

**MEMPHIS AND SHELBY COUNTY OFFICE OF PLANNING AND DEVELOPMENT  
STAFF REPORT #16**

**CASE NUMBER: S.U.P. 08-214 CC**

**L.U.C.B. MEETING: May 8, 2008**  
Redacted 7/14/2008

**LOCATION:** ±370 feet south of Dexter Road; ±490 feet west of Appling Road

**OWNER OF RECORD:** Dancy Investments, Inc

**APPLICANT/LEASEHOLDER:** Crown Castle, Inc.

**REQUEST:** Extend existing 150-ft. cell tower (CMCS) to 165 ft.

**AREA:** 2,500 sq. ft. lease parcel in 12,600 sq. ft. tract with access

**EXISTING LAND USE & ZONING:** Existing cell tower in the Agricultural (AG) District

**SURROUNDING USES AND ZONING:**

**North:** In the AG District, a 3.8 acre wooded tract formerly accessible from a northward extension of Bridgewater Road, where the roadway is no longer maintained.

**East:** A 7.5 acre vacant tract in the Planned Commercial (C-P) District, which is part of Area C of the Applingwood Planned Development Outline Plan (PD 97-376), and therein designated for Local Commercial (C-L) uses. The access easement to the subject property traverses the northern half of this site to a driveway entrance on Dexter Road.

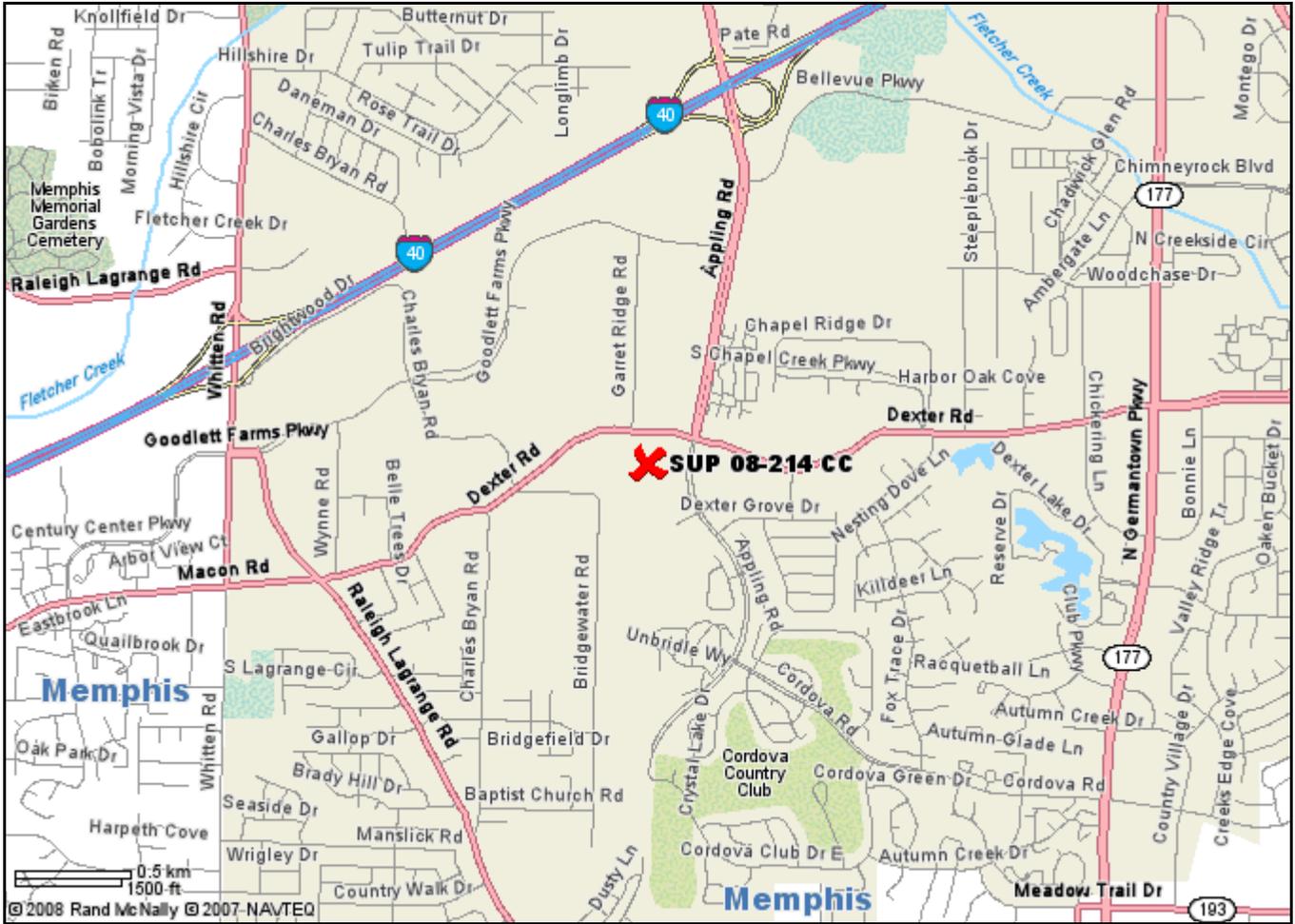
**South and West:** In the AG District, two vacant 2½-acre tracts identified as a detention area in the Applingwood PD, and apparently used as a source of fill material for the tract to the east.

**OFFICE OF PLANNING AND DEVELOPMENT RECOMMENDATION**

***Approval with conditions***

**CONCLUSIONS**

- 1. The decision to collocate the proposed new service on an existing tower is commendable.*
- 2. Staff would prefer that this installation utilize a stealth design. However the current ordinance does not require it, and the nearest existing non-institutional residence is more than 500 feet from the tower.*
- 3. Staff recommends modification of the existing tower base installation to incorporate a sign-proof fence and more attention to compliance with the landscaping conditions.*



**Figure 1: VICINITY MAP**  
**LOCATION OF SUBJECT PROPERTY**  
(Licensed by Rand McNally & Company for limited distribution)

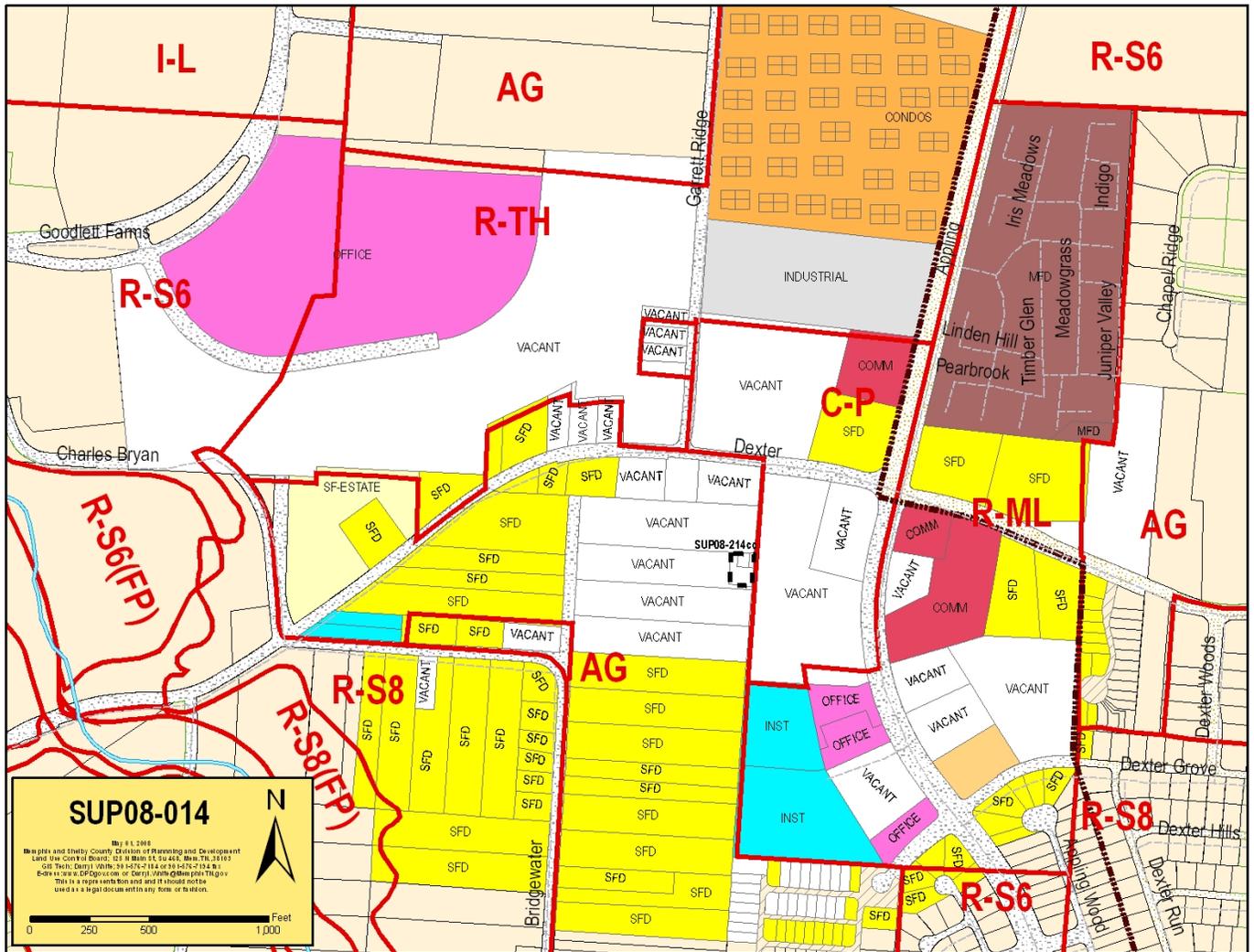
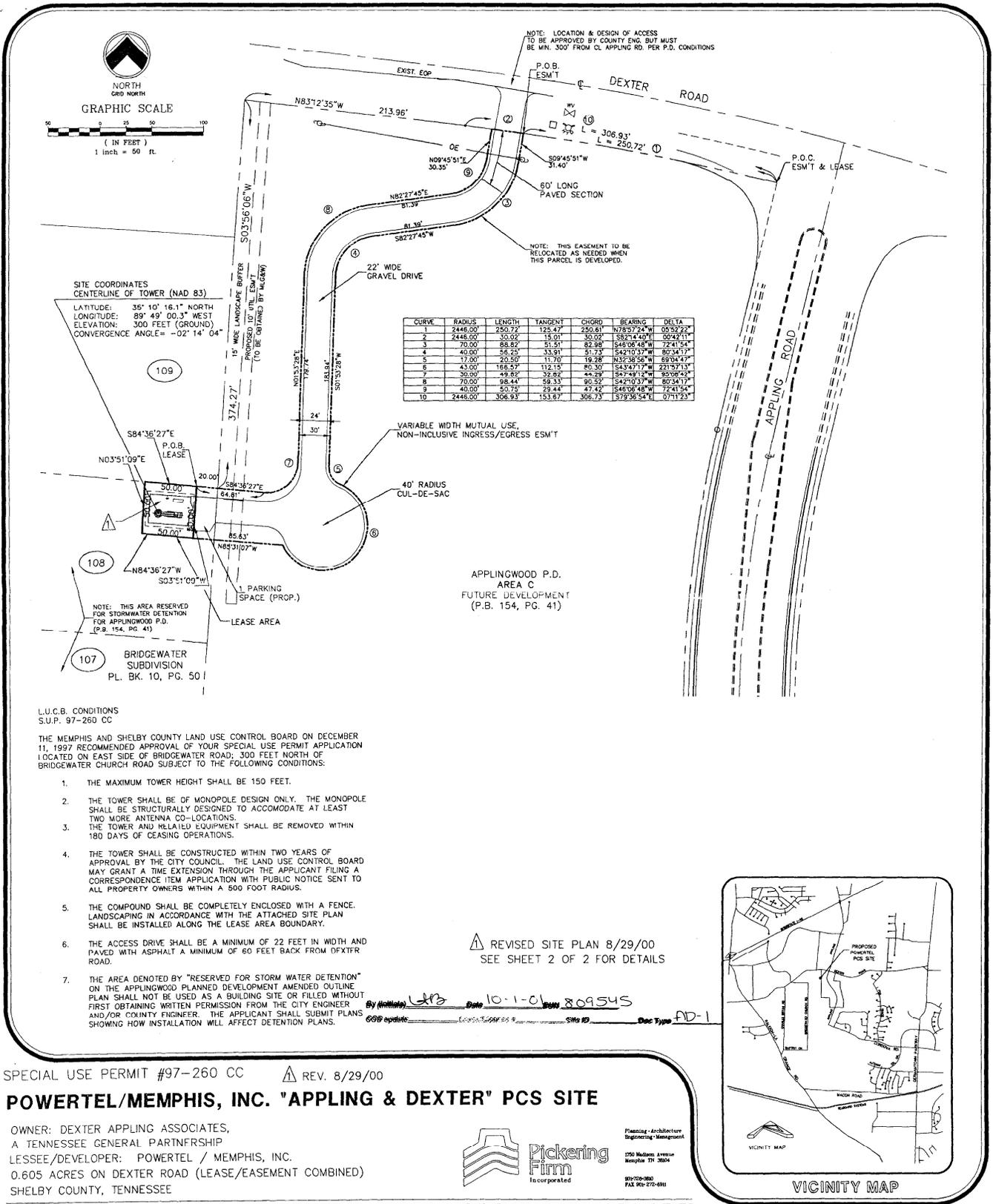


Figure 2: Land Use and Zoning in the Vicinity





**Figure 4: Overhead view of subject property**



L.U.C.B. CONDITIONS  
S.U.P. 97-260 CC

THE MEMPHIS AND SHELBY COUNTY LAND USE CONTROL BOARD ON DECEMBER 11, 1997 RECOMMENDED APPROVAL OF YOUR SPECIAL USE PERMIT APPLICATION LOCATED ON EAST SIDE OF BRIDGEWATER ROAD, 300 FEET NORTH OF BRIDGEWATER CHURCH ROAD SUBJECT TO THE FOLLOWING CONDITIONS:

1. THE MAXIMUM TOWER HEIGHT SHALL BE 150 FEET.
2. THE TOWER SHALL BE OF MONOPOLE DESIGN ONLY. THE MONOPOLE SHALL BE STRUCTURALLY DESIGNED TO ACCOMMODATE AT LEAST TWO MORE ANTENNA CO-LOCATIONS.
3. THE TOWER AND RELATED EQUIPMENT SHALL BE REMOVED WITHIN 180 DAYS OF CEASING OPERATIONS.
4. THE TOWER SHALL BE CONSTRUCTED WITHIN TWO YEARS OF APPROVAL BY THE CITY COUNCIL. THE LAND USE CONTROL BOARD MAY GRANT A TIME EXTENSION THROUGH THE APPLICANT FILING A CORRESPONDENCE ITEM APPLICATION WITH PUBLIC NOTICE SENT TO ALL PROPERTY OWNERS WITHIN A 500 FOOT RADIUS.
5. THE COMPOUND SHALL BE COMPLETELY ENCLOSED WITH A FENCE. LANDSCAPING IN ACCORDANCE WITH THE ATTACHED SITE PLAN SHALL BE INSTALLED ALONG THE LEASE AREA BOUNDARY.
6. THE ACCESS DRIVE SHALL BE A MINIMUM OF 22 FEET IN WIDTH AND PAVED WITH ASPHALT A MINIMUM OF 60 FEET BACK FROM DEXTER ROAD.
7. THE AREA DENOTED BY "RESERVED FOR STORM WATER DETENTION" ON THE APPLINGWOOD PLANNED DEVELOPMENT AMENDED OUTLINE PLAN SHALL NOT BE USED AS A BUILDING SITE OR FILLED WITHOUT FIRST OBTAINING WRITTEN PERMISSION FROM THE CITY ENGINEER AND/OR COUNTY ENGINEER. THE APPLICANT SHALL SUBMIT PLANS SHOWING HOW INSTALLATION WILL AFFECT DETENTION PLANS.

SPECIAL USE PERMIT #97-260 CC    REV. 8/29/00  
**POWERTEL/MEMPHIS, INC. "APPLING & DEXTER" PCS SITE**  
OWNER: DEXTER APPLING ASSOCIATES,  
A TENNESSEE GENERAL PARTNERSHIP  
LESSEE/DEVELOPER: POWERTEL / MEMPHIS, INC.  
0.605 ACRES ON DEXTER ROAD (LEASE/EASEMENT COMBINED)  
SHELBY COUNTY, TENNESSEE

Figure 5: "As Built" Site Plan



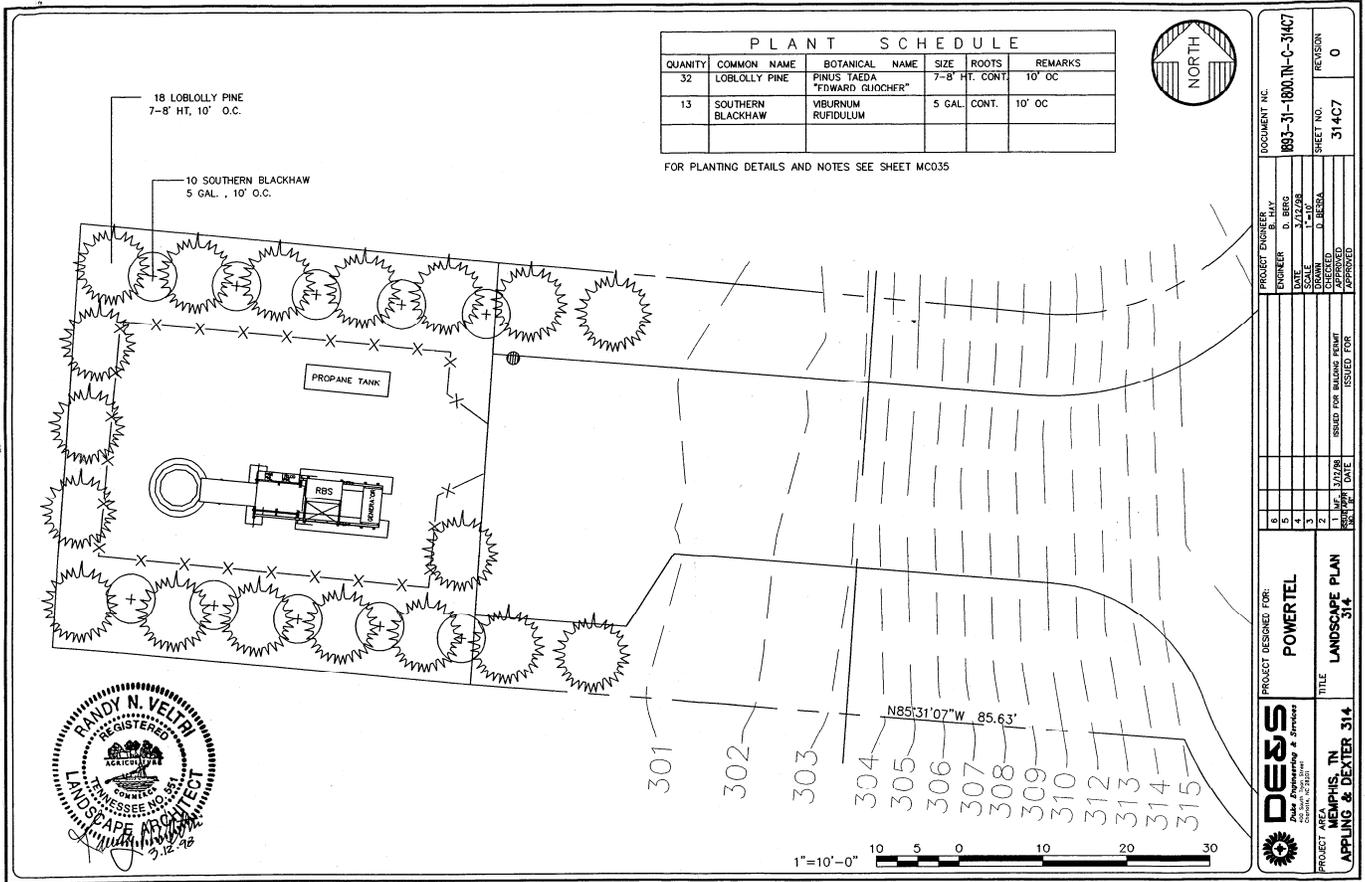


Figure 6: Proposed Landscaping Detail

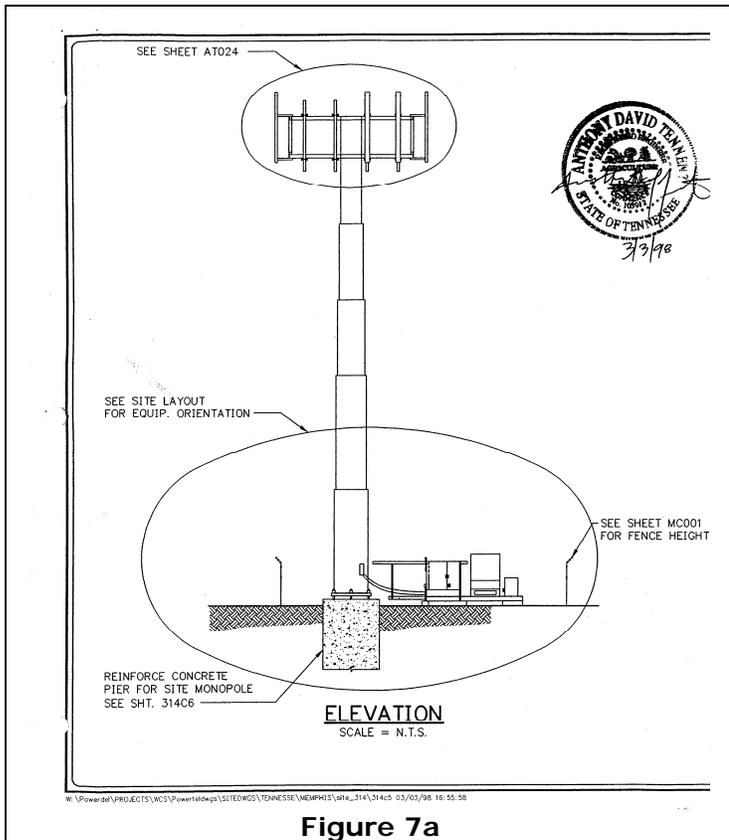


Figure 7a

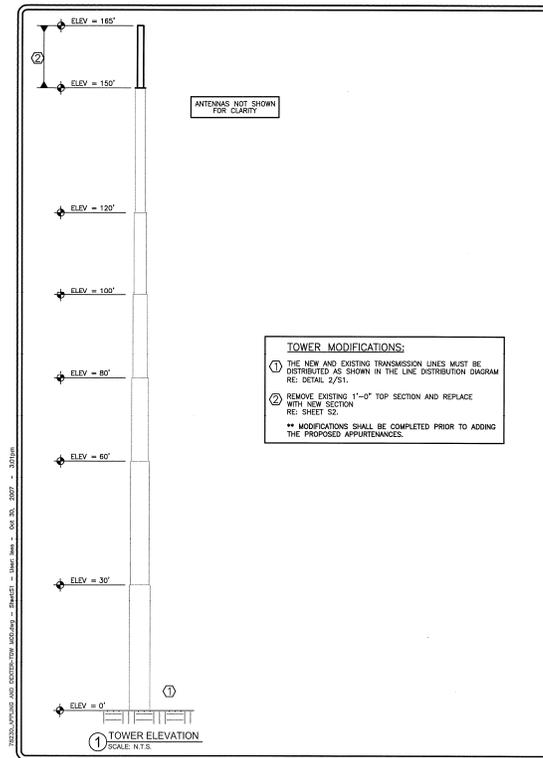


Figure 7b

**Figure 7a: Conceptual Elevation Drawing Showing Equipment for One Carrier**  
 (This tower currently has three antenna mounting platforms and ground equipment modules for three carriers and the owner is requesting approval to provide the facilities for a fourth carrier.)

**Figure 7b: Elevation Drawing Showing Tower Addition --- with mounting platforms omitted**



**Figure 8: Existing tower for which height increase is requested.**



**Figure 9: View of the existing CMCS tower, looking northward along on Appling Road. The tower extends above the tree line in the center of the photo.**



**Figure 10: The tower base is located about 15 ft. below the grade of the property to the east. The current screening obviously has gaps that let the base be visible, particularly from the west.**

## **STAFF ANALYSIS**

### Site Characteristics

The subject property consists of a 0.29 acre leased tract, including landscaping and utility easements around the site. It is located  $\pm 370$  feet south of Dexter Road;  $\pm 490$  feet west of Appling Road, and accessible from an access easement that connects to Dexter Road about 250 east of Appling Road.

The subject property is really integral to the Applingwood Planned Development. It is located just west of the 8 acres comprised by "Area C" of the outline plan, in the southwest corner of Appling Road and Dexter Road, where Local Commercial uses would be permitted. It is sitting in an low 5-acre area just west of Area C, which has been designated as the location for any required stormwater detention resulting from the commercial development to the east. The site occupies the northeast corner of Lot 108 of the Bridgewater Subdivision (*PB 10, Pg 50*).

### Vicinity and Neighborhood

Dexter Road and Appling Road are the two thoroughfares closest to the subject property. Commercial development has already occurred on the northwest and southeast corner. Beginning at the northeast corner are residential uses --- age-restricted condominiums and an assisted living complex that owner by, or seem to benefit from the nearby Bellevue Baptist Church, which is located on the east side of Appling Road just south of Exit 15 on Interstate Highway 40, which is about 1/3 mile north of Dexter Road.

The place of residence nearest this CMCS tower site is a nursing home about 400 feet to the southeast. Just beyond is an assisted living facility. However these are considered institutional uses.

The nearest residential use is the rear of a deep 2½-acre residential lot is located only about 300 feet to the south of the tower site, but the house which occupies it is about 700 feet to the southwest with access to Bridgewater Road. This tract is the northeastern corner of the low density semi-rural development that extends southward along Bridgewater Road. Along Dexter Road are other residences which would be considered part of the Bridgewater neighborhood, and the nearest of these is on property located about 540 feet to the northwest.

### Proposed Development

The applicant is Crown Castle, Inc. which wishes to develop extend a cell tower of conventional design from 150 to 165 feet in height to accommodate the service of another CMCS carrier. See Figure 5-7 for graphic detail. This application based on a service request from Clearwire US LLC.

### Planning Issues

A Commercial Mobile Communications Service (CMCS) tower, commonly known as a cell tower, is

allowable in the Agricultural (AG) District, subject to certain particular conditions which apply to this use if located within 500 feet of residential property<sup>1</sup>; a set of general conditions that apply to all

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<sup>1</sup> [Standards for CMCS Towers]

v. CMCS facilities subject to the following additional standards:

- (1) Within residential zoning districts, CMCS facilities, support structures and associated attachments shall be encouraged to locate on publicly owned and/or leased properties, public/private utility owned properties, or institutional uses.
- (2) The location, size and design of such facilities shall be such that minimal negative impact results from the facility. Any application for a new CMCS tower shall not be approved nor shall any building permit for a new CMCS tower be issued unless the applicant certifies that the CMS equipment planned for the proposed tower cannot be accommodated on an existing or approved tower or other structure due to one or more of the following reasons:
  - (a) The planned equipment would exceed the structural capacity of existing and approved structures, considering existing and planned use of those structures, and those structures cannot be reinforced to accommodate planned or equivalent equipment at a reasonable cost.
  - (b) The planned equipment would result in technical or physical interference with or from other existing or planned equipment and the interference cannot be prevented at a reasonable cost.
  - (c) There are no appropriate existing or pending structures to accommodate the planned equipment, taking into account, among other factors, the applicant's system requirements.
  - (d) Other reasons that make it impractical to place equipment planned by the applicant on existing and approved structures.
- (3) Applications for CMCS facilities to be located on publicly owned and/or leased properties, including without limitations, public parks, the following criteria shall apply:
  - (a) The CMCS facility will not unduly interfere with the functions or aesthetics of the city park or property.
  - (b) A CMCS facility shall not be located on any public park less than ten acres in size.
  - (c) Minimum distance between any CMCS facility and any playground shall be equal to 1 1/2 times the height of the tower.
  - (d) The use of an existing tower or existing support structure is not technically, structurally, economically and/or financially feasible.
  - (e) The proposed facility has adequate capacity to handle a minimum of three additional users.
  - (f) All towers shall be a "stealth" application or consistent with the natural or built environment or the site. Landscaping and screening may be required in addition to the minimum requirements of this ordinance.
  - (g) Obstruction lighting and/or marking shall not be permitted in public parks or on public school properties. On other public properties, proposed lighting may be approved by the city council and/or county commission as an element of the special use permit site plan and conditions.
  - (h) Any CMCS facility which has ceased operations for a period of 180 continuous days shall be dismantled and removed from the site at the owners expense. Prior to the issuance of a building permit for such CMCS facility, adequate financial security not to exceed \$20,000.00 shall be posted with the building official to assure the dismantling, removing and restoring of the public property/park upon which the CMCS facility will be located.
  - (i) The planned equipment will not interfere with emergency communications including without limitation those of the Memphis Fire and Police Departments, the county fire department and/or the county sheriff's department as substantiated through a RF (radio frequency) study. If interference occurs, proper remediation steps shall be taken.
- (4) Any proposed tower shall be structurally designed to accommodate at least three additional CMCS sectorized antennae array if at least 100 feet in height, at least five additional CMCS sectorized antennas if at least 150 feet in height or at least six additional CMCS sectorized antennas if at least 170 feet in height. Colocated CMCS antennas shall be placed on a structure in such a manner as to avoid interference with or impairment of operations of existing antennae or other uses.
- (5) Nothing in these rules and regulations shall obligate the owner of an existing tower to colocate additional antennas on such tower or be construed to interfere with or limit the rights of parties to set rent or establish other terms and conditions of the shared use of a CMCS tower or facility.
- (6) The minimum setback requirement for support structures including associated attachments shall correspond to the zoning district in which they are located, except that a minimum buffer equal to the height of the tower shall be maintained between any support structure (excepting sites incorporating stealth design) and any single-family residentially zoned or used property line.
- (7) Accessory facilities shall be permitted but may not include offices, long-term vehicle storage, other outdoor storage, or broadcast studios, except for emergency purposes or other uses that are not needed to send or receive transmissions.
- (8) Existing on-site vegetation shall be preserved to the maximum extent practicable and shall be supplemented as required by the office of planning and development as necessary. Where the site abuts residentially developed land, residential zoning districts, the residential portion of an approved planned development, or public land or streets, the site perimeter shall be

special use permits<sup>2</sup>; a unique set of conditions tailored to the site, and a detailed site plan. Under most circumstances a final requirement is the approval of a legislative body, in this case both the Shelby County Board of Commissioners and the Memphis City Council.

Cell towers are often necessary in residential areas but never popular. When as in this case, the property borders residential land (e.g. R- and AG Districts), a tower design for residential compatibility is recommended, and often required, according to current policy. In this case, staff would prefer that a new tower installation be constructed in the “stealth” design known locally as the *slick-stick* design, with flush-mounted antennae. However, considered the distance from nearby residences, and the fact that the location is integral to an existing commercial development plan, shall

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landscaped with at least one row of deciduous trees, not less than two inches in diameter, measured three feet above the grade, spaced not more than 20 feet apart within 25 feet of the site boundary, as well as at least one row of evergreen trees and shrubs, at least five feet high when planted and spaced not more than five feet apart to form a solid shrub screen and within 40 feet of the site boundary. Alternatives such as walls or fences may be permitted based on security or other reasons.

- (9) Security fencing shall be required around the base and guy anchors of any towers.
- (10) Towers shall not be artificially lighted unless:
  - (a) Required by the Federal Aviation Administration or other governmental authority;
  - (b) Circumstances make lighting appropriate for safety or other reasons unique to a specific application that are set forth in that application, but in no case shall any lighting shine into adjacent residential structures.
- (11) The application for a special use permit approval shall include the following:
  - (a) A site plan drawn showing the property boundaries, tower, guy wire anchors (if any), existing structures, proposed transmission buildings and/or other accessory uses, access, parking, fences, a landscaping plan and existing abutting land uses around the site.
  - (b) A study from a professional engineer which specifies the tower height and design, including a cross-section of the structure, demonstrates the tower's compliance with applicable structural standards, including a certification that the tower will withstand at a minimum sustained winds in accordance with the appropriate building code, and a description of the tower's capacity, including the number and type of antennas which it can accommodate.
  - (c) Written statements that the proposed tower will comply with regulations administered by the Federal Aviation Administration, Federal Communications Commission, and all applicable governmental bodies, or that the tower is exempt from those regulations.
  - (d) A letter of intent committing the tower owner and his or her successors to allow shared use of the tower, if capacity exists, based on existing and planned use, and if a future applicant agrees in writing to pay any reasonable charge of shared use, the potential use is technically compatible and the future applicant is in good standing.
- (12) The minimum setback requirements of chart 2 shall apply to the equipment, structures, and other buildings which are auxiliary to functions of the CMCS tower except as specified in 9v.(6) of this ordinance. Exceptions to the minimum setback requirements may be permitted. The tower height shall not be used to calculate the minimum setback requirements. The height restrictions of chart 2 do not apply to tower height and the height permitted for each new application shall be set on the basis of its own merits.
- (13) Any CMCS tower and equipment shall be removed no later than 180 days after ceasing operations.

**2 [Standards of General Applicability]** 1. That the proposed building or use will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking, utility facilities, and other matters affecting the public health, safety and general welfare.

2. That the proposed building or use will be constructed, arranged and operated so as to be compatible with the immediate vicinity and not to interfere with the development and use of adjacent property in accordance with the applicable district regulations.

3. That the proposed building or use will be served adequately by essential public facilities and services such as highways, streets, parking spaces, drainage structures, refuse disposal, fire protection, water and sewers; or that the persons or agencies responsible for the establishment of the proposed use will provide adequately for such services.

4. That the proposed building or use will not result in the destruction, loss or damage of any feature determined by the legislative body to be of significant natural, scenic or historic importance.

5. That the proposed building or use complies with all additional standards imposed on it by the particular provision of this section authorizing such use.

believes that it would appropriate to recommend approval of the request on the basis of a C-L zoning concept which effectively regulates the immediately surrounding use.

Staff believes that the landscaping of the tower base should be improved to include a conversion of the security fence to a sight-proof design and restoration / improvement of the landscaping to meet current standards.

**REVISED RECOMMENDATION:**            *Approval, with conditions*

## **SITE PLAN CONDITIONS**

**S.U.P. 08-214 CC**

**CMCS CELL TOWER – CROWN CASTLE “APPLING – DEXTER” SITE**

**As Recommended by OPD Staff**

**May 8, 2008**

A Special Use Permit is hereby granted to the applicant **Crown Castle, Inc.** to permit extension of the structure of a Commercial Mobile Communications Service (CMCS) Tower and install addition ancillary facilities at a 6,400 square foot site on the 0.29-acre Dexter Appling Associates tract (recorded as Instrument # JV1642 & KZ1379 at the Shelby County Register’s Office), in accordance with a site plan approved by the Office of Planning and Development and with the following supplemental conditions.

1. The maximum tower height shall be one-hundred sixty-five feet (165'), subject to Items 2 & 3 below, and the tower will incorporate the “slick stick” design with flush-mounted antennae.
2. The tower shall be free of all lighting, including aircraft hazard lighting, and shall be designed so as to avoid the necessity of such lighting under currently federal regulations.
3. Antenna elements and other related equipment shall not exceed the tower by more than five feet (5’)
4. The tower and related equipment shall be removed within one-hundred eighty (180) days of ceasing operations.
5. The tower improvements shall be constructed within two (2) years of approval by the Shelby County Board of Commissioners. The Land Use Control Board may grant a time extension through the applicant filing a correspondence item application with public notice sent to all property owners within five-hundred (500') feet of the property.
6. The tower shall be structurally designed to accommodate at least **five (5)** additional sectorized antenna arrays.
7. A security fence, six feet (6’) or more in height, shall be constructed around the tower and associated equipment. Said fence shall be made sight-proof.

8. The tower operator shall install and maintain perimeter screening as follows: The site perimeter shall be landscaped with at least one row of deciduous trees, not less than two inches in diameter, measured three feet above the grade, spaced not more than 20 feet apart within 25 feet of the site boundary, as well as at least one row of evergreen trees and shrubs, at least five feet high when planted and spaced not more than five feet apart to form a solid shrub screen and within 40 feet of the site boundary. An equivalent alternative may be substituted with the approval of the Office of Planning and Development.
9. The access drive shall have an all-weather surface with asphalt pavement for the first 50 feet from Dexter Road; **and said pavement shall be restored when it is broken or worn through.**
10. The location and design of the driveway access to Dexter Road shall be subject to the review and approval of the County Engineer including the construction of any culverts that made be needed.

## GENERAL INFORMATION

<b>Parcel Numbers:</b>	D0207 H00186 (leasehold) D0207 H00188 & D0207 00305 (access easement)
<b>Tower Coordinates:</b>	35° 10' 16.1" N, 89° 49' 0.33" W
<b>Street Address:</b>	7395 Dexter Road, 38016
<b>Street Frontage:</b>	Dexter Road – 30 ft. access easement only
<b>Planning District:</b>	Shelby Farms-Germantown
<b>Census Tract:</b>	211.23
<b>Annexation Status:</b>	Surrounded by City of Memphis, part of Bridgewater Annexation Area which was previously considered for annexation, but deferred, by the Memphis City Council
<b>Zoning Atlas Page:</b>	1950
<b>Zoning History:</b>	<b>1961</b> - Agricultural zoning under County's first zoning ordinance <b>1996</b> – Designated as extraterritorial "Detention Area" for "Area C" of Applingwood Planned Development, Area C ( <i>P.D. 94-352 CC</i> ) <b>1996</b> – Designated as extraterritorial "Detention Area" for "Area C" of Applingwood Planned Development, Area C ( <i>P.D. 94-352 CC</i> ) <b>1997</b> – Special Use Permit issued for existing cell tower ( <i>S.U.P 97-260 CC</i> )

## DEPARTMENTAL COMMENTS

The following comments were provided by agencies to which this application was referred:

### County Engineer:

1. No objection to extending the existing tower height.

**City Engineer:** No comment on tower height

**City Fire Division:** No comments received.

**County Fire Department:** No comments received.

### Memphis Light, Gas and Water:

MLGW has reviewed the referenced application, and has no objection, subject to the following comments:

- **It is the responsibility of the owner/applicant** to pay the cost of any work performed by MLGW to install, remove or relocate any facilities to accommodate the proposed development.
- **It is the responsibility of the owner/applicant** to identify any utility easements, whether dedicated or prescriptive (electric, gas, water, CATV, telephone, sewer, drainage, etc.), which may encumber the subject property, including underground and overhead facilities. No permanent structures will be allowed within any utility easements.
- **It is the responsibility of the owner/applicant** to comply with the **National Electric Safety Code (NESC)** and maintain minimum horizontal/vertical clearances between existing overhead electric facilities and any proposed structures.
- **Landscaping is prohibited** within any MLGW utility easement. No trees, shrubs or permanent structures will be allowed within any MLGW utility easements.
- **It is the responsibility of the owner/applicant** to contact **TN-1-CALL @ 1.800.351.1111**, before digging, and to determine the location of any underground utilities including electric, gas, water, CATV, telephone, etc
- **It is the responsibility of the owner/applicant** to submit a detailed plan to MLGW Engineering for the purposes of determining the availability and capacity of existing utility services to serve any proposed or future development(s).
- **It is the responsibility of the owner/applicant** to contact the appropriate MLGW engineering area to determine if system improvements may be required and any related cost:
  - MLGW Engineering - **Residential Development:** 528-4858
  - MLGW Engineering - **Commercial Development:** 367-3343
- **It is the responsibility of the owner/applicant** to pay the cost of any utility system improvements necessary to serve the proposed development with electric, gas or water utilities.

**OPD-Regional Services:**

1. This application was reviewed by the MPO staff/Department of Regional Services on April 25, 2008. This application, as submitted, will have no affect on the MPO Long Range Transportation Plan, Transportation Improvement Program, or any other plan, document, program or initiative of this department/organization.

**City/County Health Department-**

The Water Quality Branch has no comments.

**City Board of Education:**

No comments received.

**County Board of Education:**

No comments received.

**Construction Code Enforcement:**

No comments received.

**Bell South / Millington Telephone:**

No comments received.

**Memphis Area Transit Authority (MATA):**

No comments received.

**OPD-Plans Development:**

No comments received.

**Division of Park Services:**

No comments received.

**County Conservation Board:**

No comments received.

**County Sheriff:**

No comments received.

**Neighborhood Associations:**

No comments received.

**Cordova Leadership:  
Cordova Community Watch, Inc.:**

SW- DA  
5/02/2008

