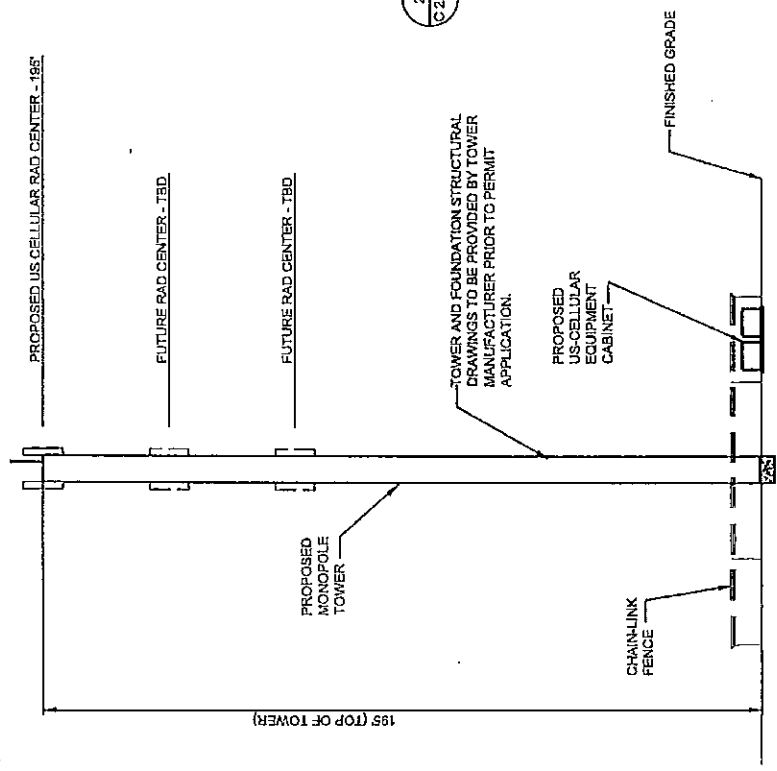
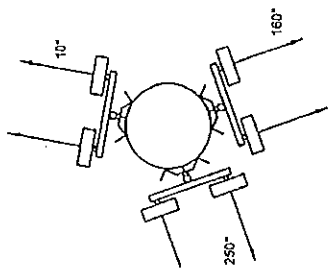
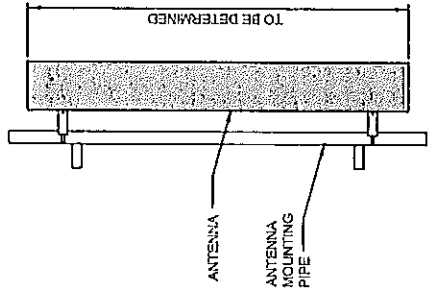
VISION
 ENGINEERING AND DEVELOPMENT SERVICES, INC.
 118 PROCTOR STREET
 KNOXVILLE, TN 37921
 PHONE: (615) 771-7711
 WWW.VISIONEDN.COM

U.S. Cellular
 9731 CORDILL ROAD
 KNOXVILLE, TN 37932
 (615) 777-7600

DATE: 05-09-12
 SHEET #
 C2.01

TOWER ELEVATION
 BONTA VISTA TOWER SITE
 LOCATED IN: KNOX COUNTY, TENNESSEE
 CONSTRUCTION DOCUMENTS
 PREPARED FOR U.S. CELLULAR
 U.S. CELLULAR SITE NO: 223526

PROJECT # 081210-75 E.M.



SECTOR	ANTENNA MODEL	QTY.	ANT. HEIGHT	AZIMUTH (TRUE NORTH)	MECHANICAL DOWN TILT	RET ELECTRICAL DOWN TILT	CABLE MODEL	CABLE QTY.	CABLE MANUFACTURER	CABLE LENGTH	CABLE SIZE
1	AA-X-CW-18-65-00T-RET	2	195'	10°				4	NOT PROVIDED	235'	
2	AA-X-CW-18-65-00T-RET	2	185'	160°	INFORMATION NOT PROVIDED			4	NOT PROVIDED	235'	
3	AA-X-CW-18-65-00T-RET	2	185'	250°				4	NOT PROVIDED	235'	

US Cellular
 8721 CENTRAL ROAD
 KNOXVILLE, TN 37921
 (615) 771-7000

VISION
 ENGINEERING AND DEVELOPMENT SERVICES, INC.
 200 CATER STREET
 MEMPHIS, TN 38102
 PHONE: (901) 771-7771
 www.visioneda.com

DATE: 08-09-12
 REVISIONS:
 08-28-12, REV. 1
 07-23-12, REV. 2

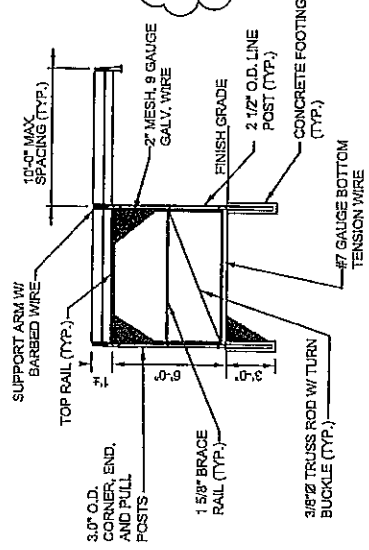
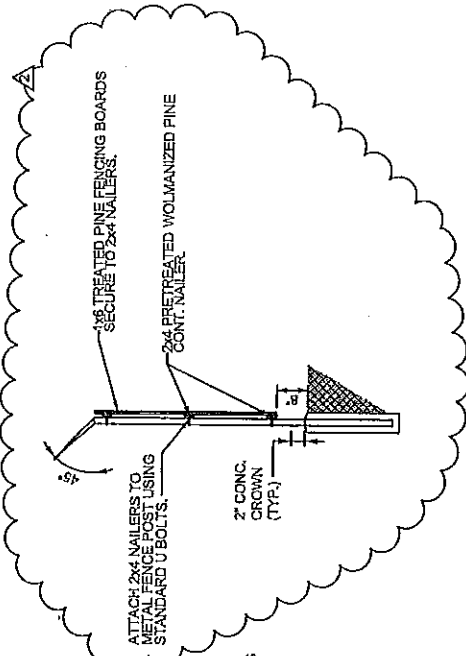
C5.04
 SHEET #

DETAILS
 BONTA VISTA TOWER SITE
 LOCATED IN: KNOX COUNTY, TENNESSEE
 CONSTRUCTION DOCUMENTS
 PREPARED FOR U.S. CELLULAR
 U.S. CELLULAR SITE NO: 223626

PROJECT # 081210-75
 EJM

8-J-12-UK
REVISED
 7-30-12

MICHAEL A. WALLER
 REGISTERED ENGINEER
 No. 30082
 STATE OF TENNESSEE



NOTE:
 CONTRACTOR TO ATTACH
 WOOD PRIVACY FENCE TO
 OUTSIDE OF CHAINLINK FENCE

1 TYPICAL FENCE DETAIL
 NTS
 C5.04