

▶ **FILE #:** 1-I-14-UR

**AGENDA ITEM #:** 40

**AGENDA DATE:** 1/9/2014

▶ **APPLICANT:** OPTIMA TOWERS IV, LLC KEITH POWELL

OWNER(S): Optima Towers IV, LLC

TAX ID NUMBER: 36 037

JURISDICTION: County Commission District 7

STREET ADDRESS: 115 Bullrun Valley Dr

▶ **LOCATION:** Northwest side of Bullrun Valley Dr., west of Heiskell Rd.

▶ **APPX. SIZE OF TRACT:** 39.51 acres

SECTOR PLAN: North County

GROWTH POLICY PLAN: Rural Area

ACCESSIBILITY: Access is via W. Bullrun Valley Dr. a minor collector street with a 16' pavement within a 50' right-of-way.

UTILITIES: Water Source: Hallsdale-Powell Utility District

Sewer Source: Hallsdale-Powell Utility District

WATERSHED: Bullrun Creek

▶ **ZONING:** CB (Business and Manufacturing)

▶ **EXISTING LAND USE:** Residence and vacant land

▶ **PROPOSED USE:** 270' lattice commercial telecommunications tower

HISTORY OF ZONING: None noted

SURROUNDING LAND USE AND ZONING: North: Residences and vacant land / A (Agricultural)

South: Business / CB (Business and Manufacturing)

East: Residences and vacant land / A (Agricultural)

West: Residences and vacant land / A (Agricultural)

NEIGHBORHOOD CONTEXT: The proposed site is located in an agricultural/rural residential area of northern Knox County.

**STAFF RECOMMENDATION:**

▶ **APPROVE** the request for a 270' lattice commercial telecommunications tower in the A (Agricultural) zoning district subject to 6 conditions .

1. Meeting all applicable requirements of the Knox County Zoning Ordinance.
2. Meeting the Utility Access Driveway standards of the Knox County Fire Prevention Bureau.
3. Meeting all applicable requirements of the Knox County Department of Engineering and Public Works.
4. Installing the evergreen landscaping screen along the fenced enclosure, as identified on the tree planting plan, within six months of the tower becoming operational.
5. The tower lights shall be dual hazard warning lights (White strobe in daytime and red lights at night) and shall meet all applicable FAA requirements.
6. 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 270 foot lattice telecommunications tower to be located within a 10,000 square foot lease area located on a portion of a 39.51 acre tract. 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 Bullrun Valley Dr., a minor collector street. The driveway is required to meet the Utility Access Driveway standards of the Knox County Fire Prevention Bureau.

The proposed tower is required to be located 297 feet (110% of the tower height) from the nearest residence. The proposed tower exceeds that minimum standard since the nearest residence, which is the residence of the property owner is 395' from the proposed tower. The nearest residence off-site is 735' from the tower. The applicant is proposing an 7' high security fence around the tower and equipment area. Due to the height of the tower, FAA does require lighting for the tower. Staff is recommending a condition that dual hazard warning lights (White strobe in daytime and red lights at night) be used.

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 5 telecommunication carrier antenna arrays. AT&T will be the principal client for the tower. An agreement has been submitted stating that Optima Towers 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. While not suggested as a required condition, Mr. Perry recommends that the applicant design the tower to hold 7 sets of antenna arrays and feedlines. Mr. Perry concludes that the 270' lattice 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**

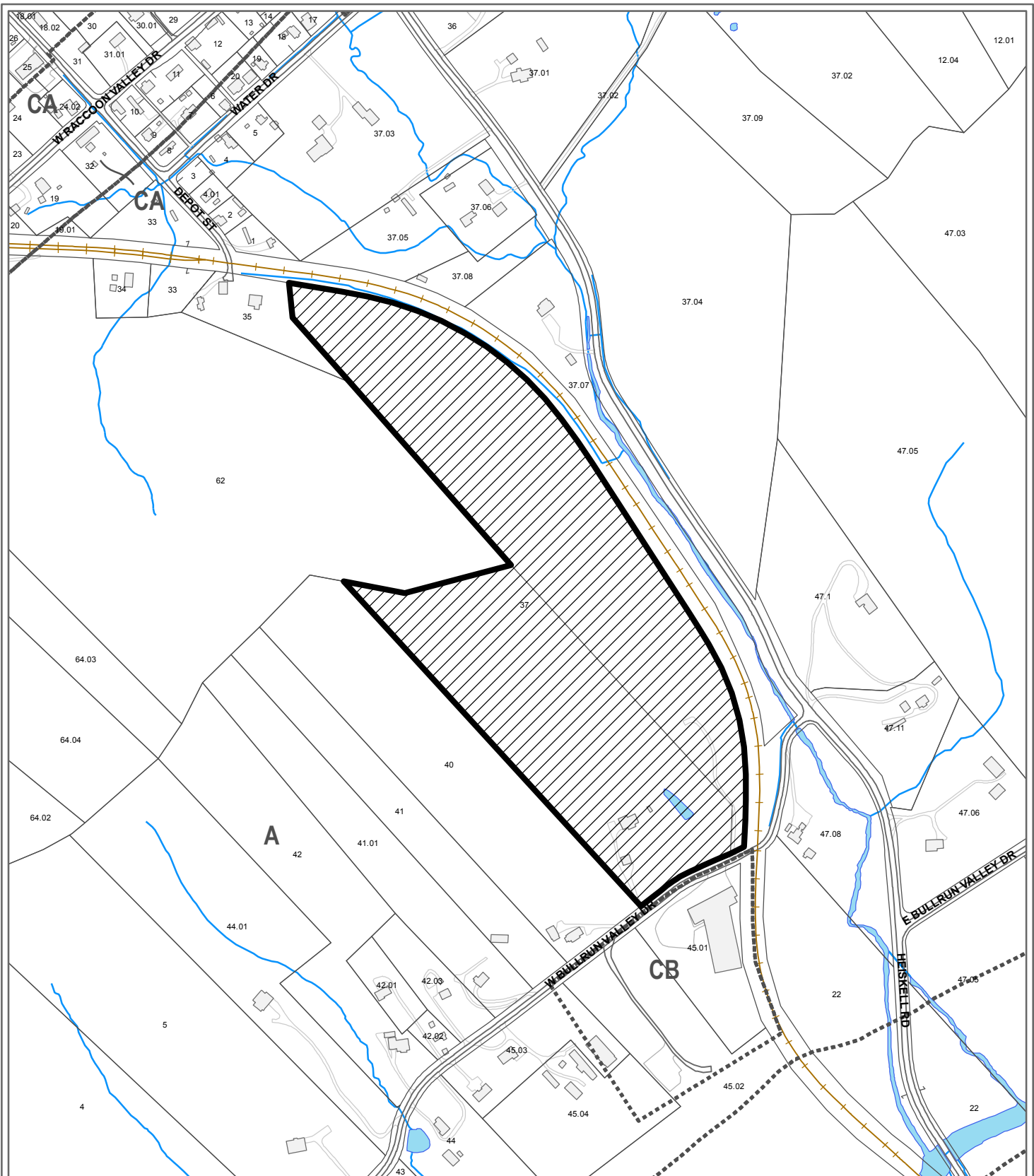
1. The North County Sector Plan proposes agricultural uses on this property and hillside protection. With the minimal site alteration required for the proposed tower, the proposed development is consistent with this land designation.
2. Under the guidelines for tower placement in the Wireless Communications Facility Plan this proposed tower falls within the "Opportunity Area" and "Sensitive Area". The proposed tower site is located in a rural/heavily wooded area. The plan considers a rural/heavily wooded area to be an "Opportunity Areas" for the location of telecommunication towers. The Plan takes a neutral position on lattice towers located in a rural/heavily wooded area. The proposed tower site is also located on a hill below any ridgeline. The plan considers a site on a hill below a ridgeline to be a "Sensitive Area" for the location of telecommunication towers. The Plan takes a neutral position on lattice towers located in this area. While located within 500' of a residence which is classified as a "Sensitive Area", and discouraged as a site for lattice towers, the only residence within that

distance is the residence of the property owner. The nearest residence off-site is 735' from the tower.  
3. The site is located within the Rural Area on the Knoxville-Knox County-Farragut Growth Policy Plan map.

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.



**1-I-14-UR  
USE ON REVIEW**

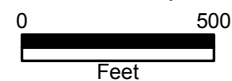


270' lattice commercial telecommunications tower in A (Agricultural)

Petitioner: Optima Towers IV, LLC, Keith Powell

Map No: 36

Jurisdiction: County



Original Print Date: 12/20/2013      Revised:  
Metropolitan Planning Commission \* City / County Building \* Knoxville, TN 37902

**OPTIMA TOWERS IV, LLC/ATT WIRELESS**

**Telecommunications Tower Site Review**

**USE ON REVIEW APPLICATION # 1-I-14-UR**

**CONSULTANT'S SUMMARY**

**Bullrun Valley Site**

**Knox County**

**Location:** 115 West Bullrun Valley Drive near Heiskell Road and south of Raccoon Valley Road--Northeast Knox County

**Proposed Tower Height:** 270 foot lattice

**Address:** 115 W. Bullrun Valley Road  
Knoxville, Tennessee

**District:** # 8 County **Map Number:** 036 **Parcel** 037

**Use:** Telecommunications antenna support structure

**Zoning:** A (Agricultural)

**Land Planning Area:** Rural Area

**Variances and waivers:** A variance is requested by the applicant for a minor waiver of the landscape requirement of the Ordinance in that the site is surrounded by woods and the request is that the landscape requirement be reduced due to the lack of visibility of the compound from adjoining properties.

**Need:** The applicant is Optima Towers IV with a commitment from AT&T Wireless as 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 270 foot lattice 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 6 additional carriers' set of antennas for a total of 7 sets of antennas and feedlines and that the required tower lights be the dual hazard warning lights (White strobe in daytime and red at night) due to the residential homes in the valley area.

*J. Baker*  
12-16-13

**REPORT TO  
METROPOLITAN PLANNING COMMISSION**

for

Proposed Telecommunications Tower Site  
Located at 115 W Bullrun Valley Road  
Heiskell, TN known as

**WEST BULLRUN VALLEY SITE**

**OPTIMA TOWERS/ATT WIRELESS**

**1-I-14-UR**

**COMPLIANCE WITH**

**THE MPC TELECOMMUNICATIONS FACILITY ORDINANCE  
12/16/2013**

The proposed site for the applicant is a 270 foot lattice type antenna support structure (including antennas and lightning rod) to be located south of Raccoon Valley Road and west of Heiskell Road north of West Bullrun Valley Dr. 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 7** and is located on **Tax Map Number: 036 Parcel: 037**
2. **Zoning.** A (Agricultural) and HP
3. **Land Planning Area:** Rural Area
4. **Proposed Tower Height:** 270 foot lattice
5. **Address:** 115 W. Bullrun Valley Dr.  
Knoxville, Tennessee
6. **Tower height.** The requested height is 270 feet above ground level should support up to 4 additional telecommunications carrier antennas for a total of 5 users. Lighting **will 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 297 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 395 feet from the base of the lattice. Also the setback from W. Bullrun Valley Drive Road is more than 100 feet and meets the Ordinance requirements. A variance is requested by the applicant for a minor waiver of the landscape requirement of the Ordinance in that the site is surrounded by woods and the request is that the landscape requirement be reduced due to the lack of visibility of the compound from adjoining properties.

8. **Site.** This application is for the construction of a new lattice type antenna support structure to be located in the middle of a wooded field on West Bullrun Valley Drive.

9. **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 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 7 users, 6 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 (297 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 270 feet **with lighting** required. This height is required to provide service to the surrounding area due to the varying terrain, otherwise multiple structures would be required to serve the same area.

## **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 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 talked with the applicant, Optima Towers.

The site elevation at this location is about 980 feet. It is located in the center of a wooded area on West Bullrun Valley Drive near Heiskell Road and Raccoon Valley Road in Northeast Knox County.

The request is for a 270 foot lattice of which ATT will use the top 15 feet and the additional usable lower 150 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 4 additional users for a total of 5, however, it is my recommendation that the structure be initially designed for a total of 7 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 lattice structure.

The proposed structure should not affect adjacent property as it is on a parcel of land that is zoned agricultural and there are no subdivisions or other multiple residential homes in the immediate area.

EMS access to the site would be via W. Bullrun Valley Dr. on an access road with a 14.5% grade barely under the 15% maximum grade allowed by EMS.

Using the MPC's Wireless Facilities Matrix the site qualifies as a SENSITIVE AREA site in that it is 270 feet in height, a lattice type structure and located in an agricultural area. It is DISCOURAGED with regard to land use as it is located within 500 feet of a residence. *(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 (270 feet) with lighting requirements and even though located near the intersection of W. Bullrun Valley Drive and Heiskell Road it is separated from residential units by wooded areas.

(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 lattice type structure greater than 199 feet but will be located in an isolated area of the county.

(A) **Sensitive Area**---This location is in a SENSITIVE AREA and is DISCOURAGED land use by the Matrix due to its height and being a lattice structure more than 199 feet and within 500 feet of a residence. It is located across from a commercial zoned area.

## **SUMMARY**

(1) The proposed antenna support structure is a 270 foot lattice including antennas. Lighting **will be** required for this structure by the FAA due to its proposed height. It is recommended that the applicant use the dual aviation hazard warning lights (White strobe in the day and red at night) as opposed to the white strobe lights due to residential homes in the valley covered by the structure.

(2) A review of the structure stress analysis on the proposed structure and specifications support the use of the lattice by four other potential users in the future, but the recommendation here is for six 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 300 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 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 a minor waiver of the landscape requirements.

(11) The proposed site and structure will have minimal environmental impact within the federal guidelines.

(12) Assuming that there are 7 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.

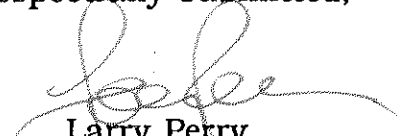
(14) Access road for emergency personnel will be via W Bullrun Valley Drive via an access road with a 14.5% grade within the grade allowed by EMS for safety. However, the site is an unmanned site.

(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 6 additional carriers set of antennas for a total of 7 sets of antennas and feedlines to allow for future growth without adding additional structures in the area; and (2) the structure use the dual aviation hazard warning lights (White strobe in daytime and red at night) due to the location of residential homes in the area.

Respectfully submitted,



Larry Perry  
Consultant to MPC

## STATEMENT OF QUALIFICATIONS OF CONSULTANT

I, Larry Perry, do hereby state:

That I have degrees in Law and Engineering with extensive experience in towers and communications related activities;

That I have prepared numerous communications applications resulting in grants by the Federal Communications Commission and other federal agencies;

That I have been responsible for the design and construction of more than 3785 towers in 21 countries around the world;

That I have prepared Ordinances and other statutes for cities and states concerning tower usage within municipal boundaries, including many in Tennessee.

That my credentials are a matter of record with the FAA and the FCC;

That I am a licensed attorney and Registered Professional Engineer in several states;

That I have testified before Congress on several occasions on communications related matters;

That I have served as an advisor to three FCC Chairmen and the US Department of State on International communications matters;

That I have more than 40 years experience in tower design, evaluation and construction;

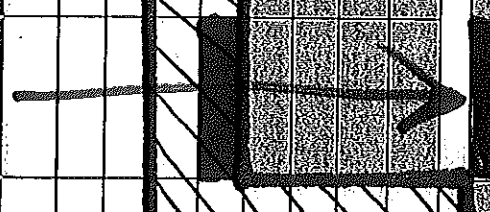
. That I have and presently do teach courses in communications and radiation at the college level at major universities and for private industry.

  
\_\_\_\_\_  
Larry Perry

1-I-14-UR

**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
<b>Opportunity Areas</b>	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							
<b>Sensitive Areas</b>	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						
<b>Avoidance Areas</b>	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



Optima Towers IV, LLC  
PO Box 2041  
Mount Pleasant, SC 29465

*Via Hand Delivery*

November 22, 2013

Knox County Metropolitan Planning Commission  
400 Main St, Suite 403  
City County Building  
Knoxville, Tennessee 37902

Re: Proposed wireless communications facility at 115 W. Bullrun Valley Drive

Dear MPC Staff and Commissioners,

I hope this letter finds you well. Please accept this package as the submittal by Optima Towers for its proposed wireless telecommunications facility located at 115 W. Bullrun Valley Drive. The following information package describes in detail of the required Knox County MPC application form, applicable site information and required materials, and detailed site plans for approval of Optima Towers' (Optima) proposed wireless communications facility located at 115 W. Bullrun Valley Drive. This checklist below provides the respective code requirements (§§4.92.02 and §§4.92.03) and the methods and measures of compliance by Optima. Specifically included with this [Application Submittal] are the following required multiple attachments:

1. MPC Use on Review application
2. Site Plans by Vision Engineering, Site Design Engineers, dated 11/21/2013
3. Supplemental Addendum data package, dated 11/22/2013

Optima answers and addresses each specific requirement of the Knox County ordinance for Communication Towers in the margin below each requirement. These answers are written in **BOLD** type.

**Section 4.92.02**                      **Development Standards**

1. Co-Location Requirements

The following regulations regarding co-location of antennae shall apply:

- a. A new commercial telecommunications tower proposed for construction must accommodate a minimum of two antenna arrays if the tower is less than 130 feet in height, and at least three antenna arrays if the tower is 130 feet in height or greater.

**Optima complies with this requirement. The proposed 270-foot structure will accommodate a minimum of 4 antenna arrays. Please see Exhibit 1, Tower Drawings illustrating the compliance.**

- b. Applicants requesting a building permit or use on review approval for a new tower shall simultaneously file a letter of intent committing the tower owner and his/her successors to allow the shared use of the tower if an additional user agrees in writing to meet reasonable terms and conditions for shared use. However, this section shall not obligate the owner of an existing tower to co-locate additional antennas on such tower, nor is it intended to limit the

rights of parties to set rent or establish other terms and conditions for the shared use of a telecommunications tower or other structure.

**Optima complies with this requirement. Please see Exhibit 2, Letter of Intent by Optima Towers IV, LLC.**

- c. Applications for a building permit or use on review approval for a new tower shall include maps of the intended coverage area, the corresponding search radius for tower sites, and existing facilities within that search radius. Existing facilities shall include towers, buildings, and other structures of such height as to meet the engineering needs of the applicant. The applicant shall also provide written evidence that location on an existing structure is not feasible due to at least one of the following reasons:
- (1) No suitable facilities exist that would allow service to be provided to the proposed coverage area.
  - (2) The planned equipment would exceed the capacity of existing and approved structures, considering existing and planned use of those structures. Applicants citing this reason shall provide certification by a licensed engineer qualified in the design and installation of wireless communications facilities.
  - (3) The planned equipment would result in technical or physical interference with or from other existing or planned equipment, or would result in a violation of standards promulgated by the Federal Communications Commission.
  - (4) Other reasons that make it impracticable to co-locate the proposed antenna(e) on an existing facility, including, but not limited to, a failure to reach agreement with the owner of an existing facility on a rental amount or other material terms of a lease, after negotiating in good faith for a period of at least sixty (60) days. Said negotiation period shall commence on the date that the applicant submits his first written inquiry about co-location to the owner of the existing facility. Letters from owners of existing facilities or other evidence of good faith attempts to negotiate with said owners may be submitted to satisfy the certification requirements of 4.92.02 Part 1.c(4) of this Section. The submission of an affidavit by the applicant stating that the applicant and the owner of the existing facility have been unable to reach agreement during said sixty (60) day period, and stating the reasons they were unable to agree, shall be deemed sufficient written evidence to establish good faith negotiations as contemplated herein.

**Optima complies with this requirement. Please see Exhibit 3. Included are, 1) Map depicting the existing lacking coverage; and 2) Map depicting the area with the proposed coverage; and 3) Search ring of deficient area "search area" and 4) A map depicting a 1 mile and 3 mile search for existing towers accompanied by the related FCC website search. The applicable towers are numbered to match the respective map. The FCC search information and map depict that NO existing structures exist in or near search area.**

**The existing facility map in Exhibit 3D illustrates, Optima complies with the requirement due to reason # (1), "No suitable facilities exist that would allow service to be provided to the proposed coverage area."**

- d. If the applicant is not a licensed provider of commercial telecommunications services, the application shall, in addition to meeting all the other requirements of this section, include at least one letter from such a licensed provider indicating intent to locate on the proposed tower. The maps and written evidence required in 4.92.02 Part 1.c. of this Section shall be based on the needs of the licensed provider(s) who furnishes said letter of intent.

**Optima complies with this requirement. Please see Exhibit 4, Letter of Intent to collocate by AT&T.**

- e. Plans and drawings submitted as part of a use on review application for a new tower site shall be certified by a licensed, professional engineer, or architect.

**Optima complies with this requirement. Please see Chapter 2 of this Application Submittal, Site Plans by Vision Engineering, Dated 11/21/2013.**

f. The professional planning staff of the Metropolitan Planning Commission shall refer technical engineering aspects of the administration and enforcement of this section to a registered professional engineer qualified in the design and installation of wireless communications facilities to provide advice and assistance. Any use on review application for a new communications tower of sixty feet or more feet in height shall, at the discretion of the professional planning staff of the Metropolitan Planning Commission, be referred to the engineering consultant for review and report. Any reasonable costs not to exceed One Thousand Five Hundred and No/100 Dollars (\$1,500) incurred for the engineering consultant's review and recommendation shall be reimbursed by the applicant to the Metropolitan Planning Commission. All such applications shall, in addition to any fee charged for the use on review application, include an escrow fee in the amount of five hundred dollars (\$500). Within thirty (30) days after a use on review determination has been made, the Metropolitan Planning Commission shall reimburse the applicant for any excess escrow amount or, where the escrow does not cover the full costs of the engineering consultant's review and report, the applicant shall reimburse the Metropolitan Planning Commission for the shortage before the Director of Code Administration and Inspection acts on a permit application. In no event shall an applicant be obligated to reimburse the Metropolitan Planning Commission more than fifteen hundred dollars (\$1,500) per application for the same proposal.

**Optima complies with this requirement. Optima has provided payment in the amount of \$2,700.00 (Check#1242). This total includes the Third (3<sup>rd</sup>) party review by Mr. Perry. A copy of the check is attached in Chapter 1 of MPC Use on Review Application by Optima Towers IV, LLC.**

## 2. Setbacks

a. Except as otherwise noted in this section, all towers shall be set back from any Dwelling Unit located on all properties zoned A, E, RA, RAE, RB, PR, or TC, any Dwelling Unit located on all properties with an HZ overlay, and any Dwelling Unit located on any residentially or agriculturally zoned property within the Town of Farragut or the City of Knoxville, a minimum distance equal to 110% of the height of the tower, or the minimum principal use setbacks of the zoning district in which the tower is located, whichever is greater. Guy wires for towers, and above ground supports for guy wires, shall be set back from side and rear property lines a minimum of ten (10) feet. No guy wire shall be located in a required front yard.

**Optima complies with this requirement. The nearest Dwelling Unit is located no nearer than approximately 395-ft from the proposed tower. Minimum setback is 297-ft. See Exhibit 5 depicting the location and dwelling setback from the proposed tower.**

- b. The following setbacks shall apply to towers located on the site of a substation owned or leased by an electric utility company or district:
  - (1) Towers located outside the existing security fence shall be set back consistent with the requirements of paragraph 2.a. above.
  - (2) Towers located within the existing security fence are not required to comply with the setbacks set forth in this Ordinance.

**This requirement is NOT APPLICABLE to this application.**



c. Upon notarized written agreement between the commercial telecommunications tower applicant and all of the property owner(s) whose property lines fall within the setback specified under either 2.a. or 2.b. of this section, the minimum setback may be reduced to the principal use setback in the zoning district in which the tower is located, if approved by the Metropolitan Planning Commission as part of the use on review application for the new tower.

**Optima complies with this requirement. The property owners, David and Jennifer Messer, own the property within the tower +10% (297-ft). They are a party to this application. Please See Chapter 1, page 2 of this Submittal Package.**

d. Setback requirements may be modified by the Board of Zoning Appeals (BZA), consistent with the requirements for the granting of a variance listed in Article 6, Section 6.60 of these regulations.

**This requirement is NOT APPLICABLE to this application.**

e. If a tower is torn down and a replacement tower constructed, the replacement tower may be constructed at any place on the parcel, so long as it meets the setback requirements in effect at the time the original tower was constructed; provided, however, if construction of such tower on the relevant parcel requires approval as a Use on Review, the replacement tower shall be permitted, so long as it is constructed within 200 feet of the original tower site.

**This requirement is NOT APPLICABLE to this application.**

### 3. Height

a. The height of a tower shall not be calculated to include any antennae erected in compliance with the applicable building regulations.

**Optima complies with this requirement. Optima proposes a 270-ft structure and does not make any reference to a differing size structure. No antenna will be attached to a section higher than 270-ft above ground level. Please see Exhibit 1 Tower Drawings.**

b. An existing tower may be modified or rebuilt to a taller height, not to exceed thirty (30) feet over the tower's existing height, to accommodate the co-location of an additional antenna or similar transmission equipment. No additional setbacks shall be required. This height change shall be permitted only one time per tower. However, if the proposed modification or replacement would cause the tower's height to equal or exceed 200 feet, it shall not be constructed without the approval of the Planning Commission as a Use on Review, except when the construction of such towers is a permitted use pursuant to this Ordinance.

**This requirement is NOT APPLICABLE to this application. No structure currently exists.**

### 4. Landscaping

a. For all towers, at least one row of evergreen trees or shrubs capable of forming a continuous hedge at least five feet in height and screening the base of the tower from public view within two years of planting shall be planted and maintained in healthy condition. A break in the hedge, not to exceed 12 feet in width, shall be allowed for access for maintenance personnel and vehicles.

**Please see page C6.01 of Chapter 2, Site Plans by Vision Engineering, dated 11/21/2013. Optima is requesting a reduction in this landscaping requirement. Optima meets the below requirement for**

**Section 4.92.02 (4)(b), due to the lack of visibility of the compound from adjoining properties and public ROW.**

b. 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. No screening shall be required if the base of the tower is not visible from adjoining property or is not otherwise visible from a dedicated public right of way, or if waiver of this requirement is necessary for the continued operation of agricultural or forestry uses. No screening shall be required when this screening is explicitly prohibited by Federal Communications Commission regulations.

**Optima's proposed landscape plan provides screening from the south side of the compound, comprising the two sides of the compound that face towards W. Bullrun Valley Drive. Otherwise, the remaining northern side of the compound will not be visible from any right of way or adjoining property. The ground elevations, current vegetation, and existing foliage will block any visibility from adjoining properties.**

c. Any required new vegetation shall be in place within 30 days of the completion of the installation of any tower and its appurtenances, except that this deadline shall be extended by the codes administrator if necessary to delay planting to the next planting season.

**Optima accepts and acknowledges this requirement.**

#### 5. Security Fencing

The base of the tower, including any accessory structures, shall be enclosed by a minimum 6 ft. high chain link fence. Any landscaping, as required under section 4.92.02, paragraph 4., shall be installed outside the fenced enclosure.

**Optima complies with this requirement. Please see page C1.01 and C5.01 of Chapter 2, Site Plans by Vision Engineering, dated 11/21/2013.**

#### 6. Exceptions

a. A commercial telecommunications tower legally existing as of September 28, 1995 may be rebuilt on the same site without compliance with the height and setback requirements of this Section.

**This requirement is NOT APPLICABLE to this application.**

### ***Section 4.92.03*** ***Removal of Abandoned Towers***

The following regulations shall apply to ensure the removal of abandoned towers:

1. The owner of any telecommunications tower shall provide written notification to the Director of the Department of Code Administration and Inspection within thirty (30) days of the occurrence of either or both of the following:

- a. The tower has changed ownership.
- b. Use of all telecommunications antennas on the tower has ceased.

**Optima complies with this requirement. Please see attached Exhibit 6, Letter of notice to MPC and Department of Code Administration.**

2. All towers permitted under the requirements of these regulations that are not operated for telecommunications purposes for a continuous twelve (12) month period shall be considered abandoned,

and the owner of such tower shall remove same within 90 days of receiving notice from the Director of the Department of Code Administration and Inspection. Failure to do so shall be deemed a violation of these regulations. The owner of the tower may appeal the decision of the Director of the Department of Code Administration and Inspection to the Board of Zoning Appeals. At such hearing the owner shall be required to show just cause why the tower should not be considered abandoned and subject to removal.

**Optima complies with this requirement. Please see attached Exhibit 6, Letter of removal to MPC and Department of Code Administration.**

3. At the time a request for a building permit is made, the applicant shall provide proof of the establishment of a financially secured and legally enforceable method of removing a telecommunications tower when it ceases to be used for a period of twelve (12) months. This may be in the form of a bond, a letter of credit or some other financial arrangement approved by the County Finance Director for financial adequacy and the County Law Director for legal enforceability. Such bond or other approved financial surety shall be maintained by the owner of the tower so long as the tower exists.

**Optima acknowledges and complies with this requirement. Please see same attached Exhibit 6.**

Upon approval of the Use on Review application, Optima will provide the remaining required items, as stated in the supplemental information, prior to its submission for building permit. If you have any questions, please feel free to give me a call at 843-324-9745.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Powell', is written over the word 'Sincerely,'.

Keith Powell  
Managing Member  
Optima Towers IV, LLC



*Via Supplemental Information Package*

November 20, 2013

Knox County Metropolitan Planning Commission  
400 Main St, Suite 403  
City County Building  
Knoxville, Tennessee 37902

Re: Proposed wireless communications facility at 115 W. Bullrun Valley Drive

Dear MPC Staff and Commissioners,

In accordance with §4.92.02, sub section (1) (b) of The Knox County Zoning Ordinance:

Please accept this letter of intent by Optima Towers IV, LLC;

Optima Towers IV commits the aforesaid tower and facility located at 115 W. Bullrun Valley Drive, its successors and/or assigns, to allow the shared use of the tower if an additional user agrees in writing to meet reasonable terms and conditions for shared use. However, this letter of intent shall not obligate Optima Towers IV, its successors or assigns, or limit its rights, or any tenant, to set rent or establish other terms and conditions for the shared use of this tower facility.

By: Optima Towers IV, LLC, a South Carolina limited liability company

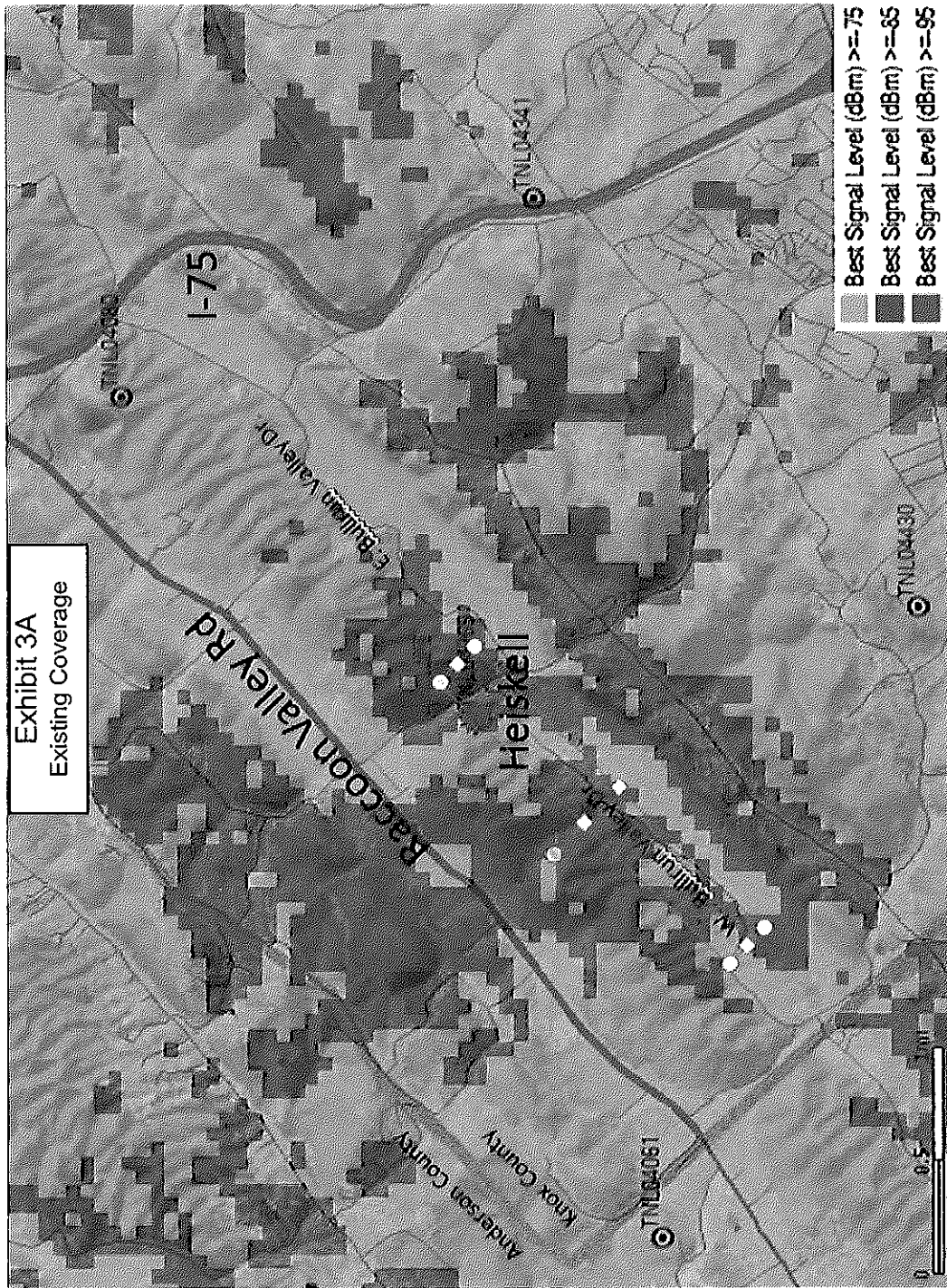
A handwritten signature in black ink, appearing to read "K. Powell", is written over a horizontal line.

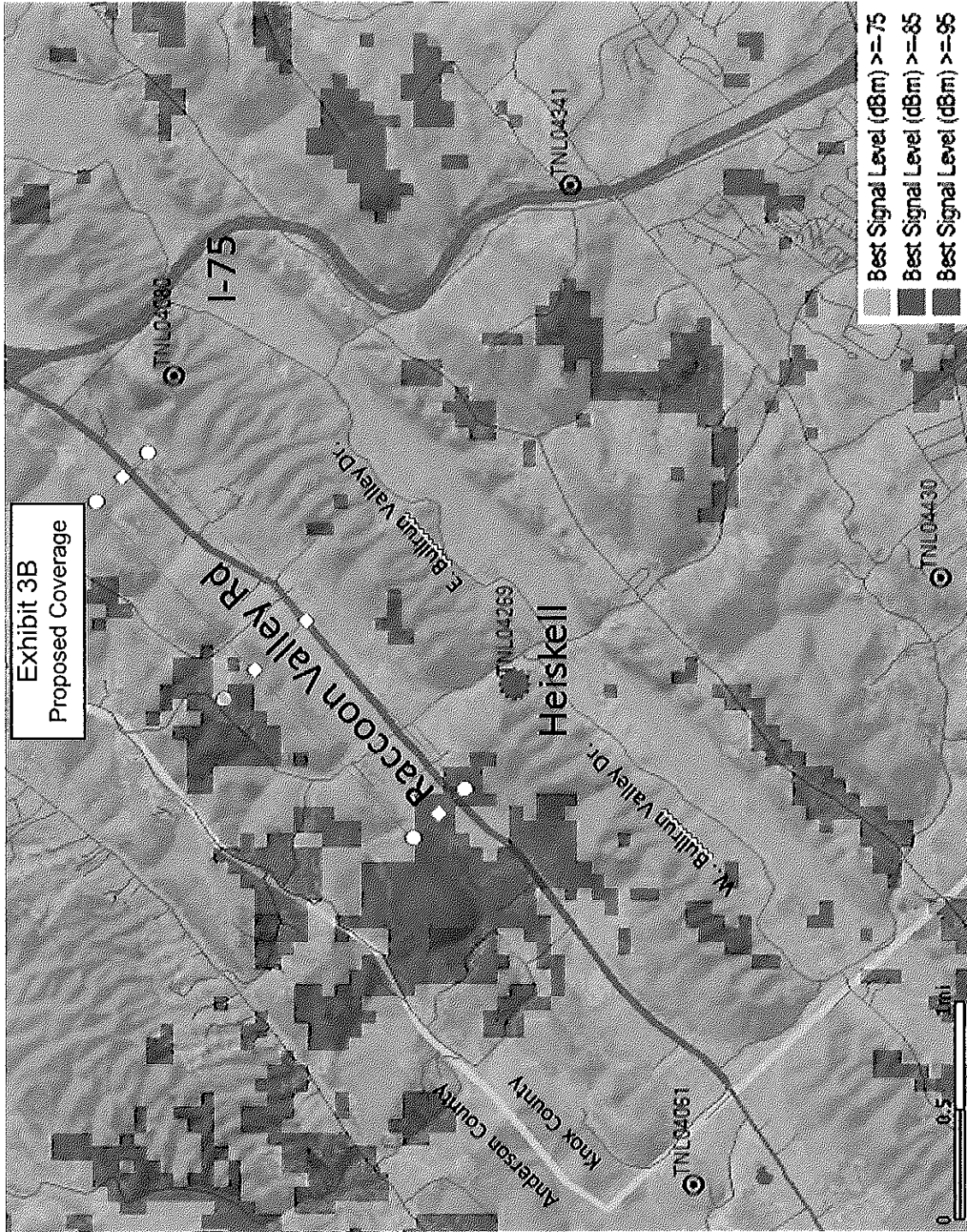
Acknowledged and Accepted

By: Keith Powell

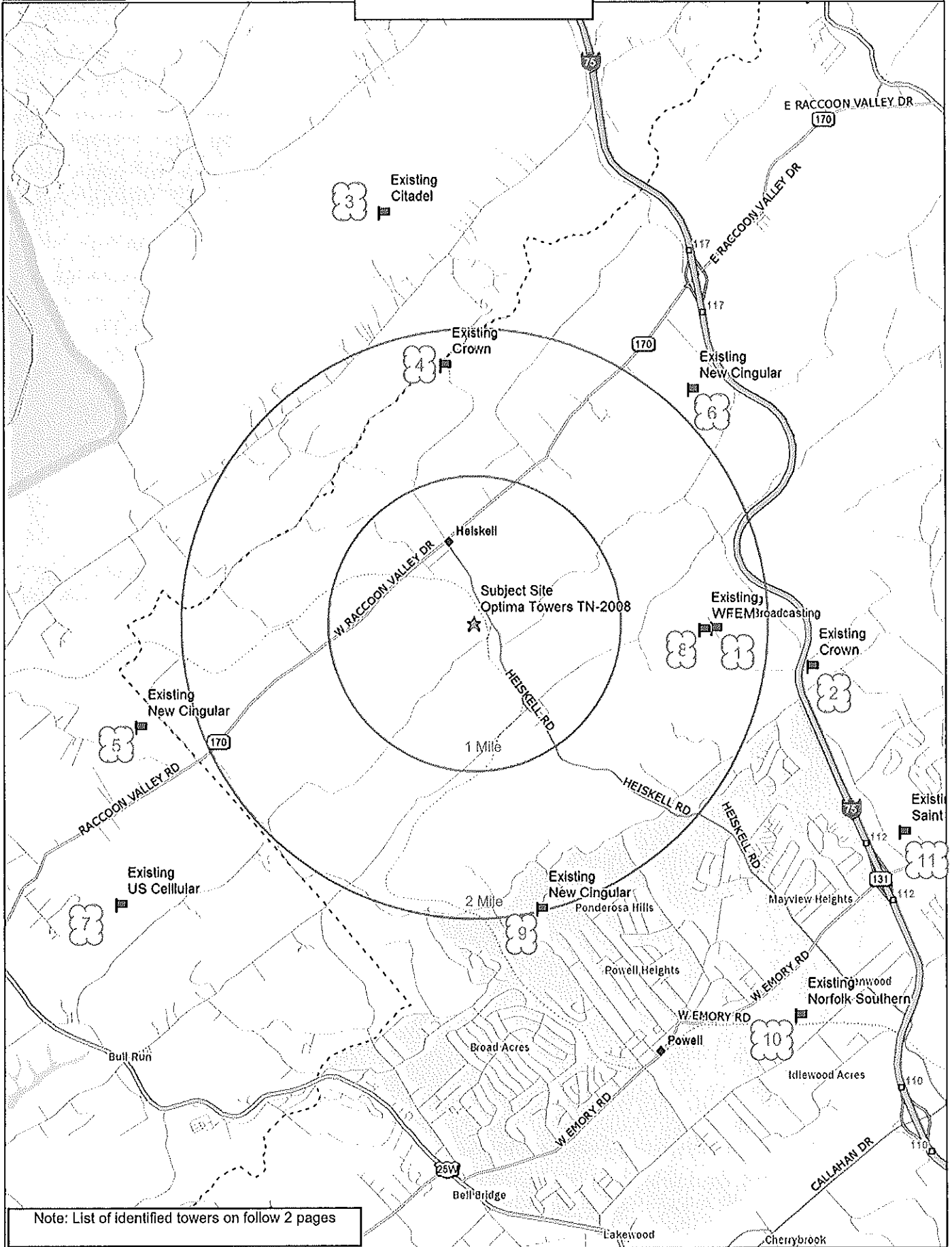
Its: Managing Member

Date: 11/20/13









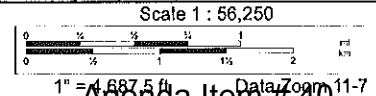
Note: List of identified towers on follow 2 pages

Data use subject to license.

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www.delorme.com

MPC January 9, 2014



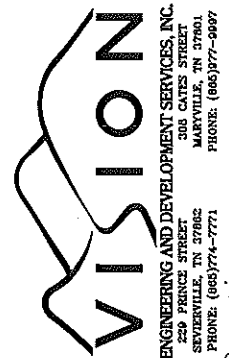
Agenda Item # 40

# OPTIMA Towers

PO BOX 2041  
MT PLEASANT, SC 29465

## SHEET INDEX

SHEET NUMBER	DESCRIPTION
1 OF 2	SURVEY PLANS
2 OF 2	SITE SURVEY LEGAL DESCRIPTIONS
C01.0	CIVIL PLANS
C01.10	SITE ACCESS PLAN
C01.20	ACCESS ROAD PROFILE
C1.01	SITE LAYOUT PLAN
C1.02	NOTES
C2.01	TOWER ELEVATIONS
C3.01	GRADING PLAN
CS.01	DETAILS
CS.02	DETAILS & NOTES
CS.03	DETAILS
CS.04	DETAILS
CS.05	DETAILS
CS.06	DETAILS
C6.01	TREE PLANTING PLAN



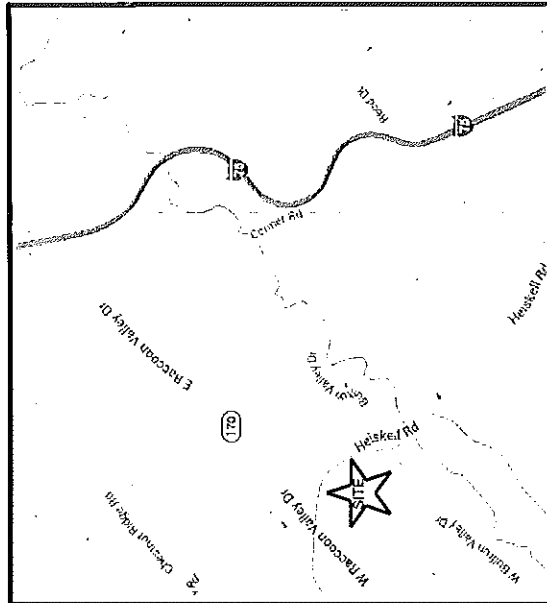
**VISION**  
ENGINEERING AND DEVELOPMENT SERVICES, INC.  
224 PIERCE STREET  
SEVIERVILLE, TN 37862  
PHONE: (865) 774-7771

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### DIRECTIONS

DRIVING DIRECTIONS FROM MCGHEE TYSON AIRPORT, 2055 ALCOA HWY, LOUISVILLE, TN 37001:  
FOLLOW US 28 NORTH TOWARDS KNOXVILLE. CONTINUE ON US 28 FOR APPROX 11.8 MILES. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR ASHEVILLE/LEXINGTON AND MERGE ON TO I-40 E AND CONTINUE FOR APPROX 0.8 MI. TO MERGE I-276N. TAKE EXIT 387A TO MERGE ON TO I-275 N TOWARD LEXINGTON AND CONTINUE FOR APPROX 3.1 MI. CONTINUE ON TO I-75N AND CONTINUE FOR APPROX 8.7 MILES. TAKE EXIT 117 FOR TN-170 RACCOON VALLEY ROAD. TURN LEFT ONTO RACCOON VALLEY ROAD AND CONTINUE FOR 2.8 MILES TO HEISKELL ROAD. TURN RIGHT ONTO HEISKELL ROAD AND CONTINUE FOR 1.3 MILES TO W. BULL RUN VALLEY ROAD. TURN RIGHT ONTO W. BULL RUN VALLEY ROAD AND CONTINUE ACROSS RR TRACKS AND TURN AT FIRST DRIVE ON RIGHT. FOLLOW ROAD TO SITE.



## SITE DATA

**SITE NAME**  
WEST BULL RUN VALLEY TOWER

**SITE**  
SITE NUMBER  
TN-2008

**COUNTY**  
KNOX

**911 STREET ADDRESS**  
NOT ISSUED UNTIL SITE PLAN APPROVAL BY KNOX COUNTY

**LEASE AREA**  
22,500 SQ. FT. (0.52 ACRES)

**PROPOSED TOWER INFORMATION**  
TOWER TYPE - SELF SUPPORT  
LATITUDE - 36° 04' 26.2" N  
LONGITUDE - 84° 03' 02.3" W  
HEIGHT - 270'  
GROUND ELEVATION - 978.0

**ZONING**  
A-1

**PARCEL NUMBERS**  
MAP - 036  
PARCEL - 037  
DEED REFERENCE 20100814-0016438

## UTILITY DATA

**POWER:**  
KUB  
CONTACT: CUSTOMER SERVICE  
PHONE 865-524-2911

**PHONE:**  
AT&T  
CONTACT: KENT JOHNSON  
PHONE 865-218-8808

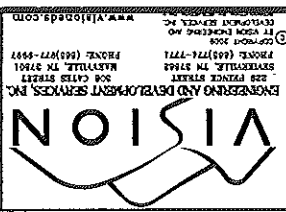
**911 ADDRESSING:**  
KNOX MPC ADDRESSING  
CONTACT: SHIRLEY MASE  
PHONE: (865) 215-2507

**POLICE DEPT:**  
PHONE: 911

**FIRE DEPT:**  
PHONE: 911

**BUILDING PERMIT:**  
KNOX COUNTY CODES  
BILL PIERCE  
865-215-4255

DR.	CHK.	DATE
GMW	MAW	08/11/13
GMW	MAW	09/24/13
GMW	MAW	11/21/13
2		



ENGINEERING AND DEVELOPMENT SERVICES, INC.  
224 PIERCE STREET  
SEVIERVILLE, TN 37862  
PHONE: (865) 774-7771

VISION ENGINEERING AND DEVELOPMENT SERVICES, INC.  
224 PIERCE STREET  
SEVIERVILLE, TN 37862  
PHONE: (865) 774-7771

www.visioneds.com

COVER SHEET

WEST BULL RUN VALLEY  
HEISKELL, KNOX COUNTY,  
TENNESSEE

OPTIMA TOWERS SITE NO: TN-2008



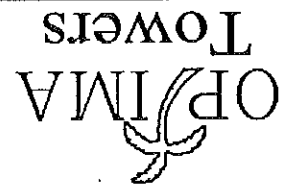
COVER

PROJECT # 130201-30



1-I-14-UR

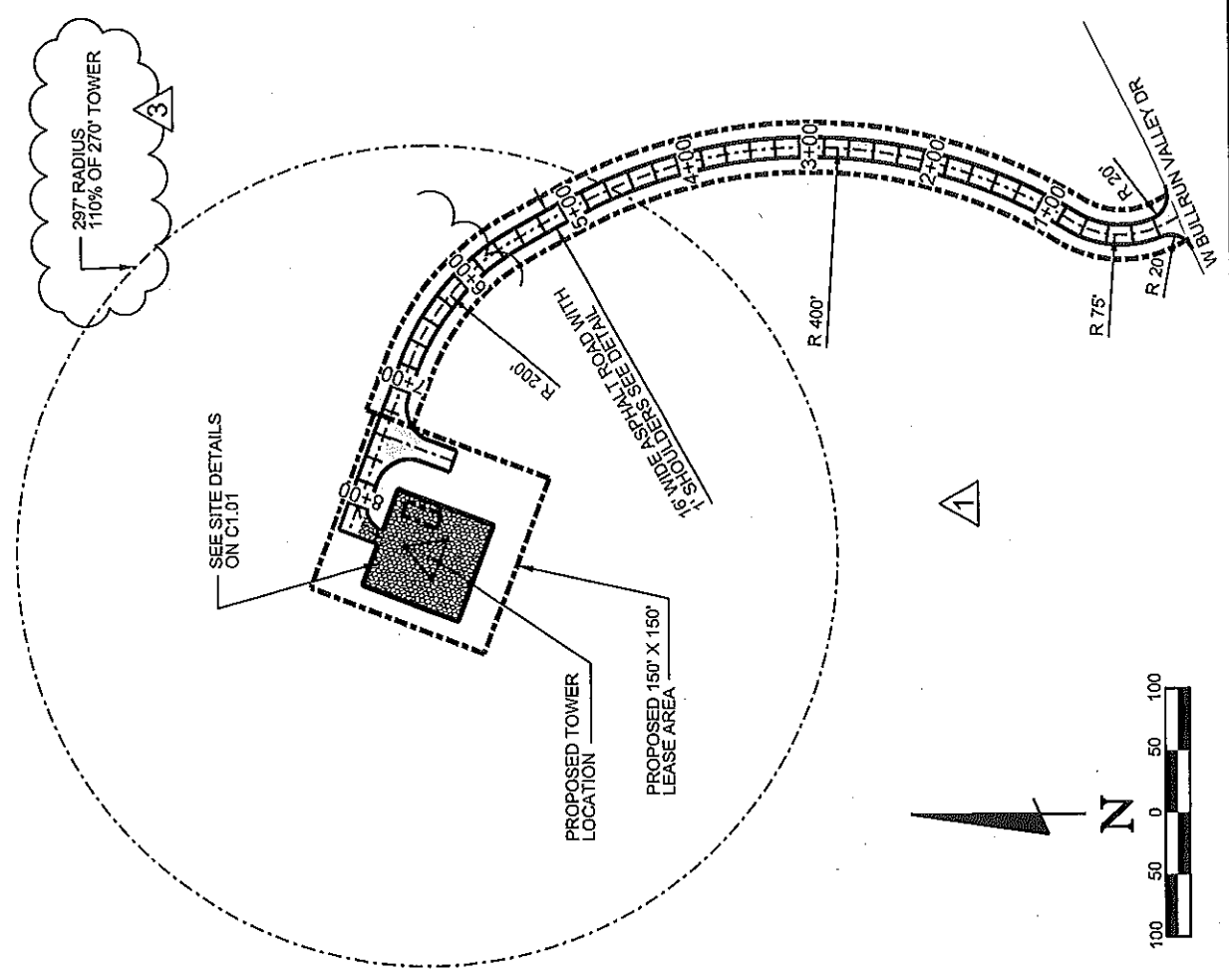




SITE ACCESS PLAN  
WEST BULL RUN VALLEY  
TENNESSEE  
OPTIMA TOWERS SITE NO: TN-2008

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
222 FINCH STREET  
KNOXVILLE, TN 37901  
PHONE: (615) 771-7771  
WWW.VISIONEDA.COM

REV	DATE	CHK	DR
3	11/21/13	MAW	GMV
2	11/06/13	MAW	GMV
1	09/24/13	MAW	GMV
0	09/11/13	MAW	GMV



- LEGEND
- PROPERTY LINE
  - - - PROPOSED LEASE LINE
  - ▬▬▬ PROPOSED ASPHALT
  - ▬▬▬▬ PROPOSED GRAVEL

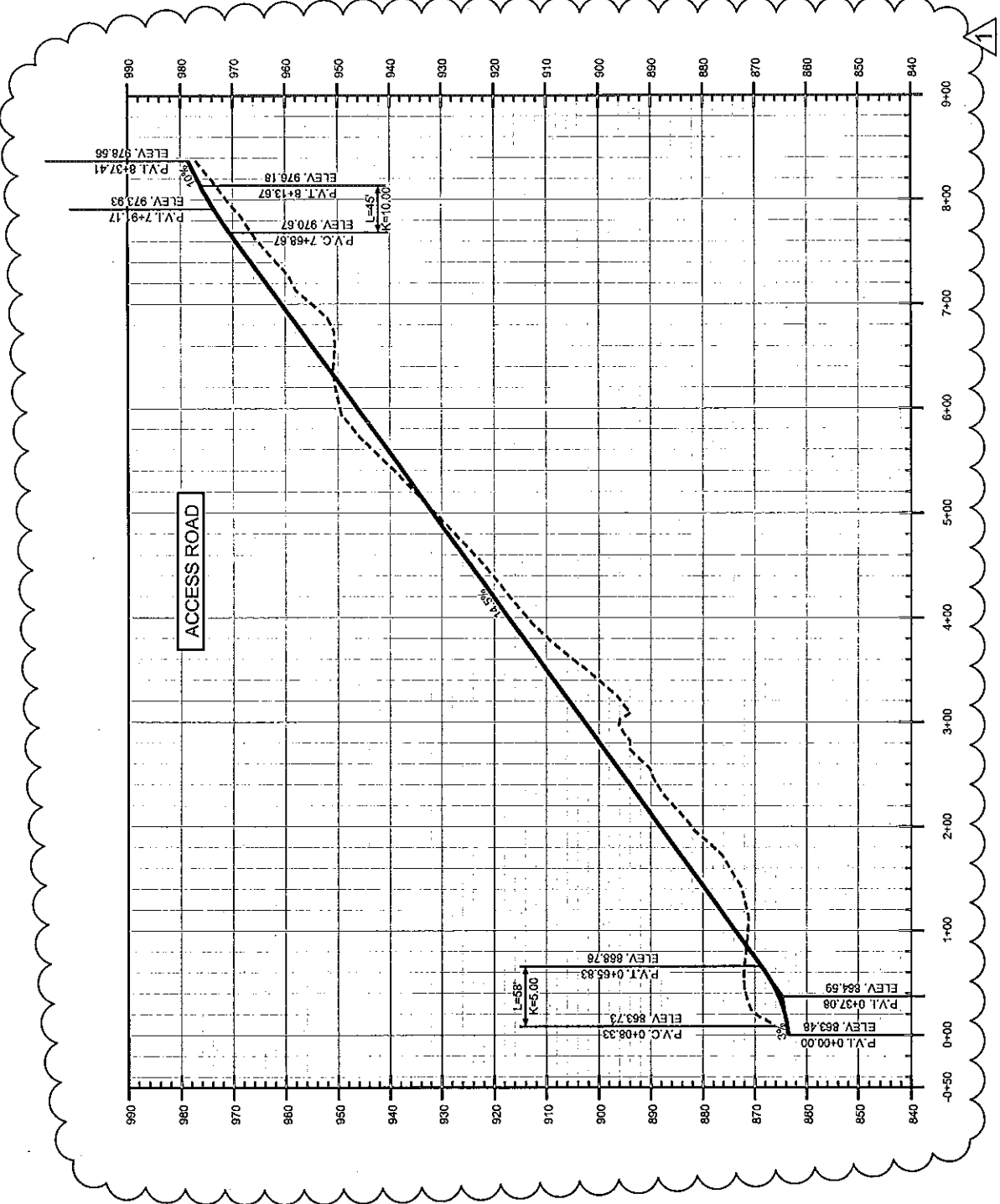
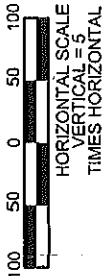


ACCESS ROAD PROFILE  
 WEST BULL RUN VALLEY  
 HEISKELL, KNOX COUNTY,  
 TENNESSEE  
 OPTIMA TOWERS SITE NO.: TN-2008

**VISION**

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
 629 PINEBARK DRIVE  
 MEMPHIS, TN 38121  
 PHONE: (901) 776-7711  
 FAX: (901) 776-7711  
 www.visionheda.com

REV	DATE	CHK	GMW
0	08/11/13	MAW	GMW
1	09/24/13	MAW	GMW



DR	CHK	DATE	REV
	GMW	08/11/13	0
	MAW	09/24/13	1
	GMW	11/06/13	2
	MAW	11/06/13	3

**VISION**

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
 450 EAST STREET  
 MARTINSVILLE, TN 37051  
 (615) 774-7774  
 PHONE: (615) 774-7774  
 FAX: (615) 774-7774  
 www.visioneds.com

**SITE PLAN**

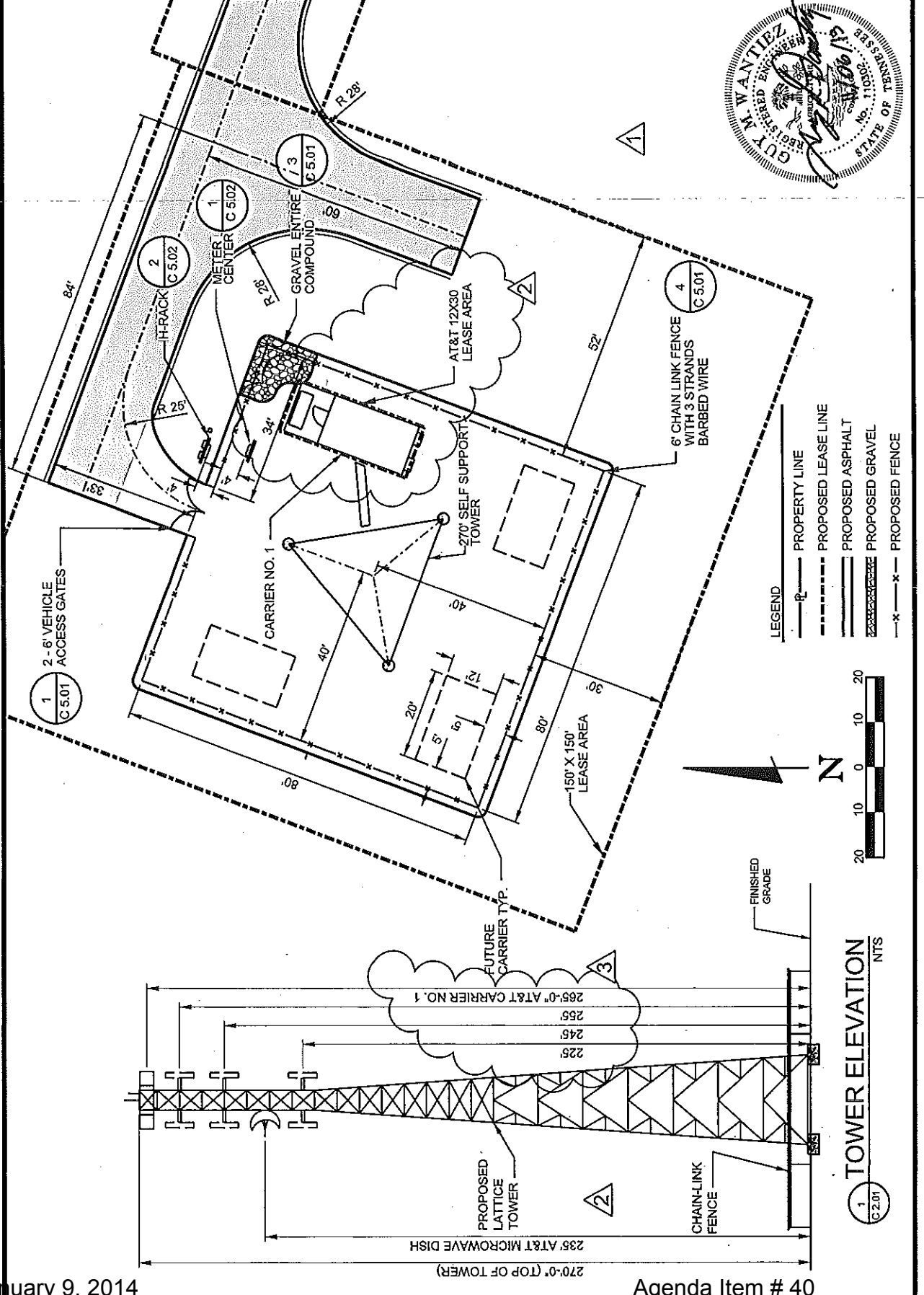
WEST BULL RUN VALLEY  
 HEISKELL, KNOX COUNTY,  
 TENNESSEE

OPTIMA TOWERS SITE NO: TN-2008

**OPTIMA  
TOWERS**

**C1.01**

PROJECT # 130201-30



DR.	CHK.	DATE	REV
GMW	MAW	08/11/13	0
GMW	MAW	09/24/13	1

**VISION**

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
 229 PRINCE STREET  
 200 CATES STREET  
 MEMPHIS, TN 38101  
 PHONE: (901) 777-7771  
 PROJECT: (901) 777-8939  
 www.visionpe.com

**TOWER COMPOUND  
 GRADING PLAN**

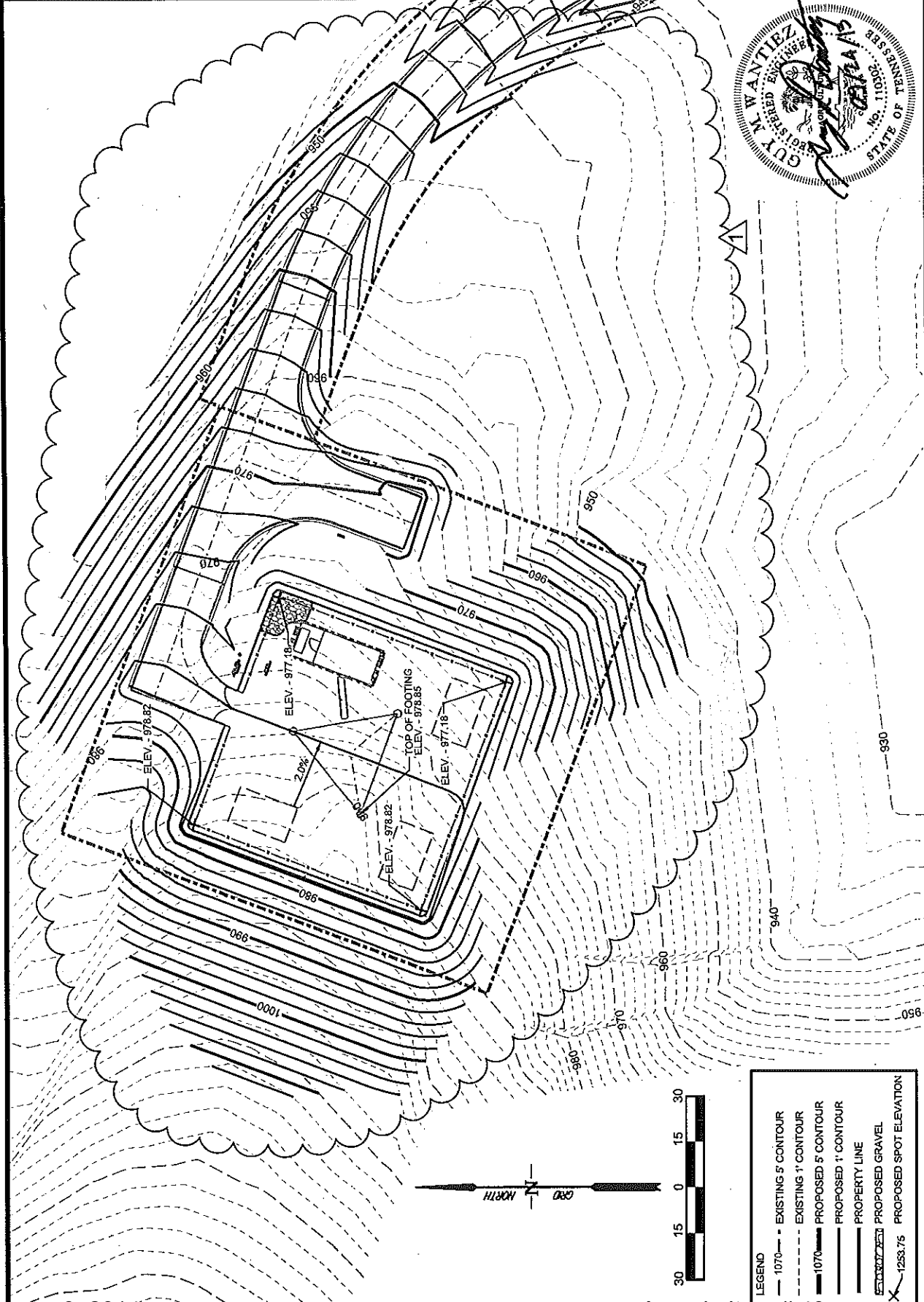
WEST BULL RUN VALLEY  
 HEISKELL, KNOX COUNTY,  
 TENNESSEE

OPTIMA TOWERS SITE NO. TN-2008

**OPTIMA  
 TOWERS**

**C3.01**

PROJECT # 130201-30



LEGEND	
---	EXISTING 5' CONTOUR
---	EXISTING 1' CONTOUR
---	PROPOSED 5' CONTOUR
---	PROPOSED 1' CONTOUR
---	PROPERTY LINE
---	PROPOSED GRAVEL
X	PROPOSED SPOT ELEVATION

REV	DATE	CHK.	DR.
0	08/11/13	MAW	MAW
1	09/24/13	MAW	MAW

**VISION**

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
 228 PINE STREET  
 WEST BULL RUN VALLEY, TN 37648  
 PHONE: (615) 774-7711  
 FAX: (615) 774-9997  
 WWW.VISIONEDS.COM

**OVERALL GRADING PLAN**

WEST BULL RUN VALLEY  
 HEISKELL, KNOX COUNTY,  
 TENNESSEE

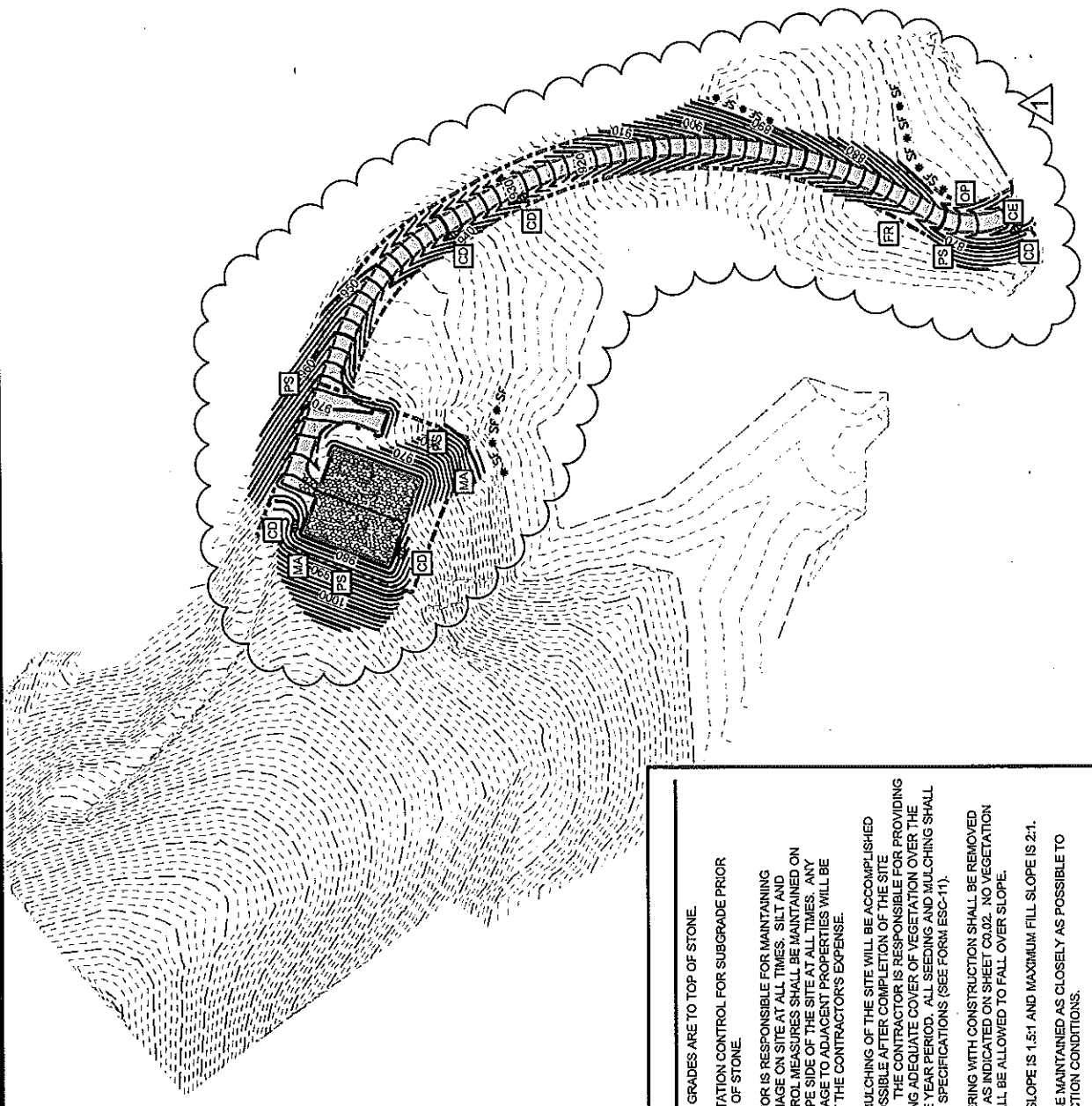
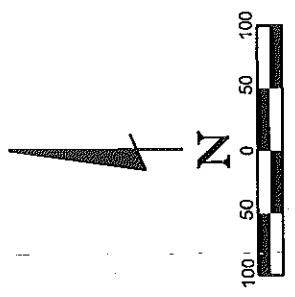
OPTIMA TOWERS SITE NO: TN-2008

**OPTIMA TOWERS**

PROJECT # 130201-30

**C3.02**

- LEGEND**
- P — PROPERTY LINE
  - - - 1070 - - - EXISTING 10' CONTOUR
  - - - 2' EXISTING 2' CONTOUR
  - 1070 — PROPOSED 10' CONTOUR
  - 2' PROPOSED 2' CONTOUR
  - PROPOSED LEASE LINE
  - PROPOSED ASPHALT
  - PROPOSED GRAVEL
  - CD CHECK DAM
  - SF \* \* \* SILT FENCE
  - CE CONSTRUCTION EXIT
  - PS PERMANENT SEEDING
  - OP OUTLET PROTECTION
  - FR FILTER RING



- NOTES:**
1. TYPICAL FINISH GRADES ARE TO TOP OF STONE.
  2. PROVIDE VEGETATION CONTROL FOR SUBGRADE PRIOR TO PLACEMENT OF STONE.
  3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON SITE AT ALL TIMES. SILT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED ON THE DOWN SLOPE SIDE OF THE SITE AT ALL TIMES. ANY DRAINAGE DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
  4. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD. ALL SEEDING AND MULCHING SHALL BE PER NC DOT SPECIFICATIONS (SEE FORM ESC-11).
  5. TREES INTERFERING WITH CONSTRUCTION SHALL BE REMOVED FROM THE SITE AS INDICATED ON SHEET C3.02. NO VEGETATION OR DEBRIS SHALL BE ALLOWED TO FALL OVER SLOPE.
  6. MAXIMUM CUT SLOPE IS 1.5:1 AND MAXIMUM FILL SLOPE IS 2:1.
  7. DRAINAGE TO BE MAINTAINED AS CLOSELY AS POSSIBLE TO PRE-CONSTRUCTION CONDITIONS.

DR.	CHK.	DATE	REV
	GMW	08/11/13	0

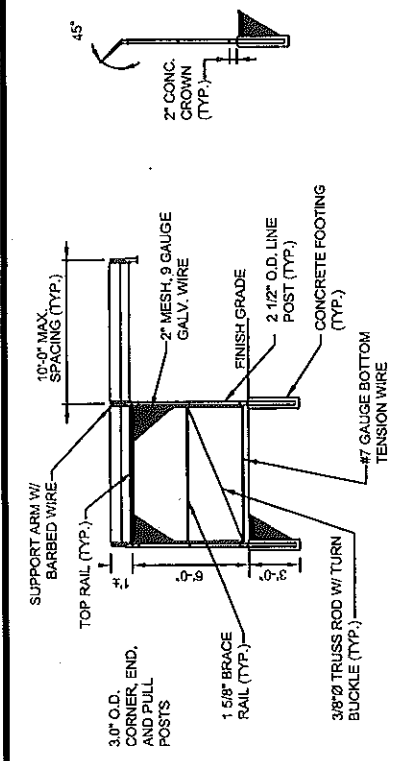
**VISION**  
ENGINEERING AND DEVELOPMENT SERVICES, INC.  
123 AVENUE B  
KNOXVILLE, TN 37951  
PHONE: (615) 771-7771  
FAX: (615) 771-7772  
www.visioneds.com

OPTIMA TOWERS SITE NO.: TN-2008  
WEST BULL RUN VALLEY  
HEISKELL, KNOX COUNTY,  
TENNESSEE

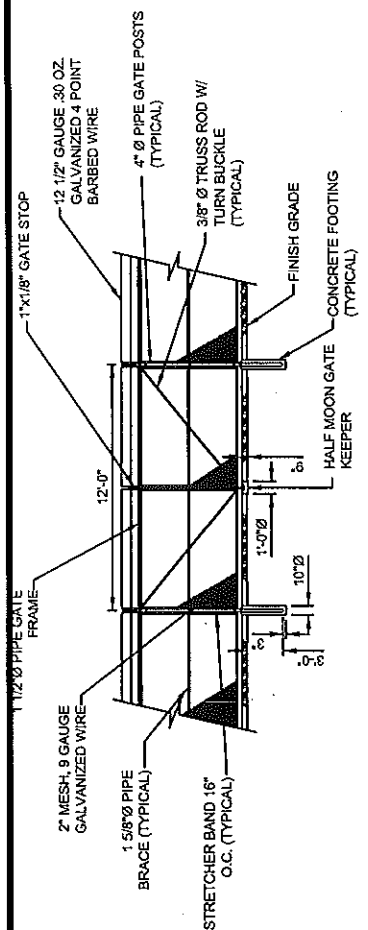
**OPTIMA TOWERS**

PROJECT # 130201-30  
**C5.01**

DETAILS

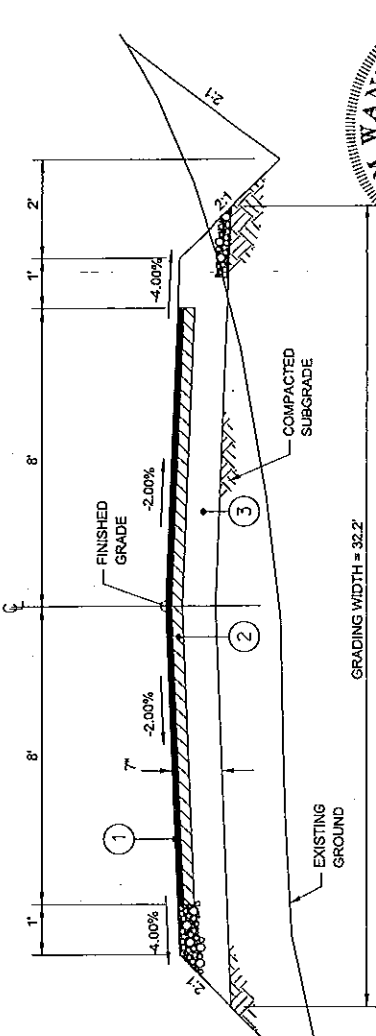


**4 TYPICAL FENCE DETAIL**  
NTS  
C 5.01



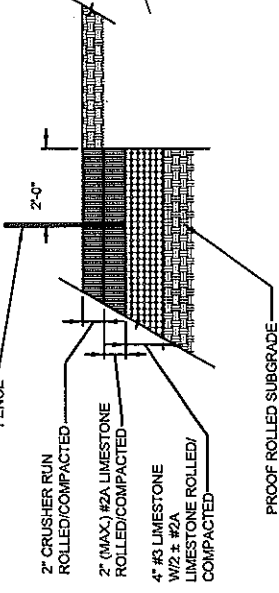
1. FENCING MATERIALS SHALL BE OF GALVANIZED STEEL.
2. POST, BRACES, AND GATE FRAMES SHALL BE SCHEDULE 40 (STANDARD WEIGHT) PIPE. SIZES SPECIFIED ARE NOMINAL DIAMETER.
3. DOUBLE SWING GATE SHALL BE PROVIDED WITH TUBULAR PLUNGER BAR, 1 LOCK KEEPER, 1 LOCK KEEPER GUIDE, 2 LATCH FORKS, 2 FORK CATCHES, 1 CATCH FOR PLUNGER BAR AND 2 GATE STOPS LOCATED AS DIRECTED BY THE ENGINEER.
4. POSTS, CAPS AND OTHER NECESSARY FENCE FITTINGS SHALL BE AS MANUFACTURED BY THE FENCE MANUFACTURER OR EQUAL. HINGES SHALL BE OF GALVANIZED STEEL.
5. POSTS SHALL BE SPACED EQUIDISTANT BUT NOT MORE THAN 10' O.C.

**1 TYPICAL GATE DETAIL**  
NTS  
C 5.01



**2 ACCESS ROAD - ASPHALT SECTION**  
NTS  
C 5.01

- PAVEMENT SCHEDULE
1. 1-1/4 INCH ASPHALTIC CONCRETE WEARING SURFACE "D MIX"
  2. 1-3/4 INCH ASPHALTIC CONCRETE BINDER/LEVELER COURSE "BM MIX"
  3. 4 INCH MINERAL AGGREGATE BASE TYPE "A", GRADE "D"



**3 TYPICAL SITE EDGE DETAIL**  
NTS  
C 5.01

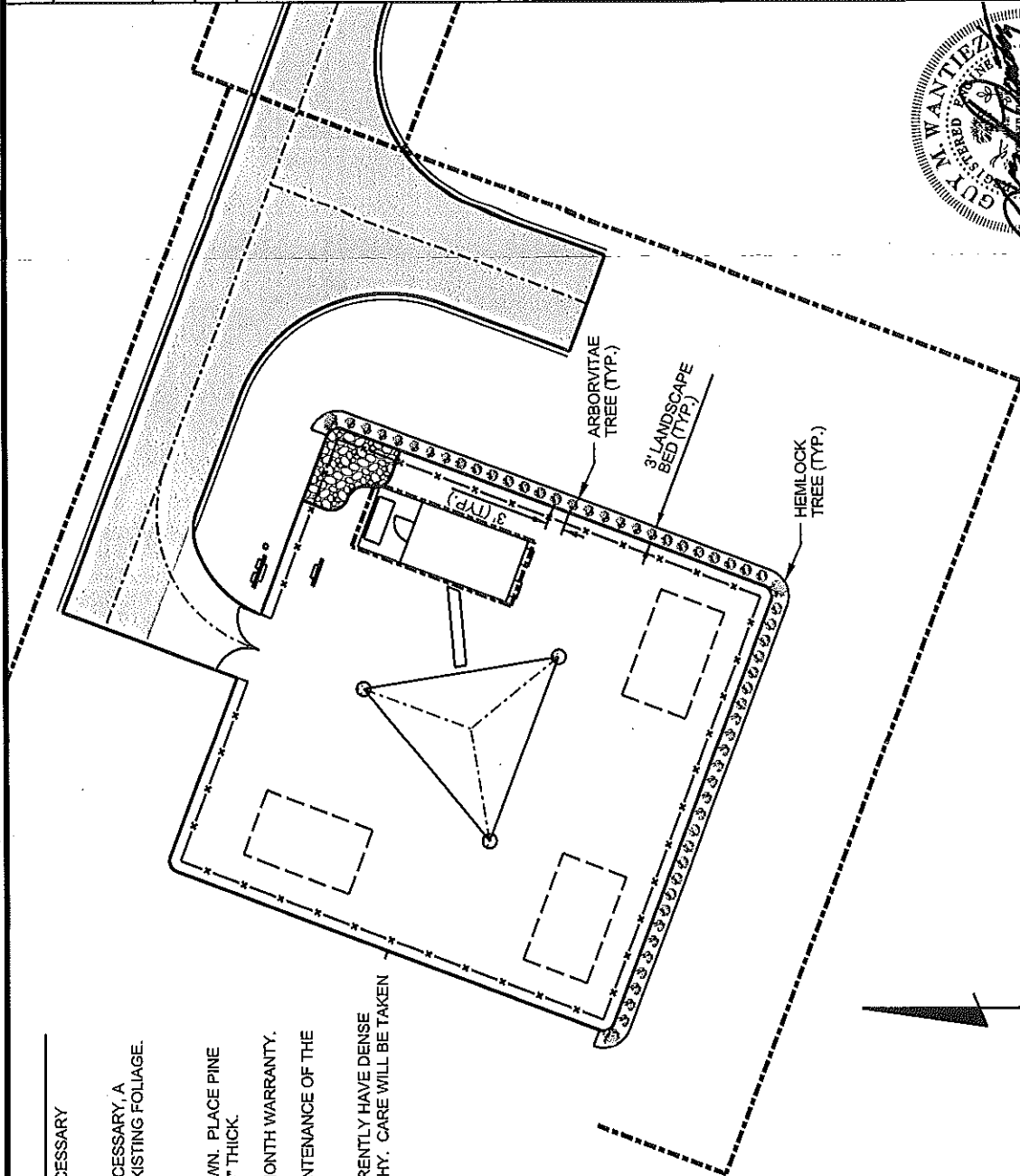
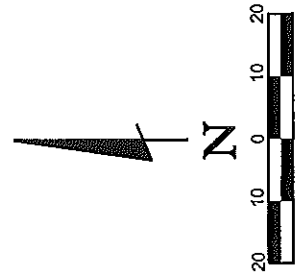


NOTES:

1. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING VEGETATION.
2. IF SELECTED TRIMMING OF THE EXISTING TREES IS NECESSARY, A CERTIFIED TREE SURGEON SHALL BE USED TO TRIM EXISTING FOLIAGE.
3. INSTALL STAKES FOR TREE SUPPORT (3 EACH).
4. INSTALL A 3" WIDE BY 2" HIGH LANDSCAPE BED AS SHOWN. PLACE PINE BARK MULCH ON LANDSCAPE BED. MULCH SHALL BE 4" THICK.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A 12 MONTH WARRANTY.
6. OPTIMA TOWER IS RESPONSIBLE FOR LONG TERM MAINTENANCE OF THE LANDSCAPING.
7. REMAINING AREAS NOT SHOWN AS LANDSCAPED CURRENTLY HAVE DENSE FOLIAGE AND/OR ARE NOT VISIBLE DUE TO TOPOGRAPHY. CARE WILL BE TAKEN TO MAINTAIN THE EXISTING VEGETATION.

LANDSCAPE PLANTS		
SPECIES	SIZE	NUMBER
ARBORVITAE	5 GALLON	54
HEMLOCK TREE	5' TALL	3

LEGEND	
	PROPOSED FENCE
	HEMLOCK TREE
	ARBORVITAE TREE



**VISION**

ENGINEERING AND DEVELOPMENT SERVICES, INC.  
 229 PRINCE STREET  
 MEMPHIS, TN 38101  
 PHONE: (901) 714-7711  
 FAX: (901) 714-7712  
 WWW.VISIONEDS.COM

OPTIMA TOWERS SITE NO.: TN-2008

WEST BULL RUN VALLEY  
 HEISKELL, KNOX COUNTY,  
 TENNESSEE

TREE PLANTING PLAN

**OPTIMA TOWERS**

**C6.01**

PROJECT TN-2008-01-30

