Application for
Use Permit

OFFICE USE ONLY
Date Received:

RECEIVED
JUN 07 2021
CDD 5TH FLOOR

Case Number: UP 21 - 0011

Complete this application in its entirety and submit pages 4 and 5 along with the required materials (including any required supplements) as listed on page 2 to the address below:

City of Hampton
Community Development Department, Planning Division
22 Lincoln Street, 5th Floor
Hampton, Virginia 23669

1. PROPERTY INFORMATION

Address or Location 4 N. Curry Street, Hampton, VA 23663

LRSN 12001885, 12001894, 12001893, 12001886, 12001892 Zoning District R-11/R-13

Current Land Use recreation ball fields

Proposed Land Use wireless communications facility/ballfield light pole

The proposed use will be in: ☐ an existing building ☒ a new addition ☐ a new building

2. PROPERTY OWNER INFORMATION (an individual or a legal entity may be listed as owner)

Owner's Name Phoebus Recreation Association Inc.

Address 202 Cattail Lane City Yorktown State VA Zip 23693

Phone _____ Email _____

3. APPLICANT INFORMATION (if different from owner)

Applicant's Name Cellco Partnership (d/b/a Verizon Wireless)

Address 1831 Rady Court City Richmond State VA Zip 23222

Phone (757) 817-6628 Email jholland@nbcllc.com

4. APPLICANT AGENT INFORMATION (if different from applicant)

Agent's Name Jeff Holland, Network Building + Consulting, LLC

Address 120 Eastshore Drive, Suite 300 City Glen Allen State VA Zip 23059

Phone (757) 817-6628 Email jholland@nbcllc.com

5. CERTIFICATION FOR LEGAL ENTITY PROPERTY OWNERS

*Complete this section only if the property owner is **not** an individual but rather a legal entity such as a corporation, trust, LLC, partnership, diocese, etc. as specified in Step 2 above.*

"I hereby submit that I am legally authorized to execute this application on behalf of the fee-simple owner of this property. I have read this application and it is submitted with my full knowledge and consent. I authorize city staff and representatives to have access to this property for inspection. The information contained in this application is accurate and correct to the best of my knowledge."

Name(s), title(s), signature(s), and date(s) of authorized representative(s) of the legal entity (attach additional page if necessary):

Name of Legal Entity Phoebus Recreation Association Inc.

Signed by:

Name (printed) James Cole, Its (title) President

Signature _____ Date _____

Name (printed) _____, Its (title) _____

Signature _____ Date _____

Name (printed) _____, Its (title) _____

Signature _____ Date _____

6. CERTIFICATION FOR INDIVIDUAL PROPERTY OWNERS

Complete this section only if the property owner is an individual or individuals.

"I hereby submit that I am the fee-simple owner of this property. I have read this application and it is submitted with my full knowledge and consent. I authorize city staff and representatives to have access to this property for inspection. The information contained in this application is accurate and correct to the best of my knowledge."

Name(s), signature(s), and date(s) of owner(s) (attach additional page if necessary):

Name (printed) _____

Signature _____ Date _____

Name (printed) _____

Signature _____ Date _____

OFFICE USE ONLY

❑ Application Form	❑ Narrative Statement	❑ Supplemental Form (if required)
❑ Application Fee	❑ Survey Plat	❑ Additional materials (if required)

PROPERTY USAGE AND RELEASE AGREEMENT

The undersigned owner Phoebus Rec Association hereby grants permission to use property, and adjacent areas located at:

4 North Curry Street
Hampton, Virginia 23661

For the purpose of improvements and upcoming tower build for the use of Verizon Wireless. Said permission shall include but not be limited to the right to sign any documents provided by Verizon giving James R. Cole; President of Phoebus Rec Association, permission to sign for Phoebus Rec Association. The use of equipment onto the Premises, and the right to remove same from the Premises after completion of work. Owner agrees not to interfere with Verizon's work on the Premises.

The above permission is granted for one or more days.

Phoebus Little League represents that Phoebus Recreation owns the Premises at 4 North Curry St. in Hampton or otherwise has full authority from the Owner to enter into this Agreement for the signing of documents required for Verizon to complete their tower project.

Phoebus Rec Association Secretary: Jennifer Chaney **Date:** 11.13.2020

Phoebus Rec Association President: **Date:** 11-13-2020

NOTARY ACKNOWLEDGE

State of Virginia, County of Hampton.

On this 13th day of November, 2020, before me appeared Jennifer Chaney, as the Principal who proved to me through government issued photo identification to be the above-named person, in my presence executed foregoing instrument and acknowledged that she executed the same as his/her free act and deed.

Kelly L Lusk
Notary Public

Print Name: Kelly L Lusk my commission expires: 06/30/2022

KELLY L LUSK
NOTARY PUBLIC
MY COMMISSION NUMBER 244306
COMMONWEALTH OF VIRGINIA

SPECIAL LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

1. That Cellco Partnership (d/b/a Verizon Wireless) at 1831 Rady Court, Richmond, VA 23222

   as applicant of a Conditional Use Permit application in the City of Hampton, Virginia for the property described as:

2. Property Identification Numbers: 12001885, 12001894, 12001893, 12001886, 12001892
   Physical Address: 4 N. Curry Street, Hampton, VA 23663

   and authorized to take such action, do hereby make, constitute and appoint:

3. (Name) Jeff Holland, Network Building + Consulting, LLC
   (Telephone) (757) 817-6628
   (Address) 4435 Waterfront Drive, Suite 100, Glen Allen, VA 23060

   (Name) Lisa Murphy, Willcox & Savage, P.C.
   (Telephone) (757) 628-5540
   (Address) 440 Monticello Avenue, Suite 2200, Norfolk, VA 23510

   either one of whom may act as my true and lawful attorney-in-fact for and in my name, place and stead with full power and authority I would have if acting personally to seek rezoning, conditional use, special use permit, variance, special exception, site plan/plan of development, zoning permit, land disturbance permit, VDOT permit and/or building permit and to set forth and offer such legally acceptable voluntarily proffered conditions including any additions, amendments, modifications or deletions thereto that in his discretion are deemed reasonable, appropriate and necessary except as follows: None.

By: _____
Stefanie M. Lewis, Sr. Mgr. Real Estate/Regulatory

JEFFREY PAEK HOLLAND NOTARY PUBLIC MY COMMISSION NUMBER 7895388 COMMONWEALTH OF VIRGINIA

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Richmond, to-wit:

This day Stefanie M. Lewis, personally appeared before me, Jeff Holland, a Notary Public in and for the County and State aforesaid, and swore or affirmed that the matters stated in the foregoing are true to the best of his knowledge and belief.

Given under my hand this 20th day of May, 2021.

_____
Notary Public

Registration No. 7895388

My Commission expires: 6/30/24

SPECIAL LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

1. That Phoebus Recreation Association Inc. at 202 Cattail Lane, Yorktown, VA 23693

   as owner of the property described as:

2. Property Identification Numbers: 12001885, 12001894, 12001893, 12001886, 12001892
   Physical Address: 4 N. Curry Street, Hampton, VA 23663

   and authorized to take such action, do hereby make, constitute and appoint:

3. (Name) Jeff Holland, Network Building + Consulting, LLC
   (Telephone) (757) 817-6628
   (Address) 4435 Waterfront Drive, Suite 100, Glen Allen, VA 23060

   (Name) Lisa Murphy, Willcox & Savage, P.C.
   (Telephone) (757) 628-5540
   (Address) 440 Monticello Avenue, Suite 2200, Norfolk, VA 23510

   either one of whom may act as my true and lawful attorney-in-fact for and in my name, place and stead with full power and authority I would have if acting personally to seek rezoning, conditional use, special use permit, variance, special exception, site plan/plan of development, zoning permit, land disturbance permit, VDOT permit and/or building permit and to set forth and offer such legally acceptable voluntarily proffered conditions including any additions, amendments, modifications or deletions thereto that in his discretion are deemed reasonable, appropriate and necessary except as follows: None.

By: _____
James Cole (print name) President (title)

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Hampton, to-wit:

This day June 3 2021, personally appeared before me, James Cole, a Notary Public in and for the County and State aforesaid, and swore or affirmed that the matters stated in the foregoing are true to the best of his knowledge and belief.

Given under my hand this 3 day of June, 2021.

Megan Sylver McKinney
Notary Public

Registration No. 7717710
My Commission expires: 06/30/2021

MEGAN SYLVER McKINNEY NOTARY PUBLIC REG # 7717710 MY COMMISSION EXPIRES 6/30/2021 COMMONWEALTH OF VIRGINIA

NB+C™ TOTALLY COMMITTED.

Hand Delivered

June 7, 2021

Mr. Terry O'Neill
Director of Community Development
22 Lincoln Street
Hampton, VA 23669

RE: Application for Use Permit – 130-Foot Commercial Communications Tower (w/ 4-foot lightning rod) (Site Name: Fort Monroe) by Cellco Partnership (d/b/a Verizon Wireless) at 4 N. Curry Street, Hampton, VA 23663, PIN Nos: 12001885, 12001886, 12001892, 12001893, and 12001894

Dear Mr. O'Neil:

As an agent for Verizon Wireless, I am pleased to submit on behalf of Cellco Partnership (d/b/a Verizon Wireless) ("Applicant") the attached Use Permit application for the installation and operation of a new 130-foot commercial communications tower with a 4-foot lightning rod for a total structure height of 134 feet at 4 N. Curry Street, PIN Nos: 12001885, 12001886, 12001892, 12001893, and 12001894 (collectively, "Subject Property"). Verizon Wireless ("VZW") has retained Network Building + Consulting, LLC ("NB+C") to act as its agents in connection with this application. In addition, Verizon Wireless has retained the legal services of Willcox & Savage in connection with this application. Should you have any questions regarding this application, please let either Ms. Lisa Murphy or myself know.

Jeff Holland, NB+C – (757) 817-6628 or jholland@nbcllc.com
Lisa Murphy, Willcox & Savage – (757) 628-5540 or lmurphy@wilsav.com

The Subject Property is located in the R-11 and R-13 residential zoning districts and is operated as baseball fields by the Phoebus Recreation Association, Inc. The Subject Property consists of a total of approximately 3.81 acres. Only an approximately 2,600 square feet (0.06 acres) portion of the Subject Property will be used by the Applicant. The proposed commercial communication tower will be a galvanized steel monopole tower design with a total height of 134 feet (130 feet monopole + 4 foot lightning rod). It will also replace an existing ballfield light pole and will function as lights for two of the existing ballfields. The facility will meet all setbacks and in case of a collapse, the facility is designed to have a 50 foot fall radius and will fall within the Subject Property.

In accordance with the City of Hampton policy, I have enclosed one (1) paper copy of the following documents, unless otherwise noted. Please note that a digital copy of everything will also be emailed to the Planning Department.

- Use Permit application;
- Phoebus Recreation Association, Inc. – Property Usage and Release Statement;
- Power of Attorney (Verizon Wireless);
- Power of Attorney (Property Owner);
- Project Narrative;
- Verizon Wireless – aerial network map;
- Structural Integrity Letter/Fall Zone letter dated August 11, 2020;

- NIER report (to be submitted under separate cover);
- Email from Eric Brockwell, City of Hampton Network and Telecom Manager, sent August 12, 2020;
- Use Permit fee ($650.00, check #3571); and
- 11"x17" site plan drawings.

Thank you in advance for your consideration and please do not hesitate to contact Ms. Murphy or myself to further discuss any of the application materials. I look forward to working with you and the City of Hampton Planning Commission and City Council regarding this application.

Sincerely,

Jeff Holland, AICP
Senior Land Use Specialist
Network Building + Consulting, LLC
(agent for Verizon Wireless)

cc: Lisa Murphy, Willcox & Savage (attorney and agent for Verizon Wireless)

Applicant: Cellco Partnership (d/b/a Verizon Wireless)
Use Permit Application – City of Hampton
Project Narrative
Site Name: Fort Monroe
PIN Nos: 12001885, 12001894, 12001893, 12001886, 12001892 ("Property")
4 N. Curry Street, Hampton, VA 23663

Cellco Partnership d/b/a Verizon Wireless ("Applicant") is making this application to construct and operate a 130-foot commercial communications tower with a 4-foot lightning rod (134 feet total height) on a 2,100 square foot portion of the Subject Property owned by the Phoebus Recreation Association Inc. ("Owner"), which currently houses baseball fields. The Applicant is proposing to replace an existing ballfield light pole that lights two ballfields with a galvanized steel monopole that will function both as a communications tower and as ballfield lights. As indicated on the attached aerial network map, the Applicant currently has a need for a new site to improve wireless service in Phoebus and along Interstate 64. Due to the dense population and high traffic counts along Interstate 64, this area needs a higher density of sites to meet capacity needs. The Applicant also plans on co-locating antennas on the water tank near the Hampton Veterans Affairs ("VA") Hospital to the west of the proposed stealth tower approximately 0.8 miles away on the other side of Interstate 64.

Like the networks of all other wireless carriers, the Applicant's network of antenna sites is largely based on the use of existing towers, water tanks and other tall structures regardless of ownership. Before determining that a new communications tower was necessary to satisfy its height requirements and coverage objectives, Verizon Wireless first examined the search area ring for existing towers and/or tall structures on which it could co-locate its antennas. The Applicant's closest antennas are approximately 1.5 miles to the west located on the 267' lattice tower (VZW Site Name: Downtown Hampton) near the intersection of Eaton Street and East Queen Street and approximately 0.5 miles to the north located on the 125' monopole tower located on East Mercury Blvd (VZW Site Name: Phoebus). The other tall structure nearby is the Hampton VA Hospital water tank on which the Applicant will be installing antennas as indicated above. Once it determined that there were no other existing towers or tall structures available in the area in which it needed to locate its antennas, the Applicant searched for a property on which it could install a new tower in a manner that would be unobtrusive and that would not substantially detract from the aesthetic or neighborhood character. In this case there are already ballfield lights on the Property, so the addition of a stealth communication tower designed to look like a ballfield light pole with close-mounted antennas would not substantially detract from aesthetic or neighborhood character.

The Property, which consists of (5) parcels, which are all owned by the Owner, have a total acreage of 3.81 acres and are zoned R-13 or R-11. The tower compound will be accessed by a proposed 20' access/utility easement on East County Street. The proposed 50'x30' fenced compound will be located within a 60'x35' lease area. The compound will be surrounded by a black vinyl chain-link fence with barbed wire. Proposed screening landscaping will be installed along the west, south and east sides of the compound to screen it from public view. Netting will be placed over the compound to protect the equipment to prevent balls falling into the compound. The proposed communications tower will have a galvanized steel finish with close-mounted antennas and will have ball field lights installed at the approximate height of the existing lights. No advertising will be on the tower or compound.

Tower design drawings prepared by a registered structural or civil engineer will be submitted with the building permit application for the tower and will demonstrate that the facility will be designed to support the antennas of at least two (2) users, including the Applicant's antennas. The Applicant will comply with all standards and regulations of the FAA, FCC,

and any other agency of the federal government. All applicable federal, state and local building codes and regulations will be complied with.

In accordance Section 3.2 of the Hampton Zoning Ordinance, a "communication tower, commercial" is permitted subject to an approved Use Permit approved by the City Council. The submission requirements listed in this section are as follows:

Section 3.3 – Additional standards on uses

(34) *Communication tower, commercial* in the R-R, R-LL, R-43, R-33, R-22, R-15, R-13, R-11, R-9, R-8, R-4, MD-1, MD-2, MD-3, R-M, C-1, C-2, C-3, M-1, M-2, M-3, RT-1, HRC-1, HRC-2, HRC-3, PH-1, PH-2, PH-3, DT-1, DT-2, DT-3, FM-3, and PO-1 districts.

The following minimum conditions shall be met:

(a) Use permit applications for commercial communication towers shall include the following:

(i) A site plan drawn to scale specifying the location of tower(s), guy anchors (if any), transmission building(s) and other accessory uses, parking, access, landscaped areas (specifying size, spacing, and plant material proposed) fences, and identify adjacent property owners.

See enclosed site drawings prepared by John A. Daughtrey, III, P.E., NB+C Engineering Services, LLC, dated June 4, 2021.

(ii) A report from a registered structural or civil engineer indicating tower height and design, structure, installation and total anticipated capacity of the structure (including number and types of antennas which could be accommodated). This data shall demonstrate that the proposed commercial communication tower conforms to all structural requirements of the Uniform Statewide Building Code and shall set out whether the commercial communication tower will meet the structural requirements of EIA-222 E "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" published by the Electronic Industries Association, effective June 1, 1987 or current update.

See enclosed structural integrity letter prepared by Robert E. Beacom, P.E., Sabre Industries, dated August 11, 2020.

(iii) A statement from a registered engineer that the NIER (nonionizing electromagnetic radiation) emitted therefrom does not result in a ground level exposure at any point outside such facility which exceeds the lowest applicable exposure standards established by any regulatory agency of the U.S. government or the American National Standards Institute.

The NIER report will be submitted under separate cover.

(iv) Evidence of the lack of space on suitable existing commercial communication towers, buildings, or other structures to locate the proposed antenna and the lack of space on existing commercial communication tower sites to construct a tower for the proposed antenna within the service area shall be considered in the review of use permit applications for a new commercial communication tower.

As indicated above, the only other tall structure nearby is the Hampton VA Hospital water tank on which the Applicant will also be installing its antennas. Due to the dense population and high traffic counts along Interstate 64, both sites are required by the Applicant's RF engineers.

(v) Intermodulation testing is coordinated through the City of Hampton demonstrating that the proposed antenna operation is designed in a manner to eliminate interference with public safety communications within one (1) mile of the tower site. Such testing shall also be required from each subsequent operator prior to any building permits to add or modify antennae. Should any equipment associated with the antennae be found to interfere with the public safety communications, the owner shall be responsible for the elimination of such interference.

An Intermodulation study is not required per the enclosed email sent from Eric Brockwell, City of Hampton Network and Telecom Manager, on August 12, 2020.

(b) The following locational criteria shall be considered in determining the appropriateness of sites for commercial communication towers:

(i) Whether the application represents a request for multiple use of a commercial communication tower or site, or use on a site contiguous to an existing commercial communication tower site.

The proposed communications tower will be designed to support a total of two (2) users, including Verizon Wireless.

(ii) Whether the application contains a report that other potential users of the site and the commercial communication tower have been contacted, and they have no current plans, to the best of their ability to determine, that could be fulfilled by joint use.

Verizon Wireless will be the anchor tenant at the top centerline and will own the communications tower. No other users are planned to co-locate on the facility this time, although the tower will be designed to accommodate one (1) additional user.

(iii) Whether the application shows how the commercial communication tower or site will be designed or laid out to accommodate future multiple users. Specific design features evaluated shall include but not be limited to height, wind loading, and coaxial cable capacity.

The proposed communications tower will be designed to support a total of two (2) users, including Verizon Wireless.

(iv) Whether the proposed commercial communication tower is to be located in an area where it would be unobtrusive and would not substantially detract from aesthetic or neighborhood character, due either to location, to the nature of surrounding uses, (such as industrial uses) or to lack of visibility caused by natural growth or other factors.

Verizon Wireless is proposing to replace an existing ballfield light with a facility that will function as a communications tower and ballfield lights. Close-mounted antennas will be utilized on the facility to utilize existing developed land (ballfields) and to minimize the appearance of the tower and

antennas. In this case there are already ballfield lights on the Property, so the addition of a communications tower that will function as a ballfield light with close-mounted antennas would not substantially detract from aesthetic or neighborhood character.

(c) Accessory facilities may not include offices, vehicle storage, or outdoor storage unless permitted by underlying zoning.

There will be no offices, vehicle storage, or outdoor storage in the fenced compound.

(d) Advertising and/or signage on tower structures is prohibited.

There will be no advertising on the wireless communications facility or on the fenced compound.

(e) The minimum setback requirements from the base of the commercial communication tower to any property line abutting a right-of-way of any planned or existing street, and all residential uses shall be at least fifty (50) feet unless a greater setback is specified due to site specific characteristics. For property lines abutting nonresidential uses, the minimum setback requirements shall be at least twenty-five (25) feet unless a greater setback is specified due to site specific characteristics. The minimum setback for guy towers shall be equal to forty (40) percent of tower height.

The location of the proposed communications tower complies will all setback requirements. The proposed tower will be 137.3 feet from the western property line (East County Street) and 135.4 feet from the southern property line (North Williard Avenue). The facility will be designed to collapse within a 50 foot fall zone radius in case of structural failure.

(f) Minimum site size shall be no less than two thousand (2,000) square feet.

The total leased area will be 2,100 square feet (60'x35').

(g) Commercial communication towers two hundred (200) feet in height or less shall have a galvanized finish or be painted silver. Regulations of the Federal Aviation Commission or Federal Communications Commission supersede this requirement if contradictory.

The proposed 130' communications tower will have a galvanized steel finish.

(h) Commercial communication towers shall be illuminated as required by the Federal Aviation Administration. However, if not required by the Federal Aviation Commission, no lighting shall be incorporated.

The proposed communications tower will not be lit as required by the FAA; however it will hold ballfield lights which will be used to light two (2) of the existing ballfields.

(i) Landscaping shall be required as set forth in the "City of Hampton Landscape Guidelines" on file with the department of community development, development services center.

Screening landscaping has been provided around the northern, western and southern sides of the fenced compound. See enclosed site drawings.

(j) Additional conditions may be included contingent upon site specific characteristics for commercial communication towers other than those exempt under subsection (k) herein below.

Noted.

(k) Commercial communication towers up to one hundred fifty (150) feet in height sited on properties included in the inventory of appropriate sites for communication towers which is adopted by reference as a component of the 2006 community plan, as amended, are exempt from the use permit requirement provided all the above listed provisions, except for subsection (j), are satisfied and proposals to site said improvements are first reviewed by the planning commission, with its recommendation forwarded to the appropriate board or commission for further consideration. Failure on the part of the planning commission to act on such proposals within ninety (90) days of submission of a complete application shall be deemed to be an approval, unless the applicant agrees to an extension of time.

Noted.

Compliance with the City's Community Plan 2011 Update – Strategic Issue

The need for improved wireless service in Phoebus and along Interstate 64 and around the Hampton Roads Bridge-Tunnel is quite clear. The proposed communications tower would not only improve wireless services for residents in Phoebus, but it will also improve wireless service and capacity along Interstate 64 and the Hampton Roads Bridge-Tunnel. Due to the population in the area along with high traffic counts along Interstate 64, this area needs a higher density of sites to meet capacity needs. The proposed facility will be designed in a manner that will have minimal impact on surrounding uses such as having close-mounted antennas and function as a ballfield light. It will not generate or increase traffic, but it will also advance goals and objectives adopted by the City in the Comprehensive Plan:

- Diverse Population, Youth and Seniors – Goal 2 – All citizens have easy accessibility to all resources and services.

  Something that the past year has demonstrated is that having quality wireless service at your home for work and school is more important than ever. Also, more and more citizens are working from home or telecommuting. This facility will improve the wireless service in Phoebus which would continue to improve accessibility for all residents in the area.

- Economic Base, Regionalism, Transportation and Infrastructure – Goal 2 – Hampton strengthens its economic base through its workforce development efforts and by facilitating development of small businesses, enhancing relationships with major institutions and federal neighbors in the city, and capitalizing on its natural and physical assets.

  Improved wireless service is a vital component for a diversified economy. Businesses and residents employed by diversified industries must have a strong wireless network to properly function in today's diversified economy.

- *Lifelong Learning & Education – Goal 4 – Attract, develop and retain highly qualified teachers for children and adults.*

  In today's interconnected world, schools are using the internet more and more. Having a strong wireless network is required for student's schools to properly function in connected learning environment.

Sabre Industries™
INNOVATION DELIVERED

August 11, 2020

Jeff Holland, AICP
Senior Land Use Specialist
NETWORK BUILDING + CONSULTING
4435 Waterfront Drive | Suite 100 | Glen Allen, VA | 23060

Re: Proposed 130 ft Monopole for Fort Monroe, VA

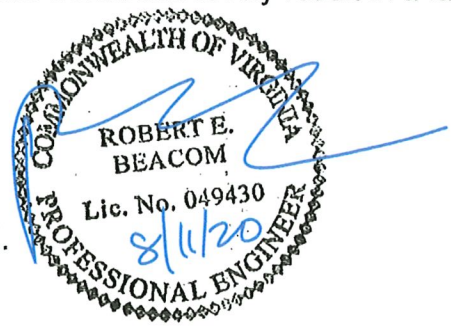
Dear Mr. Holland,

Upon receipt of order, we propose to design and supply the above referenced tower for a Basic Wind Speed of 118 mph with no ice and 40 mph + 1" ice, Structure Class II, Exposure Category D, 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 monopole 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, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles. This would effectively result in a fall radius equal to 50 ft at ground level.

Sincerely,



Robert E. Beacom, P.E., S.E.
Engineering Supervisor

Sabre Industries, Inc. • 7101 Southbridge Drive • Sioux City, IA 51111
P: 712-258-6690 F: 712-279-0814 W: www.SabreIndustries.com

Jeff Holland

From: Brockwell, Eric <ebrockwell@hampton.gov>
Sent: Wednesday, August 12, 2020 10:57 AM
To: Jeff Holland
Subject: RE: Verizon Wireless - proposed tower 32 N Curry St

Good Morning Mr. Holland,

The nearest Public Safety Radio site is beyond the 1 mile radius from this address. Therefore an intermodulation study is not required to submit.

Eric Brockwell
Network and Telecom Manager
IT Department
22 Lincoln St
Hampton, VA 23669
757-727-6794

From: Jeff Holland [mailto:jholland@nbcllc.com]
Sent: Wednesday, August 12, 2020 8:55 AM
To: Brockwell, Eric <ebrockwell@hampton.gov>
Subject: [EXTERNAL] RE: Verizon Wireless - proposed tower 32 N Curry St

Eric

Hello, I represent Verizon Wireless and we're looking at constructing a new cell tower in Hampton (parcel – 32 N. Curry Street; lat/long – 37-01-2.7357 N, 76-18-59.9127). As you know, one of the requirements for our CUP application is to provide an intermodulation study. Can you let me know if there are any City owned towers/antennas located within 1 mile of our proposed facility? If there isn't any, then does this mean I don't need to submit an intermodulation study with our CUP application? Thanks,

(v) Intermodulation testing is coordinated through the City of Hampton demonstrating that the proposed antenna operation is designed in a manner to eliminate interference with public safety communications within one (1) mile of the tower site. Such testing shall also be required from each subsequent operator prior to any building permits to add or modify antennae. Should any equipment associated with the antennae be found to interfere with the public safety communications, the owner shall be responsible for the elimination of such interference.

Jeff Holland, AICP
Senior Land Use Specialist

NETWORK BUILDING + CONSULTING
4435 Waterfront Drive | Suite 100 | Glen Allen, VA | 23060
Mobile (757) 817-6628

Proposed Verizon Wireless Phoebus Recreation Facility and Adjoining Locations

Radio Frequency - Electromagnetic Energy
NIER Report

Site No. 272602
Fort Monroe
4 N Curry Street
Hampton, Virginia 23663

37° 1' 0.77" N, -76° 19' 4.66" W NAD83

EBI Project No. 6221003283
July 6, 2021

Prepared for:

Verizon Wireless
c/o Network Building & Consulting
120 Eastshore Drive, Suite 300
Glen Allen, Virginia 23059

Prepared by:

EBI Consulting
environmental | engineering | due diligence

TABLE OF CONTENTS

APPENDICES

EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Verizon Wireless ("Verizon") to conduct radio frequency electromagnetic (RF-EME) modeling for Verizon Site 272602 located at 4 N Curry Street in Hampton, Virginia to determine RF-EME exposure levels from proposed Verizon communications equipment at this site. As described in greater detail in Appendix C of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for the general public and for occupational activities. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

As presented in the sections below, based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site.

At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately **0.10** percent of the FCC's general public limit (**0.02** percent of the FCC's occupational limit).

The composite exposure level from all carriers on this site is approximately **0.10** percent of the FCC's general public limit (**0.02** percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

Recommended control measures are outlined in Section 4.0 and within the Site Safety Plan (attached); Verizon should also provide procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol. Non-telecom workers who will be working in areas of exceedance are required to contact Verizon since only Verizon has the ability to lockout/tagout the facility, or to authorize others to do so.

1.0 INTRODUCTION

Radio frequency waves are electromagnetic waves from the portion of the electromagnetic spectrum at frequencies lower than visible light and microwaves. The wavelengths of radio waves range from thousands of meters to around 30 centimeters. These wavelengths correspond to frequencies as low as 3 cycles per second (or hertz [Hz]) to as high as one gigahertz (one billion cycles per second).

Personal Communication (PCS) facilities used by Verizon in this area will potentially operate within a frequency range of 700 to 5000 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of in areas in the immediate vicinity of the antennas.

MPE limits do not represent levels where a health risk exists, since they are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size or health.

2.0 SITE DESCRIPTION

This project site includes the following proposed wireless telecommunication antennas on a monopole located at 4 N Curry Street in Hampton, Virginia.

Ant #	Operator	Antenna Make	Antenna Model	Frequency (MHz)	Azimuth (deg.)	Mechanical Downtilt (deg.)	Horizontal Beamwidth (Degrees)	Aperture (feet)	Total Power Input (Watts)	Antenna Gain (dBd)	Total ERP (Watts)	Total EIRP (Watts)
1	Verizon	COMMSCOPE	NHH-45C-R2B 02DT 700	700	30	0	48	8.0	80	15.34	2735.84	4486.77
1	Verizon	COMMSCOPE	NHH-45C-R2B 02DT 850	850	30	0	43	8.0	80	16.14	3289.20	5394.28
1	Verizon	COMMSCOPE	NHH-45C-R2B 02DT 850	850	30	0	43	8.0	80	16.14	3289.20	5394.28
1	Verizon	COMMSCOPE	NHH-45C-R2B 02DT 1900	1900	30	0	38	8.0	80	17.37	4366.06	7160.34
2	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0700	700	30	0	65	8.0	80	13.9	1963.77	3220.58
2	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	30	0	62	8.0	80	13.9	1963.77	3220.58
2	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	30	0	62	8.0	80	13.9	1963.77	3220.58
2	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 2100	2100	30	0	62	8.0	80	15.7	2972.28	4874.54
2	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 3500	3500	30	0	66	8.0	20	15.3	677.69	1111.41
3	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 700	700	135	0	49	8.0	80	15.41	2780.29	4559.67
3	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 850	850	135	0	43	8.0	80	16.19	3327.28	5456.75
3	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 850	850	135	0	43	8.0	80	16.19	3327.28	5456.75
3	Verizon	COMMSCOPE	NHH-45C-R2B 03DT 1900	1900	135	0	39	8.0	80	17.39	4386.22	7193.39
4	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0700	700	135	0	65	8.0	80	13.9	1963.77	3220.58
4	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	135	0	62	8.0	80	13.9	1963.77	3220.58
4	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	135	0	62	8.0	80	13.9	1963.77	3220.58

4	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 2100	2100	135	0	62	8.0	80	15.7	2972.28	4874.54
4	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 3500	3500	135	0	66	8.0	20	15.3	677.69	1111.41
5	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 700	700	135	0	49	8.0	80	15.41	2780.29	4559.67
5	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 850	850	135	0	43	8.0	80	16.19	3327.28	5456.75
5	Verizon	COMMSCOPE	NHH-45C-R2B 07DT 850	850	135	0	43	8.0	80	16.19	3327.28	5456.75
5	Verizon	COMMSCOPE	NHH-45C-R2B 03DT 1900	1900	135	0	39	8.0	80	17.39	4386.22	7193.39
6	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0700	700	135	0	65	8.0	80	13.9	1963.77	3220.58
6	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	135	0	62	8.0	80	13.9	1963.77	3220.58
6	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	135	0	62	8.0	80	13.9	1963.77	3220.58
6	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 2100	2100	135	0	62	8.0	80	15.7	2972.28	4874.54
6	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 3500	3500	135	0	66	8.0	20	15.3	677.69	1111.41
7	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 700	700	270	0	48	8.0	80	15.42	2786.70	4570.19
7	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 850	850	270	0	43	8.0	80	16.2	3334.96	5469.33
7	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 850	850	270	0	43	8.0	80	16.2	3334.96	5469.33
7	Verizon	COMMSCOPE	NHH-45C-R2B 03DT 1900	1900	270	0	39	8.0	80	17.39	4386.22	7193.39
8	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0700	700	270	0	65	8.0	80	13.9	1963.77	3220.58
8	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	270	0	62	8.0	80	13.9	1963.77	3220.58
8	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	270	0	62	8.0	80	13.9	1963.77	3220.58
8	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 2100	2100	270	0	62	8.0	80	15.7	2972.28	4874.54
8	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 3500	3500	270	0	66	8.0	20	15.3	677.69	1111.41
9	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 700	700	270	0	48	8.0	80	15.42	2786.70	4570.19
9	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 850	850	270	0	43	8.0	80	16.2	3334.96	5469.33
9	Verizon	COMMSCOPE	NHH-45C-R2B 04DT 850	850	270	0	43	8.0	80	16.2	3334.96	5469.33
9	Verizon	COMMSCOPE	NHH-45C-R2B 03DT 1900	1900	270	0	39	8.0	80	17.39	4386.22	7193.39
10	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0700	700	270	0	65	8.0	80	13.9	1963.77	3220.58
10	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	270	0	62	8.0	80	13.9	1963.77	3220.58
10	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 0850	850	270	0	62	8.0	80	13.9	1963.77	3220.58
10	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 2100	2100	270	0	62	8.0	80	15.7	2972.28	4874.54
10	Verizon	COMMSCOPE	NHHSS-65C-R2B 00DT 3500	3500	270	0	66	8.0	20	15.3	677.69	1111.41

• Note there are two antennas broadcasting in one sector and 4 antennas broadcasting in two sectors at this site. For clarity, the different frequencies for each antenna are entered on separate lines.

Ant #	NAME	X	Y	Antenna Radiation Centerline	Z-Height Lower Roof
1	Verizon	13.6	13.9	127.0	127.0
2	Verizon	16.8	8.5	127.0	127.0
3	Verizon	18.4	5.5	127.0	127.0
4	Verizon	12.2	5.5	127.0	127.0
5	Verizon	8.8	5.5	127.0	127.0
6	Verizon	2.7	5.5	127.0	127.0
7	Verizon	0.3	0.3	127.0	127.0
8	Verizon	2.7	5.6	127.0	127.0
9	Verizon	4.4	8.4	127.0	127.0
10	Verizon	7.5	13.7	127.0	127.0

• Note the Z-Height represents the distance from the antenna centerline.

The above tables contain an inventory of proposed Verizon Antennas and other carrier antennas if sufficient information was available to model them. Note that EBI uses an assumed set of antenna

specifications and powers for unknown and other carrier antennas for modeling purposes. The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general population/uncontrolled exposure limits for members of the general public that may be exposed to antenna fields. While access to this site is considered uncontrolled, the analysis has considered exposures with respect to both controlled and uncontrolled limits as an untrained worker may access adjacent rooftop locations. Additional information regarding controlled/uncontrolled exposure limits is provided in Appendix C. Appendix B presents a site safety plan that provides a plan view of the monopole with antenna locations.

3.0 WORST-CASE PREDICTIVE MODELING

EBI has performed theoretical MPE modeling using RoofMaster™ software to estimate the worst-case power density at the site's nearby broadcast levels resulting from operation of the antennas. RoofMaster™ is a widely-used predictive modeling program that has been developed by Waterford Consultants to predict RF power density values for rooftop and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. Using the computational methods set forth in Federal Communications Commission (FCC) Office of Engineering & Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (OET-65), RoofMaster™ calculates predicted power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

For this report, EBI utilized antenna and power data provided by Verizon and compared the resultant worst-case MPE levels to the FCC's occupational/controlled exposure limits outlined in OET Bulletin 65. The assumptions used in the modeling are based upon information provided by Verizon and information gathered from other sources. The parameters used for modeling are summarized in the Site Description antenna inventory table in Section 2.0.

There are no other wireless carriers with equipment installed at this site.

Based on worst-case predictive modeling, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed Verizon antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately 0.10 percent of the FCC's general public limit (0.02 percent of the FCC's occupational limit). The composite exposure level from all carriers on this site is approximately 0.10 percent of the FCC's general public limit (0.02 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

The Site Safety Plan also presents areas where Verizon Wireless antennas contribute greater than 5% of the applicable MPE limit for a site. A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

The inputs used in the modeling are summarized in the Site Description antenna inventory table in Section 2.0. A graphical representation of the RoofMaster™ modeling results is presented in Appendix B. Microwave dish antennas are designed for point-to-point operations at the elevations of the installed equipment rather than ground level coverage. The maximum power density generated by all carrier antennas, including microwaves and panel antennas, is included in the modeling results presented within this report.

4.0 MITIGATION/SITE CONTROL OPTIONS

EBI's modeling indicates that there are no areas in front of the Verizon antennas that exceed the FCC standards for occupational or general public exposure. All exposures above the FCC's safe limits require that individuals be elevated above the ground. In order to alert people accessing the monopole, a Guidelines sign and an NOC Information sign are recommended for installation at each access point to the monopole.

Barriers are recommended for installation when possible to block access to the areas in front of the antennas that exceed the FCC general public and/or occupational limits. Barriers may consist of rope, chain, or fencing. Painted stripes should only be used as a last resort. There are no barriers recommended on this site.

These protocols and recommended control measures have been summarized and included with a graphic representation of the antennas and associated signage and control areas in a RF-EME Site Safety Plan, which is included as Appendix B. Individuals and workers accessing the monopole should be provided with a copy of the attached Site Safety Plan, made aware of the posted signage, and signify their understanding of the Site Safety Plan.

To reduce the risk of exposure, EBI recommends that access to areas associated with the active antenna installation be restricted and secured where possible.

Implementation of the signage recommended in the Site Safety Plan and in this report will bring this site into compliance with the FCC's rules and regulations.

5.0 SUMMARY AND CONCLUSIONS

EBI has prepared a Radiofrequency – Electromagnetic Energy (RF-EME) Compliance Report for telecommunications equipment installed by Verizon Site Number 272602 located at 4 N Curry Street in Hampton, Virginia to determine worst-case predicted RF-EME exposure levels from wireless communications equipment installed at this site. This report summarizes the results of RF-EME modeling in relation to relevant Federal Communications Commission (FCC) RF-EME compliance standards for limiting human exposure to RF-EME fields.

As presented in the sections above, based on the FCC criteria, there are no modeled areas on any accessible ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site.

Workers should be informed about the presence and locations of antennas and their associated fields. Recommended control measures are outlined in Section 4.0 and within the Site Safety Plan (attached); Verizon should also provide procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol. Non-telecom workers who will be working in areas of exceedance are required to contact Verizon since only Verizon has the ability to lockout/tagout the facility, or to authorize others to do so.

6.0 LIMITATIONS

This report was prepared for the use of Verizon Wireless. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

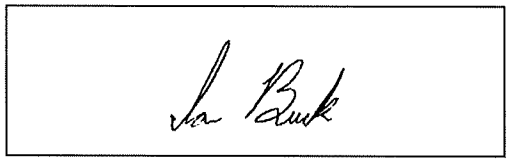
Appendix A

Certifications

Preparer Certification

I, Ian Burk, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.



Reviewed and Approved by:

sealed 02jul2021 mike@h2dc.com
H2DC PLLC VA CoA#: 0413000651

Michael McGuire
Electrical Engineer
mike@h2dc.com

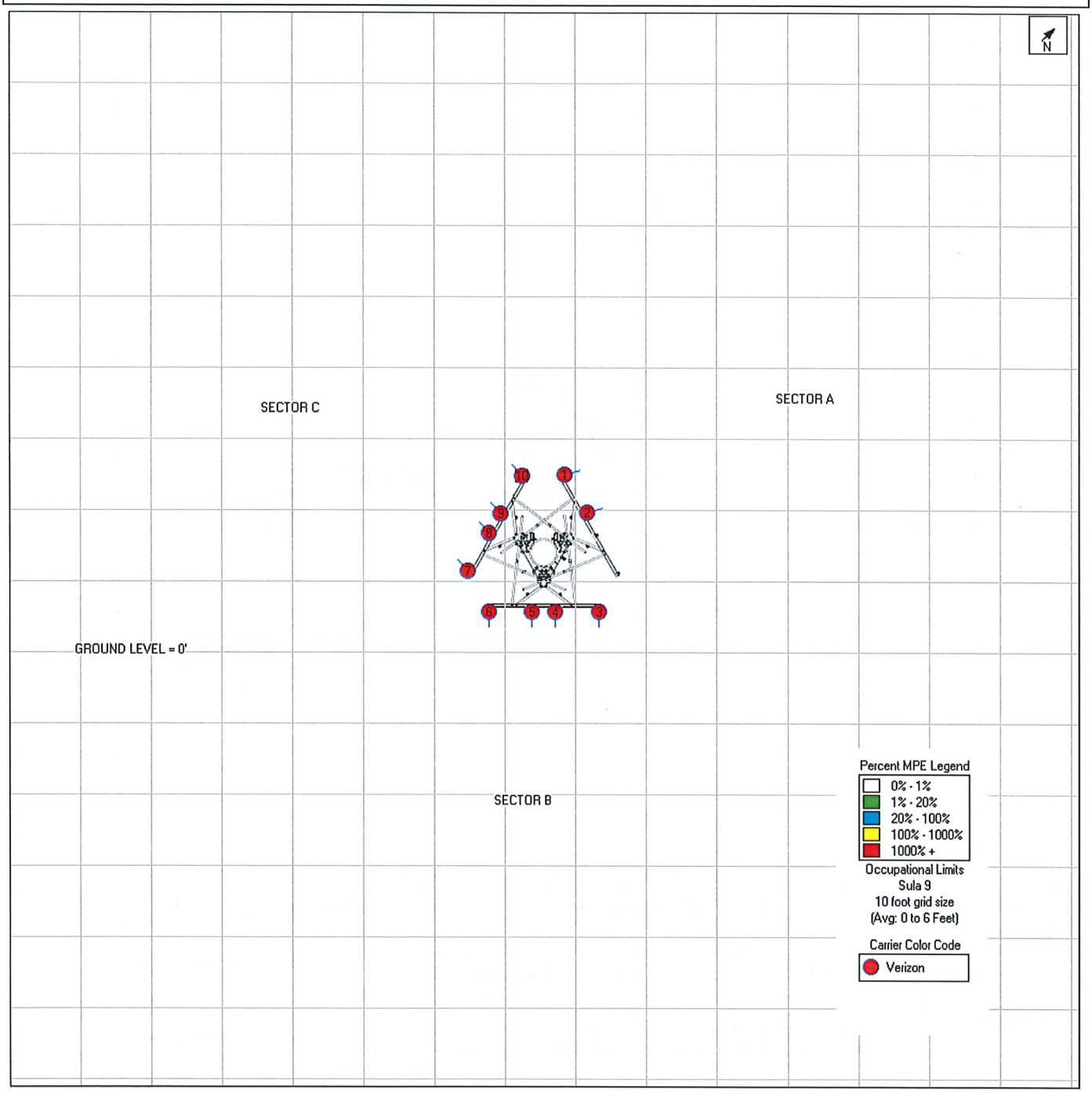
Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.

Appendix B

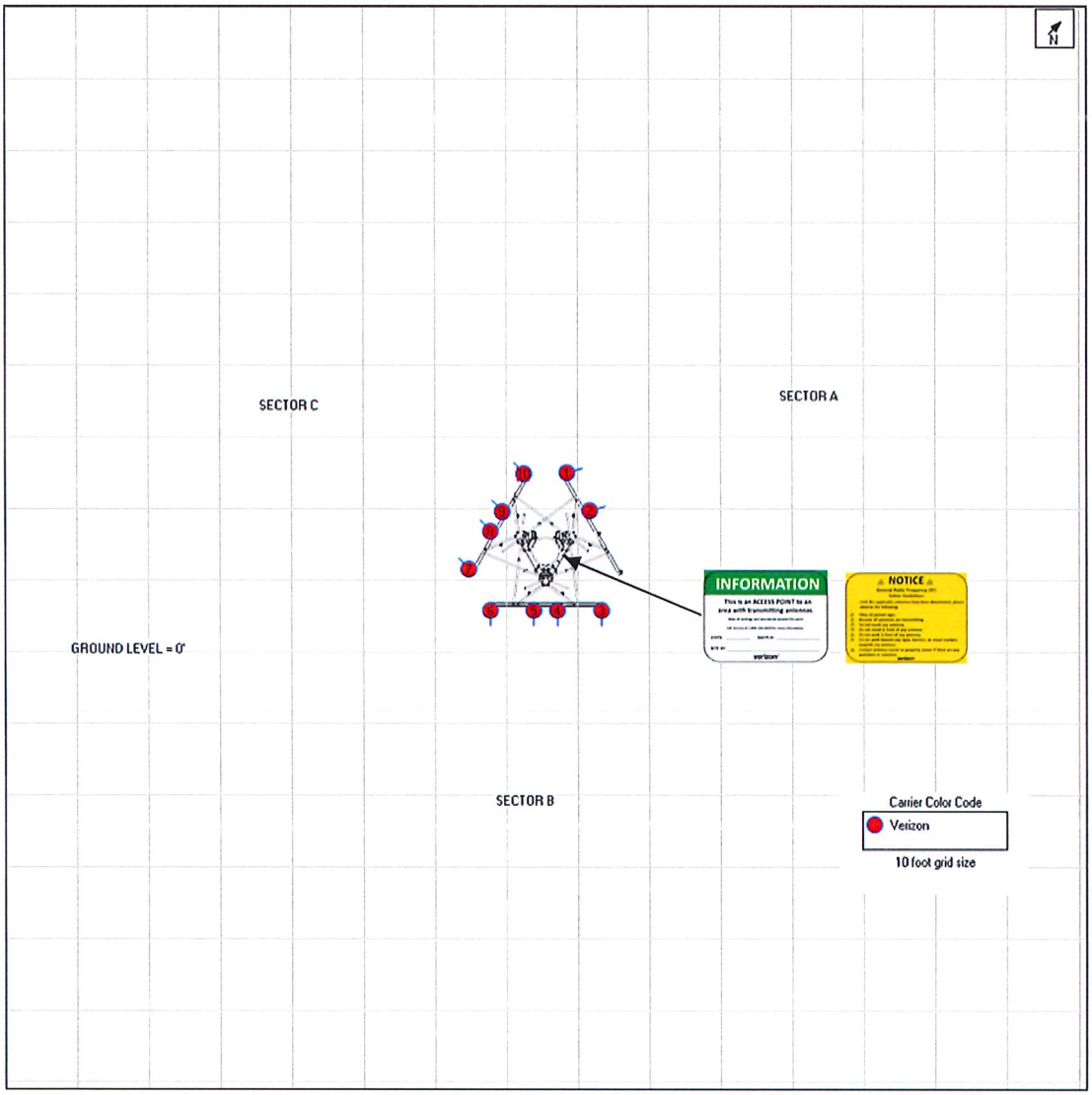
Radio Frequency Electromagnetic Energy

Safety Information and Signage Plans

Ground Level Simulation



Verizon Signage Plan

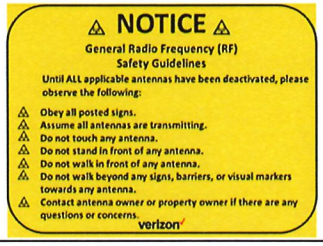


Sign	Posting Instructions	Required Signage / Mitigation
	Securely post at every point of access to the site in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	1 at the base of the tower.
	Securely post at every point of access to the site in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	1 at the base of the tower.
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	N/A
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	N/A
	Securely post in a manner conspicuous to all individuals entering thereon as indicated in the signage plan.	N/A

RF Signage and Safety Information

RF Signage

Areas or portions of any transmitter site may be susceptible to high power densities that could cause personnel exposures in excess of the FCC guidelines. These areas must be demarcated by conspicuously posted signage that identifies the potential exposure. Signage must be viewable regardless of the viewer's position. Signs must be legible and readily viewable and readable at a minimum distance of five feet (1.52 meters) from the boundary (and as necessary on approach to this boundary) at which the applicable limits are exceeded, and that controls or indicators be placed at compliance boundaries. The minimum readable letter height at 5 feet from the signage is 0.20 inches for the Message and 0.44 inches for the Signal.

GUIDELINES	NOTICE	CAUTION	WARNING
This sign will inform anyone of the basic precautions to follow when entering an access point to an area with transmitting radiofrequency equipment.	This sign indicates that RF emissions may exceed the FCC General Population MPE limit.	This sign indicates that RF emissions may exceed the FCC Occupational MPE limit.	This sign indicates that RF emissions may exceed at least 10x the FCC Occupational MPE limit.
			

NOC INFORMATION	
Information signs are used as a means to provide contact information for any questions or concerns. They will include specific cell site identification information and the Verizon Wireless Network Operations Center phone number.	

Physical Barriers

Physical barriers are control measures that require awareness and participation of personnel. Physical barriers are employed as an additional administration control to complement RF signage and physically demarcate an area in which RF exposure levels may exceed the FCC General Population limit. **Example**: chain-connected stanchions

Indicative Markers

Indicative markers are visible control measures that require awareness and participation of personnel, as they cannot physically prevent someone from entering an area of potential concern. Indicative markers are employed as an additional administration control to complement RF signage and visually demarcate an area in which RF exposure levels may exceed the FCC General Population limit. **Example**: paint stripes

Occupational Safety and Health Administration (OSHA) Requirements

A formal adopter of FCC Standards, OSHA stipulates that those in the Occupational classification must complete training in the following: RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides options for Hazard Prevention and Control:

Hazard Prevention	Control
• Utilization of good equipment • Enact control of hazard areas • Limit exposures • Employ medical surveillance and accident response	• Employ Lockout/Tag out • Utilize personal alarms & protective clothing • Prevent access to hazardous locations • Develop or operate an administrative control program

Appendix C

Federal Communications

Commission (FCC) Requirements

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 mW/cm^2 for equipment operating in the 1900 MHz frequency range. For the Verizon equipment operating at 700 MHz or 850 MHz, the FCC's occupational MPE is 2.83 mW/cm^2 and an uncontrolled MPE of 0.57 mW/cm^2. For the Verizon equipment operating at 1900 MHz, the FCC's occupational MPE is 5.0 mW/cm^2 and an uncontrolled MPE limit of 1.0 mW/cm^2. These limits are considered protective of these populations.

Table 1: Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure

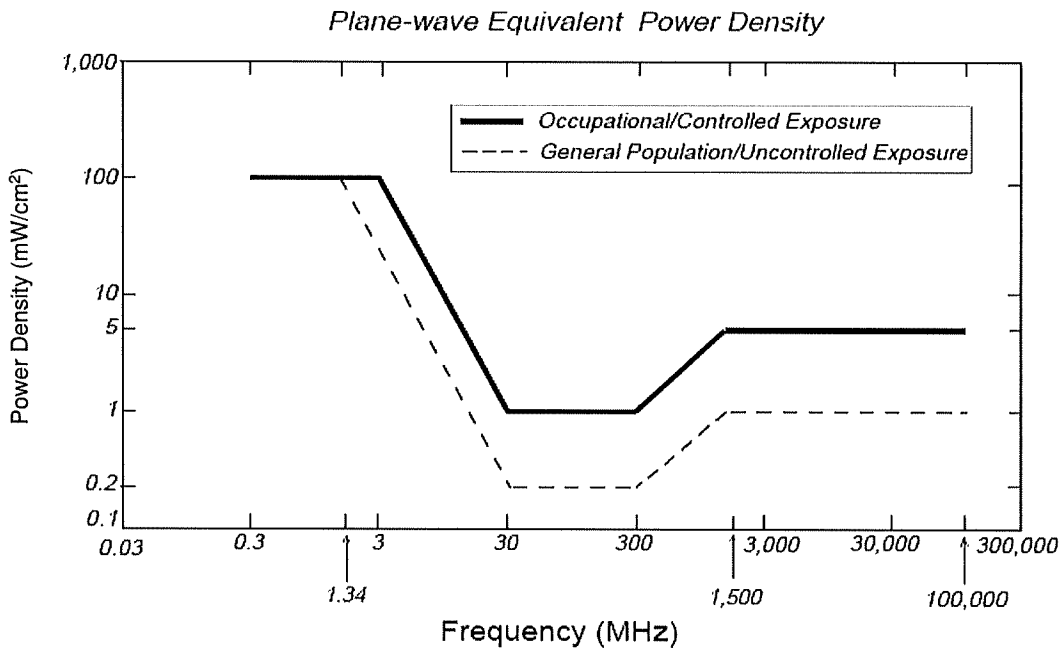
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $[E]^2$, $[H]^2$, or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6

(B) Limits for General Public/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $[E]^2$, $[H]^2$, or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Microwave (Point-to-Point)	5,000 - 80,000 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Broadband Radio (BRS)	2,600 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Wireless Communication (WCS)	2,300 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Advanced Wireless (AWS)	2,100 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2
Specialized Mobile Radio (SMR)	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2
Long Term Evolution (LTE)	700 MHz	2.33 mW/cm^2	0.47 mW/cm^2
Most Restrictive Frequency Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication (PCS) facilities used by Verizon in this area will potentially operate within a frequency range of 700 to 2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

FCC Compliance Requirement

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

verizon

SITE NAME: FORT MONROE
VERIZON RAWLAND

4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

811 Know what's **below.** **Call** before you dig.

SITE INFORMATION

PROJECT DESCRIPTION:	RAWLAND: PROPOSED INSTALLATION OF TELECOMMUNICATIONS TOWER/BALL FIELD LIGHT AND RELATED EQUIPMENT WITHIN SECURED COMPOUND.
SITE ADDRESS:	4 N CURRY STREET HAMPTON, VA 23663
LATITUDE (NAD 83): LONGITUDE (NAD 83):	37° 01' 00.7719" N 76° 19' 04.6578" W
GROUND ELEVATION:	9.5'± AMSL
JURISDICTION:	CITY OF HAMPTON
PROPERTY ID NUMBER (PIN): ZONING: PARCEL AREA:	1. 12001885 R-13 0.31 ACRES 2. 12001886 R-13 1.23 ACRES 3. 12001892 R-11 0.34 ACRES 4. 12001893 R-11 0.62 ACRES 5. 12001894 R-11 1.31 ACRES
PARCEL OWNER:	PHOEBUS RECREATION ASSOC INC C/O JAMES COLE 202 CATTAIL LANE YORKTOWN, VA 23693
TOWER OWNER:	VERIZON WIRELESS 1831 RADY COURT RICHMOND, VA 23222
STRUCTURE TYPE:	MONOPOLE/BALL FIELD LIGHT
HEIGHT OF STRUCTURE:	130.0'± AGL
RAD CENTER:	127.0'± AGL
OVERALL HEIGHT OF STRUCTURE:	134.0'± AGL
TOTAL LEASE AREA:	2,100± SQ. FT.
TOTAL AREA OF DISTURBANCE:	1,750 ± SQ. FT.
POWER PROVIDER:	DOMINION ENERGY (866) 366-4357
TELCO PROVIDER:	VERIZON (800) 837-4966

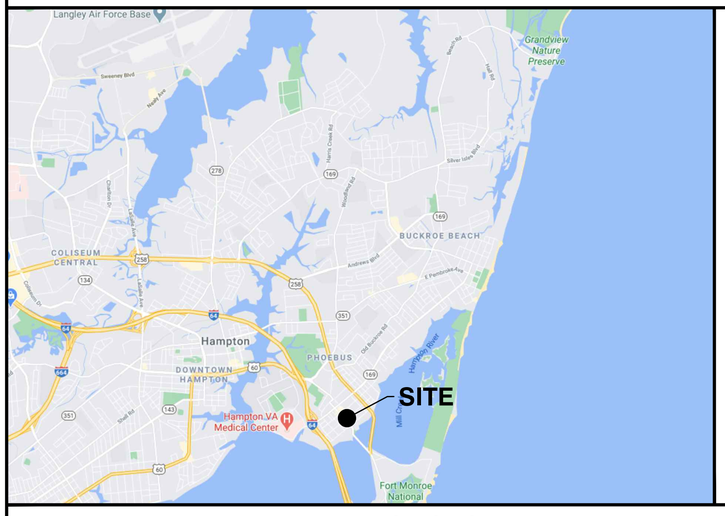
EMERGENCY INFORMATION:

HAMPTON FIRE & RESCUE DEPARTMENT:	(757) 727-6580
HAMPTON SHERIFF'S OFFICE:	(757) 727-6203

PROJECT TEAM

CONSTRUCTION MANAGER:	NETWORK BUILDING + CONSULTING, LLC AL BROWNE (804) 615-1848
PROJECT MANAGEMENT FIRM:	NETWORK BUILDING + CONSULTIN, LLC ROB WATKINSON (804) 698-0753
ENGINEERING FIRM:	NB+C ENGINEERING SERVICES, LLC. 120 EASTSHORE DRIVE SUITE 300 GLEN ALLEN, VA 23059 (804) 548-4079

VICINITY MAP



DIRECTIONS

FROM JEFFERSON AVE NEWPORT NEWS, VA 23603

HEAD SOUTHEAST ON JEFFERSON AVE TOWARD CAMPSITE DR (1.9 MI) TURN RIGHT ONTO FORT EUSTIS BLVD (0.2 MI) USE THE RIGHT LANE TO MERGE ONTO I-64 E VIA THE RAMP TO HAMPTON/NORFOLK (0.2 MI) MERGE ONTO I-64 E (17.2 MI) TAKE EXIT 267 TOWARD SETTLERS LANDING RD (0.1 MI) USE THE 2ND FROM THE LEFT LANE TO TURN LEFT ONTO SETTLERS LANDING RD (0.1 MI) CONTINUE ONTO WOODLAND RD (358 FT) SLIGHT RIGHT ONTO W COUNTY ST (0.6 MI) TURN LEFT ONTO N CURRY ST DESTINATION WILL BE ON THE RIGHT 4 N CURRY ST HAMPTON, VA 23663

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2015 INTERNATIONAL BUILDING CODE
- 2014 NATIONAL ELECTRICAL CODE
- 2015 NFPA 101, LIFE SAFETY CODE
- 2015 IFC
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 14TH EDITION
- 2015 VIRGINIA CONSTRUCTION CODE
- ANSI/TIA-222-G
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275
- ANSI/T 311

DRAWING INDEX

DO NOT SCALE DRAWINGS

THESE DRAWINGS ARE FORMATTED TO BE FULL-SIZE AT 24"X36". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

APPROVAL BLOCK

ENGINEER

NB+C TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon

1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

TRUE NORTH

CURRY STREET

EAST COUNTY STREET

NORTH WILLARD AVENUE

PHOEBUS RECREATION ASSOC
INC C/O JAMES COLE
202 CATTAIL LN
YORKTOWN, VA 23693
CITY OF HAMPTON
PARCEL ID: 12001892
ZONING: R-11
ACREAGE: 0.34±

PHOEBUS RECREATION ASSOC
INC C/O JAMES COLE
202 CATTAIL LN
YORKTOWN, VA 23693
CITY OF HAMPTON
PARCEL ID: 12001893
ZONING: R-11
ACREAGE: 0.62±

PHOEBUS RECREATION ASSOC
INC C/O JAMES COLE
202 CATTAIL LN
YORKTOWN, VA 23693
CITY OF HAMPTON
PARCEL ID: 12001894
ZONING: R-11
ACREAGE: 0.31±

PHOEBUS RECREATION ASSOC
INC C/O JAMES COLE
202 CATTAIL LN
YORKTOWN, VA 23693
CITY OF HAMPTON
PARCEL ID: 12001886
ZONING: R-11
ACREAGE: 1.23±

PHOEBUS RECREATION ASSOC
INC C/O JAMES COLE
202 CATTAIL LN
YORKTOWN, VA 23693
CITY OF HAMPTON
PARCEL ID: 12001885
ZONING: R-11
ACREAGE: 0.31±

TO BE VACATED

EXISTING BASEBALL FIELD

EXISTING BALL FIELD WOOD POLE LIGHTS (TYP.)

EXISTING WOOD LIGHT POLE TO BE REPLACED BY 130' STEEL MONOPOLE TOWER (LIGHTS TO BE RELOCATED ON NEW POLE)

EXISTING FENCE LINE

EXISTING BATTING CAGES (TO BE RELOCATED)

PROPOSED 30'x50' FENCED-IN COMPOUND (SEE SHEET C-1 FOR DETAILS)

PROPOSED 10'X10' LEASE AREA

PROPOSED 50' TOWER FALL ZONE

PROPOSED 5' UTILITY EASEMENT

PROPOSED UNDERGROUND DUCTBANK FROM COMPOUND TO TOWER FOR HYBRID CABLING

PROPOSED 20' ACCESS EASEMENT

EXISTING BUILDING

EXISTING RESIDENCE (TYP.)

305.1'

249.3'

137.3'

135.4'

ZONING MAP

ZONING COLOR CODE
DARK YELLOW: R-11
LIGHT YELLOW: R-13
PINK: PH-2
DARK ORANGE: C-2
LIGHT ORANGE: R-8

GENERAL NOTES

1. THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
2. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
3. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION. THERE IS NO HANDICAP ACCESS REQUIRED.
4. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.

LEGEND

- PROPERTY LINE – SUBJECT PARCEL
- PROPERTY LINE – ABUTTERS
- EXISTING ROAD
- EXISTING FENCE
- PROPOSED EASEMENT
- PROPOSED LEASE AREA
- EXISTING EASEMENT
- PROPOSED FENCE
- EXISTING OVERHEAD UTILITY LINES
- EXISTING BUILDING

ZONING INFORMATION

JURISDICTION: CITY OF HAMPTON

ZONING: R-11 & R-13

DIMENSION	PROPOSED ±
FRONT YARD SETBACK:	137.3'±
SIDE YARD SETBACK:	135.4'±
REAR YARD SETBACK:	249.3'±

LOT AREA: 1.3081± & 0.3141± ACRES

(ALL MEASUREMENTS ARE IN FEET ± UNLESS OTHERWISE NOTED)

811 Know what's **below.** **Call** before you dig.

1 / Z-1 SITE PLAN
SCALE: 1"= 25'

GRAPHIC SCALE
250 0 175 250 500 1000
(IN FEET)
1 INCH = 250 FEET

ENGINEER

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

SITE PLAN

SHEET NUMBER

Z-1

(1)
TUTTLE RYAN P
28 N CURRY ST
HAMPTON , VA 23663
PARCEL ID: 13003990
ZONING: R-11
AREA: 0.4± ACRES

(2)
CITY OF HAMPTON
22 LINCOLN ST
HAMPTON , VA 23669
PARCEL ID: 12001888
ZONING: R-11/R-13
AREA: 1.55± ACRES

(3)
WOLSH JOSEPH M & LEAH K
26 N WILLARD AVE
HAMPTON , VA 23663
PARCEL ID: 12001881
ZONING: R-13
AREA: 0.5± ACRES

(4)
HABOUSH GHASSAN H
1968 E PEMBROKE AVE
HAMPTON , VA 23663
PARCEL ID: 12001882
ZONING: R-13
AREA: 0.52± ACRES

(5)
JORGENSEN JEFFREY B & JUDITH J
18 N WILLARD AVE
HAMPTON, VA 23663
PARCEL ID: 12001883
ZONING: R-13
AREA: 0.31± ACRES

(6)
ST MARYS SCHOOL
14 N WILLARD AVE
HAMPTON, VA 23663
PARCEL ID: 12001884
ZONING: PH-2
AREA: 1.22± ACRES

(7)
ROMAN CATHOLIC DIOCESE OF RICHMOND
14 N WILLARD AVE
HAMPTON , VA 23663
PARCEL ID: 12001139
ZONING: PH-2
AREA: 1.24± ACRES

(8)
SCHULTZ DALE E & JEANNE L
223 E MELLEN ST
HAMPTON , VA 23663
PARCEL ID: 12008746
ZONING: R-13
AREA: 0.1± ACRES

(9)
HAMPTON LEGION HALL LLC
2106 LLEWELYN AVE
NORFOLK , VA 23517
PARCEL ID: 12001140
ZONING: PH-2
AREA: 0.81± ACRES

(10)
SMITH R HAYDEN INCORPORATED
245 S ARMISTEAD AVE
HAMPTON , VA 23669
PARCEL ID: 12001143
ZONING: PH-2
AREA: 1.18± ACRES

(11)
SMITH R HAYDEN INCORPORATED
245 S ARMISTEAD AVE
HAMPTON , VA 23669
PARCEL ID: 12001144
ZONING: PH-2
AREA: 0.11± ACRES

(12)
ANDREWS RUSSELL E
4 S CURRY ST
HAMPTON , VA 23663
PARCEL ID: 12001349
ZONING: C-2
AREA: 0.12± ACRES

(13)
SARGENT MARY JO
1 N CURRY ST
HAMPTON , VA 23663
PARCEL ID: 12001926
ZONING: R-8
AREA: 0.14± ACRES

(14)
SITUATION SOLUTIONS LLC
PO BOX 9797
VIRGINIA BEACH, VA 23450
PARCEL ID: 12001925
ZONING: R-8
AREA: 0.09± ACRES

(15)
JOHNSON INVESTMENTS 42 LLC
4333 WOODLAND DR
CHESAPEAKE , VA 23321
PARCEL ID: 12001923
ZONING: R-8
AREA: 0.2± ACRES

(16)
STEWART JACQUELINE S
19000 THE GLEBE LN
CHARLES CITY , VA 23030
PARCEL ID: 12001922
ZONING: R-8
AREA: 0.07± ACRES

(17)
THOMAS DWAYNE O
15 N CURRY ST
HAMPTON , VA 23663
PARCEL ID: 12001921
ZONING: R-8
AREA: 0.17± ACRES

(18)
PACIFIC 31ST LLC
4308 JOHN SILVER RD
VIRGINIA BEACH , VA 23455
PARCEL ID: 12001902
ZONING: R-11
AREA: 0.17± ACRES

(19)
PACIFIC 31ST LLC
4308 JOHN SILVER RD
VIRGINIA BEACH , VA 23455
PARCEL ID: 12001901
ZONING: R-11
AREA: 0.15± ACRES

ENGINEER

NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

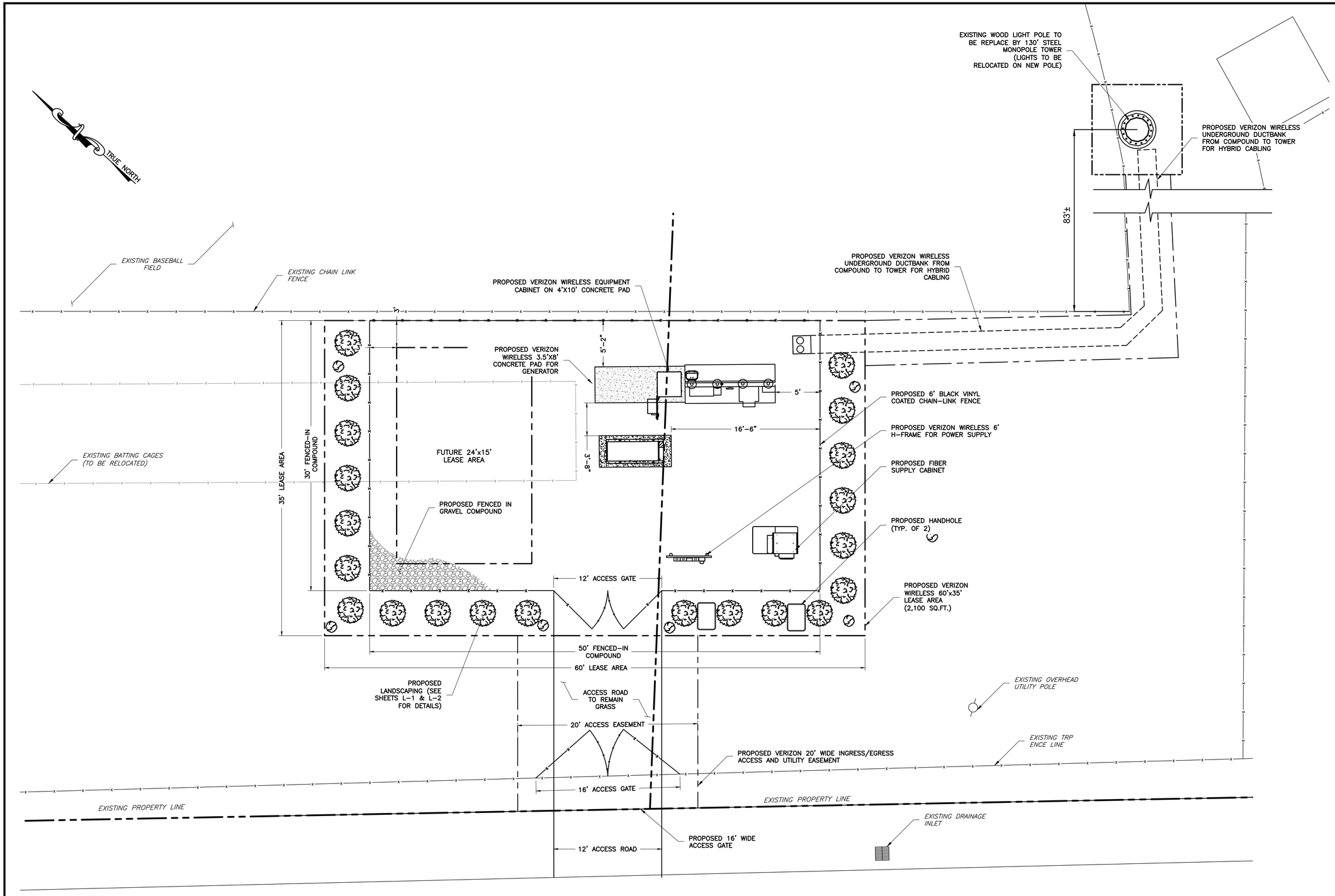
JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

ADJACENT PROPERTY INFO

SHEET NUMBER

Z-2



1 / C-1 COMPOUND PLAN
SCALE: 1" = 5'-0"

GRAPHIC SCALE
5 0 2.5 5 10 20
(IN FEET)
1 INCH = 5 FEET

811 Know what's below. Call before you dig.

ENGINEER

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

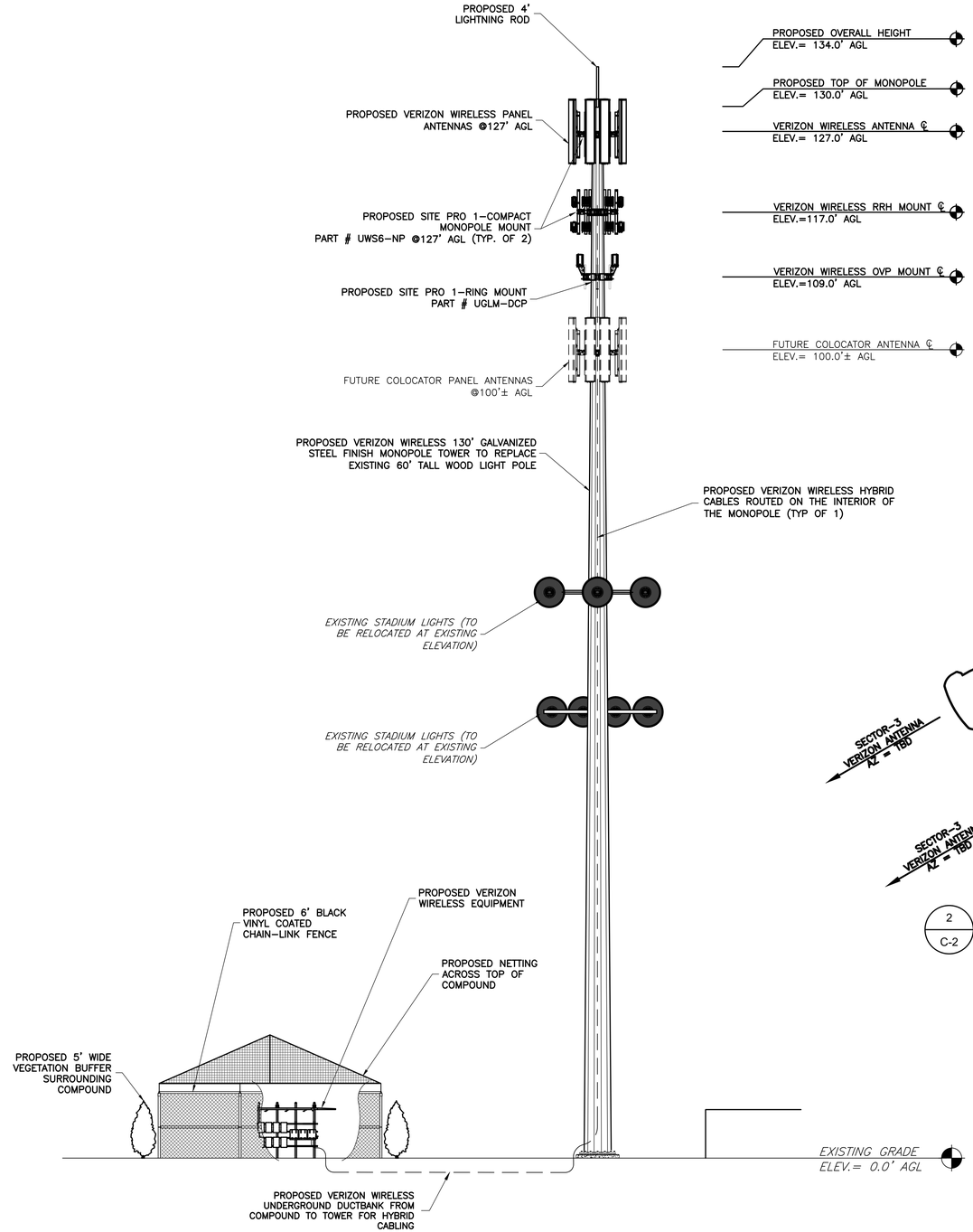
JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

COMPOUND PLAN

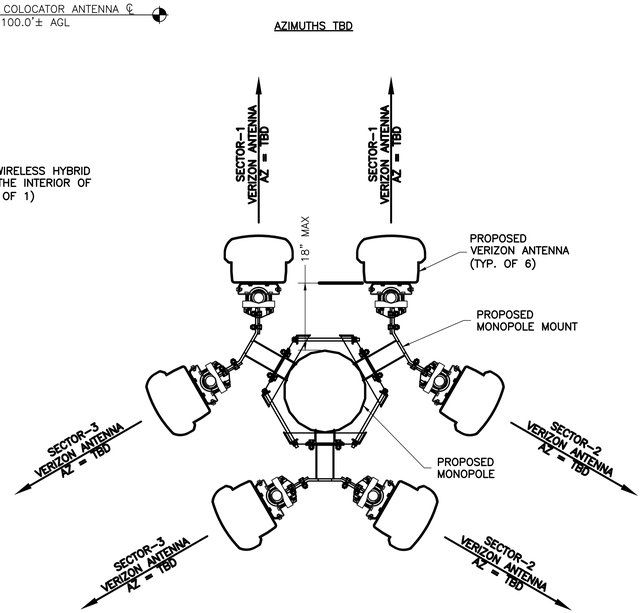
SHEET NUMBER

C-1



1 / C-2 ELEVATION
SCALE: 1/8" = 1'

GRAPHIC SCALE
8 0 4 8 16 32
(IN FEET)
1 INCH = 8 FEET



2 / C-2 ANTENNA ORIENTATION PLAN AT 127'
NTS

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
5. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
8. TRANSMITTER EQUIPMENT AND ANTENNAS ARE DESIGNED TO MEET ANSI/TIA 222–G REQUIREMENTS.
9. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
10. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
11. IF ANY UNDERGROUND UTILITIES OR STRUCTURES EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
12. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION BY TECHNICIANS APPROXIMATELY 2 TIMES PER MONTH.
13. PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT OR MODIFICATION OF THE EXISTING STRUCTURE, A STRUCTURAL ANALYSIS SHALL BE PERFORMED BY THE OWNER'S AGENT TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES.
14. PROPERTY LINE INFORMATION WAS PREPARED USING DEEDS, TAX MAPS, AND PLANS OF RECORD AND SHOULD NOT BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY.
15. THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
16. THE PROPOSED FACILITY WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORMWATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
17. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
18. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
19. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
20. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.

NOTE:
STRUCTURAL ANALYSIS OF STRUCTURE PERFORMED INDEPENDENT FROM THESE DRAWINGS.

811 Know what's **below.** **Call** before you dig.

ENGINEER

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

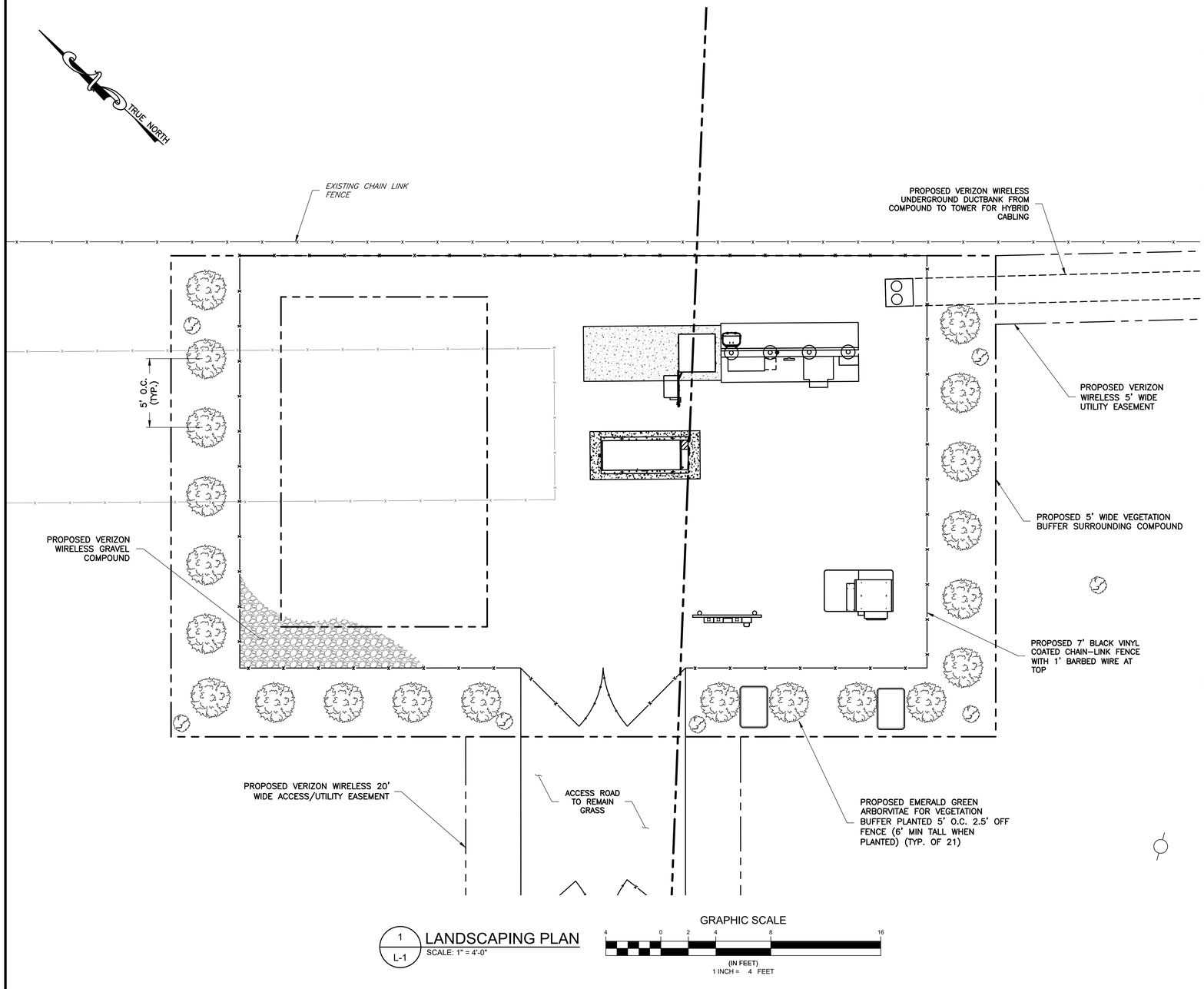
JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

TOWER ELEVATION & NOTES

SHEET NUMBER

C-2



1 L-1 LANDSCAPING PLAN
SCALE: 1" = 4'-0"

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1 INCH = 4 FEET

LANSCAPING NOTES:

1. THE OPERATOR/RESPONSIBLE PERSON (O/RP) SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
2. THE EROSION AND SEDIMENT CONTROL PLAN IS TO BE USED FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY. IT SHALL NOT BE USED FOR ANY OTHER CONSTRUCTION RELATED ITEMS.
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
4. UNTIL A SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEANOUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING AND RE-NETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED, WILL BE REQUIRED.
5. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
6. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CONSERVATION DISTRICT.
7. THE O/RP SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE MONTGOMERY COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
8. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
9. THE MUNICIPALITY OR ITS DESIGNEE MAY INSPECT ALL PHASES OF THE CONSTRUCTION, OPERATIONS, MAINTENANCE AND ANY OTHER IMPLEMENTATION OF STORMWATER BMPS.
10. DURING ANY STAGE OF THE REGULATED EARTH DISTURBANCE ACTIVITIES, IF THE MUNICIPALITY OR ITS DESIGNEE DETERMINES THAT ANY BMPS ARE NOT BEING IMPLEMENTED IN ACCORDANCE WITH THIS ORDINANCE, THE MUNICIPALITY MAY SUSPEND OR REVOKE ANY EXISTING PERMITS OR OTHER APPROVALS UNTIL THE DEFICIENCIES ARE CORRECTED.
11. WHEN REQUIRED, ADEQUATE PROVISIONS SHALL BE MADE FOR DUST CONTROL MEASURES AS ARE DEEMED ACCEPTABLE BY THE MUNICIPAL ENGINEER.
12. ALL PUMPING OF SEDIMENT-LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER UNDISTURBED AREAS.NO SEDIMENT OR SEDIMENT LADEN WATER IS ALLOWED TO LEAVE THE SITE WITHOUT FIRST BEING PROPERLY FILTERED.
13. DISTURBED AREAS ON WHICH EARTH MOVING ACTIVITIES HAVE CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY, EITHER TEMPORARILY OR PERMANENTLY, INCLUDING THE RESTORATION OF DRIVEWAYS, STOCKPILES, OFF-SITE UNDERGROUND UTILITY LINES AND GRADED PERIMETER AREAS. DISTURBED AREAS THAT ARE AT FINISHED GRADE OR WHICH WILL NOT BE RE-DISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.DURING NON-GERMINATION PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION.
14. WHERE DISTURBED AREAS ARE DIFFICULT TO STABILIZE, NETTING SHOULD BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATERCOURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS AND STEEP SLOPES.
15. CONTRACTOR SHALL NOTIFY THE MONTGOMERY COUNTY CONSERVATION DISTRICT OF DISPOSAL METHOD AND LOCATION OF MATERIALS (IF ANY) TO BE REMOVED FROM SITE.
16. ALL BUILDING MATERIAL AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED IN ACCORDANCE WITH DEP'S SOLID WASTE REGULATIONS (25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.), AND/OR ANY ADDITIONAL LOCAL, STATE OR FEDERAL REGULATIONS. NO BUILDING MATERIALS (USED OR UNUSED) OR WASTE MATERIALS SHALL BE BURNED, BURIED, DUMPED OR DISCHARGED AT THE SITE.
17. THE SITE CURRENTLY DRAINS TO PLYMOUTH CREEK WHICH HAS A CHAPTER 93 CLASSIFICATION OF WARM WATER FISHERY (WWF) & MIGRATORY FISHES (MF).
18. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED OR PLACED IN SOIL STOCKPILES AND STABILIZED.
19. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET; STOCKPILE SLOPES MUST NOT EXCEED 2:1.
20. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

PLANTING SCHEDULE

QUANTITY	BOTANICAL - COMMON NAME	SIZE
21	EMERALD GREEN ARBORVITAE – ARBORVITAETHUJA OCCIDENTALIS 'EMERA	6'-0" BB

LEGEND

EMERALD GREEN ARBORVITAE – ARBORVITAETHUJA OCCIDENTALIS 'EMERA

ENGINEER

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

LANDSCAPING PLAN

SHEET NUMBER

L-1

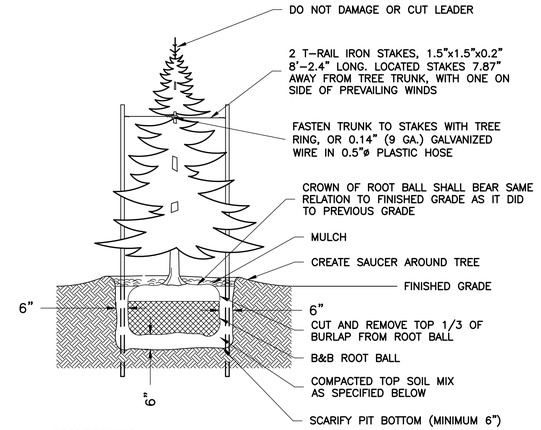
LANDSCAPING NOTES:

1. ALL PLANT MATERIALS AND PLANTING PROCEDURES SHALL BE IN ACCORDANCE WITH THE STANDARDS AS SET FORTH BY THE AMERICAN ASSOCIATION OF NUSERYMEN.
2. MULCH SHALL BE FINELY SHREDDED HARDWOOD BARK MULCH. DO NOT COVER THE ROOT CROWN OF TREES OR SHRUBS WITH MULCH. CUT TWINE AWAY FROM THE BASE OF THE TRUNK OR STEM AND PULL BURLAP DOWN AND OFF OF THE BALL TOP.
3. PLANTING BACKFILL MIX SHALL BE ON PART LOOSE PEAT HUMUS, TO ONE PART SAND, TO ONE PART PARENT SOIL BY VOLUME.
4. SOIL SHALL BE AMENDED WITH THE FOLLOWING: 0.25LBS ORGANIC GRANULAR FERTILIZER (5–10–5), 0.75LBS OF BONEMEAL, 1.0LBS OF ROTTED COW MANURE PER CUBIC FOOT OF MIX.
5. THE CONTRACTOR SHALL WARRANTY ALL PLANTS AND MATERIALS FOR TWO YEARS FROM OWNERS ACCEPTANCE. ALL REPLACEMENTS SHALL BE AS ORIGINALLY SPECIFIED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION PROTECTION AND REPLACEMENT OF ANY UTILITIES DAMAGED ON SITE. FIELD ADJUST PLANT LOCATIONS TO AVOID UTILITIES, SWALES, OVERHEAD WIRES, EXISTING VEGETATION TO REMAIN ETC.
7. LEASEE IS RESPONSIBLE FOR THE COST AND MAINTENANCE OF ALL LANDSCAPING.
8. ALL PLANT MATERIALS MUST BE INSTALLED EQUAL TO OR GREATER THAN THE MINIMUM SIZES SPECIFIED. NO GENIS OR SPECIES SUBSTITUTIONS ALLOWED. CULTIVAR VARIATION ALLOWED WITH THE LANDSCAPE ARCHITECTS APPROVAL. ALL PLANTS WILL BE INSPECTED AND MEASURED FOR BEDFORD COUNTY COMPLIANCE, PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY PERMIT.
9. EVERY POSSIBLE SAFEGUARD SHALL BE TAKEN TO PROTECT BUILDING SURFACES, EQUIPMENT, AND FURNISHINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY WHICH MAY OCCUR AS A RESULT OF HIS NEGLIGENCE IN THE EXECUTION OF THE WORK.
10. IN THE EVENT OF VARIATIONS BETWEEN WRITTEN QUANTITIES SHOWN ON THE PLAN AND THE PLANT LIST, THE PLANS SHALL CONTROL. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES PRIOR TO THE COMMENCEMENT OF WORK. SOD AND SEED QUANTITY TAKE–OFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING. THE CONTRACTOR SHALL FURNISH PLANT MATERIAL IN SIZES AS SPECIFIED IN PLANT LIST.
11. PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS OR AS DESIGNATED IN THE FIELD. THE CONTRACTOR SHALL STAKE ALL MATERIAL LOCATED ON THE SITE FOR REVIEW. ALL LOCATIONS ARE TO BE REVIEWED BY LANDSCAPE ARCHITECT BEFORE EXCAVATION.
12. FIELD ADJUST PROPOSED PLANTING LOCATIONS WHERE NEEDED TO AVOID ANY DAMAGE TO EXISTING FACILITIES, AS WELL AS VEGETATION.
13. PLANTS SHALL CONFORM TO THE CURRENT "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1–1996, APPROVED NOVEMBER 6, 1996, OR LATEST REVISION, PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION, (FORMERLY: AMERICAN ASSOCIATION OF NURSERYMEN–AAN), PARTICULARLY WITH REGARD TO SIZE, GROWTH, SIZE OF BALL, AND DENSITY OF BRANCH STRUCTURE. PLANT MATERIAL SHALL BE TAGGED AT THE SOURCE BY THE LANDSCAPE ARCHITECT UNLESS THIS REQUIREMENT IS SPECIFICALLY WAIVED. LOOSE, BROKEN, OR MANUFACTURED BALLS WILL BE REJECTED.
14. ALL PLANT MATERIALS USED SHALL BE TRUE TO NAME AND SIZE IN CONFORMITY WITH THE AMERICAN STANDARD OF NURSERY STOCK (LATEST VERSION) AND SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. ALL PLANTS SHALL HAVE NORMAL, WELL–DEVELOPED BRANCHES & VIGOROUS ROOT SYSTEMS. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISFIGURING KNOTS, ABRASIONS OF THE BARK, SUNSCALD INJURIES, PLANT DISEASES, INSECT EGGS, BORERS AND ALL OTHER FORMS OF INFECTION. ALL PLANTS SHALL BE NURSERY GROWN. ALL PLANTS SHALL BE GRADE "A" NURSERY STOCK, WHICH HAVE BEEN NURSERY GROWN UNDER THE SAME CLIMATIC CONDITIONS AS THE PROJECT SITE.
15. PLANT NAMES SHALL AGREE WITH THE NOMENCLATURE "STANDARD PLANT NAMES" AS ADOPTED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURE NOMENCLATURE.
16. ALL PLANTING PROCEDURES SHALL CONFORM TO MUNICIPAL STANDARDS AND SPECIFICATIONS.
17. ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHER–PROOF LABELS SECURELY ATTACHED THERETO BEFORE DELIVERY TO PROJECT SITE. LABELS SHALL IDENTIFY PLANTS BY NAME, SPECIES, AND SIZE. LABELS SHALL NOT BE REMOVED UNTIL THE FINAL INSPECTION BY THE LANDSCAPE ARCHITECT OR AGENT IN CHARGE.
18. BALLED AND BURLAPPED, AND BALLED AND PLATFORM PLANTS, SHALL HAVE SOLID BALL OF EARTH SECURELY HELD IN PLACE BY BURLAP AND STOUT ROPE. MINIMUM BALL SIZES SHALL BE SPECIFIED IN THE "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN.
19. THE LANDSCAPE ARCHITECT OR OWNER SHALL HAVE THE RIGHT, AT ANY STAGE OF THE OPERATIONS, TO REJECT ANY AND ALL WORK AND MATERIAL WHICH, IN HIS OPINION, DOES NOT MEET THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS. ALL REJECTED MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
20. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.
21. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR STABILITY AND CONDITIONS OF ALL TREES AND SHRUBS AND SHALL BE LEGALLY LIABLE FOR ANY DAMAGE CAUSED BY INSTABILITY OF ANY PLANT MATERIALS. STAKING OF ALL TREES SHALL BE DONE AS INDICATED ON THE DOCUMENTS OR BY UTILIZING A METHOD APPROVED BY THE LANDSCAPE ARCHITECT.
22. ALL DISTURBED AREAS OF THE SITE NOT PLANTED WITH SHRUBS OR GROUND COVER SHALL BE FINE GRADED AND SEEDED OR SODDED.
23. ALL DISTURBED AREAS TO BE TOPSOILED SHALL HAVE A MINIMUM TOPSOIL DEPTH OF 4", SHALL BE FERTILIZED, SEEDED AND MULCHED WITH SMALL GRAIN STRAW. TOPSOIL SHALL BE NATURAL FRIABLE, FERTILE SOIL CHARACTERISTIC OF PRODUCTIVE SOIL IN THE VICINITY. IT SHALL BE FREE OF LUMPS OF CLAY, STONES, ROOTS AND OTHER FOREIGN MATTER.
24. MULCH, 4" IN DEPTH, SHALL BE EITHER WOOD CHIPS, PINE BARK OR SHREDDED HARDWOOD BARK NOT EXCEEDING 2" IN GREATEST DIMENSION. A WEED RETARDANT BARRIER SHALL BE USED IN ALL NON–GRASSED AREAS.
25. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISH GRADE AS IT BORE TO EXISTING GRADE AT THE NURSERY. ADJUST AS NEEDED TO MEET GRADE AT ROOT COLLAR. THE ROOT COLLAR SHALL NOT BE COVERED BY SOIL OR MULCH.
26. PLANTING SHALL BE CONDUCTED UNDER SEASONS WHICH ARE NORMAL FOR SUCH WORK. AT THE OPTION AND ON THE FULL RESPONSIBILITY OF THE CONTRACTOR, PLANTING OPERATIONS MAY BE CONDUCTED UNDER UNREASONABLE CONDITIONS. PLANTS SHALL ONLY BE INSTALLED WHEN THE SOIL IS FROST FREE. IN GENERAL, PLANT DURING THE FOLLOWING SEASONS UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT:

    DECIDUOUS TREES AND SHRUBS:
    WHEN PLANTS ARE DORMANT (FALL AND EARLY SPRING).

    BROADLEAF EVERGREEN TREES AND SHRUBS:
    WHEN THE FROST LEAVES THE GROUND UNTIL NEW GROWTH IS WELL DEVELOPED (SPRING).

    GROUNDCOVER:
    AFTER THE DANGER OF FROST HAS PAST (SPRING UNTIL EARLY SUMMER).
27. PRUNE OUT ONLY DEAD, DECAYED, BROKEN, CROSSING, AND INWARD–GROWING BRANCHES AND BRANCH STUBS. DO NOT CUT LEADERS. MAINTAIN AND/OR IMPROVE THE ATTRACTIVENESS OF EACH PLANT'S FULL FORM, CONSISTENT WITH ITS NATURAL GROWTH HABITS. EXCESSIVELY PRUNED PLANTS WILL BE REJECTED.
28. UNDER NO CIRCUMSTANCES SHOULD THE MAIN LEADER OF A DECIDUOUS OR EVERGREEN TREE BE TOPPED.
29. SHADE TREES LOCATED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BRANCH BELOW 7'.
30. TREES OVER SIX FEET IN HEIGHT ARE TO BE STAKED AT TIME OF INSTALLATION.
31. ALL PLANTS WITHIN CLEAR SIGHT TRIANGLES SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE ELEVATION OF CURB UNLESS OTHERWISE NOTED ON THE PLANS.
32. ALL SHRUB MASSES SHALL FORM PLANTING BEDS AND SHALL BE MULCHED ENTIRELY BETWEEN PLANTS.
33. ALL PROPOSED TREES TO BE INSTALLED EITHER ENTIRELY WITHIN OR ENTIRELY OUT OF PLANTING BEDS. PLANTING BED LINES ARE NOT TO BE OBSTRUCTED. ALL SHRUBS AND GROUND COVER AREAS SHALL BE PLANTED IN CONTINUOUS PREPARED BED AND TOP DRESSED WITH 4 INCHES SHREDDED HARDWOOD OR BARK MULCH. MULCH SHALL HAVE BEEN AGED A MINIMUM OF SIX MONTHS.
34. ALL PLANTING BEDS ADJACENT TO LAWN, SOD, OR SEEDED AREAS SHALL BE SPADE EDGED.
35. PLANT MATERIAL SHOWN IN A MASS OR TOUCHING EACH OTHER SHALL BE ALLOWED TO GROW TOGETHER TO PERFORM AS A SCREEN OR A HEDGE. DO NOT PRUNE OR SHEER INTO INDIVIDUAL FREE–STANDING PLANTS.
36. CUT AND REMOVE BURLAP FROM TOP ONE–THIRD OF BALL ONLY IF NON–JUTE ROPING IS USED.
37. GUY WIRES SHALL BE LOCATED BETWEEN FIRST AND SECOND SETS OF BRANCHES. TREE STAKES AND GUY WIRES SHALL BE REMOVED BY THE CONTRACTOR AFTER ONE GROWING SEASON. GUY WIRES SHALL BE LOCATED SO THAT THEY WILL NOT PULL CROTCH APART.
38. PLANTS PLANTED IN ROWS SHALL BE MATCHED SPECIMENS AND BE UNIFORM IN SIZE AND FORM.
39. THE CONTRACTOR IS RESPONSIBLE FOR TESTING PROJECT SOILS. THE CONTRACTOR IS TO PROVIDE A CERTIFIED SOILS REPORT TO THE OWNER. THE CONTRACTOR SHALL VERIFY THAT THE SOILS ON THE SITE ARE ACCEPTABLE FOR THE PROPER GROWTH OF THE PROPOSED PLANT MATERIAL. SHOULD THE CONTRACTOR FIND POOR SOIL CONDITIONS, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE SOIL AMENDMENTS AS NECESSARY. THESE AMENDMENTS SHALL INCLUDE, BUT NOT BE LIMITED TO, FERTILIZERS, LIME, AND TOPSOIL. PROPER PLANTING SOILS MUST BE VERIFIED PRIOR TO PLANTING OF MATERIALS.
40. THE CONTRACTOR SHALL FERTILIZE ALL PLANT MATERIAL WITH 5–10–5 FERTILIZER, OR APPROVED EQUAL AT THE RATE SPECIFIED BY THE MANUFACTURER. ALL TURF AREAS SHALL BE LIMED AND FERTILIZED APPROPRIATELY FOR THE TYPES OF SOILS ON THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE SOIL ACIDITY AND A SOIL TEST CONDUCTED TO ESTABLISH THE SOIL'S LIME AND FERTILIZER RATES.
41. ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT SPILLS AND RUNOFF OF EXCESSIVE QUANTITIES OF FERTILIZER, NUTRIENTS AND OTHER CHEMICALS.
42. ALL WATER APPLIED TO PLANTED OR TURF AREAS SHALL BE FREE FROM IMPURITIES HARMFUL TO VEGETATION AND APPLIED AT A RATE OF 5 GALLONS OF WATER PER SQUARE YARD OF PLANT PIT IMMEDIATELY AFTER PLANTING AND INSTALLATION. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADEQUATE IRRIGATION TO ALL PLANT MATERIALS AND LAWN AREAS INSTALLED AS PART OF THIS CONTRACT DURING THE CONSTRUCTION TIME PERIOD UP TO AND INCLUDING THE TIME PERIOD ESTABLISHED FOR PLANT MATERIAL SURVIVAL GUARANTEE. WATER APPLIED DURING THE GUARANTEE PERIOD SHALL BE AT THE RATE OF 1 INCH OF WATER PER WEEK, WITH AN ALLOWANCE FOR NATURAL PRECIPITATION AND RAINFALL.
43. BACKFILL MATERIAL FOR RAISED PLANT BEDS SHALL SHALL CONSIST OF NATURAL LOAM TOPSOIL, FREE FROM SUBSOIL, AND SHALL BE OBTAINED FROM AN AREA WHICH HAS NEVER BEEN STRIPPED. TOPSOIL SHALL HAVE BEEN REMOVED FROM A DEPTH OF NO MORE THAN 1 FOOT, OR LESS IF SUBSOIL IS ENCOUNTERED. TOPSOIL SHALL BE OF UNIFORM QUALITY, FREE FROM HARD CLODS, STIFF CLAY HARD PAN, SODS, PARTIALLY DISINTEGRATED STONE, LIME CEMENT, TAR RESIDUES, CHIPS OR ANY OTHER UNDESIRABLE MATERIAL.
44. ALL PLANTS ARE SHOWN SEMI–MATURE SIZE ON PLANS. SIZES INDICATED IN PLANT LIST ARE SIZES AT TIME OF INSTALLATION.
45. MAINTENANCE SHALL BEGIN AFTER EACH PLANT HAS BEEN INSTALLED AND SHALL CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT. MAINTENANCE INCLUDES WATERING, PRUNING, WEEDING, FERTILIZING, MULCHING, REPLACEMENT OF SICK OR DEAD PLANTS, AND ANY OTHER CARE NECESSARY FOR THE PROPER GROWTH OF THE PLANT MATERIAL. THE CONTRACTOR MUST BE ABLE TO PROVIDE CONTINUED MAINTENANCE IF REQUESTED BY THE OWNER.
46. ALL TREES, SHRUBS AND GROUNDCOVERS SHALL BE GUARANTEED FOR A PERIOD OF 12 MONTHS FROM DATE OF ACCEPTANCE BY THE MUNICIPALITY. IF ANY PLANTS ARE DEAD OR IN AN UNHEALTHY CONDITION BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE LANDSCAPE CONTRACTOR SHALL REPLACE THEM AT HIS EXPENSE. REPLACEMENT PLANTS USED SHALL BE GUARANTEED FOR AN ADDITIONAL 90 DAYS.
47. ALL PLANTING DETAILS SHALL CONFORM TO ORDINANCE REQUIREMENTS OF THE MUNICIPALITY.
48. ALL TREE PROTECTION AND REMOVAL ACTIVITIES SHALL COMPLY WITH STATE REGULATIONS AND LOCAL ORDINANCE REQUIREMENTS.
49. THE CONTRACTOR SHALL INSURE THAT HIS WORK DOES NOT INTERRUPT ESTABLISHED OR PROJECTED DRAINAGE PATTERNS.
50. MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE. ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER.
51. THE CONTRACTOR SHALL INSURE ADEQUATE VERTICAL DRAINAGE IN ALL PLANT BEDS AND PLANTERS.
52. PLANTING PITS SHALL BE MADE TO DRAIN, WHEREVER POOR DRAINAGE CONDITIONS OCCUR AND/OR WHERE DIRECTED BY THE LANDSCAPE ARCHITECT. WHEN APPROVED BY THE LANDSCAPE ARCHITECT, THE DEPTH OF PLANTING PITS MAY BE INCREASED BY 12" THROUGH THE ADDITION OF LOOSE AGGREGATE (3/4" TO 1 1/2" DIAMETER).
53. DURING PLANTING OPERATIONS, EXCESS WASTE MATERIALS, NOT INCLUDING TOPSOIL SHALL BE PROMPTLY AND FREQUENTLY REMOVED FROM THE SITE. DISPOSAL SHALL BE IN ACCORDANCE WITH NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, REGULATIONS.
54. THE CONTRACTOR SHALL DISPOSE OF STUMPS AND MAJOR ROOTS OF ALL PLANTS TO BE REMOVED. ANY DEPRESSIONS CAUSED BY REMOVAL OPERATIONS SHALL BE REFILLED WITH FERTILE, FRIABLE SOIL PLACED AND COMPACTED SO AS TO REESTABLISH PROPER GRADE FOR NEW PLANTING AND/OR LAWN AREAS.
55. ALL SOD (IF AND WHERE REQUIRED) SHALL BE OBTAINED FROM AREAS HAVING GROWING CONDITIONS FAMILIAR TO AREAS TO BE COVERED. AREAS TO BE SODDED SHALL BE RAKED OF STONES AND DEBRIS. DEBRIS AND STONES OVER 1 INCH IN DIAMETER SHALL BE REMOVED FROM THE SITE. ALL DAMAGED SOD WILL BE REJECTED. ALL SOD MUST BE PLACED WITH STAGGERED JOINTS, TIGHTLY BUTTED, WITH NO INEQUALITIES IN GRADE. PLACE ALL SOD IN ROWS AR RIGHT ANGLES TO SLOPES (WHERE APPLICABLE).
56. BULBS (IF AND WHERE REQUIRED) SHALL BE IN CONFORMANCE WITH SECTION 11 OF THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION (FORMERLY AMERICAN ASSOCIATION OF NURSERYMEN) STANDARDS.
57. PLANTER SOILS (IF AND WHERE Required) SHALL BE WELL–DRAINING AND FERTILE. SOILS SHALL BE SANDY–LOAM, FRIABLE MIX, FREE FROM DEBRIS, ROCKS, ETC. SOIL TO BE 20% SAND AND 20% PEAT MIXED WITH 50% SELECTED WELL–DRAINED SOILS FROM THE SITE. BACKFILL SOILS SHALL BE AS NOTED ON THE PLANTING DETAILS.
58. UPON COMPLETION OF ALL LANDSCAPING, AN ACCEPTANCE OF THE WORK SHALL BE HELD. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OR OWNER FOR SCHEDULING THE INSPECTION AT LEAST SEVEN (7) DAYS PRIOR TO THE ANTICIPATED INSPECTION DATE.



SPECIFICATIONS:
1. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKE.
2. WATER THOROUGHLY AFTER INSTALLATION.
3. REMOVE TREE RINGS AND STAKES TWO YEARS AFTER INSTALLATIONS
4. PROVIDED DRAINAGE FOR PLANTING PIT IN IMPERMEABLE SOIL.
5. TOPSOIL MIX, SEE SPEC.

1 / L-2 PROPOSED EVERGREEN LANDSCAPING DETAIL
NTS

ENGINEER

NB+C TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

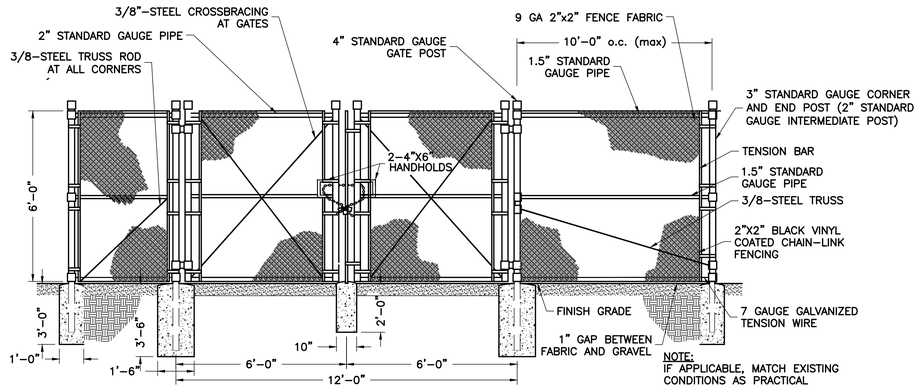
JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

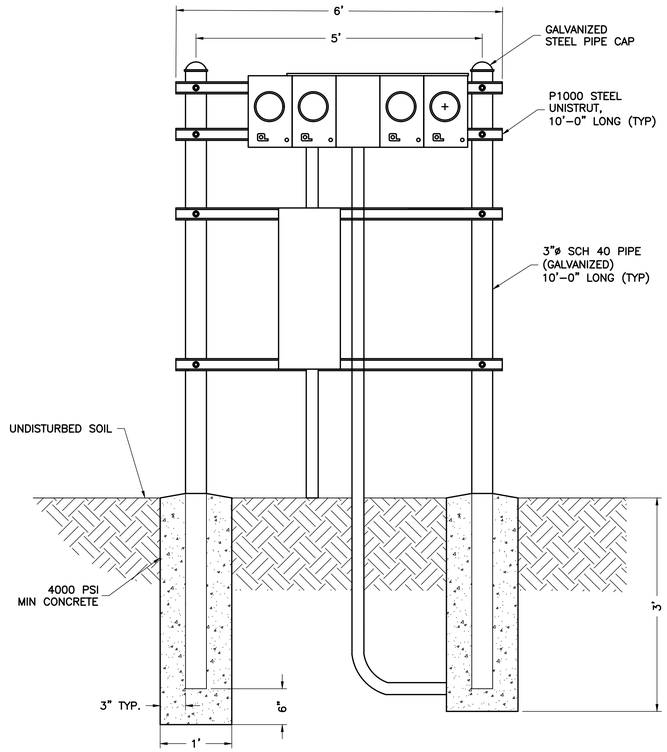
LANDSCAPING DETAILS & NOTES

SHEET NUMBER

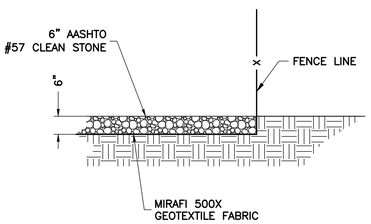
L-2



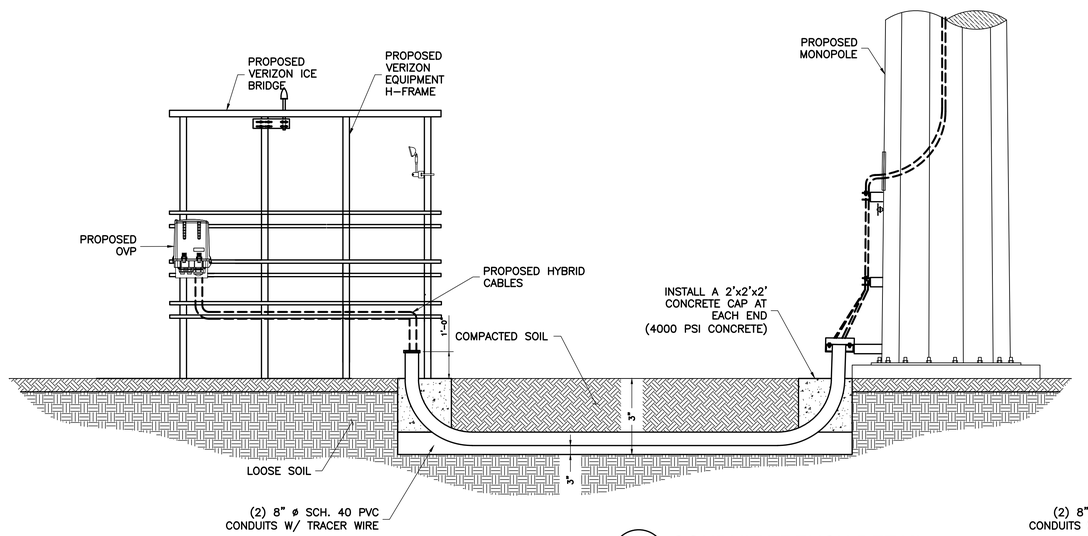
1 / S-1 TYPICAL FENCE AND GATE DETAIL
NTS



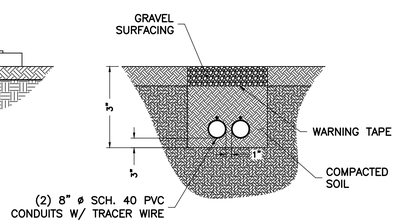
2 / S-1 4-GANG METER BANK H-FRAME
NTS



3 / S-1 GRAVEL COMPOUND DETAIL
NTS



4 / S-3 CONDUIT TRENCH DETAIL
NTS



ENGINEER

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
120 EASTSHORE DRIVE, SUITE 300
GLEN ALLEN, VA 23059
804-548-4079

APPLICANT

verizon
1831 RADY COURT
RICHMOND, VA 23222

SITE INFORMATION

SITE NAME:
FORT MONROE
VERIZON RAW LAND
4 N CURRY STREET
HAMPTON, VA 23663
CITY OF HAMPTON

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
5	09/03/21	REVISED	GDH
4	07/12/21	FINAL	KAG
3	06/02/21	REVISED	DCB
2	05/25/21	REVISED	CCC
1	04/23/21	REVISED	CCC
0	11/23/20	ZONING DRAWINGS	LL

PROFESSIONAL STAMP

COMMONWEALTH OF VIRGINIA
JOHN A. DAUGHTREY III
Lic. No. 0402052122
07/12/2021
PROFESSIONAL ENGINEER

ENGINEER

JOHN A. DAUGHTREY III, P.E.
VA PROFESSIONAL ENGINEER LIC. #052122

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

S-1