Montgomery County
Office of Zoning & Administrative Hearings
August 19, 2024
Telecom Capital Group

Conditional Use 24-17 - Barnesville

Exhibit 24 OZAH Case No: CU 24-17

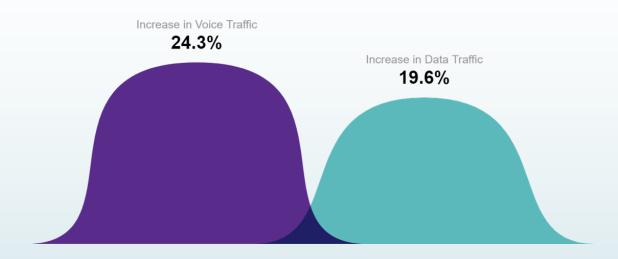
## The Applicant – Telecom Capital Group

- Maryland-based infrastructure developer
- Has constructed and maintained telecommunications facilities since 1994
- Tenants include all the major wireless carriers Verizon Wireless, AT&T, T-Mobile/ Sprint
- TCG sites also incorporate space for local utilities and emergency response services

The pandemic and stay-at-home protocols caused an immediate increase in wireless usage in 2020.

2.4 million children were connected wirelessly to facilitate learning during the pandemic in 2020.

The National Emergency Number Association reports that approximately 240 million calls are made to 9-1-1 each year in the U.S. – in some areas with 80% or more from wireless devices.





\*Source: CTIA

79%

31B

Prediction for connected devices by 2023

7098

WEA sent in 2018

Of those in the AG industry would utilize 5G to increase efficiency in operations

1.5M

40%

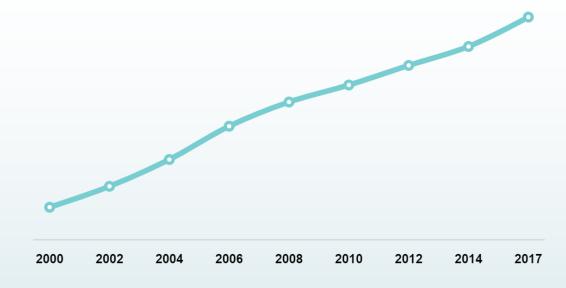
Of farmers use a smartphone or tablet for business purposes

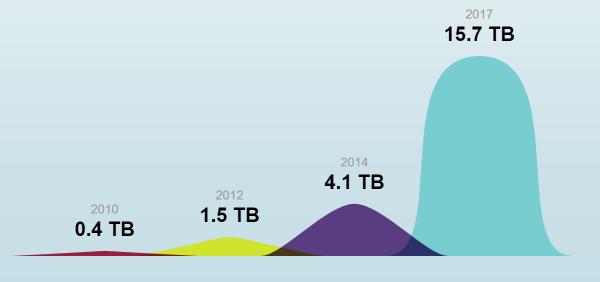
Additional Americans living in rural areas covered by mobile broadband in the last 5 years

400 million connections = 1.2 devices per person in the U.S.

Wireless data traffic increased by almost 4x from 2014 to 2017.

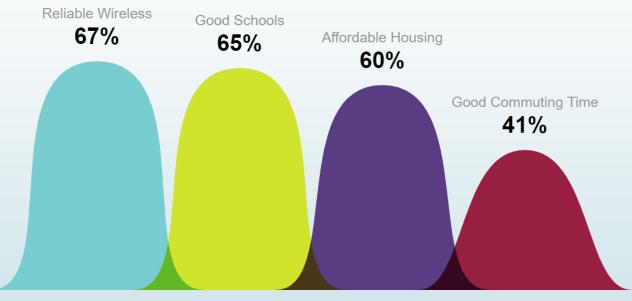






\*Source: CTIA

Reliable wireless coverage is one of the most important things people consider when deciding where to live.



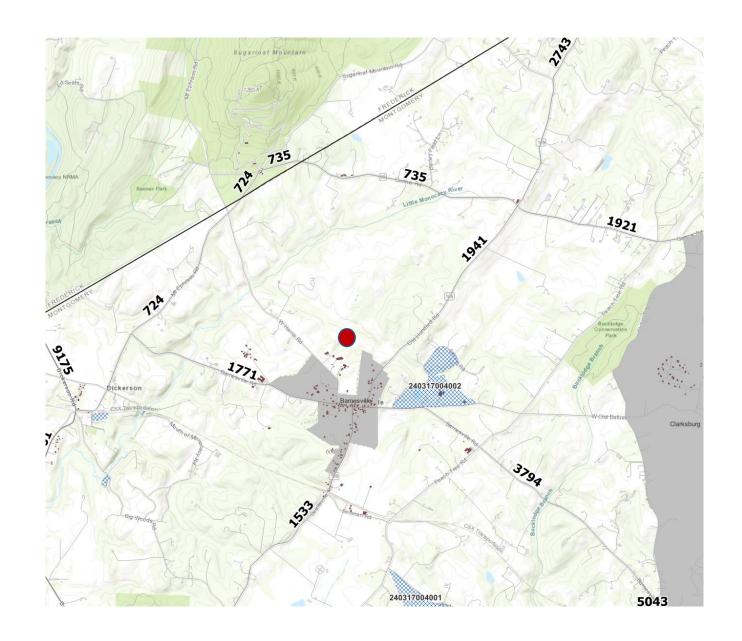
## Improved Coverage

# Montgomery County, MD

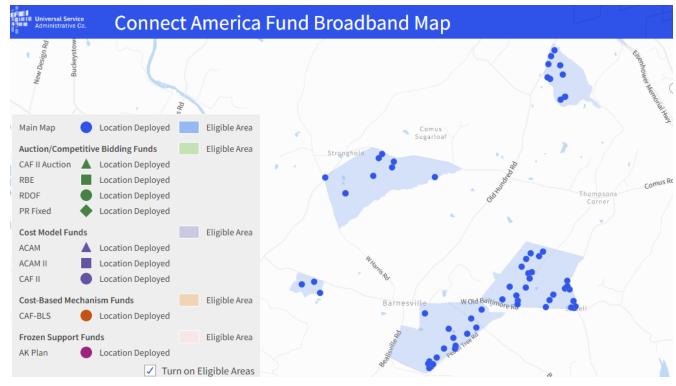
Old Hundred Rd Propagation Plots

## 2023 Vehicular Traffic

The proposed site is positioned to serve Barnesville, Old Hundred Rd, Comus Rd, Barnesville Rd, and Beallsville Rd.



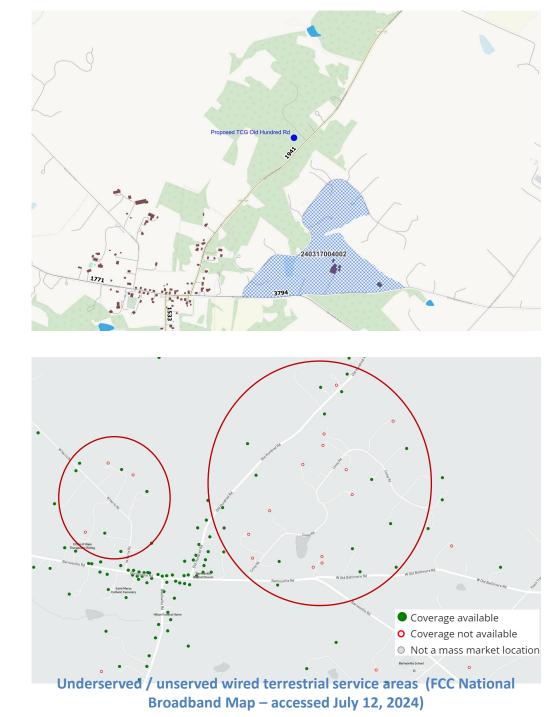
## Area Background



Source: <a href="https://data.usac.org/publicreports/caf-map/">https://data.usac.org/publicreports/caf-map/</a>

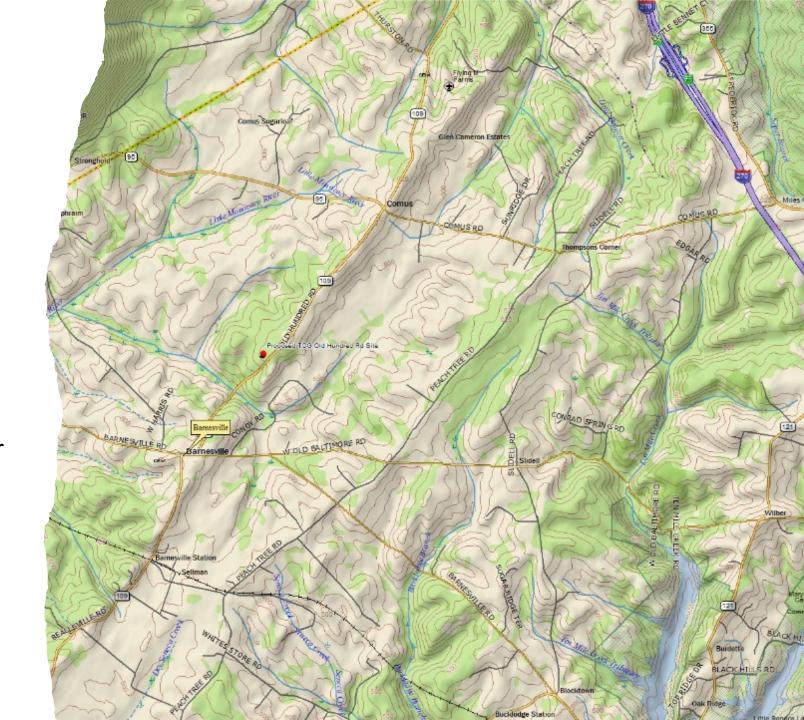
Areas around Barnesville, Old Hundred Road and Comus Road have experienced recent Connect America Fund (CAF) II activities to modernize networks for deploying voice and broadband services in states with unserved areas.

There are still unserved / underserved areas



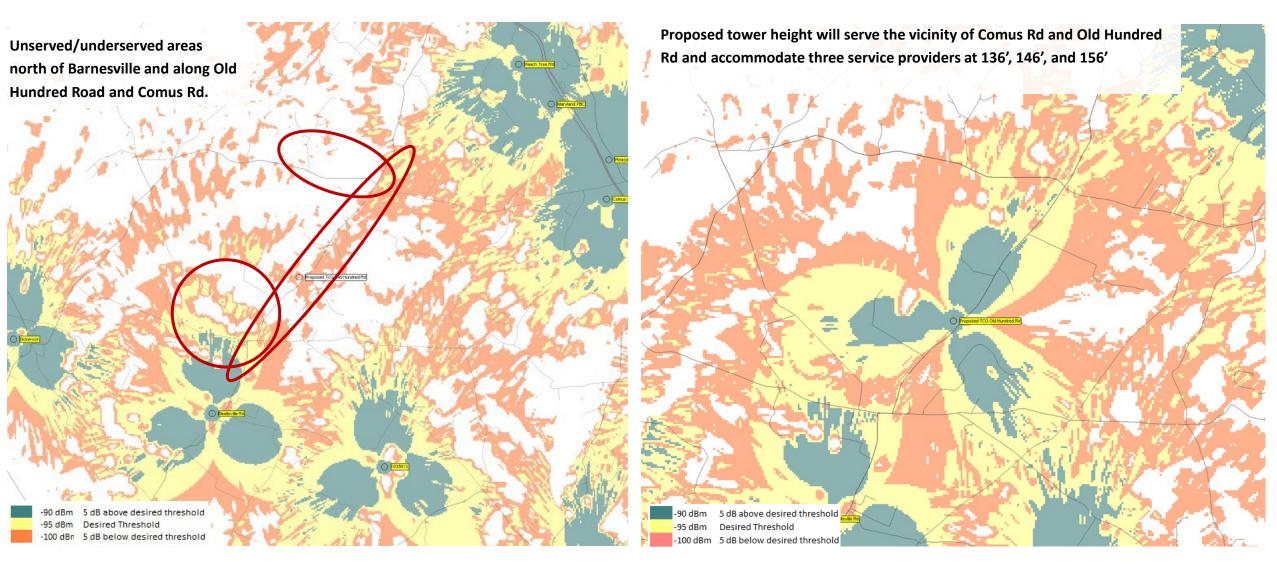
## Terrain Analysis

- Old Hundred Rd is on higher ground.
   The proposed site is better suited to cover areas west of Old Hundred Road as the terrain dips slightly.
- Other sites are further way, e.g., Route 270, and are at a disadvantage to cover west of Old Hundred Acres Rd due to terrain changes and distance.



## Proposed TCG Old Hundred Road Site

## Barnesville – Existing and Proposed TCG candidate site



Existing service area

Proposed TCG Site with antenna at 156 ft

## Summary

#### Unserved/ underserved wireless and wireline service areas

- Areas in the vicinity of the proposed TCG Old Hundred Rd site in Barnesville lack adequate wireless service.
- Furthermore, they are identified by the Connect America Fund (CAF) II as candidates for voice and broadband service modernization.

#### Proposed TCG Old Hundred Road Location

• The proposed TCG Old Hundred Road site is positioned to serve Barnesville, Old Hundred Rd, Comus Rd, Barnesville Rd, and Beallsville Rd as well as areas lacking adequate wired broadband service.

#### Required Height to Support Multiple Service Providers

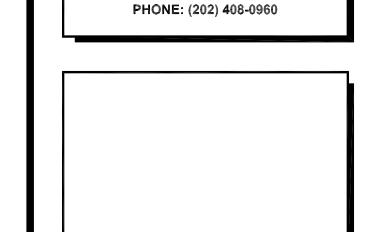
- The proposed TCG Old Hundred Rd site would support multiple wireless service providers operating at 136', 146' and 156'
- Lower antenna heights would impact service to areas along Comus Rd, and Old Hundred Rd.

## Proposal

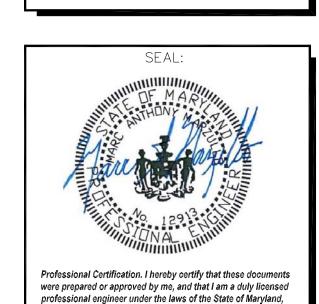
## TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838 TOWER COMMITTEE SUBMITTAL







### TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD **BARNESVILLE, MD 20838**



License No. 12913, Expiration Date: 04/03/2024

	SUBMITTALS	
	SUDIVITIALS	
DATE	DESCRIPTION	REV.
05-27-21	TOWER COMMITTEE REVIEW	
06-25-21	TOWER COMMITTEE REVIEW	
08-31-21	BOUNDRARY LINE ADJUST.	
01-15-24	ZONING REVIEW	

PROJECT NO:	1163.001
DESIGNER:	C.S.
ENGINEER:	M.M.
TO BE FULL	NGS ARE FORMATTED —SIZE AT 22"X34" DWN ON PLAN DETAIL
TITLE:	
TITL	E SHEET
SHEET NUMBER	:

T-1

REVISE & RESUBMIT

### SITE INFORMATION

SCOPE OF WORK:

1. CLEAR, GRUB AND GRADE ACCESS ROAD AND SITE COMPUND AREA.

2. INSTALL 12' WIDE GRAVEL ACCESS ROAD.

5. INSTALL CONCRETE SLABS FOR GENERATOR AND CABINETS AND CABLE SUPPORT PIERS.

8. INSTALL SECTOR FRAMES AND ANTENNA MOUNTS ON MONOPOLE.

11. INSTALL POWER, TELCO AND GROUNDING. 12. INSTALL COMPOUND SURFACING AND SITE IMPROVEMENTS.

> JURISDICTION: MONTGOMERY COUNTY

ACCOUNT NUMBER 00916938

MAP/GRID/PARCEL DW11/000/P653

BRELAND, RONALD L. & JUANITA W. PARCEL OWNER:

ADDRESS: 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838

ZONING: AR - AGRICULTURAL

LATITUDE:

39° 13′ 53.380" LONGITUDE:

77° 21' 59.403" GROUND ELEVATION: 549.5'AMSL

APPLICANT:

ARCHITECT/ENGINEER:

PROJECT MANAGEMENT:

NO WORK IS TO BE PERFORMED ON THIS SITE WITHOUT REVIEW OF THE APPROVED STRUCTURAL ANALYSIS. IF ANY DISCREPANCIES ARE FOUND THE GENERAL CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING. AT NO TIME WILL ANY

PROJECT TEAM

TELECOM CAPITAL GROUP

ROCKVILLE, MD 2085

TELECOM CAPITAL GROUP

6150 SHERIDAN POINT ROAD

PRINCE FREDERICK, MD 20678

RYAN DEAR VP OF OPERATIONS 443-884-4518

CAMILLE SHABSHAB, PE PRESIDENT (202) 408-0960

ENTREX COMMUNICATION SERVICES, INC.

6100 EXECUTIVE BLVD, SUITE 350

ADDITIONAL ANTENNAS BE INSTALLED WITHOUT WRITTEN CONSENT FROM TOWER ENGINEER.

# MONTGOMERY SLIDELL W OLD BALTIMORE R

**VICINITY MAP** 

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

- 2018 INTERNATIONAL BUILDING CODE

- 2017 NATIONAL ELECTRICAL CODE NFPA 70

- 2015 NFPA 101, LIFE SAFETY CODE

- AMERICAN CONCRETE INSTITUTE

6150 SHERIDAN POINT ROAD PRINCE FREDERICK, MD 20678 RYAN DEAR VP OF OPERATIONS 443-884-4518 CODE COMPLIANCE

FOLLOWING CODES.

- AMERICAN INSTITUTE OF STEEL CONSTRUCTION

- MANUAL OF STEEL CONSTRUCTION 13TH EDITION

- ANSI/TIA-222-H

- TIA 607

- ANSI/T 311

- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81

SCALE: 1" = 2,000'

- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION

- TELECORDIA GR-1275

## APPROVAL BLOCK

DATE

SHEET INDEX

VZW ANTENNA SCHEDULE, LAYOUT AND DETAILS

**VZW RADIO HEAD AND OVP UNIT DETAILS** 

**VZW EQUIPMENT CABINET DETAILS** 

TITLE SHEET

SITE PLAN

**PARTIAL SITE PLAN** 

MONOPOLE ELEVATION

**VZW GENERATOR DETAILS** 

COMPOUND PLAN

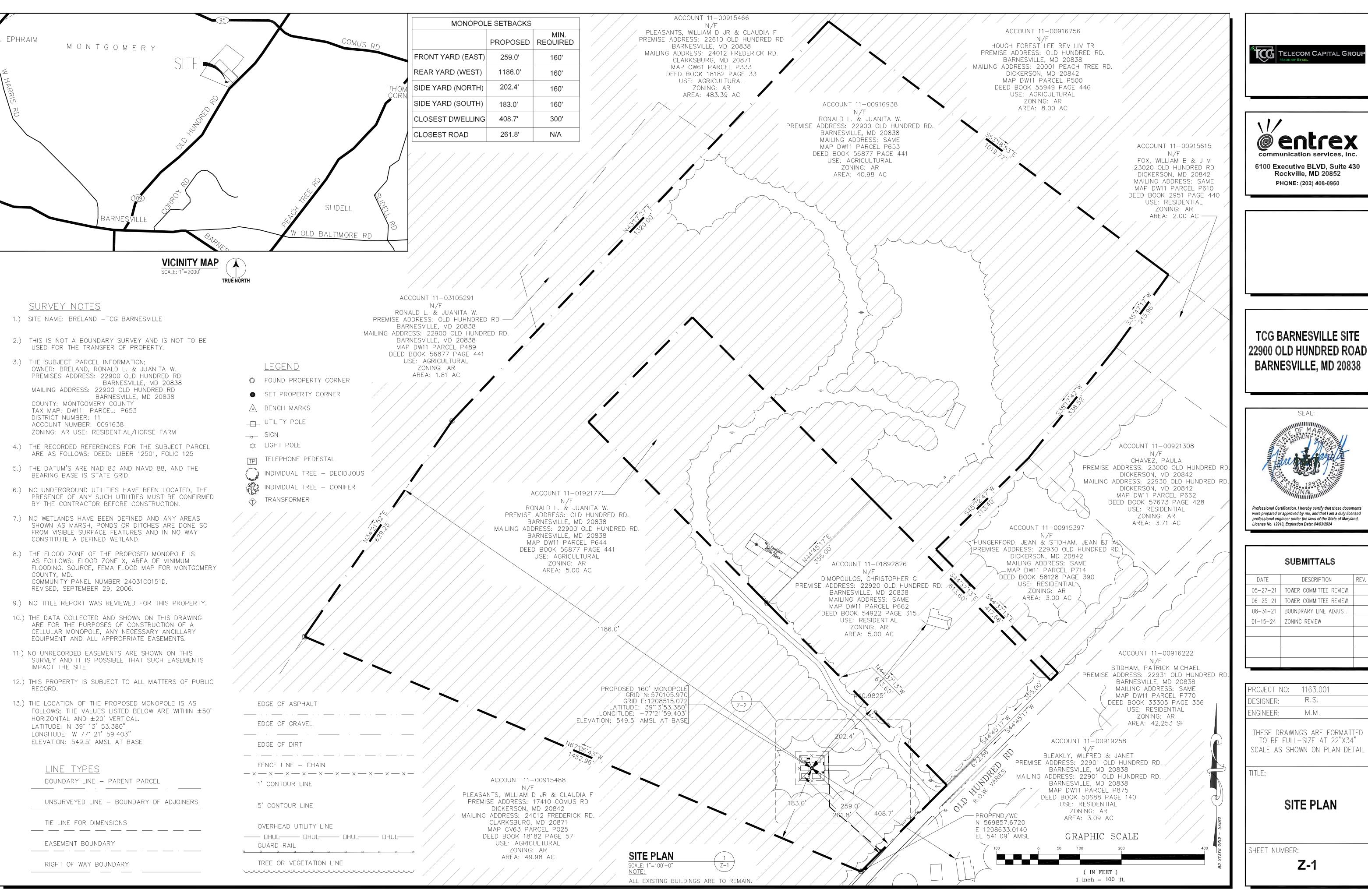
	OWNER REPRESENTATIVE
	SITE AQUISITION
	CONSTRUCTION MANAGER

APPROVED

Call before you dig.

DATE ZONING

RF ENGINEER





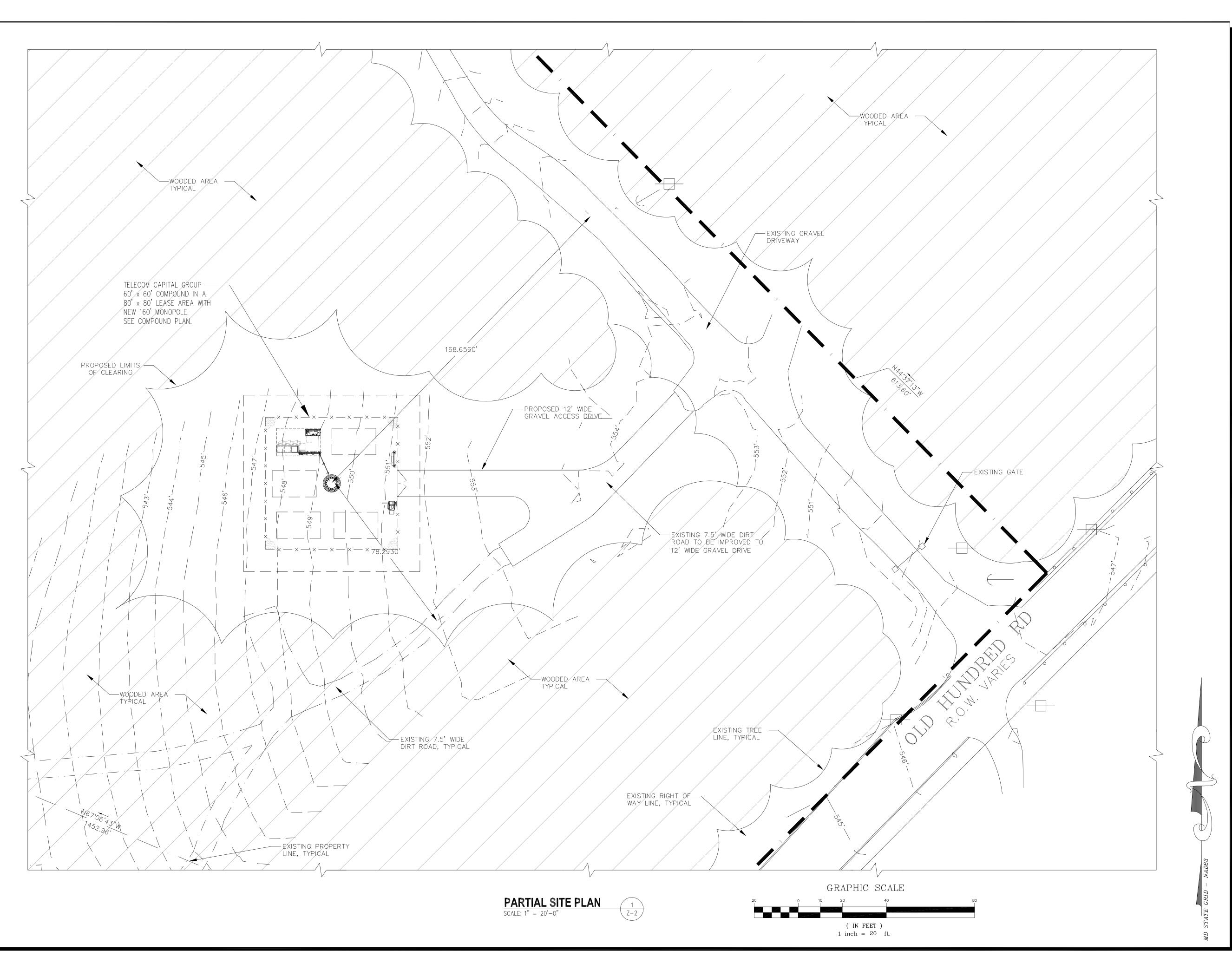


TCG BARNESVILLE SITE



SUBMITTALS			
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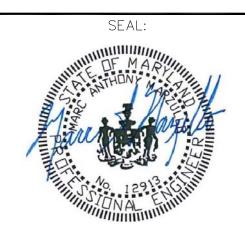
	SITE PLAN
	TITLE:
	THESE DRAWINGS ARE FORMATTED TO BE FULL—SIZE AT 22"X34" SCALE AS SHOWN ON PLAN DETAIL
ı	ENGINEER: M.M.
ı	DESIGNER: R.S.
ı	PROJECT NO: 1163.001







## TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12913, Expiration Date: 04/03/2024

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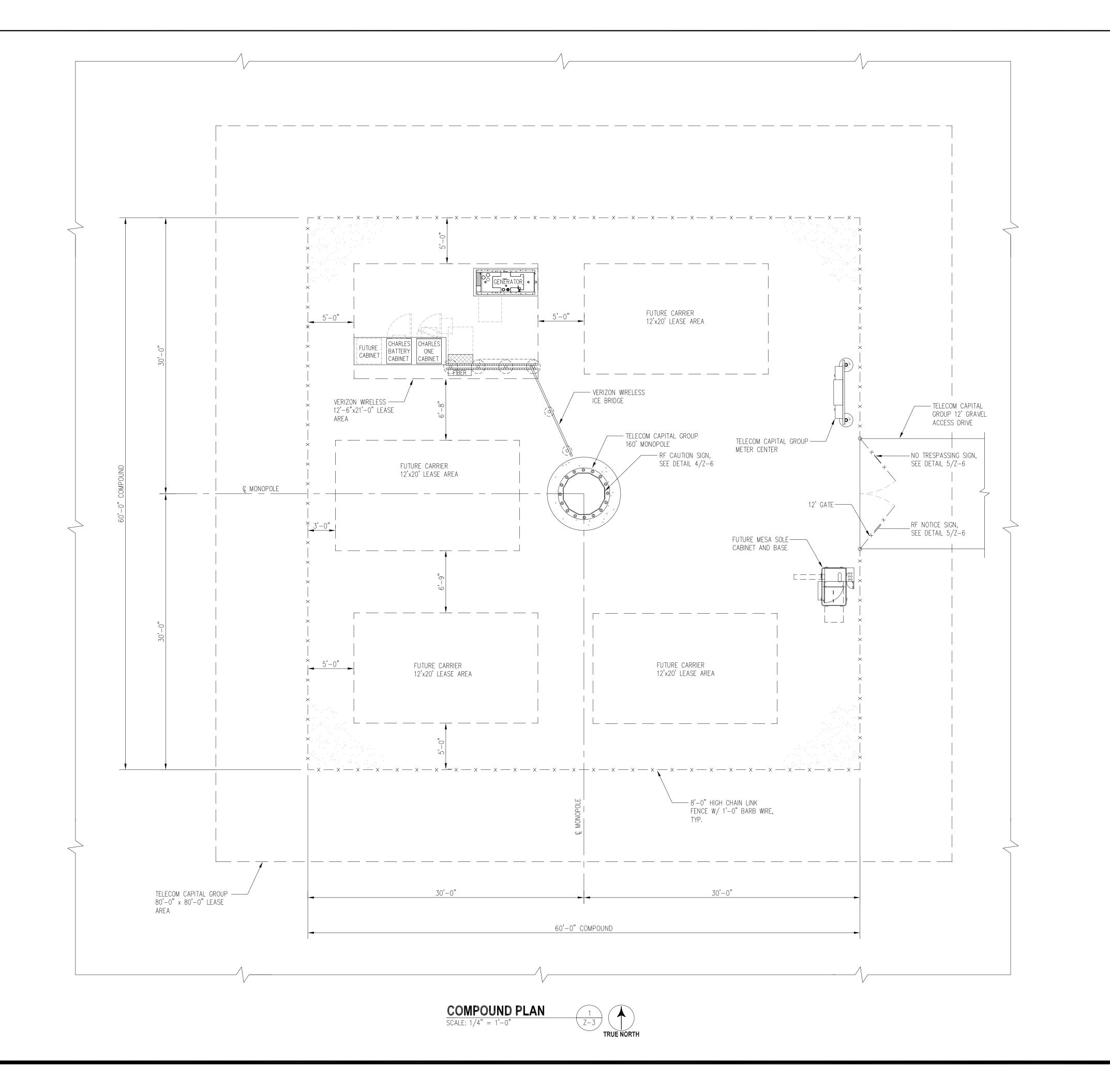
PROJECT NO:	1163.001	
DESIGNER:	R.S.	
ENGINEER:	M.M.	

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SCALE AS SHOWN ON PLAN DETAIL

TITLE:

## PARTIAL SITE PLAN

SHEET NUMBER:







TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838



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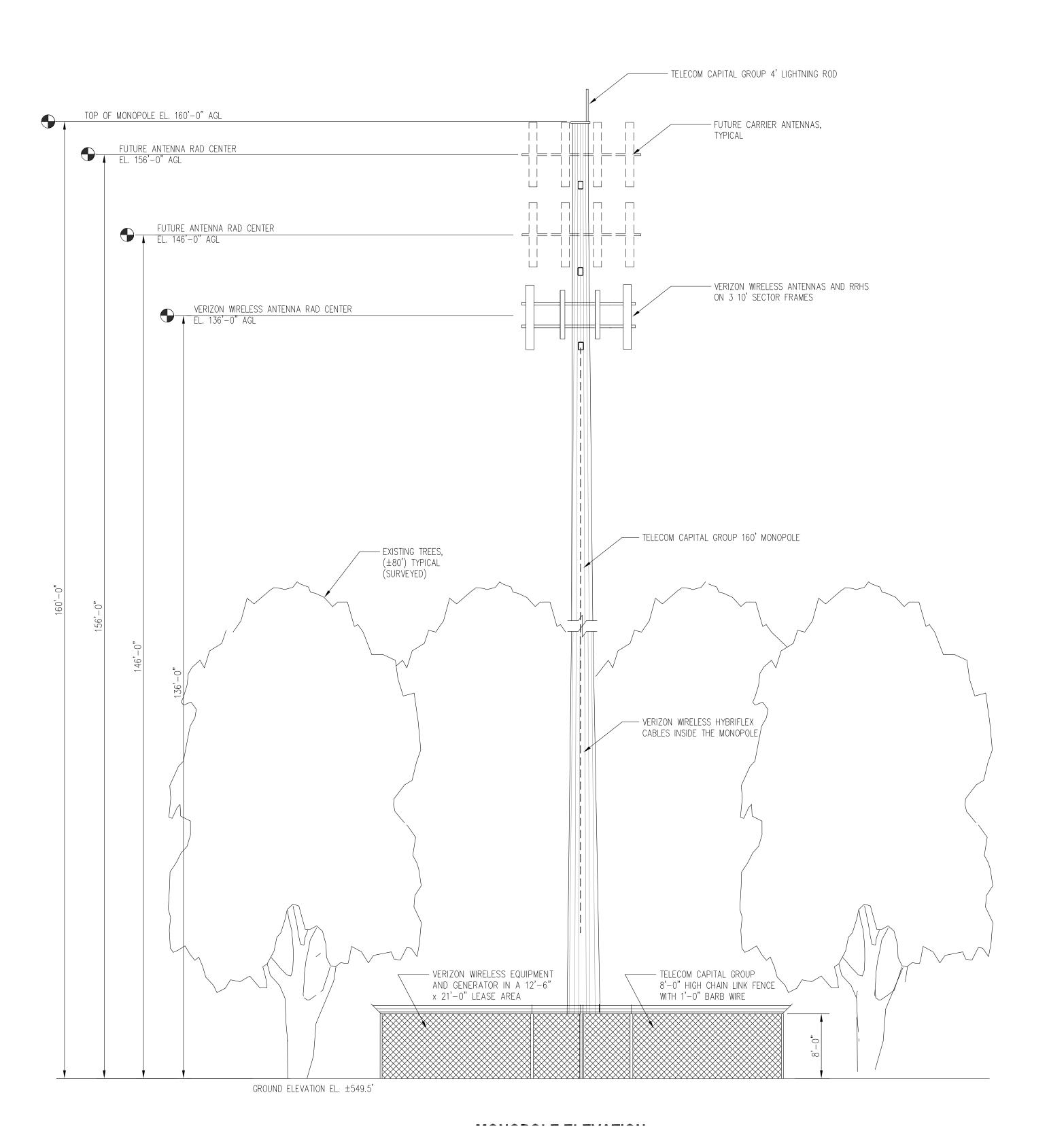
PROJECT NO:	1163.001
DESIGNER:	C.S.
ENGINEER:	M.M.

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SCALE AS SHOWN ON PLAN DETAIL

TITL

COMPOUND PLAN

SHEET NUMBER:



MONOPOLE ELEVATION 1





PHONE: (202) 408-0960

TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838



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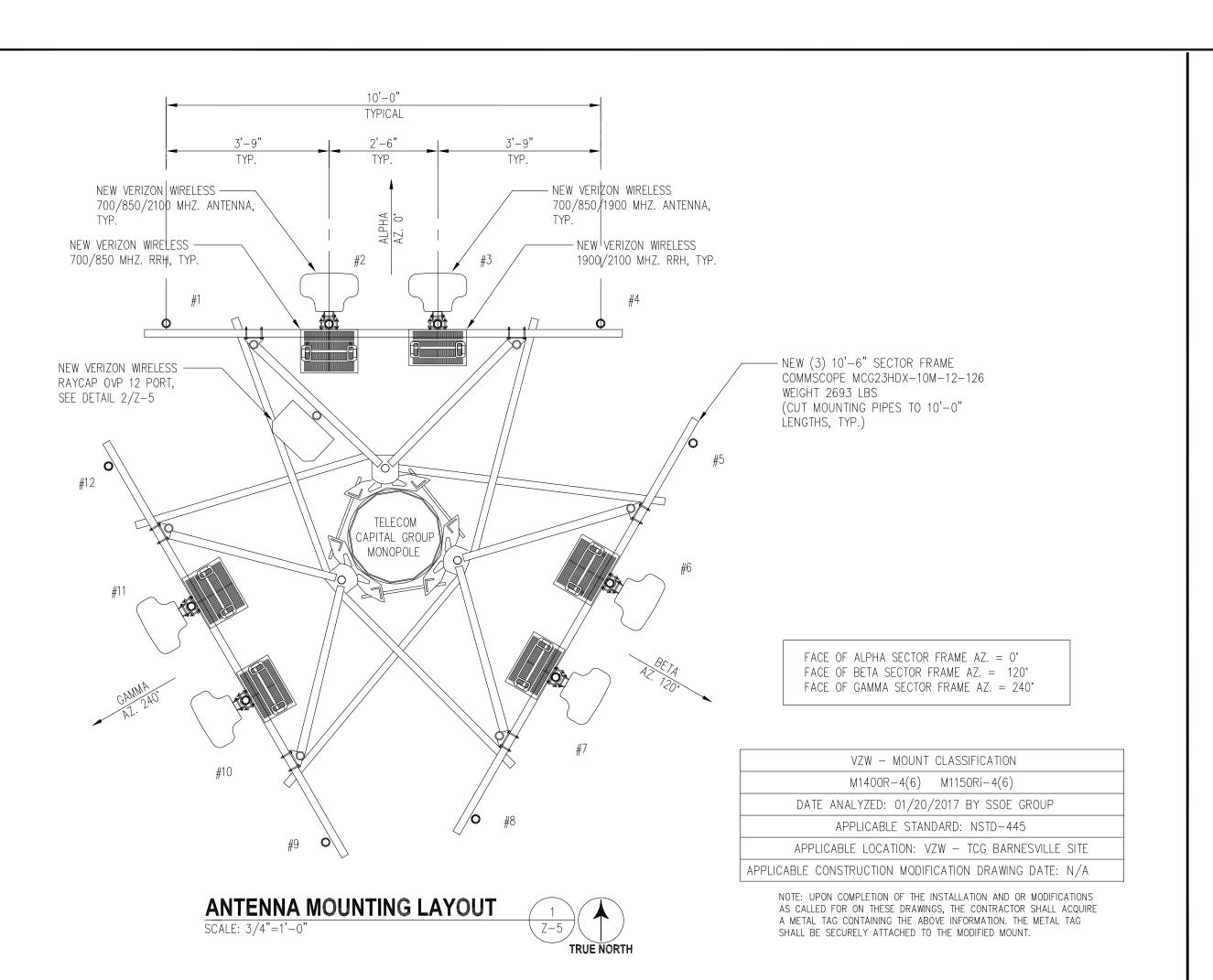
	PROJECT NO:	1163.001
	DESIGNER:	C.S.
	ENGINEER:	M.M.

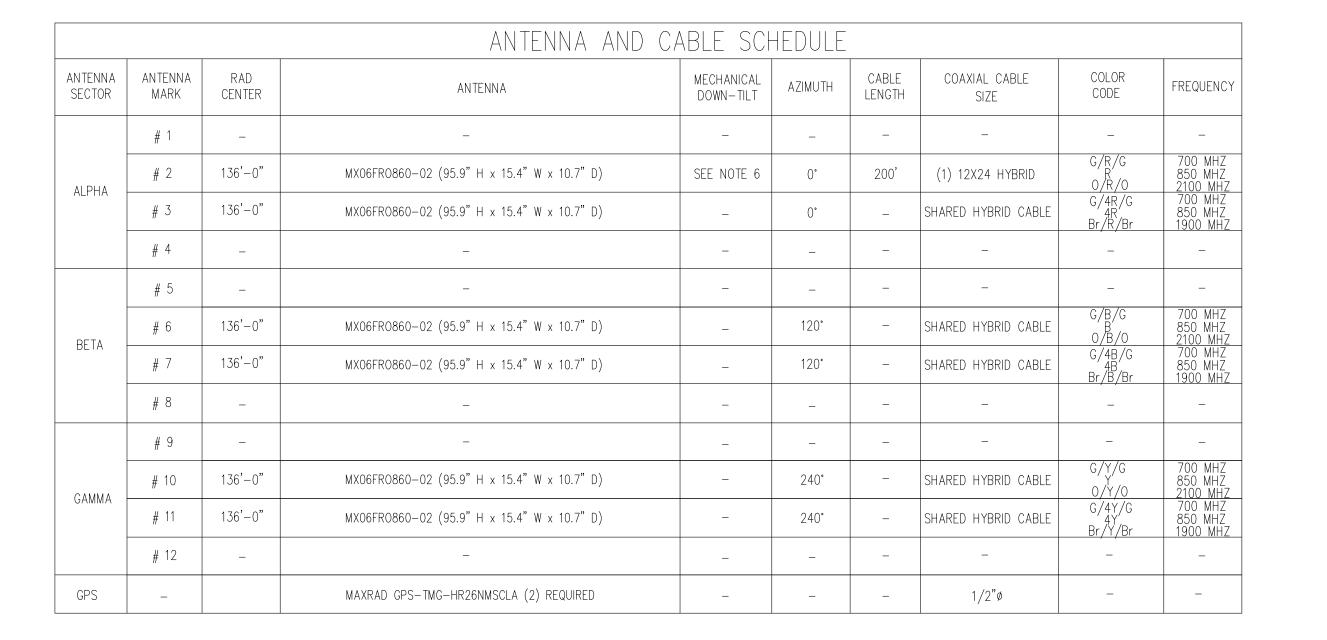
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MONOPOLE ELEVATION

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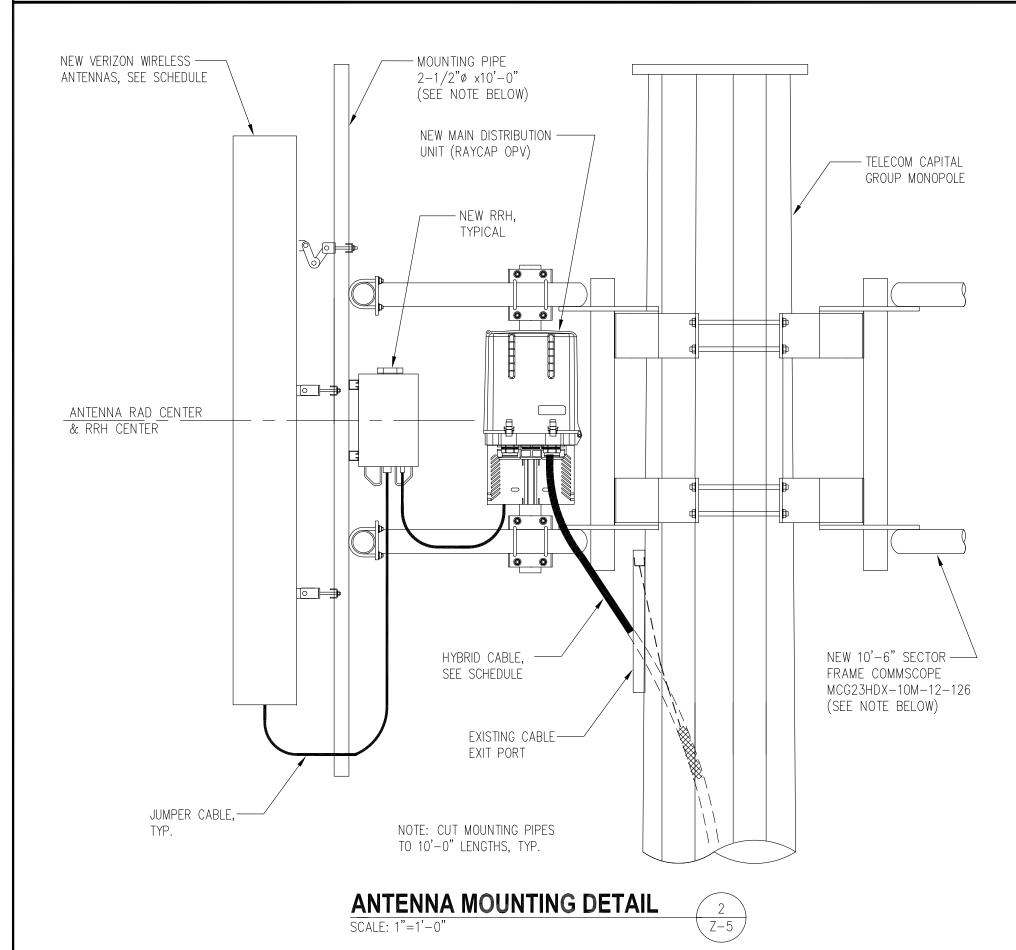


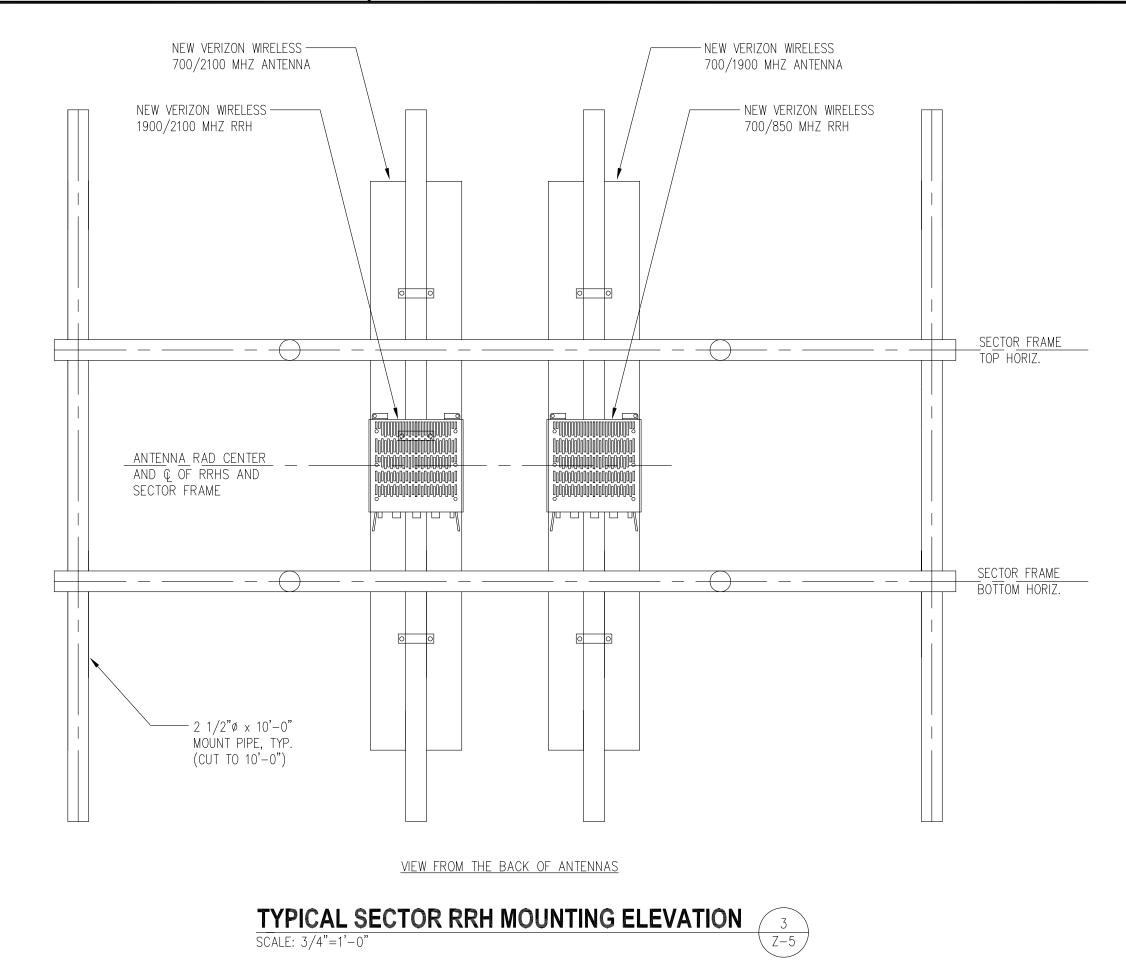


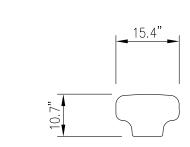
#### NOTES:

- 1. ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- 2. ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0'.
- 3. FINAL CABLE LENGTHS SHALL BE DETERMINED AFTER INSTALLATION.
- 4. COORDINATE THE ANTENNA DOWNTILT WITH THE RF ENGINEER.
- 5. THE CABLE LENGTHS SHOWN ARE THE ACTUAL COMPUTED LENGTHS WITH NO OVERAGE ALLOWANCE.
  6. REFER TO THE APS FOR THE ANTENNA DOWNTILT REQUIREMENTS.

CABLE MINIMUM BEND RADIUS					
7/8"ø RF	1-1/4"ø RF	1-5/8"ø RF	2-1/4"ø RF	1.1"ø HYBRIFLEX	
10"	15"	20"	22"	10"	



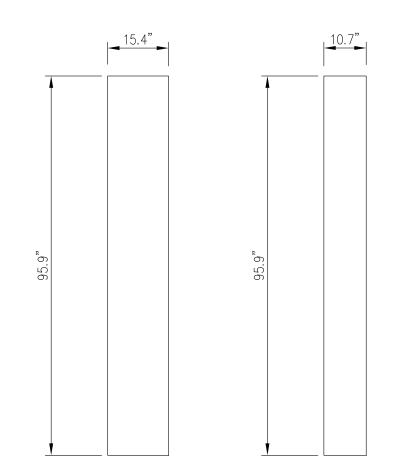




#### **TOP VIEW**

ANTENNA MANUFACTURER: JMA WIRELESS

MODEL: MX06FR0860-02
(95.9" H x 15.4" W x 10.7" D)
WEIGHT WITH MGT BRACKET = 105 LBS



FRONT VIEW

SIDE VIEW

700/850/1900/2100 MHZ ANTENNA







6100 Executive BLVD, Suite 430 Rockville, MD 20852 PHONE: (202) 408-0960





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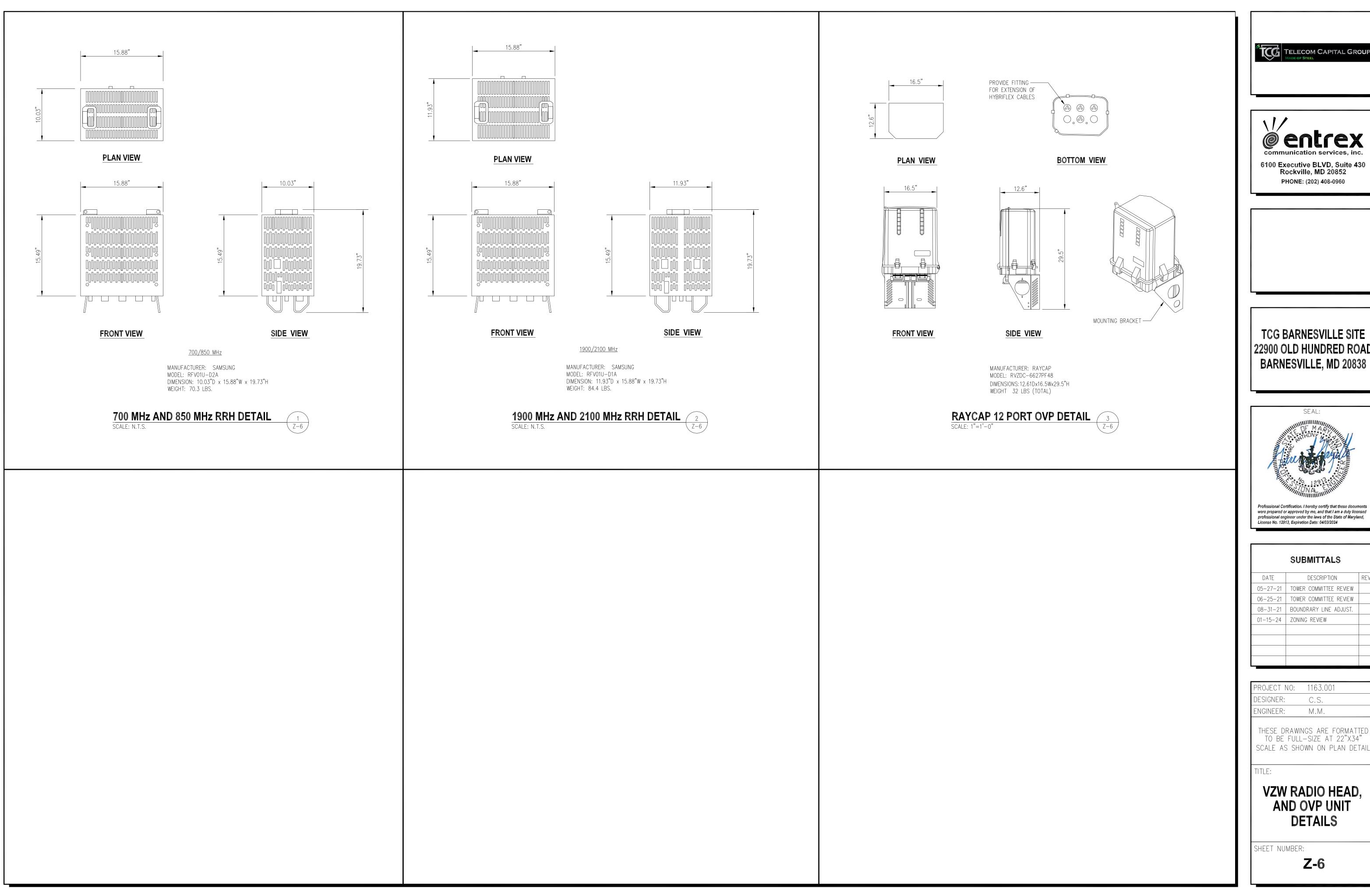
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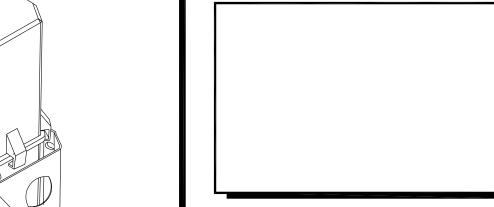
VZW ANTENNA SCHEDULE AND DETAILS

SHEET NUMBER:









TCG BARNESVILLE SITE 22900 OLD HUNDRED ROAD BARNESVILLE, MD 20838



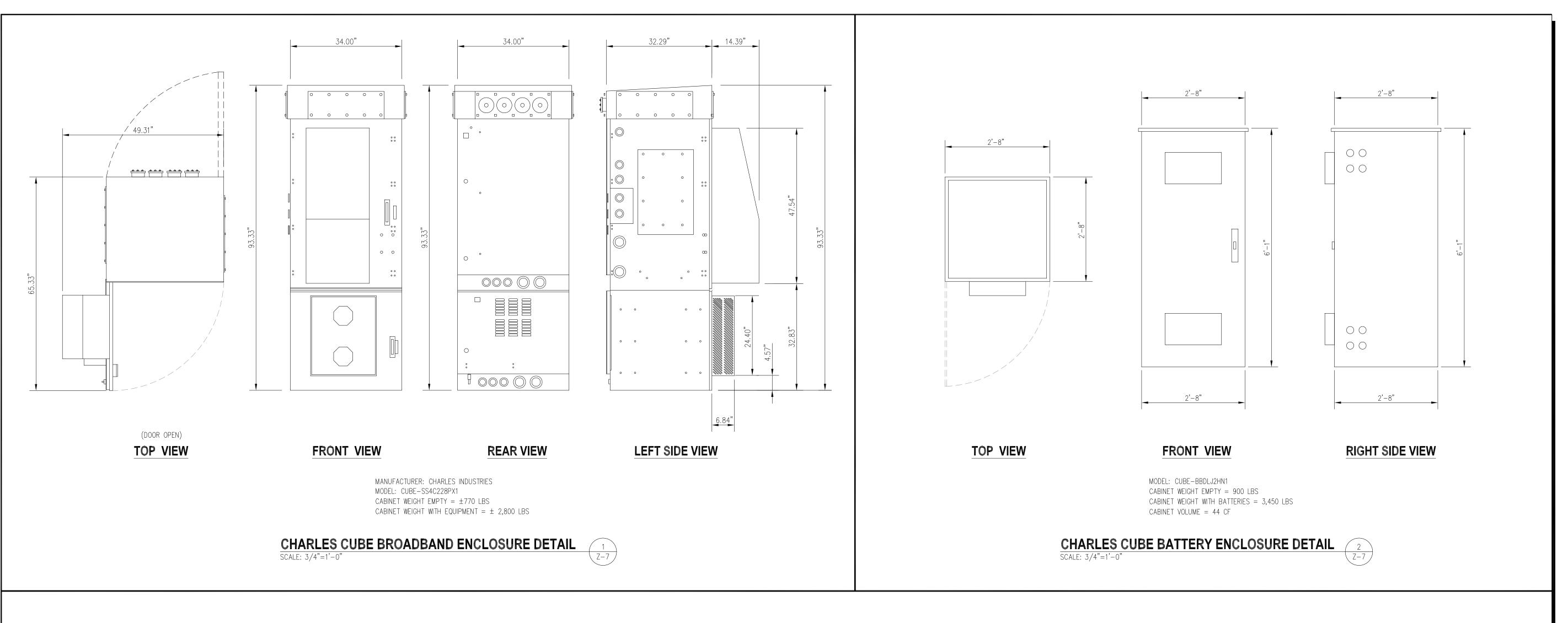
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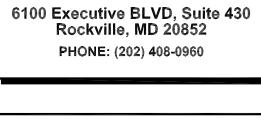
**VZW RADIO HEAD,** AND OVP UNIT **DETAILS** 

SHEET NUMBER:











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were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 12913, Expiration Date: 04/03/2024

PROJECT NO:	1163.001
DESIGNER:	C.S.
ENGINEER:	M.M.

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TITLE

VZW EQUIPMENT CABINET DETAILS

SHEET NUMBER:

```
NOTES:

1. THE RIGHT SIDE OF THE GENERATOR IS SERVICE ACCESSIBLE.

2. 6 AMP BATTERY CHARGER.

3. I20VAC ENGINE BLOCK HEATER.

4. GENERATOR MUST BE GROUNDED.

5. SOUND ATTENUATED ENCLOSURE STANDARD WITH GENERATOR.

6. MUST ALLOW FREE FLOW OF DISCHARGE AIR AND EXHAUST.

7. MUST ALLOW FREE FLOW OF INTAKE AIR.

8. EASY ACCESS SERVICE PANEL IS LOCATED ON THE RIGHT SIDE OF THE GENERATOR ONLY.

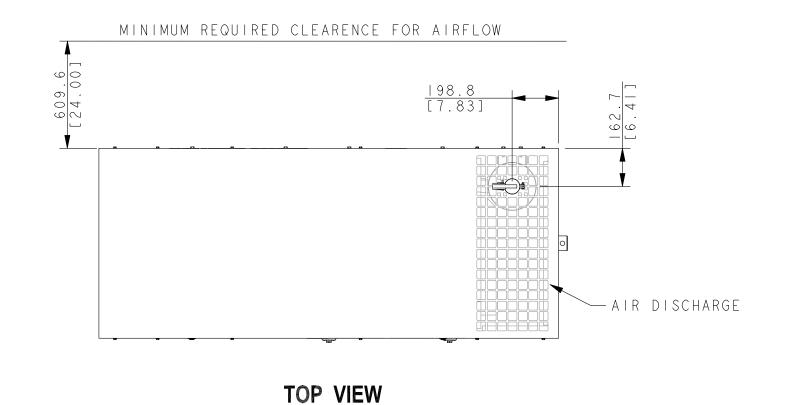
9. BASE TANK REQUIRES ALL STUB-UPS TO BE IN THE REAR TANK STUB-UP AREA.

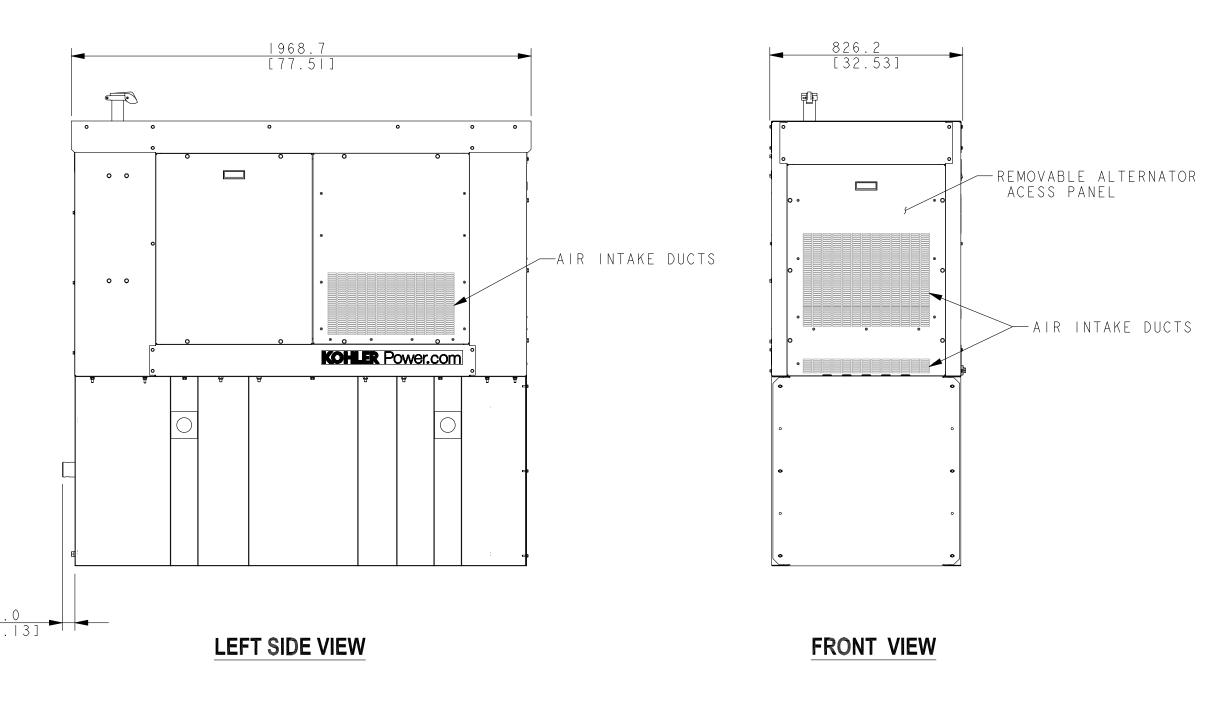
10. SEE TABLE FOR SUBBASE FUEL TANK CAPACITY.

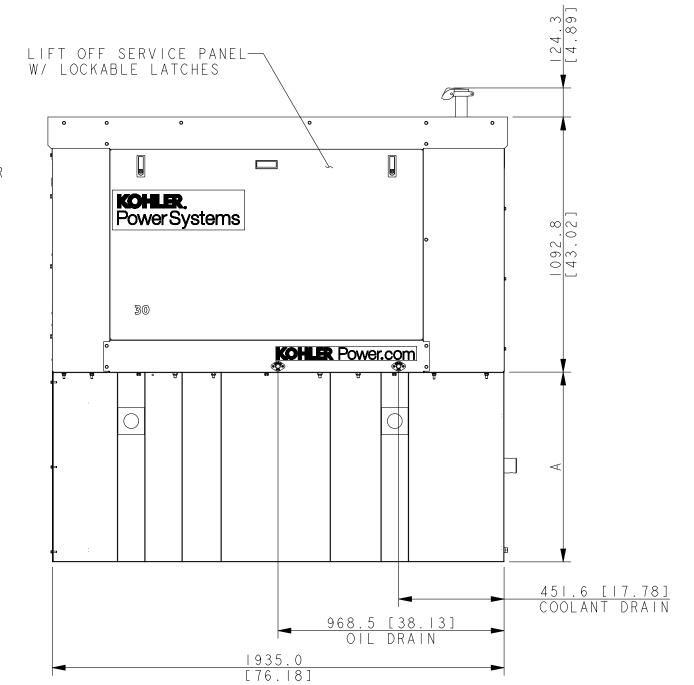
11. TANK EQUIPPED WITH FIRE SAFETY VALVE ON FUEL SUPPLY LINE.

12. IT IS THE RESPONSIBILITY OF THE INSTALLATION TECHNICIAN TO ENSURE THAT THE GENERATOR INSTALLATION COMPLIES WITH ALL APPLICABLE CODES, STANDARDS, AND REGULATIONS.

13. GENERATOR IS INSTALLED ON A UL-142 RATE DOUBLE WALL SUBBASE FUEL TANK.
```







RIGHT SIDE VIEW

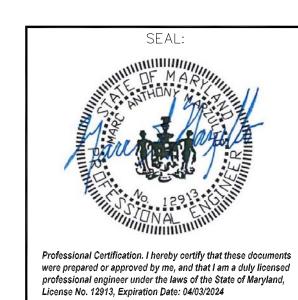






PHONE: (202) 408-0960

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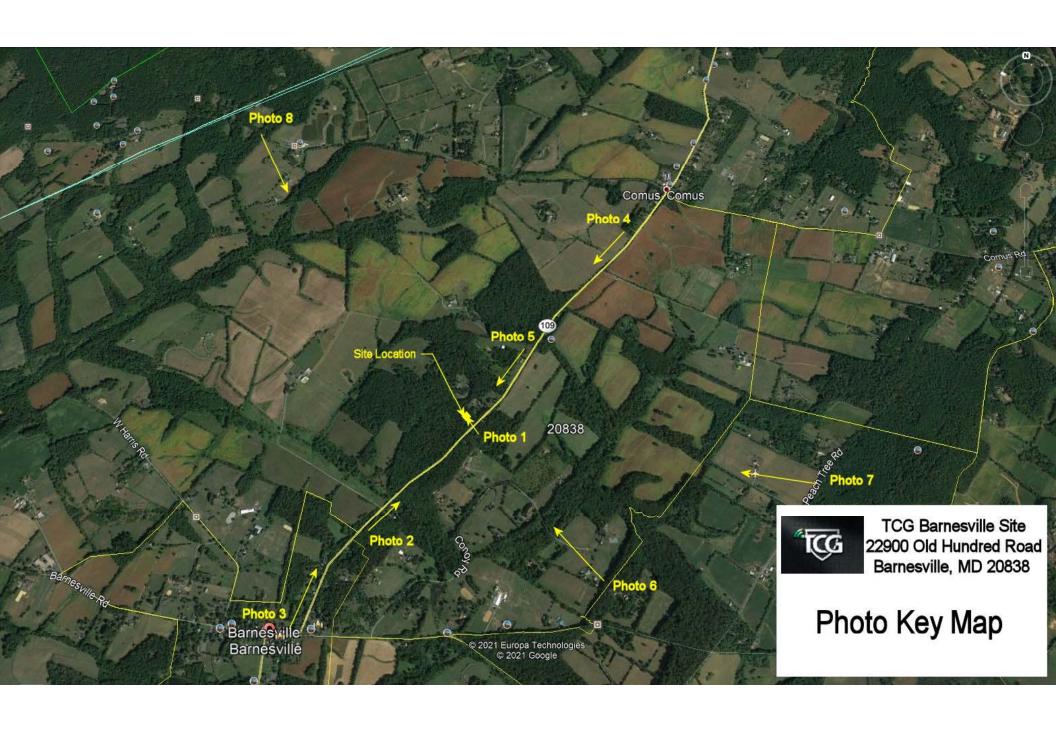
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TITL

VZW GENERATOR DETAILS

SHEET NUMBER:

## Photosims













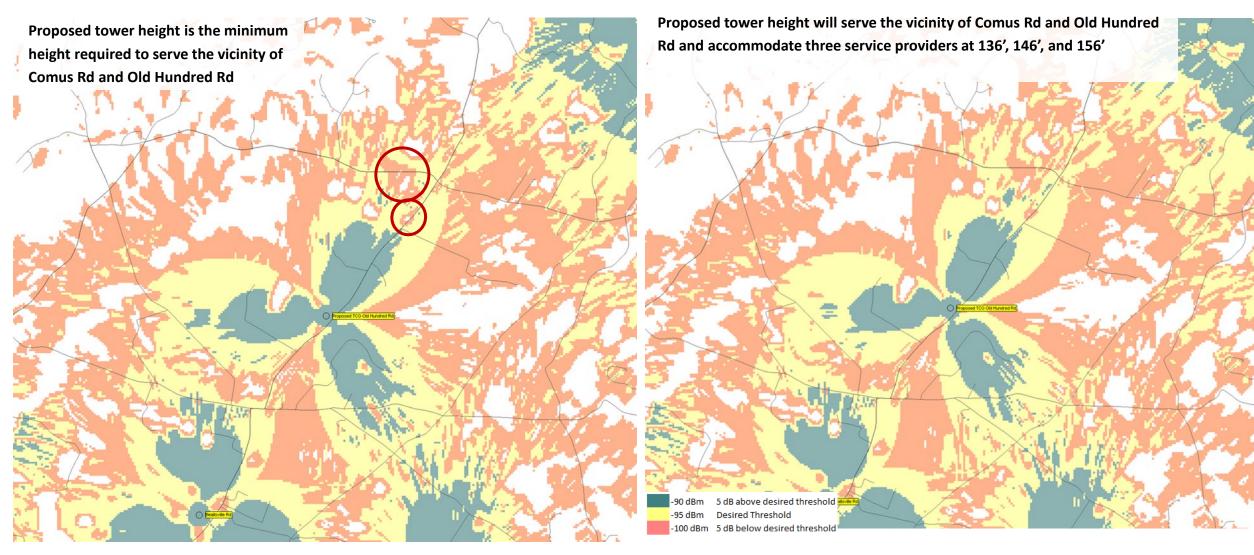








## Barnesville – Multiple Service Providers



Antenna height at 136 ft

Antenna height at 156 ft



## Barnesville Propagation Maps at Lower Antenna Heights

