PIKE LEGAL

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October 13, 2014

VIA FEDEX

City of Gahanna
Attn: Bonnie Gard
Zoning Administrator
200 South Hamilton Road
Gahanna, OH 43230

RE: Application for Wireless Telecommunication Facility
Location: 3690 North Stygler Road, Gahanna, OH 43230
Verizon Wireless Site Name: McCutcheon

Dear Ms. Gard:

New Par, d/b/a Verizon Wireless (hereinafter referred to as "Applicant"), by counsel and pursuant to 47 USC §332 ("Telecommunications Act of 1996") and Chapter 1181 of the City of Gahanna Codified Ordinances (the "Ordinance") respectfully submits this Application to construct, maintain and operate a wireless communications facility to serve the customers of the Applicant with wireless telecommunications services within the City of Gahanna, Ohio, and to provide co-location opportunities for other wireless service providers. An Application for Personal Wireless Service Facilities ("Application") is submitted herewith. The supporting exhibits have been labeled and identified in the format outlined in the Application form utilized by the City of Gahanna. Once the pre-application review process has been completed, we will forward an application fee in the sum of $2,000.00.

In support of this request and in compliance with the Telecommunications Act of 1996 and the Ordinance, Applicant provides the information and exhibits as discussed below. Where appropriate, the relevant section of the Ordinance is noted for reference.

1. In compliance with Ordinance Section 1181.08(a) the complete name and address of the Applicant is:

   New Par d/b/a Verizon Wireless
   180 Washington Valley Road
   Bedminster, New Jersey 07921

2. Applicant is a certificated Public Utility, evidenced by a Certificate of Public Convenience and Necessity from the Public Utilities Commission of Ohio, pursuant to Certificate No. 90-5351, issued December 31, 1996. A copy of Applicant's Certificate is submitted herewith as part of **Exhibit P**. Applicant is a Delaware General Partnership.

3. Applicant is also licensed by the Federal Communications Commission (FCC) to build and operate a wireless communications network in Franklin County, Ohio, and in Delaware County, Ohio. The call signs licensed by the FCC to Verizon Wireless in the Metro Columbus market are: KNKA308, KNLH247, and WQEM935. Copies of Applicant's licenses are submitted herewith as part of **Exhibit I**.

4. Wireless communication systems rely on an overlapping and interconnected network of wireless communication facilities, including antennas and the towers, poles, or other structures that support them. These facilities receive and transmit wireless communications signals to and from mobile wireless handsets and similar products. Each facility has a limited coverage area. The extent of the coverage depends on several factors, including but not limited to the number of customers in the cell's service area; the call duration and data volume of each call session; the antenna's height above ground level; the topography of the service area; the presence of existing buildings and other tall structures that block signals; and the proximity and height of other adjacent antenna installations. A detailed discussion of Applicant's planned network in Gahanna is submitted herewith as part of **Exhibit J**.

5. A significant wireless network service capacity gap exists in Gahanna which negatively affects commercial, residential, and other uses throughout the area. As a result of significant growth in customer demand for wireless service in Gahanna, Applicant's existing coverage and call carrying capacity has been exceeded, and the existing sites are no longer able to provide reliable, uninterrupted service within the city. Within the municipal boundaries of Gahanna, Verizon Wireless is experiencing a condition known as "call blocking." During peak wireless telephone use periods, this condition prevents a growing percentage of calls placed from and sent to this area from connecting to the national telephone system. Within this gap, Verizon Wireless customers have only intermittent ability to use their mobile wireless handsets to make and maintain a connection

to the national telephone system. A detailed discussion of Applicant's wireless network service capacity gap in Gahanna is submitted herewith as part of **Exhibit J**.

6. Applicant's radio frequency engineers have determined that a new wireless communication facility is required to remedy this gap. In order to fill the wireless network service capacity gap, Verizon Wireless' radio frequency engineers first determined the service requirements to remedy this deficiency. Applicant's engineers then identified the optimum location and height at which Verizon Wireless' antenna(s) should be placed to interface properly with existing network components, to accommodate customer usage patterns, and to avoid interference with other wireless communications sites. They determined replacing a lattice tower at Mifflin Cemetery would be the best solution, but the applications for a variance and a conditional use permit were denied. Applicant next considered those parcels where communication facilities are an approved use and determined that it would not be possible to use a single antenna facility to close the capacity gap. Applicant's engineers determined that a three-tower solution would be needed to completely close the gap. A detailed discussion of Applicant's efforts to locate a parcel in Gahanna that satisfies the requirements of the Ordinance and fills the service capacity gap in the wireless network is submitted herewith as part of **Exhibit O**.

7. Three sites are being developed separately, in sequence, but each is an essential element of a single unified plan for closing Applicant's service capacity gap. Applicant first looked to see if there are any existing suitable towers for collocation. One tower was located at 981 East Johnstown Road and an application to collocate on it was administratively approved on March 5, 2010. A second tower has been approved at 215 Johnstown Road. Since no other suitable tower exists that meets the engineering needs of this project for the third site, Applicant began to search for a suitable parcel for a new tower. Taking into account such factors as topography, usage demands, and the location of other network components, and after limiting the site selection to parcels that are both suitable for and compatible with a wireless communications installation, Verizon Wireless' engineers have determined that a new facility at 3690 North Stygler Road, Gahanna, Ohio, is the optimum location for the required facility. A detailed discussion of Applicant's three-site solution to fill the service capacity gap in the wireless network is submitted herewith as part of **Exhibit O**.

8. In compliance with Ordinance Section 1181.08(B)(1) and (2) the Applicant proposes to construct a wireless communications facility at 3690 North Stygler Road, Gahanna, Ohio (N 40°01'57.85" / W 82°53'12.14") on real property located entirely within the City of Gahanna, Ohio. The location of the proposed wireless communications facility is included as part of

Exhibit E. The property on which the wireless communications facility is proposed to be located is owned by New Life Community Baptist Church ("Landowner"), by means of a Deed recorded as Instrument No. 09069D18 in the office of the Franklin County Recorder. A copy of the Deed is attached as part of **Exhibit P.** The Franklin County Parcel Identification (PID) numbers of subject properties are 025-004402 and 025-004407. The existing land use for the specific property on which the wireless communications facility is proposed to be constructed is a church. The proposed public utility land use is compatible with the existing land use.

9. In compliance with Ordinance Section 1181.08(c)(3) Applicant has attached as part of **Exhibit F** a site plan prepared by an engineer or surveyor licensed in the State of Ohio. The proposed wireless communications facility will consist of a 112-foot stealth facility disguised as a pine tree ("monopine") with an 8-foot lightning arrestor attached at the top, for a total structure height of 120-feet. The proposed height is in compliance with Ordinance Section 1181.06(b)(5). The monopine is designed to minimize visual impact and blend with the surrounding environment as required by Ordinance Section 1181.01(C). The ground elevation is 824 feet above mean sea level. The proposed wireless communications facility will include concrete foundations to accommodate the placement of the Applicant's proposed radio electronics equipment and other necessary appurtenances inside prefabricated cabinets or shelters. The proposed ground equipment and all appurtenances will be located within a 0.040 acre lease area and enclosed by a six-foot tall wooden fence.

10. In compliance with Ordinance Section 1181.06(c) the facility has been designed and will be constructed to meet all safety standards, including the Ohio Building Code standards and the structural safety standards of the National Standards Institute for radio-television towers [standard TIA-EIA 222(G)] as demonstrated by **Exhibit G** and **Exhibit H**.

11. The Applicant, pursuant to a written Lease Agreement between Applicant and Landowner, has acquired the right to use the wireless communications facility site and associated property rights. The Lease Agreement provides for removal of the tower in the case of abandonment. Applicant has attached a notarized limited power of attorney and authorization from New Life Community Baptist Church giving Applicant the authority to file and pursue this application on its behalf as part of **Exhibit P**. The Verizon Wireless site name for the proposed facility is "McCutcheon".

12. In compliance with Ordinance Section 1181.08(b)(3) Applicant has attached as **Exhibit E** a Franklin County Ohio Auditor's map to scale

showing the subject property and all properties within three hundred feet (300') and the location of all buildings, including accessory structures, on all properties shown. The location of the proposed site is also shown on additional aerial and vicinity maps included as part of **Exhibit F.**

13. In compliance with Ordinance Section 1181.08(b)(4) Applicant has attached as part of **Exhibit E** a city-wide map showing the other existing Personal Wireless Service Facilities (PWSF) in the City of Gahanna and outside the City within one (1) mile of its corporate limits.

14. In compliance with Ordinance Section 1181.08(b)(6) Applicant has attached as part of **Exhibit E** the names and mailing addresses of all owners of record of properties that are contiguous to the subject property.

15. In compliance with Ordinance Section 1181.08(c)(1) Applicant has attached as part of **Exhibit F** a vicinity plan prepared by an engineer or surveyor licensed in the State of Ohio.

16. In compliance with Ordinance Section 1181.08(c)(2) and 1181.08(d)(5) Applicant has attached, as part of **Exhibit G,** before and after photographic simulations of the proposed facility.

17. In compliance with Ordinance Section 1181.08(c)(4) Applicant has attached as part of **Exhibit F** and as a part of **Exhibit G** elevation drawings prepared by an engineer or surveyor licensed in the State of Ohio.

18. In compliance with Ordinance Section 1181.08(d) Applicant has attached as part of **Exhibit G** tower and foundation plans and a description of the standard according to which the tower was designed. These plans are signed and sealed by a professional engineer registered in Ohio, and indicate the height of the tower and the placement of all antennas.

19. Applicant requests a waiver of the landscaping requirements contained in Ordinance Section 1181.08(d)(6) and 1181.20. As justification for the modification request, Applicant has submitted as part of **Exhibit E** a drawing showing the heights of existing mature vegetation surrounding the proposed site. Typically the landscaping requirement is intended to buffer the ground equipment from surrounding land uses. In this instance, the ground compound will be buffered by existing vegetation and a wood fence. Additionally, the ground equipment will be buffered to the southwest by the existing church building. Finally, the site is located on a large church parcel that provides significant distance from surrounding land uses. The monopine site is surrounded by church parking area. The installation of the plant materials will result in the loss of critical parking spaces.

20. In compliance with Ordinance Section 1181.08(e)(1) Applicant has attached its Federal Communications Commission license as part of **Exhibit I**.

21. In compliance with Ordinance Section 1181.08(e)(3) Applicant has proposed an alternative location at Mifflin Cemetery, located at 155 Olde Ridenour Road, Gahanna, Ohio. Applicant previously applied for a development permit to replace an existing lattice tower in Mifflin Cemetery with a monopole capable of supporting the necessary equipment, but was denied by the City of Gahanna. The administrative record for CU-0012-2006 and V-0022-2006 is incorporated herein in its entirety and made a part hereof by reference. A copy of the findings of fact for CU-0012-2006 and V-0022-2006 are attached hereto as part of **Exhibit P.**

22. In further compliance with Ordinance Section 1181.08(e)(3) Applicant identified five alternate locations. The Easton Community Church / United Methodist Church at 3035 Stygler Road, Columbus, OH 43219 was too far west for desired coverage. An ODOT tower was too far west to provide desired coverage. The Mifflin Township Fire Department at 422 McCutcheon Road, Gahanna, OH 43230 owners were not interested in leasing space and no ground space was available. The Gahanna West Middle School was not interested in leasing any of its land space. The City of Gahanna Park along Old Ridenour Road was too low in elevation and is located in a flood plain. A detailed discussion of alternative locations is submitted herewith as part of **Exhibit O**.

23. In compliance with Ordinance Section 1181.08(e)(4) Applicant states that a standby generator will be located at the site and will only be used to power the site if commercial power is interrupted or lost. Applicant certifies that it will not be used permanently. The plans will be submitted to the appropriate local fire department. A copy of the Material Safety Data Sheets (MSDS) to be placed on-site has been attached as part of **Exhibit H**.

24. In compliance with Ordinance Section 1181.16(a) Applicant states that it was not necessary to file an environmental assessment with the FCC. The proposed tower location is not located within a wilderness area, wildlife preserve, endangered species habitat, historical site, Indian religious site, flood plain, or wetlands. Applicant further states that high intensity white lights are not required by the FAA and will not be utilized on the proposed tower. Applicant affirms that the site will be operated within FCC requirements for limiting public exposure to sources of radiofrequency energy.

25. Applicant states that the application has been approved by all relevant state and federal agencies. In compliance with Ordinance Section

1181.16(b) Applicant has attached certification from an engineer that the proposed facility will be constructed and operated in compliance with local, state and federal regulations, the Ohio Building Code, all applicable OSHA standards, and all generally accepted industry safety and construction standards regarding wind load, ice load and structural design as part of **Exhibit G**. Local regulation of wireless communications facility siting based upon radio frequency issues is prohibited specifically by the Telecommunications Act of 1996 and generally as a result of the FCC's pervasive jurisdiction over this area of regulatory concern. A detailed discussion of the prohibition of the regulation of wireless communications facilities on the basis of the environmental effects of radio frequency emissions is submitted herewith as part of **Exhibit P**. Applicant has affirmed as part of **Exhibit G** and **Exhibit H** that it will operate its facility in conformance with all applicable federal requirements for regulating public exposure to radio frequency energy, and affirms that Applicant's radio frequency energy at ground level will at all times remain at or below applicable public exposure limits, in conformance with Federal law.

26. In compliance with Ordinance Section 1181.16(c) Applicant states that the proposed facility will be constructed and operated in conformance to the Gahanna Noise Ordinance. Tabulated sound level data is submitted herewith as part of **Exhibit P**.

27. In compliance with Ordinance Section 1181.17 Applicant has attached a copy of the Federal Aviation Administration (FAA) determination of no hazard to air navigation as a part of **Exhibit E**. In compliance with Ordinance Section 1181.18(a) the FAA does not require lighting at the top of the tower.

28. In compliance with Ordinance Section 1181.07 Applicant has attached a structural safety report as **Exhibit G** that describes how the tower is designed, so that in the unlikely event of a catastrophic structural overstress applied to the tower, the lateral fall zone will be zero feet. Applicant accordingly requests a waiver of the setback requirements contained in Ordinance Section 1181.07.

29. In compliance with Ordinance Section 1181.18(b) the facility will be surrounded by a six-foot security fence as shown on the site plan attached as part of **Exhibit G.**

30. In compliance with Ordinance Section 1181.19 the facility will have a sign posted at the site with ownership, contact information, and FCC antenna registration number.

31. Verizon Wireless makes every effort to investigate the feasibility for using existing towers or other tall structures for collocation when designing a

new site or system expansion, since collocation is generally the most cost-effective means for prompt deployment of new facilities. However, collocation on an existing tower or tall structure is not always possible. In some cases limitations present themselves that make a collocation on an existing tower impossible. For this site there were no collocation opportunities available that meet the engineering needs of the project. A detailed discussion of Applicant's efforts to locate suitable collocation opportunities in Gahanna is submitted herewith as part of **Exhibit O**.

32. The proposed Personal Wireless Service Facility will allow the Applicant to close the existing service capacity gap in this area of Gahanna, and to restore reliable wireless communication service to this part of the city. Closing this service capacity gap cannot be established in any other manner. The construction and integration of this site will also support public safety and Homeland Security through the availability of enhanced wireless 911 services. A detailed discussion of the need for the facility is submitted herewith as part of **Exhibit O**.

Applicant respectfully requests that the Planning Commission accept the foregoing Application for filing, and having met the requirements of the Ordinance, approve Applicant's request to construct and operate the proposed wireless communications facility at the proposed location.

Sincerely,

Robert W. Grant

Robert W. Grant

enclosures

LIST OF EXHIBITS

A - Zoning and Building Permits (Section 1181.03)
PWSF Permit or other permit(s) (Section 1181.04)
- Application for Personal Wireless Service Facilities- McCutcheon site
- Application for Variance - McCutcheon Site

B - Previously Approved Information (Section 1181.14.B)
- Approval Letter for Co-Location at 981 A.E. Johnstown Road
- Approved Application for Ridenour Park Site

C - Rights of Way Usage Information (Section 1181.04.FFF)
- Final Land Space Survey Drawing Sheet 1
- Final Land Space Survey Drawing Sheet 2
- Final Land Space Survey Drawing Sheet 3

D - PWSF Application Fee (Section 1181.08.G and Chapter 148)
- Photocopy of Application Fee Check
- Photocopy of Variance Fee Check

E - Location Information (Section 1181.08.B and 1181.08)
- Construction Drawings Cover Sheet N-1
- Zoning Exhibit Drawing Sheet 1 of 3
- Zoning Exhibit Drawing Sheet 2 of 3
- Zoning Exhibit Drawing Sheet 3 of 3
- Overall Site Plan, Data, and Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3
- Landowner Notice Listing
- Gahanna Tower Map
- Verizon Wireless Area Network
- Nearby Towers Sunbury and Morse

F - Site Location Information (Section 1181.06.A and B and 1181.08.C)
- Overall Site Plan, Site Data, and Location Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3
- Erosion and Sediment Control Plan N-5

G - Design Information (Section 1181.06.B and 1181.08.D)
- Letter from VZW Stating Facility be Operated in Compliance with all Relevant Law
- Overall Site Plan, Site Data, and Location Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3

- Structural Design Report
- Photographic Simulations

H - Safety Information (Section 1181.06.C)
- Zero Radius Fall Zone Letter
- Material Data Safety Sheet FM-200
- Material Data Safety Sheet Lead Acid Battery Wet

I - Narrative Information (Section 1181.08.E)
- Federal Communications Commission Authorization KNKA308
- Federal Communications Commission Authorization KNLH247
- Federal Communications Commission Authorization WQEM935

J - Geographic Information (Section 1181.08.F)
- Radio Frequency Need Report
- 4G to 3G Volume Drops
- Gahanna Zoning Sites

K - Skip—Repeat of Section H

L - Fall Zone Information (Section 1181.07.A)
- Zero Radius Fall Zone Letter

M - Setback Information (Section 1181.07.B)
- Zoning Exhibit Sheet 2

N - Fire Safety Information (Section 1181.08.E.4)
- Material Data Safety Sheet FM-200
- Material Data Safety Sheet Lead Acid Battery Wet

O - Alternative Analysis and Comparison Information (Section 1181.09)
- Alternate Site Analysis Report

P - Additional Information Applicant Would Like to Submit
- Exclusion of Radio Frequency Considerations
- Deed
- Certificate of Public Convenience and Necessity
- Wireless Substitution Report
- Planning Commission Denial of Variance and Conditional Use for Mifflin Cemetery at 155 Olde Ridenour Road
- Limited Power of Attorney from New Life Community Baptist Church
- Generac Sound Data
- FAA Determination of No Hazard to Air Navigation

Q - Additional Information as May be Requested by the City of Gahanna

EXHIBIT A

Zoning and Building Permits (Section 1181.03)
PWSF Permit or other permit(s) (Section 1181.04.UU)

- Application for Personal Wireless Service Facilities – McCutcheon site
- Application for Variance – McCutcheon site

14100009

CITY OF GAHANNA, OHIO
DEPARTMENT OF PUBLIC SERVICE
APPLICATION FOR PERSONAL WIRELESS SERVICE FACILITIES ("PWSF")
(Pursuant to City of Gahanna Codified Ordinance Chapter 1181 also known as City of Gahanna Personal Wireless Service Facilities Ordinance ("PWSF Ordinance")

Permit # PWSF-4-2014 Renumbered to PWSF-1-2015
Date 10-14-14
Tier _____

APPLICANT INFORMATION (Please print or type) (Section 1181.08.A)

Has Applicant attended a Pre-Application Conference with City of Gahanna (Section 1181.11) ☑ Yes ☐ No
Is Applicant a ☑ Carrier ☐ Landowner ☐ or Proposed Owner (Section 1181.04.D)
Is Applicant an ☐ Assignee ☐ or Transferee (Section 1181.04.G)

Business Name (If Co-Applicant(s), see Attachment "1")	New Par d/b/a Verizon Wireless	Phone Number:	614-570-8544
Contact Person:	Dan Noble	Fax Number:	
Business Address:	7575 Commerce Court Lewis Center, OH 43035	Email:	Dan.Noble@VerizonWireless.com
Agent Name:	David A. Pike	Phone Number:	800-516-4293
Business Address:	P.O. Box 369 Shepherdsville, KY 40165	Fax Number: Email:	800-541-4410 dpike@pikelegal.com

Type of Entity: ☐ Corporation ☐ Limited liability company ☑ Partnership ☐ Other: _____
State/Where Entity Formed: Delaware — Type (State): _____ — Date Entity Formed: _____

24 Hour System Representative(s) (in order to be contacted):

	Name	Business #	Mobile #	Email
#1	Network Operations Call Center	1-800-852-2671		
#2	Ted Stanton, Field Operations Mngr.	614-561-8545		Ted.Stanton@vzw.com
#3	Central Ohio			

PERSONAL WIRELESS SERVICE FACILITY FEE (in accordance with Section 1181.08.G and Chapter 148)

US $2,000.00 ☑ Attached
Method of Payment: Check

Location and Siting Information (Section 1181.08.B & C):
3690 North Stygler Road, Gahanna, OH 43230; PID 025-004404 and 025-004402
(See Attached)

Narrative Information (Section 1181.08.E)
KNKA308, KNLH247, WQEM935; 40-01-57.85 N, 82-53-12.14 W; Ground Elevation 824 ft. ; Tower height 120 feet
(See attached)

THE FOLLOWING INFORMATION MUST BE PROVIDED (IF APPLICABLE), LABELED AND IDENTIFIED IN THE ORDER AND MANNER SHOWN BELOW FOR YOUR APPLICATION TO BE CONSIDERED "COMPLETE." AN OFFICER OF THE APPLICANT OR OTHER LAWFULLY AUTHORIZED INDIVIDUAL MUST SIGN YOUR APPLICATION.

Attached	**Exhibit "A"** Zoning and Building Permits (Section 1181.03) PWSF Permit or other permit(s) (Section 1181.04.UU) [If previously issued]
Attached	**Exhibit "B"** Previously Approved Co-Location Information (Section 1181.14.B)
Attached	**Exhibit "C"** Rights of Way Usage Information (Section 1181.04.FFF)
Attached	**Exhibit "D"** PWSF Application Fee (Section 1181.08.G and Chapter 148)
Attached	**Exhibit "E"** Location Information (Section 1181.08.B & 1181.08)
Attached	**Exhibit "F"** Site Location Information (Section 1181.06.A and B and 1181.08.C)
Attached	**Exhibit "G"** Design Information (Section 1181.06.B & 1181.08.D)
Attached	**Exhibit "H"** Safety Information (Section 1181.06.C)
Attached	**Exhibit "I"** Narrative Information (Section 1181.08.E)
Attached	**Exhibit "J"** Geographic Information (Section 1181.08.F)
Attached	**Exhibit "K"** Safety Information (Section 1181.06.C)
Attached	**Exhibit "L"** Fall Zone Information (Section 1181.07.A)
Attached	**Exhibit "M"** Setback Information (Section 1181.07.B)
Attached	**Exhibit "N"** Fire Safety Information (Section 1181.08.E.4)
Attached	**Exhibit "O"** Alternative Analysis and Comparison Information (Section 1181.09)
Attached	**Exhibit "P"** Additional Information Applicant would like to submit
Attached	**Exhibit "Q"** Additional Information as may be requested by the City of Gahanna

On behalf of New Par d/b/a Verizon Wireless (Applicant), I hereby acknowledge that I have reviewed the City of Gahanna Codified Ordinance Chapter 1181 and certify that to the best of my knowledge the above and all attached information is complete and correct and conforms to Chapter 1181, as of this 9th day of October, 2014, and that I have read and fully understand and acknowledge the requirements of this Application and ____ of the Codified Ordinances or the City of Gahanna, Ohio

Robert W. Grant
Name

Attorney for Verizon Wireless
Title

STATE OF OHIO :
COUNTY OF Bullitt : ss.

Before me, a Notary Public in and for said State and County, personally appeared Robert W. Grant (Name), on behalf of New Par d/b/a Verizon Wireless (Applicant), its Attorney (Title), who acknowledged the signing of the foregoing Application, who states that this is the free act and will of the Applicant and that they are authorized by the Applicant to sign this Application.

IN WITNESS WHEREOF, I have hereunto signed my name and affixed my official seal on the 9th day of October, 2014.

Kellie A. Tucker ID# 489971
Notary Public

{H1302725.1 }

CITY OF GAHANNA, OHIO
DEPARTMENT OF PLANNING AND DEVELOPMENT

NOTICE OF APPLICATION COMPLETION
(Pursuant to Gahanna Codified Ordinance Section 1181.11.C.2)

OF PERSONAL WIRELESS SERVICE FACILITIES ("PWSF")

To New Par dba Verizon Wireless - Dan Noble [Applicant]:

Please take notice that the following Application and materials have been reviewed and have been determined to be complete.

Application/Permit # PWSF-4-2014 / 14100009

APPLICANT INFORMATION

Business Name:	New Par dba Verizon Wireless	Phone Number:	614-570-8544
Contact Person:	Dan Noble	Fax Number:	
Business Address:	7575 Commerce Court Lewis Center, OH 43035	Email:	Dan.Noble@VerizonWireless.com
Agent Name:	David A Pike	Phone Number:	800-516-4293
Business Address:	P.O. Box 369 Shepherdsville, KY 40165	Fax Number: Email:	800-541-4410 dpike@pikelegal.com

CITY OF GAHANNA, Department of Planning and Development

Bonnie Gard, Name — Planning & Zoning Administrator, Title

{H1324850.1 }

CITY OF GAHANNA
11-3-14

14100010

File No: V-1-2015 Fee: 300.00

Date Received: 10-14-14 Initials: CAS

Scheduled Public Hearing Date: 1-14-2015 Check or Receipt Number: 13570

CITY OF GAHANNA

PLANNING COMMISSION
APPLICATION FOR VARIANCE

Property Address: 3690 North Stygler Road Parcel ID #: 025-004402 & 025-004407

Applicant: Verizon Wireless c/o Robert W. Grant, Pike Legal Group, PLLC, Attorney for Applicant

Contact: Robert W. Grant Title: Attorney for Verizon Wireless

Address: P.O. Box 369, Shepherdsville, KY 40165

Phone: 800-516-4293 Fax: 800-541-4410 E-Mail: rgrant@pikelegal.com

Status: ☐ Property Owner ☐ Option Holder ☐ Contractual Purchaser ☒ Agent

Property Owner: New Life Community Baptist Church c/o Robert W. Grant, Pike Legal Group, PLLC

Contact: Robert W. Grant Title: Attorney-in-Fact (see Limited Power of Attorney)

Address: P.O. Box 369, Shepherdsville, KY 40165

Phone: 800-516-4293 Fax: 800-541-4410 E-Mail: rgrant@pikelegal.com

Robert W Grant 10-13-14

Signature of Applicant Date

Note: Planning Commission members and/or City staff may visit the property prior to the hearing. All correspondence will be to applicant above unless otherwise stated.

Submission Requirements

1. Submit eleven (11) copies folded (not rolled) to 11 X 17 size of a survey and legal description of the property certified by a registered surveyor. Any drawings submitted must include one copy that is no larger than 8½ x 11 inches.
2. Submit a list of all contiguous property owners and their mailing addresses.
3. Submit a statement of the reason(s) for the variance request. The statement should address the three (3) conditions listed on page two of this application that must be met in order for Planning Commission to grant the variance.
4. Application Fee: $150 for single-family residential and $300 for all other districts.

APPROVAL

Code Sections to be varied: ① 1181.07(a)(3) ② 1181.20(b) ③ 1181.08(d)(6) Current Zoning: RID

Short description of the governing code and the requested variance: 1. To allow a zero radius fall zone 2. To vary the landscape requirements 3. To vary the landscape plan requirements

In accordance with Section 1131 of the Codified Ordinances of the City of Gahanna, Ohio, I hereby certify that this project as stated above has been approved by the Planning Commission on _____. A copy of the minutes is hereby attached. The applicant shall comply with any conditions approved by the Planning Commission and shall comply with all building, zoning, and landscaping regulations now in place.

Planning & Zoning Administrator Date

RECEIVED OCT 14 2014 BY: CAS

PAID OCT 14 2014 BY: CAS CHK# 13570

EXHIBIT B

Previously Approved Information (Section 1181.14.B)

- Approval Letter for Co-Location at 981 A.E. Johnstown Road
- Approved Application for Ridenour Park Site

CITY OF GAHANNA

March 5, 2010

New Par dba Verizon Wireless
David Minger
7575 Commerce Court
Lewis Center, Ohio 43035

Re: PSWF 1-10 co-location

Dear Mr. Minger:

The application for co-location on the existing tower located at 981 A E. Johnstown Road has been deemed completed. All submission requirements have been met, and the application has been reviewed. Your request for Previously Approved Co-Location has been administratively approved. The city will calculate and assess the total actual costs involved with receiving, reviewing, processing, and granting the application and debit your PWSF Application Fee of $2,000 for the appropriate amount. The remaining balance will be returned to you within sixty (60) days following the issuance of this approval.

The request to locate the roof-top gas generator will need to be submitted to Planning Commission for approval. Please schedule a time with my office to review the necessary application and time frame for submittal.

Please do not hesitate to contact me with any questions that you may have.

Sincerely,

Bonnie Gard

Bonnie Gard
Planning & Zoning Administrator

CC: Pat Lafferty, Craig & Associates
Dian Eddy, United Acquisition Services

12010001

File No. V-3-2012
Date Received: 10/26/11
Scheduled Public Hearing Date: 2-22-12

Fee: 300.00
Initials: JH
Check or Receipt No: 112286

APPLICATION FOR VARIANCE
CITY OF GAHANNA PLANNING COMMISSION

*Applicant's Name: New Par dba Verizon Wireless
Address: c/o David A. Pike, PO Box 369, Shepherdsville, KY 40165
Company: Pike Legal Group, PLLC
Phone: 800-516-4293
Fax: 800-541-4410

Status: _____ Landowner _____ Option Holder _____ Cont. Purchaser ✓ Agent
Parcel ID# (s): 025-000909
Address of subject property: 215 Johnstown Road, Gahanna, OH
Property owner: VBR Corporation Phone: 614-861-1600
Contact address: c/o Holiday Lanes, 4589 East Broad St., Columbus, OH

Note: Planning Commission and/or City Staff may visit the property prior to the hearing.

[signature], Attorney For Verizon Wireless 10-25-11
Applicant's Signature Date

For Administrative Use Only:
Code Sections to be varied: A) 1181.07 B) 1181.20(b) 1181.08(d)(6) Current Zoning: CC
C) _____ D) _____

Short description of the governing code and the requested variance:
A. To allow a fall zone of 0'
B. To vary the landscape requirement to 0

Submission Requirements

1. 10 copies of a Legal Description or plans of the property certified by registered surveyor **folded** (not rolled) to 8½ X 11 inch size prior to submission.
2. A list of all contiguous property owners and their mailing addresses.
3. Statement of reason(s) for variance request. The statement should address the 3 conditions listed on page 2 of this application that must be met in order for Planning Commission to grant the variance.
4. Application Fee of $150 for Single Family Residential, $300 for all others.
5. Reduced drawing to an 8 1/2 x 11 inch size.

→ See Exhibit M Appendix #8

APPROVAL

In accordance with Section 1131 of the Codified Ordinances of Gahanna, Ohio, I hereby certify that ~~this project~~ variance A, as stated above, has been approved by the City of Gahanna Planning Commission on 4/11/12. A copy of the minutes is hereby attached. The applicant shall comply with any conditions approved by the Planning Commission, and shall comply with all building, zoning, and landscaping regulations now in place.

Bonnie Gard
Planning & Zoning Administrator

7/19/12
Date

*Note: All correspondence will be to applicant above unless otherwise stated.

Revised February 2009

COPY

200 SOUTH HAMILTON ROAD
FAX: (614) 342-4190

GAHANNA, OHIO 43230-2996
TELEPHONE: (614) 342-4090

www.gahanna.gov

PLANNING COMMISSION

RECORD OF ACTION

Robert Grant
P.O. BOX 369
Shepherdsville, KY 40165-0369

Gahanna Planning Commission met on Wednesday, April 11, 2012 with members Andrews, Rosan, Keehner, Shepherd, Thom and Wester present, to consider along with other business:

V-0003-2012 To consider a variance application to vary Section 1181.07 of the codified ordinances of the City of Gahanna; to allow a fall zone of zero feet; and to vary Sections 1181.08 (d)(6) and 1181.20(b) of the codified ordinances of the City of Gahanna; to vary the landscape requirements to no landscaping requirements on site; for property located at 215 W. Johnstown Road; by Verizon Wireless, applicant.

MOTION by Rosan, seconded by Shepherd to Approve Variance to 1181.07 with respect to fall zone of zero feet. Voting Yes: Rosan, Shepherd, Andrews, Thom, Keehner and Wester. Motion Carried.

MOTION by Rosan, seconded by Shepherd to approve variance to 1181.08(d)(6) and 1181.20(b) to vary the landscaping requirements to no landscaping on site. The motion failed by the following vote: Voting Yes: Rosan, Thom and Shepherd Voting No: Andrews, Wester and Keehner

Variance application: **APPROVED** variance to 1181.07 with respect to fall zone of zero feet and **DENIED** variance to 1181.08(d)(6) and 1181.20(b) with respect to varying the landscape requirements to no landscaping on site.

PWSF-0001-2012 To consider a Personal Wireless Service Facility application to construct a new cell tower; for property located at 215 W. Johnstown Road; Verizon Wireless, applicant.

MOTION by Andrews, seconded by Rosan, that this matter be Approved. Voting Yes: Rosan, Andrews, Thom, Shepherd and Keehner. Voting No: Wester Motion Carried.

PWSF application: **APPROVED**

This Finding of Fact is certified, this 20th day of April, 2012.

Stacey L. Bashore
Deputy Clerk of Council

City of Gahanna

200 South Hamilton Road
Gahanna, Ohio 43230

Meeting Minutes

Wednesday, April 11, 2012

Commission may caucas prior to the Regular Meeting

7:00 PM

City Hall

Planning Commission

Jennifer Tisone Price, Chair
David B. Thom, Vice Chair
David K. Andrews
Joe Keehner
Kristin Rosan
Donald R. Shepherd
Thomas J. Wester
Stacey L. Bashore, Deputy Clerk of Council

IT IS THE RESPONSIBILITY OF THE APPLICANT TO HAVE A COURT REPORTER PRESENT, AT THE APPLICANT'S EXPENSE, IF THEY WISH TO HAVE A VERBATIM TRANSCRIPT OF THE MEETING. COUNCIL OFFICE SHOULD BE ADVISED IN ADVANCE IF A COURT REPORTER IS GOING TO BE PRESENT.

A. CALL MEETING TO ORDER/PLEDGE OF ALLEGIANCE/ROLL CALL.

Gahanna Planning Commission met in Regular Session in the Council Chambers of City Hall, 200 S. Hamilton Road, Gahanna, Ohio on Wednesday, April 11, 2012. The agenda for this meeting was published on April 6, 2012. Vice-Chair Dave Thom called the meeting to order at 7:00 p.m. with the Pledge of Allegiance led by Commission member Kristin Rosan.

Members Present: Kristin E. Rosan, David K. Andrews, David B. Thom, Donald R. Shepherd, Joe Keehner and Thomas J. Wester

Members Absent: Jennifer Tisone Price

B. ADDITIONS OR CORRECTIONS TO THE AGENDA.

A motion was made by Andrews, seconded by Rosan, to move PWSF-0001-2012 and V-0003-2012 to the first item under Applications. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

C. APPROVAL OF MINUTES: March 28, 2012

A motion was made by Andrews, seconded by Rosan, to approve the March 28, 2012 minutes. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

D. HEARING OF VISITORS - ITEMS NOT ON AGENDA.

None

E. APPLICATIONS:

Chair stated Public Hearing Rules that would govern all public hearings this evening. Assistant City Attorney Tom Weber administered an oath to those persons wishing to present testimony.

V-0003-2012 To consider a variance application to vary Section 1181.07 of the codified ordinances of the City of Gahanna; to allow a fall zone of zero feet; and to vary Sections 1181.08 (d) (6) and 1181.20(b) of the codified ordinances of the City of Gahanna; to vary the landscape requirements to no landscaping requirements on site; for property located at 215 W. Johnstown Road; by Verizon Wireless, applicant. (Advertised in the RFE on 2/9/12)

Gard reviewed the application with the Commission. Chair opened the public hearing at 7:06 p.m.

Robert Grant, Pike Legal; stated he was the attorney for Verizon Wireless; this is our 5th meeting; has been discussed in great detail; in addition we have submitted supporting

materials; will keep my comments brief; thank you for spending so much of your valuable time in reviewing this application; this is not a popular land use; know and respect your neighbors; have spoken in opposition for this proposal; this land use is classic NIMBY; this is a public utility infrastructure; this is necessary; presented evidence that there is need for this facility; have been working on this for over 7 years; bring this to a close so that we can bring this area state of the art telecommunications services; we have satisfied the requirements of the zoning code; agree with the recommendation of your professional staff; well chosen location; we know this is a difficult vote for you and you have considered it carefully.

Chair asked for any other proponents. There were none. Chair asked for any opponents. Sherwood noted that Terry Duris submitted a petition for the record in opposition of the tower.

Keehner stated he understood the need for cell towers; understand that part of the need is for traffic on 62; what percentage is based on traffic vs residential. Minger stated the percentages haven't been broken down but I would say it is 60% traffic and 40% residential; traffic adds to the congestion; amplifies time windows when blocked calls are the greatest.

Chair closed the Public Hearing at 7:14 p.m.

Keehner stated he was not comfortable with no landscaping; difficult decision for any major development; is going to illicit a lot of concern; don't know how to address that in a just and sane matter; trying to meet services of residents; fact that it needs to be on Johnstown Road corridor; there are no other viable sites; stuck with that site; meets the needs in terms of residents; difficult for visual needs of apartments; grass lawn could be landscaped more. Andrews agreed there needed to be landscaping. Rosan stated she will be voting for the landscaping; effectively they have a finite area that is almost entirely used by applicant to put in equipment; absolute minimum space; marginal space left for co location; applicant talked to neighboring landowners and they declined landscaping; they were not willing to be gifted landscaping; counter intuitive to install landscaping in the middle of a parking lot; will not obscure the view of the tower; landscaping variance is proper in this application. Thom echoed the comments of Rosan; understand that we are dealing with a small area; confined by state and local codes.

Thom asked for clarification on the approval. Weber stated you approved the cell tower and fall zone; will have to meet code on landscaping; they were separated out; application has been approved subject to the turning down of landscaping. Thom asked if a DR would have to come back for landscaping or not as long as they meet code. Weber stated if they meet code they don't have to. Gard stated the landscaping is part of the PWSF application; isn't broken out into DR; if they come back with options for landscaping it could be approved administratively; will fence with chain link and slats; area will be visibly screened. Thom clarified that the landscaping would be approved administratively unless it is deemed necessary to come back to Planning Commission.

A motion was made by Andrews, seconded by Rosan, that this matter be Approved. The motion failed by the following vote:

Yes	3	Rosan, Thom and Shepherd
No	3	Andrews, Wester and Keehner
Absent	1	Price

A motion was made by Rosan, seconded by Shepherd, to reconsider V-0003-20012 separately. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

V-0003-2012

To consider a variance application to vary Section 1181.07 of the codified ordinances of the City of Gahanna; to allow a fall zone of zero feet; and to vary Sections 1181.08 (d) (6) and 1181.20(b) of the codified ordinances of the City of Gahanna; to vary the landscape requirements to no landscaping requirements on site; for property located at 215 W. Johnstown Road; by Verizon Wireless, applicant. (Advertised in the RFE on 2/9/12)

A motion was made by Rosan, seconded by Shepherd, to Approve Variance to 1181.07 with respect to fall zone of zero feet. The motion carried by the following vote:

Absent	1	Price
Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner

A motion was made by Rosan, seconded by Shepherd, to approve variance to 1181.08(d)(6) and 1181.20(b) to vary the landscaping requirements to no landscaping on site. The motion failed by the following vote:

Yes	3	Rosan, Thom and Shepherd
No	3	Andrews, Wester and Keehner
Absent	1	Price

PWSF-0001-2012

To consider a Personal Wireless Service Facility application to construct a new cell tower; for property located at 215 W. Johnstown Road; Verizon Wireless, applicant. (Advertised in the RFE on 2/9/12 and 2/16/12)

A motion was made by Andrews, seconded by Rosan, that this matter be Approved. The motion carried by the following vote:

Yes	5	Rosan, Andrews, Thom, Shepherd and Keehner
No	1	Wester
Absent	1	Price

CU-0006-2012

To consider a Conditional Use application to allow the addition of a pharmacy drive thru kiosk; for property located at 1365 Stoneridge Dr., current zoning CC-2; by The Kroger Company, Jason Case, applicant. (Advertised in the RFE on 4/5/12)

Gard reviewed the application with the Commission; previous concerns about safety, location and landscaping; Kroger has come back with revised plans.

Andrew Gardner, 6628 Burbank Place, Westerville; introduced Jason Case and Lindsey Taylor with Kroger; have added some curbing and landscaping islands; in addition we are going to be renovating the entire interior; moving doors from the sides to the front of the store; will be a more direct entry and exit; adding a sidewalk; much needed improvements.

Chair asked for any proponents. There were none. Chair asked for any opponents. There were none.

Keehner asked about the pneumatic tube. Gardner stated it is similar to a bank; will be some minor pavement replacement. Keehner asked if there would be striping on the asphalt or some other kind of surfacing to slow down traffic. Gardner stated there will be bollards spaced out so many feet; sidewalk will be flush with the pavement; we were not planning any decorative pavement; will not be doing a full restoration of the parking lot; portions that will have to be replaced for kiosk; will have stop bars and signs; also we will be reducing the drive aisle width by bumping out the sidewalk; that tends to slow traffic down. Andrews asked if there would be two lanes with one for drop offs and one for pick up of prescriptions. Gardner stated there would only be one lane due to parking constraints.

A motion was made by Wester, seconded by Rosan, that this matter be Approved. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

FDP-0003-2012

To consider a Final Development Plan for a Drive Thru Pharmacy Kiosk; for property located at 1365 Stoneridge Dr.; by The Kroger Co., Jason Case, applicant. (Advertised in RFE 4/5/12)

See above discussion

A motion was made by Wester, seconded by Rosan, that this matter be Approved. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

DR-0007-2012

To consider a Certificate of Appropriateness for Site Plan and Building Design; for property located at 1365 Stoneridge Dr.; by The Kroger Co., Jason Case applicant.

See above discussion

A motion was made by Wester, seconded by Rosan, that this matter be Approved. The motion carried by the following vote:

Absent	1	Price
Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner

FDP-0004-2012

To consider a Final Development Plan for an outdoor patio for Rusty Bucket; for property located at 73-109 N. Hamilton Rd.; by The Commons at Clark Hall, Carter Bean, applicant. (Advertised in RFE 4/5/12)

Gard reviewed the application with the Commission.

Chair opened the public hearing at 7:46 p.m. Chair asked for any proponents. There were none. Chair asked for any opponents. There were none.

James Bean, 4400 North High Street, Columbus, OH; stated we are putting a roof over the patio; requires masonry; will be in keeping with the architecture of existing building.

Keehner clarified that the roof would be flat and the entrance to the restaurant would be on south side. Rosan confirmed that the patio would have a sprinkler system. Thom

asked about safety if a car should jump the curb. Bean stated the piers are masonry; should help to slow it down.

Chair closed the public hearing at 7:52 p.m.

A motion was made by Keehner, seconded by Shepherd, that this matter be Approved. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

DR-0009-2012

To consider a Certificate of Appropriateness for Site Plan and Building Design; for property located at 73-109 N. Hamilton Rd.; Commons at Clark Hall, by Carter Bean, applicant.

See above discussion.

A motion was made by Keehner, seconded by Shepherd, that this matter be Approved. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

V-0008-2012

To consider a variance application to vary Section 1167.15 (b) of the codified ordinances of the City of Gahanna; to allow a parking setback of less than 36' from ROW; for property located at 360 South Hamilton Road; by Sean Sanford, applicant. (Advertised in the RFE on 4/5/12)

Gard reviewed the application with the Commission.
Weber swore in the applicants who were not present during the initial swearing in.

Scott Messing; 4150 Dublin, OH stated we feel these changes are for the better; less impact than Circle K; Huntington stepped up and proposed a building; we prefer this use; better look for the corner; less traffic on the site; can't say enough good things about the building; better circulation; landscaping improved; Huntington is an all brick building with a pitched roof; one thing that changed was the setback variance on southern side; also lost request for 30 foot building setback that was granted for Circle K; everything seems to flow better; has a wider drive aisel; 30 feet in between 2 buildings; need to adjust the height of the Gahanna entry sign; actually blocks out our monument sign; would like to work that out with an administrative process; will still make the sign prominent; also provided a traffic study that showed less impact;

Chair asked for any other proponents. There were none. Chair asked for any opponents.

Tom Shepaka, 590 Havens Corners; stated he is a resident and a client of Huntington Bank; looked at the plan and I am wondering why there are two curb cuts; understood the need for curb cuts with a gas station; any consideration given to the access drive from the shopping center. Messing stated we talked about eliminating a curb cut extensively; will continue to work on getting access from the access drive.

Andrews stated he didn't see where the Huntington building matched the surrounding area; brick is very strong; could be lighter; looks very dark. Messing stated the colors are tough to show from printers; new brick does not seem that dark; green is not that bright; this is their branding. Andrews stated he understood the branding; just didn't see how the building went with Tim Horton's; would like to see the buildings coordinate as an entry way into Gahanna. Brad Schneider, 2000 Rivers Edge Parkway stated he was

the architect with Huntington; this is their new proto type deisgn; would like to try to keep it similar so people will recognize its the Huntington. Rosan stated she would not be supportive of the colors and style of the building; may be helpful to consider some other variances based on some of the feedback and comments; have a workshop to review those; number of Huntington sites around that are more in tune with what is being developed; adapt to the community they are in; show us some other options as far as design of the building; asked about traffic study. Wetherholt stated that the addition of the pork chop will make it diffcult to make lefts from Morrison Road; it is appropriate and we will monitor usage. Shepherd stated he agreed that the building is very dark; heavy angles; would like to see it softened and made to look more inviting. Thom stated we would like to see some options as far as color and materials; will workshop this prior to next regular meeting. Keehner asked about the parking lot on the back of building. Messing stated that is to keep parking away from head in parking; for employees; needed a drive aisle circulating along back of Huntington;

RECOMMENDATION: To be discussed at workshop at 6:15 on April 25th

Postponed to Date Certain to Planning Commission Workshop

CU-0007-2012

To consider a Conditional Use application to allow for drive thru service at Huntington Bank and Tim Horton's; for property located at 360 S. Hamilton Road, current zoning PUD/CC; by Sean Sanford, applicant. (Advertised in the RFE on 4/5/12)

Postponed to Date Certain to Planning Commission Workshop

FDP-0005-2012

To consider a Final Development Plan for Southgate Crossing; for property located at 360 S. Hamilton Rd.; by Sean Sanford applicant.

Postponed to Date Certain to Planning Commission Workshop

DR-0010-2012

To consider a Certificate of Appropriateness for Site Plan, Landscaping, and Signage; for property located at 360 S. Hamilton Rd.; by Southgate Crossing, Sean Sanford applicant.

Postponed to Date Certain to Planning Commission Workshop

FDP-0006-2012

To consider a Final Development Plan for covered tees for Golf Village; for property located at SE Corner of Claycraft and Science Blvd.; by Golf Village & Central Park, Thomas Shapaka, applicant. (Advertised in RFE 4/5/12)

Gard reviewed the application with the Commission.

Dwight McCabe stated this is the latest edition to central park; is really multifaceted; desire to have a weather friendly environment to have people out there all winter long; we have a liquor license so we have to have a certain number of seats available; have lease on adjacent building for seats and tables to satisfy those requirements; will have additional seating during peak seasons; will serve as overflow for rainy days; there is a functional place to store golf carts at night; this facility is designed so golf carts can be stored here; see this as a group facility for events.; kept the rail theme.

Chair asked for any proponents. There were none. Chair asked for any opponents. There were none.

Shepherd asked will there be parties going on behind the people hitting the balls. McCabe stated that would be unlikely unless someone is having an event; in which case it would not be open to the general public then. Shepherd asked about lighting. McCabe stated we may have difficulty with that due to the airport; would like to do that; have poles that shine down on the driving range. Andrews stated the facility was beautiful; very nice addition. Rosan asked about the memo from the Fire Department. McCabe stated it will be addressed. Thom asked about parking and whether there

would be enough. McCabe stated that will come in stages;believe we have enough and have other areas for overflow parking. closed

Andrews thanked the applicant; may have to take up golf. Wester stated this is something the people in Gahanna will appreciate. Thom agreed and stated it keeps getting better there; going to be a tremendous addition.

A motion was made by Rosan, seconded by Shepherd, that this matter be Approved. The motion carried by the following vote:

Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner
Absent	1	Price

DR-0008-2012 To consider a Certificate of Appropriateness for Building Design; for property located at 789 Science Blvd.; by Golf Village & Central Park, Thomas Shapaka, applicant.

See above discussion.

A motion was made by Rosan, seconded by Shepherd, that this matter be Approved. The motion carried by the following vote:

Absent	1	Price
Yes	6	Rosan, Andrews, Thom, Shepherd, Wester and Keehner

F. UNFINISHED BUSINESS:

G. NEW BUSINESS:

DR-0011-2012 To consider a Certificate of Appropriateness for Site Plan and Landscaping, for a parking lot; for property located at 790 E. Johnstown Road; by Leader Promos, Kathy Weible applicant.

Gard reviewed the application with the Commission.

Kathy Weible and Marty Schmayer, 790 E. Johnstown Road with Leader Promos; stated she can answer any questions. can speak with about parking lot; accomodate business growth; answer any questions; Marty Schmayer, 790 E Johnstown Road. Keehner stated there were concerns about neighbors with parking lot considered; any kind of denser landscaping on east side; have 6 trees; block view of the parking. Schmayer stated it is already so dense and trees; we will be out there with people clearing the lot; will keep any necessary trees in place; will address trees on landscape drawing; if there wasn't enough add more trees to it; no objections to adding bigger pines to create more of a buffer; make it very private; will respect neighbors; it's hit or miss where trees are; surveyor will pick out bigger trees; will not be the entire lot; should have enough cover. Rosan stated because this zoning is currently being considered by Council we have considerd postponing our vote on this until after that public hearing, so we can see if there are any questions that come out of that. Thom stated we feel it would be best to postpone our vote on this Design Review until our next public hearing on April 25. Shepherd asked about the lighting issue for the neighbors. Boyd stated we are not fighting the parking lot; we were originally told that nothing would be taken out; we want the 29 feet to stay. Schmayer stated we have been working on the lighting situation; needs to be shielded; spoke with the contractor and they assured me they can get the shield done in a three week turnaround time; shield has been shipped and will be installed once it is received. Keehner suggested evergreen trees on the east side of the parking lot.

RECOMMENDATION: Postponed until April 25, 2012

Postponed to Date Certain to Planning Commission

H. COMMITTEE REPORTS:

Hamilton Road Corridor Committee -Andrews

Evans stated the revised contract has been introduced to Council; we hope it will be passed in early May.

I. OFFICIAL REPORTS:

City Attorney.

No report.

City Engineer.

No report.

Department of Development.

No report.

Chair.

No report.

J. CORRESPONDENCE AND ACTIONS.

None.

K. POLL MEMBERS FOR COMMENT.

Rosan asked that Development help work on getting a cross access agreement with Kroger and Tim Horton's; will be for the better of the whole area. Evans stated it is not an outlot but a separate parcel of its own; we will reach out to them and see if they would reconsider; no requirements that they have to meet; will work on those relatioships. Andrews gave kudos to Development for their hard work.

L. ADJOURNMENT.

Adjourned at 9:03; Motion by Wester.

M. POSTPONED APPLICATIONS:

Stacey Bashore
Deputy Clerk of Council

APPROVED by the Planning Commission, this
day of 2012.

Jennifer Tisone Price

EXHIBIT C

Rights of Way Usage Information (Section 1181.04.FFF)

- Final Land Space Survey Drawing Sheet 1
- Final Land Space Survey Drawing Sheet 2
- Final Land Space Survey Drawing Sheet 3

LOCATION DESCRIPTION

LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

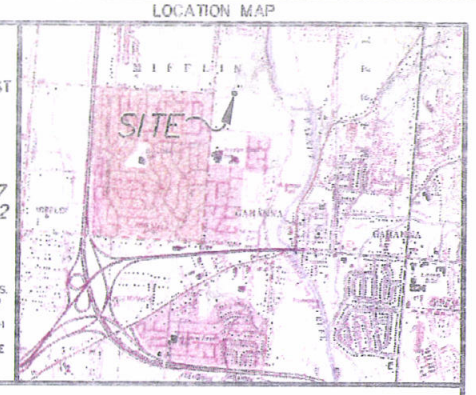
OWNER:

NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270 EXIT TO THE EAST ONTO I-270 AND FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH STYGLER ROAD. TURN LEFT (SOUTH) ONTO STYGLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR KEY, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3090 STYGLER ROAD.

LOCATION MAP



TOWER COORDINATES

LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.

STYGLER ROAD

TRUE PLACE OF BEGINNING FOR SUBJECT RIGHTS OF WAY FOR EXIT

TRUE PLACE OF BEGINNING FOR SUBJECT RIGHTS OF WAY FOR EXIT

SUBJECT RIGHTS OF WAY FOR EXIT

EXISTING CHURCH BUILDING

NEW LIFE COMMUNITY BAPTIST CHURCH O.R.V. 09069 D-18 5.111 ACRES PARCEL # 025-004407

EXISTING CHURCH BUILDING

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

SUBJECT UTILITY RIGHTS OF WAY #1

TRUE PLACE OF BEGINNING FOR SUBJECT UTILITY RIGHTS OF WAY #1

POINT OF REFERENCE FOR SUBJECT LAND SPACE, SUBJECT RIGHTS OF WAY, SUBJECT RIGHTS OF WAY FOR EXIT, AND SUBJECT UTILITY RIGHTS OF WAY #1, #2 AND #3 SOLID IRON BAR FOUND AT S.W. CORNER OF 5.090 ACRE TRACT

LOT 1

TRUE PLACE OF BEGINNING FOR SUBJECT UTILITY RIGHTS OF WAY #3
SEE DETAIL BELOW

LOT 3

LOT 4

SHERWOOD MEADOWS
PLAT BOOK 75, PAGE 16

LOT 5

LOT 6

SUBJECT RIGHTS OF WAY

SUBJECT UTILITY RIGHTS OF WAY #3

TRUE PLACE OF BEGINNING FOR SUBJECT UTILITY RIGHTS OF WAY #3

SUBJECT RIGHTS OF WAY

SUBJECT UTILITY RIGHTS OF WAY #2

NEW LIFE COMMUNITY BAPTIST CHURCH O.R.V. 09069 D-18 5.090 ACRES PARCEL # 025-004402

SUBJECT LAND SPACE
SEE SHEET 2 OF 3

TRUE PLACE OF BEGINNING FOR SUBJECT LAND SPACE IRON PIN SET

TRUE PLACE OF BEGINNING FOR SUBJECT UTILITY RIGHTS OF WAY #2

SECONDARY POINT OF REFERENCE FOR SUBJECT LAND SPACE, SUBJECT RIGHTS OF WAY, SUBJECT RIGHTS OF WAY FOR EXIT, AND SUBJECT UTILITY RIGHTS OF WAY #1, #2 AND #3 IRON PIN FOUND AT S.E. CORNER OF 5.090 ACRE TRACT

SITE # CLMB-247

EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.

TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1992. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE AND EASEMENTS PERTINENT THERETO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.

STATE OF OHIO
JOHN W. EVERS
7569
REGISTERED
PROFESSIONAL SURVEYOR

PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS

JOHN W. EVERS P.S. 7569 — SEPT 30, 2013

UNDERGROUND UTILITIES
7 WORKING DAYS
BEFORE YOU DIG
OHIO 1-800-362-2764
KY. 1-800-752-6007
UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY

THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.

NORTH - NAD 1983 OHIO SOUTH ZONE
GRID BEARINGS ARE ASSUMED BASED ON THE MONUMENTATION AND ISSUED DESIGNATION OF THE NORTH LINE OF SECTION 1, T1N, R17W

DESCRIPTION
FINAL LAND SPACE SURVEY

LOCATION
~ McCUTCHEON ~
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO

CLIENT
New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY: J.W.E.	CHECKED BY: J.W.E.	ORDER No.	AREA No.	SHEET
SCALE 1" = 30'	DATE MAR '12		FPA	1 of 4

LOCATION DESCRIPTION

LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

OWNER:
NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

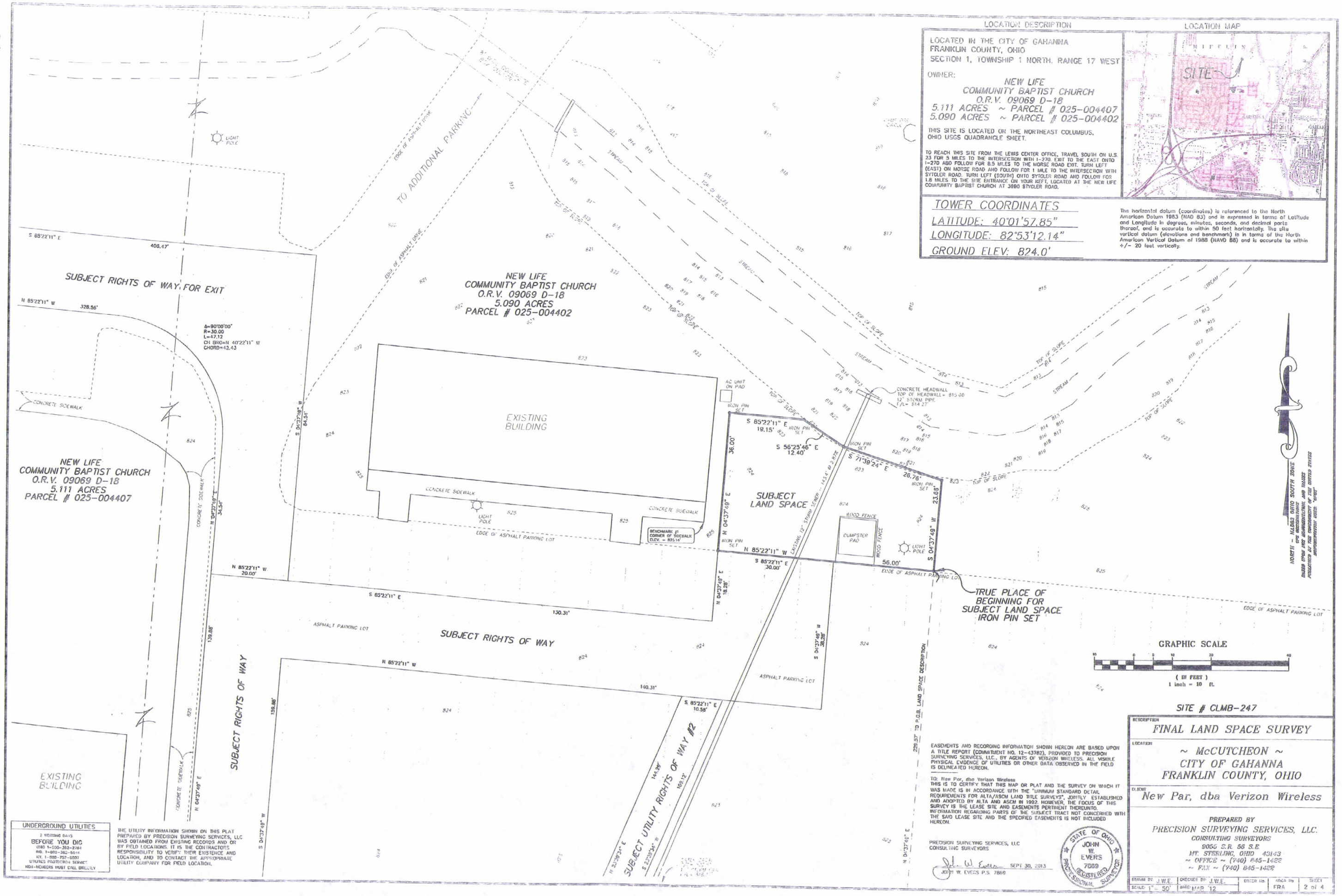
THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270. EXIT TO THE EAST ONTO I-270 AND FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH SYTOLER ROAD. TURN LEFT (SOUTH) ONTO SYTOLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR LEFT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3980 SYTOLER ROAD.

LOCATION MAP

TOWER COORDINATES
LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.



GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

SITE # CLMB-247

DESCRIPTION
FINAL LAND SPACE SURVEY

LOCATION
~ McCUTCHEON ~
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO

CLIENT
New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY: J.W.E.	CHECKED BY: J.W.E.	ORDER No.	PRO'S No.	SHEET
SCALE: 1" = 50'	DATE: MAR '12		FRA	2 of 4

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
(OHIO 1-800-362-2764
KY. 1-800-752-0123
VIRGINIA PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY

THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.

EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.

TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1992. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE AND EASEMENTS PERTINENT THEREUNTO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.

PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS

John W. Evers SEPT 30, 2013
JOHN W. EVERS P.S. 7869

STATE OF OHIO
JOHN W. EVERS
7869
REGISTERED
PROFESSIONAL SURVEYOR

NOTES PERTAINING TO SCHEDULE "B" SECTION 2
"FIDELITY NATIONAL TITLE INSURANCE COMPANY"
COMMITMENT NUMBER: 12-43782
EFFECTIVE DATE: MARCH 16, 2012 AT 8:59 A.M.

ITEMS #1-5-#21,822, #24 Are General Statements and Not Specific Encumbrances.

ITEMS #2 #6,67 Tax Information.

Taxes for the year 2011 are exempt

The County Treasurer's General Tax records for the year 2011 are as follows.
PIN: 025-004402
VALUATIONS: Land $161,350 Building $73,190 Total $234,540
Taxes for the year 2011 are exempt.

PIN: 025-004407
VALUATIONS: Land $129,330 Building $1,232-180 Total $1,361,510
Taxes for the year 2011 are exempt.

ITEM #8 Open-End Mortgage from New Life Community Baptist Church, to National City Bank, recorded July 17, 2009 in Instrument No. 200907170105125, Franklin County records, securing the original amount of $2,050,000.00. Said Mortgage does affect the Subject Land Space, does affect the Subject Rights of Way, does affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does affect the Subject Utility Rights of Way No. 2, and does affect the Subject Utility Rights of Way No. 3. Said Mortgage affects the entirety of Grantors lands which are plotted hereon, except for that portion lying within the right of way of Stygler Road which is plotted hereon.

ITEM #9 Easement granted to The Columbus Railway, Power and Light Company recorded in Deed Book 945, Page 563, Franklin County records. Said Easement does not affect the Subject Land Space, does affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said Easement is located within the right of way of Stygler Road which is plotted hereon.

ITEM #10 Easement granted to Columbus and Southern Ohio Electric Company recorded in Deed Book 1485, Page 396, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, could potentially affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said Easement is not plotted hereon. Due to lack of clarity regarding the exact point of beginning for said easement, two possible configurations can be plotted based upon available information. Both possible locations lie northerly of said Subject Land Space, Subject Rights of Way, Subject Utility Rights of Way No. 1, and Subject Utility Rights of Way No. 2. One of the possible configurations would slightly touch a portion of the Subject Rights of Way for Exit. No utilities were observed to exist in either of the possible locations during the course of our on site survey.

ITEM #11 Easement for ingress and egress purposes, and covenants as contained therein, in Warranty Deed recorded in Deed Book 2354, Page 267, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does affect the Subject Utility Rights of Way No. 3. Said easement is 15 feet in width, located along the southerly line of Grantors lands which are plotted hereon. Said easement is not specifically plotted hereon for clarity reasons. Said easement lies southerly of the southerly edge of pavement of the parking lot which is plotted hereon, and is virtually filled with landscaping pine trees.

ITEM #12 Easement for sewer line purposes granted to the City of Gahanna recorded in Official Record 03032A11, Franklin County records. Said Easement does not affect the Subject Land Space, does affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does affect the Subject Utility Rights of Way No. 3. Said easement is comprised of three separate and contiguous strips which are plotted hereon.

ITEM #13 Easement granted to Columbus Southern Power Company recorded in Official Record 11681A03, Franklin County records. Said easement is described as being 10 feet wide, along the poles as installed. This is a blanket type description and no specific easement location is plotted hereon. Said Easement therefore does affect the Subject Land Space, does affect the Subject Rights of Way, does affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does affect the Subject Utility Rights of Way No. 2, and does affect the Subject Utility Rights of Way No. 3. Drawings have been provided to this reviewing Surveyor by the Columbus Division of AEP, successor to said Columbus Southern Power Company depicting the electric utilities installed upon Grantors lands. Said electric utilities plotted thereon do not affect the Subject Land Space, and are located north of the existing church building, and within the right of way of Stygler Road which are plotted hereon.

ITEM #14 Easement granted to The Ohio Bell Telephone Company recorded in Official Record 16396D10, rerecorded in Official Record 16476F01, Franklin County records. Said Easement does not affect the Subject Land Space, does affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said easement is 10 feet wide, contiguous with the easterly right of way line of Stygler Road and is plotted hereon.

ITEM #15 Easement and Right of Way granted to Columbus Southern Power Company recorded in Official Record 16970D05, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said easement is 5 feet wide, contiguous with the easterly right of way line of Stygler Road, and runs easterly for a distance of 10 feet. Said Easement is not plotted hereon for reasons of clarity.

ITEM #16 Deed of Easement for sanitary sewer, and terms and conditions as contained therein, to the City of Gahanna recorded in Official Record 19354F08, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said easement is plotted hereon.

ITEM #17 Easement granted to Ohio Bell Telephone Com any recorded in Official Record 19787D04, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said easement is not plotted hereon for reasons of clarity.

ITEM #18 Deed of Easement for sanitary sewer purposes, and terms and conditions as contained therein, to the City of Gahanna, Ohio recorded in Official Record 20140H13, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3. Said easement is plotted hereon.

ITEM #19 Easement and Right of Way granted to Columbus Southern Power Company recorded in Official Record 32162D15, Franklin County records. Said easement is described as being 10 feet wide strips of land, along the poles as installed. This is a blanket type description and no specific easement location is plotted hereon. Said Easement therefore does affect the Subject Land Space, does affect the Subject Rights of Way, does affect the Subject Rights of Way for Exit, does affect the Subject Utility Rights of Way No. 1, does affect the Subject Utility Rights of Way No. 2, and does affect the Subject Utility Rights of Way No. 3. Drawings have been provided to this reviewing Surveyor by the Columbus Division of AEP, successor to said Columbus Southern Power Company depicting the electric utilities installed upon Grantors lands. Said electric utilities plotted thereon do not affect the Subject Land Space, and are located north of the existing church building, and within the right of way of Stygler Road which are plotted hereon.

ITEM #20 Easement and Right of Way granted to Columbus Southern Power Company recorded in Instrument No. 199810200037625, Franklin County records. Said Easement does not affect the Subject Land Space, does not affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, does not affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2 and does affect the Subject Utility Rights of Way No. 3. Said easement is not plotted hereon

ITEM #23 Title to that portion of the insured premises within the bounds of any legal highways. The right of way of a public road known as Stygler Road is located in the area depicted upon this survey, and is plotted hereon. Said right of way does not affect the Subject Land Space, and does affect the Subject Rights of Way, does not affect the Subject Rights of Way for Exit, and does affect the Subject Utility Rights of Way No. 1, does not affect the Subject Utility Rights of Way No. 2, and does not affect the Subject Utility Rights of Way No. 3.

ITEM #25 Oil and gas leases, pipeline agreements or any other instruments related to the production or sale of oil and gas which may arise subsequent to the date of the Policy. No appurtenances to oil or gas production were observed to be in the vicinity of the Subject Land Space, or the Subject Rights of Way.

SURVEYORS NOTE: There are no County Ditch Easements under ORC 6137.12 which would affect the Subject Land Space or the Subject Rights of Way . No ditch plotted hereon is involved in a County Ditch Maintenance program.

DESCRIPTION OF 0.494 ACRE RIGHTS OF WAY

This is a description for New Par, dba Verizon Wireless, of a 0.494 acre Rights of Way all out of that 5.090 acre, and 5.111 acre tracts of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.494 acre Rights of Way, all out of that 5.090 acre, and 5.111 acre tracts of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, said 0.494 acre Rights of Way being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, at a distance of 923.54 feet; Thence from said **Point of Reference**, North 04°23'49" East, along the west line of said 5.090 acre tract, and said 5.111 acre tract, a distance of 122.93 feet to the **True Place of Beginning** of the herein described 0.494 acre Rights of Way;

Thence North 04°23'49" East, along the west line of said 5.111 acre tract, a distance of 50.00 feet to a point;

Thence South 85°22'11" East, into said 5.111 acre tract, a distance of 72.83 feet to a point of curvature;

Thence 55.51 feet along the arc of a curve to the left, having a radius of 50.00 feet, a central angle of 63°36'45", the chord of which bears North 62°49'27" East, a chord distance of 52.70 feet to a point, said point also being the True Place of Beginning of a 0.275 acre Right of Way for Exit;

Thence South 58°58'56" East, along the perimeter of said 0.275 acre Right of Way for Exit, a distance of 20.00 feet to a point;

Thence South 31°01'04" West, a distance of 17.24 feet to a point of curvature;

Thence 65.08 feet along the arc of a curve to the left, having a radius of 50.00 feet, a central angle of 74°34'46", the chord of which bears South 06°16'19" East, a chord distance of 60.58 feet to a point of tangency;

Thence South 43°33'42" East, and passing from said 5.111 acre tract, and into said 5.090 acre tract, a distance of 68.21 feet to a point;

Thence South 85°22'11" East, a distance of 351.03 feet to a point of curvature;

Thence 31.42 feet along the arc of a curve to the left, having a radius of 20.00 feet, a central angle of 90°00'00", the chord of which bears North 49°37'49" East, a chord distance of 28.28 feet to a point of tangency;

Thence North 04°37'49" East, a distance of 139.88 feet to a point;

Thence South 85°22'11" East, a distance of 130.31 feet to a point;

Thence North 04°37'49" East, a distance of 18.28 feet to an iron pin set at the southwest corner of a 0.037 acre Land Space;

Thence South 85°22'11" East, along the south line of said 0.037 acre Land Space, a distance of 30.00 feet to a point;

Thence South 04°37'49" West, a distance of 38.28 feet to a point;

Thence North 85°22'11" West, a distance of 140.31 feet to a point;

Thence South 04°37'49" West, a distance of 159.88 feet to a point;

Thence North 85°22'11" West, a distance of 398.67 feet to a point;

Thence North 43°33'42" West, and passing from said 5.090 acre tract, and into said 5.111 acre tract, a distance of 137.28 feet to a point;

Thence North 85°22'11" West, a distance of 80.08 feet to the True Place of Beginning, containing 0.494 acre (21,501 square feet).

For the purpose of this exhibit, a bearing of South 85°22'11" East was used on the south line of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, on file in the Office of the Recorder, Franklin County, Ohio. Said bearing being determined by GPS observations and values as provided by the Government of the United States of America, through the Department of National Geodetic Survey.

DESCRIPTION OF 0.041 ACRE UTILITY RIGHTS OF WAY NO. 1

This is a description for New Par, dba Verizon Wireless, of a 0.041 acre Utility Rights of Way all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.041 acre Utility Rights of Way, all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, said 0.041 acre Utility Rights of Way being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, a distance of 923.54 feet; Thence from said **Point of Reference**, North 04°23'49" East, along the west line of said 5.090 acre tract, a distance of 31.41 feet to the **True Place of Beginning** of the herein described 0.041 acre Utility Rights of Way;

Thence North 04°23'49" East, along the west line of said 5.090 acre tract, a distance of 10.00 feet to a point;

Thence South 85°22'11" East, into said 5.090 acre tract, a distance of 1"0.90 feet to a point on the perimeter of a 0.494 acre Rights of Way;

Thence South 43°33'42" East, along the perimeter of said 0.494 acre Rights of Way, a distance of 15.00 feet;

Thence North 85°22'11" West, a distance of 182.04 feet to the True Place of Beginning, containing 0.041 acre (1,765 square feet).

DESCRIPTION OF 0.051 ACRE UTILITY RIGHTS OF WAY NO. 2

This is a description for New Par, dba Verizon Wireless, of a 0.051 acre Utility Rights of Way all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.494 acre Rights of Way, all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, said 0.041 acre Utility Rights of Way being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, a distance of 923.54 feet; Thence from said **Point of Reference**, South 85°22'11" East, along the south line of said 5.090 acre tract, a distance of 31.41 feet to the **True Place of Beginning** of the herein described 0.051 acre Utility Rights of Way, and being a corner of a 0.494 acre Rights of Way;

Thence North 04°37'49" East, along the perimeter of said 0.494 acre Rights of Way, a distance of 10.00 feet to a point;

Thence South 85°22'11" East, a distance of 38.20 feet to a point of curvature;

Thence 24.77 feet along the arc of a curve to the left, having a radius of 20.00 feet, a central angle of 70°58'16", the chord of which bears North 59°08'42" East, a chord distance of 23.22 feet to a point of tangency;

Thence North 23°39'34" East, a distance of 144.29 feet to a point in the perimeter of said 0.494 acre Rights of Way;

Thence South 85°22'11" East, along the perimeter of said Rights of Way, a distance of 10.58 feet to a point;

Thence South 23°39'34" West, a distance of 169.12 feet to a point;

Thence North 85°22'11" West, a distance of 59.58 feet to the True Place of Beginning, containing 0.051 acre (2,236 square feet).

DESCRIPTION OF 0.014 ACRE UTILITY RIGHTS OF WAY NO. 3

This is a description for New Par, dba Verizon Wireless, of a 0.014 acre Utility Rights of Way all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.014 acre Rights of Way, all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, said 0.014 acre Utility Rights of Way being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, at a distance of 923.54 feet; Thence from said **Point of Reference**, South 85°22'11" East, along the south line of said 5.090 acre tract, being a north line of "SHERWOOD MEADOWS" subdivision, of record in Plat Book 75, Page 16, a distance of 181.91 feet to the **True Place of Beginning** of the herein described 0.014 acre Utility Rights of Way;

Thence North 04°37'49" East, into said 5.090 acre tract, a distance of 31.41 feet to a point at the southeast corner of a 0.041 acre Utility Rights of Way #1, being a southerly corner of a 0.494 acre Rights of Way ;

Thence South 85°22'11" East, along the southerly line of said 0.494 acre Rights of Way, a distance of 20.00 feet to a point;

Thence South 04°37'49" West, a distance of 31.41 feet to a point in the south line of said 5.090 acre tract, being the north line of said "SHERWOOD MEADOWS";

Thence North 85°22'11" West, along the south line of said 5.090 acre tract, being the north line of said "SHERWOOD MEADOWS", a distance of 20.00 feet to the True Place of Beginning, containing 0.014 acre (628 square feet).

LOCATION DESCRIPTION

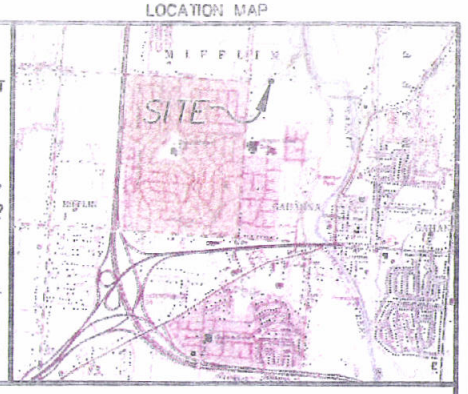
LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

OWNER:
NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 8 MILES TO THE INTERSECTION WITH I-270. EXIT TO THE EAST ONTO I-270 ABD FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH STYGLER ROAD. TURN LEFT (SOUTH) ONTO STYGLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR KEFT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3690 STYGLER ROAD.

LOCATION MAP



TOWER COORDINATES
LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.

DESCRIPTION OF 0.275 ACRE RIGHTS OF WAY FOR EXIT

This is a description for New Par, dba Verizon Wireless, of a 0.275 acre Rights of Way for Exit, all out of that 5.090 acre, and 5.111 acre tracts of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.275 acre Rights of Way for Exit, all out of that 5.090 acre, and 5.111 acre tracts of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, and 0.275 acre Rights of Way for Exit being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, at a distance of 923.54 feet; Thence from said **Point of Reference**, North 04°23'49" East, along the west line of said 5.090 acre tract, and said 5.111 acre tract, a distance of 180.71 feet to a point; Thence South 85°22'11" East, into said 5.111 acre tract, a distance of 117.73 feet to **the True Place of Beginning** of the herein described 0.275 acre Rights of Way for Exit;

Thence North 31°01'04" East, a distance of 128.52 feet to a point;

Thence South 85°22'11" East, a distance of 406.47 feet to a point;

Thence South 04°37'49" West, a distance of 84.54 feet to a point in the perimeter of a 0.494 acre Rights of Way;

Thence North 85°22'11" West, along the perimeter of said 0.494 acre Rights of Way, a distance of 20.00 feet to a point;

Thence South 04°37'49" East, a distance of 34.54 feet to a point of curvature;

Thence 47.12 feet along the arc of a curve to the left, having a radius of 30.00 feet, a central angle of 90°00'00", the chord of which bears North 40°22'11" West, a chord distance of 42.43 feet to a point of tangency;

Thence North 85°22'11" West, a distance of 328.56 feet to a point of curvature;

Thence 27.76 feet along the arc of a curve to the left, having a radius of 25.00 feet, a central angle of 63°36'45", the chord of which bears South 62°49'27" West, a chord distance of 26.35 feet to a point of tangency;

Thence South 31°01'04" West, a distance of 100.61 feet to a point on the perimeter of said 0.494 acre Rights of Way;

Thence North 58°58'56" West, along the perimeter of said 0.494 acre Rights of Way, a distance of 20.00 feet to the True Place of Beginning, containing 0.275 acre (11,976 square feet).

DESCRIPTION OF 0.040 ACRE LAND SPACE

This is a description for New Par, dba Verizon Wireless, of a 0.040 acre Land Space all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, all references to records being on file in the Office of the Recorder, Franklin County, Ohio.

Situate in the State of Ohio, County of Franklin, City of Columbus, being a part of Lot No. 1 of the John F. Conroy's Heir's Subdivision, recorded in Plat Book 19, Page 34, and being a 0.040 acre Land Space, all out of that 5.090 acre tract of land owned by New Life Community Baptist Church, of record in Official Record Volume 09069 D-18, said 0.040 acre Land Space being more particularly described as follows:

The **Point of Reference** being a solid iron bar found at the southwest corner of said 5.090 acre tract, being located 22.5 feet easterly of, as measured at right angles from the centerline of Stygler Road; The **Secondary Point of Reference** being an iron pin found at the southeast corner of said 5.090 acre tract, which bears South 85°22'11" East, along the south line of said 5.090 acre tract, at a distance of 923.54 feet; Thence from said **Point of Reference**, South 85°22'11" East, along the south line of said 5.090 acre tract, a distance of 746.89 feet to a point; Thence North 04°37'49" East, into said 5.090 acre tract, a distance of 229.5" feet to an iron pin set and being the **True Place of Beginning** of the herein described 0.040 acre Land Space;

Thence North 85°22'11" West, a distance of 56.00 feet to an iron pin set;

Thence North 04°37'49" East, a distance of 36.00 feet to an iron pin set;

Thence South 85°22'11" East, a distance of 19.15 feet to an iron pin set;

Thence South 56°25'46" East, a distance of 12.40 feet to an iron pin set;

Thence South 71°39'24" East, a distance of 26.76 feet to an iron pin set;

Thence South 04°37'49" West, a distance of 23.66 feet to the True Place of Beginning, containing 0.040 acre (1,745 square feet).

EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.

TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1992. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE, AND AGENTS OF VERIZON WIRELESS PERTINENT THERETO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.

PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS

JOHN W. EVERS P.S. 7869 SEPT 30, 2013

STATE OF OHIO
JOHN W. EVERS
7869
REGISTERED PROFESSIONAL SURVEYOR

SITE # CLMB-247

DESCRIPTION
FINAL LAND SPACE SURVEY

LOCATION
~ McCUTCHEON ~
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO

CLIENT
New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 59 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY: J.W.E.	CHECKED BY: J.W.E.	ORDER NO.	AREA NO.	SHEET
SCALE: 1" = 50'	DATE: MAR '12		FRA	3 of 4

EXHIBIT D

PWSF Application Fee (Section 1181.08.G and Chapter 148)

- Photocopy of Application Fee Check
- Photocopy of Variance Fee Check

PIKE LEGAL GROUP PLLC 01-01 13569
GENERAL ACCOUNT
502-955-4400
P.O. BOX 369
SHEPHERDSVILLE, KY 40165

73-141/839
I

DATE 10/10/14

PAY TO THE ORDER OF City of Gahanna $ 2000.00

Two Thousand and No Cents DOLLARS

Security Features Details on Back.

The PEOPLES BANK of Bullitt County Shepherdsville, Kentucky 40165

FOR Application Fee - McCutcheon

MP

⑈013569⑈ ⑆083901444⑆ ⑈891 545 8⑈

PIKE LEGAL GROUP PLLC
GENERAL ACCOUNT
502-955-4400
P.O. BOX 369
SHEPHERDSVILLE, KY 40165

01-01

13570

73-141/839
1

DATE 10/10/14

PAY TO THE ORDER OF City of Lahanna $ 300.00

Three Hundred and No Cents DOLLARS

Security Features Details on Back

The PEOPLES BANK of Bullitt County Shepherdsville, Kentucky 40165

FOR Variance Fee - McCutcheon

⑈013570⑈ ⑆083901414⑆ ⑈891 545 8⑈

EXHIBIT E

Location Information (Section 1181.08.B and 1181.08)

- Construction Drawings Cover Sheet N-1
- Zoning Exhibit Drawing Sheet 1 of 3
- Zoning Exhibit Drawing Sheet 2 of 3
- Zoning Exhibit Drawing Sheet 3 of 3
- Overall Site Plan, Data, and Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3
- Landowner Notice Listing
- Gahanna Tower Map
- Verizon Wireless Area Network
- Nearby Towers Sunbury and Morse

PROJECT INFORMATION

SCOPE OF WORK (PROJECT SUMMARY):	THE PRINCIPAL SERVICES AND EQUIPMENT TO BE PROVIDED UNDER THIS PROJECT ARE THE INSTALLATION OF A PROPOSED 112-FT TALL MONOPINE TOWER AND STATE APPROVED INDUSTRIALIZED SHELTER INSIDE A PROPOSED FENCED COMPOUND
SITE ADDRESS:	NORTH STYGLER ROAD COLUMBUS, OHIO 43230
GPS COORDINATES:	LATITUDE: 40° 01' 57.85" LONGITUDE: 82° 53' 12.14" ELEVATION: 824.0
PROPERTY OWNER:	NEW LIFE COMMUNITY BAPTIST CHURCH
TAX PARCEL:	025-004402
ENGINEER:	BURGESS AND NIPLE 5085 REED ROAD COLUMBUS, OH 43220 PHONE: (614) 459-2050 FAX: (614) 451-1385
APPLICANT:	NEW PAR dba VERIZON WIRELESS 7575 COMMERCE COURT LEWIS CENTER, OH 43035 CONTACT: CHRIS DODD PHONE: (614) 561-8552
USE GROUP:	THE EQUIPMENT BUILDING IS AN ENGINEERED INDUSTRIALIZED UNIT BUILDING, MANUFACTURED BY FIBREBOND AND PRE-APPROVED BY THE STATE OF OHIO DIVISION OF INDUSTRIAL COMPLIANCE PER THE ATTACHED DRAWINGS. USE GROUP = U TYPE OF CONSTRUCTION = VB THE TOWER AND TOWER FOUNDATION ARE DESIGNED AND MANUFACTURED BY VALMONT STRUCTURES PER THE ATTACHED DRAWINGS AND CALCULATIONS. USE GROUP = U TYPE OF CONSTRUCTION = IIB

DRAWING INDEX

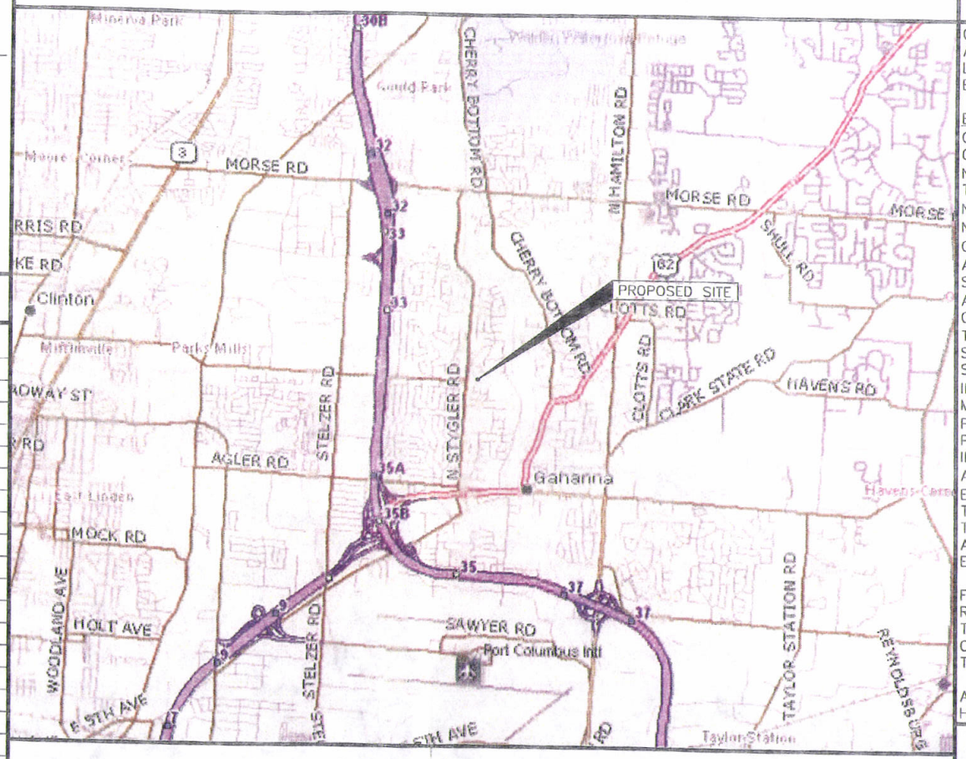
DRAWING NO.	DRAWING TITLE	REV. NO.
N-1	COVER SHEET	0
N-2	CONSTRUCTION NOTES	0
N-3	CONSTRUCTION NOTES	0
N-4	EROSION AND SEDIMENT CONTROL NOTES	0
N-5	EROSION AND SEDIMENT CONTROL PLAN	0
N-6	EROSION AND SEDIMENT CONTROL DETAILS	0
1-4	SURVEY	0
A-2	DETAILED SITE PLAN AND TOWER ELEVATION	0
C-1	OVERALL SITE PLAN	0
C-2	COMPOUND PLAN	0
C-3	FENCE DETAIL	0
C-4	EQUIPMENT BUILDING PLAN	0
C-5	EQUIPMENT BUILDING NOTES AND DETAILS	0
C-6	CIVIL ENGINEERING PLAN	0
C-7	CIVIL ENGINEERING DETAILS	0
C-8	PROPANE DETAILS	0
E-1	ELECTRICAL NOTES	0
E-2	TEMPORARY UTILITY DETAILS AND ONE-LINE DIAGRAM	0
E-3	PERMANENT UTILITY DETAILS AND ONE-LINE DIAGRAM	0
E-4	UTILITY & GROUNDING PLAN AND ELECTRICAL NOTES	0
E-5	ELECTRICAL AND GROUNDING DETAILS	0
NTC	NOTICE TO CONTRACTOR	0

verizonwireless

NEW PAR dba

SITE NUMBER: CLMB-247
SITE NAME: McCUTCHEON

LOCATION MAP



DRIVING DIRECTIONS:

FROM LEWIS CENTER OFFICE:
HEAD SOUTH ON US-23 FOR 4.8 MILES AND THEN MERGE ONTO I-270 E VIA EXIT 23A TOWARDS I-71 FOR 8.5 MILES. TAKE THE MORSE RD EXIT (EXIT 32). TURN LEFT ONTO MORSE RD FOR 0.8 MILES. TURN RIGHT ONTO N STYGLER RD FOR 1.6 MILES. THE SITE IS ON THE LEFT SIDE OF THE ROAD.

CODE INFORMATION

CONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE GOVERNING AGENCY FOR THE LOCATION. THE EDITION OF THE GOVERNING AGENCY CODES AND STANDARDS IN EFFECT ON THE CONTRACT AWARD DATE SHALL GOVERN THE DESIGN.

BUILDING CODES:
OHIO BUILDING CODE (2011 OBC), LATEST ADDITION AS ADOPTED BY THE GOVERNING AGENCY AND BY THE STATE OF OHIO
NATIONAL ELECTRICAL CODE (NEC 2011), LATEST ADDITION AS ADOPTED BY THE GOVERNING AGENCY AND BY THE STATE OF OHIO
NFPA 70 – NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) – (2011 EDITION)
NFPA 780 – LIGHTNING PROTECTION CODE – (2011 EDITION)
OHIO FIRE CODE 2011 (2009 IFC)
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, EDITION 11
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION , ASD, FOURTEENTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G-09, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUNDING IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (LATEST EDITION) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")
TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS
TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
ANSI T1.311, FOR TELECOM – DC POWER SYSTEMS – TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ADA COMPLIANCE: THE PROPOSED FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION AND WILL NOT GENERATE TRAFFIC OR PARKING.

APPROVED BY	DATE
PROPERTY OWNER:	
REAL ESTATE:	
INTEGRATION:	
CONSTRUCTION:	
RF ENGINEERING:	

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
NORTH STYGLER ROAD
COLUMBUS, OHIO 43230

verizonwireless
NEW PAR dba

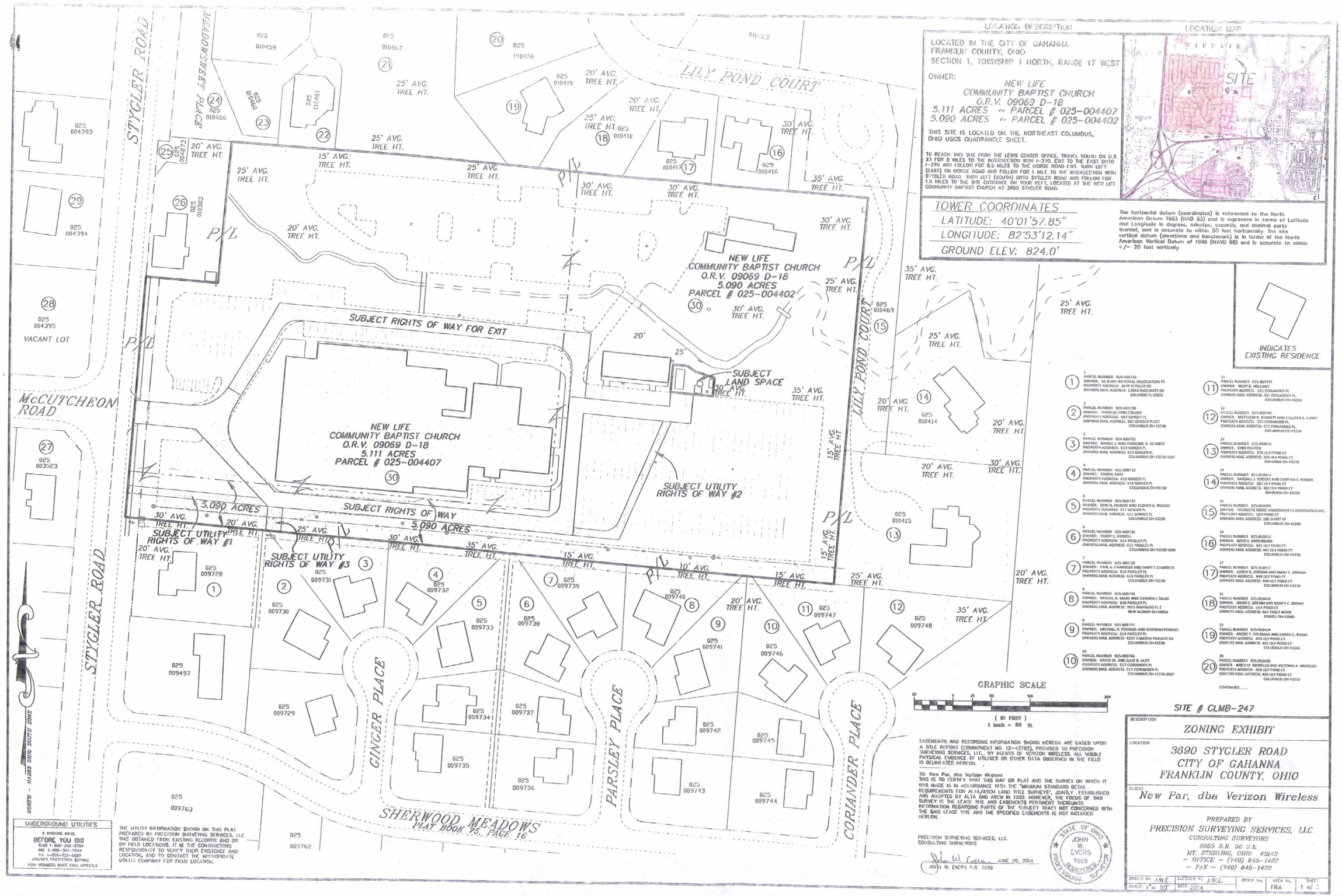
REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
CSH	MWC	12/23/2013	AS SHOWN

SEAL

SHEET TITLE
COVER SHEET

SHEET NUMBER
N-1


STYGLER ROAD
EDGEWOOD PLACE
LILY POND COURT
McCUTCHEON ROAD
025 004393
025 004394
025 004395
VACANT LOT
025 003523
025 010459
025 010460
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025 009497
025 009762
025 009763
NEW LIFE COMMUNITY BAPTIST CHURCH O.R.V. 09069 D-18 5.090 ACRES PARCEL # 025-004402
NEW LIFE COMMUNITY BAPTIST CHURCH O.R.V. 09069 D-18 5.111 ACRES PARCEL # 025-004407
SUBJECT RIGHTS OF WAY FOR EXIT
SUBJECT LAND SPACE
SUBJECT RIGHTS OF WAY
5.090 ACRES
SUBJECT UTILITY RIGHTS OF WAY #1
SUBJECT UTILITY RIGHTS OF WAY #2
SUBJECT UTILITY RIGHTS OF WAY #3
GINGER PLACE
PARSLEY PLACE
CORIANDER PLACE
SHERWOOD MEADOWS
PLAT BOOK 75, PAGE 16
P/L
20' AVG. TREE HT.
25' AVG. TREE HT.
30' AVG. TREE HT.
35' AVG. TREE HT.
15' AVG. TREE HT.
10' AVG. TREE HT.
NORTH - NAD83 OHIO SOUTH ZONE
LOCATION DESCRIPTION
LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST
OWNER:
NEW LIFE COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402
THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.
TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270, EAST TO THE EAST OHIO I-270 AND FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH STYGLER ROAD. TURN LEFT (SOUTH) ONTO STYGLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR LEFT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3690 STYGLER ROAD.
LOCATION MAP
SITE
TOWER COORDINATES
LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'
The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.
INDICATES EXISTING RESIDENCE
1 PARCEL NUMBER 025-009728 OWNER: US BANK NATIONAL ASSOCIATION TR PROPERTY ADDRESS: 3649 STYGLER RD OWNERS MAIL ADDRESS: 12650 INGENUITY DR ORLANDO FL 32826
2 PARCEL NUMBER 025-009730 OWNER: THERESA LYNN COLLINS PROPERTY ADDRESS: 507 GINGER PL OWNERS MAIL ADDRESS: 507 GINGER PLACE COLUMBUS OH 43230
3 PARCEL NUMBER 025-009731 OWNER: DARELL J. AND FRANCINE R. SCHMITZ PROPERTY ADDRESS: 513 GINGER PL OWNERS MAIL ADDRESS: 513 GINGER PL COLUMBUS OH 43230-5095
4 PARCEL NUMBER 025-009732 OWNER: CHERYL KAYE PROPERTY ADDRESS: 518 GINGER PL OWNERS MAIL ADDRESS: 518 GINGER PL COLUMBUS OH 43230
5 PARCEL NUMBER 025-009737 OWNER: ERIC R. PRUSOK AND CLOVER G. PRUSOK PROPERTY ADDRESS: 512 GINGER PL OWNERS MAIL ADDRESS: 512 GINGER PL COLUMBUS OH 43230
6 PARCEL NUMBER 025-009738 OWNER: TEDDY C. HOWELL PROPERTY ADDRESS: 515 PARSLEY PL OWNERS MAIL ADDRESS: 515 PARSLEY PL COLUMBUS OH 43230-5096
7 PARCEL NUMBER 025-009739 OWNER: CARL S. CHANDLER AND MARY E CHANDLER PROPERTY ADDRESS: 519 PARSLEY PL OWNERS MAIL ADDRESS: 519 PARSLEY PL COLUMBUS OH 43230
8 PARCEL NUMBER 025-009740 OWNER: MIGUEL A. SALAS AND CARMEN I. SALAS PROPERTY ADDRESS: 520 PARSLEY PL OWNERS MAIL ADDRESS: 7055 MAYNARD PLE NEW ALBANY OH 43054
9 PARCEL NUMBER 025-009741 OWNER: MICHAEL R. PERRIND AND DEBORAH PERRIND PROPERTY ADDRESS: 514 PARSLEY PL OWNERS MAIL ADDRESS: 4297 CAMDEN PASSAGE DR COLUMBUS OH 43230
10 PARCEL NUMBER 025-009746 OWNER: DAVID M. AND JULIE B. HUTT PROPERTY ADDRESS: 517 CORIANDER PL OWNERS MAIL ADDRESS: 517 CORIANDER PL COLUMBUS OH 43230-5097
11 PARCEL NUMBER 025-009747 OWNER: RICKY G. HOLLAND PROPERTY ADDRESS: 521 CORIANDER PL OWNERS MAIL ADDRESS: 521 CORIANDER PL COLUMBUS OH 43230
12 PARCEL NUMBER 025-009748 OWNER: MATTHEW R. BENNETT AND COLLEEN E. CURRY PROPERTY ADDRESS: 523 CORIANDER PL OWNERS MAIL ADDRESS: 523 CORIANDER PL COLUMBUS OH 43230
13 PARCEL NUMBER 025-010415 OWNER: CHEN YEH-FEN PROPERTY ADDRESS: 378 LILY POND CT OWNERS MAIL ADDRESS: 378 LILY POND CT GAHANNA OH 43230
14 PARCEL NUMBER 025-010414 OWNER: RANDALL J. ROGERS AND CYNTHIA S. ROGERS PROPERTY ADDRESS: 382 LILY POND CT OWNERS MAIL ADDRESS: 382 LILY POND CT GAHANNA OH 43230
15 PARCEL NUMBER 025-010409 OWNER: FOUNDERS RIDGE HOMEOWNERS ASSOCIATION INC. PROPERTY ADDRESS: LILY POND CT OWNERS MAIL ADDRESS: 106 SHORT ST COLUMBUS OH 43230
16 PARCEL NUMBER 025-010416 OWNER: BOYD K. MOORHOUSE PROPERTY ADDRESS: 441 LILY POND CT OWNERS MAIL ADDRESS: 441 LILY POND CT COLUMBUS OH 43230
17 PARCEL NUMBER 025-010417 OWNER: LORIN G. JORDAN AND MARY E. JORDAN PROPERTY ADDRESS: 449 LILY POND CT OWNERS MAIL ADDRESS: 449 LILY POND CT COLUMBUS OH 43230
18 PARCEL NUMBER 025-010418 OWNER: DAVID E. BIEHM AND MARY C. BIEHM PROPERTY ADDRESS: LILY POND CT OWNERS MAIL ADDRESS: 647 EAGLE RIDGE POWELL OH 43065
19 PARCEL NUMBER 025-010419 OWNER: ANDRE T. COLEMAN AND EAREN C. EVANS PROPERTY ADDRESS: 455 LILY POND CT OWNERS MAIL ADDRESS: 455 LILY POND CT COLUMBUS OH 43230
20 PARCEL NUMBER 025-010420 OWNER: ARRICK M. MORELLO AND VICTORIA A. MORELLO PROPERTY ADDRESS: 459 LILY POND CT OWNERS MAIL ADDRESS: 459 LILY POND CT COLUMBUS OH 43230
CONTINUED
GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.
SITE # CLMB-247
EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.
TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1992. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE AND EASEMENTS PERTINENT THEREUNTO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.
PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS
JOHN W. EVERS P.S. 7869 JUNE 20, 2014
STATE OF OHIO JOHN W. EVERS 7869 REGISTERED PROFESSIONAL SURVEYOR
UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
OHIO 1-800-362-2764
IND. 1-800-382-5544
KY. 1-859-752-4007
UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY
THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.
DESCRIPTION
ZONING EXHIBIT
LOCATION
3690 STYGLER ROAD
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
CLIENT
New Par, dba Verizon Wireless
PREPARED BY
PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422
DRAWN BY: J.W.E. CHECKED BY: J.W.E. ORDER No. AREA No. FRA SHEET 1 of 2
SCALE: 1" = 50' DATE: 2014

LOCATION DESCRIPTION

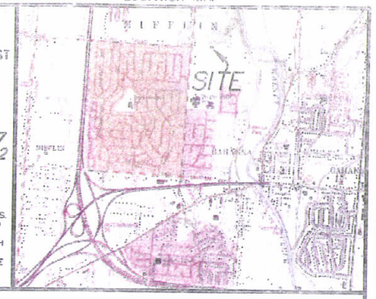
LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

OWNER:
NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270. EXIT TO THE EAST ONTO I-270 ABD FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH SYTGLER ROAD. TURN LEFT (SOUTH) ONTO SYTGLER ROAD AND FOLLOW FOR 1.6 MILES TO THE SITE ENTRANCE ON YOUR KEFT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3690 STYGLER ROAD.

LOCATION MAP



TOWER COORDINATES
LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.

INDICATES EXISTING RESIDENCE

NORTH - NADS OHIO SOUTH ZONE
FOR BEARINGS AND BEARING ANGLES USED IN THE DESCRIPTIONS AND BOUNDARIES PERFORMED BY PRECISION SURVEYING SERVICES, LLC. THE BASIS OF BEARINGS IS THE NORTH LINE OF "SHERWOOD MEADOWS" PLAT BOOK 76, PAGE 16

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.

TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1902. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE AND EASEMENTS PERTINENT THEREUNTO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.

PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS

JOHN W. EVERS P.S. 7869 JUNE 26, 2014

STATE OF OHIO
JOHN W. EVERS
7869
REGISTERED PROFESSIONAL SURVEYOR

21 PARCEL NUMBER 025-010467
OWNER: FOUNDERS RIDGE HOMEOWNERS ASSOCIATION INC.
PROPERTY ADDRESS: FOUNDERS RIDGE DR
OWNERS MAIL ADDRESS: 106 SHORT ST
COLUMBUS OH 43230

22 PARCEL NUMBER 025-010461
OWNER: THOMAS D. WILSON AND LESLIE A. WILSON
PROPERTY ADDRESS: 580 MEADOWSWEET DR
OWNERS MAIL ADDRESS: 580 MEADOWSWEET DR
COLUMBUS OH 43230

23 PARCEL NUMBER 025-010460
OWNER: RIDGEMOUR ROAD DEVELOPMENT COMPANY
PROPERTY ADDRESS: FOUNDERS RIDGE DR
OWNERS MAIL ADDRESS: 106 SHORT ST
COLUMBUS OH 43230

24 PARCEL NUMBER 025-010466
OWNER: FOUNDERS RIDGE HOMEOWNERS ASSOCIATION INC.
PROPERTY ADDRESS: STYGLER RD
OWNERS MAIL ADDRESS: 106 SHORT ST
COLUMBUS OH 43230

25 PARCEL NUMBER 025-004273
OWNER: GAHANNA CITY OF
PROPERTY ADDRESS: STYGLER RD
OWNERS MAIL ADDRESS: 200 S HAMILTON RD
GAHANNA, OH 43230

26 PARCEL NUMBER 025-010383
OWNER: ELIZABETH V. HAGTON TRUSTEE
PROPERTY ADDRESS: 560 STYGLER RD
OWNERS MAIL ADDRESS: 436 SCIOTO VILLA LN
COLUMBUS OH 43207

27 PARCEL NUMBER 025-003523
OWNER: JAMIE S. GAMMM
PROPERTY ADDRESS: 521 N STYGLER RD
OWNERS MAIL ADDRESS: 521 N STYGLER RD
COLUMBUS OH 43230

28 PARCEL NUMBER 025-004395
OWNER: CITY OF GAHANNA
PROPERTY ADDRESS: 00000 STYGLER RD
OWNERS MAIL ADDRESS: 200 S HAMILTON RD
GAHANNA, OH 43230

29 PARCEL NUMBER 025-004394
OWNER: DANIELLE K. CHOCANO
PROPERTY ADDRESS: 3681 N STYGLER RD
OWNERS MAIL ADDRESS: 3681 N STYGLER RD
COLUMBUS OH 43230

30 PARCEL NUMBER 025-004407 AND 025-004402
OWNER: NEW LIFE COMMUNITY BAPTIST CHURCH
PROPERTY ADDRESS: 3690 STYGLER RD
OWNERS MAIL ADDRESS: PO BOX 30929
COLUMBUS OH 43230

DISTANCES FROM PROPOSED TOWER TO ADJACENT EXISTING BUILDING EXHIBIT

SITE # CLMB-247

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
OHIO 1-800-362-2764
KY 1-800-752-0057
UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY

THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.

DESCRIPTION: ZONING EXHIBIT

LOCATION: 3690 STYGLER ROAD
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO

CLIENT: New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY: J.W.E.	CHECKED BY: J.W.E.	ORDER No.	AREA No.	SHEET
SCALE: 1" = 50'	DATE: 2014		FRA	2 OF 3

LOCATION DESCRIPTION

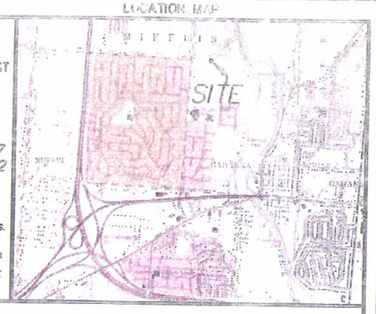
LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

OWNER:
NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270. EXIT TO THE EAST ONTO I-270 AND FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH STYGLER ROAD. TURN LEFT (SOUTH) ONTO STYGLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR RIGHT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3690 STYGLER ROAD.

LOCATION MAP



TOWER COORDINATES
LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.

INDICATES EXISTING RESIDENCE

STYGLER ROAD
McCUTCHEON ROAD
SHERWOOD PLACE
LILY POND COURT
GINGER PLACE
PARSLEY PLACE
CORIANDER PLACE
SHERWOOD MEADOWS
PLAT BOOK 75, PAGE 16

NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES
PARCEL # 025-004407

NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.090 ACRES
PARCEL # 025-004402

PROPOSED SHELTER
PROPOSED TOWER
PROPOSED GENERATOR

686.9'
729.2'
741.4'
240.9'
257.8'
250.6'
234.6'
243.8'
240.1'
184.6'
177.4'
215.5'

VACANT LOT

NORTH - NAD83 OHIO SOUTH ZONE

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
OHIO 1-800-362-2764
KY. 1-800-752-6007
UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY

THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

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TO: New Par, dba Verizon Wireless
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PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS
JOHN W. EVERS P.S. 7869 — JUNE 29, 2014

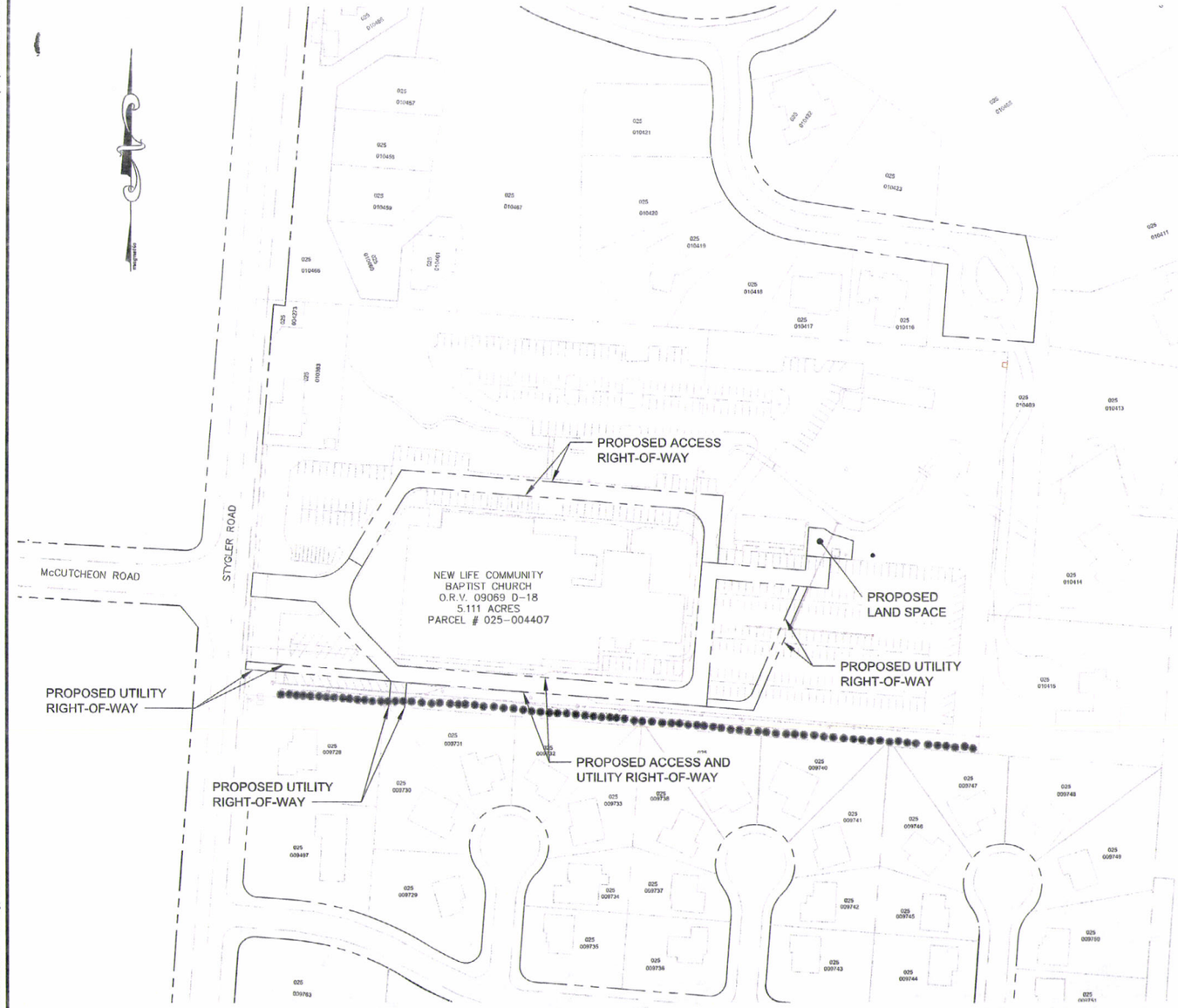
STATE OF OHIO
JOHN W. EVERS
7869
REGISTERED
PROFESSIONAL SURVEYOR

DISTANCES FROM PROPOSED SHELTER, TOWER, AND GENERATOR TO LANDOWNERS PROPERTY LINE
SITE # CLMB-247

DESCRIPTION: ZONING EXHIBIT
LOCATION: 3690 STYGLER ROAD
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
CLIENT: New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY	CHECKED BY	PROJ. No	APCA No	SHEET
J.W.E.	J.W.E.		FRA	3 OF 3
SCALE: 1" = 50'	DATE: 2014			



OVERALL SITE PLAN

0 80' 160'

SITE DATA

PROJECT DESCRIPTION:	THE INSTALLATION OF A PROPOSED 120-FT TALL MONOPINE TOWER AND STATE APPROVED INDUSTRIALIZED SHELTER INSIDE A PROPOSED FENCED COMPOUND
LOCATION:	FRANKLIN COUNTY, CITY OF GAHANNA STATE OF OHIO
SITE ADDRESS:	3690 STYGLER ROAD GAHANNA, OHIO
SITE COORDINATES:	LATITUDE: 40° 01' 57.85" LONGITUDE: 82° 53' 12.14" ELEVATION: 824.0'± (NAVD 1988)
DRIVING DIRECTIONS:	FROM LEWIS CENTER OFFICE, HEAD SOUTH ON US-23 FOR 4.8 MILES AND THEN MERGE ONTO I-270 E VIA EXIT 23A TOWARDS I-71 FOR 8.5 MILES. TAKE THE MORSE RD EXIT (EXIT 32). TURN LEFT ONTO MORSE RD FOR 0.8 MILES. TURN RIGHT ONTO STYGLER RD FOR 1.6 MILES. THE SITE IS ON THE LEFT SIDE OF THE ROAD.

LOCATION MAP

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

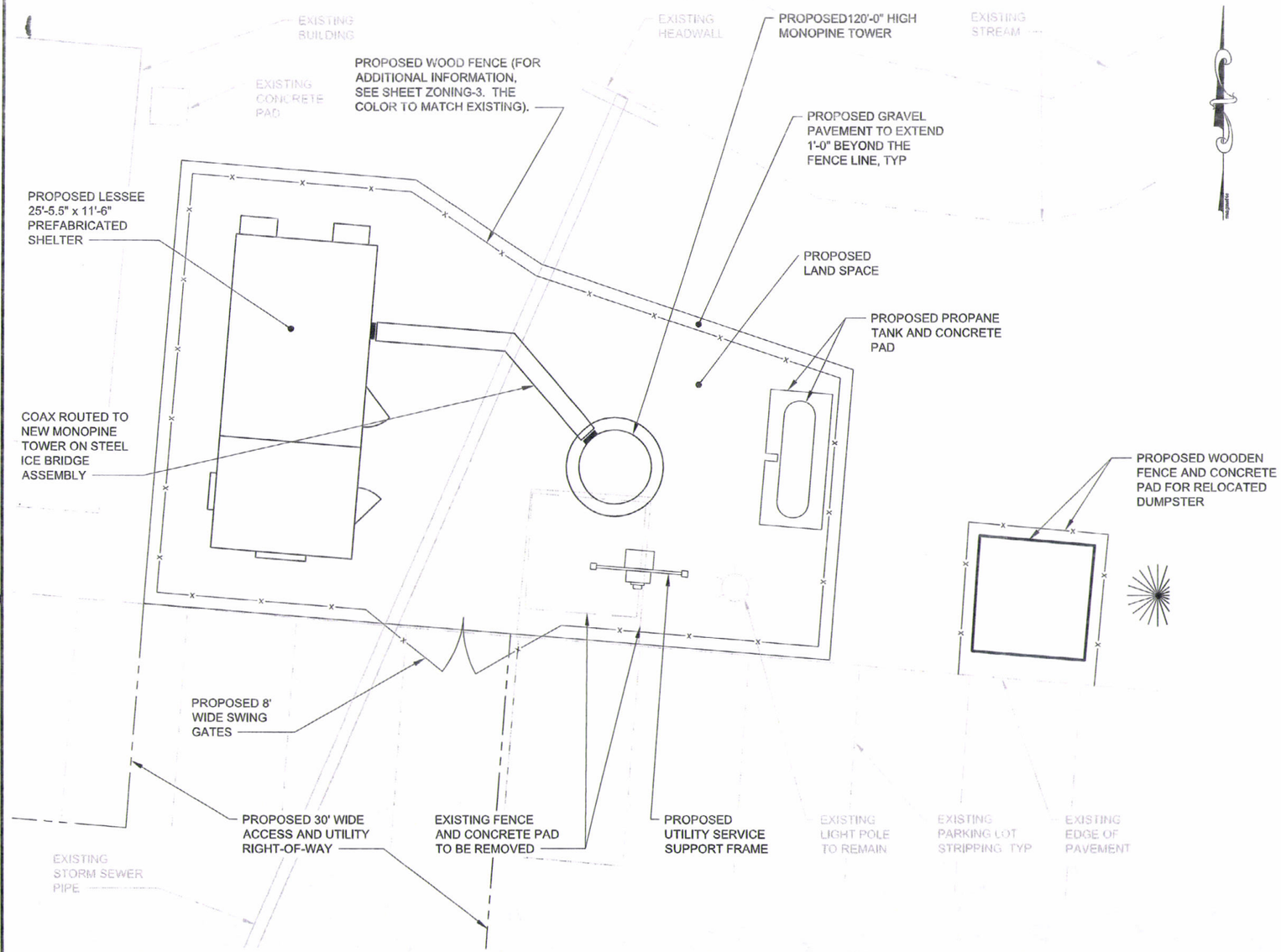
REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

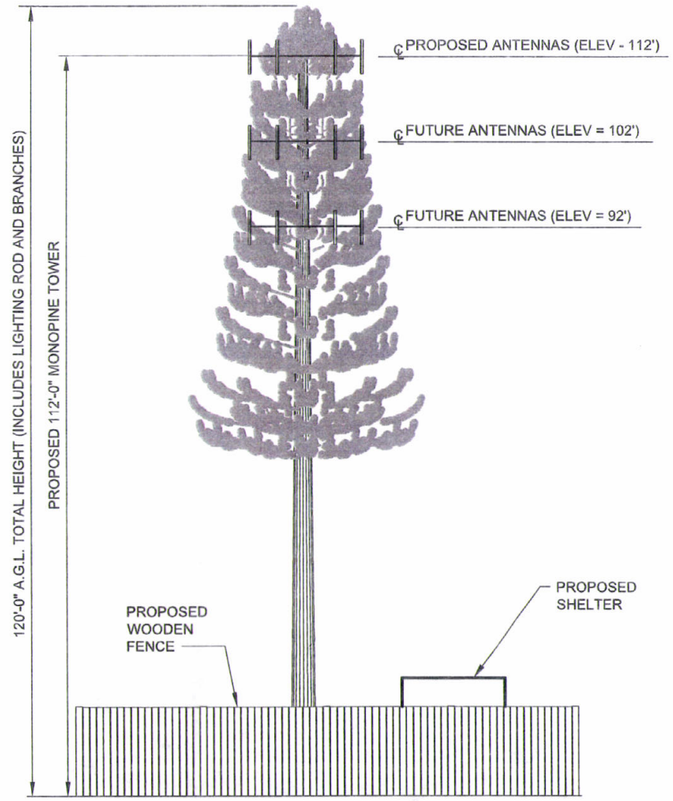
STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED
PROFESSIONAL ENGINEER
SEAL
7/11/14

SHEET TITLE
OVERALL SITE PLAN, SITE DATA, AND LOCATION MAP

SHEET NUMBER
ZONING-1



DETAILED SITE PLAN



TOWER ELEVATION

NOT TO SCALE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

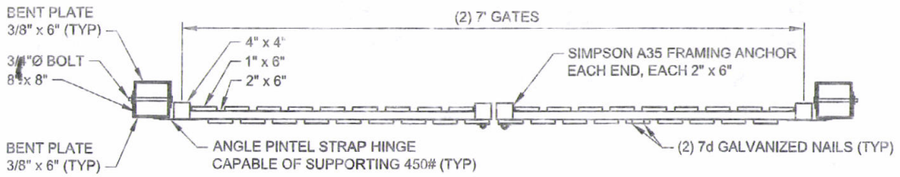
REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

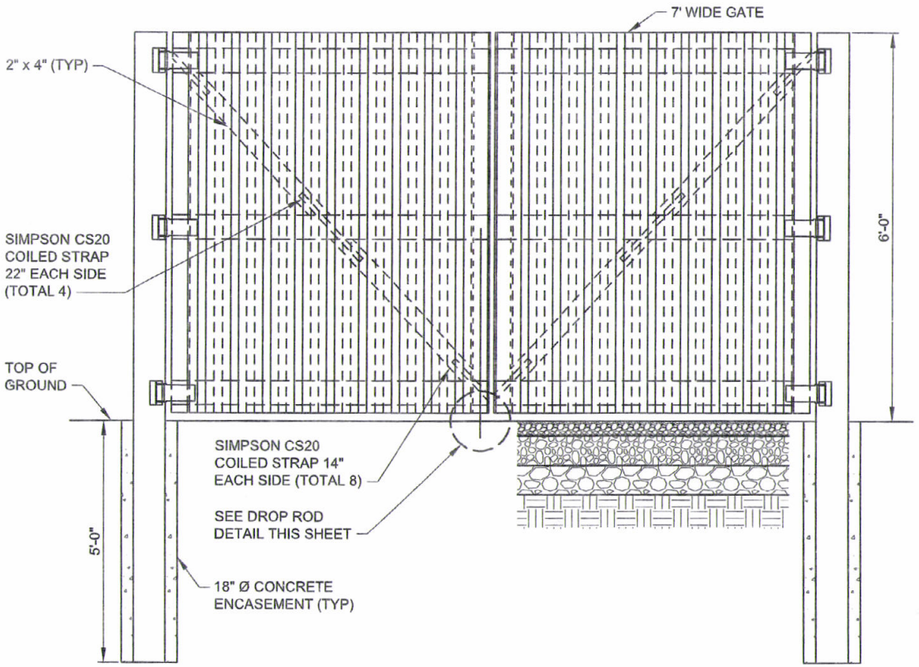
STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED PROFESSIONAL ENGINEER
SEAL 7/22/14

SHEET TITLE
DETAILED SITE PLAN AND TOWER ELEVATION

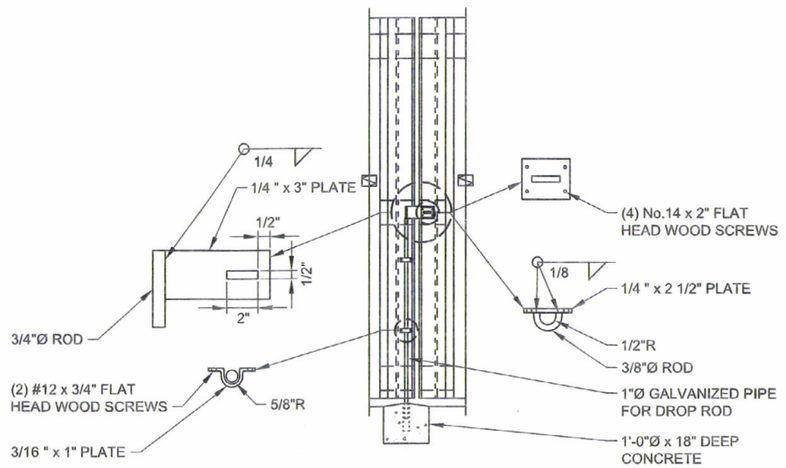
SHEET NUMBER
ZONING-2



GATE DETAIL
PLAN VIEW
NOT TO SCALE



GATE DETAIL ELEVATION
NOT TO SCALE

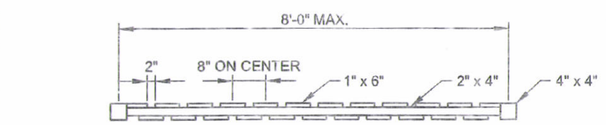


DROP ROD DETAIL
NOT TO SCALE

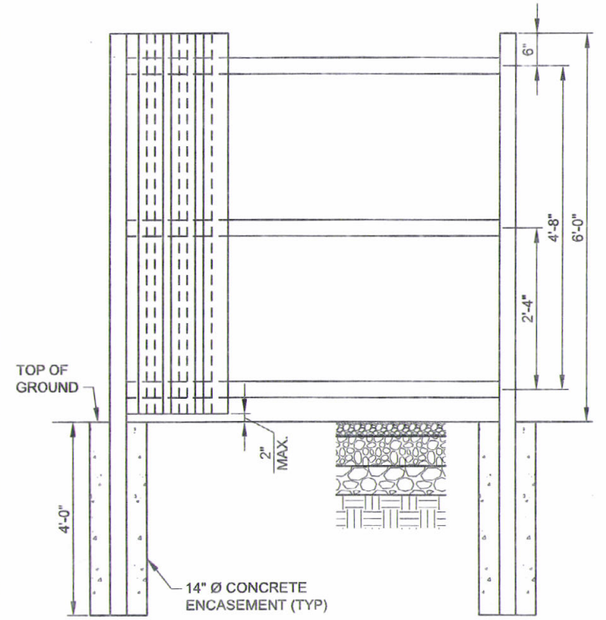
NOTES:

1. ALL STEEL AND HARDWARE SHALL BE GALVANIZED. ALL WOOD SHALL BE WESTERN CEDAR.

2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A LOCK. THE LOCK SHALL BE MASTER LOCK MODEL NO. 175 OR APPROVED EQUAL AND THE COMBINATION SHALL BE SET TO VERIZON'S STANDARD.



FENCE DETAIL
PLAN VIEW
NOT TO SCALE



FENCE DETAIL ELEVATION
NOT TO SCALE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED PROFESSIONAL ENGINEER
SEAL
7/22/14

SHEET TITLE
FENCE DETAILS

SHEET NUMBER
ZONING-3

McCutcheon Landowner Notice Listing

Sumah Mariatu
3644 Stygler Rd.
Columbus, OH 43230

Theresa Lynn Collins
507 Ginger Place
Columbus, OH 43230

Daniel J. and Francine N. Schmitz
513 Ginger Pl.
Columbus, OH 43230-5095

Cheryl Kaye
518 Ginger Pl.
Columbus, OH 43230

Dirk R. Prusok and Clover G. Prusok
512 Ginger Pl.
Columbus, OH 43230

Teddy C. Howell
515 Parsley Pl.
Columbus, OH 43230-5096

Carl S. Chandler and Mary E. Chandler
519 Parsley Pl.
Columbus, OH 43230

Miguel A. Salas and Carmen I. Salas
7055 Maynard Pl. E.
New Albany, OH 43054

Michael R. Perrino and Deborah Perrino
4292 Camden Passage Dr.
Columbus, OH 43230

David M. and Julie B. Hutt
517 Coriander Pl.
Columbus, OH 43230-5097

Ricky G. Holland
521 Coriander Pl.
Columbus, OH 43230

Matthew R. Bennett and Colleen E. Curry
522 Coriander Pl.
Columbus, OH 43230

Chin Yeh-Fen
378 Lily Pond Ct.
Gahanna, OH 43230

Randall J. Rogers and Cynthia S. Rogers
382 Lily Pond Ct.
Gahanna, OH 43230

Founders Ridge Homeowners Association Inc.
106 Short St.
Columbus, OH 43230

Boyd K. Moehring
441 Lily Pond Ct.
Columbus, OH 43230

Loren G. Jordan and Mary E. Jordan
449 Lily Pond Ct.
Columbus, OH 43230

David E. Brehm and Nancy C. Brehm
642 Eagle Ridge
Powell, OH 43065

Andre T. Coleman and Karen C. Evans
455 Lily Pond Ct.
Columbus, OH 43230

Arick M. Morello and Victoria A. Morello
459 Lily Pond Ct.
Columbus, OH 43230

Thomas D. Wilson and Leslie A. Wilson
530 Meadow Sweet Dr.
Columbus, OH 43230

Ridenour Road Development Company
106 Short St.
Columbus, OH 43230

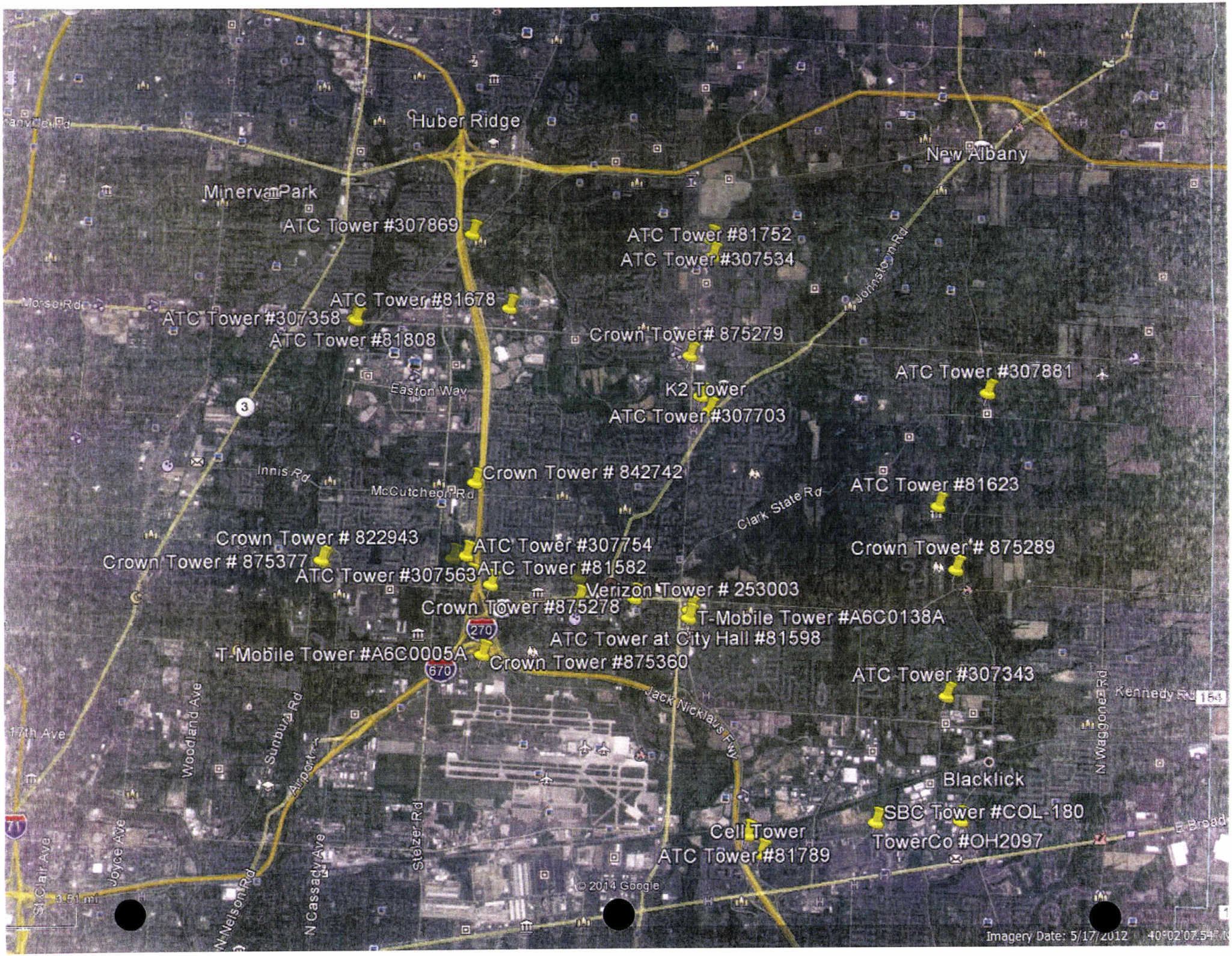
City of Gahanna
200 S. Hamilton Rd.
Gahanna, OH 43230

Elizabeth V. Hagton Trustee
436 Scioto Villa Ln.
Columbus, OH 43207

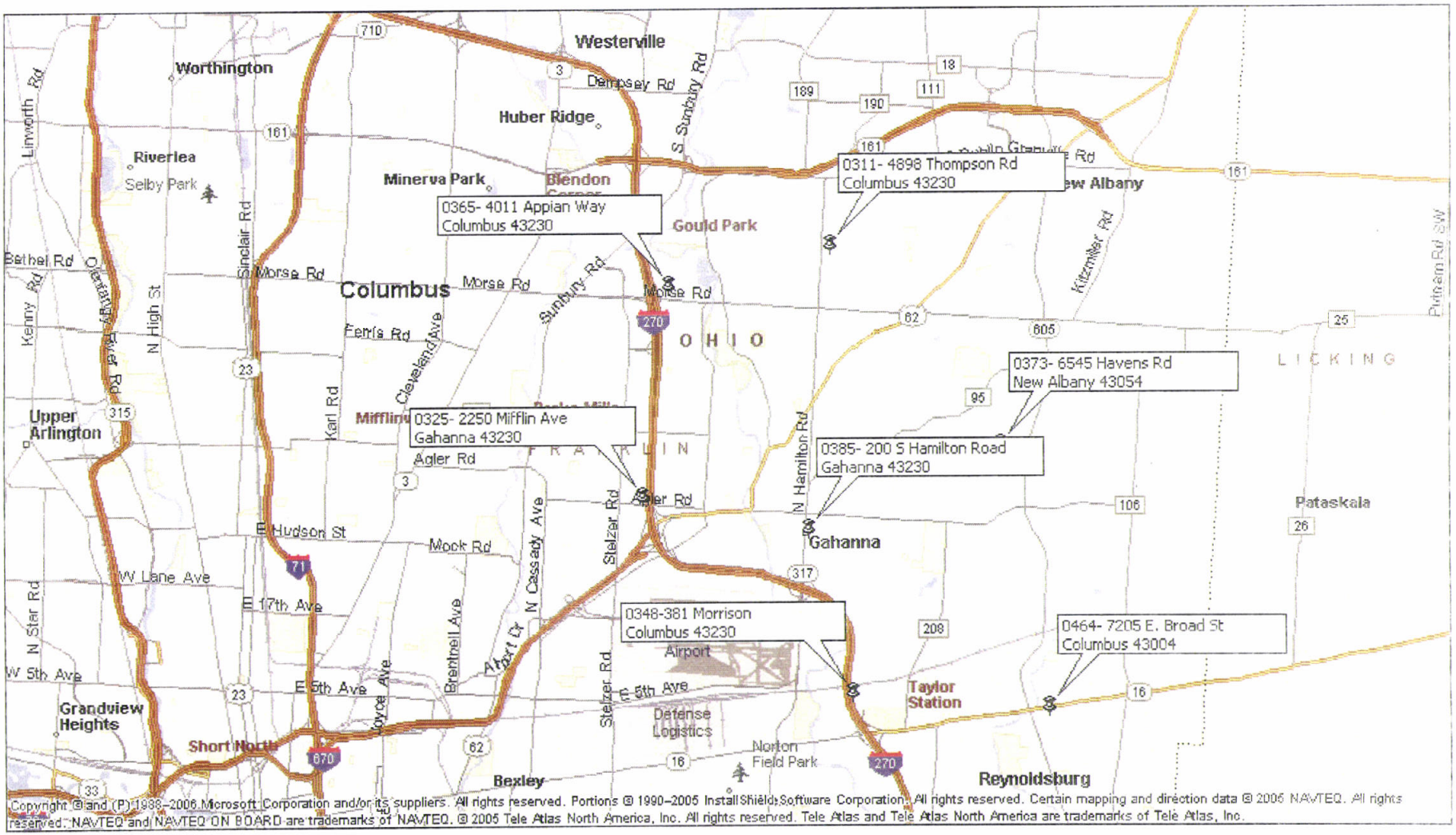
Jamie S. Grimm
521 N. Stygler Rd.
Columbus, OH 43230

Danielle K. Chocano
3681 N. Stygler Rd.
Columbus, OH 43230

New Life Community Baptist Church
PO Box 30929
Columbus, OH 43230


Huber Ridge
New Albany
Minerva Park
ATC Tower #307869
ATC Tower #81752
ATC Tower #307534
Morse Rd
ATC Tower #81678
ATC Tower #307358
ATC Tower #81808
Crown Tower# 875279
Johnstown Rd
Easton Way
K2 Tower
ATC Tower #307703
ATC Tower #307881
Innis Rd
McCutcheon Rd
Crown Tower # 842742
Clark State Rd
ATC Tower #81623
Crown Tower # 822943
Crown Tower # 875377
ATC Tower #307754
ATC Tower #307563
ATC Tower #81582
Crown Tower # 875289
Verizon Tower # 253003
Crown Tower #875278
T-Mobile Tower #A6C0138A
270
ATC Tower at City Hall #81598
T-Mobile Tower #A6C0005A
670
Crown Tower #875360
ATC Tower #307343
Kennedy Fwy
154
17th Ave
Woodland Ave
Sunbird Rd
Airport
Jack Nicklaus Fwy
N Waggoner Rd
Blacklick
SBC Tower #COL-180
TowerCo #OH2097
Cell Tower
ATC Tower #81789
E Broad
St Clair Ave
Joyce Ave
N Nelson Rd
N Cassady Ave
Stelzer Rd
1.51 mi
© 2014 Google
Imagery Date: 5/17/2012

Verizon Wireless Area Network



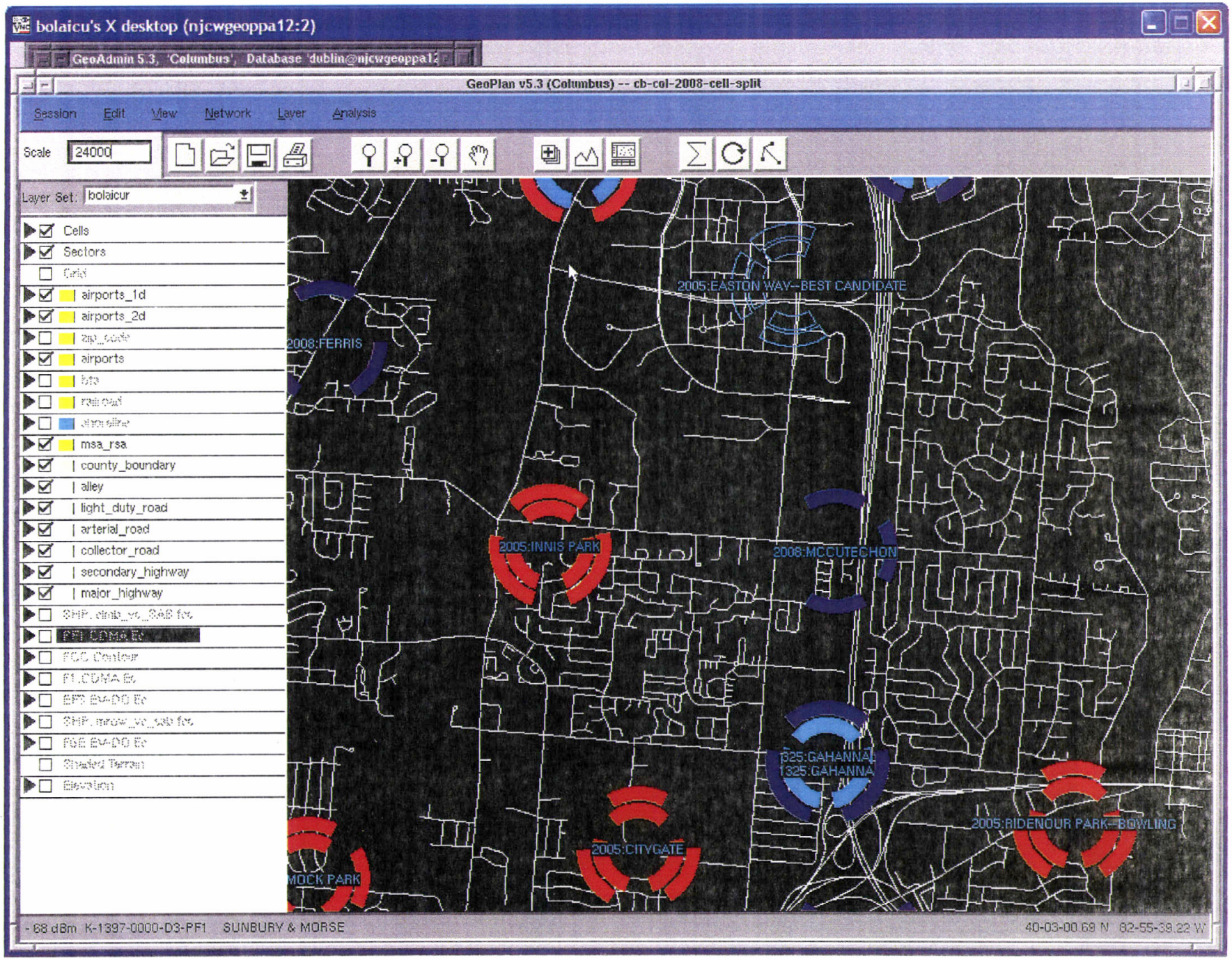
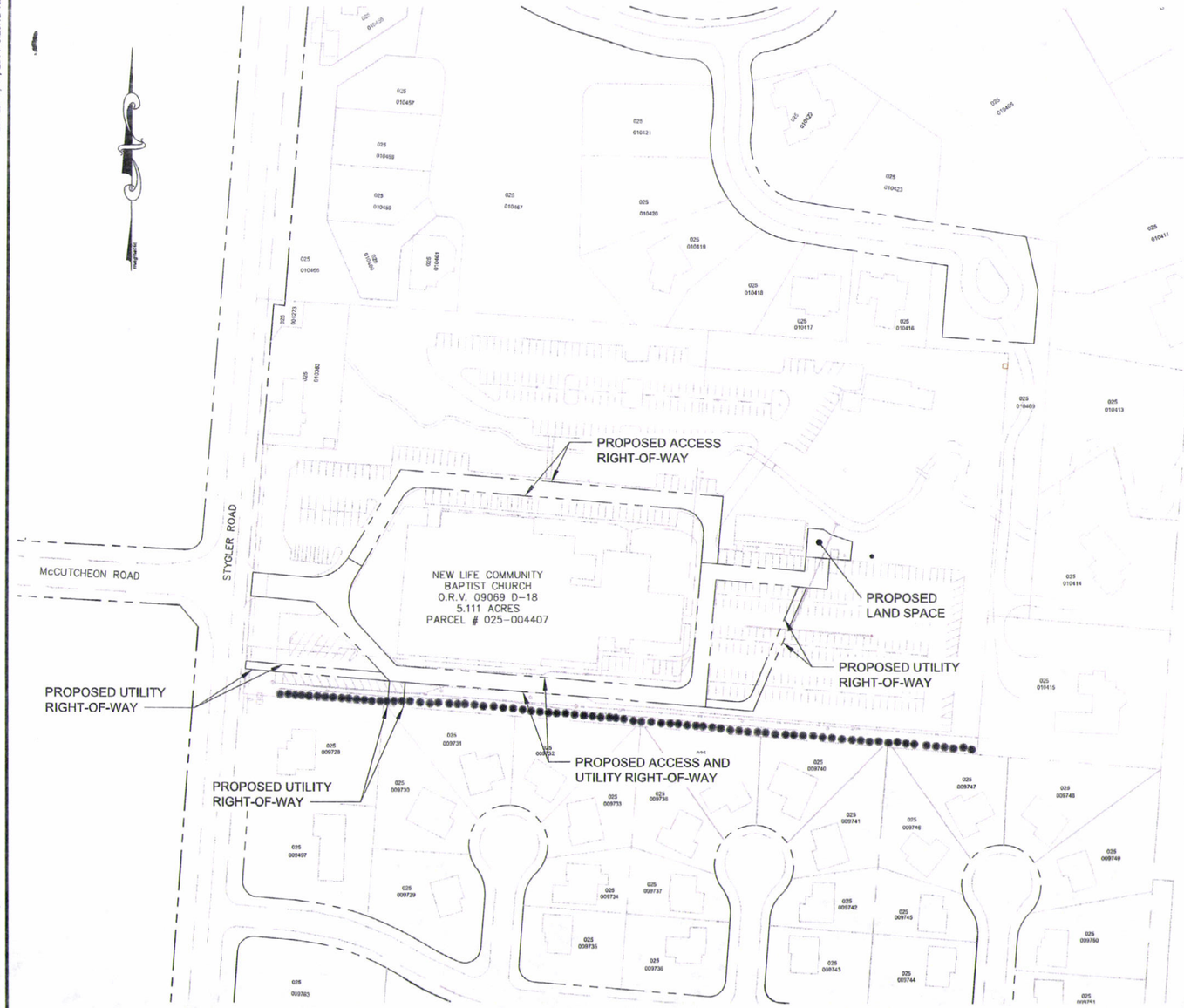

bolaicu's X desktop (njcwgeoppa12:2)
GeoAdmin 5.3, 'Columbus', Database 'dublin@njcwgeoppa12'
GeoPlan v5.3 (Columbus) -- cb-col-2008-cell-split
Session
Edit
View
Network
Layer
Analysis
Scale
24000
Layer Set:
bolaicur
Cells
Sectors
airports_1d
airports_2d
airports
msa_rsa
county_boundary
alley
light_duty_road
arterial_road
collector_road
secondary_highway
major_highway
2005:EASTON WAY--BEST CANDIDATE
2008:FERRIS
2005:INNIS PARK
2008:MCCUTCHON
1325:GAHANNA
2005:RIDENOUR PARK--BOWLING
2005:CITYGATE
- 68 dBm K-1397-0000-D3-PF1 SUNBURY & MORSE
40-03-00.69 N 82-55-39.22 W

EXHIBIT F

Site Location Information (Section 1181.06.A and B and 1181.08.C)

- Overall Site Plan, Site Data, and Location Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3
- Erosion and Sediment Control Plan N-5



OVERALL SITE PLAN

0 80' 160'

SITE DATA

PROJECT DESCRIPTION:	THE INSTALLATION OF A PROPOSED 120-FT TALL MONOPINE TOWER AND STATE APPROVED INDUSTRIALIZED SHELTER INSIDE A PROPOSED FENCED COMPOUND
LOCATION:	FRANKLIN COUNTY, CITY OF GAHANNA STATE OF OHIO
SITE ADDRESS:	3690 STYGLER ROAD GAHANNA, OHIO
SITE COORDINATES:	LATITUDE: 40° 01' 57.85" LONGITUDE: 82° 53' 12.14" ELEVATION: 824.0'± (NAVD 1988)
DRIVING DIRECTIONS:	FROM LEWIS CENTER OFFICE, HEAD SOUTH ON US-23 FOR 4.8 MILES AND THEN MERGE ONTO I-270 E VIA EXIT 23A TOWARDS I-71 FOR 8.5 MILES. TAKE THE MORSE RD EXIT (EXIT 32). TURN LEFT ONTO MORSE RD FOR 0.8 MILES. TURN RIGHT ONTO STYGLER RD FOR 1.6 MILES. THE SITE IS ON THE LEFT SIDE OF THE ROAD.

LOCATION MAP

BURGESS & NIPLE
Engineers ■ Architects ■ Planners
5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

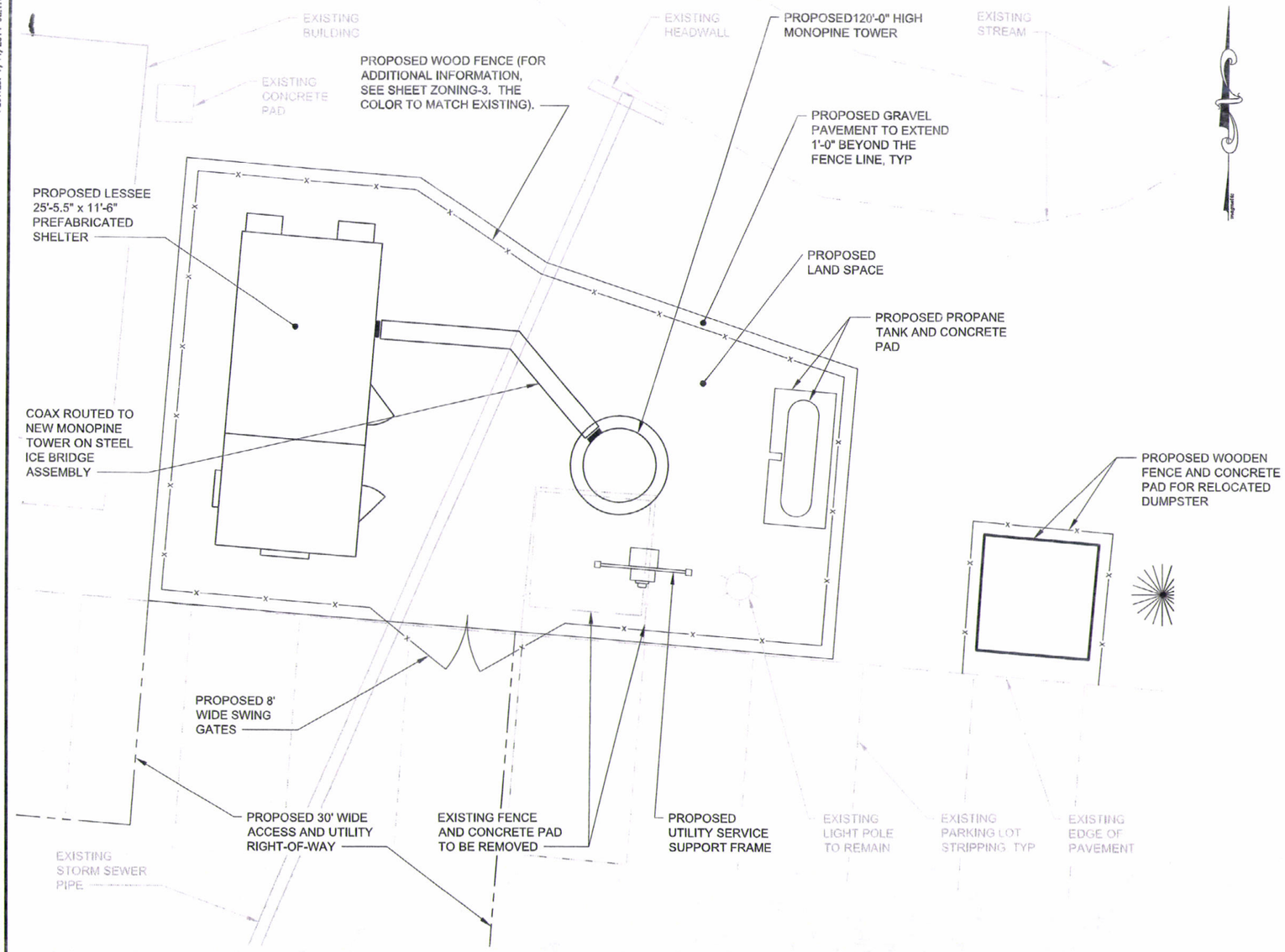
STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED PROFESSIONAL ENGINEER
SEAL 7/22/14

SHEET TITLE
OVERALL SITE PLAN, SITE DATA, AND LOCATION MAP

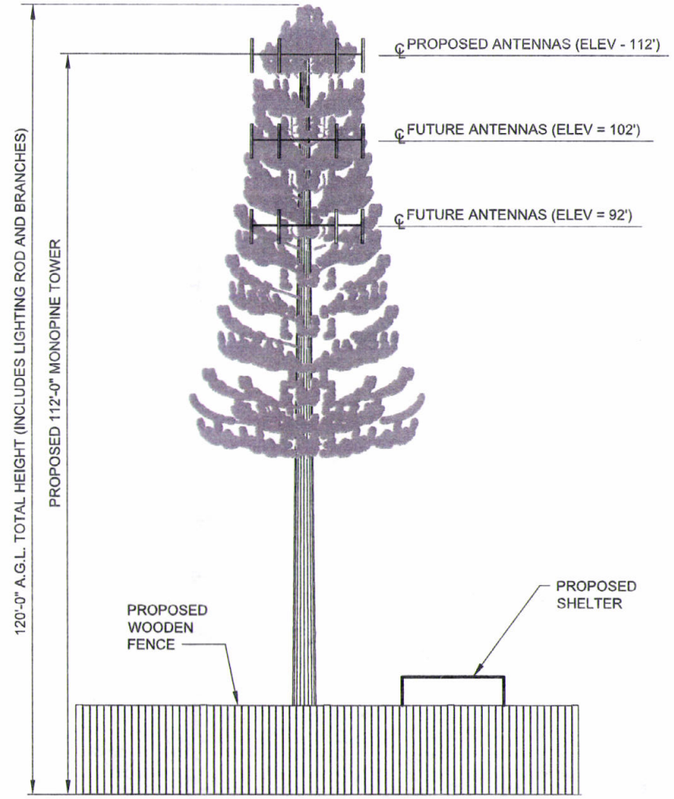
SHEET NUMBER
ZONING-1

PLOTTED: 7/11/2014 9:20:12 AM

P:\PR81201\zoning\McCutcheon Zoning Drawings.dwg 7/11/2014 9:19:14 AM Holliday, Scott



DETAILED SITE PLAN



TOWER ELEVATION

NOT TO SCALE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

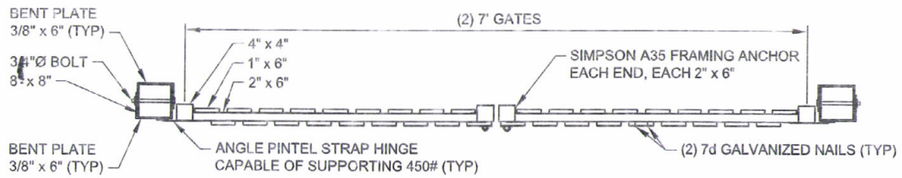
REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED PROFESSIONAL ENGINEER
7/22/14
SEAL

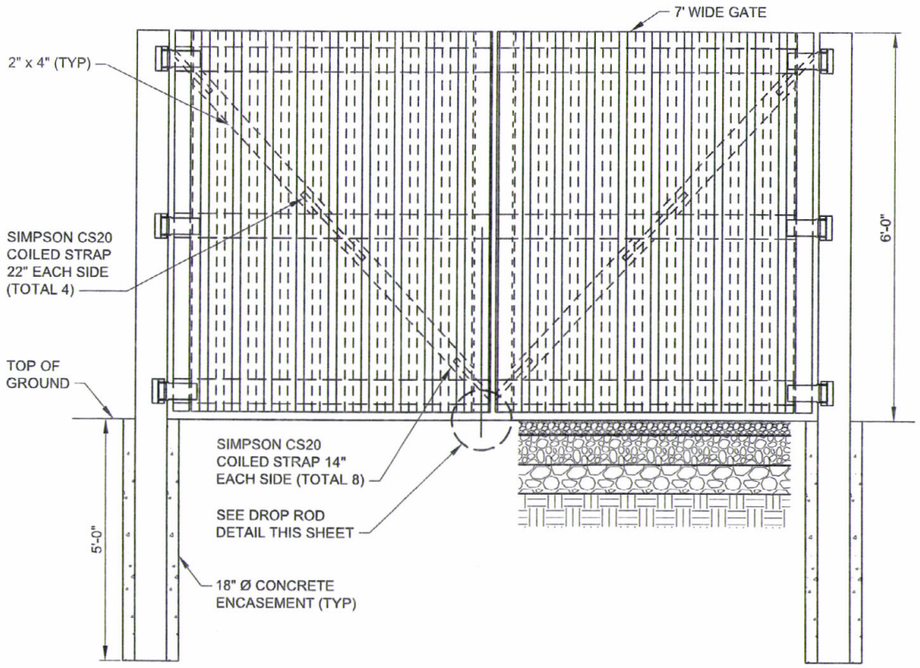
SHEET TITLE
DETAILED SITE PLAN AND TOWER ELEVATION

SHEET NUMBER
ZONING-2



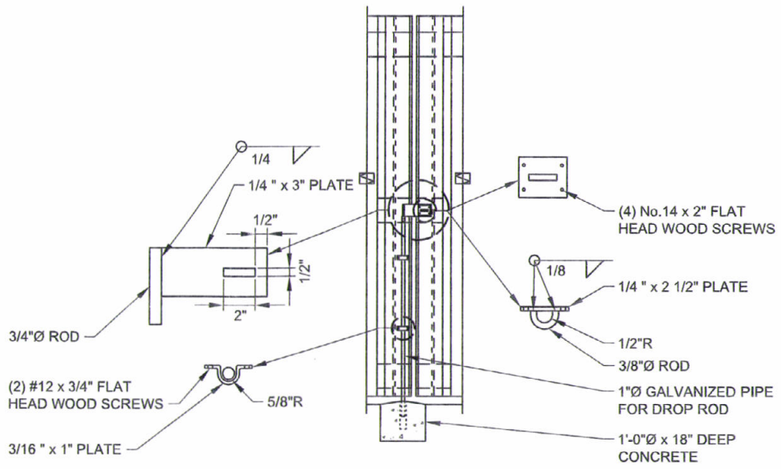
GATE DETAIL PLAN VIEW

NOT TO SCALE



GATE DETAIL ELEVATION

NOT TO SCALE



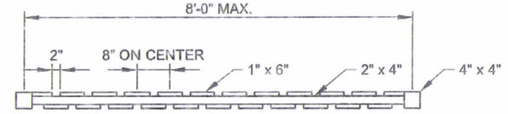
DROP ROD DETAIL

NOT TO SCALE

NOTES:

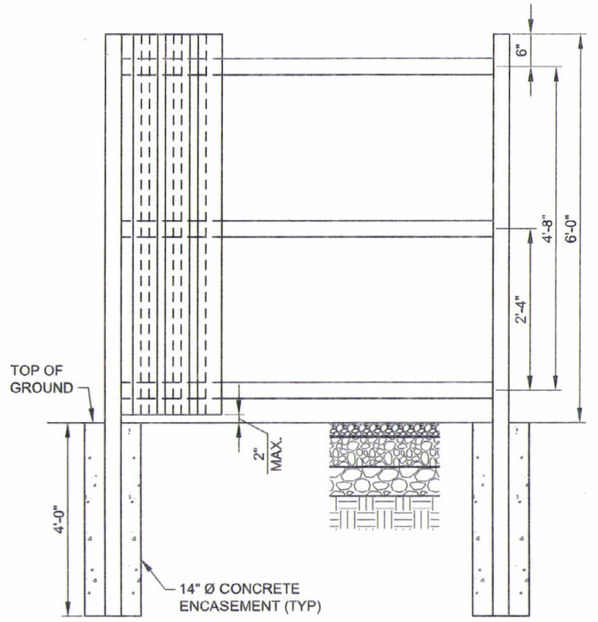
1. ALL STEEL AND HARDWARE SHALL BE GALVANIZED. ALL WOOD SHALL BE WESTERN CEDAR.

2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A LOCK. THE LOCK SHALL BE MASTER LOCK MODEL NO. 175 OR APPROVED EQUAL AND THE COMBINATION SHALL BE SET TO VERIZON'S STANDARD.



FENCE DETAIL PLAN VIEW

NOT TO SCALE



FENCE DETAIL ELEVATION

NOT TO SCALE

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
3690 STYGLER ROAD
GAHANNA, OHIO

verizonwireless
NEW PAR dba

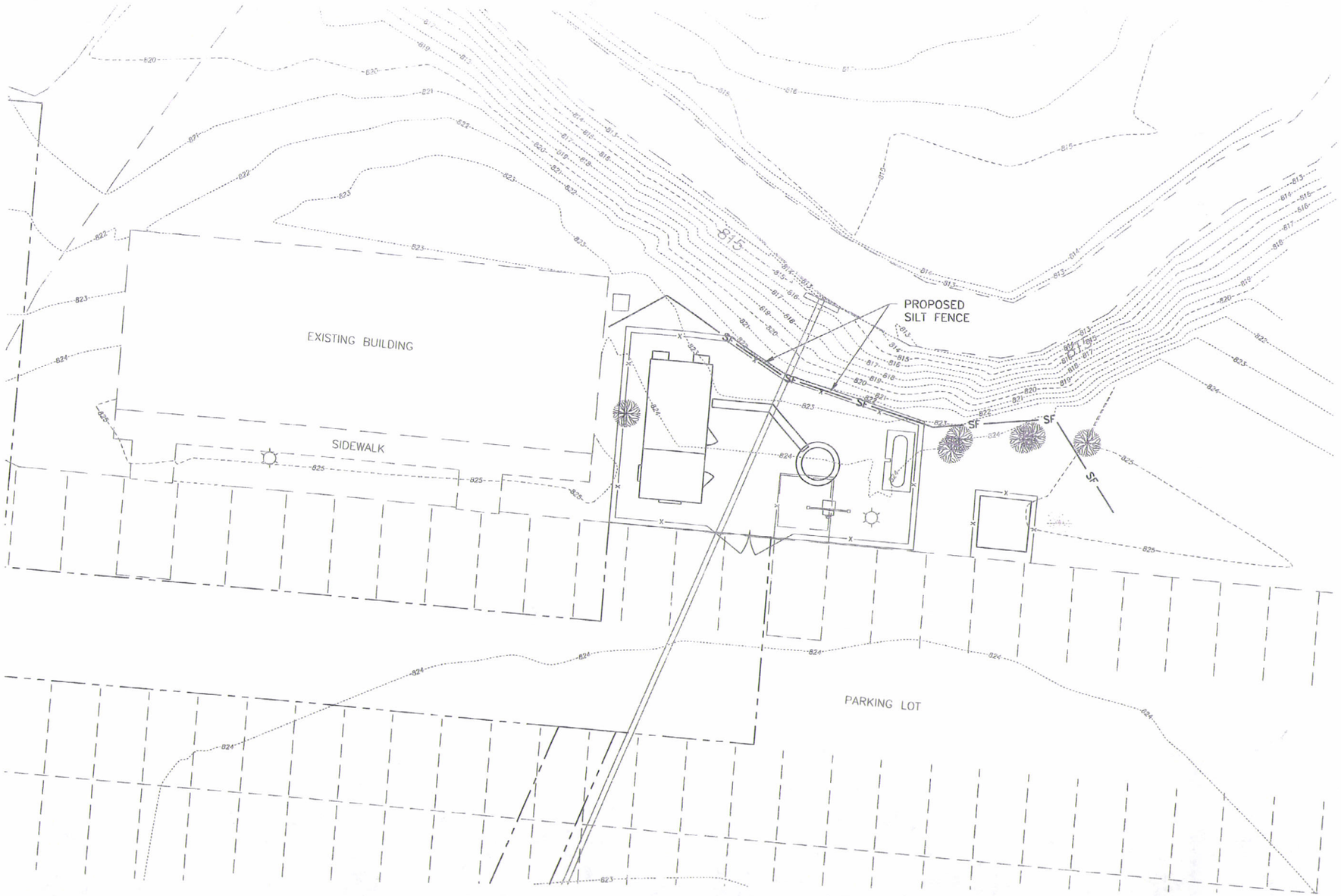
REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED
PROFESSIONAL ENGINEER
SEAL
7/22/14

SHEET TITLE
FENCE DETAILS

SHEET NUMBER
ZONING-3



EROSION AND SEDIMENT CONTROL PLAN

0 10' 20'

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247
NORTH STYGLER ROAD
COLUMBUS, OHIO 43230

verizonwireless
NEW PARadigm

REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	MWC	12/23/2013	AS SHOWN

SEAL

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN

SHEET NUMBER
N-5

EXHIBIT G

Design Information (Section 1181.06.B and 1181.08.D)

- Letter from VZW Stating Facility be Operated in Compliance with all Relevant Law
- Overall Site Plan, Site Data, and Location Map Zoning-1
- Detailed Site Plan and Tower Elevation Zoning-2
- Fence Details Zoning-3
- Structural Design Report
- Photographic Simulations

verizonwireless

February 1, 2014

Gahanna Planning Commission
c/o Bonnie Gard, Zoning Administrator
200 South Hamilton Road
Gahanna, Ohio 23230

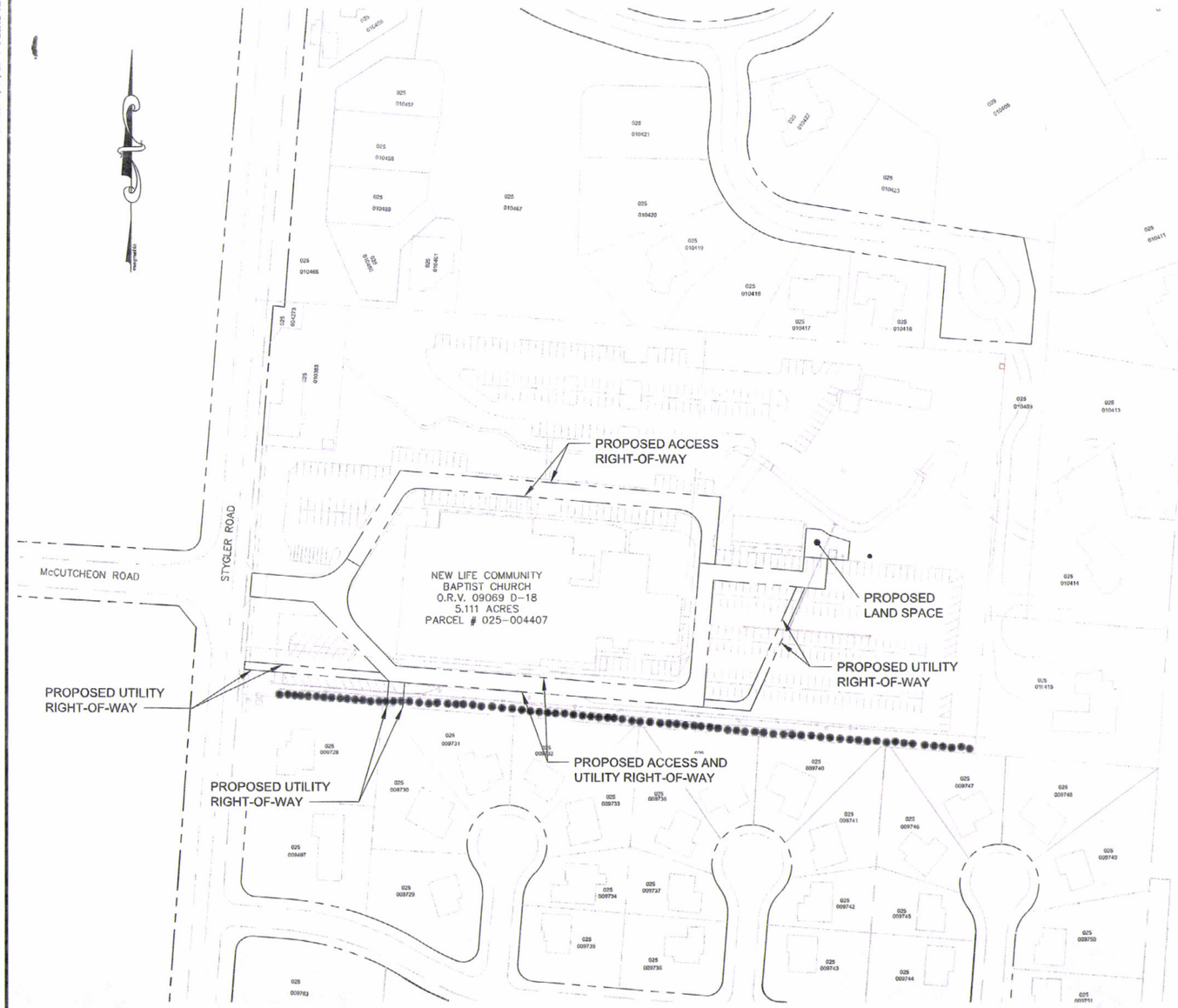
RE: Regulatory Compliance
Application to Construct a Communications Facility
Location: 3690 Stybler Road, Gahanna, Ohio
Owner: New Life Community Baptist Church
Verizon Wireless Site: McCutcheon

Dear Commission Members:

In response to application requirements, Applicant states that Verizon Wireless is authorized to do business in Ohio. The facility will be maintained in a safe manner, and in compliance with all conditions of the zoning permit. The proposed facility has been designed and will be constructed and operated in accordance with all federal, state and local regulations applicable to such facilities. Verizon Wireless will restrict its transmissions to the operating frequencies and service area licensed to Verizon Wireless by the Federal Communications Commission. Verizon Wireless will operate its facility in conformance with all applicable federal requirements for controlling public exposure to radio frequency energy.

Sincerely,

Dena M. Farmer
Manager - Network Real Estate
Verizon Wireless



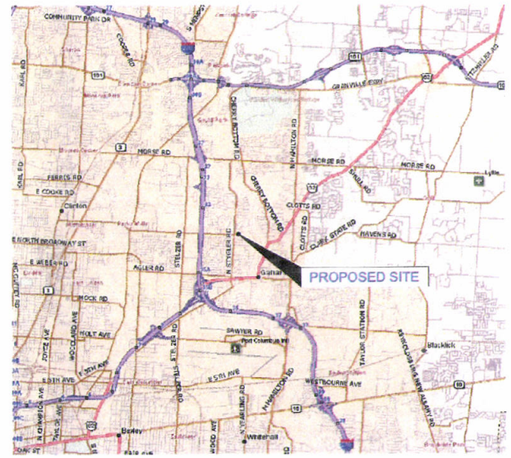
OVERALL SITE PLAN

0 80' 160'

SITE DATA

PROJECT DESCRIPTION:	THE INSTALLATION OF A PROPOSED 120-FT TALL MONOPINE TOWER AND STATE APPROVED INDUSTRIALIZED SHELTER INSIDE A PROPOSED FENCED COMPOUND
LOCATION:	FRANKLIN COUNTY, CITY OF GAHANNA STATE OF OHIO
SITE ADDRESS:	3690 STYGLER ROAD GAHANNA, OHIO
SITE COORDINATES:	LATITUDE: 40° 01' 57.85" LONGITUDE: 82° 53' 12.14" ELEVATION: 824.0'± (NAVD 1988)
DRIVING DIRECTIONS:	FROM LEWIS CENTER OFFICE, HEAD SOUTH ON US-23 FOR 4.8 MILES AND THEN MERGE ONTO I-270 E VIA EXIT 23A TOWARDS I-71 FOR 8.5 MILES. TAKE THE MORSE RD EXIT (EXIT 32). TURN LEFT ONTO MORSE RD FOR 0.8 MILES. TURN RIGHT ONTO STYGLER RD FOR 1.6 MILES. THE SITE IS ON THE LEFT SIDE OF THE ROAD.

LOCATION MAP



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SITE NAME: McCUTCHEON
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GAHANNA, OHIO

verizonwireless
NEW PAR dba

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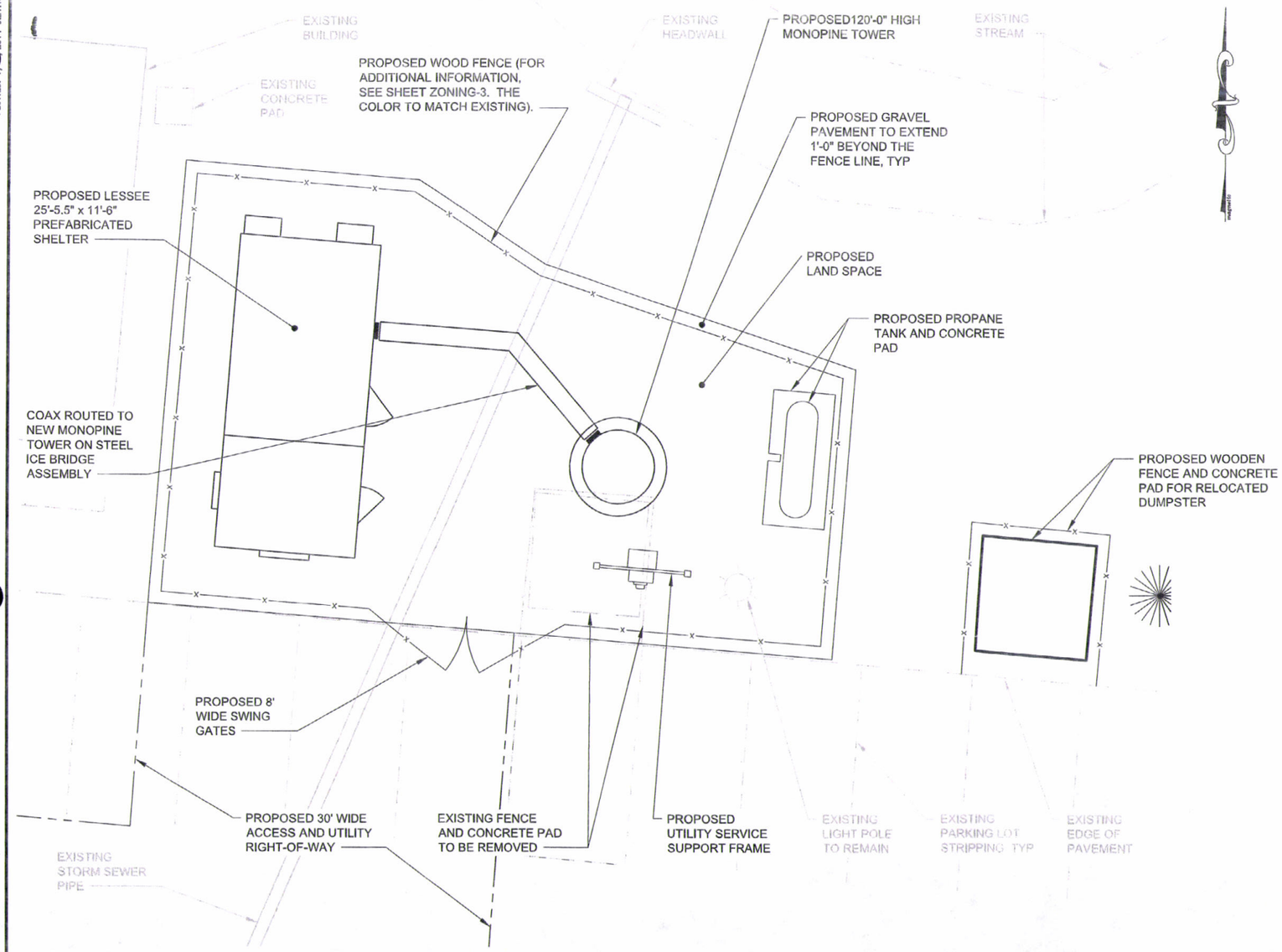
STATE OF OHIO
GARY S. HOLLIDAY
E-62425
REGISTERED
PROFESSIONAL ENGINEER
SEAL 7/22/14

SHEET TITLE
OVERALL SITE PLAN, SITE DATA, AND LOCATION MAP

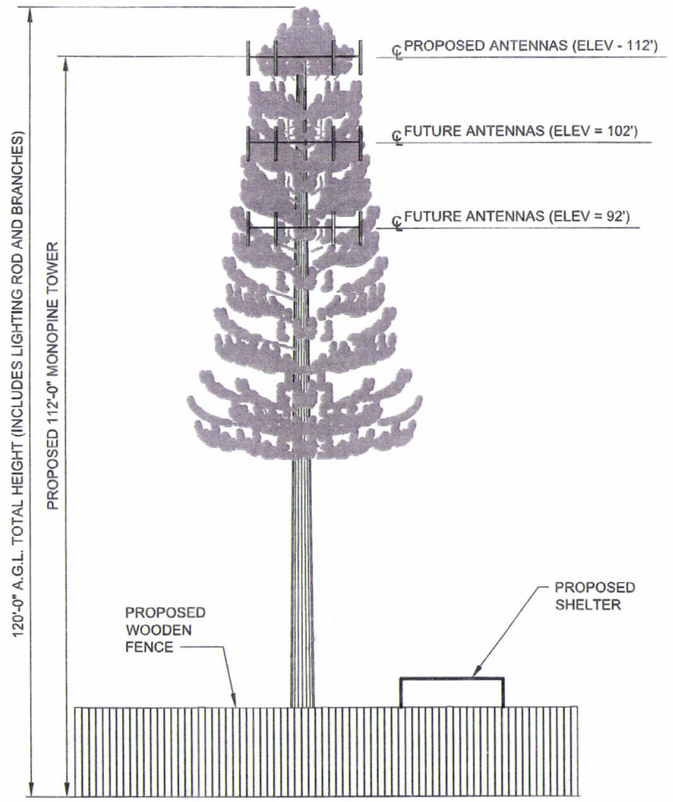
SHEET NUMBER
ZONING-1

PLOTTED: 7/11/2014 9:20:12 AM

P:\PR51201\Cadd\Mcclutcheon Zoning Drawings.dwg 7/11/2014 9:19:14 AM Holliday, Scott



DETAILED SITE PLAN



TOWER ELEVATION

NOT TO SCALE

BURGESS & NIPLE
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STATE OF OHIO
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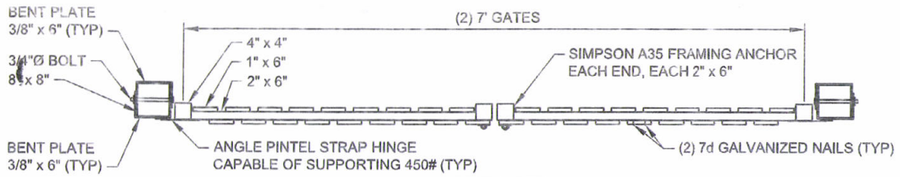
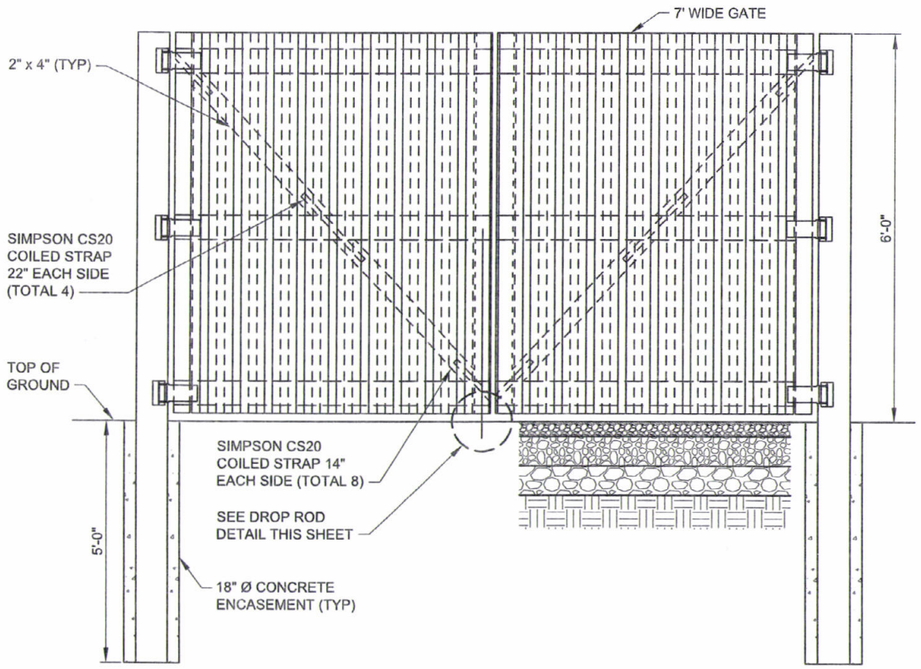
E-62425
REGISTERED PROFESSIONAL ENGINEER
7/22/14
SEAL

SHEET TITLE
DETAILED SITE PLAN AND TOWER ELEVATION

SHEET NUMBER
ZONING-2



GATE DETAIL
PLAN VIEW
NOT TO SCALE



GATE DETAIL ELEVATION
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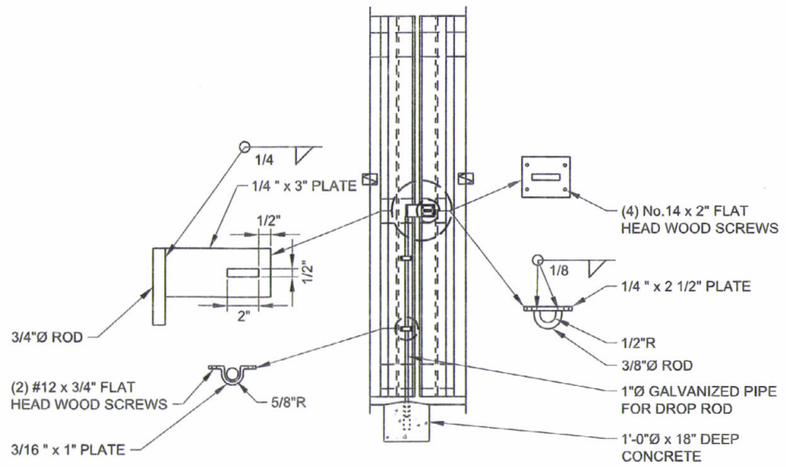

DROP ROD DETAIL
NOT TO SCALE

NOTES:

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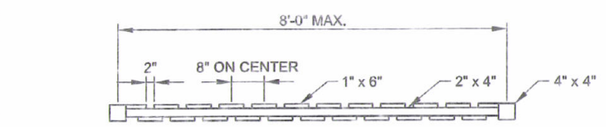
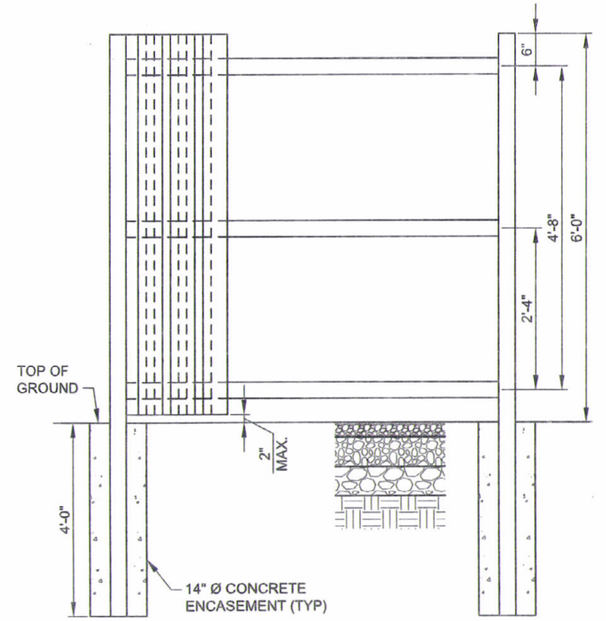
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL A LOCK. THE LOCK SHALL BE MASTER LOCK MODEL NO. 175 OR APPROVED EQUAL AND THE COMBINATION SHALL BE SET TO VERIZON'S STANDARD.



FENCE DETAIL
PLAN VIEW
NOT TO SCALE



FENCE DETAIL ELEVATION
NOT TO SCALE

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verizonwireless
NEW PAR dba

REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	GSH	07/11/2014	AS SHOWN

STATE OF OHIO
GARY
S.
HOLLIDAY
E-62425
REGISTERED
PROFESSIONAL ENGINEER
SEAL
7/22/14

SHEET TITLE
FENCE DETAILS

SHEET NUMBER
ZONING-3

Sabre Industries™
Towers and Poles

Structural Design Report

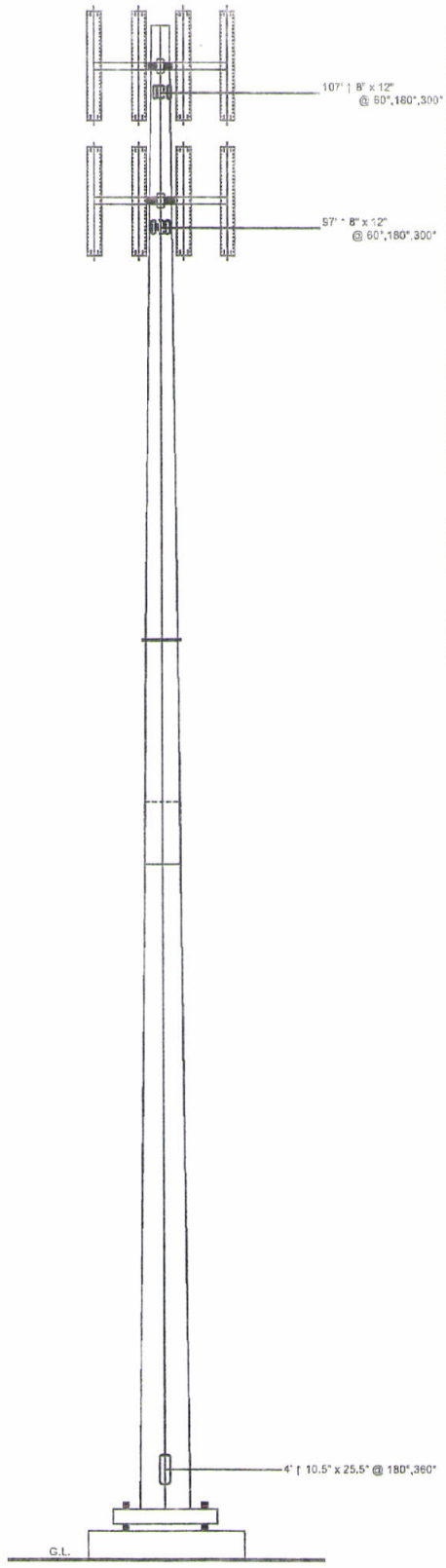
112' Monopine
Site: McCutcheon, OH
Site Number: CLMB247

Prepared for: VERIZON WIRELESS
by: Sabre Towers & Poles ™

Job Number: 110191

September 4, 2014

Section	1	2	3
Length (ft)	45' - 9"	18' - 0"	53' - 3"
Number Of Sides	18		
Thickness (in)	1/4"	5/16"	3/8"
Lap Splice (ft)		4' - 9"	
Top Diameter (in)	16"	28.93"	31.67"
Bottom Diameter (in)	28.81"	33.62"	46.58"
Taper (in/ft)		0.28	
Grade		A572-65	
Weight (lbs)	3511	2307	10271



Designed Appurtenance Loading

Elev	Description	Tx-Line
109	3T-Arm - 10' Face - 3' Standoff	
109	(2) RCMDC-3315-PF-48s	(2) 3/8"
109	(6) X7CAP-44045s	(6) 1 5/8"
109	(6) X7CAP-865s	(7) 1 5/8"
109	(12) 25" x 15" x 9" RRHs	
99	3T-Arm - 10' Face - 3' Standoff	
99	(2) RCMDC-3315-PF-48s	(2) 3/8"
99	(6) X7CAP-44045s	(6) 1 5/8"
99	(6) X7CAP-865s	(7) 1 5/8"
99	(12) 25" x 15" x 9" RRHs	

Load Case Reactions

Description	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
3s Gusted Wind	32.4	42.7	3583	8.9	8.45
3s Gusted Wind 0.9 Dead	24.4	42.6	3549	8.7	8.31
3s Gusted Wind&Ice	38.8	6.5	524	1.3	1.21
Service Loads	26.6	10.6	888	2.2	2.09

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	58.75"	2.5"	52.75"	14	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	1979	A615-75	Galv-18"

Notes

1) Antenna Feed Lines Run Inside Pole
2) All dimensions are above ground level, unless otherwise specified.
3) Weights shown are estimates. Final weights may vary.
4) The Monopole was designed for a basic wind speed of 90 mph with 0" of radial ice, and 40 mph with 3/4" of radial ice, in accordance with ANSI/TIA-222-G-2 (2009), Structure Class II, Exposure Category C, Topographic Category 1.
5) This structure has been designed to support pine tree branches starting at the 56' elevation to an overall height of 117' and full cladding.

Sabre Industries
Towers and Poles

Sabre Communications Corporation
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6590
Fax: (712) 279-0514

Job:	110191
Customer:	VERIZON WIRELESS
Site Name:	McCutcheon, OH CLMB247
Description:	112' Monopine
Date:	9/4/2014 By: TTW

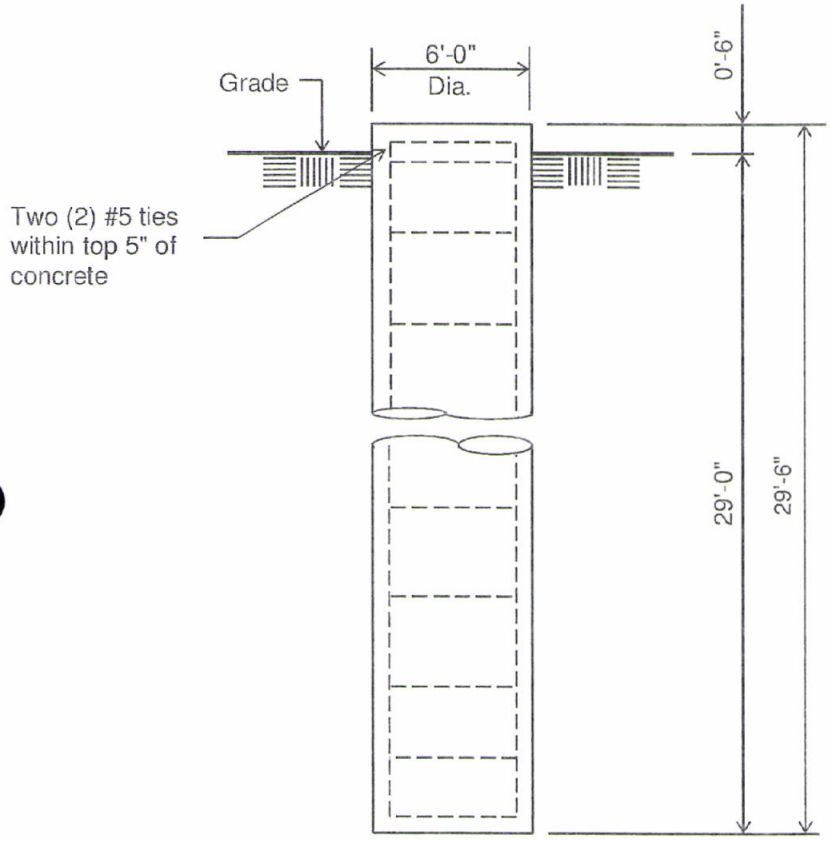
Sabre Industries™
Towers and Poles

No.: 110191

Date: 9/4/14
By: TTW

Customer: VERIZON WIRELESS
Site: McCutcheon, OH CLMB247

112' Monopole at
90 mph Wind with no ice and 40 mph Wind with 0.75 in. Ice per ANSI/TIA-222-G.
Antenna Loading per Page 1



ELEVATION VIEW
(30.89 Cu. Yds. each)
(1 REQUIRED; NOT TO SCALE)

Notes:

1). Concrete shall have a minimum 28-day compressive strength of 4000 PSI, in accordance with ACI 318-05.

2). Rebars to conform to ASTM specification A615 Grade 60.

3). All rebar to have a minimum of 3" concrete cover.

4). All exposed concrete corners to be chamfered 3/4".

5). The foundation design is based on the geotechnical report by CTL Engineering, Project No. 13050218COL, dated January 17, 2014.

6). See the geotechnical report for drilled pier installation requirements, if specified.

7). The foundation is based on the following factored loads:
Moment (kip-ft) = 3582.5
Axial (kips) = 32.36
Shear (kips) = 42.66

Rebar Schedule per Pier	
Pier	(28) #10 vertical rebar w/#5 ties, two within top 5" of pier then 10" C/C

8). This is a design drawing only. Please see final construction drawings for all installation details.

7101 Southbridge Drive - P.O. Box 658 - Sioux City, IA 51102-0658 - Phone 712.258.6690 - Fax 712.279.0814

TOP	DIAMETER	16.00 in.	[16.25 in. Point-Point]
BOTTOM	DIAMETER	46.58 in.	[47.30 in. Point-Point]
POLE	HEIGHT	111.00 ft.	18 SIDED FLAT ORIENTATION
BASE	HEIGHT	1.00 ft.	ABOVE GROUND
E-MODULUS		29000 ksi	[12000 ksi SHEAR MODULUS]

APPURTENANCES

ATTACH POINTS:

NO.	X,ft	Qty	Description	Status
1	111.00	1	User Defined Loading	Future Appurt
2	108.00	1	User Defined Loading	Initial Appurt
3	107.90	1	User Defined Loading	Initial Appurt
4	98.00	1	User Defined Loading	Future Appurt
5	97.90	1	User Defined Loading	Future Appurt
6	93.50	1	User Defined Loading	Future Appurt
7	78.50	1	User Defined Loading	Future Appurt
8	63.50	1	User Defined Loading	Future Appurt
9	57.25	1	User Defined Loading	Future Appurt

Some wind forces may have been derived from full-scale wind tunnel tests.

Pole Section	Bottom X,ft.	Thick in.	Connect Type	LAP in.	Taper in/ft	Length ft.	Weight lbs	Steel Spec	Pole Finish
1	45.75	.25000	FLANGE-X		.2800	45.75	2736	A572-65	GALVANIZE
2	62.50	.31250	SLIP-JNT	57.	.2800	16.75	1750	A572-65	GALVANIZE
3	111.00	.37500	C-WELD		.2800	53.25	8356	A572-65	GALVANIZE

SECTION PROPERTIES

X,ft	UP,ft	D,in	T,in	Area in^2	Iz in^4	IxIy in^4	SxSy in^3	w/t	d/t	F_y(ksi)		
111.00	.00	16.00	.2500	12.50	782	391	48.1	9.52	64.0	65.00	TOP	P01
108.00	3.00	16.84	.2500	13.16	916	458	53.6	10.11	67.4	65.00		P02
107.90	3.10	16.87	.2500	13.19	920	460	53.7	10.13	67.5	65.00		P03
102.90	8.10	18.27	.2500	14.30	1174	587	63.3	11.12	73.1	65.00		
98.00	13.00	19.64	.2500	15.39	1462	731	73.3	12.09	78.6	65.00		P04
97.90	13.10	19.67	.2500	15.41	1468	734	73.5	12.11	78.7	65.00		P05
93.50	17.50	20.90	.2500	16.39	1766	883	83.2	12.98	83.6	65.00		P06
88.50	22.50	22.30	.2500	17.50	2150	1075	94.9	13.97	89.2	65.00		
83.50	27.50	23.70	.2500	18.61	2586	1293	107.5	14.95	94.8	65.00		
78.50	32.50	25.10	.2500	19.72	3076	1538	120.7	15.94	100.4	65.00		P07
73.50	37.50	26.50	.2500	20.83	3624	1812	134.7	16.93	106.0	65.00		
68.50	42.50	27.90	.2500	21.94	4238	2119	149.6	17.91	111.6	65.00		
65.25	45.75	28.81	.2500	22.66	4670	2335	159.6	18.56	115.2	65.00	Flng-B01	
65.25	45.75	28.93	.3125	28.39	5876	2938	200.0	14.56	92.6	65.00	Flng-T02	
63.50	47.50	29.42	.3125	28.87	6182	3091	206.9	14.84	94.2	65.00		P08
58.50	52.50	30.82	.3125	30.26	7118	3559	227.4	15.63	98.6	65.00		
57.25	53.75	31.17	.3125	30.61	7366	3683	232.7	15.83	99.8	65.00		P09
53.25	57.75	32.29	.3125	31.72	8198	4099	250.0	16.46	103.3	65.00	Slip-B02	
48.50	62.50	33.00	.3750	38.83	10440	5220	311.6	13.75	88.0	65.00	Slip-T03	
43.50	67.50	34.40	.3750	40.50	11844	5922	339.1	14.41	91.7	65.00		
38.50	72.50	35.80	.3750	42.16	13368	6684	367.7	15.07	95.5	65.00		
33.50	77.50	37.20	.3750	43.83	15014	7507	397.5	15.73	99.2	65.00		
28.50	82.50	38.60	.3750	45.50	16794	8397	428.5	16.39	102.9	65.00		
23.50	87.50	40.00	.3750	47.16	18706	9353	460.5	17.04	106.7	65.00		
18.50	92.50	41.40	.3750	48.83	20760	10380	493.8	17.70	110.4	65.00		
13.50	97.50	42.80	.3750	50.49	22958	11479	528.3	18.36	114.1	65.00		
8.50	102.50	44.20	.3750	52.16	25306	12653	563.8	19.02	117.9	65.00		
3.50	107.50	45.60	.3750	53.83	27810	13905	600.6	19.68	121.6	65.00		
.00	111.00	46.58	.3750	54.99	29656	14828	627.0	20.14	124.2	65.00	BASE	

ASE - 1: 3s Gusted Wind — ANSI-TIA-222-G

WIND OLF	1.60	GUSTED WIND (3sec)	90.0 mph	144.8 kph	
VERTICAL OLF	1.20	EXP-CAT/STRUC_CLASS	C-II		
DESIGN ICE	.00 in	EXP-POWER COEFF.	.2105		
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft		
FORCE COEFF (Cf)	.65	PRESSURE @ 32.7 ft	34.7 psf	1659.0 Pa	
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0		
DIRECTION FAC (Kd)	.95	CREST HEIGHT	.0 ft		
TOPOGRAPHIC CAT	1				

APPURTENANCES — Sabre Areas

#	Qty	Description	Center Line Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE Type	Tx-CABLE Qty	Tx-CABLE #/Ft	WIND Psf	FORCES Tra-Y Kips	FORCES Ax-Z Kips	MOM. Lg-X Ft-K
1	1	User Defined Loading	111.0	5	.1				44.9	.00	.0	.0
	1	TOP BRANCHES	113.5	250	25.0	None	1	.00	45.1	1.13	-.3	-2.8
	1	TOP BRANCHES	108.5	250	25.0	None	1	.00	44.7	1.12	-.3	
	1	BRANCHES (9' MAX.)	103.5	500	50.0	None	1	.00	44.3	2.21	-.6	
2	1	User Defined Loading	108.0	732	110.6				44.7	4.94	-.9	-.2
	6	X7CAP-865	108.0	74	.0	1 5/8"	7	1.04	44.7	.00	-1.5	
	12	25" X 15" X 9" RRH	108.0	48	.0	None	1	.00	44.7	.00	-.7	
	6	X7CAP-44045	108.0	57	.0	7/16"	2	.27	44.7	.00	-.5	
3	1	User Defined Loading	107.9	0	.0				44.7	.00	.0	.0
	2	RCMDC-3315-PF-48	108.0	26	.0	1 5/8"	6	1.04	44.7	.00	-.9	
4	1	User Defined Loading	98.0	732	110.6				43.8	4.85	-.9	-.2
	6	X7CAP-865	98.0	74	.0	1 5/8"	7	1.04	43.8	.00	-1.4	
	12	25" X 15" X 9" RRH	98.0	48	.0	None	1	.00	43.8	.00	-.7	
	6	X7CAP-44045	98.0	57	.0	7/16"	2	.27	43.8	.00	-.5	
5	1	User Defined Loading	97.9	0	.0				43.8	.00	.0	.0
	2	RCMDC-3315-PF-48	98.0	26	.0	1 5/8"	6	1.04	43.8	.00	-.8	
6	1	User Defined Loading	93.5	5	.1				43.4	.00	.0	.0
	1	BRANCHES (9' MAX.)	98.5	500	50.0	None	1	.00	43.8	2.19	-.6	-11.0
	1	BRANCHES (9' MAX.)	93.5	500	50.0	None	1	.00	43.4	2.17	-.6	
	1	BRANCHES (9' MAX.)	88.5	500	50.0	None	1	.00	42.9	2.14	-.6	
7	1	User Defined Loading	78.5	5	.1				41.8	.00	.0	.0
	1	BRANCHES (9' MAX.)	83.5	500	50.0	None	1	.00	42.4	2.12	-.6	-10.6
	1	BRANCHES (9' MAX.)	78.5	500	50.0	None	1	.00	41.8	2.09	-.6	
	1	BRANCHES (9' MAX.)	73.5	500	50.0	None	1	.00	41.2	2.06	-.6	
8	1	User Defined Loading	63.5	5	.1				40.0	.00	.0	.0
	1	BRANCHES (9' MAX.)	68.5	500	50.0	None	1	.00	40.6	2.03	-.6	-10.2
	1	BRANCHES (9' MAX.)	63.5	500	50.0	None	1	.00	40.0	2.00	-.6	
	1	BRANCHES (10' MAX.)	58.5	500	55.6	None	1	.00	39.3	2.19	-.6	
9	1	User Defined Loading	57.3	5	.1				39.2	.00	.0	.0
	1	BRANCHES (10' MAX.)	57.3	500	55.6	None	1	.00	39.2	2.18	-.6	

RESULTS

X, ft	Kzt	WIND psf	ICE in	FORCES,kips ShearX	FORCES,kips ShearY	FORCES,kips AxiaZ	MOMENTS,ft-kips BendX	MOMENTS,ft-kips BendY	MOMENTS,ft-kips TorqZ	F'y ksi	Inter 4.8.2
111.00	1.00	29.21	.00	.0	4.60	-.6	16.6	.0	.0	82.55	.056
108.00	1.00	29.04	.00	.0	10.09	-3.5	2.3	.0	.0	82.55	.011
107.90	1.00	29.04	.00	.0	10.40	-4.5	1.3	.0	.0	82.55	.009
102.90	1.00	28.75	.00	.0	10.65	-4.8	-50.7	.0	.0	82.55	.134
98.00	1.00	28.46	.00	.0	16.07	-7.7	-103.2	.0	.0	82.55	.235
97.90	1.00	28.46	.00	.0	16.29	-8.6	-104.8	.0	.0	82.55	.239
93.50	1.00	28.18	.00	.0	23.22	-9.9	-176.7	.0	.0	82.55	.353
88.50	1.00	27.86	.00	.0	23.46	-10.4	-292.8	.0	.0	82.55	.507
83.50	1.00	27.53	.00	.0	23.69	-11.0	-410.1	.0	.0	82.55	.626
78.50	1.00	27.18	.00	.0	30.37	-12.7	-528.8	.0	.0	82.55	.718
73.50	1.00	26.81	.00	.0	30.59	-13.4	-680.7	.0	.0	81.47	.837
68.50	1.00	26.42	.00	.0	30.77	-14.0	-833.3	.0	.0	80.31	.935
65.25	1.00	26.15	.00	.0	30.84	-14.2	-933.3	.0	.0	79.55	.990
65.25	1.00	26.15	.00	.0	30.88	-14.4	-933.3	.0	.0	82.55	.761
63.50	1.00	26.01	.00	.0	37.42	-16.2	-986.7	.0	.0	82.55	.779
58.50	1.00	25.57	.00	.0	37.57	-16.8	-1174.2	.0	.0	82.55	.843
57.25	1.00	25.45	.00	.0	39.93	-17.8	-1220.8	.0	.0	82.55	.856
53.25	1.00	25.08	.00	.0	40.17	-19.2	-1380.8	.0	.0	82.02	.907
48.50	1.00	24.60	.00	.0	40.45	-20.8	-1571.7	.0	.0	82.55	.823
43.50	1.00	24.05	.00	.0	40.70	-22.1	-1773.3	.0	.0	82.55	.853
38.50	1.00	23.46	.00	.0	40.93	-23.2	-1977.5	.0	.0	82.55	.877
33.50	1.00	22.80	.00	.0	41.15	-24.4	-2181.7	-.1	.0	82.55	.895
28.50	1.00	22.06	.00	.0	41.38	-25.7	-2387.5	-.1	.0	82.11	.913
23.50	1.00	21.21	.00	.0	41.61	-26.9	-2594.2	-.1	.0	81.33	.932
18.50	1.00	20.22	.00	.0	41.84	-28.2	-2802.5	-.1	.0	80.56	.948
13.50	1.00	19.16	.00	.0	42.08	-29.5	-3011.7	-.1	.0	79.78	.961

8.50	1.00	19.16	.00	.0	42.32	-30.8	-3222.5	-.1	.0	79.01	.973
8.50	1.00	19.16	.00	.0	42.53	-32.0	-3433.3	-.1	.0	78.23	.983
.00	1.00	19.16	.00	.0	42.66	-32.4	3582.5	.1	.0	77.69	.989

DISPLACEMENTS

ELEV	DEFLECTION feet				ROTATION, degrees			
X, ft	X	Y	Z	XY-Result	X	Y	Z	XY-Result
111.00	.00	8.79	-.48	8.79< 7.92%>	-8.45	.00	.00	8.45

ASE - 2: 3s Gusted Wind 0.9 Dead — ANSI-TIA-222-G

WIND OLF	1.60		GUSTED WIND (3sec)	90.0 mph	144.8 kph
VERTICAL OLF	.90		EXP-CAT/STRUC_CLASS	C-II	
DESIGN ICE	.00	in	EXP-POWER COEFF.	.2105	
GUST FACTOR (Gh)	1.10		REFERENCE HEIGHT	900.0 ft	
FORCE COEFF (Cf)	.65		PRESSURE @ 32.7 ft	34.7 psf	1659.0 Pa
IMPORTANCE FAC (I)	1.00		BASE ABOVE Grd	1.0	
DIRECTION FAC (Kd)	.95		CREST HEIGHT	.0 ft	
TOPOGRAPHIC CAT	1				

APPURTENANCES — Sabre Areas

#	Qty	Description	Center Line Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE Type	Tx-CABLE Qty	Tx-CABLE #/Ft	WIND Psf	FORCES Tra-Y Kips	FORCES Ax-Z Kips	MOM. Lg-X Ft-K
1	1	User Defined Loading	111.0	5	.1				44.9	.00	.0	.0
	1	TOP BRANCHES	113.5	250	25.0	None	1	.00	45.1	1.13	-.2	-2.8
	1	TOP BRANCHES	108.5	250	25.0	None	1	.00	44.7	1.12	-.2	
	1	BRANCHES (9' MAX.)	103.5	500	50.0	None	1	.00	44.3	2.21	-.5	
2	1	User Defined Loading	108.0	732	110.6				44.7	4.94	-.7	-.2
	6	X7CAP-865	108.0	74	.0	1 5/8"	7	1.04	44.7	.00	-1.1	
	12	25" X 15" X 9" RRH	108.0	48	.0	None	1	.00	44.7	.00	-.5	
	6	X7CAP-44045	108.0	57	.0	7/16"	2	.27	44.7	.00	-.4	
3	1	User Defined Loading	107.9	0	.0				44.7	.00	.0	.0
	2	RCMDC-3315-PF-48	108.0	26	.0	1 5/8"	6	1.04	44.7	.00	-.7	
4	1	User Defined Loading	98.0	732	110.6				43.8	4.85	-.7	-.2
	6	X7CAP-865	98.0	74	.0	1 5/8"	7	1.04	43.8	.00	-1.0	
	12	25" X 15" X 9" RRH	98.0	48	.0	None	1	.00	43.8	.00	-.5	
	6	X7CAP-44045	98.0	57	.0	7/16"	2	.27	43.8	.00	-.4	
5	1	User Defined Loading	97.9	0	.0				43.8	.00	.0	.0
	2	RCMDC-3315-PF-48	98.0	26	.0	1 5/8"	6	1.04	43.8	.00	-.6	
6	1	User Defined Loading	93.5	5	.1				43.4	.00	.0	.0
	1	BRANCHES (9' MAX.)	98.5	500	50.0	None	1	.00	43.8	2.19	-.5	-11.0
	1	BRANCHES (9' MAX.)	93.5	500	50.0	None	1	.00	43.4	2.17	-.5	
	1	BRANCHES (9' MAX.)	88.5	500	50.0	None	1	.00	42.9	2.14	-.5	
7	1	User Defined Loading	78.5	5	.1				41.8	.00	.0	.0
	1	BRANCHES (9' MAX.)	83.5	500	50.0	None	1	.00	42.4	2.12	-.5	-10.6
	1	BRANCHES (9' MAX.)	78.5	500	50.0	None	1	.00	41.8	2.09	-.5	
	1	BRANCHES (9' MAX.)	73.5	500	50.0	None	1	.00	41.2	2.06	-.5	
8	1	User Defined Loading	63.5	5	.1				40.0	.00	.0	.0
	1	BRANCHES (9' MAX.)	68.5	500	50.0	None	1	.00	40.6	2.03	-.5	-10.2
	1	BRANCHES (9' MAX.)	63.5	500	50.0	None	1	.00	40.0	2.00	-.5	
	1	BRANCHES (10' MAX.)	58.5	500	55.6	None	1	.00	39.3	2.19	-.5	
9	1	User Defined Loading	57.3	5	.1				39.2	.00	.0	.0
	1	BRANCHES (10' MAX.)	57.3	500	55.6	None	1	.00	39.2	2.18	-.5	

RESULTS

X, ft	Kzt	WIND psf	ICE in	FORCES,kips ShearX	ShearY	AxiaZ	MOMENTS,ft-kips BendX	BendY	TorqZ	F'y ksi	Inter 4.8.2
111.00	1.00	29.21	.00	.0	4.56	-.3	16.6	.0	.0	82.55	.056
108.00	1.00	29.04	.00	.0	9.90	-2.3	2.5	.0	.0	82.55	.010
107.90	1.00	29.04	.00	.0	10.18	-3.0	1.5	.0	.0	82.55	.008
102.90	1.00	28.75	.00	.0	10.42	-3.3	-49.4	.0	.0	82.55	.130
98.00	1.00	28.46	.00	.0	15.70	-5.3	-100.8	.0	.0	82.55	.227
97.90	1.00	28.46	.00	.0	15.90	-6.0	-102.3	.0	.0	82.55	.231
93.50	1.00	28.18	.00	.0	22.77	-6.8	-172.5	.0	.0	82.55	.342
88.50	1.00	27.86	.00	.0	23.01	-7.2	-286.3	.0	.0	82.55	.494
83.50	1.00	27.53	.00	.0	23.26	-7.6	-401.3	.0	.0	82.55	.610
78.50	1.00	27.18	.00	.0	29.90	-8.8	-518.0	.0	.0	82.55	.701
73.50	1.00	26.81	.00	.0	30.15	-9.4	-667.5	.0	.0	81.47	.819
68.50	1.00	26.42	.00	.0	30.36	-9.9	-818.3	.0	.0	80.31	.916
65.25	1.00	26.15	.00	.0	30.44	-10.1	-916.7	.0	.0	79.55	.970
65.25	1.00	26.15	.00	.0	30.48	-10.2	-916.7	.0	.0	82.55	.746
63.50	1.00	26.01	.00	.0	36.99	-11.5	-969.2	.0	.0	82.55	.763
58.50	1.00	25.57	.00	.0	37.16	-12.0	-1154.2	.0	.0	82.55	.826
57.25	1.00	25.45	.00	.0	39.52	-12.8	-1200.8	.0	.0	82.55	.840
53.25	1.00	25.08	.00	.0	39.78	-13.8	-1359.2	.0	.0	82.02	.891
48.50	1.00	24.60	.00	.0	40.08	-15.1	-1548.3	.0	.0	82.55	.809
43.50	1.00	24.05	.00	.0	40.36	-16.1	-1748.3	.0	.0	82.55	.839
38.50	1.00	23.46	.00	.0	40.62	-17.1	-1950.0	.0	.0	82.55	.863
33.50	1.00	22.80	.00	.0	40.89	-18.0	-2153.3	-.1	.0	82.55	.881
28.50	1.00	22.06	.00	.0	41.15	-19.0	-2357.5	-.1	.0	82.11	.900
23.50	1.00	21.21	.00	.0	41.42	-20.0	-2563.3	-.1	.0	81.33	.919
18.50	1.00	20.22	.00	.0	41.70	-21.1	-2770.8	-.1	.0	80.56	.935
13.50	1.00	19.16	.00	.0	41.98	-22.1	-2979.2	-.1	.0	79.78	.949

8.50	1.00	19.16	.00	.0	42.27	-23.2	-3189.2	-.1	.0	79.01	.961
3.50	1.00	19.16	.00	.0	42.51	-24.1	-3400.0	-.1	.0	78.23	.972
.00	1.00	19.16	.00	.0	42.64	-24.4	3549.2	.1	.0	77.69	.978

DISPLACEMENTS

ELEV	DEFLECTION feet				ROTATION, degrees			
X, ft	X	Y	Z	XY-Result	X	Y	Z	XY-Result
111.00	.00	8.67	-.46	8.67< 7.81%>	-8.31	.00	.00	8.31

ASE - 3: 3s Gusted Wind&Ice — **ANSI-TIA-222-G**

WIND OLF	1.00	GUSTED WIND (3sec)	40.0 mph	64.4 kph	
VERTICAL OLF	1.20	EXP-CAT/STRUC_CLASS	C-II		
DESIGN ICE	.75 in	EXP-POWER COEFF.	.2105		
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft		
FORCE COEFF (Cf)	1.20	PRESSURE @ 32.7 ft	4.3 psf	204.8 Pa	
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0		
DIRECTION FAC (Kd)	.95	CREST HEIGHT	.0 ft		
TOPOGRAPHIC CAT	1				

APPURTENANCES — **Sabre Areas**

#	Qty	Description	Center Line Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE Type	Tx-CABLE Qty	Tx-CABLE #/Ft	WIND Psf	FORCES Tra-Y Kips	FORCES Ax-Z Kips	MOM. Lg-X Ft-K
1	1	User Defined Loading	111.0	5	.1				5.5	.00	.0	.0
	1	TOP BRANCHES	113.5	250	26.5	None	1	.00	5.6	.15	-.3	-.4
	1	TOP BRANCHES	108.5	250	26.5	None	1	.00	5.5	.15	-.3	
	1	BRANCHES (9' MAX.)	103.5	500	52.9	None	1	.00	5.5	.29	-.6	
2	1	User Defined Loading	108.0	805	121.7				5.5	.67	-1.0	.0
	6	X7CAP-865	108.0	141	.0	1 5/8"	7	1.04	5.5	.00	-1.5	
	12	25" X 15" X 9" RRH	108.0	73	.0	None	1	.00	5.5	.00	-.7	
	6	X7CAP-44045	108.0	128	.0	7/16"	2	.27	5.5	.00	-.5	
3	1	User Defined Loading	107.9	0	.0				5.5	.00	.0	.0
	2	RCMDC-3315-PF-48	108.0	49	.0	1 5/8"	6	1.04	5.5	.00	-.9	
4	1	User Defined Loading	98.0	805	121.7				5.4	.66	-1.0	.0
	6	X7CAP-865	98.0	141	.0	1 5/8"	7	1.04	5.4	.00	-1.4	
	12	25" X 15" X 9" RRH	98.0	73	.0	None	1	.00	5.4	.00	-.7	
	6	X7CAP-44045	98.0	128	.0	7/16"	2	.27	5.4	.00	-.5	
5	1	User Defined Loading	97.9	0	.0				5.4	.00	.0	.0
	2	RCMDC-3315-PF-48	98.0	49	.0	1 5/8"	6	1.04	5.4	.00	-.8	
6	1	User Defined Loading	93.5	5	.1				5.4	.00	.0	.0
	1	BRANCHES (9' MAX.)	98.5	500	52.9	None	1	.00	5.4	.29	-.6	-1.4
	1	BRANCHES (9' MAX.)	93.5	500	52.9	None	1	.00	5.4	.28	-.6	
	1	BRANCHES (9' MAX.)	88.5	500	52.9	None	1	.00	5.3	.28	-.6	
7	1	User Defined Loading	78.5	5	.1				5.2	.00	.0	.0
	1	BRANCHES (9' MAX.)	83.5	500	52.9	None	1	.00	5.2	.28	-.6	-1.4
	1	BRANCHES (9' MAX.)	78.5	500	52.9	None	1	.00	5.2	.27	-.6	
	1	BRANCHES (9' MAX.)	73.5	500	52.9	None	1	.00	5.1	.27	-.6	
8	1	User Defined Loading	63.5	5	.1				4.9	.00	.0	.0
	1	BRANCHES (9' MAX.)	68.5	500	52.9	None	1	.00	5.0	.27	-.6	-1.3
	1	BRANCHES (9' MAX.)	63.5	500	52.9	None	1	.00	4.9	.26	-.6	
	1	BRANCHES (10' MAX.)	58.5	500	58.8	None	1	.00	4.9	.29	-.6	
9	1	User Defined Loading	57.3	5	.1				4.8	.00	.0	.0
	1	BRANCHES (10' MAX.)	57.3	500	58.8	None	1	.00	4.8	.28	-.6	

RESULTS

X, ft	Kzt	WIND psf	ICE in	FORCES,kips ShearX	ShearY	AxiaZ	MOMENTS,ft-kips BendX	BendY	TorqZ	F'y ksi	Inter 4.8.2
111.00	1.00	6.66	1.69	.0	.62	-1.3	2.2	.0	.0	82.55	.009
108.00	1.00	6.62	1.69	.0	1.38	-5.1	.2	.0	.0	82.55	.006
107.90	1.00	6.62	1.69	.0	1.45	-6.2	.1	.0	.0	82.55	.007
102.90	1.00	6.55	1.68	.0	1.52	-6.7	-7.1	.0	.0	82.55	.025
98.00	1.00	6.49	1.67	.0	2.28	-10.5	-14.6	.0	.0	82.55	.041
97.90	1.00	6.49	1.67	.0	2.33	-11.5	-14.8	.0	.0	82.55	.043
93.50	1.00	6.42	1.67	.0	3.28	-13.8	-25.1	.0	.0	82.55	.060
88.50	1.00	6.35	1.66	.0	3.35	-14.4	-41.5	.0	.0	82.55	.082
83.50	1.00	6.27	1.65	.0	3.41	-15.1	-58.3	.0	.0	82.55	.098
78.50	1.00	6.19	1.64	.0	4.33	-17.5	-75.4	.0	.0	82.55	.113
73.50	1.00	6.11	1.63	.0	4.39	-18.2	-97.0	.0	.0	81.47	.130
68.50	1.00	6.02	1.62	.0	4.45	-18.8	-119.0	.0	.0	80.31	.144
65.25	1.00	5.96	1.61	.0	4.47	-19.1	-133.4	.0	.0	79.55	.152
65.25	1.00	5.96	1.61	.0	4.48	-19.2	-133.4	.0	.0	82.55	.117
63.50	1.00	5.93	1.60	.0	5.36	-21.6	-141.2	.0	.0	82.55	.120
58.50	1.00	5.83	1.59	.0	5.41	-22.2	-168.0	.0	.0	82.55	.129
57.25	1.00	5.80	1.59	.0	5.74	-23.5	-174.8	.0	.0	82.55	.132
53.25	1.00	5.72	1.58	.0	5.80	-24.8	-197.7	.0	.0	82.02	.139
48.50	1.00	5.61	1.56	.0	5.87	-26.4	-225.3	.0	.0	82.55	.126
43.50	1.00	5.48	1.55	.0	5.94	-27.8	-254.6	.0	.0	82.55	.131
38.50	1.00	5.35	1.53	.0	6.01	-29.0	-284.3	.0	.0	82.55	.134
33.50	1.00	5.20	1.51	.0	6.07	-30.3	-314.3	.0	.0	82.55	.137
28.50	1.00	5.03	1.48	.0	6.14	-31.6	-344.7	.0	.0	82.11	.140
23.50	1.00	4.83	1.46	.0	6.21	-32.9	-375.4	.0	.0	81.33	.143
18.50	1.00	4.61	1.42	.0	6.28	-34.3	-406.4	.0	.0	80.56	.146
13.50	1.00	4.37	1.38	.0	6.34	-35.7	-437.8	.0	.0	79.78	.148

8.50	1.00	4.37	1.32	.0	6.42	-37.2	-468.5	.0	.0	79.01	.151
3.50	1.00	4.37	1.23	.0	6.48	-38.4	-501.6	.0	.0	78.23	.152
.00	1.00	4.37	1.06	.0	6.50	-38.8	524.3	.0	.0	77.69	.154

DISPLACEMENTS

ELEV	DEFLECTION feet				ROTATION, degrees			
X, ft	X	Y	Z	XY-Result	X	Y	Z	XY-Result
111.00	.00	1.27	-.01	1.27< 1.14%>	-1.21	.00	.00	1.21

ASE - 4: Service Loads — ANSI-TIA-222-G

WIND OLF	1.00	GUSTED WIND (3sec)	60.0 mph	96.6 kph	
VERTICAL OLF	1.00	EXP-CAT/STRUC_CLASS	C-II		
DESIGN ICE	.00 in	EXP-POWER COEFF.	.2105		
GUST FACTOR (Gh)	1.10	REFERENCE HEIGHT	900.0 ft		
FORCE COEFF (Cf)	.65	PRESSURE @ 32.7 ft	8.6 psf	412.3 Pa	
IMPORTANCE FAC (I)	1.00	BASE ABOVE Grd	1.0		
DIRECTION FAC (Kd)	.85	CREST HEIGHT	.0 ft		
TOPOGRAPHIC CAT	1				

APPURTENANCES — Sabre Areas

#	Qty	Description	Center Line Elev-Ft	WEIGHT each Lbs	AREA each Ft^2	Tx-CABLE Type	Tx-CABLE Qty	Tx-CABLE #/Ft	WIND Psf	FORCES Tra-Y Kips	FORCES Ax-Z Kips	MOM. Lg-X Ft-K
1	1	User Defined Loading	111.0	5	.1				11.2	.00	.0	.0
	1	TOP BRANCHES	113.5	250	25.0	None	1	.00	11.2	.28	-.3	-.7
	1	TOP BRANCHES	108.5	250	25.0	None	1	.00	11.1	.28	-.3	
	1	BRANCHES (9' MAX.)	103.5	500	50.0	None	1	.00	11.0	.55	-.5	
2	1	User Defined Loading	108.0	732	110.6				11.1	1.23	-.7	-.1
	6	X7CAP-865	108.0	74	.0	1 5/8"	7	1.04	11.1	.00	-1.2	
	12	25" X 15" X 9" RRH	108.0	48	.0	None	1	.00	11.1	.00	-.6	
	6	X7CAP-44045	108.0	57	.0	7/16"	2	.27	11.1	.00	-.4	
3	1	User Defined Loading	107.9	0	.0				11.1	.00	.0	.0
	2	RCMDC-3315-PF-48	108.0	26	.0	1 5/8"	6	1.04	11.1	.00	-.7	
4	1	User Defined Loading	98.0	732	110.6				10.9	1.20	-.7	-.1
	6	X7CAP-865	98.0	74	.0	1 5/8"	7	1.04	10.9	.00	-1.2	
	12	25" X 15" X 9" RRH	98.0	48	.0	None	1	.00	10.9	.00	-.6	
	6	X7CAP-44045	98.0	57	.0	7/16"	2	.27	10.9	.00	-.4	
5	1	User Defined Loading	97.9	0	.0				10.9	.00	.0	.0
	2	RCMDC-3315-PF-48	98.0	26	.0	1 5/8"	6	1.04	10.9	.00	-.7	
6	1	User Defined Loading	93.5	5	.1				10.8	.00	.0	.0
	1	BRANCHES (9' MAX.)	98.5	500	50.0	None	1	.00	10.9	.54	-.5	-2.7
	1	BRANCHES (9' MAX.)	93.5	500	50.0	None	1	.00	10.8	.54	-.5	
	1	BRANCHES (9' MAX.)	88.5	500	50.0	None	1	.00	10.7	.53	-.5	
7	1	User Defined Loading	78.5	5	.1				10.4	.00	.0	.0
	1	BRANCHES (9' MAX.)	83.5	500	50.0	None	1	.00	10.5	.53	-.5	-2.6
	1	BRANCHES (9' MAX.)	78.5	500	50.0	None	1	.00	10.4	.52	-.5	
	1	BRANCHES (9' MAX.)	73.5	500	50.0	None	1	.00	10.3	.51	-.5	
8	1	User Defined Loading	63.5	5	.1				9.9	.00	.0	.0
	1	BRANCHES (9' MAX.)	68.5	500	50.0	None	1	.00	10.1	.51	-.5	-2.5
	1	BRANCHES (9' MAX.)	63.5	500	50.0	None	1	.00	9.9	.50	-.5	
	1	BRANCHES (10' MAX.)	58.5	500	55.6	None	1	.00	9.8	.54	-.5	
9	1	User Defined Loading	57.3	5	.1				9.7	.00	.0	.0
	1	BRANCHES (10' MAX.)	57.3	500	55.6	None	1	.00	9.7	.54	-.5	

RESULTS

X, ft	Kzt	WIND psf	ICE in	FORCES,kips ShearX	ShearY	AxiaZ	MOMENTS,ft-kips BendX	BendY	TorqZ	F'y ksi	Inter 4.8.2
111.00	1.00	7.26	.00	.0	1.15	-1.0	4.1	.0	.0	82.55	.015
108.00	1.00	7.22	.00	.0	2.50	-4.0	.6	.0	.0	82.55	.006
107.90	1.00	7.22	.00	.0	2.58	-4.8	.3	.0	.0	82.55	.006
102.90	1.00	7.15	.00	.0	2.64	-5.1	-12.6	.0	.0	82.55	.037
98.00	1.00	7.07	.00	.0	3.97	-8.0	-25.5	.0	.0	82.55	.063
97.90	1.00	7.07	.00	.0	4.02	-8.8	-25.9	.0	.0	82.55	.065
93.50	1.00	7.00	.00	.0	5.75	-10.5	-43.7	.0	.0	82.55	.094
88.50	1.00	6.93	.00	.0	5.81	-10.8	-72.4	.0	.0	82.55	.132
83.50	1.00	6.84	.00	.0	5.86	-11.2	-101.4	.0	.0	82.55	.161
78.50	1.00	6.75	.00	.0	7.52	-13.0	-130.8	.0	.0	82.55	.184
73.50	1.00	6.66	.00	.0	7.57	-13.4	-168.4	.0	.0	81.47	.213
68.50	1.00	6.57	.00	.0	7.62	-13.7	-206.3	.0	.0	80.31	.238
65.25	1.00	6.50	.00	.0	7.64	-13.8	-231.1	.0	.0	79.55	.251
65.25	1.00	6.50	.00	.0	7.65	-13.9	-231.1	.0	.0	82.55	.193
63.50	1.00	6.46	.00	.0	9.27	-15.7	-244.3	.0	.0	82.55	.198
58.50	1.00	6.35	.00	.0	9.31	-16.0	-290.6	.0	.0	82.55	.214
57.25	1.00	6.33	.00	.0	9.89	-16.9	-302.3	.0	.0	82.55	.217
53.25	1.00	6.23	.00	.0	9.95	-17.8	-341.8	.0	.0	82.02	.230
48.50	1.00	6.11	.00	.0	10.02	-18.9	-389.1	.0	.0	82.55	.208
43.50	1.00	5.98	.00	.0	10.08	-19.8	-439.2	.0	.0	82.55	.216
38.50	1.00	5.83	.00	.0	10.14	-20.5	-489.6	.0	.0	82.55	.222
33.50	1.00	5.67	.00	.0	10.20	-21.3	-540.3	.0	.0	82.55	.226
28.50	1.00	5.48	.00	.0	10.27	-22.1	-591.3	.0	.0	82.11	.231
23.50	1.00	5.27	.00	.0	10.33	-22.9	-642.7	.0	.0	81.33	.235
18.50	1.00	5.02	.00	.0	10.39	-23.8	-694.3	.0	.0	80.56	.239
13.50	1.00	4.76	.00	.0	10.46	-24.6	-746.3	.0	.0	79.78	.243

8.50	1.00	4.76	.00	.0	10.53	-25.5	-798.5	.0	.0	79.01	.246
3.50	1.00	4.76	.00	.0	10.58	-26.3	-850.8	.0	.0	78.23	.248
.00	1.00	4.76	.00	.0	10.61	-26.6	888.3	.0	.0	77.69	.250

DISPLACEMENTS

ELEV	DEFLECTION feet				ROTATION, degrees				MicroW
X, ft	X	Y	Z	XY-Result	X	Y	Z	XY-Result	AlloW
111.00	.00	2.18	-.03	2.18< 1.97%>	-2.09	.00	.00	2.09	

FLANGE DESIGN at: 65.3 ft from BASE of POLE [45.8 ft from TOP]
SHAPE: 18 SIDED POLYGON
POLE ORIENTATION: FLAT-FLAT
LOAD ORIENTATION: ANY LOAD DIRECTION

DESIGN CASE = 1 3s Gusted Wind

DIAMETER #1=	28.81 in.	AXIAL FORCE=	-14.2 kips
PLATE #1=	.2500 in.	SHEAR X =	.0 kips
DIAMETER #2=	28.94 in.	SHEAR Y =	30.8 kips
PLATE #2=	.3125 in.	X-AXIS MOM =	-933.3 ft-kips
		Y-AXIS MOM =	.0 ft-kips
		Z-AXIS MOM =	.0 ft-kips

FLANGE BOLTS: EXTERNAL BC MODEL

AXIAL Stress	=	59.18 ksi	
SHEAR Stress	=	1.09 ksi	
BOLT AREA (Tension)	=	1.41 in^2	
MOMENT of INERTIA	=	3108 in^4	
CSR	=	1.000	
ALLOW TENSION Stress	=	60.75 ksi	[.75 x Fy]
SHEAR Stress	=	42.52 ksi	[.75 x Fy x 0.70]

A-325 ::: BOLT DESIGN USED			
16 Bolts	1.50	in.	BOLT DIAMETER
	81.00	ksi	Fy YIELD STRENGTH
	105.00	ksi	Fu ULTIMATE STRENGTH
	33.200	in.	BOLT CIRCLE SHIP
	6.48	in.	CHORD LENGTH WEIGHT
	22.50°		ARC ANGLE 64 lbs

PLATE DESIGN

			Upper-PL	Lower-PL		
THICKNESS	Reqd	=	1.97	1.93	in.	
BENDING	Stress	=	43.40	41.95	ksi	
TENSION	Stress	=	.11	.13	ksi	
COMBINED	Ratio	=	.97	.93		
ALLOWABLE	Stress (Fa)	=	45.00	45.00	ksi	[Fy x .90]

:: FLANGE PLATE DESIGN USED		
2.000	in.	THICK
38.375	in.	OUTSIDE ROUND
50.00	ksi	YIELD STRENGTH
23.000	in.	CENTER HOLE
802	lbs.	SHIP WEIGHT (both)

LOAD CASE SUMMARY

	RESULTANTS				BOLT STRESS		Flange-UP Stress		Flange-DW Stress	
	Axial	Shear	Moment	Torq-Z	Actual	Allow	Actual	Allow	Actual	Allow
Case	kips	kips	ft-kips	ft-kips	CSR	ksi	ksi	ksi	ksi	ksi
1	-14.22	30.84	933.3	.0	1.000	60.75	43.51	45.00	42.07	45.00
2	-10.09	30.44	916.7	.0	.985	60.75	42.74	45.00	41.32	45.00
3	-19.08	4.47	133.4	.0	.131	60.75	6.32	45.00	6.12	45.00
4	-13.80	7.64	231.1	.0	.240	60.75	10.86	45.00	10.51	45.00

SHAPE: 18 SIDED POLYGON with FLAT-FLAT ORIENTATION
BOLTS: EVENLY SPACED BOLTS 11.74 in. ON CENTER
LOCATE:

POLE DATA

DIAMETER	= 46.58 in.	BASE	AXIAL FORCE=	-32.4 kips	Vert
PLATE	= .3750 in.	ACTIONS	SHEAR X =	42.7 kips	Long
TAPER	= .2800 in/ft		SHEAR Y =	.0 kips	Tran
POLE Fy	= 65.00 ksi		X-AXIS MOM =	2532.8 ft-kips	Tran
			Y-Axis MOM =	2532.8 ft-kips	Long
			Z-Axis MOM =	.0 ft-kips	Vert

DESIGN CASE = 1 3s Gusted Wind

Design: ANY Orientation Reactions at 45.00 deg to X-AXIS

BOLT LOADS

	AXIAL - COMPRESSION	= 235.16 kips		
	AXIAL - TENSION	= 230.54 kips		
	SHEAR	= 3.05 kips		
AXIAL	STRESS	= 72.36 ksi		
SHEAR	STRESS	= .99 ksi		
YIELD	STRENGTH Fy	= 75.00 ksi		
ULT.	STRENGTH Fu	= 100.00 ksi	Interaction	
ALLOW	STRESS Fa [.80 x 1.00]	= 80.00 ksi	.929	TIA-G
	SHEAR Fv [.80 x .40]	= 32.00 ksi		
	TENSION AREA REQUIRED	= 2.94 in^2		
	TENSION AREA FURNISHED	= 3.25 in^2		
	ROOT AREA FURNISHED	= 3.07 in^2		

A615 ::: ANCHOR BOLT DESIGN USED

14	Bolts on a	52.750 in.	Bolt Circle	SHIP
2.250 in.	Diameter	67.13 in.	Embedded	(lbs)
12.00 in.	Exposed	84.00 in.	Total Length	1905

CONCRETE - Fc= 4000 psi

ANCHOR BOLTS are STRAIGHT w\ UPLIFT NUT

BASE PLATE

[Bend Model: 1/4 Circ]
YIELD STRENGTH = 50.0 ksi
BEND LINE WIDTH = 31.7 in.
PLATE MOMENT = 1978.6 in-k
THICKNESS REQD = 2.356 in.
BENDING STRESS = 40.0 ksi
ALLOWABLE STRESS = 45.0 ksi
[Fy x .90 x 1.00]

BASE PLATE USED

2.50	in.	THICK	SHIP
58.75	in.	ROUND	(lbs)
34.25	in.	CENTER HOLE	1207

LOAD CASE SUMMARY

	FORCES-(kips)			MOMENTS-(ft-k)			ABolt-Str	Plate-Str		
							Allow	Actual	Allow	Design
LC	Axial	ShearX	ShearY	X-axis	Y-axis	TorQ	CSR	ksi	ksi	ksi	Code
1	32.4	42.7	.0	3582	0	0	.929	75.00	39.97	45.00	TIA-G
2	24.4	42.6	.0	3549	0	0	.919	75.00	39.50	45.00	TIA-G
3	38.8	6.5	.0	524	0	0	.146	75.00	6.29	45.00	TIA-G
4	26.6	10.6	.0	888	0	0	.236	75.00	10.15	45.00	TIA-G

LPile Plus for Windows, Version 2013-07.005

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method

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Serial Number of Security Device: 160778402
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Files Used for Analysis

Path to file locations: C:\Progra~2\Ensoft\Lpile2013\
Name of input data file: 110191.lp7d
Name of output report file: 110191.lp7o
Name of plot output file: 110191.lp7p
Name of runtime messeage file: 110191.lp7r

Date and Time of Analysis

Date: September 4, 2014 Time: 10:09:11

Problem Title

112' Monopole VERIZON WIRELESS McCutcheon, OH (110191) 9-4-14 TTW

Job Number:

Client:

Engineer:

Description:

Program Options and Settings

Engineering Units of Input Data and Computations:
- Engineering units are US Customary Units (pounds, feet, inches)

Analysis Control Options:
- Maximum number of iterations allowed = 300
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in
- Number of pile increments = 100

Loading Type and Number of Cycles of Loading:
- Static loading specified

Computational Options:
- Use unfactored loads in computations (conventional analysis)
- Compute pile response under loading and nonlinear bending properties of pile (only if nonlinear pile properties are input)
- Use of p-y modification factors for p-y curves not selected
- Loading by lateral soil movements acting on pile not selected
- Input of shear resistance at the pile tip not selected
- Computation of pile-head foundation stiffness matrix not selected
- Push-over analysis of pile not selected
- Buckling analysis of pile not selected

Output Options:
- No p-y curves to be computed and reported for user-specified depths
- Values of pile-head deflection, bending moment, shear force, and soil reaction are printed for full length of pile.
- Printing Increment (nodal spacing of output points) = 3

Pile Structural Properties and Geometry

Total number of pile sections = 1

Total length of pile = 29.50 ft

Depth of ground surface below top of pile = 0.50 ft

Pile diameter values used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile.

Point	Depth X ft	Pile Diameter in
1	0.00000	72.0000000
2	29.500000	72.0000000

Input Structural Properties:

Pile Section No. 1:

Section Type	=	Drilled Shaft (Bored Pile)
Section Length	=	29.50000 ft
Section Diameter	=	72.00000 in

Ground Slope and Pile Batter Angles

Ground Slope Angle	=	0.000 degrees
	=	0.000 radians
Pile Batter Angle	=	0.000 degrees
	=	0.000 radians

Soil and Rock Layering Information

The soil profile is modelled using 4 layers

Layer 1 is sand, p-y criteria by Reese et al., 1974

Distance from top of pile to top of layer	=	0.50000 ft
Distance from top of pile to bottom of layer	=	3.50000 ft
Effective unit weight at top of layer	=	119.92320 pcf
Effective unit weight at bottom of layer	=	119.92320 pcf
Friction angle at top of layer	=	20.00000 deg.
Friction angle at bottom of layer	=	20.00000 deg.
Subgrade k at top of layer	=	10.00000 pci
Subgrade k at bottom of layer	=	10.00000 pci

Layer 2 is stiff clay without free water

Distance from top of pile to top of layer	=	3.50000 ft
Distance from top of pile to bottom of layer	=	13.50000 ft
Effective unit weight at top of layer	=	124.93440 pcf
Effective unit weight at bottom of layer	=	124.93440 pcf
Undrained cohesion at top of layer	=	2999.52000 psf
Undrained cohesion at bottom of layer	=	2999.52000 psf
Epsilon-50 at top of layer	=	0.00500
Epsilon-50 at bottom of layer	=	0.00500

Layer 3 is stiff clay without free water

Distance from top of pile to top of layer	=	13.50000 ft
Distance from top of pile to bottom of layer	=	15.50000 ft
Effective unit weight at top of layer	=	63.07200 pcf
Effective unit weight at bottom of layer	=	63.07200 pcf
Undrained cohesion at top of layer	=	2999.52000 psf
Undrained cohesion at bottom of layer	=	2999.52000 psf
Epsilon-50 at top of layer	=	0.00500
Epsilon-50 at bottom of layer	=	0.00500

Layer 4 is stiff clay without free water

Distance from top of pile to top of layer	=	15.50000 ft
Distance from top of pile to bottom of layer	=	40.50000 ft
Effective unit weight at top of layer	=	68.08320 pcf
Effective unit weight at bottom of layer	=	68.08320 pcf
Undrained cohesion at top of layer	=	3875.04000 psf
Undrained cohesion at bottom of layer	=	3875.04000 psf
Epsilon-50 at top of layer	=	0.00500
Epsilon-50 at bottom of layer	=	0.00500

(Depth of lowest soil layer extends 11.00 ft below pile tip)

Summary of Soil Properties

Layer Num.	Soil Type (p-y Curve Criteria)	Layer Depth ft	Effective Unit Wt. pcf	Undrained Cohesion psf	Angle of Friction deg.	Strain Factor Epsilon 50	kpy pci
1	Sand (Reese, et al.)	0.500	119.923	--	20.000	--	10.000
		3.500	119.923	--	20.000	--	10.000
2	Stiff Clay w/o Free Water	3.500	124.934	2999.520	--	0.00500	--
		13.500	124.934	2999.520	--	0.00500	--
3	Stiff Clay w/o Free Water	13.500	63.072	2999.520	--	0.00500	--
		15.500	63.072	2999.520	--	0.00500	--
4	Stiff Clay w/o Free Water	15.500	68.083	3875.040	--	0.00500	--
		40.500	68.083	3875.040	--	0.00500	--

Loading Type

Static loading criteria were used when computing p-y curves for all analyses.

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 1

Load No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length
1	1	V = 56880. lbs	M = 57320000. in-lbs	43147.	No

V = perpendicular shear force applied to pile head
M = bending moment applied to pile head
y = lateral deflection relative to pile axis
S = pile slope relative to original pile batter angle
R = rotational stiffness applie to pile head
Axial thrust is assumed to be acting axially for all pile batter angles.

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft (Bored Pile):

Length of Section	=	29.50000 ft
Shaft Diameter	=	72.00000 in
Concrete Cover Thickness	=	3.62419 in
Number of Reinforcing Bars	=	28 bars
Yield Stress of Reinforcing Bars	=	60000. psi
Modulus of Elasticity of Reinforcing Bars	=	29000000. psi
Gross Area of Shaft	=	4071.50408 sq. in.
Total Area of Reinforcing Steel	=	35.56000 sq. in.
Area Ratio of Steel Reinforcement	=	0.87 percent
Edge-to-Edge Bar Spacing	=	5.83769 in
Maximum Concrete Aggregate Size	=	0.75000 in
Ratio of Bar Spacing to Aggregate Size	=	7.78
Offset of Center of Rebar Cage from Center of Pile	=	0.0000 in

Axial Structural Capacities:

Nom. Axial Structural Capacity = 0.85 Fc Ac + Fy As	=	15855.810 kips
Tensile Load for Cracking of Concrete	=	-1797.562 kips
Nominal Axial Tensile Capacity	=	-2133.600 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.27000	1.27000	31.74081	0.00000
2	1.27000	1.27000	30.94500	7.06299
3	1.27000	1.27000	28.59748	13.77182
4	1.27000	1.27000	24.81596	19.79007
5	1.27000	1.27000	19.79007	24.81596
6	1.27000	1.27000	13.77182	28.59748
7	1.27000	1.27000	7.06299	30.94500
8	1.27000	1.27000	0.00000	31.74081
9	1.27000	1.27000	-7.06299	30.94500
10	1.27000	1.27000	-13.77182	28.59748
11	1.27000	1.27000	-19.79007	24.81596
12	1.27000	1.27000	-24.81596	19.79007
13	1.27000	1.27000	-28.59748	13.77182
14	1.27000	1.27000	-30.94500	7.06299
15	1.27000	1.27000	-31.74081	0.00000
16	1.27000	1.27000	-30.94500	-7.06299
17	1.27000	1.27000	-28.59748	-13.77182
18	1.27000	1.27000	-24.81596	-19.79007
19	1.27000	1.27000	-19.79007	-24.81596
20	1.27000	1.27000	-13.77182	-28.59748
21	1.27000	1.27000	-7.06299	-30.94500
22	1.27000	1.27000	0.00000	-31.74081
23	1.27000	1.27000	7.06299	-30.94500
24	1.27000	1.27000	13.77182	-28.59748
25	1.27000	1.27000	19.79007	-24.81596
26	1.27000	1.27000	24.81596	-19.79007
27	1.27000	1.27000	28.59748	-13.77182
28	1.27000	1.27000	30.94500	-7.06299

NOTE: The positions of the above rebars were computed by LPile

Minimum spacing between any two bars not equal to zero = 5.83769 inches between Bars 10 and 11

Spacing to aggregate size ratio = 7.78358

Concrete Properties:

Compressive Strength of Concrete	=	4000.00000 psi
Modulus of Elasticity of Concrete	=	3604997. psi
Modulus of Rupture of Concrete	=	-474.34164 psi
Compression Strain at Peak Stress	=	0.00189
Tensile Strain at Fracture of Concrete	=	-0.0001154
Maximum Coarse Aggregate Size	=	0.75000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 1

Number	Axial Thrust Force kips
1	43.147

Definitions of Run Messages and Notes:

C = concrete in section has cracked in tension.
Y = stress in reinforcing steel has reached yield stress.
T = ACI 318-08 criteria for tension-controlled section met, tensile strain in reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than than 0.003. See ACI 318-08, Section 10.3.4.
Z = depth of tensile zone in concrete section is less than 10 percent of section depth.

Bending Stiffness (EI) = Computed Bending Moment / Curvature.
Position of neutral axis is measured from edge of compression side of pile.
Compressive stresses and strains are positive in sign.
Tensile stresses and strains are negative in sign.

Axial Thrust Force = 43.147 kips

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in2	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in	Max Concrete Stress ksi	Max Steel Stress ksi	Run Msg
0.000000417	2509.7338632	6023361272.	41.7242949	0.0000174	-0.0000126	0.0727632	0.4998186	
0.000000833	5007.4531780	6008943814.	38.8712526	0.0000324	-0.0000276	0.1349528	0.9306886	
0.000001250	7492.7713932	5994217115.	37.9203031	0.0000474	-0.0000426	0.1966465	1.3615610	
0.000001667	9965.6872313	5979412339.	37.4448629	0.0000624	-0.0000576	0.2578440	1.7924350	
0.000002083	12426.	5964576247.	37.1596242	0.0000774	-0.0000726	0.3185454	2.2233106	
0.000002500	14874.	5949724493.	36.9694861	0.0000924	-0.0000876	0.3787507	2.6541877	
0.000002917	17310.	5934863775.	36.8336908	0.0001074	-0.0001026	0.4384598	3.0850663	
0.000003333	17310.	5193005803.	19.5979363	0.0000653	-0.0001747	0.2673483	-5.0307328	C
0.000003750	17310.	4616005158.	19.2990577	0.0000724	-0.0001976	0.2955436	-5.6920775	C
0.000004167	17310.	4154404643.	19.0601071	0.0000794	-0.0002206	0.3236347	-6.3534037	C
0.000004583	17310.	3776731493.	18.8577698	0.0000864	-0.0002436	0.3514919	-7.0156381	C
0.000005000	17310.	3462003869.	18.6899900	0.0000934	-0.0002666	0.3792601	-7.6777514	C

0.000005417	17310.	3195695879.	18.5487953	0.0001005	-0.0002895	0.4069390	-8.3397434 C
0.000005833	17310.	2967431888.	18.4284911	0.0001075	-0.0003125	0.4345285	-9.0016136 C
0.000006250	17310.	2769603095.	18.3233273	0.0001145	-0.0003355	0.4619893	-9.6636469 C
0.000006667	17310.	2596502902.	18.2292765	0.0001215	-0.0003585	0.4892900	-10.3260732 C
0.000007083	17310.	2443767437.	18.1469060	0.0001285	-0.0003815	0.5165023	-10.9883730 C
0.000007500	17310.	2308002579.	18.0742709	0.0001356	-0.0004044	0.5436259	-11.6505461 C
0.000007917	17310.	2186528759.	18.0098358	0.0001426	-0.0004274	0.5706608	-12.3125918 C
0.000008333	17310.	2077202321.	17.9523724	0.0001496	-0.0004504	0.5976067	-12.9745100 C
0.000008750	17310.	1978287925.	17.9008864	0.0001566	-0.0004734	0.6244636	-13.6363000 C
0.000009167	17310.	1888365747.	17.8545643	0.0001637	-0.0004963	0.6512312	-14.2979616 C
0.000009583	17310.	1806262888.	17.8127339	0.0001707	-0.0005193	0.6779095	-14.9594943 C
0.0000100	17310.	1731001934.	17.7748353	0.0001777	-0.0005423	0.7044982	-15.6208977 C
0.0000104	17310.	1661761857.	17.7403981	0.0001848	-0.0005652	0.7309972	-16.2821714 C
0.0000108	17310.	1597847939.	17.7090242	0.0001918	-0.0005882	0.7574064	-16.9433149 C
0.0000113	17310.	1538668386.	17.6803746	0.0001989	-0.0006111	0.7837257	-17.6043278 C
0.0000117	17310.	1483715944.	17.6541586	0.0002060	-0.0006340	0.8099548	-18.2652096 C
0.0000121	17310.	1432553325.	17.6296613	0.0002130	-0.0006570	0.8360724	-18.9261228 C
0.0000125	17310.	1384801548.	17.6065546	0.0002201	-0.0006799	0.8620713	-19.5871239 C
0.0000129	17310.	1340130530.	17.5853060	0.0002271	-0.0007029	0.8879807	-20.2479874 C
0.0000133	17310.	1298251451.	17.5657427	0.0002342	-0.0007258	0.9138004	-20.9087128 C
0.0000138	17310.	1258910498.	17.5477125	0.0002413	-0.0007487	0.9395302	-21.5693000 C
0.0000142	17310.	1221883718.	17.5310815	0.0002484	-0.0007716	0.9651701	-22.2297477 C
0.0000146	17310.	1186972755.	17.5157308	0.0002554	-0.0007946	0.9907199	-22.8900558 C
0.0000150	17310.	1154001290.	17.5015549	0.0002625	-0.0008175	1.0161793	-23.5502239 C
0.0000154	17650.	1144882620.	17.4884596	0.0002696	-0.0008404	1.0415483	-24.2102514 C
0.0000158	18101.	1143197165.	17.4763608	0.0002767	-0.0008633	1.0668266	-24.8701379 C
0.0000163	18551.	1141584449.	17.4651827	0.0002838	-0.0008862	1.0920141	-25.5298828 C
0.0000171	19450.	1138555811.	17.4453238	0.0002980	-0.0009320	1.1421160	-26.8489458 C
0.0000179	20349.	1135758736.	17.4284138	0.0003123	-0.0009777	1.1918527	-28.1674366 C
0.0000188	21247.	1133162020.	17.4140671	0.0003265	-0.0010235	1.2412228	-29.4853514 C
0.0000196	22144.	1130739923.	17.4019639	0.0003408	-0.0010692	1.2902250	-30.8026850 C
0.0000204	23040.	1128470714.	17.3918366	0.0003551	-0.0011149	1.3388578	-32.1194336 C
0.0000213	23935.	1126336133.	17.3834598	0.0003694	-0.0011606	1.3871199	-33.4355930 C
0.0000221	24829.	1124320673.	17.3766422	0.0003837	-0.0012063	1.4350099	-34.7511588 C
0.0000229	25722.	1122411080.	17.3712204	0.0003981	-0.0012519	1.4825264	-36.0661265 C
0.0000238	26614.	1120595957.	17.3670538	0.0004125	-0.0012975	1.5296678	-37.3804917 C
0.0000246	27505.	1118865450.	17.3640213	0.0004269	-0.0013431	1.5764328	-38.6942498 C
0.0000254	28396.	1117210991.	17.3620175	0.0004413	-0.0013887	1.6228199	-40.0073962 C
0.0000263	29285.	1115625102.	17.3609507	0.0004557	-0.0014343	1.6688275	-41.3199262 C
0.0000271	30174.	1114101218.	17.3607404	0.0004702	-0.0014798	1.7144543	-42.6318351 C
0.0000279	31061.	1112633557.	17.3613158	0.0004847	-0.0015253	1.7596986	-43.9431180 C
0.0000288	31947.	1111217005.	17.3626144	0.0004992	-0.0015708	1.8045590	-45.2537702 C
0.0000296	32833.	1109847020.	17.3645809	0.0005137	-0.0016163	1.8490338	-46.5637866 C
0.0000304	33717.	1108519555.	17.3671661	0.0005283	-0.0016617	1.8931216	-47.8731622 C
0.0000313	34601.	1107230993.	17.3703261	0.0005428	-0.0017072	1.9368206	-49.1818920 C
0.0000321	35483.	1105978090.	17.3740216	0.0005574	-0.0017526	1.9801294	-50.4899708 C
0.0000329	36365.	1104757925.	17.3782175	0.0005720	-0.0017980	2.0230463	-51.7973933 C
0.0000338	37245.	1103567866.	17.3828821	0.0005867	-0.0018433	2.0655696	-53.1041542 C
0.0000346	38125.	1102405531.	17.3879869	0.0006013	-0.0018887	2.1076977	-54.4102483 C
0.0000354	39003.	1101268758.	17.3935061	0.0006160	-0.0019340	2.1494288	-55.7156699 C
0.0000363	39881.	1100155583.	17.3994166	0.0006307	-0.0019793	2.1907614	-57.0204135 C
0.0000371	40757.	1099064215.	17.4056970	0.0006455	-0.0020245	2.2316936	-58.3244736 C
0.0000379	41632.	1097993017.	17.4123282	0.0006602	-0.0020698	2.2722237	-59.6278444 C
0.0000387	42506.	1096940491.	17.4192928	0.0006750	-0.0021150	2.3123500	-60.0000000 CY
0.0000396	43380.	1095905263.	17.4265748	0.0006898	-0.0021602	2.3520707	-60.0000000 CY
0.0000404	44252.	1094886068.	17.4341597	0.0007046	-0.0022054	2.3913839	-60.0000000 CY
0.0000412	45104.	1093421020.	17.4395358	0.0007194	-0.0022506	2.4300140	-60.0000000 CY
0.0000421	45851.	1089521939.	17.4317064	0.0007336	-0.0022964	2.4667392	-60.0000000 CY
0.0000429	46489.	1083229560.	17.4105699	0.0007472	-0.0023428	2.5015138	-60.0000000 CY
0.0000437	47103.	1076638090.	17.3876492	0.0007607	-0.0023893	2.5355988	-60.0000000 CY
0.0000446	47625.	1068217216.	17.3538957	0.0007737	-0.0024363	2.5679695	-60.0000000 CY
0.0000454	48115.	1059412385.	17.3177132	0.0007865	-0.0024835	2.5995604	-60.0000000 CY
0.0000462	48604.	1050906155.	17.2831400	0.0007993	-0.0025307	2.6308340	-60.0000000 CY
0.0000471	49085.	1042512480.	17.2490168	0.0008121	-0.0025779	2.6616651	-60.0000000 CY
0.0000479	49505.	1033153911.	17.2084311	0.0008246	-0.0026254	2.6912560	-60.0000000 CY
0.0000487	49872.	1023009328.	17.1624428	0.0008367	-0.0026733	2.7197220	-60.0000000 CY
0.0000496	50230.	1013041560.	17.1172549	0.0008487	-0.0027213	2.7477873	-60.0000000 CY
0.0000529	51647.	976006957.	16.9517026	0.0008970	-0.0029130	2.8570542	-60.0000000 CY
0.0000562	52691.	936730607.	16.7529170	0.0009424	-0.0031076	2.9548985	-60.0000000 CY
0.0000596	53675.	900832460.	16.5706838	0.0009873	-0.0033027	3.0476638	-60.0000000 CY
0.0000629	54575.	867413411.	16.3993980	0.0010318	-0.0034982	3.1350813	-60.0000000 CY
0.0000662	55220.	833503546.	16.2129937	0.0010741	-0.0036959	3.2142672	-60.0000000 CY
0.0000696	55854.	802689038.	16.0368629	0.0011159	-0.0038941	3.2887084	-60.0000000 CY
0.0000729	56484.	774634826.	15.8783338	0.0011578	-0.0040922	3.3596312	-60.0000000 CY
0.0000762	57066.	748406452.	15.7289040	0.0011993	-0.0042907	3.4262469	-60.0000000 CY
0.0000796	57459.	722002535.	15.5653777	0.0012387	-0.0044913	3.4859898	-60.0000000 CY
0.0000829	57842.	697593425.	15.4113954	0.0012779	-0.0046921	3.5420202	-60.0000000 CY
0.0000862	58218.	674986706.	15.2651956	0.0013166	-0.0048934	3.5943384	-60.0000000 CY
0.0000896	58591.	654033686.	15.1315185	0.0013555	-0.0050945	3.6436705	-60.0000000 CY
0.0000929	58961.	634555897.	15.0090412	0.0013946	-0.0052954	3.6899820	-60.0000000 CY
0.0000963	59328.	616399563.	14.8966249	0.0014338	-0.0054962	3.7332373	-60.0000000 CY
0.0000996	59614.	598629690.	14.7793508	0.0014718	-0.0056982	3.7719971	-60.0000000 CY
0.0001029	59821.	581254700.	14.6506335	0.0015078	-0.0059022	3.8058893	-60.0000000 CY
0.0001063	60025.	564940124.	14.5297071	0.0015438	-0.0061062	3.8370299	-60.0000000 CY
0.0001096	60227.	549601446.	14.4173614	0.0015799	-0.0063101	3.8655539	-60.0000000 CY
0.0001129	60428.	535151936.	14.3128533	0.0016162	-0.0065138	3.8914311	-60.0000000 CY
0.0001163	60626.	521514805.	14.2155259	0.0016526	-0.0067174	3.9146304	-60.0000000 CY
0.0001196	60823.	508621821.	14.1247958	0.0016891	-0.0069209	3.9351203	-60.0000000 CY
0.0001229	61017.	496412143.	14.0401437	0.0017258	-0.0071242	3.9528683	-60.0000000 CY
0.0001263	61204.	484786506.	13.9536451	0.0017616	-0.0073284	3.9674820	-60.0000000 CY
0.0001296	61389.	473743927.	13.8726731	0.0017977	-0.0075323	3.9794340	-60.0000000 CY
0.0001329	61571.	463232279.	13.7966103	0.0018338	-0.0077362	3.9886854	-60.0000000 CY
0.0001363	61722.	453006803.	13.7188946	0.0018692	-0.0079408	3.9950848	-60.0000000 CY
0.0001396	61848.	443092599.	13.6409062	0.0019040	-0.0081460	3.9988142	-60.0000000 CY
0.0001429	61945.	433436996.	13.5613986	0.0019381	-0.0083519	3.9998655	-60.0000000 CY
0.0001462	62039.	424196748.	13.4863363	0.0019724	-0.0085576	3.9941972	-60.0000000 CY
0.0001496	62131.	415359702.	13.4154680	0.0020067	-0.0087633	3.9981018	-60.0000000 CY

0.0001529	62222.	406899327.	13.3485315	0.0020412	-0.0089688	3.9998829	-60.0000000	CY
0.0001562	62307.	398767809.	13.2816903	0.0020753	-0.0091747	3.9936533	-60.0000000	CY
0.0001596	62389.	390952423.	13.2154622	0.0021090	-0.0093810	3.9953152	-60.0000000	CY
0.0001629	62471.	383450756.	13.1526504	0.0021428	-0.0095872	3.9984829	60.0000000	CY
0.0001662	62551.	376243854.	13.0930601	0.0021767	-0.0097933	3.9999129	60.0000000	CY
0.0001696	62629.	369309696.	13.0368737	0.0022108	-0.0099992	3.9939441	60.0000000	CY
0.0001729	62706.	362635934.	12.9836240	0.0022451	-0.0102049	3.9933456	60.0000000	CY
0.0001762	62782.	356209913.	12.9329774	0.0022794	-0.0104106	3.9970778	60.0000000	CY
0.0001796	62857.	350017758.	12.8847974	0.0023139	-0.0106161	3.9993015	60.0000000	CY
0.0001829	62932.	344046284.	12.8389858	0.0023485	-0.0108215	3.9996101	60.0000000	CY
0.0002029	63356.	312226783.	12.6088450	0.0025585	-0.0120515	3.9953524	60.0000000	CY
0.0002229	63622.	285407617.	12.3770028	0.0027590	-0.0132910	3.9998880	60.0000000	CY
0.0002429	63772.	262526257.	12.1644414	0.0029549	-0.0145351	3.9947748	60.0000000	CY
0.0002629	63908.	243071661.	11.9956453	0.0031539	-0.0157761	3.9883576	60.0000000	CYT
0.0002829	64023.	226297922.	11.8605129	0.0033555	-0.0170145	3.9961547	60.0000000	CYT
0.0003029	64104.	211622334.	11.7457205	0.0035580	-0.0182520	3.9887277	60.0000000	CYT
0.0003229	64167.	198710393.	11.6594012	0.0037650	-0.0194850	3.9893116	60.0000000	CYT
0.0003429	64167.	187120966.	11.6925276	0.0040096	-0.0206804	3.9922742	60.0000000	CYT

Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain = 0.003
or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	43.147	63802.715	0.00300000

Note note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318-08, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.70).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318-08, Section 9.3.2.2 or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial Load No.	Resistance Factor for Moment	Nominal Moment Capacity in-kip	Ultimate (Factored) Axial Thrust kips	Ultimate (Factored) Moment Capacity in-kip	Bending Stiffness at Ult. Mom. Cap. kip-in^2
1	0.65	63802.715	28.045	41471.763	1098189410.353
1	0.70	63802.715	30.203	44661.900	1094180596.133
1	0.75	63802.715	32.360	47852.036	1064134378.227

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 1

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 56880.0 lbs
Applied moment at pile head = 57320000.0 in-lbs
Axial thrust load on pile head = 43146.7 lbs

Depth X feet	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in^2	Soil Res. p lb/in	Soil Spr. Es*h lb/inch	Distrib. Lat. Load lb/inch
0.00	1.9462	57320000.	56880.	-0.0180	0.000	7.311E+11	0.000	0.000	0.000
0.885	1.7596	57931872.	56667.	-0.0171	0.000	6.920E+11	-81.2922	163.5480	0.000
1.770	1.5824	58533907.	54925.	-0.0162	0.000	6.571E+11	-241.1518	539.4960	0.000
2.655	1.4152	59108604.	51675.	-0.0152	0.000	6.271E+11	-365.9698	915.4440	0.000
3.540	1.2587	59641831.	43697.	-0.0142	0.000	5.963E+11	-2478.2147	6969.9942	0.000
4.425	1.1134	59972183.	17311.	-0.0131	0.000	5.693E+11	-2490.0728	7916.9591	0.000
5.310	0.9800	60021231.	-9170.6437	-0.0120	0.000	5.654E+11	-2496.1163	9016.5038	0.000
6.195	0.8585	59788288.	-35686.	-0.0109	0.000	5.841E+11	-2496.5334	10294.	0.000
7.080	0.7486	59273325.	-62176.	-0.009835	0.000	6.190E+11	-2491.4248	11782.	0.000
7.965	0.6494	58476948.	-88583.	-0.008854	0.000	6.603E+11	-2480.7519	13523.	0.000
8.850	0.5602	57400398.	-114846.	-0.007962	0.000	7.258E+11	-2464.3511	15572.	0.000
9.735	0.4800	56045575.	-140902.	-0.007170	0.000	7.939E+11	-2441.6913	18008.	0.000
10.620	0.4077	54415083.	-166681.	-0.006464	0.000	8.731E+11	-2411.9994	20944.	0.000
11.505	0.3424	52512318.	-192103.	-0.005838	0.000	9.431E+11	-2374.1675	24544.	0.000
12.390	0.2835	50341594.	-217073.	-0.005279	0.000	1.010E+12	-2326.6944	29057.	0.000
13.275	0.2301	47908309.	-241478.	-0.004776	0.000	1.063E+12	-2267.4784	34881.	0.000
14.160	0.1819	45219318.	-265139.	-0.004318	0.000	1.093E+12	-2186.1601	42553.	0.000
15.045	0.1383	42283714.	-287843.	-0.003894	0.000	1.097E+12	-2086.3430	53406.	0.000
15.930	0.0991	39108145.	-311329.	-0.003501	0.000	1.101E+12	-2326.9608	83155.	0.000
16.815	0.0638	35675132.	-335053.	-0.003141	0.000	1.106E+12	-2131.1329	118187.	0.000
17.700	0.0322	32002386.	-356233.	-0.002816	0.000	1.111E+12	-1835.4940	201525.	0.000
18.585	0.003899	28125002.	-372667.	-0.002529	0.000	1.118E+12	-1105.2157	1003523.	0.000
19.470	-0.0216	24196248.	-361989.	-0.002282	0.000	1.126E+12	1730.7624	283554.	0.000

20.355	-0.0447	20457863.	-341393.	-0.002072	0.000	1.135E+12	2117.3896	167731.	0.000
21.240	-0.0657	16957240.	-317466.	-0.001919	0.000	5.937E+12	2377.8343	128054.	0.000
22.125	-0.0860	13724415.	-291054.	-0.001892	0.000	5.956E+12	2591.9068	106732.	0.000
23.010	-0.1059	10783712.	-262501.	-0.001870	0.000	5.974E+12	2782.5004	92979.	0.000
23.895	-0.1257	8156698.	-232010.	-0.001853	0.000	5.989E+12	2957.9113	83297.	0.000
24.780	-0.1453	5863196.	-199714.	-0.001841	0.000	6.002E+12	3122.8262	76072.	0.000
25.665	-0.1648	3921833.	-165709.	-0.001833	0.000	6.013E+12	3280.1566	70449.	0.000
26.550	-0.1843	2350370.	-130065.	-0.001827	0.000	6.023E+12	3431.8316	65935.	0.000
27.435	-0.2036	1165926.	-92833.	-0.001824	0.000	6.023E+12	3579.1874	62220.	0.000
28.320	-0.2230	385130.	-54055.	-0.001823	0.000	6.023E+12	3723.1782	59103.	0.000
29.205	-0.2424	24228.	-13763.	-0.001822	0.000	6.023E+12	3864.4986	56448.	0.000

* This analysis computed pile response using nonlinear moment-curvature relationships.
Values of total stress due to combined axial and bending stresses are computed only
for elastic sections only and do not equal the actual stresses in concrete and steel.
Stresses in concrete and steel may be interpolated from the output for nonlinear
bending properties relative to the magnitude of bending moment developed in the pile.

Output Summary for Load Case No. 1:

Pile-head deflection	=	1.9462042 inches
Computed slope at pile head	=	-0.0179949 radians
Maximum bending moment	=	60036194. inch-lbs
Maximum shear force	=	-372667. lbs
Depth of maximum bending moment	=	5.0150000 feet below pile head
Depth of maximum shear force	=	18.5850000 feet below pile head
Number of iterations	=	62
Number of zero deflection points	=	1

Summary of Pile Response(s)

Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, lbs, and Load 2 = Moment, in-lbs
Load Type 2: Load 1 = Shear, lbs, and Load 2 = Slope, radians
Load Type 3: Load 1 = Shear, lbs, and Load 2 = Rotational Stiffness, in-lbs/radian
Load Type 4: Load 1 = Top Deflection, inches, and Load 2 = Moment, in-lbs
Load Type 5: Load 1 = Top Deflection, inches, and Load 2 = Slope, radians

Load Case No.	Load Type No.	Pile-head Condition 1 V(lbs) or y(inches)	Pile-head Condition 2 in-lb, rad., or in-lb/rad.	Axial Loading lbs	Pile-head Deflection inches	Maximum Moment in Pile in-lbs	Maximum Shear in Pile lbs	Pile-head Rotation radians
1	1	V = 56880.	M = 57320000.	43147.	1.94620423	60036194.	-372667.	-0.01799489

The analysis ended normally.

1805.7.2.1 (2006 IBC) & 1807.3.2.1 (2009 IBC & 2012 IBC)

$d = A/2*(1+(1+(4.36*h/A))^{0.5})$

Monopole

Moment (ft-k)	3582.5
Shear (k)	42.7
Caisson Diameter, b (ft)	**6**
Caisson Height Above Ground (ft)	0.5
Caisson Height Below Ground (ft)	29
Lateral soil pressure per foot (lb/ft^3)	**267**
Applied lateral force, P (lbs)	42660
Dist. from ground to application of P, h (ft)	84.48
A = 2.34*P/(S1*b)	6.45
Min. Depth of Embedment Required, d (ft)	27.80

Existing Conditions

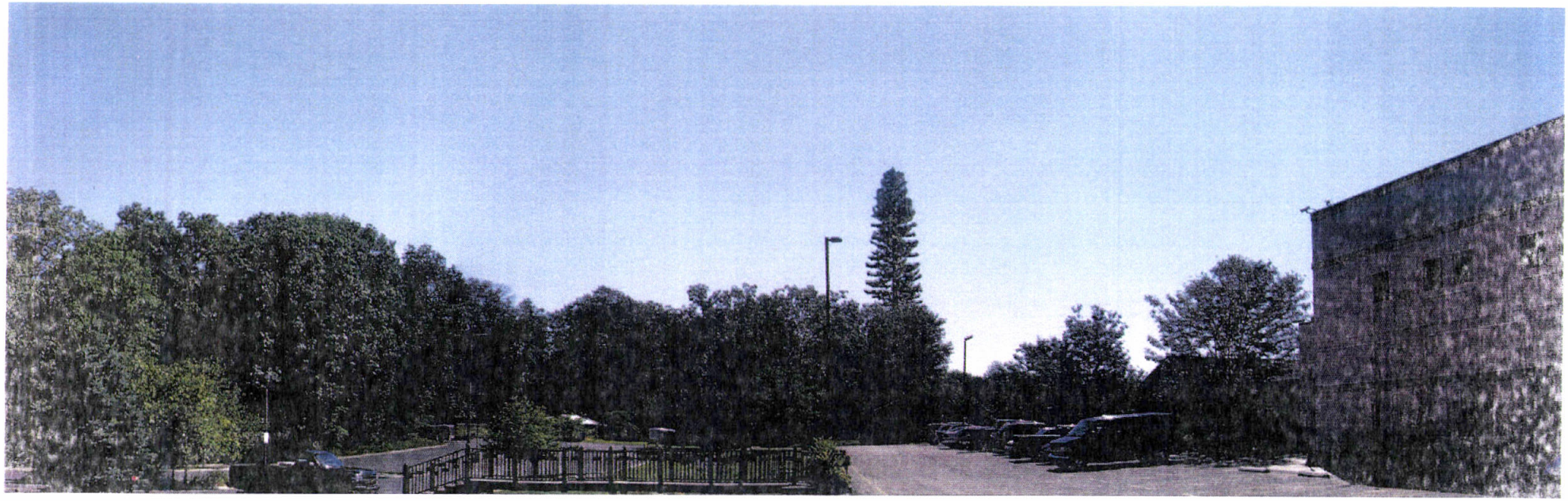


Photo-Simulation (to Scale) of Proposed Verizon Wireless Facility
McCutcheon (CLMB-247) – Location No. 1
Distance [redacted]e Proposed Monopine Tower Location = 430'

Existing Conditions

Photo-Simulation (to Scale) of Proposed Verizon Wireless Facility
McCutcheon (CLMB-247) – Location No. 2
Distance to the Proposed Monopine Tower Location = 734'

Existing Conditions

Photo-Simulation (to Scale) of Proposed Verizon Wireless Facility
McCutcheon (CLMB-247) – Location No. 3
Distance to the Proposed Monopine Tower Location = 756

Existing Conditions

Photo-Simulation (to Scale) of Proposed Verizon Wireless Facility
McCutcheon (CLMB-247) – Location No. 4
Distance to the Proposed Monopine Tower Loca[redacted]= 628'

EXHIBIT H

Safety Information (Section 1181.06.C)

- Zero Radius Fall Zone Letter
- Material Data Safety Sheet FM-200
- Material Data Safety Sheet Lead Acid Battery Wet

Sabre Industries™
Towers and Poles

July 24, 2014

Mr. Robert M. Ferguson
United Acquisition Services, Inc.

RE: Proposed 112 ft Sabre Monopine for McCutcheon, OH

Dear Mr. Ferguson,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopine for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" ice, Structure Class II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the monopine will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, and assuming that the wind pressure profile is similar to that used to design the monopine, the structure will yield at the location of the highest combined stress ratio, in the upper portion of the monopine. This is likely to result in the portion of the monopine above "folding down" toward the portion below, essentially collapsing upon itself. This would effectively result in a "zero radius fall zone" at ground level. Please note that this letter only applies to the above referenced monopine designed and manufactured by Sabre Towers & Poles.

Sincerely,

Robert E. Beacom, P.E.
Design Engineer II

Sabre Towers and Poles • 2101 Murray Street • P.O. Box 658 • Sioux City, IA 51102-0658
P: 712-258-6690 F: 712-279-0814 W: www.SabreTowersandPoles.com

Material Safety Data Sheet

FM-200®

Version 2.1

Revision Date 07/11/2011

Ref. 130000036866

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	FM-200®
Tradename/Synonym	:	FE-227 2-Hydroperfluoropropane Propane, 1,1,1,2,3,3,3-Heptafluoro- HFC-227eaHP 2-Hydroheptafluoropropane Heptafluoropropane 2-H-heptafluoropropane 1,1,1,2,3,3,3-Heptafluoropropane R-227 R227 HFC-227ea
MSDS Number	:	130000036866
Product Use	:	Fire extinguishing agent
Manufacturer	:	DuPont 1007 Market Street Wilmington, DE 19898
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Misuse or intentional inhalation abuse may lead to death without warning.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Rapid evaporation of the liquid may cause frostbite.

Potential Health Effects

Skin : Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Eyes : Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Inhalation : Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.
Other symptoms potentially related to misuse or inhalation abuse are: Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	100 %

SECTION 4. FIRST AID MEASURES

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use. Treat for frostbite if necessary by gently warming affected area.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if necessary.

Inhalation : Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

Ingestion	:	Is not considered a potential route of exposure.
General advice	:	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Fire and Explosion Hazard	:	The product is not flammable. Hazardous decomposition products : Hydrogen fluoride, Carbonyl fluoride
Suitable extinguishing media	:	This material is a fire extinguishing agent.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of leak - evacuate until gas has dispersed.
Spill Cleanup	:	Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Do not breathe gas. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. Wash hands thoroughly after handling. Wash clothing after use. Decomposition will occur when product comes in contact with open flame or electrical heating elements. Handle in accordance with good industrial hygiene and safety practice.

Storage	:	Valve protection caps and valve cutlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Keep container tightly closed in a dry and well-ventilated place. Store in original container. Protect from contamination. Avoid area where salt or other corrosive materials are present.
Storage temperature	:	< 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Use only with adequate ventilation. Keep container tightly closed.
Personal protective equipment		
Respiratory protection	:	Wear NIOSH approved respiratory protection as appropriate.
Hand protection	:	Additional protection: Impervious gloves
Eye protection	:	Safety glasses with side-shields Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Skin and body protection	:	Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.
Protective measures	:	Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines

Exposure Limit Values

1,1,1,2,3,3,3-Heptafluoropropane

AEL *	(DUPONT)	1,000 ppm	8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquefied gas
Odor	:	none
Melting point/range	:	-131 °C (-204 °F)
Boiling point	:	-16.3 °C (2.7 °F)
Vapour Pressure	:	4,547 hPa at 25 °C (77 °F)
Density	:	1.388 g/cm3 at 25 °C (77 °F) (as liquid)

SECTION 10. STABILITY AND REACTIVITY

Stability	:	Stable at normal temperatures and storage conditions.
Incompatibility	:	Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Hazardous decomposition products , Hydrogen fluoride , Carbonyl fluoride, Carbon monoxide, Carbon dioxide
Hazardous reactions	:	Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

FM-200®

Inhalation 4 h LC50	:	> 788698 ppm , rat
Inhalation	:	dog Cardiac sensitization
Dermal	:	not applicable
Oral	:	not applicable
Skin irritation	:	No skin irritation, Not tested on animals

Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation : No eye irritation, Not tested on animals
Not expected to cause eye irritation based on expert review of the properties of the substance.

Sensitisation : Does not cause skin sensitization., Not tested on animals
Not expected to cause sensitization based on expert review of the properties of the substance.

Did not cause sensitization on laboratory animals. There are no reports of human respiratory sensitization.

Repeated dose toxicity : Inhalation
rat
No toxicologically significant effects were found.

Carcinogenicity : Overall weight of evidence indicates that the substance is not carcinogenic.

Mutagenicity : Did not cause genetic damage in animals.
Did not cause genetic damage in cultured mammalian cells.
Did not cause genetic damage in cultured bacterial cells.

Reproductive toxicity : Animal testing showed no reproductive toxicity.
Information given is based on data obtained from similar substances.

Teratogenicity : Animal testing showed no developmental toxicity.

Further information : Cardiac sensitisation threshold limit : 730190 mg/m3

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
FM-200®

96 h LC50 : Danio rerio (zebra fish) > 200 mg/l
Information given is based on data obtained from similar substances.

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 81.8 mg/l

Information given is based on data obtained from similar substances.

72 h EC50 : Pseudokirchneriella subcapitata > 114 mg/l
Information given is based on data obtained from similar substances.

72 h EC50 : Pseudokirchneriella subcapitata > 118 mg/l
Information given is based on data obtained from similar substances.

48 h EC50 : Daphnia magna (Water flea) > 200 mg/l
Information given is based on data obtained from similar substances.

48 h EC50 : Daphnia magna (Water flea) > 97.9 mg/l
Information given is based on data obtained from similar substances.

Environmental Fate
FM-200®

Biodegradability aerobic : 1 % OECD Test Guideline 301
Not readily biodegradable.

Biodegradability aerobic : 5 % OECD Test Guideline 301
Not readily biodegradable.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Can be used after re-conditioning. Recover by distillation or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.

Environmental Hazards : Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	: 3296
	Proper shipping name	: Heptafluoropropane
	Class	: 2.2
	Labelling No.	: 2.2
IATA_C	UN number	: 3296

	Proper shipping name	: Heptafluoropropane
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 3296
	Proper shipping name	: Heptafluoropropane
	Class	: 2.2
	Labelling No.	: 2.2

SECTION 15. REGULATORY INFORMATION

SARA 313 Regulated Chemical(s)	:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
California Prop. 65	:	Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

		HMIS
Health	:	1
Flammability	:	0
Reactivity/Physical hazard	:	0
PPE	:	Personal Protection rating to be supplied by user depending on use conditions.

FM-200 is a registered trademark of E. I. du Pont de Nemours and Company
Before use read DuPont's safety information.
For further information contact the local DuPont office or DuPont's nominated distributors.
® DuPont's registered trademark

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing,

storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

MATERIAL SAFETY DATA SHEET
LEAD ACID BATTERY WET, FILLED WITH ACID
(US, CN, EU Version for International Trade)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Lead Acid Battery Wet, Filled With Acid**
OTHER PRODUCT NAMES: Electric Storage Battery, SLI or Industrial Battery, UN2794

MANUFACTURER: East Penn Manufacturing Company, Inc.
DIVISION: Deka Road
ADDRESS: Lyon Station, PA 19536 USA

EMERGENCY TELEPHONE NUMBERS:
US: CHEMTREC 1-800-424-9300
CN: CHEMTREC 1-800-424-9300
Outside US: 1-703-527-3887

NON-EMERGENCY HEALTH/SAFETY INFORMATION: 1-610-682-6361

CHEMICAL FAMILY: This product is a wet lead acid storage battery. May also include gel/absorbed electrolyte type lead acid battery types.

PRODUCT USE: Industrial/Commercial electrical storage batteries.

This product is considered a Hazardous Substance, Preparation or Article that is regulated under US-OSHA; CAN-WHMIS; IOSH; ISO; UK-CHIP; or EU Directives (67/548/EEC-Dangerous Substance Labelling, 98/24/EC-Chemical Agents at Work, 99/45/EC-Preparation Labelling, 2001/58/EC-MSDS Content, and 1907/2006/EC-REACH), and an MSDS/SDS is required for this product considering that when used as recommended or intended, or under ordinary conditions, it may present a health and safety exposure or other hazard.

Additional Information
This product may not be compatible with all environments, such as those containing liquid solvents or extreme temperature or pressure. Please request information if considering use under extreme conditions or use beyond current product labelling.

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:

Health	Environmental	Physical
Acute Toxicity – Not listed (NL) Eye Corrosion – Corrosive* Skin Corrosion – Corrosive* Skin Sensitization – NL Mutagenicity/Carcinogenicity – NL Reproductive/Developmental – NL Target Organ Toxicity (Repeated) – NL	Aquatic Toxicity – NL	NFPA – Flammable gas, hydrogen (during charging) CN - NL EU - NL

*as sulfuric acid

GHS Label: Lead Acid Battery, Wet

Symbols: C (Corrosive)

Hazard Statements	Precautionary Statements
Contact with internal components may cause irritation of severe burns. Irritating to eyes, respiratory system, and skin.	Keep out of reach of children. Keep containers tightly closed. Avoid heat, sparks, and open flame while charging batteries. Avoid contact with internal acid.

EMERGENCY OVERVIEW: May form explosive air/gas mixture during charging. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system, and skin. Prolonged inhalation or ingestion may result in serious damage to health. Pregnant

women exposed to internal components may experience reproductive/developmental effects.

POTENTIAL HEALTH EFFECTS:

EYES: Direct contact of internal electrolyte liquid with eyes may cause severe burns or blindness.

SKIN: Direct contact of internal electrolyte liquid with the skin may cause skin irritation or damaging burns.

INGESTION: Swallowing this product may cause severe burns to the esophagus and digestive tract and harmful or fatal lead poisoning. Lead ingestion may cause nausea, vomiting, weight loss, abdominal spasms, fatigue, and pain in the arms, legs and joints.

INHALATION: Respiratory tract irritation and possible long-term effects.

ACUTE HEALTH HAZARDS:
Repeated or prolonged contact may cause mild skin irritation.

CHRONIC HEALTH HAZARDS:
Lead poisoning if persons are exposed to internal components of the batteries. Lead absorption may cause nausea, vomiting, weight loss, abdominal spasms, fatigue, and pain in the arms, legs and joints. Other effects may include central nervous system damage, kidney dysfunction, and potential reproductive effects. Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Respiratory and skin diseases may predispose the user to acute and chronic effects of sulfuric acid and/or lead. Children and pregnant women must be protected from lead exposure. Persons with kidney disease may be at increased risk of kidney failure.

Additional Information
No health effects are expected related to normal use of this product as sold.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:	EC No.:
Lead, inorganic	7439-92-1	43–70 (average: 65)	231-100-4
Sulfuric acid	7664-93-9	20–44 (average: 25)	231-639-5
Antimony	7440-36-0	0-–4 (average: 1)	231-146-5
Arsenic	7440-38-2	<0.01	231-148-6
Polypropylene	9003-07-0	5–10 (average: 8)	NA

NA: Not applicable; ND: Not determined

Additional Information
These ingredients reflect components of the finished product related to performance of the product as distributed into commerce.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Flush eyes with large amounts of water for at least 15 minutes. Seek immediate medical attention if eyes have been exposed directly to acid.

SKIN CONTACT: Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing. If symptoms persist, seek medical attention.

INGESTION: If swallowed, give large amounts of water. Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death.

INHALATION: If breathing difficulties develop, remove person to fresh air. If symptoms persist, seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE/UNSUITABLE EXTINGUISHING MEDIA:
Dry chemical, carbon dioxide, water, foam. Do not use water on live electrical circuits.

SPECIAL FIREFIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:
Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapours. Use full protective equipment (bunker gear) and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Batteries evolve flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat or open flames.
SPECIFIC HAZARDS IN CASE OF FIRE:
Thermal shock may cause battery case to crack open. Containers may explode when heated.

Additional Information
Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Avoid Contact with Skin. Neutralize any spilled electrolyte with neutralizing agents, such as soda ash, sodium bicarbonate, or very dilute sodium hydroxide solutions.
ENVIRONMENTAL PRECAUTIONS:
Prevent spilled material from entering sewers and waterways.
SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:
Add neutralizer/absorbent to spill area. Sweep or shovel spilled material and absorbent and place in approved container. Dispose of any non-recyclable materials in accordance with local, state, provincial or federal regulations.

Additional Information
Lead acid batteries and their plastic cases are recyclable. Contact your East Penn representative for recycling information.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:
- Keep containers tightly closed when not in use.
- If battery case is broken, avoid contact with internal components.
- Do not handle near heat, sparks, or open flames.
- Protect containers from physical damage to avoid leaks and spills.
- Place cardboard between layers of stacked batteries to avoid damage and short circuits.
- Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire.

OTHER PRECAUTIONS (e.g.; Incompatibilities):
Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:
Charge in areas with adequate ventilation.
VENTILATION:
General dilution ventilation is acceptable.
RESPIRATORY PROTECTION:
Not required for normal conditions of use. See also special firefighting procedures (Section 5).
EYE PROTECTION:
Wear protective glasses with side shields or goggles.
SKIN PROTECTION:
Wear chemical resistant gloves as a standard procedure to prevent skin contact.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Chemically impervious apron and face shield recommended when adding water or electrolyte to batteries.
Wash Hands after handling.
EXPOSURE GUIDELINES & LIMITS:

OSHA	Permissible Exposure Limit (PEL/TWA)	Lead, inorganic (as Pb)	0.05 mg/m^3
		Sulfuric acid	1.00 mg/m^3

EXPOSURE GUIDELINES & LIMITS:

ACGIH	2007 Threshold Limit Value (TLV)	Antimony	0.50 mg/m^3	
		Arsenic	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.05 mg/m^3	
		Sulfuric acid	0.20 mg/m^3	
Quebec	Permissible Exposure Value (PEV)	Antimony	0.50 mg/m^3	
		Arsenic	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.15 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWA
			3.00 mg/m^3	STEV
Ontario	Occupational Exposure Level (OEL)	Antimony	0.50 mg/m^3	
		Arsenic	0.10 mg/m^3	
		Lead (designated substance)	0.10 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWAEV
			3.00 mg/m^3	STEV
Netherlands	Maximaal Aanvaarde Concentratie (MAC)	Antimony	0.50 mg/m^3	
		Arsenic (designated substance)	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.15 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	
Germany	Maximale Arbeitsplatzkonzentrationen (MAK)	Lead, inorganic (as Pb)	0.10 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWA
			2.00 mg/m^3	STEL
United Kingdom	Occupational Exposure Standard (OES)	Antimony	0.50 mg/m^3	
		Lead	0.15 mg/m^3	
		Antimony	0.50 mg/m^3	
		Arsenic	0.10 mg/m^3	

TWA: 8-Hour Time-Weighted Average; STE: Short-Term Exposure; mg/m^3: milligrams per cubic meter of air; NE: Not Established; STEV: Short-Term Exposure Value; TWAEV: Time-Weighted Average Exposure Value; STEL: Short-Term Exposure Limit

Additional Information

- Batteries are housed in polypropylene cases which are regulated as total dust or respirable dust only when they are ground up during recycling. The OSHA PEL for dust is 15 mg/m^3 as total dust or 5 mg/m^3 as respirable dust.
- May be required to meet Domestic Requirements for a Specific Destination(s).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Industrial/commercial lead acid battery
ODOUR:	Odourless
ODOUR THRESHOLD:	NA
PHYSICAL STATE:	Sulfuric Acid: Liquid; Lead: solid
pH:	<1
BOILING POINT:	235-240° F (113-116° C) (as sulfuric acid)
MELTING POINT:	NA
FREEZING POINT:	NA
VAPOUR PRESSURE:	10 mmHg
VAPOUR DENSITY (AIR = 1):	> 1
SPECIFIC GRAVITY (H_2O = 1):	1.27–1.33
EVAPORATION RATE (n-BuAc=1):	< 1
SOLUBILITY IN WATER:	100% (as sulfuric acid)
FLASH POINT:	Below room temperature (as hydrogen gas)
AUTO-IGNITION TEMPERATURE:	NA
LOWER EXPLOSIVE LIMIT (LEL):	4% (as hydrogen gas)
UPPER EXPLOSIVE LIMIT (UEL):	74% (as hydrogen gas)
PARTITION COEFFICIENT:	NA
VISCOSITY (poise @ 25° C):	Not Available

DECOMPOSITION TEMPERATURE: Not Available

FLAMMABILITY/HMIS HAZARD CLASSIFICATIONS (US/CN/EU): As sulfuric acid
HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 2

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	This product is stable under normal conditions at ambient temperature.
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong bases, combustible organic materials, reducing agents, finely divided metals, strong oxidizers, and water.
HAZARDOUS DECOMPOSITION BY-PRODUCTS:	Thermal decomposition will produce sulfur dioxide, sulfur trioxide, carbon monoxide, sulfuric acid mist, and hydrogen.
HAZARDOUS POLYMERIZATION:	Will not occur
CONDITIONS TO AVOID:	Overcharging, sources of ignition

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY (Test Results Basis and Comments):
Sulfuric acid: LD50, Rat: 2140 mg/kg
LC50, Guinea pig: 510 mg/m^3
Lead: No data available for elemental lead

SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):
Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

Additional Information
- Very little chronic toxicity data available for elemental lead.
- Lead is listed by IARC as a 2B carcinogen: possible carcinogen in humans. Arsenic is listed by IARC, ACGIH, and NTP as a carcinogen, based on studies with high doses over long periods of time. The other ingredients in this product, present at equal to or greater than 0,1% of the product, are not listed by OSHA, NTP, or IARC as suspect carcinogens.
- The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE & DEGRADABILITY:
Lead is very persistent in soils and sediments. No data available on biodegradation.

BIOACCUMULATIVE POTENTIAL (Including Mobility):
Mobility of metallic lead between ecological compartments is low. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants, but very little bioaccumulation occurs through the food chain. Most studies have included lead compounds, not solid inorganic lead.

AQUATIC TOXICITY (Test Results & Comments):
Sulfuric acid: 24-hour LC50, fresh water fish *(Brachydanio rerio)*: 82 mg/l
96-hour LOEC, fresh water fish *(Cyprinus carpio)*: 22 mg/l (lowest observable effect concentration)
Lead (metal): No data available

Additional Information
- No known effects on stratospheric ozone depletion.
- Volatile organic compounds: 0% (by Volume)
- Water Endangering Class (WGK): NA

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:	Following local, State/Provincial, and Federal/National regulations applicable to end-of-life characteristics will be the responsibility of the end-user.

HAZARDOUS WASTE CLASS/CODE:

US - Not applicable to finished product as manufactured for distribution into commerce.
CN – Not applicable to finished product as manufactured for distribution into commerce.
EWC – Not applicable to finished product as manufactured for distribution into commerce.

Additional Information
Not Included – **Recycle** or dispose as allowed by local jurisdiction for the end-of-life characteristics as-disposed.

SECTION 14: TRANSPORT INFORMATION

GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

AIRCRAFT – ICAO-IATA:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

Reference IATA packing instructions 870

VESSEL – IMO-IMDG:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

Reference IMDG packing instructions P801

Additional Information

Transport requires proper packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped.

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS:
All components are listed on the TSCA; EINECS/ELINCS; and DSL, unless noted otherwise below.

U.S. FEDERAL REGULATIONS:

TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b – Export Notification: If the finished product contains chemicals subject to TSCA Section 12b export notification, they are listed below:

Chemical	CAS #
None	NA

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT)
Chemicals present in the product which could require reporting under the statute:

Chemical	CAS #
Lead	7439-92-1
Sulfuric acid	7664-93-9

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

The finished product contains chemicals subject to the reporting requirements of Section 313 of SARA Title III.

Chemical	CAS #	% wt
Lead	7439-92-1	65
Sulfuric acid	7664-93-9	25

CERCLA SECTION 311/312 HAZARD CATEGORIES: Note that the finished product is exempt from these regulations, but lead and sulfuric acid above the thresholds are reportable on Tier II reports.

Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No
Immediate Hazard	Yes (Sulfuric acid is Corrosive)
Delayed Hazard	No

STATE REGULATIONS (US):

California Proposition 65

The following chemicals identified to exist in the finished product as distributed into commerce are known to the State of California to cause cancer, birth defects, or other reproductive harm:

Chemical	CAS #	% Wt
Arsenic (as arsenic oxides)	7440-38-2	<0.1
Strong inorganic acid mists including sulfuric acid	NA	25
Lead	7439-92-1	65

California Consumer Product Volatile Organic Compound Emissions

This Product is not regulated as a Consumer Product for purposes of CARB/OTC VOC Regulations, as-sold for the intended purpose and into the industrial/Commercial supply chain.

INTERNATIONAL REGULATIONS (Non-US):

Canadian Domestic Substance List (DSL)

All ingredients remaining in the finished product as distributed into commerce are included on the Domestic Substances List.

WHMIS Classifications

Class E: Corrosive materials present at greater than 1%

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Controlled Products Regulations.

NPRI and Ontario Regulation 127/01

This product contains the following chemicals subject to the reporting requirements of Canada NPRI +/or Ont. Reg. 127/01:

Chemical	CAS #	% Wt
Lead	7439-92-1	65
Sulfuric acid	7664-93-9	25

European Inventory of Existing Commercial Chemical Substances (EINECS)

All ingredients remaining in the finished product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

European Communities (EC) Hazard Classification according to directives 67/548/EEC and 1999/45/EC.

R-Phrases	S-Phrases
35, 36, 38	1/2, 26, 30, 45

Additional Information

This product may be subject to Restriction of Hazardous Substances (RoHS) regulations in Europe and China, or may be regulated under additional regulations and laws not identified above, such as for uses other than described or as-designed/as-intended by the manufacturer, or for distribution into specific domestic destinations.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2).

Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

Sources of Information:

International Agency for Research on Cancer (1987), *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Overall Evaluations of Carcinogenicity: An updating of IARC Monographs Volumes 1-42, Supplement 7, Lyon,* France.

Ontario Ministry of Labour Regulation 654/86. Regulations Respecting Exposure to Chemical or Biological Agents.

RTECS – Registry of Toxic Effects of Chemical Substances, National institute for Occupational Safety and Health.

MSDS/SDS PREPARATION INFORMATION:

DATE OF ISSUE: ***30 April 2013*** SUPERCEDES: ***16 December 2011***

DISCLAIMER:

This Material Safety Data Sheet is based upon information and sources available at the time of preparation or revision date. The information in the MSDS was obtained from sources which we believe are reliable, but are beyond our direct supervision or control. We make no Warranty of Merchantability, Fitness for any particular purpose or any other Warranty, Expressed or Implied, with respect to such information and we assume no liability resulting from its use. For this and other reasons, we do

not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the obligation of each user of this product to determine the suitability of this product and comply with the requirements of all applicable laws regarding use and disposal of this product. For additional information concerning East Penn Manufacturing Co., Inc. products or questions concerning the content of this MSDS please contact your East Penn representative.

END

EXHIBIT I

Narrative Information (Section 1181.08.E)

- Federal Communications Commission Authorization KNKA308
- Federal Communications Commission Authorization KNLH247
- Federal Communications Commission Authorization WQEM935

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW PAR

ATTN: REGULATORY
NEW PAR
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
KNKA308	
Radio Service CL - Cellular	
Market Numer CMA031	**Channel Block** A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003010816

Market Name
Columbus, OH

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
03-22-2006	02-03-2011	02-09-2016		

Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	39-46-38.2 N	082-44-30.6 W			

Address: 3085 PICKERINGTON ROAD NW
City: CARROLL **County:** FAIRFIELD **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	135.000	135.000	110.000	111.000	89.000	118.000	140.000	179.000
Transmitting ERP (watts)	40.000	24.000	3.000	0.000	0.000	0.000	3.000	24.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	39-43-52.0 N	083-32-28.0 W	321.6	89.9	1018019

Address: (South Solon site) 3315 ST RT 323 SW
City: SOUTH SOLON **County:** MADISON **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	72.200	87.800	99.600	97.800	90.300	81.100	74.800	70.300
Transmitting ERP (watts)	95.260	48.850	5.870	0.190	0.190	0.190	5.610	48.850

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

FCC 601-C
August 2007

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	39-43-52.0 N	083-32-28.0 W	321.6	89.9	1018019

Address: (South Solon site) 3315 ST RT 323 SW
City: SOUTH SOLON **County:** MADISON **State:** OH **Construction Deadline:**

Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	72.200	87.800	99.600	97.800	90.300	81.100	74.800	70.300
Transmitting ERP (watts)	0.420	14.090	70.620	88.900	28.770	2.040	0.190	0.190
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	72.200	87.800	99.600	97.800	90.300	81.100	74.800	70.300
Transmitting ERP (watts)	0.570	0.190	0.190	1.770	28.770	88.900	70.620	14.090

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	39-56-44.2 N	083-23-11.7 W			

Address: 501 U.S. ROUTE 42 NORTHEAST
City: LONDON **County:** MADISON **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	104.000	120.000	122.000	111.000	97.000	77.000	62.000	86.000
Transmitting ERP (watts)	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	40-13-07.2 N	083-10-01.7 W			

Address: 6595 CONCORD ROAD
City: DELAWARE **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	87.000	85.000	87.000	92.000	87.000	67.000	68.000	79.000
Transmitting ERP (watts)	91.000	81.000	42.000	27.000	30.000	57.000	85.000	95.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	40-21-12.2 N	082-59-45.7 W	299.6	89.9	1018022

Address: 4920 PITTMAN RD
City: DELAWARE **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	89.200	81.700	77.200	96.600	96.400	101.600	97.000	94.200
Transmitting ERP (watts)	1.280	13.860	67.880	78.180	23.680	2.650	0.200	0.200

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	40-21-12.2 N	082-59-45.7 W	299.6	89.9	1018022

Address: 4920 PITTMAN RD
City: DELAWARE **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	89.200	81.700	77.200	96.600	96.400	101.600	97.000	94.200
Transmitting ERP (watts)	1.310	0.200	0.220	2.770	27.820	83.770	60.500	12.360
Antenna: 4 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	89.200	81.700	77.200	96.600	96.400	101.600	97.000	94.200
Transmitting ERP (watts)	95.500	41.270	5.890	0.640	0.200	0.810	6.460	48.490

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	40-03-55.2 N	082-51-38.6 W			

Address: 4898 Thompson Road
City: New Albany **County:** FRANKLIN **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	61.000	27.000	11.800	37.000	110.000	107.000	98.000	86.000
Transmitting ERP (watts)	1.000	17.000	39.000	39.000	28.000	3.000	0.000	0.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	39-41-55.2 N	082-34-22.6 W			

Address: 1796 SUGAR GROVE ROAD (REAR)
City: LANCASTER **County:** FAIRFIELD **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	110.000	113.000	132.000	126.000	115.000	99.000	89.000	128.000
Transmitting ERP (watts)	66.000	53.000	25.000	21.000	25.000	53.000	66.000	75.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	39-37-47.0 N	082-54-56.0 W	219.5	91.4	1018023

Address: 1213 DUNKEL RD
City: CIRCLEVILLE **County:** PICKAWAY **State:** OH **Construction Deadline:**

Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.000	31.300	15.000	36.600	84.200	102.400	90.900	96.300
Transmitting ERP (watts)	0.850	11.510	91.800	425.000	84.720	8.200	0.850	1.280

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	39-37-47.0 N	082-54-56.0 W	219.5	91.4	1018023

Address: 1213 DUNKEL RD
City: CIRCLEVILLE **County:** PICKAWAY **State:** OH **Construction Deadline:**

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	90.600	31.900	15.600	37.200	84.800	103.000	91.500	96.900
Transmitting ERP (watts)	85.740	85.740	85.740	86.730	87.740	89.780	86.730	85.740

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
10	40-12-58.2 N	082-58-54.7 W			

Address: 3600 Hollenbach Road
City: Delaware **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	62.000	49.000	42.000	59.000	65.000	71.000	67.000	61.000
Transmitting ERP (watts)	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	40-10-02.2 N	082-54-15.6 W			

Address: 5925 OLD 3 C HIGHWAY
City: WESTERVILLE **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	44.000	18.000	9.000	21.000	74.000	62.000	57.000	51.000
Transmitting ERP (watts)	28.000	28.000	46.000	83.000	93.000	95.000	83.000	51.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	39-51-50.2 N	082-36-13.6 W	276.8		

Address: 9470 LANCASTER-BALTIMORE ROAD
City: LIBERTY TWP **County:** FAIRFIELD **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	58.700	89.000	65.600	84.700	66.000	90.300	103.400	52.200
Transmitting ERP (watts)	100.000	66.100	13.200	0.700	0.200	1.000	14.100	69.200
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	58.700	89.000	65.600	84.700	66.000	90.300	103.400	52.200
Transmitting ERP (watts)	2.700	28.200	87.100	95.500	44.700	6.500	0.300	0.200

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	39-51-50.2 N	082-36-13.6 W	276.8		

Address: 9470 LANCASTER-BALTIMORE ROAD
City: LIBERTY TWP **County:** FAIRFIELD **State:** OH **Construction Deadline:**

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	58.700	89.000	65.600	84.700	66.000	90.300	103.400	52.200
Transmitting ERP (watts)	2.700	0.200	0.300	6.500	47.900	97.700	83.200	26.300

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
13	39-41-57.8 N	082-25-06.6 W	286.2	89.9	1221763

Address: 9305 Maritta Rd. SE (Bremen - 050643)
City: Bremen **County:** FAIRFIELD **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	72.200	88.600	89.000	88.000	84.000	101.700	105.300	79.000
Transmitting ERP (watts)	13.930	0.360	0.100	0.100	0.100	0.100	0.100	0.390
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	72.200	88.600	89.000	88.000	84.000	101.700	105.300	79.100
Transmitting ERP (watts)	0.100	0.350	0.110	0.100	0.350	0.100	0.100	0.100
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	72.200	88.600	89.000	88.000	84.000	101.700	105.300	79.000
Transmitting ERP (watts)	4.100	0.210	0.100	0.630	7.290	30.370	40.030	23.570

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	39-34-25.4 N	083-12-10.8 W	258.5	92.9	1206088

Address: 24902 State Route 207
City: New Holland **County:** PICKAWAY **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	82.500	107.800	115.300	120.800	90.500	83.600	72.800	77.100
Transmitting ERP (watts)	100.010	66.070	13.180	0.740	0.200	1.050	14.130	69.190
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	82.500	107.800	115.300	120.800	90.500	83.600	72.800	77.100
Transmitting ERP (watts)	0.400	5.910	36.440	16.280	1.230	0.140	0.100	0.100

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	39-34-25.4 N	083-12-10.8 W	258.5	92.9	1206088

Address: 24902 State Route 207
City: New Holland **County:** PICKAWAY **State:** OH **Construction Deadline:**

Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	82.500	107.800	115.300	120.800	90.500	83.600	72.800	77.100
Transmitting ERP (watts)	0.430	0.100	0.100	0.160	1.390	15.910	37.290	5.780

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	40-00-58.7 N	083-18-18.5 W	291.1	88.7	1215179

Address: 5205 U.S. 42 NE
City: Plain City **County:** MADISON **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	84.400	92.200	95.400	98.800	80.600	73.600	71.200	78.600
Transmitting ERP (watts)	100.010	66.070	13.180	0.740	0.200	1.050	14.130	69.190
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	84.400	92.200	95.400	98.800	80.600	73.600	71.200	78.600
Transmitting ERP (watts)	2.720	28.190	87.100	95.500	43.650	6.460	0.330	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	84.400	92.200	95.400	98.800	80.600	73.600	71.200	78.600
Transmitting ERP (watts)	2.450	0.200	0.340	6.460	47.870	97.730	83.180	26.300

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	40-26-13.5 N	083-07-41.7 W	290.8	128.0	1060487

Address: 1305 PROSPECT-NORTON ROAD
City: PROSPECT **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	115.900	122.300	123.600	125.200	123.000	135.200	131.900	131.500
Transmitting ERP (watts)	3.650	9.090	43.970	78.960	84.260	78.470	46.070	7.140
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	115.900	122.300	123.600	125.200	123.000	135.200	131.900	131.500
Transmitting ERP (watts)	84.260	78.470	46.070	7.140	3.650	9.090	43.970	78.960

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	40-14-08.0 N	082-50-18.5 W	313.3	58.2	

Address: 12607 State Route 37
City: Sunbury **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.800	20.600	26.200	35.300	64.800	96.500	86.600	82.600
Transmitting ERP (watts)	95.500	41.270	5.890	0.640	0.200	0.810	6.460	48.490
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.800	20.600	26.200	35.300	64.800	96.500	86.600	82.600
Transmitting ERP (watts)	1.290	13.950	71.210	83.310	23.970	2.660	0.200	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.800	20.600	26.200	35.300	64.800	96.500	86.600	82.600
Transmitting ERP (watts)	1.310	0.200	0.220	2.770	27.820	83.770	60.500	12.360

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	39-50-09.0 N	082-59-37.6 W	216.1	58.2	

Address: 6000 South High Street
City: Lockbourne **County:** FRANKLIN **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.600	45.600	47.300	47.600	64.900	33.400	23.300	30.100
Transmitting ERP (watts)	100.000	42.660	5.890	0.660	0.200	0.830	6.460	50.120
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.600	45.600	47.300	47.600	64.900	33.400	23.300	30.100
Transmitting ERP (watts)	1.320	14.130	74.130	87.100	24.550	2.690	0.200	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	48.600	45.600	47.300	47.600	64.900	33.400	23.300	30.100
Transmitting ERP (watts)	1.350	0.200	0.240	2.820	28.840	93.330	66.070	12.590

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	40-18-10.5 N	083-10-43.1 W	292.6	61.0	1211594

Address: 1335 Ostrander Road
City: Ostrander **County:** DELAWARE **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	73.700	59.900	64.900	72.500	62.300	60.500	55.400	65.800
Transmitting ERP (watts)	95.500	41.270	5.890	0.640	0.200	0.810	6.460	48.290
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	73.700	59.900	64.900	72.500	62.300	60.500	55.400	65.800
Transmitting ERP (watts)	1.290	13.950	71.210	83.310	23.970	2.660	0.200	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	73.700	59.900	64.900	72.500	62.300	60.500	55.400	65.800
Transmitting ERP (watts)	1.320	0.200	0.230	2.790	28.160	89.270	63.460	12.440

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	40-05-23.0 N	082-47-38.0 W	322.5	58.8	

Address: 9870 Johnsontown New Albany Rd.
City: New Albany **County:** FRANKLIN **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	53.500	34.900	39.400	56.100	79.900	116.200	107.600	90.500
Transmitting ERP (watts)	89.130	40.360	5.890	0.630	0.200	0.790	6.460	47.420
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	53.500	34.900	39.400	56.100	79.900	116.200	107.600	90.500
Transmitting ERP (watts)	1.290	13.950	71.210	83.310	23.970	2.660	0.200	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	53.500	34.900	39.400	56.100	79.900	116.200	107.600	90.500
Transmitting ERP (watts)	0.520	0.100	0.100	1.110	11.130	33.510	24.200	4.940

Call Sign: KNKA308 File Number: Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
21	39-52-39.0 N	083-27-51.0 W	319.4	88.8	1055089

Address: 731 STATE ROUTE 42
City: LONDON **County:** MADISON **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.500	103.000	103.900	106.200	84.900	69.300	59.300	51.500
Transmitting ERP (watts)	100.000	42.660	5.890	0.660	0.200	0.830	6.460	50.120
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.500	103.000	103.900	106.200	84.900	69.300	59.300	51.500
Transmitting ERP (watts)	1.320	14.130	74.130	87.100	24.550	2.690	0.200	0.200
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	88.500	103.000	103.900	106.200	84.900	69.300	59.300	51.500
Transmitting ERP (watts)	1.350	0.200	0.240	2.820	28.840	93.330	66.070	12.590

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
22	39-40-15.3 N	082-44-07.2 W	282.6	128.0	1205735

Address: 4342 Sandhill Road
City: Amanda **County:** MORROW **State:** OH **Construction Deadline:**

Antenna: 1 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	91.300	112.600	101.900	126.100	109.800	115.900	131.600	125.800
Transmitting ERP (watts)	100.010	57.550	9.770	0.810	0.200	0.760	9.770	57.550
Antenna: 2 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	91.300	112.600	101.900	126.100	109.800	115.900	131.600	125.800
Transmitting ERP (watts)	2.410	17.080	39.130	29.010	6.200	0.620	0.100	0.120
Antenna: 3 Azimuth (from true north)	**0**	**45**	**90**	**135**	**180**	**225**	**270**	**315**
Antenna Height AAT (meters)	91.300	112.600	101.900	126.100	109.800	115.900	131.600	125.800
Transmitting ERP (watts)	0.780	0.100	0.100	2.250	14.210	38.240	31.800	7.810

Control Points:

Control Pt. No. 1

Address: 500 Dove Rd
City: Southlake **County:** TARRANT **State:** TX **Telephone Number:** (800)264-6620

Waivers/Conditions:

NONE

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW PAR

ATTN: REGULATORY
NEW PAR
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
KNLH247	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003010816

Grant Date	Effective Date	Expiration Date	Print Date
06-01-2007	02-03-2011	04-28-2017	

Market Number	Channel Block	Sub-Market Designator
BTA095	F	0

Market Name
Columbus, OH

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
04-28-2002			

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.716 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

Conditions:
Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
1120 SANCTUARY PKWY, #150 GASA5REG
ALPHARETTA, GA 30009-7630

Call Sign	File Number
WQEM935	
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003290673

Grant Date	Effective Date	Expiration Date	Print Date
03-08-2006	04-03-2012	03-08-2016	

Market Number	Channel Block	Sub-Market Designator
BTA095	C	6

Market Name
Columbus, OH

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
03-08-2011			

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

EXHIBIT J

Geographic Information (Section 1181.08.F)

- Radio Frequency Need Report
- 4G to 3G Volume Drops
- Gahanna Zoning Sites

July 7, 2014

City of Gahanna
Attn: Bonnie Gard, Zoning Administrator
200 South Hamilton Road
Gahanna, OH 43230

Re: Radio Frequency Need Report for New Communications Facility
Applicant: New Par, d/b/a Verizon Wireless
Wireless Telecommunications Facility Application
Site location: North Stygler Road, Columbus, Ohio
Verizon Wireless Site Name: McCutcheon

Dear Ms. Gard:

Verizon Wireless appreciates this opportunity to elaborate on the need for a wireless communications facility in the City of Gahanna and explain why the proposed site was chosen to remedy a significant service capacity gap in this part of Gahanna. The Verizon Wireless name given to this project is McCutcheon.

Verizon Wireless was issued a Certificate of Public Convenience and Necessity from the Public Utilities Commission of Ohio on December 31, 1996. As a public utility, Verizon Wireless provides an essential service to individuals and businesses within Gahanna, Ohio, subject to the jurisdiction of the Federal Communications Commission (FCC). Verizon Wireless is licensed by the FCC to build and operate a wireless communications network in Gahanna, Ohio. Our licenses include, among others, the 700 MHz band, and the 2100 MHz or AWS band. The different performance characteristics of these two frequency bands are important to an understanding of what it is that Verizon Wireless is seeking to accomplish with this site, and are discussed below.

National statistics compiled by the FCC indicate that more than 70% of E-911 calls to police and fire departments are now made using wireless phones. That percentage grows each year. For many Americans, the ability to call E-911 for help in an emergency is one of the main reasons they own a wireless phone. Other wireless E-911 calls come from "Good Samaritans" reporting traffic accidents, crimes or other emergencies. The prompt delivery of wireless E-911 calls to public safety organizations benefits the public by promoting safety of life

and property. The public relies on wireless communications for emergency access to law enforcement and public safety services. Many police departments also rely on wireless data services between patrol cars and law enforcement databases. Wireless data services helps police departments utilize their limited resources more effectively to better protect the public. It is in public's interest to ensure that robust and reliable emergency voice and data services remain available to everyone in our service areas. 700 and 2100 MHz frequencies right now are data only. VoLTE will be the voice service later. 850/1900 MHz is our current E911 voice service.

A U.S. Government Semi-Annual Report on Wireless Substitution shows that as of December 2013, 39.4% of adults have cut the cord and instead rely exclusively on wireless phones to make emergency 911 and other calls. The report also shows that as of December 2013, 45.4% of all American children live in households without a landline phone. This empirically demonstrates that the Applicant provides essential services to individuals and businesses within Gahanna. The public requires reliable and state-of-the-art communications infrastructure to deliver expected service. Empirical data demonstrates that large numbers of people have "cut the cord" on traditional wireline service and now rely exclusively on wireless services to connect to the national telephone system. The U.S. Government report confirms that wireless communication is the primary communications channel for more than one third of the general population. This dependence upon the availability of wireless service by a significant proportion of the population clearly demonstrates a public need for ensuring the availability of reliable wireless communications services, including travelers and residential areas of Gahanna.

Background. The Verizon Wireless' communication system, and indeed all carriers' wireless communications systems, rely on an overlapping and interconnected network of individual antenna sites. Individual sites, like the one under consideration here, consist of antennas mounted on a support structure. The radios and other electronic equipment that are needed to make wireless communications work are typically located at the base of the antenna support structure. These antenna sites transmit and receive wireless communications signals to and from mobile wireless handsets or similar devices.

Individually, these communications facilities have a limited coverage area. The extent of the coverage depends on several factors, including antenna height, local topography, proximity and height of other adjacent antenna installations, and localized customer usage demands. When linked electronically to form a network however, individual antenna sites operate to deliver a seamless wireless communications service to individuals, businesses, and government. The "seamless" part is important, even crucial, to understanding the need for this site. Without overlapping coverage, calls can't get through, or be completed. The locations of antenna sites are therefore carefully thought out, and selected to be located as far apart as is consistent with the number of customers in the service

area, while still being close enough to "hand off" a motorist's call from one tower to the next, without dropping the call.

To be effective, any new antenna facility must first be integrated into the existing network, so that it can transmit, receive, and offload calls to and from its siblings without interference. The requirement that any new site must be able to perform a call "handoff", as when a motorist drives from one coverage area into another, is absolutely essential. If a call cannot be handed off, the site is useless as a network component.

This brings us to consideration of the proposed McCutcheon site. This facility is intended to address two pressing service problems, problems that cannot be solved merely by re-engineering our existing antenna sites: the 700 capacity problem and the 2100 AWS coverage problem. This site is also a capacity off-load for CDMA voice and data.

700 MHz Capacity Problem. The first problem is one of capacity. Briefly put, although other existing antenna sites were in the past able to serve this area, they can no longer do so efficiently because the number of customers has grown enormously over the past few years. As problems go, a large and growing customer base is a good one to have, but it also means that local demand for wireless services is starting to exceed the capacity of our existing sites in this area to handle. Customers from this area are now reporting that during peak use times they can't connect to the network, or reflexively that calls to customers within this service area are not getting through. This means that this geographic area is no longer being served effectively.

Call Blocking. When a wireless network reaches the maximum number of connections it can handle at one time, the service area is saturated, and new calls can't get through. This is known as "Call Blocking". Call blocking most often occurs during high demand periods, such as emergencies and social events, but as the customer base in a given area grows, call blocking starts to occur more often, even daily, especially during high-demand periods. The logical solution to cure call blocking is to add capacity by adding more carriers or call channels. In this case, the existing cells surrounding this area have already had the maximum number of radios added; however this has not kept up with demand. The demand for wireless service continues to increase, and adding more radios is no longer possible. Simply put, the cell sites surrounding this area have become saturated. Adding capacity to relieve call blocking in areas where the existing cell sites are at their maximum capacity requires more extensive measures, such as cell splitting, or band hopping.

Cell Split. A cell split does exactly what the phrase implies: it splits an existing coverage area in half, so that the network can redirect calls away from existing, overloaded sites, to the new cell site instead. By dividing the call volume among a larger number of sites, the call volume processed by each individual antenna

site is reduced to a level that the equipment can effectively manage during peak call periods, thereby enabling everyone's calls to be completed, without blocking or interruption.

Band Hopping. The second capacity enhancement measure is band hopping. When a site reaches its capacity limit on an existing band (in this case 700MHz), it may be possible to redirect new calls to a different band, provided an alternate frequency band is available, and provided sufficient reserve capacity exists in that alternate frequency band. In this case, Verizon Wireless has another licensed frequency band available (this is the AWS band centered at 2100 MHz). Although this band is available in this area, the reserve capacity of this 2100 MHz band is limited, making "frequency hopping" of limited use to relieve the call blocking. (The 2100 MHz band is particularly limited in its ability to provide in-building penetration, and its effective range at any given power level is half that of the 700 MHz frequencies.)

2100 MHz AWS Coverage Problem. The huge increase in demand for wireless services, in particular the exponential increase in demand for mobile data services, requires the use of all of the applicant's licensed frequencies in this area, which in this instance means both the 700 MHz and 2100 MHz frequency bands. The problem is that the 2100 MHz or "AWS" band has less "propagation power" compared to the 700 MHz band. The 2100 MHz wavelength is physically shorter than the 700 MHz wavelength. In practice, shorter wavelength frequencies provide much less coverage (about 40%) than the older 700 MHz bands. In many cases, the 2100 MHz band is so limited in terms of propagation power, that only persons who are in a direct line-of-site to the antennas will be able to connect to the national telephone system. In order to create a network using the 2100 MHz frequency band, the antenna sites must therefore be physically closer to each other than sites in the 700 MHz network in order to perform call handoff's between cells. Because this frequency band has to be able to "see" its service area, the coverage area for each 2100 MHz cell must be physically smaller for the network to interconnect, and to provide the same level of reliability that lower frequency bands provide.

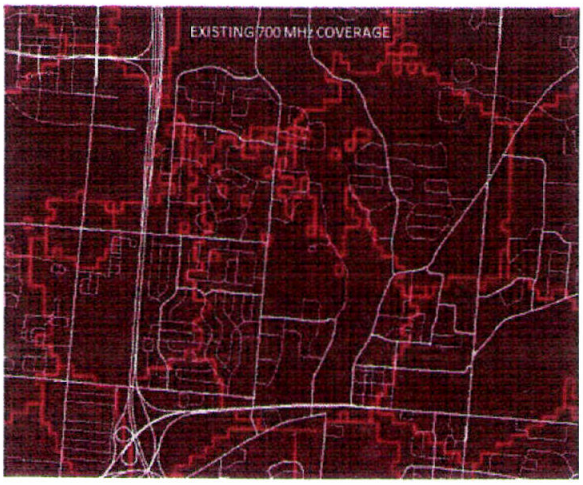
The 2100 MHz frequencies can have a performance disadvantage, in that these frequencies could have a limited ability to provide in-building penetration. Depending on building construction (whether wood, or brick, or steel), 2100 MHz frequencies typically experience more signal degradation compared to in-building penetration by 700 MHz frequencies. The in-building penetration problem is a critical design and performance issue.

In the case of the City of Gahanna the existing Verizon Wireless network was originally designed for 700 MHZ, and the cell sites in this area are therefore too far away from one another to implement an effective 2100 MHz network by just adding 2100 MHz antennas to these sites. In this case, overlaying 2100 MHz antennas to allow "band hopping" simply won't work.

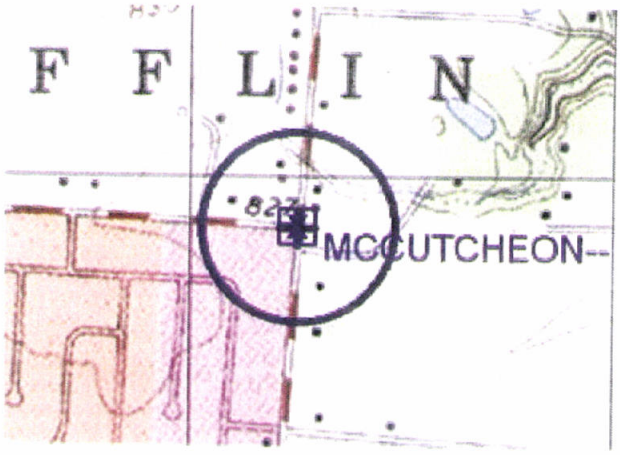
Finally, one final – indeed critical – system performance limitation must be kept clearly in mind in any discussion of cell site location. The relative coverage limits of signals sent by the cell sites in different frequency bands are important design criteria. These signals however are only one-half of the communications link. The thing that must be kept in mind is the extremely weak signals from cell phones and other mobile data devices, which provide the return link in the signal path. The power levels of these return signals are limited by federal law to a maximum of 0.6 watts for the older "feature" phones (i.e. – dumb phones), and to 0.25 watts of power for today's LTE smart phones. These weak return signals must also penetrate whatever materials a vehicle or buildings are made of, in order to communicate with the network. This as much as any other reason is why cell sites must be located within the area proposed to be served.

The inherent limitations in the physics of electromagnetic signal propagation and absorption in these frequency bands are unalterable facts. In the case of Gahanna these limitations and the implementation of the technical solutions discussed above will require construction of a new antenna site. To accomplish this, the Applicant is proposing the McCutcheon site. This new site is critical to our efforts to relieve call blocking by closing the growing service capacity gap in this part of the City, and to restoring reliable wireless communication service to the people living, working, and traveling through this area.

The Proposed McCutcheon Site. A significant wireless network service gap exists in Gahanna which negatively affects substantial numbers of wireless users throughout the area. Shown below is a coverage plot demonstrating the current gap in coverage:



Verizon Wireless radio frequency engineers have worked hard to identify the optimum location and height at which antennas should be placed to connect with the existing network in order to accommodate growing customer demand, to avoid interference with other wireless communications sites, and to close this growing service capacity gap. A map indicating where a new facility must be located to close this growing service capacity gap is shown below:



The Search for Existing Tall Structures. Before proposing this new tower site, Verizon Wireless first evaluated whether any existing towers or other tall structures might be technically feasible for coverage purposes, and suitable for collocation. Verizon Wireless is committed to collocation and regularly locates its equipment on existing towers and buildings. Collocation on existing tall structures saves time and money compared to building a new tower. Reciprocally, Verizon Wireless encourages in-bound collocation on its towers by third-party applicants, offering tower space on a first come, first served basis, at competitive, non-discriminatory rents, so long as such shared use does not interfere with any other tower tenant's equipment or operations, and provided the applicant's equipment is installed in accordance with the requirements of the Ohio Building Code, and maintained in accordance with the requirements of the Federal Communications Commission. There are no existing communication towers located within the area where a new facility must be located to correct the service gap in this area of Gahanna.

The coverage plot shown below depicts the improvement in coverage that will result from a new communications facility at the proposed location:

Optimum Location. Verizon Wireless previously applied for a development permit to replace an existing lattice tower in Mifflin Cemetery with a monopole capable of supporting the necessary equipment, but the application was denied by the City of Gahanna following a public hearing held on January 24, 2007.

As an alternative to the Mifflin Cemetery site, three sites are required and are being developed separately, in sequence, but each is an essential element of a single unified plan for closing the service capacity gap. Verizon Wireless first looked to see if there are any existing suitable towers for collocation. One tower was located at 981 East Johnstown Road and an application to collocate on it was administratively approved on March 5, 2010. Since no other suitable tower exists that meets the engineering needs of this project Verizon Wireless began to search for a suitable parcels for a new tower for the second and third sites. The Ridenour Park site at 215 Johnstown Road, Gahanna, Ohio was approved by the Planning Commission on April 11, 2012.

The proposed third site on Stygler Road is the optimum location to close the service capacity gap in this area. This location offers sufficient geographic separation from existing cellular towers for the effective handoff of wireless traffic to and from existing sites, and to close the service gap in the surrounding area. Changing the proposed site's location will alter the signal propagation path, and will materially compromise the coverage area needed to provide wireless service to the residences and motorists in the surrounding area, and to close the service capacity gap. Verizon Wireless is proposing a stealth structure designed to look like a pine tree (monopine) for this location.

The proposed stealth monopine will allow the applicant to close the service gap in Gahanna. The proposed height is the minimum height required and will provide the best solution to serve the requirements of the area. Without the proposed site, people in this area of Gahanna will continue to experience call

blocking and poor signal coverage, preventing them from wirelessly connecting to the national telephone system.

Confirmation of Continued Regulatory Compliance. The applicant affirms that the wireless communications facility proposed at this site has been designed and will be constructed and operated in accordance with all federal, state and local regulations applicable to such facilities. Verizon Wireless affirms it and its licensed operating units will operate exclusively within the frequencies and service areas licensed to it by the Federal Communications Commission. Verizon Wireless further affirms that it will operate its facility in conformance with all applicable federal requirements for controlling public and worker exposure to radiofrequency energy.

The proposed stealth facility is needed to provide an essential public service to wireless communication users in Gahanna that cannot be established in any other manner. The construction and integration of this site into Verizon Wireless' existing network will provide or improve access to mobile voice and wireless data services previously degraded or unavailable, and support Homeland Security through enhanced 911 services. Finally, it will allow the service gap in this area to be closed.

Sincerely, Curt Bolain

Curt Bolain
Radio Frequency Engineer
Verizon Wireless

GREEN DOTS REPRESENT 4G TO 3G HANDDOWNS, THESE WOULD BE VOLTE DROPS. MCCUTCHEON WILL HELP TO ELIMIATE THESE DOTS.

GAHANNA ZONING SITES

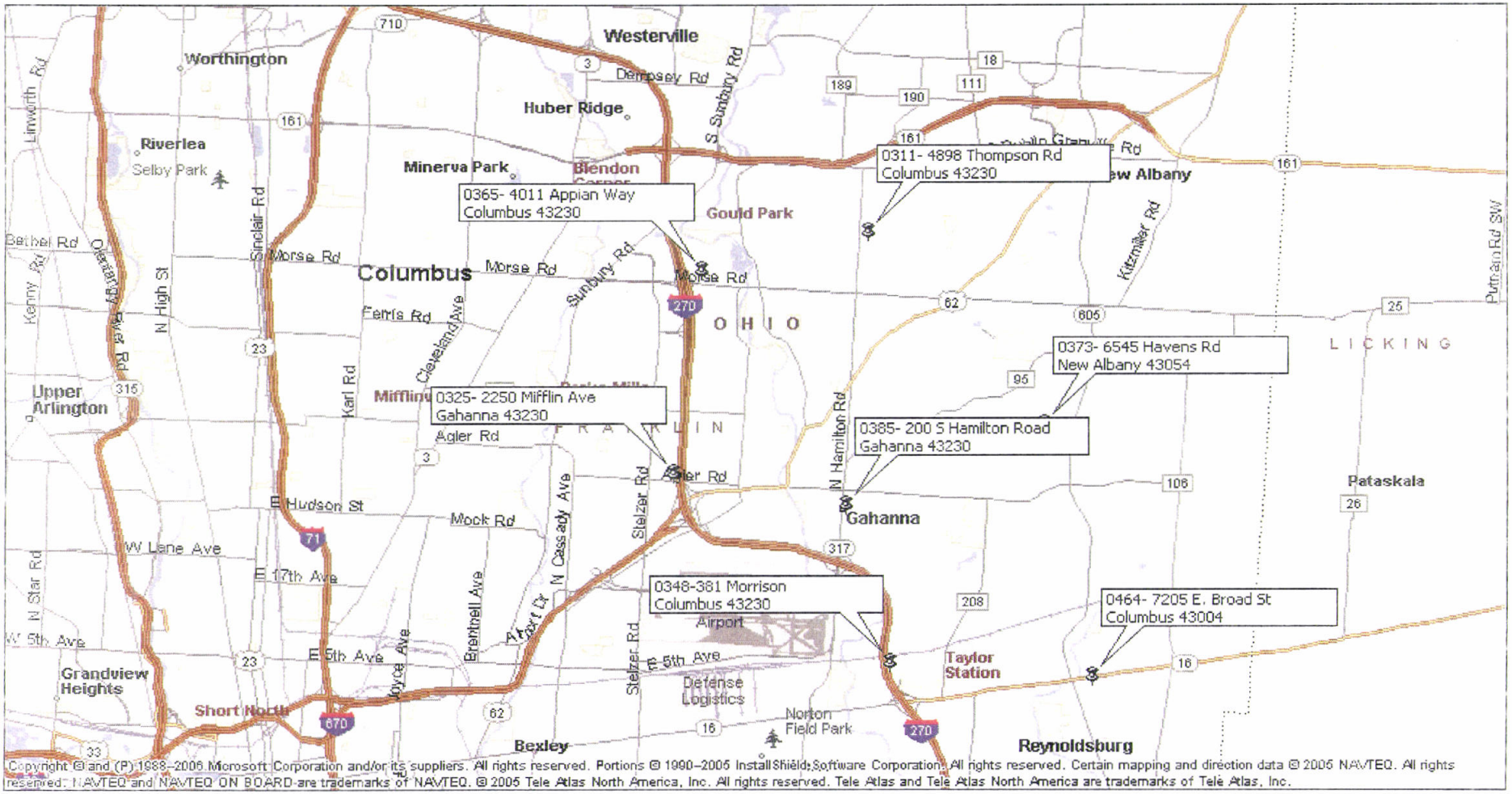


EXHIBIT K

Safety Information (Section 1181.06.C)

- Refer to Exhibit H for this information as Exhibit K is a duplicate of that section

EXHIBIT L

Fall Zone Information (Section 1181.07.A)

- Zero Radius Fall Zone Letter

Sabre Industries™
Towers and Poles

July 24, 2014

Mr. Robert M. Ferguson
United Acquisition Services, Inc.

RE: Proposed 112 ft Sabre Monopine for McCutcheon, OH

Dear Mr. Ferguson,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopine for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" ice, Structure Class II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the monopine will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, and assuming that the wind pressure profile is similar to that used to design the monopine, the structure will yield at the location of the highest combined stress ratio, in the upper portion of the monopine. This is likely to result in the portion of the monopine above "folding down" toward the portion below, essentially collapsing upon itself. This would effectively result in a "zero radius fall zone" at ground level. Please note that this letter only applies to the above referenced monopine designed and manufactured by Sabre Towers & Poles.

Sincerely,

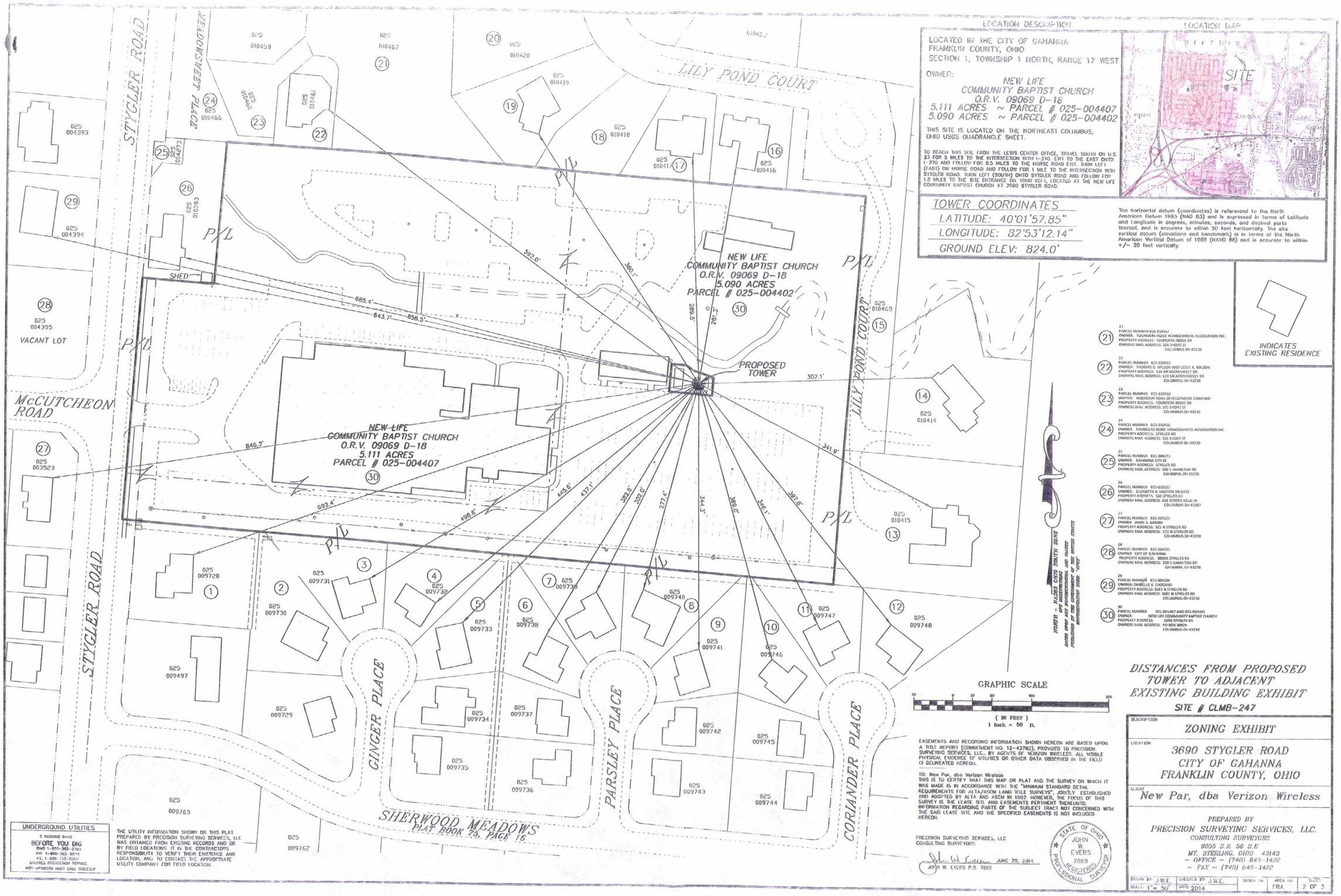
Robert E. Beacom, P.E.
Design Engineer II

Sabre Towers and Poles • 2101 Murray Street • P.O. Box 658 • Sioux City, IA 51102-0658
P: 712-258-6690 F: 712-279-0814 W: www.SabreTowersandPoles.com

EXHIBIT M

Setback Information (Section 1181.07.B)

- Zoning Exhibit Sheet 2



LOCATION DESCRIPTION

LOCATED IN THE CITY OF GAHANNA
FRANKLIN COUNTY, OHIO
SECTION 1, TOWNSHIP 1 NORTH, RANGE 17 WEST

OWNER:
NEW LIFE
COMMUNITY BAPTIST CHURCH
O.R.V. 09069 D-18
5.111 ACRES ~ PARCEL # 025-004407
5.090 ACRES ~ PARCEL # 025-004402

THIS SITE IS LOCATED ON THE NORTHEAST COLUMBUS, OHIO USGS QUADRANGLE SHEET.

TO REACH THIS SITE FROM THE LEWIS CENTER OFFICE, TRAVEL SOUTH ON U.S. 23 FOR 5 MILES TO THE INTERSECTION WITH I-270. EXIT TO THE EAST ONTO I-270 AND FOLLOW FOR 8.5 MILES TO THE MORSE ROAD EXIT. TURN LEFT (EAST) ON MORSE ROAD AND FOLLOW FOR 1 MILE TO THE INTERSECTION WITH STYGLER ROAD. TURN LEFT (SOUTH) ONTO STYGLER ROAD AND FOLLOW FOR 1.8 MILES TO THE SITE ENTRANCE ON YOUR RIGHT, LOCATED AT THE NEW LIFE COMMUNITY BAPTIST CHURCH AT 3690 STYGLER ROAD.

LOCATION MAP

TOWER COORDINATES

LATITUDE: 40°01'57.85"
LONGITUDE: 82°53'12.14"
GROUND ELEV: 824.0'

The horizontal datum (coordinates) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 50 feet horizontally. The site vertical datum (elevations and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within +/- 20 feet vertically.

21 PARCEL NUMBER 025-010467 OWNER: FOUNDERS RIDGE HOMEOWNERS ASSOCIATION INC. PROPERTY ADDRESS: FOUNDERS RIDGE DR OWNERS MAIL ADDRESS: 106 SHORT ST COLUMBUS OH 43230

22 PARCEL NUMBER 025-010461 OWNER: THOMAS D. WILSON AND LESLIE A. WILSON PROPERTY ADDRESS: 530 MEADOWSWEET DR OWNERS MAIL ADDRESS: 530 MEADOWSWEET DR COLUMBUS OH 43230

23 PARCEL NUMBER 025-010460 OWNER: BOROUGH ROAD DEVELOPMENT COMPANY PROPERTY ADDRESS: FOUNDERS RIDGE DR OWNERS MAIL ADDRESS: 100 SHORT ST COLUMBUS OH 43230

24 PARCEL NUMBER 025-010466 OWNER: FOUNDERS RIDGE HOMEOWNERS ASSOCIATION INC. PROPERTY ADDRESS: STYGLER RD OWNERS MAIL ADDRESS: 106 SHORT ST COLUMBUS OH 43230

25 PARCEL NUMBER 025-004273 OWNER: GAHANNA CITY OF PROPERTY ADDRESS: STYGLER RD OWNERS MAIL ADDRESS: 200 S HAMILTON RD GAHANNA, OH 43230

26 PARCEL NUMBER 025-010393 OWNER: ELIZABETH V. HAGTON TRUSTEE PROPERTY ADDRESS: 560 STYGLER RD OWNERS MAIL ADDRESS: 436 SCIOTO VILLA LN COLUMBUS OH 43207

27 PARCEL NUMBER 025-003523 OWNER: JAMES S. GRIMM PROPERTY ADDRESS: 521 N STYGLER RD OWNERS MAIL ADDRESS: 521 N STYGLER RD COLUMBUS OH 43230

28 PARCEL NUMBER 025-004395 OWNER: CITY OF GAHANNA PROPERTY ADDRESS: 00000 STYGLER RD OWNERS MAIL ADDRESS: 200 S HAMILTON RD GAHANNA, OH 43230

29 PARCEL NUMBER 025-004394 OWNER: DANIELLE E. CHIOCANO PROPERTY ADDRESS: 3681 N STYGLER RD OWNERS MAIL ADDRESS: 3681 N STYGLER RD COLUMBUS OH 43230

30 PARCEL NUMBER 025-004407 AND 025-004402 OWNER: NEW LIFE COMMUNITY BAPTIST CHURCH PROPERTY ADDRESS: 3690 STYGLER RD OWNERS MAIL ADDRESS: PO BOX 30929 COLUMBUS OH 43230

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

EASEMENTS AND RECORDING INFORMATION SHOWN HEREON ARE BASED UPON A TITLE REPORT (COMMITMENT NO. 12-43782), PROVIDED TO PRECISION SURVEYING SERVICES, LLC., BY AGENTS OF VERIZON WIRELESS. ALL VISIBLE PHYSICAL EVIDENCE OF UTILITIES OR OTHER DATA OBSERVED IN THE FIELD IS DELINEATED HEREON.

TO: New Par, dba Verizon Wireless
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT WAS MADE IS IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ASCM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND ASCM IN 1992. HOWEVER, THE FOCUS OF THIS SURVEY IS THE LEASE SITE AND EASEMENTS PERTINENT THEREUNTO. INFORMATION REGARDING PARTS OF THE SUBJECT TRACT NOT CONCERNED WITH THE SAID LEASE SITE AND THE SPECIFIED EASEMENTS IS NOT INCLUDED HEREON.

PRECISION SURVEYING SERVICES, LLC
CONSULTING SURVEYORS

JUNE 29, 2014
JOHN W. EVERS P.S. 7869

STATE OF OHIO
JOHN W. EVERS
7869
REGISTERED PROFESSIONAL SURVEYOR

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
OHIO 1-800-362-2764
W.V. 1-800-752-0007
MEMBERS PROTECTION SERVICE
NON-MEMBERS MUST CALL DIRECTLY

THE UTILITY INFORMATION SHOWN ON THIS PLAT PREPARED BY PRECISION SURVEYING SERVICES, LLC WAS OBTAINED FROM EXISTING RECORDS AND OR BY FIELD LOCATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THEIR EXISTENCE AND LOCATION, AND TO CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD LOCATION.

DISTANCES FROM PROPOSED TOWER TO ADJACENT EXISTING BUILDING EXHIBIT

SITE # CLMB-247

DESCRIPTION: ZONING EXHIBIT

LOCATION: 3690 STYGLER ROAD
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO

CLIENT: New Par, dba Verizon Wireless

PREPARED BY
PRECISION SURVEYING SERVICES, LLC.
CONSULTING SURVEYORS
9055 S.R. 56 S.E.
MT. STERLING, OHIO 43143
~ OFFICE ~ (740) 845-1422
~ FAX ~ (740) 845-1422

DRAWN BY: J.W.E.	CHECKED BY: J.W.E.	DRGN. NO.	AREA NO.	SHEET
SCALE: 1" = 50'	DATE: 2014		FRA	2 OF 3

EXHIBIT N

Fire Safety Information (Section 1181.08.E.4)

- Material Data Safety Sheet FM-200
- Material Data Safety Sheet Lead Acid Battery Wet

Material Safety Data Sheet

FM-200®

Version 2.1

Revision Date 07/11/2011 Ref. 130000036866

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	FM-200®
Tradename/Synonym	:	FE-227 2-Hydroperfluoropropane Propane, 1,1,1,2,3,3,3-Heptafluoro- HFC-227eaHP 2-Hydroheptafluoropropane Heptafluoropropane 2-H-heptafluoropropane 1,1,1,2,3,3,3-Heptafluoropropane R-227 R227 HFC-227ea
MSDS Number	:	130000036866
Product Use	:	Fire extinguishing agent
Manufacturer	:	DuPont 1007 Market Street Wilmington, DE 19898
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Misuse or intentional inhalation abuse may lead to death without warning.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Rapid evaporation of the liquid may cause frostbite.

Potential Health Effects

Skin : Contact with liquid or refrigerated gas can cause cold burns and frostbite.

Eyes	:	Contact with liquid or refrigerated gas can cause cold burns and frostbite.
Inhalation	:	Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are: Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	100 %

SECTION 4. FIRST AID MEASURES

Skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use. Treat for frostbite if necessary by gently warming affected area.
Eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if necessary.
Inhalation	:	Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

Ingestion	:	Is not considered a potential route of exposure.
General advice	:	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Fire and Explosion Hazard	:	The product is not flammable. Hazardous decomposition products : Hydrogen fluoride, Carbonyl fluoride
Suitable extinguishing media	:	This material is a fire extinguishing agent.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of leak - evacuate until gas has dispersed.
Spill Cleanup	:	Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Do not breathe gas. Avoid contact with skin, eyes and clothing. Provide sufficient air exchange and/or exhaust in work rooms. For personal protection see section 8. Wash hands thoroughly after handling. Wash clothing after use. Decomposition will occur when product comes in contact with open flame or electrical heating elements. Handle in accordance with good industrial hygiene and safety practice.

Storage	:	Valve protection caps and valve cutlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Keep container tightly closed in a dry and well-ventilated place. Store in original container. Protect from contamination. Avoid area where salt or other corrosive materials are present.
Storage temperature	:	< 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Use only with adequate ventilation. Keep container tightly closed.
Personal protective equipment		
Respiratory protection	:	Wear NIOSH approved respiratory protection as appropriate.
Hand protection	:	Additional protection: Impervious gloves
Eye protection	:	Safety glasses with side-shields Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Skin and body protection	:	Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.
Protective measures	:	Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines

Exposure Limit Values

1,1,1,2,3,3,3-Heptafluoropropane

AEL *	(DUPONT)	1,000 ppm	8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquefied gas
Odor	:	none
Melting point/range	:	-131 °C (-204 °F)
Boiling point	:	-16.3 °C (2.7 °F)
Vapour Pressure	:	4,547 hPa at 25 °C (77 °F)
Density	:	1.388 g/cm3 at 25 °C (77 °F) (as liquid)

SECTION 10. STABILITY AND REACTIVITY

Stability	:	Stable at normal temperatures and storage conditions.
Incompatibility	:	Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Hazardous decomposition products , Hydrogen fluoride , Carbonyl fluoride, Carbon monoxide, Carbon dioxide
Hazardous reactions	:	Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

FM-200®

Inhalation 4 h LC50	:	> 788698 ppm , rat
Inhalation	:	dog Cardiac sensitization
Dermal	:	not applicable
Oral	:	not applicable
Skin irritation	:	No skin irritation, Not tested on animals

Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation : No eye irritation, Not tested on animals
Not expected to cause eye irritation based on expert review of the properties of the substance.

Sensitisation : Does not cause skin sensitization., Not tested on animals
Not expected to cause sensitization based on expert review of the properties of the substance.

Did not cause sensitization on laboratory animals. There are no reports of human respiratory sensitization.

Repeated dose toxicity : Inhalation
rat
No toxicologically significant effects were found.

Carcinogenicity : Overall weight of evidence indicates that the substance is not carcinogenic.

Mutagenicity : Did not cause genetic damage in animals.
Did not cause genetic damage in cultured mammalian cells.
Did not cause genetic damage in cultured bacterial cells.

Reproductive toxicity : Animal testing showed no reproductive toxicity.
Information given is based on data obtained from similar substances.

Teratogenicity : Animal testing showed no developmental toxicity.

Further information : Cardiac sensitisation threshold limit : 730190 mg/m3

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
FM-200®

96 h LC50 : Danio rerio (zebra fish) > 200 mg/l
Information given is based on data obtained from similar substances.

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 81.8 mg/l

Information given is based on data obtained from similar substances.

72 h EC50	:	Pseudokirchneriella subcapitata > 114 mg/l Information given is based on data obtained from similar substances.
72 h EC50	:	Pseudokirchneriella subcapitata > 118 mg/l Information given is based on data obtained from similar substances.
48 h EC50	:	Daphnia magna (Water flea) > 200 mg/l Information given is based on data obtained from similar substances.
48 h EC50	:	Daphnia magna (Water flea) > 97.9 mg/l Information given is based on data obtained from similar substances.

Environmental Fate
FM-200®

Biodegradability aerobic	:	1 % OECD Test Guideline 301 Not readily biodegradable.
Biodegradability aerobic	:	5 % OECD Test Guideline 301 Not readily biodegradable.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	:	Can be used after re-conditioning. Recover by distillation or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.
Environmental Hazards	:	Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

DOT	UN number	:	3296
	Proper shipping name	:	Heptafluoropropane
	Class	:	2.2
	Labelling No.	:	2.2
IATA_C	UN number	:	3296

	Proper shipping name	: Heptafluoropropane
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 3296
	Proper shipping name	: Heptafluoropropane
	Class	: 2.2
	Labelling No.	: 2.2

SECTION 15. REGULATORY INFORMATION

SARA 313 Regulated Chemical(s)	:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
California Prop. 65	:	Chemicals known to the State of California to cause cancer, birth defects or any other harm: none known

SECTION 16. OTHER INFORMATION

		HMIS
Health	:	1
Flammability	:	0
Reactivity/Physical hazard	:	0
PPE	:	Personal Protection rating to be supplied by user depending on use conditions.

FM-200 is a registered trademark of E. I. du Pont de Nemours and Company
Before use read DuPont's safety information.
For further information contact the local DuPont office or DuPont's nominated distributors.
® DuPont's registered trademark

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing,

storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

MATERIAL SAFETY DATA SHEET
LEAD ACID BATTERY WET, FILLED WITH ACID
(US, CN, EU Version for International Trade)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Lead Acid Battery Wet, Filled With Acid**
OTHER PRODUCT NAMES: Electric Storage Battery, SLI or Industrial Battery, UN2794

MANUFACTURER: East Penn Manufacturing Company, Inc.
DIVISION: Deka Road
ADDRESS: Lyon Station, PA 19536 USA

EMERGENCY TELEPHONE NUMBERS:
US: CHEMTREC 1-800-424-9300
CN: CHEMTREC 1-800-424-9300
Outside US: 1-703-527-3887

NON-EMERGENCY HEALTH/SAFETY INFORMATION: 1-610-682-6361

CHEMICAL FAMILY: This product is a wet lead acid storage battery. May also include gel/absorbed electrolyte type lead acid battery types.

PRODUCT USE: Industrial/Commercial electrical storage batteries.

This product is considered a Hazardous Substance, Preparation or Article that is regulated under US-OSHA; CAN-WHMIS; IOSH; ISO; UK-CHIP; or EU Directives (67/548/EEC-Dangerous Substance Labelling, 98/24/EC-Chemical Agents at Work, 99/45/EC-Preparation Labelling, 2001/58/EC-MSDS Content, and 1907/2006/EC-REACH), and an MSDS/SDS is required for this product considering that when used as recommended or intended, or under ordinary conditions, it may present a health and safety exposure or other hazard.

Additional Information
This product may not be compatible with all environments, such as those containing liquid solvents or extreme temperature or pressure. Please request information if considering use under extreme conditions or use beyond current product labelling.

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:

Health	Environmental	Physical
Acute Toxicity – Not listed (NL) Eye Corrosion – Corrosive* Skin Corrosion – Corrosive* Skin Sensitization – NL Mutagenicity/Carcinogenicity – NL Reproductive/Developmental – NL Target Organ Toxicity (Repeated) – NL	Aquatic Toxicity – NL	NFPA – Flammable gas, hydrogen (during charging) CN - NL EU - NL

*as sulfuric acid

GHS Label: Lead Acid Battery, Wet

Symbols: C (Corrosive)

Hazard Statements	Precautionary Statements
Contact with internal components may cause irritation of severe burns. Irritating to eyes, respiratory system, and skin.	Keep out of reach of children. Keep containers tightly closed. Avoid heat, sparks, and open flame while charging batteries. Avoid contact with internal acid.

EMERGENCY OVERVIEW: May form explosive air/gas mixture during charging. Contact with internal components may cause irritation or severe burns. Irritating to eyes, respiratory system, and skin. Prolonged inhalation or ingestion may result in serious damage to health. Pregnant

women exposed to internal components may experience reproductive/developmental effects.

POTENTIAL HEALTH EFFECTS:

EYES: Direct contact of internal electrolyte liquid with eyes may cause severe burns or blindness.

SKIN: Direct contact of internal electrolyte liquid with the skin may cause skin irritation or damaging burns.

INGESTION: Swallowing this product may cause severe burns to the esophagus and digestive tract and harmful or fatal lead poisoning. Lead ingestion may cause nausea, vomiting, weight loss, abdominal spasms, fatigue, and pain in the arms, legs and joints.

INHALATION: Respiratory tract irritation and possible long-term effects.

ACUTE HEALTH HAZARDS:
Repeated or prolonged contact may cause mild skin irritation.

CHRONIC HEALTH HAZARDS:
Lead poisoning if persons are exposed to internal components of the batteries. Lead absorption may cause nausea, vomiting, weight loss, abdominal spasms, fatigue, and pain in the arms, legs and joints. Other effects may include central nervous system damage, kidney dysfunction, and potential reproductive effects. Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Respiratory and skin diseases may predispose the user to acute and chronic effects of sulfuric acid and/or lead. Children and pregnant women must be protected from lead exposure. Persons with kidney disease may be at increased risk of kidney failure.

Additional Information
No health effects are expected related to normal use of this product as sold.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS (Chemical/Common Names):	CAS No.:	% by Wt:	EC No.:
Lead, inorganic	7439-92-1	43–70 (average: 65)	231-100-4
Sulfuric acid	7664-93-9	20–44 (average: 25)	231-639-5
Antimony	7440-36-0	0—4 (average: 1)	231-146-5
Arsenic	7440-38-2	<0.01	231-148-6
Polypropylene	9003-07-0	5–10 (average: 8)	NA

NA: Not applicable; ND: Not determined

Additional Information
These ingredients reflect components of the finished product related to performance of the product as distributed into commerce.

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Flush eyes with large amounts of water for at least 15 minutes. Seek immediate medical attention if eyes have been exposed directly to acid.

SKIN CONTACT: Flush affected area(s) with large amounts of water using deluge emergency shower, if available, shower for at least 15 minutes. Remove contaminated clothing. If symptoms persist, seek medical attention.

INGESTION: If swallowed, give large amounts of water. Do NOT induce vomiting or aspiration into the lungs may occur and can cause permanent injury or death.

INHALATION: If breathing difficulties develop, remove person to fresh air. If symptoms persist, seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

SUITABLE/UNSUITABLE EXTINGUISHING MEDIA:
Dry chemical, carbon dioxide, water, foam. Do not use water on live electrical circuits.

SPECIAL FIREFIGHTING PROCEDURES & PROTECTIVE EQUIPMENT:
Use appropriate media for surrounding fire. Do not use carbon dioxide directly on cells. Avoid breathing vapours. Use full protective equipment (bunker gear) and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Batteries evolve flammable hydrogen gas during charging and may increase fire risk in poorly ventilated areas near sparks, excessive heat or open flames.
SPECIFIC HAZARDS IN CASE OF FIRE:
Thermal shock may cause battery case to crack open. Containers may explode when heated.

Additional Information
Firefighting water runoff and dilution water may be toxic and corrosive and may cause adverse environmental impacts.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Avoid Contact with Skin. Neutralize any spilled electrolyte with neutralizing agents, such as soda ash, sodium bicarbonate, or very dilute sodium hydroxide solutions.
ENVIRONMENTAL PRECAUTIONS:
Prevent spilled material from entering sewers and waterways.
SPILL CONTAINMENT & CLEANUP METHODS/MATERIALS:
Add neutralizer/absorbent to spill area. Sweep or shovel spilled material and absorbent and place in approved container. Dispose of any non-recyclable materials in accordance with local, state, provincial or federal regulations.

Additional Information
Lead acid batteries and their plastic cases are recyclable. Contact your East Penn representative for recycling information.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:
- Keep containers tightly closed when not in use.
- If battery case is broken, avoid contact with internal components.
- Do not handle near heat, sparks, or open flames.
- Protect containers from physical damage to avoid leaks and spills.
- Place cardboard between layers of stacked batteries to avoid damage and short circuits.
- Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire.

OTHER PRECAUTIONS (e.g.; Incompatibilities):
Keep away from combustible materials, organic chemicals, reducing substances, metals, strong oxidizers and water.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS/SYSTEM DESIGN INFORMATION:
Charge in areas with adequate ventilation.
VENTILATION:
General dilution ventilation is acceptable.
RESPIRATORY PROTECTION:
Not required for normal conditions of use. See also special firefighting procedures (Section 5).
EYE PROTECTION:
Wear protective glasses with side shields or goggles.
SKIN PROTECTION:
Wear chemical resistant gloves as a standard procedure to prevent skin contact.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Chemically impervious apron and face shield recommended when adding water or electrolyte to batteries.
Wash Hands after handling.
EXPOSURE GUIDELINES & LIMITS:

OSHA	Permissible Exposure Limit (PEL/TWA)	Lead, inorganic (as Pb)	0.05 mg/m^3
		Sulfuric acid	1.00 mg/m^3

EXPOSURE GUIDELINES & LIMITS:

ACGIH	2007 Threshold Limit Value (TLV)	Antimony	0.50 mg/m^3	
		Arsenic	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.05 mg/m^3	
		Sulfuric acid	0.20 mg/m^3	
Quebec	Permissible Exposure Value (PEV)	Antimony	0.50 mg/m^3	
		Arsenic	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.15 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWA
			3.00 mg/m^3	STEV
Ontario	Occupational Exposure Level (OEL)	Antimony	0.50 mg/m^3	
		Arsenic	0.10 mg/m^3	
		Lead (designated substance)	0.10 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWAEV
			3.00 mg/m^3	STEV
Netherlands	Maximaal Aanvaarde Concentratie (MAC)	Antimony	0.50 mg/m^3	
		Arsenic (designated substance)	0.01 mg/m^3	
		Lead, inorganic (as Pb)	0.15 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	
Germany	Maximale Arbeitsplatzkonzentrationen (MAK)	Lead, inorganic (as Pb)	0.10 mg/m^3	
		Sulfuric acid	1.00 mg/m^3	TWA
			2.00 mg/m^3	STEL
United Kingdom	Occupational Exposure Standard (OES)	Antimony	0.50 mg/m^3	
		Lead	0.15 mg/m^3	
		Antimony	0.50 mg/m^3	
		Arsenic	0.10 mg/m^3	

TWA: 8-Hour Time-Weighted Average; STE: Short-Term Exposure; mg/m^3: milligrams per cubic meter of air; NE: Not Established; STEV: Short-Term Exposure Value; TWAEV: Time-Weighted Average Exposure Value; STEL: Short-Term Exposure Limit

Additional Information

- Batteries are housed in polypropylene cases which are regulated as total dust or respirable dust only when they are ground up during recycling. The OSHA PEL for dust is 15 mg/m^3 as total dust or 5 mg/m^3 as respirable dust.
- May be required to meet Domestic Requirements for a Specific Destination(s).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Industrial/commercial lead acid battery
ODOUR:	Odourless
ODOUR THRESHOLD:	NA
PHYSICAL STATE:	Sulfuric Acid: Liquid; Lead: solid
pH:	<1
BOILING POINT:	235-240° F (113-116° C) (as sulfuric acid)
MELTING POINT:	NA
FREEZING POINT:	NA
VAPOUR PRESSURE:	10 mmHg
VAPOUR DENSITY (AIR = 1):	> 1
SPECIFIC GRAVITY (H_2O = 1):	1.27–1.33
EVAPORATION RATE (n-BuAc=1):	< 1
SOLUBILITY IN WATER:	100% (as sulfuric acid)
FLASH POINT:	Below room temperature (as hydrogen gas)
AUTO-IGNITION TEMPERATURE:	NA
LOWER EXPLOSIVE LIMIT (LEL):	4% (as hydrogen gas)
UPPER EXPLOSIVE LIMIT (UEL):	74% (as hydrogen gas)
PARTITION COEFFICIENT:	NA
VISCOSITY (poise @ 25° C):	Not Available

DECOMPOSITION TEMPERATURE: Not Available

FLAMMABILITY/HMIS HAZARD CLASSIFICATIONS (US/CN/EU): As sulfuric acid
HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 2

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	This product is stable under normal conditions at ambient temperature.
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong bases, combustible organic materials, reducing agents, finely divided metals, strong oxidizers, and water.
HAZARDOUS DECOMPOSITION BY-PRODUCTS:	Thermal decomposition will produce sulfur dioxide, sulfur trioxide, carbon monoxide, sulfuric acid mist, and hydrogen.
HAZARDOUS POLYMERIZATION:	Will not occur
CONDITIONS TO AVOID:	Overcharging, sources of ignition

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY (Test Results Basis and Comments):
Sulfuric acid: LD50, Rat: 2140 mg/kg
LC50, Guinea pig: 510 mg/m^3
Lead: No data available for elemental lead

SUBCHRONIC/CHRONIC TOXICITY (Test Results and Comments):
Repeated exposure to lead and lead compounds in the workplace may result in nervous system toxicity. Some toxicologists report abnormal conduction velocities in persons with blood lead levels of 50 µg/100 ml or higher. Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

Additional Information
- Very little chronic toxicity data available for elemental lead.
- Lead is listed by IARC as a 2B carcinogen: possible carcinogen in humans. Arsenic is listed by IARC, ACGIH, and NTP as a carcinogen, based on studies with high doses over long periods of time. The other ingredients in this product, present at equal to or greater than 0,1% of the product, are not listed by OSHA, NTP, or IARC as suspect carcinogens.
- The 19th Amendment to EC Directive 67/548/EEC classified lead compounds, but not lead in metal form, as possibly toxic to reproduction. Risk phrase 61: May cause harm to the unborn child, applies to lead compounds, especially soluble forms.

SECTION 12: ECOLOGICAL INFORMATION

PERSISTENCE & DEGRADABILITY:
Lead is very persistent in soils and sediments. No data available on biodegradation.

BIOACCUMULATIVE POTENTIAL (Including Mobility):
Mobility of metallic lead between ecological compartments is low. Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants, but very little bioaccumulation occurs through the food chain. Most studies have included lead compounds, not solid inorganic lead.

AQUATIC TOXICITY (Test Results & Comments):
Sulfuric acid: 24-hour LC50, fresh water fish *(Brachydanio rerio)*: 82 mg/l
96-hour LOEC, fresh water fish *(Cyprinus carpio)*: 22 mg/l (lowest observable effect concentration)
Lead (metal): No data available

Additional Information
- No known effects on stratospheric ozone depletion.
- Volatile organic compounds: 0% (by Volume)
- Water Endangering Class (WGK): NA

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:	Following local, State/Provincial, and Federal/National regulations applicable to end-of-life characteristics will be the responsibility of the end-user.

HAZARDOUS WASTE CLASS/CODE:

US - Not applicable to finished product as manufactured for distribution into commerce.
CN – Not applicable to finished product as manufactured for distribution into commerce.
EWC – Not applicable to finished product as manufactured for distribution into commerce.

Additional Information
Not Included – **Recycle** or dispose as allowed by local jurisdiction for the end-of-life characteristics as-disposed.

SECTION 14: TRANSPORT INFORMATION

GROUND – US-DOT/CAN-TDG/EU-ADR/APEC-ADR:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

AIRCRAFT – ICAO-IATA:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

Reference IATA packing instructions 870

VESSEL – IMO-IMDG:

Proper Shipping Name	Batteries, Wet, Filled with Acid		
Hazard Class	8	ID Number	UN2794
Packing Group	III	Labels	Corrosive

Reference IMDG packing instructions P801

Additional Information

Transport requires proper packaging and paperwork, including the Nature and Quantity of goods, per applicable origin/destination/customs points as-shipped.

SECTION 15: REGULATORY INFORMATION

INVENTORY STATUS:

All components are listed on the TSCA; EINECS/ELINCS; and DSL, unless noted otherwise below.

U.S. FEDERAL REGULATIONS:

TSCA Section 8b – Inventory Status: All chemicals comprising this product are either exempt or listed on the TSCA Inventory.

TSCA Section 12b – Export Notification: If the finished product contains chemicals subject to TSCA Section 12b export notification, they are listed below:

Chemical	CAS #
None	NA

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT)
Chemicals present in the product which could require reporting under the statute:

Chemical	CAS #
Lead	7439-92-1
Sulfuric acid	7664-93-9

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

The finished product contains chemicals subject to the reporting requirements of Section 313 of SARA Title III.

Chemical	CAS #	% wt
Lead	7439-92-1	65
Sulfuric acid	7664-93-9	25

CERCLA SECTION 311/312 HAZARD CATEGORIES: Note that the finished product is exempt from these regulations, but lead and sulfuric acid above the thresholds are reportable on Tier II reports.

Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No
Immediate Hazard	Yes (Sulfuric acid is Corrosive)
Delayed Hazard	No

STATE REGULATIONS (US):

California Proposition 65

The following chemicals identified to exist in the finished product as distributed into commerce are known to the State of California to cause cancer, birth defects, or other reproductive harm:

Chemical	CAS #	% Wt
Arsenic (as arsenic oxides)	7440-38-2	<0.1
Strong inorganic acid mists including sulfuric acid	NA	25
Lead	7439-92-1	65

California Consumer Product Volatile Organic Compound Emissions

This Product is not regulated as a Consumer Product for purposes of CARB/OTC VOC Regulations, as-sold for the intended purpose and into the industrial/Commercial supply chain.

INTERNATIONAL REGULATIONS (Non-US):

Canadian Domestic Substance List (DSL)

All ingredients remaining in the finished product as distributed into commerce are included on the Domestic Substances List.

WHMIS Classifications

Class E: Corrosive materials present at greater than 1%

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Controlled Products Regulations.

NPRI and Ontario Regulation 127/01

This product contains the following chemicals subject to the reporting requirements of Canada NPRI +/or Ont. Reg. 127/01:

Chemical	CAS #	% Wt
Lead	7439-92-1	65
Sulfuric acid	7664-93-9	25

European Inventory of Existing Commercial Chemical Substances (EINECS)

All ingredients remaining in the finished product as distributed into commerce are exempt from, or included on, the European Inventory of Existing Commercial Chemical Substances.

European Communities (EC) Hazard Classification according to directives 67/548/EEC and 1999/45/EC.

R-Phrases	S-Phrases
35, 36, 38	1/2, 26, 30, 45

Additional Information

This product may be subject to Restriction of Hazardous Substances (RoHS) regulations in Europe and China, or may be regulated under additional regulations and laws not identified above, such as for uses other than described or as-designed/as-intended by the manufacturer, or for distribution into specific domestic destinations.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

Distribution into Quebec to follow Canadian Controlled Product Regulations (CPR) 24(1) and 24(2).

Distribution into the EU to follow applicable Directives to the Use, Import/Export of the product as-sold.

Sources of Information:

International Agency for Research on Cancer (1987), *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: Overall Evaluations of Carcinogenicity: An updating of IARC Monographs Volumes 1-42, Supplement 7, Lyon,* France.

Ontario Ministry of Labour Regulation 654/86. Regulations Respecting Exposure to Chemical or Biological Agents.

RTECS – Registry of Toxic Effects of Chemical Substances, National institute for Occupational Safety and Health.

MSDS/SDS PREPARATION INFORMATION:

DATE OF ISSUE: ***30 April 2013*** SUPERCEDES: ***16 December 2011***

DISCLAIMER:

This Material Safety Data Sheet is based upon information and sources available at the time of preparation or revision date. The information in the MSDS was obtained from sources which we believe are reliable, but are beyond our direct supervision or control. We make no Warranty of Merchantability, Fitness for any particular purpose or any other Warranty, Expressed or Implied, with respect to such information and we assume no liability resulting from its use. For this and other reasons, we do

not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the obligation of each user of this product to determine the suitability of this product and comply with the requirements of all applicable laws regarding use and disposal of this product. For additional information concerning East Penn Manufacturing Co., Inc. products or questions concerning the content of this MSDS please contact your East Penn representative.

END

EXHIBIT O

Alternative Analysis and Comparison Information (Section 1181.09)

- Alternate Site Analysis Report

United Acquisition Services

3960 Brown Park Dr., Ste. I
Hilliard, Ohio 43026
phone 614.850.8966
fax 614.850.8230

September 29, 2014

City of Gahanna
Attn: Bonnie Gard, Zoning Administrator
200 South Hamilton Road
Gahanna, OH 43230

Re: Alternate Site Analysis Report
Applicant: New Par, d/b/a Verizon Wireless
Wireless Telecommunications Facility Application
Site location: North Stygler Road, Columbus, Ohio
Verizon Wireless Site Name: McCutcheon

Dear Ms. Gard:

This report is provided to explain the site development process used by the Applicant to identify the site selected for the new wireless communications facility proposed in the accompanying zoning application.

Site Development Process

Step 1: Problem Identification. Verizon Wireless radio frequency engineers first identified a growing coverage and/or capacity gap in Gahanna. To remedy the growing coverage and/or capacity gap in Gahanna Verizon Wireless previously applied for a development permit to replace an existing lattice tower in Mifflin Cemetery with a monopole capable of supporting the necessary equipment, but was denied by the City of Gahanna. The administrative record for CU-0012-2006 and V-0022-2006 is incorporated herein in its entirety and made a part hereof by reference. A copy of the denial has been submitted with the application and is shown below:

200 SOUTH HAMILTON ROAD
FAX: (614) 342-4190

GAHANNA, OHIO 43230-2996
TELEPHONE: (614) 342-4090

www.gahanna.gov

PLANNING COMMISSION

FINDING OF FACT

TO: JESTER JONES SCHIFER ARCHITECTS
MICHAEL E. JONES
6209 RIVERSIDE DRIVE, STE. 200
DUBLIN, OH 43017

Gahanna Planning Commission met on Wednesday, January 24, 2007 with members Walcoff, Price, Jackson, Rosan, Canter, Shepherd and O'Hare present, to consider along with other business, V-0022-2006, a Variance application to vary the following Sections of the Codified Ordinances of the City of Gahanna; Section 1143.04 (b); to allow a cell tower as a conditional use; Section 1108.01 to not require a Final Development Plan for a Conditional Use in a residential district; Section 1197.08 (f) to not require a Certificate of Appropriateness for a Conditional Use in a residential district; and Section 1171.04 (a) (1) to allow a fence to be greater than 6' in height; and a Conditional Use application to allow a cell tower in a residential area; all for property located at 155 Olde Ridenour Road; current zoning SF-3; by Michael E. Jones, applicant.

MOTION by O'Hare, seconded by Walcoff, to approve V-0022-2006. Voting yes: Jackson, Rosan and Walcoff. Voting no: Shepherd, Price, O'Hare and Canter. Motion failed.

Application for Variance ***DENIED***

MOTION by O'Hare, seconded by Walcoff, to approve CU-0012-2006. Voting yes: Jackson, Rosan and Walcoff. Voting no: Shepherd, Price, O'Hare and Canter. Motion failed.

Application for Conditional Use ***DENIED***

This Finding of Fact is certified, this 30th day of January, 2007.

Jayme Maxwell,
Deputy Clerk of Council

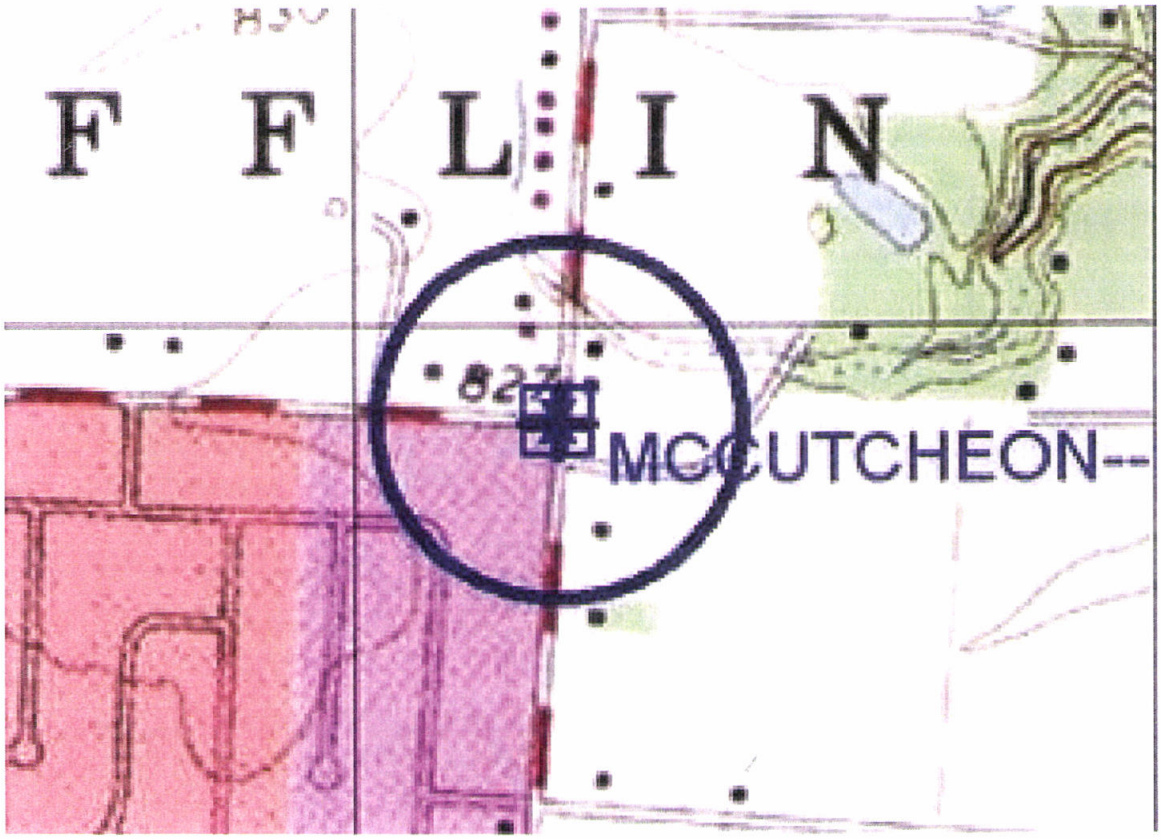
Gahanna's Vision is...
to be an innovative model community that values its rich heritage, pursues high standards, and where citizens respect one another

Gahanna's Mission is...
to ensure an exceptional quality of life by providing comprehensive services, financial stability, and well-planned development which preserves the natural environment, so that city government will continue to be responsive, accessible, and accountable to our diverse and growing community of citizens

Following the denial of the tower replacement in Mifflin Cemetery, Verizon Wireless' radio frequency engineers determined three sites would be necessary to remedy the growing coverage and/or capacity gap in Gahanna. These sites are being developed separately, in sequence, but each is an essential element of a single unified plan for closing Applicant's service capacity gap. Applicant first looked to see if there are any existing suitable towers for collocation. One tower was located at 981 East Johnstown Road and an application to collocate on it was administratively approved on March 5, 2010. Since no other suitable tower exists that meets the engineering needs of this project for the second site, Applicant began to search for a suitable parcel for a new tower. A second new tower facility located at 215 Johnstown Road, Gahanna, Ohio, was approved by the Planning Commission on April 11, 2012. The administrative record for PWSF-

0001-2012 and V-0003-2012 is incorporated herein in its entirety and made a part hereof by reference. This report involves the search for the third site necessary to remedy the growing coverage and/or capacity gap in Gahanna.

Step 2: Search Area. To help guide the site development team's task of identifying a suitable location for a new wireless communications facility site, Verizon Wireless' radio frequency engineers identified the geographic area where the antenna site must be located in order to close the gap and issued a map (called a Search Area) that identified the general area in which a new site must be located. The search map has been submitted with the application and is shown below:

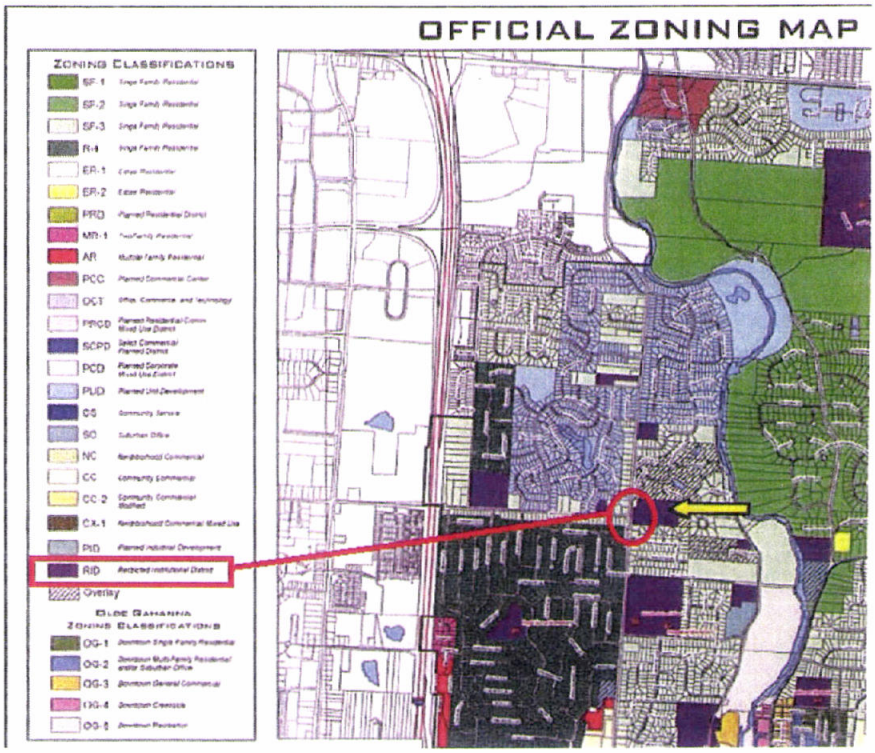


Step 3: Co-location Review. The site development team first reviewed the area within the Search Ring for a suitable tall structure for co-location. Verizon Wireless is committed to collocation and regularly locates its equipment on existing towers and buildings. Collocation on existing tall structures saves time and money compared to building a new tower. There are no existing communication towers located within the area where a new facility must be located to correct the service gap in this area of Gahanna. A tower map of the area has been submitted with the application and is shown below:

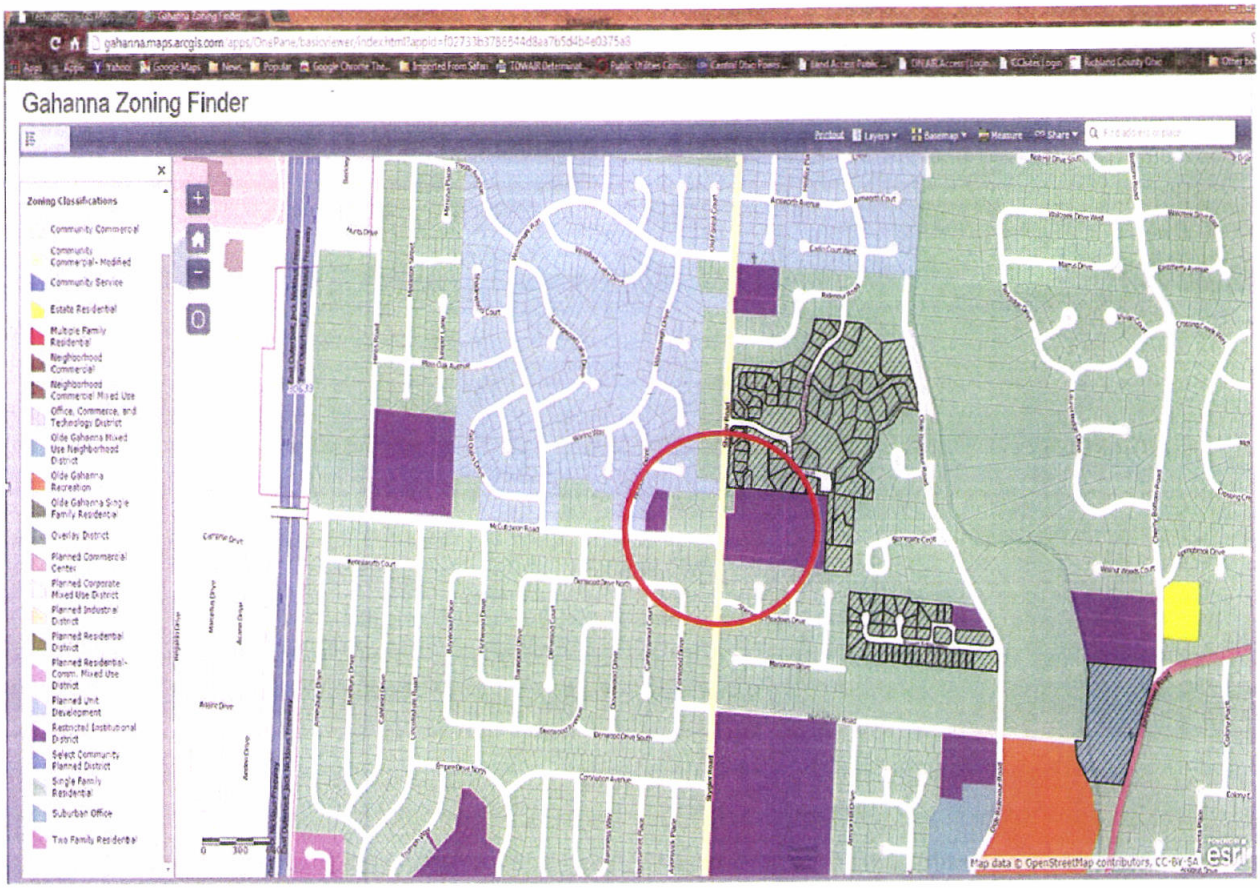
The map below shows the existing VZW towers shown with red push pins along with and raw land locations that were evaluated and ruled out as sites for VZW for this search ring. The distances of the proposed site noted in Green to the VZW Existing Sites noted on Red are as follows:

VZW – Hilton East:	1.73 Miles NW
VZW – Agler & 270:	1.36 Miles SW
VZW – Ridenour Park:	1.14 Miles S
VZW – Gahanna North:	1.46 Miles NE

Step 4: Review of the Area's Zoning Classification. Once the site development team determined that there are no available existing tall structures which are technically feasible and suitable for co-location, the team next reviewed local zoning requirements to identify parcels located within the search area that might be suitable from a land use perspective to host an antenna site. See the zone map for the search area below:



Step 5: Preliminary Inspection and Assessment of Suitable Parcels. Once suitably zoned parcels are identified, the site development team visits the parcels and performs a preliminary inspection. The purpose of the preliminary inspection is: (1) to confirm the availability of sufficient land space for the proposed facility; (2) to identify a specific location for the facility on the parcel; (3) to identify any recognized environmental conditions that would disqualify the parcel from consideration; (4) to identify any construction issues that would disqualify the candidate; and, (5) to assess the potential impact of the facility on neighboring properties.



In this case, as you can see from the above map, the search area consists of small residential parcels except for New Life Church located at 3690 N Stygler Road, Gahanna, Ohio 43230. While residential areas have high service demands, we work hard to avoid locating a tower in or near a residential area whenever possible. Small residential lots do not provide adequate land space for a new tower, and locating a tower on a small residential parcel is not preferred.

Please see the map below for reference. Sites with Red push pins are existing Verizon Wireless Sites. Sites with Yellow push pins are Sites evaluated and ruled out. Single Site with the Green Push Pin is Proposed Subject Site referenced as Monopine New Life Ch.

1. Easton Community Church / United Methodist Church - 3035 Stygler Rd, Columbus, OH 43219 - too far west for desired coverage
2. ODOT Tower – too far west for desired coverage
3. Mifflin Twp., Fire Department - 422 McCutcheon Rd, Gahanna, OH 43230 - not interested, no ground space
4. Gahanna West Middle School – not interested
5. City of Gahanna Park – located along Old Ridenour Road – to low in elevation and in flood plain

Step 6: Candidate Evaluation and Selection. After the preliminary site assessments were performed, the site development team ranked the candidates based on compliance with zoning regulations, the availability of ground space, topography, applicable environmental conditions, construction feasibility and the potential impact of the facility on neighboring properties. In this case, our proposed site is a 120' Monopine stealth facility located in the rear parking lot of New Life Church - 3690 N Stygler Rd, Gahanna, OH 43230.

Step 7: Leasing and Due Diligence. Once a suitable candidate was selected, lease negotiations were commenced and site due diligence steps were performed, as described below.

Leasehold Due Diligence:

- A Title Report was obtained and reviewed to ensure that there are no limitations on the landowner's capacity to lease and to address any title issues.
- A site survey was obtained to identify the location of parcel features, boundaries, easements and other encumbrances revealed by the title search.

Engineering Due Diligence:

- Utility access identified.
- Grounding plan designed.

- Geotechnical soil analysis performed to determine foundation requirements.
- Foundations designed to meet the Ohio Building Code lateral and subjacent support requirements.
- Site plan developed.

Environmental Due Diligence:

A Phase I Environmental Site Assessment ("ESA") investigation was performed to establish the pre-existing types and amounts of contamination at a site, and to establish that the leaseholder is innocent of liability for the costs of performing environmental cleanup work that might arise from pollution or contamination of the site caused by a third party.

In addition to performing a Phase 1 ESA, the site was also evaluated for potential impacts under the *National Environmental Policy Act* (NEPA), submitted to the State Historic Preservation Office for review of potential impacts to historic structures or districts, and submitted to the registered Tribal Historic Preservation Office so that registered Native American nations had the opportunity to review potential impacts on native religious, ceremonial, or cultural resources.

Federal Regulatory Approvals

- Federal Aviation Administration ("FAA") compliance.
- Federal Communication Commission ("FCC") compliance.

In this case, there are wetlands in the area as show on the map below:

Step 8: Application. Once a lease is obtained and all site due diligence is completed, Applicant prepared and filed the accompanying application to construct, maintain and operate a communications facility.

Conclusion

Applicant's site identification and selection process aims to identify the least intrusive of all the technically feasible parcels in a service need area. In this case, except for New Life Church located at 3690 N Stygler Road, Gahanna, Ohio 43230 the search area consists of small residential parcels. This is the largest parcel within the area where a tower must be located to meet the service needs of area residents. A stealth facility disguised as a pine tree is proposed to minimize the visual impact on area residents. The proposed New Life Church site is the least visually intrusive location, and the only technically feasible parcel within the search area.

Sincerely,

Robert M. Ferguson
Principal
UAS Inc.,
Agent Verizon Wireless

EXHIBIT P

Additional Information Applicant Would Like to Submit

- Exclusion of Radio Frequency Considerations
- Deed
- Certificate of Public Convenience and Necessity
- Wireless Substitution Report
- Planning Commission Denial of Variance and Conditional Use for Mifflin Cemetery at 155 Olde Ridenour Road
- Limited Power of Attorney from New Life Community Baptist Church
- Generac Sound Data
- FAA Determination of No Hazard to Air Navigation

PIKE LEGAL

1578 Highway 44 East, Suite 6
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Shepherdsville, KY 40165-0369
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Fax (502) 543-4410 or (800) 541-4410

October 10, 2014

City of Gahanna
Attn: Bonnie Gard
Zoning Administrator
200 South Hamilton Road
Gahanna, OH 43230

RE: Exclusion of Radio Frequency Considerations Regarding
Wireless Communications Facility
Location: 3690 North Stygler Road, Gahanna, Ohio 43230
Verizon Wireless Site Name: McCutcheon

Dear Ms. Gard:

I am providing this correspondence to address a potential issue that the Municipality of Gahanna Board of Zoning and Building Appeals may face in the course of its consideration of the above-referenced matter and to request for appropriate measures to be taken by the Board's staff and/or attorney to exclude receipt of testimony and other evidence regarding the environmental effects of radio frequency emissions in connection with any public hearing held to review the pending application.

From our experience handling similar applications we have come to anticipate the possibility that radio frequency interference issues or health effect concerns may be raised from time to time in the context of public hearings. However, these issues are outside the scope of the Board's review, since radio frequency emissions are the subject of federal regulation, including regulation by the Federal Communications Commission (the "FCC").

Local regulation of wireless communications facility siting based upon radio frequency issues is prohibited specifically by the Telecommunications Act of 1996 and generally as a result of the FCC's pervasive jurisdiction over this area of regulatory concern. The Telecommunications Act of 1996 flatly prohibits local regulation of wireless communications facilities on the basis of the environmental effects of radio frequency emissions. This prohibition is codified at 47 USC Section 332(c)(7), as follows:

"No State or local government or instrumentality thereof my regulate the placement, construction, and modification of personal wireless service facilities

on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communication] Commission's regulations concerning such emissions." (emphasis added)

A copy of the relevant FCC license granted to Applicant for the area to be served by the proposed wireless telecommunications facility was provided as part of the application submitted to the Board. As an FCC licensee, Applicant is subject to the FCC regulation referenced at 47 U.S.C. Section 332(7)(B)(iv), and federal and state courts have recognized that the Telecommunications Act prohibits state and local governments from regulating wireless telecommunications facilities on the basis of radio frequency interference issues. For further reference, I have attached a memorandum discussing case law authority on these issues.

In light of federal statutory prohibition, it is clear that an inquiry into alleged radio frequency issues by the Board as part of its review would put the Board directly at odds with the Federal Communications Act, the Telecommunications Act of 1996, and FCC policy. Consequently, the introduction of any radio frequency interference or health effects evidence during the public hearing would likely be improperly and unfairly prejudicial to the Applicant and outside the Board's proper scope of review.

To avoid possible violation of the federal prohibition, affirmative steps should be taken to instruct hearing participants of the boundaries of the Board's proper inquiry and the Board's role in this matter. To this end, Applicant requests that the Board implement affirmative measures to prevent introduction and consideration of testimony and other evidence on radio frequency issues at the public hearing and from its deliberations on the subject application. Excluding radio frequency and health effect evidence from the public hearing will avoid potential conflicts with federal law and the proper exercise of jurisdiction over these matters by the FCC and will protect the validity of the Board's ultimate decision on my client's proposal. It is our expectation that the Board will cut off and bar improper discussion in order to avoid the introduction of prohibited evidence so that the hearing will remain focused on the land use planning issues that are within the Board's jurisdiction.

Please file this correspondence and enclosures in the administrative case file for the application and do not hesitate to contact us should you have any questions or comments concerning this information.

Sincerely,

Robert W. Grant
Attorney for Verizon Wireless

enclosure

MEMORANDUM

FEDERAL PROHIBITION ON LOCAL REGULATION OF WIRELESS COMMUNICATIONS FACILITIES ON THE BASIS OF THE ENVIRONMENTAL EFFECTS OF RADIO FREQUENCY EMISSIONS

Radio frequency considerations have been preempted specifically by the Telecommunications Act of 1996 and generally as a result of the Federal Communications Commission's ("FCC's") pervasive jurisdiction over this area of regulatory concern. Because of this preemption, local zoning bodies should take care to avoid the introduction of improper radio frequency evidence in proceedings on an application requesting approval for a wireless communications facility so that the focus remains on the land use planning issues that are the proper subject for review and decision.

The Federal Telecommunications Act of 1996, as codified at 47 U.S.C. Section 332(7)(B)(iv), provides: "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communication] Commission's regulations concerning such emissions." Accordingly, federal and state courts have recognized that the Telecommunications Act prohibits state and local governments from regulating wireless telecommunications facilities on the basis of radio frequency interference issues.

In a case arising from circumstances in which a local government body attempted to regulate radio frequency interference by a wireless provider, the Federal District Court in Southwestern Bell v. Board of County Commissioners, 17 F.Supp.2d 1221 (D. Kan. 1998) discussed preemption of radio frequency regulatory authority by the FCC:

As the House Conference Report explained:

> The limitations on the role and powers of the [FCC] under [Section 704] relate to local land use regulation and are not intended to limit or affect the [FCC's] general authority over radio telecommunications, including the authority to regulate the construction, modification and operation of radio facilities."

H.R. Conf. Rep. No. 104-458, at 209 (1996), ...

... Defendants' protestations notwithstanding, the ordinance expressly prohibits [radio frequency interference] with public safety communications,

thereby exceeding the limited regulatory authority preserved to states and municipalities in the Telecommunications Act of 1996.

...

The court also believes that the Johnson County zoning ordinance conflicts with federal law. A conflict between state and federal law arises "when compliance with both, federal and state regulations is a physical impossibility' or when state law 'stands as an obstacle to the accomplishments and execution of the full purposes and objectives of Congress.'"

...

The FCC has delegated authority to its Compliance and Information Bureau as well as its Wireless Bureau to develop and coordinate programs and rules to ensure the interference-free operation of wireless telecommunications equipment and networks. See 47 C.F.R. Section 0.111(e) & 0.131(h) (1997).

...

If states and municipalities were permitted to adopt [radio frequency interference] restrictions, the FCC's ability to carry out its statutory mandate of administering a "unified and comprehensive regulatory system" for the telecommunications industry would be seriously impeded. ... Licensees would be subjected to conflicting legal obligations and the FCC's compliance divisions would be relegated to an advisory role. With respect to Johnson County's ordinance, the zoning administrator could shut down the operations of a permit holder whose tower interferes with public safety communications even if the permit holder is in full compliance with FCC rules and regulations. ... The fact that Johnson County may be able to resolve [radio frequency interference] disputes more expeditiously than the FCC is simply not germane to the court's inquiry. Id. at 1226-1227.

This analysis led the Federal District Court in Southwestern Bell to grant summary judgment in favor of the Plaintiff wireless provider on the basis of federal preemption of the issue. This decision was affirmed on appeal by the U.S. Court of Appeals for the 10th Circuit in Southwestern Bell Wireless v. Johnson County Bd. of Commrs., 199 F.3d 1185 (10th Cir. 1999), wherein the 10th Circuit analyzed the issues and concluded that local regulation was preempted.

In the absence of an express preemption provision, state or local law may be preempted if it attempts to regulate conduct in a field that Congress, by its legislation, intended to be occupied exclusively by the federal government." Mount Olivet, 164 F.3d at 487 (citing English v. General Elec. Co., 496 U.S. 72, 79 (1990)).

> Field preemption may be inferred if a federal scheme of regulation is so pervasive that Congress must have intended to leave no room for a state to supplement it or if an Act of Congress touches a field in which the federal interest is so dominant the federal system is assumed to prohibit enforcement of state laws on the same issue.

Id. at 487 (citing Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947)). We examine three aspects of federal communications law to determine whether and to what extent federal law preempts local regulation of [radio frequency interference] issues: Congressional legislation, agency regulation, and agency adjudication.

Congress, in the Communications Act of 1934, created a "unified and comprehensive regulatory system for the [broadcasting] industry." National Broad. Co. v. United States, 319 U.S. 190, 214 (1943). Congress stated that a purpose of the act was "to maintain the control of the United States over all the channels of radio transmission." 47 U.S.C. § 301. The Act created the FCC and empowers it to regulate radio communications including "technical and engineering aspects." National Broad. Co., 319 U.S. at 215; see also Head v. New Mexico Bd. of Exam'rs, 374 U.S. 424, 430 n.6 (1963) (noting FCC's exclusive jurisdiction over technical matters regarding radio signal transmission). The Communications Act applies to "all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States." 47 U.S.C. § 152(a).

In 1982, and again in 1996, Congress significantly amended the Act. In the Communications Amendments Act of 1982, Congress gave the FCC the explicit authority to regulate home electronic equipment with the potential to cause [radio frequency interference]. See 47 U.S.C. § 302a(a). The House Conference Report that accompanied the 1982 Amendments clarified that "exclusive jurisdiction over [radio frequency interference] incidents (including pre-emption of state and local regulation of such phenomena) lies with the FCC." H.R. Conf. Rep. No. 97-765, at 23 (1982), reprinted in 1982 U.S.C.C.A.N. 2261, 2267. It stated further that:

> [s]uch matters [involving [radio frequency interference]] shall not be regulated by local or state law, nor shall radio transmitting apparatus be subject to local or state regulation as part of any effort to resolve an [radio frequency interference] complaint. The Conferees believe that radio transmitter operators should not be subject to fines, forfeitures or other liability imposed by any local or state authority as a result of interference appearing in home electronic equipment or systems. Rather, the Conferees

> intend that regulation of [radio frequency interference] phenomena shall be imposed only by the Commission.

Id. at 33, 1982 U.S.C.C.A.N. at 2277. Although this discussion addressed the specific statutory provision over home electronic equipment [radio frequency interference], it evidences Congress's intent that the FCC have exclusive jurisdiction over [radio frequency interference] complaints. See In re Freeman, 975 F. Supp. at 574.

The BOCC argues that the amendments in the Telecommunications Act of 1996 altered the FCC's authority such that the Interference Regulation is permissible under the section entitled "Preservation of local zoning authority." 47 U.S.C. § 332(c)(7). However, section 332(c)(7) only preserves local "decisions regarding the placement, construction, and modification of personal wireless service facilities." Id. The Conference Report on the Telecommunications Act of 1996 explains that "[t]he limitations on the role and powers of the Commission under [§ 332(c)(7)] relate to local land use regulations and are not intended to limit or affect the Commission's general authority over radio telecommunications, including the authority to regulate the construction, modification and operation of radio facilities." H. Rep. No. 104-458, at 209 (1996), reprinted in 1996 U.S.C.C.A.N. 124, 223 (emphasis added). Thus, the 1996 amendments did not alter the FCC's general authority over radio transmissions granted by earlier communications legislation. The BOCC Interference Regulation extends beyond traditional zoning authority (placement, construction, and modification) and into radio telecommunications, an area of FCC authority.

We also reject the BOCC's contention that its Interference Regulation is permissible under 47 U.S.C. § 253(b), added by the Telecommunications Act of 1996, that states: "Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis . . . requirements necessary to preserve and advance universal service, [and] protect the public safety and welfare . . .." Id. We agree with the district court that:

Section 253, by its very title ["Removal of barriers to entry"], is designed to deal only with barriers to market entry. It is not a mechanism by which states and municipalities can regulate [radio frequency interference] . . . . Nothing in § 253(b) casts any doubt on federal [radio frequency interference] preemption. At most, the section merely preserves certain existing rights of local governing authorities which are not inconsistent with federal law.

Southwestern Bell Wireless, Inc. v. [Board/Commission] of County Comm'rs, No. 97-2481-GTV, slip op. at 12 (D. Kan. Aug. 28, 1998); Appellant's Br. at 404. Also, section 253(b) applies only to state, not local,

regulation, since, in the remainder of section 253, Congress clearly says "State or local" when it so intends. See 47 U.S.C. § 253(a), (c), (d). Thus, the BOCC cannot rely on section 253(b) for any authority for its Interference Amendment.

We next examine FCC regulations regarding [radio frequency interference] issues. The Supreme Court has "held repeatedly that state laws can be pre-empted by federal regulations as well as by federal statutes." Hillsborough County v. Automated Med. Lab., Inc., 471 U.S. 707, 713 (1985). The FCC has authority to promulgate regulations "as it may deem necessary to prevent interference between stations." 47 U.S.C. § 303(f). FCC's regulations show its broad authority over [radio frequency interference] issues. A function of the FCC Compliance and Information Bureau is to "[r]educe or eliminate interference to authorized communications," 47 C.F.R. § 0.111(e), with assistance from the Wireless Telecommunications Bureau, see 47 C.F.R. § 0.131(h). The FCC has promulgated rules to resolve interference disputes in various contexts. See e.g., 47 C.F.R. §§ 22.353, 24.237, 27.58, 90.173(b), 90.403(e). The FCC can assess a fine ("forfeiture") for failure to comply with an FCC permit or license. See 47 C.F.R. § 1.80(a)(1), (b)(4) (suggested forfeiture amount for interference is $7000 per violation).

Finally, we look to agency decisions that address preemption of local regulation of [radio frequency interference] issues. As the Supreme Court stated:

> If the agency's choice to pre-empt 'represents a reasonable accommodation of conflicting policies that were committed to the agency's care by the statute, we should not disturb it unless it appears from the statute or its legislative history that the accommodation is not one that Congress would have sanctioned.

City of New York v. FCC, 486 U.S. 57, 64 (1988) (upholding FCC's choice to preempt state technical standards over cable television signals) (citation omitted). In challenges to local zoning ordinances or permit conditions that would regulate [radio frequency interference], the FCC has ruled that it has exclusive jurisdiction over [radio frequency interference]. See In re Mobilecomm of New York, Inc., 2 F.C.C.R. 5519 (1987) (invalidating local zoning ordinance regulating [radio frequency interference], finding "Congress undoubtedly intended federal regulation to completely occupy [the [radio frequency interference]] field to the exclusion of local and state governments"); In re 960 Radio, Inc., FCC 85-578, 1985 WL 193883 (Nov. 4, 1985) (finding local zoning [Board/Commission] preempted from imposing [radio frequency interference] requirement on radio station in conditional use permit). The statutes and legislative history indicate that

Congress does sanction FCC preemption of [radio frequency interference] issues. [radio frequency interference] is a federal interest and requires a national approach to regulate the field. See Fetterman v. Green, 689 A.2d 289, 294 (Pa. Super. Ct. 1997) (holding [radio frequency interference] "involves the resolution of technical matters ceded to the FCC due to the need for national uniformity and consensus").

This analysis is consistent with decisions of virtually all courts considering [radio frequency interference] preemption. See In re Freeman, 975 F. Supp. at 574 (finding local zoning [radio frequency interference] permit conditions preempted "given the FCC's pervasive regulation in this area"); Helm v. Louisville Two-Way Radio Corp., 667 S.W.2d 691, 693 (Ky. 1984) (holding that police chief's remedy for interference with police broadcasts is with the FCC because power to "control, regulate, or prohibit radio transmissions" is preempted by Congress); see also Broyde v. Gotham Tower, Inc., 13 F.3d 994, 997 (6th Cir. 1994) (affirming dismissal of nuisance suit regarding interference with home electronic equipment because [radio frequency interference] fell within FCC's exclusive jurisdiction over radio transmission technical matters); Still v. Michaels, 791 F. Supp. 248, 252 (D. Ariz. 1992) (dismissing nuisance suit claiming interference from radio transmissions because "obstruction[s] to the FCC's ability to regulate radio frequencies are preempted"); Monfort v. Larson, 693 N.Y.S.2d 286, 288 (N.Y. App. Div. 1999) (holding tort claims preempted and "claims of radio frequency interference must be brought to the FCC . . . which has exclusive jurisdiction"); Fetterman, 689 A.2d at 294 (holding Congress preempted state common law claims involving [radio frequency interference]); Smith v. Calvary Educ. Broad. Network, 783 S.W.2d 533, 535 (Mo. Ct. App. 1990) (upholding dismissal of injunction action as preempted finding "that interference caused by radio transmission is . . . a technical matter and that the FCC's control thereof is exclusive"); Still v. Michaels, 803 P.2d 124, 125 (Ariz. Ct. App. 1990) (finding exclusive FCC regulation of [radio frequency interference] precludes nuisance action); Blackburn v. Doubleday Broad. Co., 353 N.W.2d 550, 556 (Minn. 1984) (affirming dismissal of nuisance suit against radio stations because Congress delegated to the FCC exclusive jurisdiction over [radio frequency interference] regulation and preempted the claims). ...

We agree with these courts and the district court in this case that based on statutes and agency regulations and adjudications, Congress intended federal regulation of [radio frequency interference] issues to be so pervasive as to occupy the field. Thus, the Interference Amendment and Interference Stipulation are void as preempted. Because we find field preemption, we need not address whether the Interference Amendment actually conflicts with federal law. Id. at 1190-1193.

Under this preemption analysis, it is clear that radio frequency interference issues are not a proper matter for consideration by a local zoning body as part of its limited jurisdiction to review matters of land use concerns.

In re Appeal of Graeme, 975 F.Supp. 570 (D. Vt. 1997) further emphasizes the preeminence of the FCC in the matter of radio frequency interference. The case arose from a city zoning administrator issuing a notice of violation to a radio station operator, cellular provider and city fire and ambulance service, all of whom used a particular transmission tower, on the grounds that their operations had caused interference with electronic devices in violation of terms and conditions of zoning permits. The District Court explained the issues:

> Although Congress has not enacted a specific statute that explicitly authorizes the FCC to regulate radio station [radio frequency interference] that affects business and commercial electronic devices, it clearly intends that the FCC have exclusive jurisdiction over [radio frequency interference] in general. ...
>
> ...
>
> The Neighbors also claim that Section 704 of the Telecommunications Act of 1996 ... Preserved the ZBA's authority to make and enforce conditions regulating [radio frequency interference] with respect to BANM's provision of cellular telephone service. Section 332 of Title 47 deals with the provision of commercial mobile services. In 1996 the section was amended specifically to prevent FCC preemption of local and state land use decisions regarding the placement, construction, and modification of personal wireless service facilities. Telecommunications Act of 1996 ("TCA"), Section 704, 47 U.S.C. Section 332(c)(7).
>
> ...
>
> Even if the ZBA proceedings did involve placement, construction or modification of wireless facilities, Section 332(c)(7) does not authorize state or local regulation of radio frequency interference. Under this subsection, state and local regulation of personal wireless service facilities with respect to wireless facilities with respect to the environmental effects of radio frequency emissions is prohibited. 47 U.S.C. Section 332(c)(7)(B)(iv). The statute is silent as the ability of state or local authorities to regulate with respect to radio frequency interference. ...
>
> In the absence of an express provision allowing state and local authorities to regulate with respect to radio frequency interference, the TCA cannot be construed to permit such regulation, given the FCC's pervasive regulation in this area. See e.g. 472 C.F.R. Section 21.902(1997); 47 C.F.R. 73.318 (1997); 47 C.F.R. Section 101.103 (1997). Moreover, according to the legislative history of the TCA, the limitations on the FCC's jurisdiction are intended to relate strictly to local land use regulations and are not intended to limit or affect the FCC's general authority over radio telecommunications. S.Rep. No. 104-230, at 462

(1996). Section 332 thus does not, expressly or by implication, authorize state or local regulation of radio frequency interference which may be produced by cellular telecommunications facilities."

An unreported decision from a district court of this Circuit has held on similar facts that a zoning [Board/Commission] may not regulate radio interference, either by imposing restrictions or conditions related to [radio frequency interference] I a zoning permit, or by revoking the permit because of excessive [radio frequency interference]. The district court concluded that Congress intended to maintain exclusive jurisdiction over [radio frequency interference] phenomena, and to assign regulatory responsibility to the FCC. *Great Lakes Wireless Talking Machine Co., v. Hayes*, No. CIV-91-6140T, slip. Op. at 9 (W.D.N.Y. Jun. 25, 1991).

Case law from other jurisdictions supports the conclusion that the FCC has exclusive jurisdiction over complaints involving radio frequency interference. ...

Examination of the Federal Communications Act, the legislative history and case law compels the conclusion that the FCC has exclusive jurisdiction over complaints involving radio frequency interference, whether they are cast as nuisance actions or zoning violations, and whether the complaints involve interference with computers in the home or computers at work. The Neighbors must bring their claims of radio frequency interference with the FCC. Id. at 574-575.

The FCC has been vigilant in protecting its exclusive jurisdiction over radio frequency interference issues. The FCC's position was stated clearly in In the Matter of MobileComm of New York, Inc., 2 F.C.C.R. 5519, F.C.C. Auth. Order No 87-1237, a proceeding involving a local zoning authority's attempt to regulate the use of radio frequencies by a common carrier paging company. The FCC ruled as follows:

The Communications Act of 1934 and the Commission's implementing regulations have preempted state and local regulation of the radio frequency interference at issue in this case. Accordingly, we conclude that Wilton's attempts to regulate such interference ... and to order Mobilecomm to cease operations based on an asserted violation of those regulations are null and void. In doing so, we rely on the Commission's recent 960 Radio Order, which addressed a very similar factual situation. In that proceeding, 960 Radio, Inc. (960 Radio) requested the Commission to declare void a requirement contained in a Conditional Use Permit issued by a local zoning authority that an FM radio broadcast facility owned by 960 Radio must protect from interference existing TV translators and other facilities located nearby. The Mass Media Bureau of the Commission had independently granted an application of 960 Radio to modify the FM facilities in question. [footnote omitted] In granting the

request of 960 Radio, the Commission found that because the Communications Act comprehensively regulates interference, Congress undoubtedly intended federal regulation to completely occupy that field to the exclusion of local and state governments. [footnote omitted.] The Commission found that exclusive jurisdiction to resolve questions involving interference has been assigned to it, ... It noted that the Supreme Court has stated that the Commission's jurisdiction "over technical matters" associated with the transmission of broadcast signals "is clearly exclusive" [footnote omitted.] Moreover, the Commission found that any doubt regarding its jurisdiction to regulate interference was removed when Congress stated, in amending the Communications Act in 1982:

> The Conference Substitute is further intended to clarify the reservation of exclusive jurisdiction to the Federal Communications Commission over matters involving [radio frequency interference]. Such matters shall not be regulated by local or state law, nor shall radio transmitting apparatus be subject to local or state regulation as part of any effort to resolve an [radio frequency interference] complaint. ... [T]he Conferees intend that regulation of [radio frequency interference] phenomena shall be imposed only by the Commission. [footnote omitted.]

The Commission further noted its own longstanding recognition of the breadth of its jurisdiction over cases involving interference, and concluded that federal power in the area of radio frequency interference is exclusive and that to the extent that any state or local government attempt to regulate in this area, their regulations are preempted. [footnote omitted.] The Commission also found that a second basis existed for preempting the local zoning regulation that applied to 960 Radio, in that even assuming that Congress had not intended to occupy the field completely, the specific local regulations at issue conflicted with the established federal policy and rules lawfully promulgated by this Commission governing radio frequency interference. ... Id. at 5519-5520.

The federal courts have agreed with the FCC's interpretation of its jurisdiction in radio frequency interference matters. In Still v. Michaels, 791 F.Supp. 248 (D. Ariz. 1992) the 960 Radio and Mobilecomm decisions were favorably referenced:

> The Federal Communications Commission has considered the preemption issue and has concluded that the jurisdiction to control interferences over the airwaves rests exclusively with the Federal Communications Commission. *In the Matter of 960 Radio, Inc.*, 1985 FCC LEXIS 2342 (Oct. 29, 1985). In 960 Radio, the Commission found that the "federal power in the area of radio frequency interference is exclusive; to the extent that any state or local government attempts to regulate in this area,

> their regulations are preempted." Id. at 2347. The Commission concluded that "the proposed federal regulatory scheme is so pervasive that it is reasonable to assume that Congress did not intend to permit states to supplement it." Id. at 2347; see also *In the Matter of Mobilecomm of New York, Inc.*, 2 FCC Red. 5519 ... 63 Rad. Reg. 2d 1257 (Aug. 31, 1987).
>
> ...
>
> ... The concern over [radio frequency interference] matters should be left exclusively with the FCC. Id. at 252-253.

For additional discussion on the parameters of the FCC's jurisdiction over radio frequency issues, see Sprint Spectrum L.P. v. Mills, 283 F.3d 404, 412 (2d Cir. 2002). In Sprint Spectrum L.P. v. Mills, the court relied upon a line of cases consistently holding that the Telecommunications Act preempted state and local governments from regulating the construction of personal wireless service facilities on the basis of health concerns where radio frequency emissions were within the safety levels determined by the FCC. Operators of wireless communications facilities have been successful in obtaining relief in the form of mandamus under the Telecommunications Act of 1996 when local governmental units based denial of permits on considerations which included radio frequency effects when the record showed that the radio frequency emissions of the facility would be below limits imposed by FCC regulations. BellSouth Mobility Inc. v. Gwinnett County, GA, 944 F.Supp. 923 (N.D. Ga. 1996).

Federal Courts have specifically emphasized the exclusivity of the FCC's jurisdiction over the regulation of radio frequency interference. Broyde v. Gotham Tower, Inc., 13 F.3rd 994 (6th Cir. 1994) explained the preeminence of FCC regulation over these matters:

> The plaintiffs, residents of a nearby neighborhood, claim that the radio signals broadcast from Gotham Tower cross their property, leaving behind a wake of malfunctioning household appliances.
>
> ...
>
> Resolution of this matter, however, turns on a single issue: the existence of an irreconcilable conflict between the FCC's exercise of exclusive jurisdiction over the regulation of radio frequency interference and the imposition of common law standards in a damages action. As the Supreme Court recognizes, the FCC jurisdiction "over technical matters" associated with the transmission of radio signals "is clearly exclusive." *Head v. New Mexico [Board/Commission] of Examiners in Optometry*, 374 U.S. 424, 430 n. 6, ... (1963)) ... The radio signal interference at issue here falls within the FCC's technical domain. Id. at 996-997.

State courts have been similarly willing to recognize the exclusive jurisdiction of the FCC over radio frequency interference matters in a variety of contexts. See Fetterman v. Green, 689 A.2d 289 (Pa. Super. 1997); Smith v. Calvary Educ. Broadcasting, 783 S.W.2d 533 (Mo. App. 1990); Still v. Michaels, 803 P.2d 124 (Ariz. Ct. App. 1990); and Blackburn v. Doubleday Broadcasting Co., Inc., 353 N.W.2d 550 (Minn. 1984).

In light of the federal prohibition, an inquiry into alleged radio frequency issues by a local zoning body as part of its review would be directly at odds with the Federal Communications Act, the Telecommunications Act of 1996, and FCC policy. Consequently, the introduction of any radio frequency interference or health effects evidence during a public hearing held to review an application requesting approval for wireless communications facility construction would likely be improperly and unfairly prejudicial to the Applicant and outside the proper scope of review.

GENERAL WARRANTY DEED, Statutory Form No. 22-S (Reprinted 1/86) Registered in U.S. Patent and Trademark Office anderson publishing co. cincinnati, ohio 45201

9069018

020402

General Warranty Deed*

WANDA L. GOOD, fka WANDA L. QUATTROCHI, a married woman of Franklin County, Ohio

for valuable consideration paid, grant(s) with general warranty covenants, to NEW LIFE COMMUNITY BAPTIST CHURCH *, whose tax-mailing address is* P.O. Box 30927, GAHANNA, OH 43230 *the following REAL PROPERTY: Situated in the County of* Franklin *in the State of Ohio and in the* City *of* Gahanna :

See attached "Exhibit A" for legal description

FRANKLIN COUNTY, OHIO
Recorded: FEB 17 1987 Time: 1:00 P
JOSEPH W. TESTA, Recorder
Recorder's Fee $ 10.00

2677

TRANSFERRED
FEB 17 1987
PALMER C. McNEAL
AUDITOR
FRANKLIN COUNTY, OHIO

CONVEYANCE TAX
$ 175.00
PALMER C. McNEAL

Subject to the following: The lien of any taxes and assessments not now due and payable; zoning ordinances and regulations; legal highways; and restrictions, conditions, reservations and easements of record.

Prior Instrument Reference: Volume Page of the Deed Records of Franklin *County, Ohio.* CHARLES GOOD *Grantor releases all rights of dower therein. Witness* their *hand(s) this* 22 *day of* December, 1986

Signed and acknowledged in presence of:

x Ruth A Compton

x Julia Vitus

Wanda L. Good fka.
x Wanda L. Quattrochi
WANDA L. GOOD, fka
WANDA L. QUATTROCHI

x Charles Good
CHARLES GOOD

State of Ohio *County of* Franklin *ss.*

BE IT REMEMBERED, That on this 22 *day of* December, 1986 *, before me, the subscriber, a* Notary Public *in and for said state, personally came,* WANDA L. GOOD, fka WANDA L. QUATTROCHI and CHARLES GOOD *the Grantor(s) in the foregoing deed, and acknowledged the signing thereof to be* their *voluntary act and deed.*

IN TESTIMONY THEREOF, I have hereunto subscribed my name and affixed my seal on the day and year last aforesaid.

x Ruth A Compton
RUTH A. COMPTON
NOTARY PUBLIC - STATE OF OHIO
MY COMMISSION EXPIRES JUNE 27, 1991

This Instrument was prepared by ELDON L. HALL, JR., ATTORNEY AT LAW
100 N. HAMILTON ROAD, GAHANNA, OHIO 43230

MAIL

(1) Name of Grantor(s) and marital status.
(2) Description of land or interest therein, and encumbrances, reservations, and exceptions, taxes and assessments, if any.
(3) Delete whichever does not apply.
(4) Execution in accordance with Chapter 5301 Ohio Revised Code.

Auditor's and Recorder's Stamps

*See Sections 5302.05 and 5302.06 Ohio Revised Code.

90690 19

EXHIBIT "A"

Situated in the State of Ohio, County of Franklin, and City of Columbus:

Being a division of that certain 10.201 acre tract conveyed to George K. and E. O. Nojiri, by deed of record in D.B. 2354, Page 267, same being a part of Lot No. 1 of John F. Conroy Heir's Subdivision, as the same is recorded in Plat Book 19, Page 34, records of the Franklin County Recorder's Office, Franklin County, Ohio, and being more particularly described as follows: Beginning at an iron pin in the east line of Stygler Road, 22.5 feet from centerline, 60.00 feet northerly from the southwest corner of Lot No. 1 of the John F. Conroy Heir's Subdivision, as the same is recorded in Plat Book 19, Page 34, Franklin County Recorder's Office; thence N. 3 degrees 25' 00" E., with the east line of said road, a distance of 253.40 feet to an iron pin at the southwest corner of that parcel known as the Old School Site; thence South 86 degrees 33' 35" E., a distance of 93.00 feet to an iron pin at the southeast corner of said School Site; thence North 3 degrees 46' 00" E., a distance of 181.50 feet to an iron pin in the north line of said Lot No. 1 at the northeast corner of said School Site; thence South 87 degrees 20' 45" E., with the north line of said Lot No. 1, a distance of 215.52 feet to an iron pin; thence, continuing with said north line, South 86 degrees 42' 00" E. and passing an iron pin on line at 226.61 feet, a distance of 237.61 feet to a point; thence South 3 degrees 25' 00" W., a distance of 440.45 feet to a point; thence North 86 degrees 21' 00" W., parallel to and 60.00 feet therefrom, the south line of said Lot No. 1 and passing an iron pin on line at 11.00 feet, a distance of 547.21 feet to the point of beginning, containing 5.111 acres, more or less, subject to all easements and restrictions of record.

Prior Reference: Volume 3540, Page 92
Parcel #025-4407, and real estate Situated in the State of Ohio, County of Franklin, and City of Columbus:

Being a division of that certain 10.201 Acre Tract conveyed to George K. and E. O. Nojiri, by Deed of Record in Deed Book 2354, Page 267, same being a part of Lot No. 1 of John F. Conroy Heir's Subdivision, as the same is recorded in Plat Book 19, Page 34, records of the Franklin County Recorder's Office, Franklin County, Ohio, and being more particularly described as follows: Beginning at an iron pin in the easterly line of Stygler Road 22.5 feet from center line, at the southwest corner of Lot No. 1 of John F. Conroy Heir's Subdivision, as recorded in Plat Book 19, Page 34, Franklin County Recorder's Office; thence North 3° 25' 00" East with the east line of said road, a distance of 60.00 feet to an iron pin; thence South 86° 21' 00" East, parallel to and 60.00 feet therefrom, the south line of said Lot No. 1 and passing an iron pin on line at 536.21 feet, a distance of 547.21 feet to a point; thence North 3° 25' 00" East, a distance of 440.45 feet to a point in the north line of said Lot No. 1; thence South 86° 42' 00" East, with the north line of said Lot No. 1, a distance of 376.89 feet to an iron pin at the northeast corner of said Nojiri 10.201 Acre Tract; thence South 3° 28' 50" West with the east line of said Nojiri Tract, a distance of 502.74 feet to an iron pin in the south line of said Lot No. 1; thence North 86° 21' 00" West with the south line of said Lot No. 1, a distance of 923.55 feet to the point of beginning, containing 5.090 Acres, more or less, subject to an easement 15.00 feet in width along the entire south side and subject to all other easements and restrictions of record.

Parcel #025-4402
Prior Reference: Volume 3071, Page 268

Certificate of Public Convenience and Necessity

Certificate Number:

90-5351

Issued Pursuant to Case Number(s):

96-1134-CT-AMT

A Certificate of Public Convenience and Necessity to provide competitive telecommunication services in the State of Ohio is hereby granted to NEW PAR DBA AIRTOUCH CELLULAR, whose office or principal place of business is located at 5175 EMERALD PARKWAY, DUBLIN, OHIO 43017.

This Certificate is revocable if all of the conditions set forth in the aforementioned case(s) are not met.

Subject to all rules and regulations of the Commission, now existing or hereafter promulgated.

Witness the seal of the Commission affixed at Columbus, Ohio.

Dated DEC 3 1 1996

By Order of

PUBLIC UTILITIES COMMISSION OF OHIO

Jerry E. Vigorito, Secretary
Daisy L. Crockrom, Acting Secretary
Ronald D. Rose, Acting Secretary

NATIONAL HEALTH INTERVIEW SURVEY
EARLY RELEASE PROGRAM

Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2013

Stephen J. Blumberg, Ph.D., and Julian V. Luke
Division of Health Interview Statistics, National Center for Health Statistics

Overview

Preliminary results from the July–December 2013 National Health Interview Survey (NHIS) indicate that the number of American homes with only wireless telephones continues to grow. Two in every five American homes (41.0%) had only wireless telephones (also known as cellular telephones, cell phones, or mobile phones) during the second half of 2013—an increase of 1.6 percentage points since the first half of 2013 and 2.8 percentage points since the second half of 2012. However, these increases are smaller than those observed in previous years. This report presents the most up-to-date estimates available from the federal government concerning the size and characteristics of these populations.

NHIS Early Release Program

This report is published as part of the NHIS Early Release Program. Twice each year, the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) releases selected estimates of telephone coverage for the civilian noninstitutionalized U.S. population based on data from NHIS, along with comparable estimates from NHIS for the previous 3 years. The estimates are based on in-person interviews that NHIS conducts continuously throughout the year to collect information on health status, health-related behaviors, and health care access and utilization. The survey also includes information about household telephones and whether anyone in the household has a wireless telephone.

Two additional reports are published regularly as part of the NHIS Early Release Program. *Early Release of Selected Estimates Based on Data From the National Health Interview Survey* is published quarterly and provides estimates for 15 selected measures of health. *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey* is also published quarterly and provides additional estimates regarding health insurance coverage. Other Early Release Program products are released as needed.

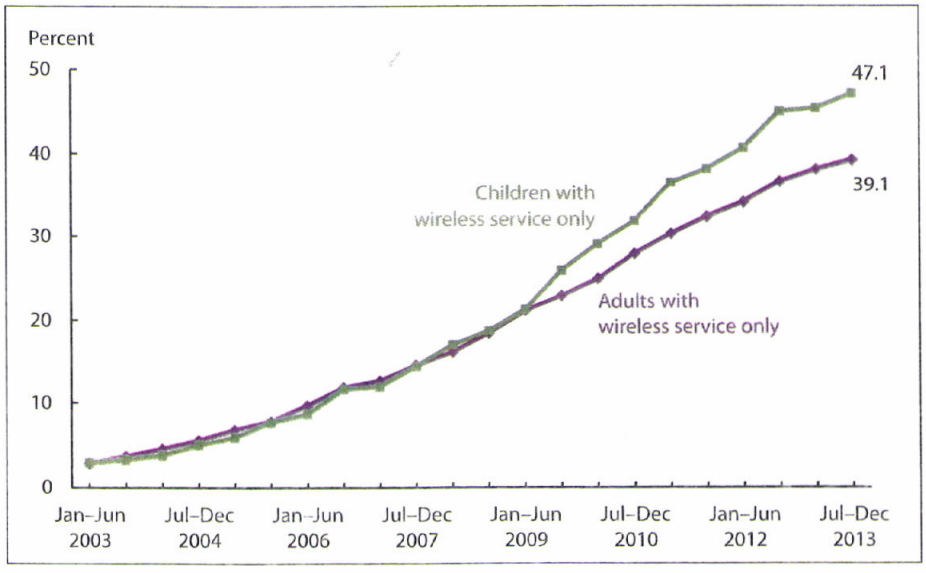
Methods

For many years, NHIS has asked respondents to provide residential telephone numbers, to permit the recontacting of survey participants. Starting in 2003, additional questions were asked to determine whether a family had a landline telephone. An NHIS family was considered to have landline telephone service if the survey respondent for the family reported that there was "at least one phone inside your home that is currently working and is not a cell phone." (To avoid possible confusion with cordless landline telephones, the word "wireless" was not used in the survey.)

An NHIS "family" is an individual or a group of two or more related persons living together in the same housing unit (a "household"). Thus, a family can consist of only one person, and more than one family can live in a household (including, for example, a household where there are multiple single-person families, as when unrelated roommates are living together).

The survey respondent for each family was also asked whether "anyone in

Figure. Percentages of adults and children living in households with only wireless telephone service: United States, 2003–2013



NOTE: Adults are aged 18 and over; children are under age 18.
DATA SOURCE: CDC/NCHS, National Health Interview Survey.

your family has a working cellular telephone." Families are identified as "wireless families" if respondents reported that someone in the family had a working cell phone at the time of interview. This person (or persons) could be a civilian adult, a member of the military, or a child.

Households are identified as "wireless-only" if they include at least one wireless family and if there are no families with landline telephone service in the household. Persons are identified as wireless-only if they live in a wireless-only household. A similar approach is used to identify adults living in households with no telephone service (neither wireless nor landline). Household telephone status (rather than family telephone status) is used in this report because most telephone surveys do not attempt to distinguish among families when more than one family lives in the same household.

From July through December 2013, information on household telephone status was obtained for 21,512 households that included at least one civilian adult or child. These households included 40,173 civilian adults aged 18 and over, and 13,714 children under age 18. Analyses of telephone status are presented separately for households, adults, and children in **Table 1**.

Analyses of demographic characteristics are based on data from the NHIS Person and Household Files. Demographic data for all civilian adults living in interviewed households were used in these analyses. "Household income" is the sum of the family incomes in the household. Estimates stratified by household poverty status are based on reported income only because imputed income values are not available until a few months after the annual release of NHIS microdata. Household poverty status was unknown for 21.5% of adults in these analyses.

Analyses of selected health measures are based on data from the NHIS Sample Adult File. Health-related data for one randomly selected civilian adult (the "sample adult") in each family were used in these analyses. From July through December 2013, data on household telephone status and selected health measures were collected from 17,967 of these sample adults.

Because NHIS is conducted throughout the year and the sample is designed to yield a nationally representative sample each month, data can be analyzed quarterly. Weights are created for each calendar quarter of the NHIS sample. NHIS data weighting procedures are described in more detail in a previous NCHS report (**Parsons et al., 2014**). To provide access to the most recent information from NHIS, estimates using the July–December 2013 data are being released prior to final data editing and final weighting. These estimates should be considered preliminary. If estimates are produced using the final data files, the estimates may differ slightly from those presented here.

Point estimates and 95% confidence intervals were calculated using SUDAAN software (RTI International, Research Triangle Park, NC) to account for the complex sample design of NHIS. Differences between percentages were evaluated using two-sided significance tests at the 0.05 level. Terms such as "more likely" and "less likely" indicate a statistically significant difference. Lack of comment regarding the difference between any two estimates does not necessarily mean that the difference was tested and found to be not significant. Because of small sample sizes, estimates based on less than 1 year of data may have large variances, and caution should be used in interpreting such estimates.

Telephone Status

In the second 6 months of 2013, two in every five households (41.0%) did not have a landline telephone but did have at least one wireless telephone (**Table 1**). Approximately 39.1% of all adults (about 93 million adults) lived in households with only wireless telephones; 47.1% of all children (nearly 35 million children) lived in households with only wireless telephones.

Although the percentage of households that are wireless-only continues to increase, there is evidence that the rate of growth may be slowing. Considering the annual change from the second 6 months of one year through the second 6 months of the next, the 2.8-percentage-point increase from 2012 through 2013 is less than the 4.2-percentage-point increase from 2011 through 2012 and the 4.3-percentage-point increase from 2010 through 2011. The annual growth from 2009 to 2010 was 5.2 percentage points (results not shown).

The percentages of adults and children living in wireless-only households has also been increasing over time (**Figure**), although neither the 1.1-percentage-point increase for adults from the first 6 months through the second 6 months of 2013 nor the 1.7-percentage-point increase for children over the same period was statistically significant.

The percentages of adults and children living without any telephone service have remained relatively unchanged over the past 3 years. Approximately 2.5% of households had no telephone service (neither wireless nor landline). About 5.2 million adults (2.2%) and 1.8 million children (2.5%) lived in these households.

Demographic Differences

The percentage of U.S. civilian noninstitutionalized adults living in wireless-only households is shown, by selected demographic characteristics and by survey time period, in **Table 2**. For July–December 2013, there are five demographic groups in which the majority live in households with only wireless telephones: adults aged 18–34, adults living only with unrelated adult roommates, adults renting their home, adults living in poverty, and Hispanic adults.

- Nearly two-thirds of adults aged 25–29 (65.7%) lived in households with only wireless telephones. This rate is greater than the rates for those aged 18–24 (53.0%) or 30–34 (59.7%). The percentage of adults living in households with only wireless telephones decreased as age increased beyond 35 years: 47.8% for those aged 35–44; 31.4% for those aged 45–64; and 13.6% for those aged 65 and over.
- Three in four adults living only with unrelated adult roommates (76.1%) were in households with only wireless

telephones. This rate is higher than the rates for adults living alone (46.6%) and for adults living only with spouses or other adult family members (31.0%).

- Three in five adults living in rented homes (61.7%) had only wireless telephones. This rate is more than twice the rate for adults living in homes owned by a household member (28.5%).
- Adults living in poverty (56.2%) were more likely than adults living near poverty (46.1%) and higher income adults (36.6%) to be living in households with only wireless telephones. (**Table 2**, footnote 3, gives definitions of these categories.)
- Hispanic adults (53.1%) were more likely than non-Hispanic white (35.1%) or non-Hispanic black (42.7%) adults to be living in households with only wireless telephones.

Other demographic differences were also noted:

- Men (40.4%) were more likely than women (37.9%) to be living in households with only wireless telephones.
- Adults living in the Midwest (43.7%), South (41.9%), and West (41.2%) were more likely than those living in the Northeast (24.9%) to be living in households with only wireless telephones.

Demographic Distributions

The demographic differences noted in the previous section are based on the distribution of household telephone status within each demographic group. When examining the population of wireless-only adults, some readers may instead wish to consider the distribution of various demographic characteristics within the wireless-only adult population.

Table 3 gives the percent distributions of selected demographic characteristics for adults living in households with only wireless telephones, by survey time period. The estimates in this table reveal that the distributions of selected demographic characteristics changed little over the 3-year period shown. The exceptions were related to age and home ownership status. From the second 6 months of 2010 to the second 6 months of 2013,

- Among all wireless-only adults, the proportion aged 35 and over has increased steadily. In the second 6 months of 2013, more than one-half of wireless-only adults (54.6%) were aged 35 and over, up from 47.6% in the second 6 months of 2010.
- Among all wireless-only adults, the proportion living in homes owned by a household member increased. In the second 6 months of 2013, 48.5% of wireless-only adults were living in homes owned by a household member, up from 43.3% in the second 6 months of 2010.

Selected Health Measures by Household Telephone Status

Many health surveys, political polls, and other types of research are conducted using random-digit-dial (RDD) telephone surveys. Until recently, these surveys did not include wireless telephone numbers in their samples. Now, despite operational challenges, most major survey research organizations are including wireless telephone numbers when conducting RDD surveys. If they did not, the exclusion of households with only wireless telephones (along with the small proportion of households that have no telephone service) could bias results. This bias—known as coverage bias—could exist if there are differences between persons with and without landline telephones for the substantive variables of interest.

The NHIS Early Release Program updates and releases estimates for 15 key health indicators every 3 months. **Table 4** presents estimates by household telephone status (landline, wireless-only, or phoneless) for all but two of these measures. ("Pneumococcal vaccination" and "personal care needs" were not included because these indicators are limited to older adults aged 65 and over.) For July–December 2013,

- The prevalence of having five or more alcoholic drinks in 1 day during the past year among wireless-only adults (29.0%) was substantially higher than the prevalence among adults living in landline households (17.2%). Wireless-only adults were also more likely to be current smokers than were adults living in landline households.
- The percentage without health insurance coverage at the time of interview among wireless-only adults under age 65 (25.2%) was greater than the percentage among adults in that age group living in landline households (14.7%).
- Compared with adults living in landline households, wireless-only adults were more likely to have experienced financial barriers to obtaining needed health care, and they were less likely to have a usual place to go for medical care. Wireless-only adults were also less likely to have received an influenza vaccination during the previous year
- Wireless-only adults (45.1%) were more likely than adults living in landline households (32.3%) to have ever been tested for human immunodeficiency virus (HIV), the virus that causes AIDS.

The potential for bias due to undercoverage remains a real threat to surveys conducted only on landline telephones.

Wireless-mostly Households

The potential for bias due to undercoverage is not the only threat to surveys conducted only on landline telephones. Researchers are also concerned that some people living in households with landlines cannot be reached on those landlines because they rely on wireless telephones for all or almost all of their calls.

In 2007, a question was added to NHIS for persons living in families with both landline and cellular telephones. The

respondent for the family was asked to consider all of the telephone calls his or her family receives and to report whether "all or almost all calls are received on cell phones, some are received on cell phones and some on regular phones, or very few or none are received on cell phones." This question permits the identification of persons living in "wireless-mostly" households—defined as households with both landline and cellular telephones in which all families receive all or almost all calls on cell phones.

Among households with both landline and wireless telephones, 33.6% received all or almost all calls on wireless telephones, based on data for July–December 2013. These wireless-mostly households make up 16.1% of all households. During the second 6 months of 2013, about 44 million adults (18.3%) lived in wireless-mostly households. This prevalence estimate was greater than, but not significantly different from, the estimate for the second 6 months of 2010 (17.4%).

Table 5 gives the percentage of adults living in wireless-mostly households, by demographic characteristics and by survey time period. For July–December 2013,

- Adults with college degrees (22.3%) were more likely to be living in wireless-mostly households than were high school graduates (16.5%) or adults with less education (12.4%).
- Adults living with children (22.6%) were more likely than adults living alone (9.4%), with roommates (11.2%), or with only adult relatives (18.1%) to be living in wireless-mostly households.
- Adults living in poverty (9.1%) and adults living near poverty (12.0%) were less likely than higher-income adults (22.1%) to be living in wireless-mostly households.
- Adults living in rented homes (12.4%) were less likely to be living in wireless-mostly households than were adults living in homes owned by a household member (21.0%).

Research by **Boyle, Lewis, and Tefft (2009)** suggests that the majority of adults living in wireless-mostly households are reachable using their landline telephone number. NHIS data cannot be used to estimate the proportion of wireless-mostly adults who are unreachable or to estimate the potential for bias due to their exclusion from landline surveys.

References and Other Sources of Information

For more information about the potential implications for health surveys that are based on landline telephone interviews, see

- Blumberg SJ, Luke JV. Reevaluating the need for concern regarding noncoverage bias in landline surveys. Am J Public Health 99(10):1806–10. 2009. Available from: http://ajph.aphapublications.org/cgi/content/abstract/99/10/1806.
- Blumberg SJ, Luke JV, Cynamon ML, Frankel MR. Recent trends in household telephone coverage in the United States. In: Lepkowski JM et al., eds. Advances in telephone survey methodology. New York: John Wiley and Sons, 56–86. 2008.
- Boyle JM, Lewis F, Tefft B. Cell phone mainly households: Coverage and reach for telephone surveys using RDD landline samples. Survey Practice 2(9). 2009. Available from: http://surveypractice.wordpress.com/2009/12/09/cell-phone-and-landlines/.

When including wireless telephone numbers in RDD surveys, researchers have many methodological, statistical, operational, legal, and ethical issues to consider. These issues have been described in a report from a task force of the American Association for Public Opinion Research (AAPOR). That task force included staff from CDC, and its report is available online:

- AAPOR Cell Phone Task Force. New considerations for survey researchers when planning and conducting RDD telephone surveys in the U.S. with respondents reached via cell phone numbers. Deerfield, IL: American Association for Public Opinion Research. 2010. Available from: http://aapor.org/cell_phone_task_force.htm.

The potential for bias may differ from one state to another because the prevalence of wireless-only households varies substantially across states. For more information about prevalence estimates at the state and local levels, see

- Blumberg SJ, Ganesh N, Luke JV, Gonzales G. Wireless substitution: State-level estimates from the National Health Interview Survey, 2012. National health statistics reports; no 70. Hyattsville, MD: National Center for Health Statistics. 2013. Available from: http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf.

For more information about NHIS and the NHIS Early Release Program, or to find other Early Release Program products, see

- NHIS home page at http://www.cdc.gov/nchs/nhis.htm.
- Early Release Program home page at http://www.cdc.gov/nchs/nhis/releases.htm.
- Parsons VL, Moriarity CL, Jonas K, et al. Design and estimation for the National Health Interview Survey: 2006–2015. National Center for Health Statistics. Vital Health Stat 2(165). 2014. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf.

Suggested Citation

Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2013. National Center for Health Statistics. July 2014. Available from: http://www.cdc.gov/nchs/nhis.htm.

Table 1. Percent distribution of household telephone status for households, adults, and children, by date of interview: United States, July 2010–December 2013

Date of interview	Number of households (unweighted)	Household telephone status						
		Landline with wireless	Landline without wireless	Landline with unknown wireless	Nonlandline with unknown wireless	Wireless-only	Phoneless	Total
		Percent of households						
July–December 2010	16,676	55.0	12.9	0.3	0.1	29.7	2.0	100.0
January–June 2011	20,133	55.0	11.2	0.2	0.1	31.6	2.0	100.0
July–December 2011	19,311	53.4	10.2	0.2	0.0	34.0	2.2	100.0
January–June 2012	20,608	52.5	9.4	0.2	0.0	35.8	2.1	100.0
July–December 2012	21,709	50.8	8.6	0.2	0.1	38.2	2.1	100.0
January–June 2013	19,765	49.5	8.5	0.1	0.0	39.4	2.3	100.0
July–December 2013	21,512	47.7	8.6	0.1	0.1	41.0	2.5	100.0
95% confidence interval[1]	...	46.53–48.92	8.05–9.15	0.06–0.16	0.02–0.11	39.82–42.28	2.22–2.79	...
		Percent of adults						
July–December 2010	31,791	59.4	10.7	0.3	0.1	27.8	1.8	100.0
January–June 2011	38,104	58.8	9.0	0.2	0.0	30.2	1.8	100.0
July–December 2011	36,564	57.3	8.3	0.2	0.0	32.3	1.9	100.0
January–June 2012	38,896	56.1	7.8	0.2	0.0	34.0	1.9	100.0
July–December 2012	40,839	54.4	7.0	0.2	0.1	36.5	1.9	100.0
January–June 2013	37,268	52.8	6.9	0.1	0.0	38.0	2.2	100.0
July–December 2013	40,173	51.5	7.0	0.1	0.1	39.1	2.2	100.0
95% confidence interval[1]	...	50.27–52.74	6.54–7.53	0.05–0.16	0.02–0.11	37.86–40.36	1.97–2.51	...
		Percent of children						
July–December 2010	11,815	59.8	6.2	0.1	0.1	31.8	2.0	100.0
January–June 2011	13,753	56.7	5.1	0.1	0.0	36.4	1.7	100.0
July–December 2011	13,028	54.7	4.8	0.1	0.0	38.1	2.2	100.0
January–June 2012	13,905	52.7	4.5	0.1	–	40.6	2.2	100.0
July–December 2012	14,083	49.5	3.4	0.1	0.1	45.0	1.9	100.0
January–June 2013	12,932	48.3	3.6	0.1	0.0	45.4	2.6	100.0
July–December 2013	13,714	46.4	3.8	0.1	0.0	47.1	2.5	100.0
95% confidence interval[1]	...	44.64–48.21	3.26–4.43	0.03–0.19	0.01–0.07	45.38–48.89	2.06–3.15	...

0.0 Quantity more than zero but less than 0.05.

... Category not applicable.

–Quantity zero.

[1]Refers to July–December 2013.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Race/ethnicity								
Hispanic or Latino, any race(s)	38.4	40.8	43.3	46.5	50.5	49.9	53.1	50.77–55.35
Non-Hispanic white, single race	25.0	27.6	29.0	30.4	32.9	35.1	35.1	33.59–36.61
Non-Hispanic black, single race	31.1	32.5	36.8	37.7	39.0	39.4	42.7	40.22–45.25
Non-Hispanic Asian, single race	27.0	27.7	31.6	33.4	34.4	35.2	38.1	34.79–41.59
Non-Hispanic other, single race	31.9	33.8	44.1	43.4	43.9	50.1	51.7	42.50–60.82
Non-Hispanic multiple race	36.1	39.3	36.7	40.2	45.3	46.2	45.7	40.11–51.45
Age (years)								
18–24	45.5	46.8	48.6	49.5	53.2	54.3	53.0	50.34–55.60
25–29	53.5	58.1	59.6	60.1	62.1	65.6	65.7	63.16–68.17
30–34	43.8	46.2	50.9	55.1	56.7	59.9	59.7	57.31–62.09
35–44	30.9	34.3	36.8	39.1	43.5	44.5	47.8	45.75–49.79
45–64	18.8	21.6	23.8	25.8	28.4	29.8	31.4	30.09–32.73
65 and over	7.7	7.9	8.5	10.5	11.6	12.6	13.6	12.42–14.81
Sex								
Male	29.0	31.4	33.7	35.2	38.0	39.7	40.4	39.00–41.73
Female	26.8	29.1	30.9	32.9	35.1	36.5	37.9	36.69–39.20
Education								
Some high school or less	29.2	32.1	34.7	36.4	42.4	41.7	41.8	39.73–43.97
High school graduate or GED[2]	27.6	30.8	32.7	33.9	35.9	37.2	38.8	37.15–40.43
Some post-high school, no degree	30.9	31.8	35.1	36.7	38.3	40.6	41.7	39.97–43.43
4-year college degree or higher	24.3	26.9	27.8	30.1	32.2	34.5	35.5	33.63–37.51
Employment status last week								
Working at a job or business	31.5	34.2	36.8	38.4	41.4	43.5	44.4	43.02–45.78
Keeping house	25.8	31.2	32.7	34.0	38.6	39.4	40.5	37.79–43.23
Going to school	38.6	35.3	40.8	41.9	46.0	48.1	46.3	42.23–51.49
Something else (incl. unemployed)	19.2	21.0	22.3	23.6	25.1	25.2	27.0	25.71–28.24
Household structure								
Adult living alone	36.8	38.0	41.3	43.0	43.9	46.4	46.6	44.65–48.54
Unrelated adults, no children	69.7	71.3	77.5	75.9	76.2	74.7	76.1	69.07–81.97
Related adults, no children	22.1	23.2	25.1	27.0	28.2	29.6	31.0	29.56–32.46
Adult(s) with children	29.4	33.6	35.4	37.2	42.2	43.6	44.8	43.12–46.40
Household poverty status[3]								
Poor	42.8	46.8	51.4	51.8	54.3	54.7	56.2	53.47–58.96
Near-poor	35.2	38.1	39.6	42.3	45.9	47.5	46.1	43.65–48.50
Not-poor	24.1	27.7	28.9	30.7	33.2	35.3	36.6	35.02–38.16

See footnotes at end of table.

Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013—*Continued*

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Geographic region[4]								
Northeast	17.2	18.8	20.6	23.1	23.6	27.1	24.9	21.89–28.15
Midwest	30.0	33.5	35.2	37.5	40.6	39.6	43.7	41.02–46.40
South	31.1	33.6	35.9	37.2	39.7	41.8	41.9	39.87–43.86
West	28.7	30.3	33.0	34.0	37.8	39.0	41.2	38.86–43.39
Metropolitan statistical area status								
Metropolitan	29.1	31.4	33.6	35.7	38.1	39.5	40.5	39.07–41.90
Not metropolitan	22.9	25.6	27.2	27.1	30.5	32.4	33.7	30.92–36.59
Home ownership status[5]								
Owned or being bought	17.7	20.6	21.2	23.2	25.4	27.2	28.5	27.22–29.76
Renting	50.3	52.5	56.0	58.2	59.7	61.5	61.7	60.15–63.30
Other arrangement	35.1	38.4	40.7	37.7	49.1	42.6	49.3	42.80–55.90
Number of wireless-only adults in survey sample (unweighted)	9,228	11,872	12,350	13,724	15,589	14,512	16,436	...

... Category not applicable.

[1]Refers to July–December 2013.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

Table 3. Percent distributions of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2010–December 2013

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Race/ethnicity								
Hispanic or Latino, any race(s)	19.5	19.0	19.1	20.3	20.6	19.7	20.5	18.82–22.34
Non-Hispanic white, single race	61.0	61.8	61.0	59.6	59.7	61.0	59.2	57.35–61.09
Non-Hispanic black, single race	13.0	12.5	13.1	12.7	12.3	12.0	12.6	11.53–13.76
Non-Hispanic Asian, single race	4.5	4.3	4.7	5.1	4.9	5.0	5.2	4.67–5.83
Non-Hispanic other, single race	0.7	0.8	0.9	0.8	0.8	0.9	1.0	0.70–1.35
Non-Hispanic multiple race	1.3	1.6	1.3	1.5	1.6	1.5	1.4	1.23–1.69
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Age (years)								
18–24	21.1	20.0	19.4	18.9	18.9	18.4	17.4	16.30–18.65
25–29	17.7	17.6	17.0	15.5	14.8	15.2	14.8	13.92–15.66
30–34	13.7	13.3	14.0	14.0	13.4	13.5	13.3	12.59–13.99
35–44	19.3	19.5	19.2	19.5	20.0	19.7	20.4	19.45–21.34
45–64	23.6	25.0	25.8	26.7	27.1	27.2	27.8	26.72–28.81
65 and over	4.7	4.5	4.6	5.5	5.7	6.0	6.4	5.78–7.05
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Sex								
Male	50.3	50.4	50.7	49.8	50.1	50.3	49.7	49.04–50.38
Female	49.7	49.6	49.3	50.2	49.9	49.7	50.3	49.62–50.96
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Education								
Some high school or less	15.4	15.6	15.2	15.2	16.1	15.0	14.5	13.58–15.44
High school graduate or GED[2]	28.1	27.8	28.2	27.1	27.4	26.7	26.9	25.83–27.98
Some post-high school, no degree	32.7	32.2	32.7	33.3	31.8	32.6	32.4	31.14–33.71
4-year college degree or higher	23.9	24.3	23.9	24.5	24.6	25.8	26.2	24.82–27.65
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Employment status last week								
Working at a job or business	68.8	68.5	69.0	69.3	68.9	69.7	70.1	69.02–71.12
Keeping house	5.5	5.9	5.6	5.3	5.8	5.9	5.7	5.21–6.13
Going to school	4.7	4.2	4.0	4.3	4.0	4.4	3.6	3.10–4.28
Something else (incl. unemployed)	20.0	20.3	20.6	20.2	20.5	19.2	19.8	18.92–20.81
Unknown, not reported	1.1	1.0	0.7	0.9	0.9	0.7	0.8	0.58–1.02
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Household structure								
Adult living alone	20.0	18.7	19.8	18.9	18.6	18.8	18.6	17.56–19.65
Unrelated adults, no children	4.0	4.3	4.0	3.8	3.1	3.2	2.9	2.24–3.69
Related adults, no children	36.0	35.3	35.8	36.9	35.7	35.8	36.9	35.60–38.28
Adult(s) with children	40.0	41.7	40.5	40.4	42.6	42.2	41.6	40.11–43.13
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...

See footnotes at end of table.

Table 3. **Percent distribution of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2010–December 2013—*Continued***

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Household poverty status[3]								
Poor	17.4	15.6	15.9	15.0	15.4	13.9	14.1	13.00–15.27
Near-poor	18.6	17.7	18.2	17.7	18.0	17.8	16.6	15.66–17.58
Not-poor	52.3	47.8	46.2	47.1	46.1	48.5	47.8	46.14–49.48
Unknown, not reported	11.7	18.8	19.8	20.2	20.6	19.7	21.5	20.16–22.90
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Geographic region[4]								
Northeast	11.0	11.1	11.7	12.4	11.7	12.6	11.3	9.63–13.15
Midwest	24.7	24.9	25.2	24.5	24.8	23.1	25.1	22.91–27.35
South	40.2	40.5	39.9	40.4	40.1	40.8	39.9	37.59–42.19
West	24.1	23.5	23.3	22.8	23.4	23.6	23.8	21.93–25.78
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Metropolitan statistical area status								
Metropolitan	82.7	82.8	82.3	83.9	82.6	82.8	82.6	80.34–84.58
Not metropolitan	17.3	17.2	17.7	16.1	17.4	17.2	17.4	15.42–19.66
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Home ownership status[5]								
Owned or being bought	43.3	47.0	44.2	46.5	46.6	48.0	48.5	46.65–50.27
Renting	54.2	49.9	53.3	51.2	50.9	49.6	49.1	47.28–50.99
Other arrangement	2.5	3.0	2.5	2.3	2.6	2.4	2.4	1.94–2.97
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Number of wireless-only adults in survey sample (unweighted)	9,228	11,872	12,350	13,724	15,589	14,512	16,436	...

... Category not applicable.

[1]Refers to July–December 2013.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

Table 4. Prevalence rates (and 95% confidence intervals) for selected measures of health-related behaviors, health status, health care service use, and health care access for adults aged 18 and over, by household telephone status: United States, July–December 2013

Measure	Household telephone status		
	Landline[1]	Wireless-only	Phoneless
Health-related behaviors			
Five or more alcoholic drinks in 1 day at least once in past year[2]	17.2 (16.09–18.45)	29.0 (27.30–30.69)	27.4 (21.68–33.99)
Current smoker[3]	15.2 (14.27–16.26)	22.4 (20.96–23.84)	21.4 (17.38–26.07)
Engaged in regular leisure-time physical activity[4]	36.4 (34.99–37.85)	40.9 (39.36–42.53)	32.2 (26.85–38.12)
Health status			
Health status described as excellent or very good[5]	57.4 (55.95–58.90)	63.8 (62.31–65.33)	57.9 (52.00–63.59)
Experienced serious psychological distress in past 30 days[6]	3.5 (2.96–4.07)	4.4 (3.80–5.08)	6.8 (4.37–10.49)
Obese (adults aged 20 and over)[7]	29.9 (28.41–31.50)	29.0 (27.50–30.48)	29.0 (23.56–35.16)
Asthma episode in past year[8]	3.3 (2.83–3.82)	3.5 (3.03–4.12)	3.4 (2.00–5.69)
Ever diagnosed with diabetes[9]	11.7 (10.86–12.52)	6.2 (5.50–6.91)	7.9 (5.10–11.89)
Health care service use			
Received influenza vaccine during past year[10]	46.5 (44.92–48.14)	31.8 (30.36–33.27)	26.2 (20.75–32.57)
Ever been tested for HIV[11]	32.3 (30.84–33.77)	45.1 (43.41–46.90)	40.4 (34.38–46.62)
Health care access			
Has a usual place to go for medical care[12]	90.2 (89.20–91.07)	74.9 (73.46–76.29)	75.0 (69.79–79.64)
Failed to obtain needed medical care in past year due to financial barriers[13]	5.4 (4.76–6.04)	10.9 (10.04–11.92)	10.7 (7.74–14.65)
Currently uninsured (adults aged 18–64)[14]	14.7 (13.36–16.10)	25.2 (23.54–27.00)	27.2 (22.09–32.90)
Number of adults in survey sample (unweighted)	9,648	7,875	444

[1]Includes households that also have wireless telephone service.

[2]A year is defined as the 12 months prior to interview. The analyses excluded adults with unknown alcohol consumption (about 1.1%).

[3]A person who had smoked more than 100 cigarettes in his or her lifetime and now smokes every day or some days. The analyses excluded adults with unknown smoking status (about 0.8%).

[4]Regular leisure-time physical activity is defined as engaging in light-moderate leisure-time physical activity for greater than or equal to 30 minutes at a frequency greater than or equal to five times per week, or engaging in vigorous leisure-time physical activity for greater than or equal to 20 minutes at a frequency greater than or equal to three times per week. Persons who were known to have not met the frequency recommendations are classified as "not regular," regardless of duration. The analyses excluded adults with unknown physical activity participation (about 2.2%).

[5]Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses excluded persons with unknown health status (about 0.1%).

[6]Six psychological distress questions are included in the National Health Interview Survey. These questions ask how often during the past 30 days a respondent experienced certain symptoms of psychological distress (feeling so sad that nothing could cheer you up, nervous, restless or fidgety, hopeless, worthless, that everything was an effort). The response codes (0–4) of the six items for each person were weighted equally and summed. A value of 13 or more for this scale indicates that at least one symptom was experienced "most of the time" or "all of the time" and is used here to define serious psychological distress.

[7]Obesity is defined as a body mass index (BMI) of 30 kg/m2 or more. The measure is based on self-reported height and weight. The analyses excluded adults with unknown height or weight (about 4.4%). Estimates of obesity are presented for adults aged 20 and over because the Healthy People 2020 objectives (http://www.healthypeople.gov) for healthy weight among adults define adults as persons aged 20 and over.

[8]Information on an episode of asthma or an asthma attack during the past year is self-reported by adults aged 18 and over. A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown asthma episode status (about 0.1%).

[9]Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting "borderline" diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses excluded adults with unknown diabetes status (about 0.1%).

[10]Receipt of flu shots and receipt of nasal spray flu vaccinations were included in the calculation of flu vaccination estimates. Responses to these two flu vaccination questions do not indicate when the subject received the flu vaccination during the 12 months preceding the interview. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. The analyses excluded adults with unknown flu vaccination status (about 2.5%).

[11]Individuals who received human immunodeficiency virus (HIV) testing solely as a result of blood donation were considered not to have been tested for HIV. The analyses excluded adults with unknown HIV test status (about 3.9%).

[12]Does not include a hospital emergency room. The analyses excluded persons with an unknown usual place to go for medical care (about 1.0%).

[13]A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown responses to the question on failure to obtain needed medical care due to cost (about 0.1%).

[14]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. The analyses excluded adults with unknown health insurance status (about 1.0%).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July–December 2013.

Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Total	17.4	18.2	17.8	17.6	18.0	17.7	18.3	17.51–19.09
Race/ethnicity								
Hispanic or Latino, any race(s)	17.2	16.3	17.0	16.1	17.4	16.4	16.6	15.29–17.95
Non-Hispanic white, single race	17.2	18.4	17.9	17.6	17.7	17.4	18.6	17.61–19.59
Non-Hispanic black, single race	16.2	18.4	17.1	17.6	18.6	19.0	18.2	16.17–20.48
Non-Hispanic Asian, single race	22.5	21.0	20.3	21.5	22.2	20.9	20.4	17.46–23.74
Non-Hispanic other, single race	23.8	17.6	15.6	15.1	12.5	22.7	14.1	9.08–21.27
Non-Hispanic multiple race	20.7	16.1	21.7	18.7	18.0	18.0	16.9	13.29–21.29
Age (years)								
18–24	18.7	20.1	18.9	20.1	18.2	18.6	20.0	18.32–21.74
25–29	16.8	16.3	15.8	15.0	17.0	14.8	14.5	12.95–16.27
30–44	21.6	21.9	21.2	20.7	21.2	20.7	20.0	18.78–21.22
45–64	18.9	19.8	19.9	19.3	20.3	19.8	21.6	20.50–22.82
65 and over	7.1	8.9	8.9	8.9	9.1	10.3	10.3	9.28–11.32
Sex								
Male	17.8	18.5	18.3	17.9	18.3	17.8	18.6	17.80–19.47
Female	17.1	17.9	17.3	17.3	17.7	17.6	18.0	17.15–18.81
Education								
Some high school or less	12.1	12.9	11.7	11.9	11.6	12.8	12.4	11.20–13.74
High school graduate or GED[2]	15.3	16.6	15.7	15.5	16.3	16.0	16.5	15.42–17.63
Some post-high school, no degree	18.9	20.0	19.4	19.1	19.3	18.6	18.9	17.74–20.08
4-year college degree or higher	21.3	21.1	21.4	21.0	21.5	20.7	22.3	21.13–23.47
Employment status last week								
Working at a job or business	20.5	21.6	20.9	20.6	21.1	20.2	21.4	20.41–22.37
Keeping house	16.7	14.9	16.6	15.5	17.5	19.0	16.9	15.02–18.90
Going to school	24.4	23.5	20.0	23.7	18.2	22.2	21.1	17.94–24.53
Something else (incl. unemployed)	10.2	11.3	11.4	10.8	11.6	11.7	11.4	10.56–12.28
Household structure								
Adult living alone	9.5	10.2	10.1	10.2	9.8	9.5	9.4	8.51–10.28
Unrelated adults, no children	13.4	*15.6	10.3	13.0	12.3	12.9	11.2	7.59–16.31
Related adults, no children	15.8	17.2	16.9	16.2	17.4	17.0	18.1	16.97–19.37
Adult(s) with children	22.7	22.8	22.5	22.4	22.4	22.2	22.6	21.33–23.93
Household poverty status[3]								
Poor	10.2	10.5	8.8	10.8	8.6	10.8	9.1	7.79–10.58
Near-poor	13.8	13.3	13.5	11.1	12.7	12.0	12.0	10.75–13.41
Not-poor	20.4	21.6	21.9	21.5	21.8	21.4	22.1	21.05–23.29

See footnotes at end of table.

Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013—*Continued*

Demographic characteristic	Calendar half-year							95% confidence interval[1]
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Geographic region[4]								
Northeast	18.5	19.5	17.9	18.9	20.0	18.2	20.1	18.42–21.90
Midwest	16.3	17.7	16.6	15.5	15.3	16.7	16.2	14.77–17.80
South	17.2	18.0	17.7	17.3	17.7	17.0	18.0	16.78–19.35
West	18.0	18.1	19.1	18.9	19.3	19.4	19.3	17.50–21.26
Metropolitan statistical area status								
Metropolitan	17.8	18.4	18.2	17.9	18.5	17.9	18.7	17.84–19.57
Not metropolitan	16.1	17.3	16.4	16.4	15.8	17.0	16.7	14.94–18.56
Home ownership status[5]								
Owned or being bought	19.4	20.0	19.9	19.9	20.1	20.0	21.0	19.95–22.17
Renting	13.0	13.9	13.5	12.7	13.0	12.8	12.4	11.41–13.49
Other arrangement	15.6	20.0	11.7	13.8	17.3	17.0	14.8	10.86–19.85
Number of adults in survey sample who live in landline households with wireless telephones (unweighted)	18,357	21,626	20,184	21,100	21,194	19,106	22,879	...

* Estimate has a relative standard error greater than 30% and does not meet standards for reliability or precision.

... Category not applicable.

[1]Refers to July–December 2013.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

200 SOUTH HAMILTON ROAD
FAX: (614) 342-4190

GAHANNA, OHIO 43230-2996
TELEPHONE: (614) 342-4090

www.gahanna.gov

PLANNING COMMISSION

FINDING OF FACT

TO: JESTER JONES SCHIFER ARCHITECTS
MICHAEL E. JONES
6209 RIVERSIDE DRIVE, STE. 200
DUBLIN, OH 43017

Gahanna Planning Commission met on Wednesday, January 24, 2007 with members Walcoff, Price, Jackson, Rosan, Canter, Shepherd and O'Hare present, to consider along with other business, V-0022-2006, a Variance application to vary the following Sections of the Codified Ordinances of the City of Gahanna; Section 1143.04 (b); to allow a cell tower as a conditional use; Section 1108.01 to not require a Final Development Plan for a Conditional Use in a residential district; Section 1197.08 (f) to not require a Certificate of Appropriateness for a Conditional Use in a residential district; and Section 1171.04 (a) (1) to allow a fence to be greater than 6' in height; and a Conditional Use application to allow a cell tower in a residential area; all for property located at 155 Olde Ridenour Road; current zoning SF-3; by Michael E. Jones, applicant.

MOTION by O'Hare, seconded by Walcoff, to approve V-0022-2006. Voting yes: Jackson, Rosan and Walcoff. Voting no: Shepherd, Price, O'Hare and Canter. Motion failed.

Application for Variance ***DENIED***

MOTION by O'Hare, seconded by Walcoff, to approve CU-0012-2006. Voting yes: Jackson, Rosan and Walcoff. Voting no: Shepherd, Price, O'Hare and Canter. Motion failed.

Application for Conditional Use ***DENIED***

This Finding of Fact is certified, this 30th day of January, 2007.

Jayme Maxwell,
Deputy Clerk of Council

LIMITED POWER OF ATTORNEY AND AUTHORIZATION

Comes New Life Community Baptist Church, an Ohio not-for-profit corporation, (hereinafter "Grantor"), having an address of 3690 Stygler Road, Columbus, Ohio 43230 and does hereby make, constitute, and appoint New Par d/b/a Verizon Wireless, having a principal office address of 180 Washington Valley Road, Bedminster, NJ 07921, or its lawful agents and representatives, as its true and lawful Attorney-in-Fact for and in its place, in Attorney-in-Fact's sole discretion, to transact, handle, and dispose of the limited matters set forth herein, specifically:

1. To file and pursue a zoning application with the local government with jurisdiction over the real property of Grantor, and any other necessary applications, all for the purpose of obtaining all necessary approvals to construction and operation of a communications facility proposed to be constructed by or on behalf of New Par d/b/a Verizon Wireless, on certain real property owned by Grantor, said real property being located at 3690 Stygler Road, Columbus, Ohio 43230 and as further described by deed filed of record February 17, 1987 in Instrument Number 9069D18 of the Franklin County Records; and

2. To make and file applications on Grantor's behalf to such local, state and federal governmental entities whose approval Attorney-in-Fact may consider necessary or advisable to have the above-mentioned real property approved as a wireless communications facility site, including, but not limited to, governmental approvals for zoning variances, rezoning applications, special use permits, conditional use permits, site plans, plats, building permits, and/or wetland permits; and

3. To make such representations and filings as are necessary throughout the application process in connection with the above-referenced application(s), including, but not limited to, appearing at meetings or hearings of any kind before public officials, bodies, agencies, entities or instrumentalities of any kind.

This instrument is intended to, and does hereby, grant to Attorney-in-Fact full power and authority to do and perform each and every act and thing whatsoever requisite, necessary, and proper to be done, in the exercise of any of the rights and powers herein granted, as fully, to all intents and purposes, as Grantor might or could do if personally present, hereby ratifying and confirming all that Attorney-in-Fact shall due or cause to be done by virtue thereof.

Grantor hereby agrees that a copy of this Limited Power of Attorney and Authorization is as effective as the original. However, if requested by Attorney-in-Fact,

Grantor agrees to timely execute such other and further documents as may be required by the governmental entity in question to evidence Grantor's consent to the action which is proposed to be taken.

The rights, powers, and authority of Attorney-in-Fact shall commence upon execution of this instrument and shall remain in full force and effect until all applicable administrative approvals necessary to commence construction of the subject wireless communications facility have been issued to and obtained or until this instrument is terminated by GRANTOR in writing, whichever occurs first.

IN TESTIMONY WHEREOF, WITNESS the signature of GRANTOR below.

GRANTOR:

New Life Community Baptist Church

By: _____

Name: J. L. STRONG

Date: 2-07-2014

STATE OF OHIO)
) SS:
COUNTY OF FRANKLIN)

BEFORE ME, a Notary Public in and for said county and state, personally appeared Jim Strong, an authorized agent for New Life Community Baptist Church, who acknowledged that he did sign the foregoing instrument and that the same is his free act and deed.

IN TESTIMONY WHEREOF, I have hereunto set my hand and official seal this 7th day of February, 2014.

_____

NOTARY PUBLIC

My commission expires: 06-11-2018

NOTARIAL SEAL
STATE OF OHIO

Michelle T. Kirk
Notary Public, State of Ohio
My Commission Expires 06-11-2018

GENERAC®
POWER SYSTEMS, INC.

Sound Analysis

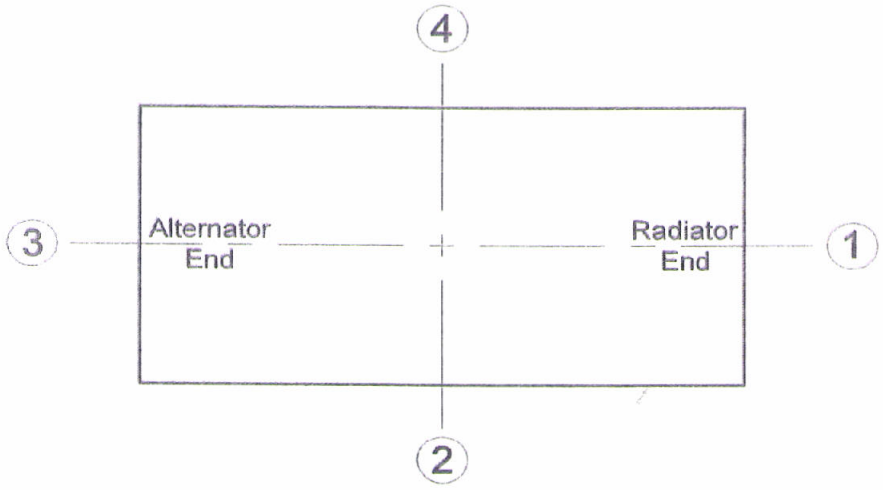
SG060 6.8L FORD

Level 2A Sound Attenuated Enclosure

Sound Pressure Levels in dB(A)

GENERATOR SET WITH EXHAUST SYSTEM

Position	Overall Level	Frequency Spectrum Levels								
		Center Frequency (Hz)								
		31.5	63	125	250	500	1000	2000	4000	8000
1	66	21	42	52	56	59	46	50	47	38
2	65	20	43	50	51	59	48	48	49	43
3	65	21	41	47	49	56	47	48	45	40
4	64	21	41	51	56	57	43	49	43	35
Average	**64.9**	**24**	**60**	**56**	**51**	**55**	**48**	**46**	**42**	**36**



Notes:

1. Generator operating at 60 kW.
2. All measurement positions are 7 m (23 ft) from center of generator set and at 1 m (3.3 ft) height.
3. Test conducted on an asphalt surface in free field conditions.
4. Reference sound pressure is 2×10^{-5} Pa.

T. Diab
8/25/04

Decibel (Loudness) Comparison Chart

Here are some interesting numbers, collected from a variety of sources, that help one to understand the volume levels of various sources and how they can affect our hearing.

Environmental Noise	
Weakest sound heard	0dB
Whisper Quiet Library	30dB
Normal conversation (3-5')	60-70dB
Telephone dial tone	80dB
City Traffic (inside car)	85dB
Train whistle at 500', Truck Traffic	90dB
Subway train at 200'	95dB
Level at which sustained exposure may result in hearing loss	*90 - 95dB*
Power mower at 3'	107dB
Snowmobile, Motorcycle	100dB
Power saw at 3'	110dB
Sandblasting, Loud Rock Concert	115dB
Pain begins	*125dB*
Pneumatic riveter at 4'	125dB
Even short term exposure can cause permanent damage - Loudest recommended exposure WITH hearing protection	*140dB*
Jet engine at 100', Gun Blast	140dB
Death of hearing tissue	180dB
Loudest sound possible	194dB

OSHA Daily Permissible Noise Level Exposure	
Hours per day	Sound level
8	90dB
6	92dB
4	95dB
3	97dB
2	100dB
1.5	102dB
1	105dB
.5	110dB

.25 or less	115dB

Perceptions of Increases in Decibel Level	
Imperceptible Change	1dB
Barely Perceptible Change	3dB
Clearly Noticeable Change	5dB
About Twice as Loud	10dB
About Four Times as Loud	20dB

Sound Levels of Music	
Normal piano practice	60 -70dB
Fortissimo Singer, 3'	70dB
Chamber music, small auditorium	75 - 85dB
Piano Fortissimo	84 - 103dB
Violin	82 - 92dB
Cello	85 -111dB
Oboe	95-112dB
Flute	92 -103dB
Piccolo	90 -106dB
Clarinet	85 - 114dB
French horn	90 - 106dB
Trombone	85 - 114dB
Tympani & bass drum	106dB
Walkman on 5/10	94dB
Symphonic music peak	120 - 137dB
Amplifier rock, 4-6'	120dB
Rock music peak	150dB

NOTES:

- One-third of the total power of a 75-piece orchestra comes from the bass drum.
- High frequency sounds of 2-4,000 Hz are the most damaging. The uppermost octave of the piccolo is 2,048-4,096 Hz.
- Aging causes gradual hearing loss, mostly in the high frequencies.
- Speech reception is not seriously impaired until there is about 30 dB loss; by that time severe damage may have occurred.
- Hypertension and various psychological difficulties can be related to noise exposure.
- The incidence of hearing loss in classical musicians has been estimated at 4-43%, in rock musicians 13-30%.

Statistics for the Decibel (Loudness) Comparison Chart were taken from a study by Marshall Chasin , M.Sc., Aud(C), FAAA, Centre for Human Performance & Health, Ontario, Canada. There were some conflicting readings and, in many cases, authors did not specify at what distance the readings were taken or what the musician was actually playing. In general, when there were several readings, the higher one was chosen.

OSHA Decibel Levels - Hearing Protection

Determining the need to provide hearing protection for employees can be challenging. Employee exposure to excessive noise depends upon a number of factors, including:

- The loudness of the noise as measured in decibels (dB)
- The duration of each employee's exposure to the noise
- Whether employees move between work areas with different noise levels (decibel levels)
- Whether noise is generated from one or multiple sources

Generally, the louder the noise, the shorter the exposure time before hearing protection is required. For instance, employees may be exposed to a noise level of 90 dB for 8 hours per day (unless they experience a Standard Threshold Shift) before hearing protection is required. On the other hand, if the noise level reaches 115 dB hearing protection is required if the anticipated exposure exceeds 15 minutes. For a more detailed discussion of the requirements for a comprehensile hearing conservation program, see OSHA Publication3074 (2002), "Hearing Conservation" or refer to the OSHA standard at 29 CFR 1910.95, Occupational Noise Exposure, section (c). The table, below, shows the permissible noise exposures that require hearing protection for employees exposed to occupational noise at specific decibel levels for specific time periods.
Noises are considered continuous if the interval between occurrences of the maximum noise level is one second or less. Noises not meeting this definition are considered impact or impulse noises (loud momentary explosions of sound) and exposures to this type of noise must not exceed 140 dB. Examples of situations or tools that may result in impact or impulse noises are powder-actuated nail guns, a punch press or drop hammers.

Permissible Noise Exposures

Duration per day, in hours	Sound level in dB* - Decibel level
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

*When measured on the A scale of a standard sound level meter at slow response. Source: 29 CFR 1910.95, Table G-16.

If engineering and work practice controls do not lower employee exposure to workplace noise to acceptable decibel levels, employees must wear appropriate hearing protection. It is important to understand that hearing protectors reduce only the amount of noise that gets through to the ears. The amount of this reduction is referred to as attenuation, which differs according to the type of hearing protection used and how well it fits. Hearing protectors worn by employees must reduce an employee's noise exposure to within the acceptable limits noted in the above table. Refer to Appendix B of 29 CFR1910.95, Occupational Noise Exposure, for detailed information on methods to estimate the attenuation effectiveness of hearing protectors based on the device's noise reduction rating (NRR).Manufacturers of hearing protection devices must display the device's NRR on the product packaging. If employees are exposed to occupational noise at or above 85 dB averaged over an eight-hour period, the employer is required to institute a hearing conservation program that includes regular testing of employees' hearing by qualified professionals. Refer to 29 CFR 1910.95(c) for adscription of the requirements for a hearing conservation program.
Some types of hearing protection include:

- **Single-use earplugs** are made of waxed cotton, foam, silicone rubber or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.
- **Pre-formed** or molded earplugs must be individually fitted by professional and can be disposable or reusable. Reusable plugs should be cleaned after each use.

- Earmuffs require a perfect seal around the ear. Glasses, facial hair, long hair or facial movements such as chewing may reduce the protective value of earmuffs.

Exposure to loud noise is the second most common cause of hearing loss. Approximately 30 million Americans are exposed to high intensity noise in their workplace (1,2) in one in 4 of these workers (or 7.5 million Americans) a permanent hearing loss will develop (1,2). Much can be done to prevent noise-induced hearing loss but little can be done to reverse it. Sometimes a single exposure to loud noise is all that is needed, a single hunting trip without ear plugs. Loud noise damages the hair cells in the inner ear and can cause hearing loss, ear ringing and distortion of sounds.

1) Franks JR, Stephenson MR, Merry CJ. Preventing occupational hearing loss. A practical guide. DHSS (HIOSH) pub. No. 96-110. Available at: http://www.cdc.gov/niosh/96-110.html Accessed November 7, 2004.
2) National Institute of Deafness and Other Communicative Disorders: Noise Induced Hearing Loss. Available at: http://www.nidcd.nih.gov/health/hearing/noise.asp Accessed November 7, 2004.

The symptoms of noise induced hearing loss are subtle in the early stages. Hearing loss tends to occur first for high-pitched sounds only. Consequently, the volume of sound heard may be unchanged but the quality of it lessens. Speech may be heard but not completely understood. The presence of background noise can make speech hard to understand. Noise induced hearing loss has been reported to be accompanied by a ringing in the ears (tinnitus) in 23% of subjects (Phoon, 1993). Tinnitus can often be more annoying than the hearing loss itself. Treatment of tinnitus is often unsatisfactory. There has been an association between acoustic trauma (noise induced hearing loss) and Meniere's disease which has been reported in the a few research articles and text books.

Decibel Levels of Environmental Sounds

Source--Dangerous Level	dBA SPL
Produces Pain	120-140
Jet Aircraft During Takeoff (at 20 meters)	130
Snowmobile Tractor Without Cab	120
Rock Concert	110
Die Forging Hammer Gas Weed-Whacker Chain Saw Pneumatic Drill	100-105
Home Lawn Mowers	95 to 100 dB
Semi-trailers (at 20 meters)	90

Source--	dBA SPL
Discomfort Level	Above 80
Heavy Traffic	80
Automobile (at 20 meters)	70
Vacuum Cleaner	65
Conversational Speech (at 1 meter)	60
Quiet Business Office	50
Residential Area at Night	40
Whisper, Rustle of Leaves	20
Rustle of Leaves	10
Threshold of Audibility	0

Dangerous Noises

Physical measurements of the sound can be make to determine whether it exceeds dangerous levels, and most factories have access to the necessary equipment. Radio Shack also sells a sound level meter for under $40 which will measure noise levels using the "A" Scale. (This is what the designation dBA refers to -- decibels measured in the A Scale.) However, without noise-measuring equipment, the following basic rules can be followed:

- If it is necessary to shout to hear yourself over a noise, the level of the sound can be damaging.
- Should ringing in the ears occur after exposure to a loud sound, damage has been done and that sound should be avoided or ear protection used in the future.
- If diminished hearing or a sense of fullness in the ears is experienced after noise exposure, the level of that noise is damaging.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2013-AGL-4747-OE

Issued Date: 06/06/2013

Jim O'Dowd
Verizon Wireless
180 Washington Valley Rd
Bedminster, NJ 07921

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Monopole - McCutcheon
Location:	Columbus, OH
Latitude:	40-01-57.85N NAD 83
Longitude:	82-53-12.14W
Heights:	824 feet site elevation (SE)
	120 feet above ground level (AGL)
	944 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part I)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part II)

See attachment for additional condition(s) or information.
Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

This determination expires on 12/06/2014 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (310) 725-6558. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2013-AGL-4747-OE.

Signature Control No: 189132256-191223106 (DNE)
LaDonna James
Technician

Attachment(s)
Additional Information
Frequency Data
Map(s)

cc: FCC

No Objection with Provision that upon receipt of notification from the Federal Aviation Administration (FAA) or Federal Communications Commission (FCC) that harmful interference is being caused by the licensee's (permittee's) transmitter, the licensee (permittee) shall either immediately reduce the power to the point of no interference, cease operation, or take immediate corrective action as is necessary to eliminate the harmful interference.

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

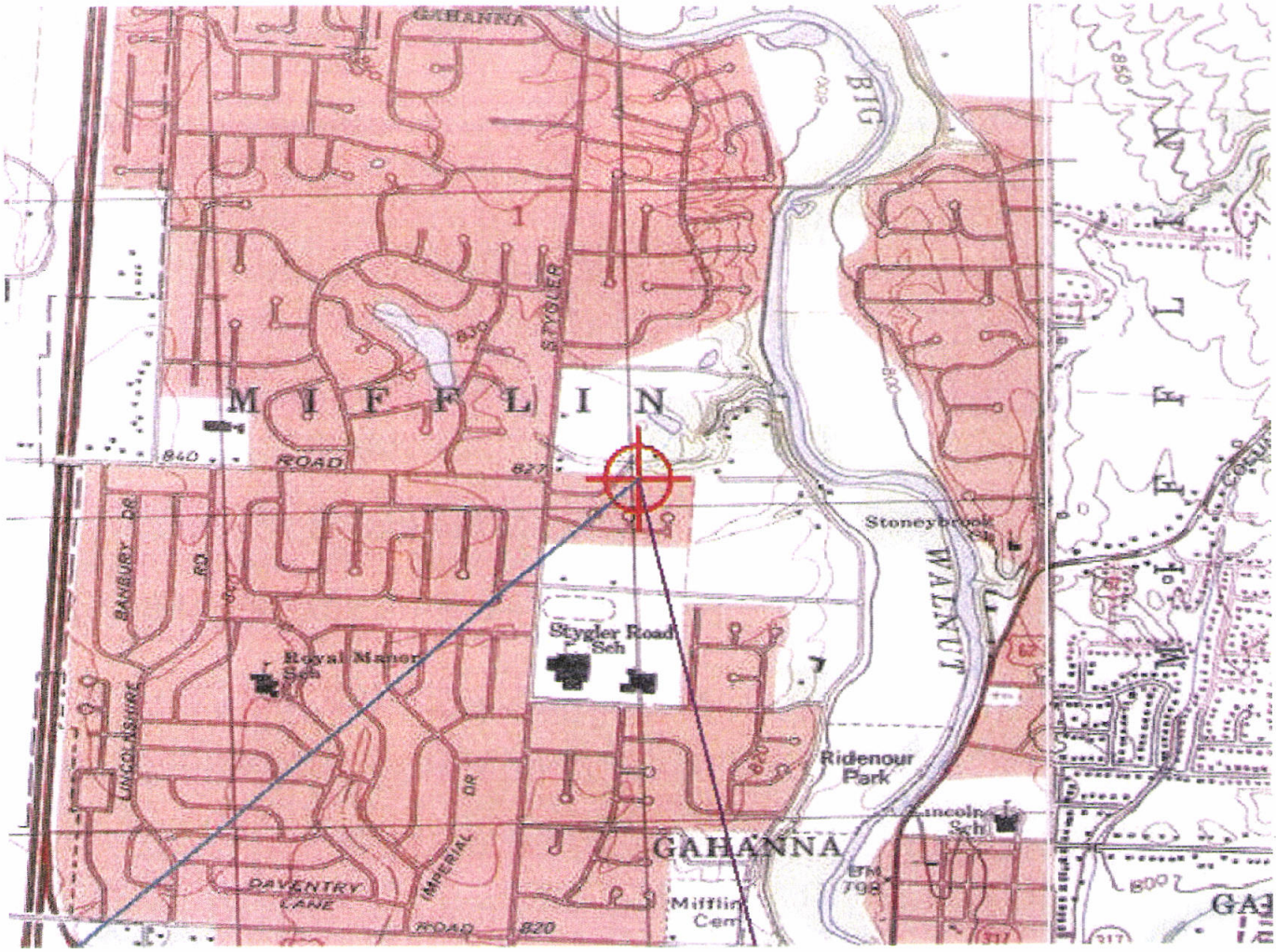

GAHANNA
BIG
WALNUT
STYGLER
MIFFLIN
840
ROAD
827
BANBURY DR
LINCOLNSHIRE
Stygler Road Sch
Royal Manor Sch
Stoneybrook
Ridenour Park
Lincoln Sch
GAHANNA
DAVENTRY LANE
IMPERIAL DR
ROAD
820
Mifflin Cem
BM 798
800

EXHIBIT Q

Additional Information as May be Requested by the City of Gahanna

CITY OF GAHANNA

STAFF COMMENTS

Project Name: McCutcheon Project – Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Division of Police

From: Dennis Murphy
Sent: Monday, November 10, 2014 9:12 AM
To: Courtney Shisler
Subject: RE: 11-12-14 Staff Review - Staff Comment Deadline

The PD does not have any issues with this application.

Respectfully Submitted By:
Dennis Murphy
Chief of Police

CITY OF GAHANNA

STAFF COMMENTS

Project Name: McCutcheon Project – Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Service Department

From: Matthew Holdren
Sent: Monday, November 10, 2014 10:07 AM
To: Courtney Shisler
Cc: Dottie Franey; Robert Priestas; Jeff Feltz
Subject: RE: 11-12-14 Staff Review - Staff Comment Deadline

I will be out of the office at training for this meeting, but after review I do not have any comments.

Respectfully Submitted By:

MATTHEW HOLDREN
Deputy Director of Public Service

CITY OF GAHANNA

STAFF COMMENTS

Project Name: McCutcheon Project – Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Franklin Soil and Water

From: David Reutter [mailto:David-Reutter@franklinswcd.org]
Sent: Friday, November 14, 2014 1:25 PM
To: Courtney Shisler
Subject: RE: PWSF-4-2014 - Verizon Wireless Cell Tower Project

Based on the co-location with the school and limited footprint of a cell tower, unless they are filling in the creek, I don't think I have any comments or concerns.

Respectfully Submitted By:

David S. Reutter, CESSWI

Urban Conservationist

614-486-9613

www.franklinswcd.org

Franklin Soil and Water Conservation District
Creating Conservation Solutions for Over 60 Years

1404 Goodale Blvd., Suite 100

Columbus, Ohio 43212

F

STAFF COMMENTS

Project Name: Mccutcheon Project - Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Provide a detailed site plan that shows grading limits, and erosion control measures. Grading plan shall clearly show the limits of the 100 year floodplain.

Recommendation to utilize a natural gas generator in lieu of the currently proposed diesel generator due to the proximity of existing stream.

Respectfully Submitted By: Robert S. Priestas, P.E., City Engineer

Mifflin Township Division of Fire
Fire Inspection Bureau

501 Beecher Road, Gahanna, OH 43230
Phone: (614) 939-1853

Applicant **Verizon Wireless Tower** **Reviewed by** **Steve Welsh**
Submission Date **November 21, 2014**

1. The generator shall be installed in accordance with Section 604 of the Ohio Fire Code (OFC) and the 2010 edition of NFPA 110.

2. The LP tank shall be installed in accordance with Chapter 38 of the OFC and the 2011 edition of NFPA 58.

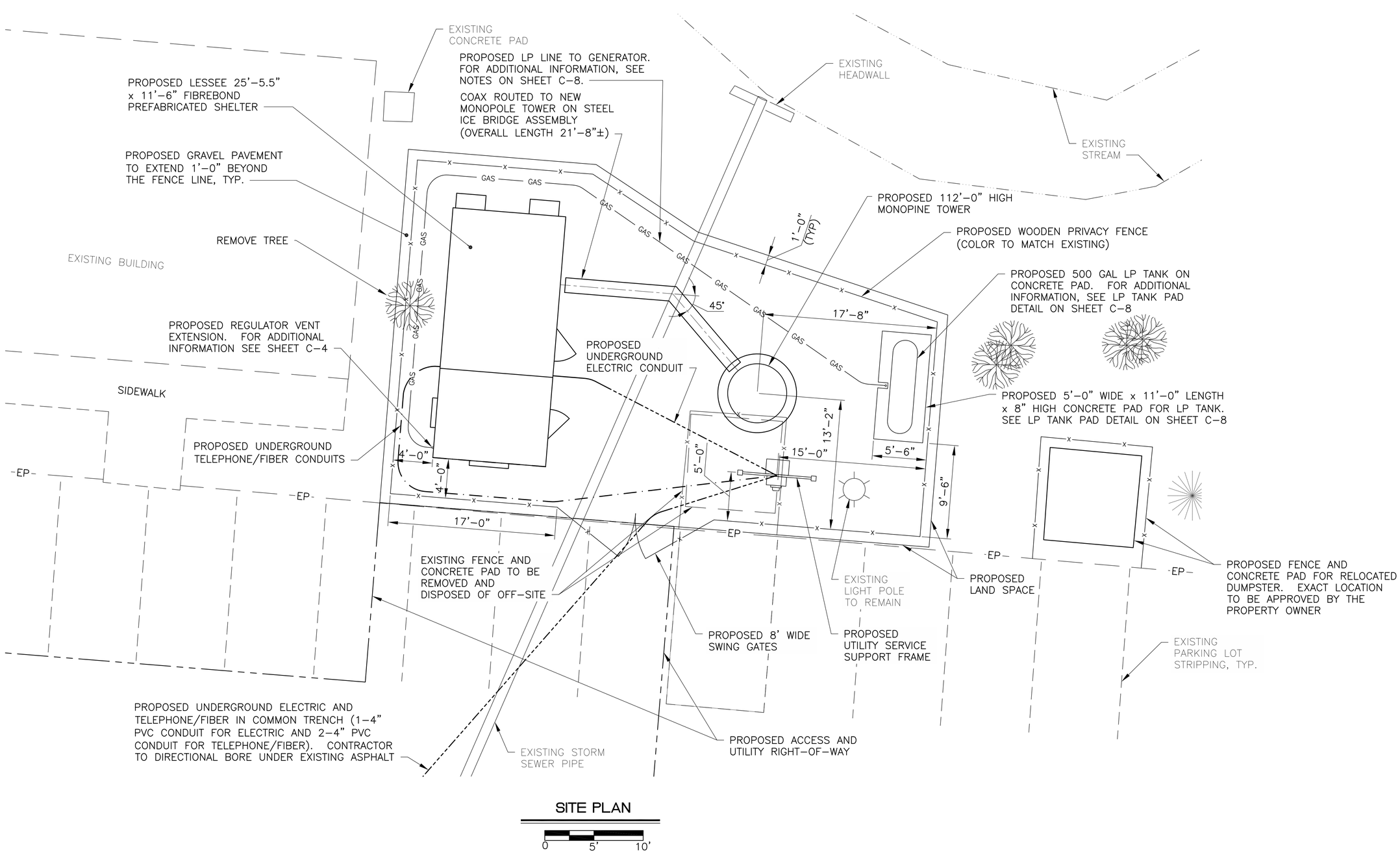
3. Due to the proximity of the parking lot to the LP tank, vehicle impact protection bollards shall be installed in accordance with Section 312 of the OFC.

The Fire Division APPROVES the plan if the above condition can be met.

November 21, 2014

_____ _____

Date **Steve Welsh, Captain, Fire Marshal**



SITE PLAN

0 5' 10'

RECEIVED
cas
11-20-14

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

5085 REED ROAD
COLUMBUS, OH 43220
614-459-2050
FAX 614-451-1385

SITE NAME: McCUTCHEON
SITE NUMBER: CLMB-247

NORTH STYGLER ROAD
COLUMBUS, OHIO 43230

verizonwireless
NEW PAR dba

REV	DATE	DESCRIPTION

DESIGNED BY:	DRAWN BY:	DATE:	SCALE:
GSH	MWC	12/23/2013	AS SHOWN

SEAL

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
C-2

NOTES:

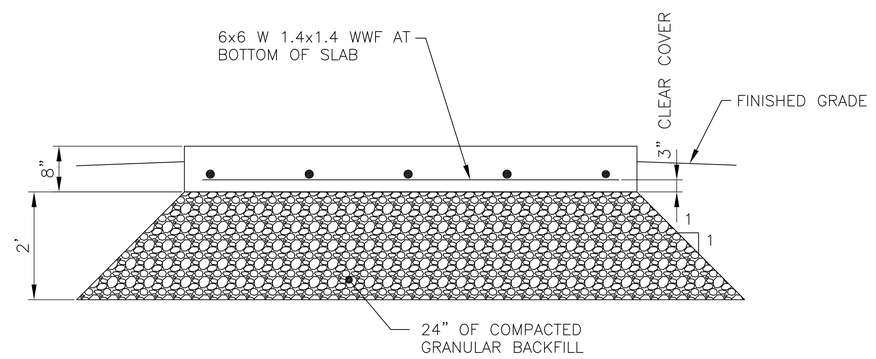
1. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW LIQUID PROPANE (LP) LINE (3/4" FLEXIBLE COPPER TUBING WITH INSTALLATION OR APPROVED EQUAL) AT A MINIMUM DEPTH OF 24" BELOW GRADE.

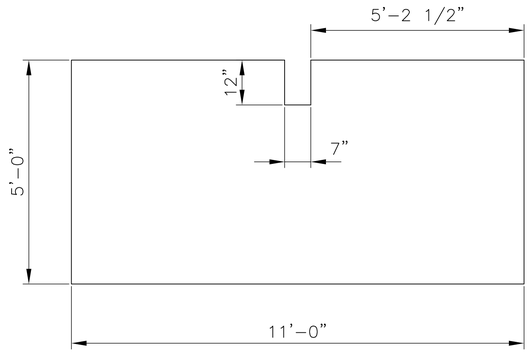
2. THE CONTRACTOR SHALL COORDINATE THE ENTRY POINT FOR THE NEW LP LINE WITH THE EXISTING PORTS/OPENINGS ON THE SHELTER. IN THE EVENT AN EXISTING PORT/OPENING DOES NOT EXIST, THE CONTRACTOR SHALL CORE DRILL AN NEW HOLE. THE HOLE SHALL BE INSTALLED PER THE SHELTER MANUFACTURER'S SPECIFICATIONS.

3. THE CONTRACTOR SHALL COORDINATE WITH THE PROPANE COMPANY FOR THEM TO PROVIDE A PRESSURE REGULATOR AT THE FILL CAP LOCATION OF THE TANK AND ENTRY POINT INTO THE SHELTER. THE PRESSURE SHALL BE SET TO PROVIDE A 11" TO 14" WC AT GENERATOR.

4. THE CONTRACTOR SHALL PLACE THE REGULATOR AT THE SHELTER OR INSTALL AN EXTENSION PIPE ON THE REGULATOR VENT SO THAT IT IS COMPLIANT WITH NFPA 58. THE PIPE SHALL BE ATTACHED TO THE SHELTER USE GALVANIZED STRAPS.

5. THE CONTRACTOR SHALL VERIFY PRIOR TO INSTALLATION THAT THE LP TANK IS LOCATED A MINIMUM OF 10' FROM A SOURCE OF IGNITION, PROPERTY LINES, OR A BUILDING, INCLUDE THE SHELTER.





LP TANK PAD DETAIL

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL POUR IN PLACE AN 8' THICK CONCRETE SLAB WITH 3/4" CHAMFERED EDGES.

2. THE CONTRACTOR SHALL LEAVE 2" OF THE SLAB EXPOSED ABOVE GRADE.

RECEIVED
cas
11-20-14

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GSH	MWC	12/23/2013	AS SHOWN

SEAL

SHEET TITLE
PROPANE DETAILS

SHEET NUMBER
C-8

CITY OF GAHANNA

STAFF COMMENTS

Project Name: McCutcheon Project – Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Planning and Development

The applicant is requesting approval of a 120' tall "monopine" cell tower. The project site is located at the intersection of Stygler and McCutcheon Road at New Life Church. The applicant provides that the tower site is in the optimum location to close the service capacity gap in this area. The application materials include several maps that show service gaps the proposed tower will fill.

The tower lease area is located approximately 650 feet east of the intersection of Stygler and McCutcheon Road adjacent to an existing church building. A dumpster will be relocated as a result of the proposed tower and support equipment.

A 6' tall wooden fence will be provided around the tower lease site. The application materials include elevations depicting the fence in relation to the tower and shelter. A portion of the shelter extends beyond the fence.

Two variances are requested as part of the application package. The first is to Sections 1181.08(d)(6) and 1181.20 which requires landscaping around the tower. The applicant provides that the waiver is justified as there is mature vegetation surrounding the site and a 6' tall opaque wood fence will be installed. The second waiver is to Section 1187.07 which requires a fall zone equal to the height of the tower. The applicant provides that the waiver is justified as the tower is designed to collapse on itself therefore it would have a zero foot lateral fall zone.

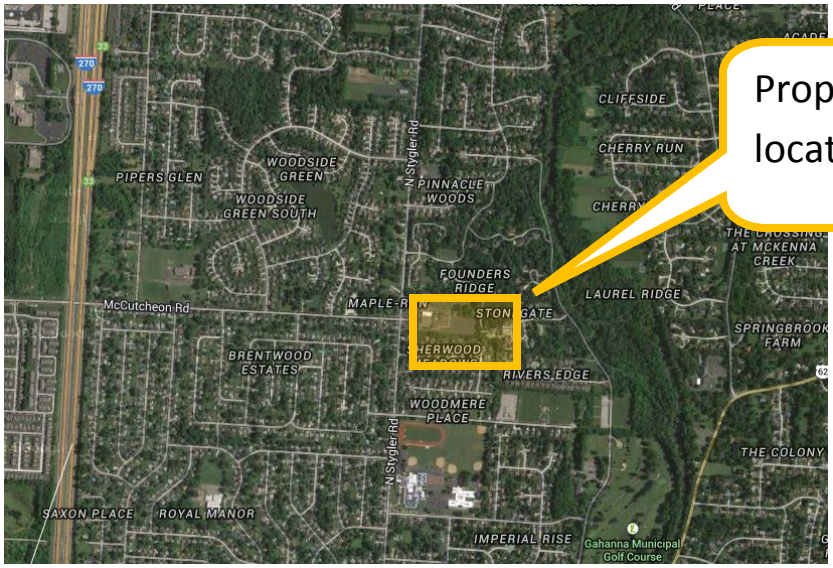
The subject property is not located within any sub-area plans but is designated Institutional on the 2002 Future Land Use Map. The objective of the Institutional land use is to provide the highest level of institutional and public facilities and services that efficiently and effectively meet the needs of the community.

The 2002 Land Use Plan Update provides that Planning Commission should utilize a checklist analysis in review of major development proposals. Certain answers would not mandate a particular decision.

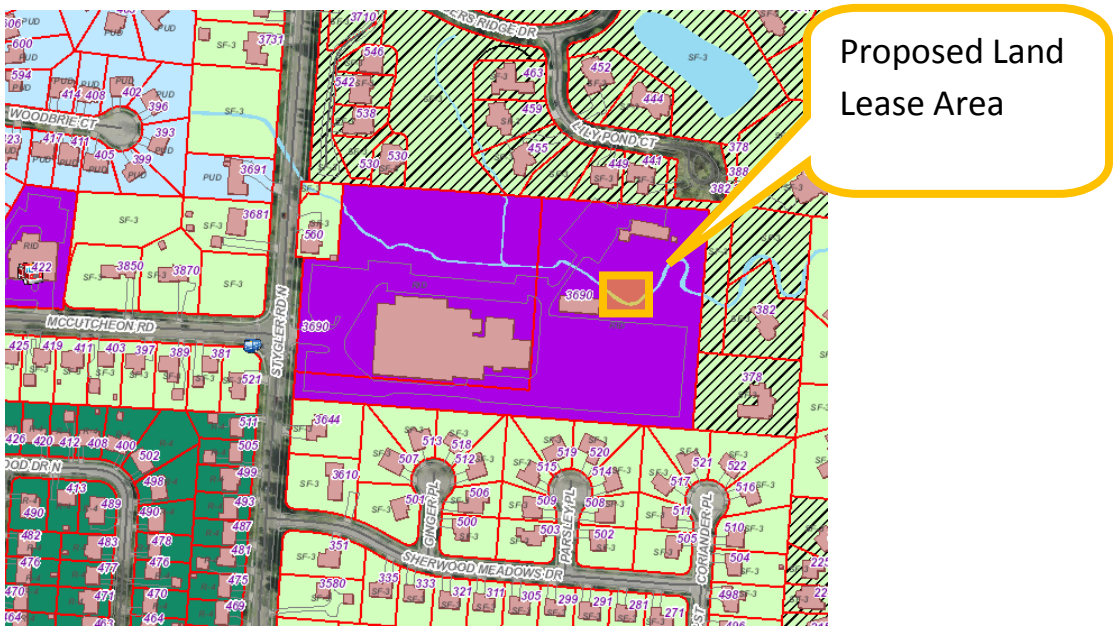
- Is the proposed development consistent with the City's vision?
- Would the proposed development be contrary to the future land use plan?

- Will the changes adversely influence living conditions in the surrounding area?
- Will approval be a deterrent to the improvement of adjacent property in accordance with existing plans and regulations?
- Are there alternative undeveloped sites for the proposed use?

Aerial Map



Zoning Map



CITY OF GAHANNA

Future Land Use Map

Respectfully Submitted By: Michael Blackford

CITY OF GAHANNA

STAFF COMMENTS

Project Name: McCutcheon Project – Verizon Wireless Cell Tower
Project Address: 3690 N Stygler Road

Zoning Division Comments

Description: The applicant proposes to install a 120' tall monopine PWSF at New Life Church on Stygler Road.

- Other towers in the area are located at 215 W. Johnstown, 200 S. Hamilton, 160 S. Hamilton
- Nearest 3 PWSF for Verizon are 215 W. Johnstown, Carroll St. Mifflin Twp., Citygate, Columbus.

Location: Location standards have been met

Siting:

- The siting standards have been met
- Silt fencing will be required to protect the flood plain

Design:

- 112' monopine
- 8' antenna
- 25'5" x 11'6" prefabricated shelter
- Design standards have been met

Alternatives Analysis:

- Easton Community Church/United Methodist Church – 3035 Stygler Road Columbus: too far west for desired coverage
- ODOT Tower: too far west for desired coverage

- Mifflin Twp. Fire Department – 422 McCutcheon Road, Gahanna: not interested, no ground space

- Gahanna Middle School West: not interested

- Gahanna Golf Course: too low in elevation and in flood plain

- Comparison and Ranking of alternative sites provided in Exhibit O

Narrative Attachments:

- Exhibits A through O, are provided in the application binder, and address all requirements of Chapter 1181, Personal Wireless Service Facilities

Recommendations and Conditions

- Recommendation for approval of the application is hereby made, based on the extensive and substantial information provided by the applicant. Silt fencing of the leased site is required during construction to protect the adjacent flood plain

Variances are sought to waive the landscape requirement for the lease space, and to waive the height of tower fall zone requirement.

Respectfully Submitted By:

Bonnie Gard
Planning and Zoning Administrator