WELL ABANDONMENT RECORD

For Internal Use ONLY:

1. Well Contractor Information:

Well Contractor Name (or well owner personally abandoning well on his/her property)

NC Well Contractor Certification Number

Company Name

2. Well Construction Permit #: _____
List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☐Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: _____

5a. Well location:

Facility/Owner Name

Facility ID# (if applicable)

Physical Address, City, and Zip

County

Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

_____ **N** _____ **W**

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED
*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: _____

6b. Total well depth: _____**(ft.)**

6c. Borehole diameter: _____**(in.)**

6d. Water level below ground surface: _____**(ft.)**

6e. Outer casing length (if known): _____**(ft.)**

6f. Inner casing/tubing length (if known): _____**(ft.)**

6g. Screen length (if known): _____**(ft.)**

WELL ABANDONMENT DETAILS

7a. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same well construction/depth, only 1 GW-30 is needed. Indicate TOTAL NUMBER of wells abandoned: _____

7b. Approximate volume of water remaining in well(s): _____**(gal.)**

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☐ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

_____ _____

_____ _____

7g. Provide a brief description of the abandonment procedure:

_____

_____

_____

_____

8. Certification:

Edward W. Taylor, Jr
Signature of Certified Well Contractor or Well Owner

Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

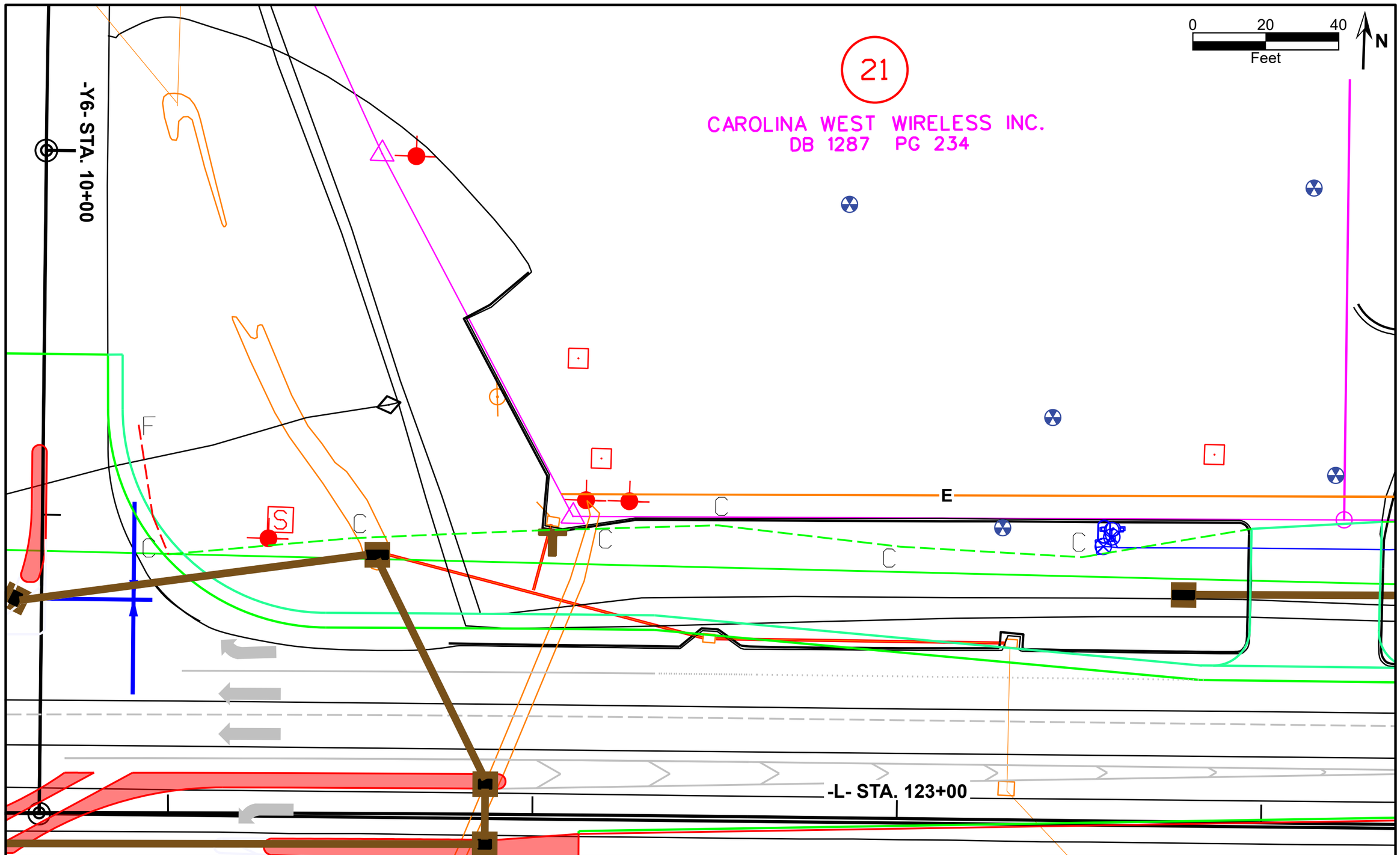


Figure 9 Site Plan with Monitoring Well Locations	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

Phase II Site Assessment Report
April 25, 2022
WBS Element: 45446.1.1
State Project: U-5312
Wilkes County

At

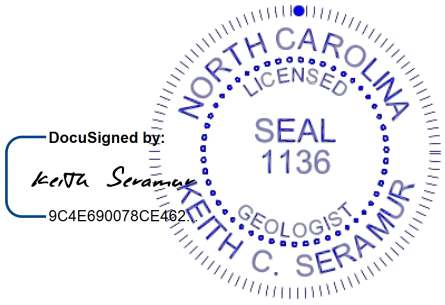
Parcel #: 021
Carolina West Wireless, Inc. Property
1858 US Hwy 421, Wilkesboro, NC, 28697
PIN #: 3848-90-5893
Facility ID No.: 00-0-0000005067
Groundwater Incident #: 30149

Prepared For:

Mr. Gordon Box
NCDOT, Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, NC 27699-1589

Prepared By:

Seramur & Associates, PC
165 Knoll Drive
Boone, NC 28607



Keith C. Seramur, P.G.

TABLE OF CONTENTS

SECTION **PAGE**

1.0 Introduction

1.1 General Site Background Information

Seramur & Associates, PC was contracted to complete a Phase II Environmental Site Assessment at:

Carolina West Wireless, Inc. Property
Parcel #: 021
1858 US Hwy 421, Wilkesboro, NC, 28697
PIN #: 3848-90-5893
Facility ID No.: 00-0-0000005067
Groundwater Incident #: 30149

Parcel #021 is located on the northeast corner of the intersection of Dancy Street and US Highway 421 (Figure 1). The property is in a developed area north of the Yadkin River valley. This developed area was graded and leveled for big box stores, restaurants, and parking lots. Bedrock in the area is mapped as the Ashe Formation, a fine-grained, thinly layered, sulfidic, biotite-muscovite gneiss interbedded with mica schist or phyllite and minor amphibolite (Espenshade, G.H., Rankin, D.W., Shaw, K.W., and Neumann, R.B.. Geologic map of the east half of the Winston-Salem quadrangle, North Carolina-Virginia, U.S. Geologic Survey Misc. Inv. Series Map I-709-B, 1975).

A Notice to Proceed was obtained on February 16, 2022. Our area of investigation was primarily focused on the existing Right-of-Way (R/W) along the eastern side of Dancy Road and the northern side of US Hwy 421 and the Temporary Construction Easement (TCE) on the southern side of the parking lot along US Highway 421 (Figure 2). The Phase II Site Assessment scope of work included completing a geophysical survey to evaluate the potential for underground storage tanks and remnant UST system infrastructure. Background research for this project included reviewing historic aerial photographs and NCDEQ databases.

2.0 Scope of Work

2.1 Background Research

According to the Wilkes County Tax Administration records, the property owner is listed as Carolina West Wireless, Inc. Some NCDOT documents list the property as being owned by J.C. Faw. Available historic aerial photographs from the USGS EarthExplorer website and Google Earth Pro were reviewed.

The following NCDEQ databases were queried for incidents at Parcel #021:

- Dry Cleaners
- Active USTs
- UST Incident Map
- UST Database
- Hazardous Waste Sites

2.2 Geophysical Surveys

Seramur & Associates used the Pythagorean Theorem to establish three rectangular grids. Grids 1 and 2 covered the existing R/W along US Highway 421. Grid 3 was in the existing R/W on the

west side of the property along Dancy Road (Figure 3). Geophysical grid data was collected along transects at a two-foot spacing. The magnetometer transects were stopped short of the northern end of Grid 3 because of the potential interference in the data that would have been caused by a Sheepsfoot Roller and steel sewer lines waiting to be installed.

Fifteen additional transects of GPR data were collected in the areas that were unable to be covered with grid data (Figure 3). A Schonstedt GA-72Cd Magnetic Locater was also used to survey these transects for magnetic anomalies that could be related to a former UST System.

The magnetometer data was collected with a GEM Systems GSM-19W Walking Overhauser magnetometer. The data was compiled in Excel spreadsheets and a grayscale hillshade map of the magnetic data was drafted using Golden Software's Surfer® modeling program. The lighter shades are lower magnetic readings, and the darker colors are higher magnetic readings (Figure 4). Ferrous objects in the subsurface have a magnetic field distinct from the surrounding soil and produce magnetic anomalies on the contour maps.

A Ground Penetrating Radar (GPR) survey was completed across the three grids and along the fifteen transects using a Geophysical Survey Systems, Inc. UtilityScan GPR System with a 350 MHz hyperstacking antenna. This GPR system is equipped with a calibrated survey wheel. The GPR data was downloaded and saved onto a computer. The GPR grid data has been processed and modeled using GPR Slice® software. The GPR data processing included adjusting time zero, completing a background removal and adjusting the time variable gain to enhance deep reflections. Three-dimensional models of the GPR grid data were produced with GPR Slice® software. Three time slices (or depth slices) were imaged in each 3D model at depths of 0.2 to 0.5 feet, 1.7 to 2.0 feet and 3.7 to 4.0 feet (Figures 5, 6, & 7). Each depth slice is a horizontal slice or plan view of the reflections across a 0.3-foot thickness of the subsurface. For example, the deep GPR depth slices show reflections in the radar data between depths of 3.7 and 4.0 feet. The profiles of the GPR transects show the subsurface directly under the path of the antenna to a depth of 8.0 feet (Figures 8a – 8c).

2.3 Plate 1 – Photographs of Parcel #021 (March 30, 2022)

Photo 1. Collecting GPR data in Grid 1.

Photo 2. Collecting magnetometer data in Grid 1.

Photo 3. Monitoring Well located within the existing Right-of-Way.

2.4 Plate 2 – Photographs of Parcel #021 (March 30, 2022)

Photo 4. Sewer line being installed along US Highway 421.

Photo 5. Sewer line being installed on the west side of the property.

3.0 Results of Investigation

Parcel #021 currently operates as a cellular phone retailer. A 1985 aerial photograph shows that the property previously operated as a gas station. Historic aerials from Google Earth Pro show that the property functioned as a gas station until sometime between 1998 and 2005. A review of the Wilkes County Tax records found that Parcels #021 and #022 as well as the two parcels behind them, were once a single parcel. In 2012 they were divided into four separate properties. The Google Earth Pro historical aerial photographs appear to show that Carolina West Wireless operates out of the same building as the former gas station/convenience store.

The NCDEQ UST Registered Tanks database lists records of two former USTs at this property. These were two 10,000-gallon gasoline USTs. These tanks are listed as being used from April 1973 until March 2003. The NCDEQ UST Incidents database indicates that a release occurred at the property on February 25, 2003. Online copies of documents are not available on the NCDEQ website, but a summary of the incident is included in the UST Incident Database. The summary of the incident reads as follows:

Free product and GCL violations detected in MW1, CAP requested.
EDB exceeds Ind./commercial MSCC's in soil.

This site is a now a cellular phone company. Not sure any of the MW's are still there. No drinking water wells within 1500 feet.

Talked with consultant about doing a MRP and the next step on 4/5/2019. KJH

SAPC personnel made a pedestrian reconnaissance of the property during the initial site visit on March 30, 2022. No evidence of an UST system was observed on the property within the existing R/W and proposed TCE. Five monitoring wells were observed on the property, one of which is within the existing R/W (Figure 9).

3.1 Geophysical Surveys

The magnetic data for the three grids show dispersed patterns of variable magnetic readings, but large magnetic anomalies that might indicate remnants of a former UST system were not observed (Figure 4). The magnetic data collected along the fifteen transects did not indicate the presence of a UST.

The shallow GPR depth slices (0.2-0.5 feet) show a high amplitude reflection at the intersection of Grids 1 and 2 (Figure 5). This is just north of a storm drain. Other scattered medium to high amplitude reflections are present in other areas of the three grids, but these reflections do not show patterns indicative of a former UST system.

The intermediate GPR depth slice (1.7-2.0 feet) in Grid 2 shows an area of higher amplitude reflections at the location of a former driveway (Figure 6). A slightly deeper slice (2.3-2.6 feet) shows the extent of this driveway (inset in Figure 6). The other dispersed medium to high amplitude reflections across the three grids do not appear to be related to a UST system.

The only notable anomalies on the deep GPR depth slices (3.7-4.0 feet) are related to the water line in Grid 1 and the gas line in Grid 3 (Figure 7). The GPR profiles for Transects 12 through 15 show a buried surface 1-2 feet deep in the southwest corner of the property (Figure 8c and 8d). Transects 1, 6, 7, 8, 13 and 14 cross utility lines which appear at depths between 2.5 and 4 feet. Other than these features, the GPR profiles show continuous horizontal reflections.

The infrastructure detected by the magnetometer and GPR are not related to a UST system or other UST system infrastructure.

3.2 Conclusions

Parcel #021 currently operates as a Carolina West Wireless cellphone store. The geophysical surveys did not image an existing UST system or evidence of a previous UST system within the existing R/W or proposed TCE. Utility lines were being installed at the time of our work. USTs and/or soil contamination were not reported to be encountered during this work.

4.0 Recommendations

Seramur & Associates does not recommend any further assessment work for Parcel #021. The monitoring well located within the existing R/W should be properly abandoned by a licensed well driller if this area is to be disturbed by the proposed road improvements.

Appendix A

Figures

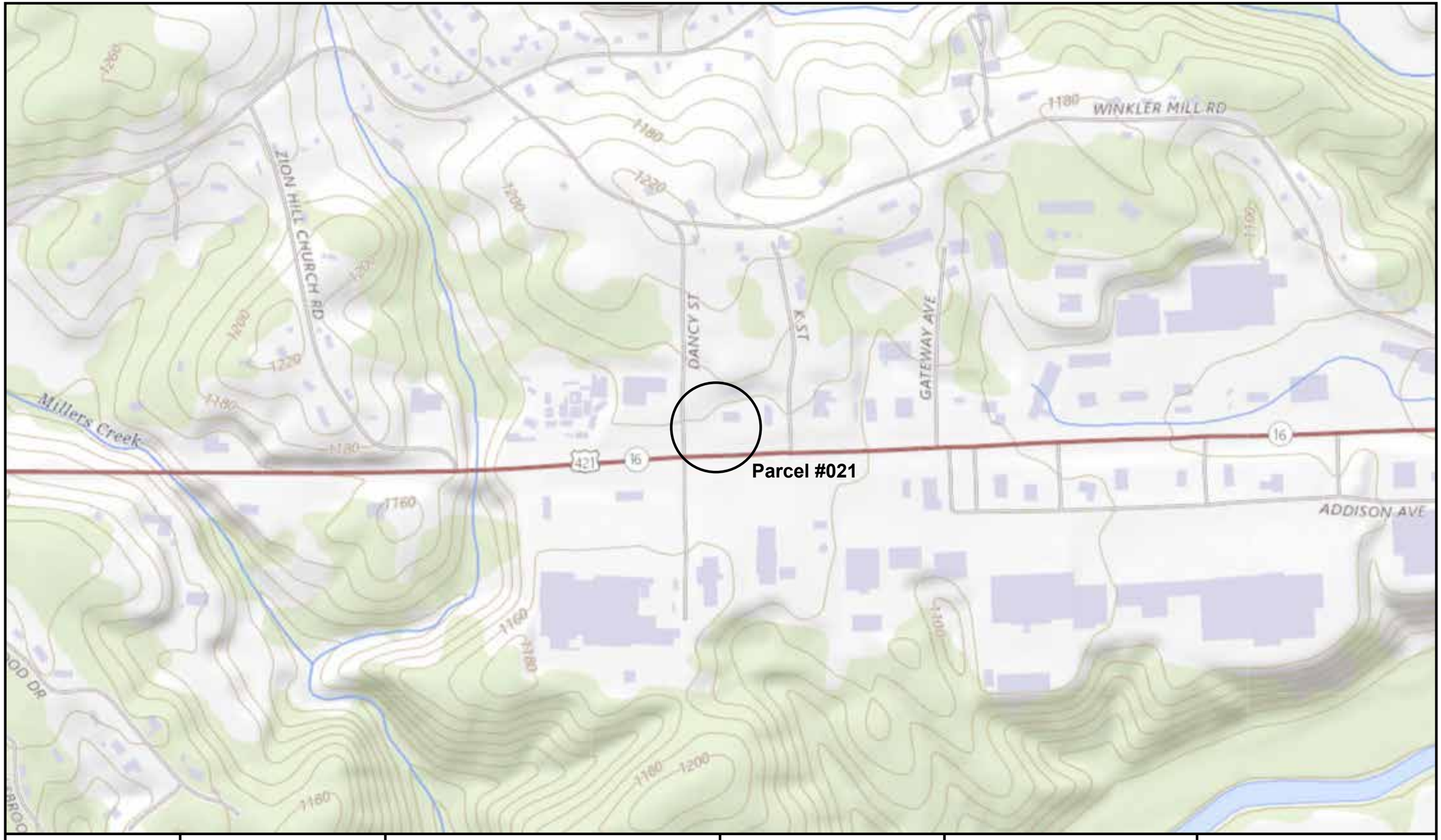


Figure 1 Site Location Map Source: U.S.G.S. The National Map	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC	0 350 700 Feet N

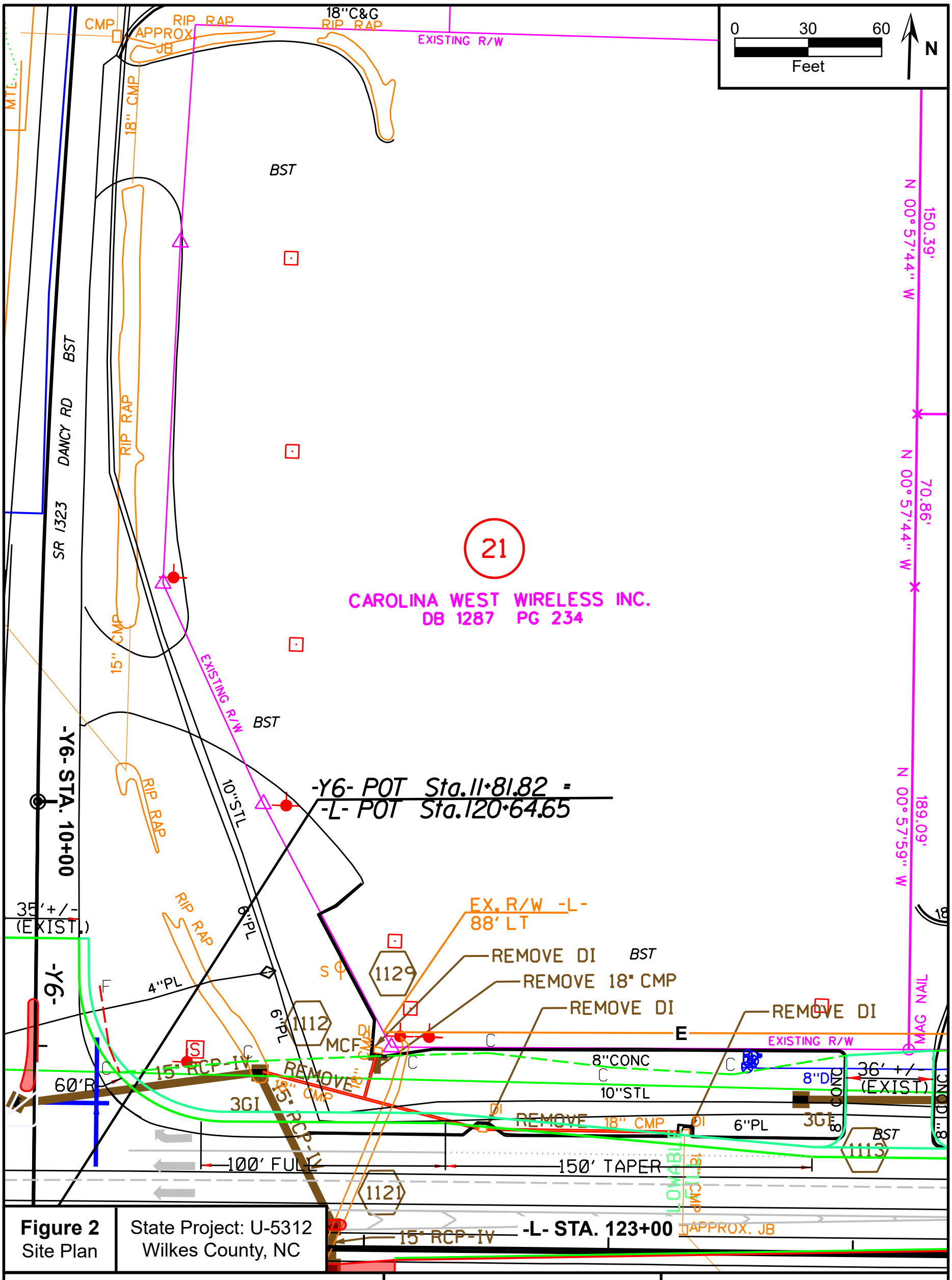


Figure 2
Site Plan

State Project: U-5312
Wilkes County, NC

Carolina West Wireless, Inc. Property
1858 US Hwy 421
Wilkesboro, NC

Parcel #021
Facility I.D. #: 00-05067

Seramur & Associates, PC
Boone, NC

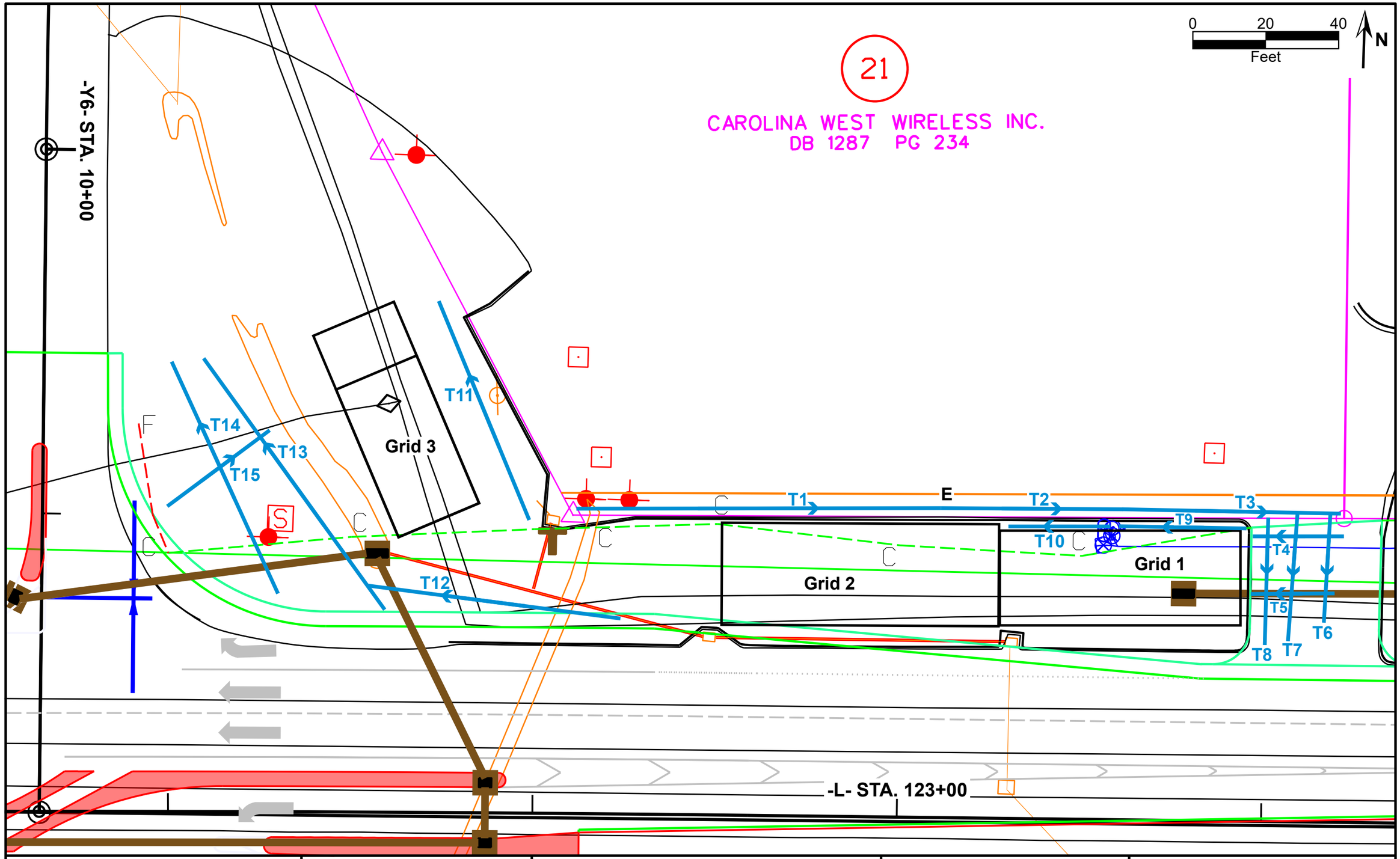


Figure 3 Site Plan with Geophysical Grid and Transect Locations	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

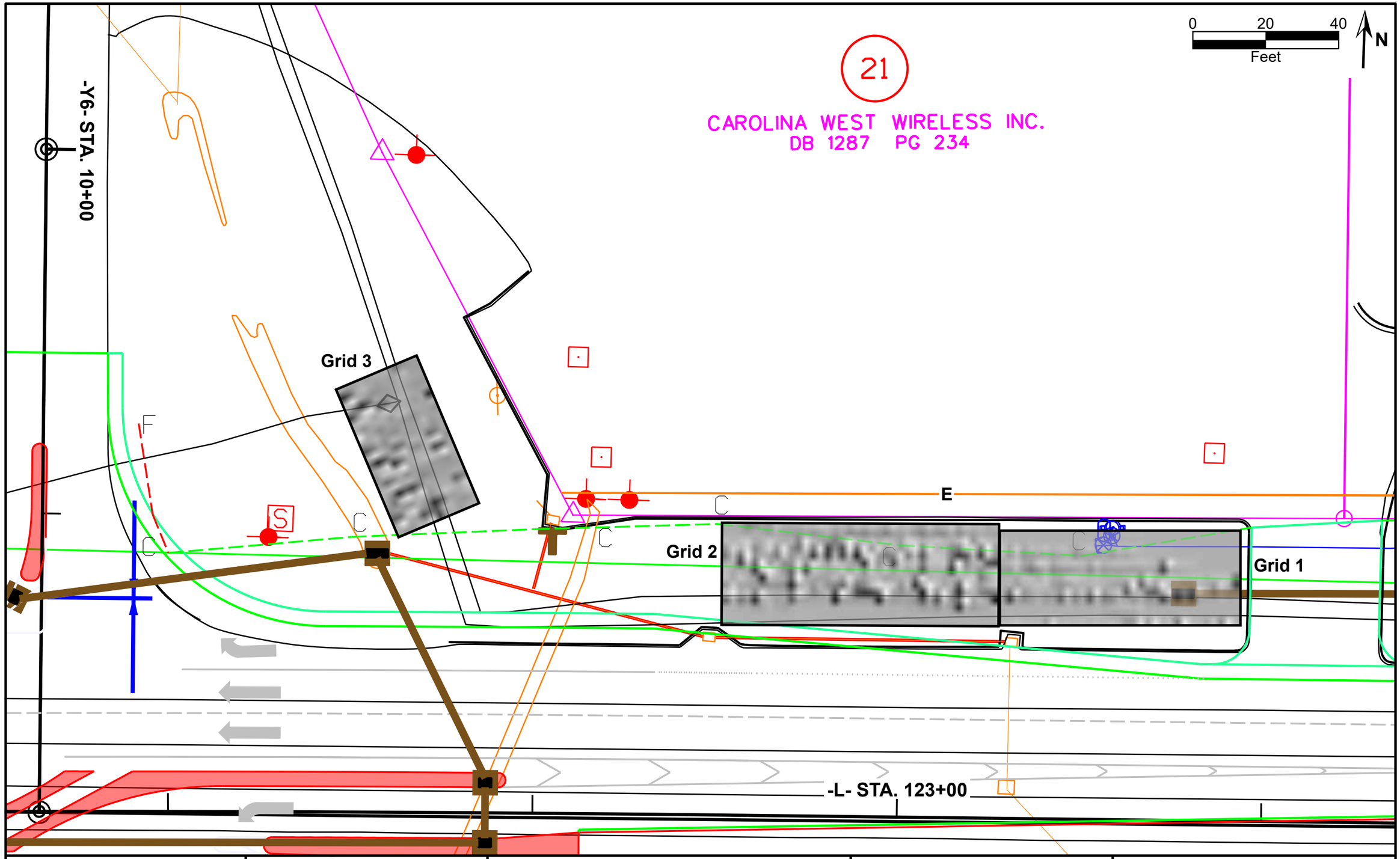


Figure 4 Magnetometer Survey Hillshade Map	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

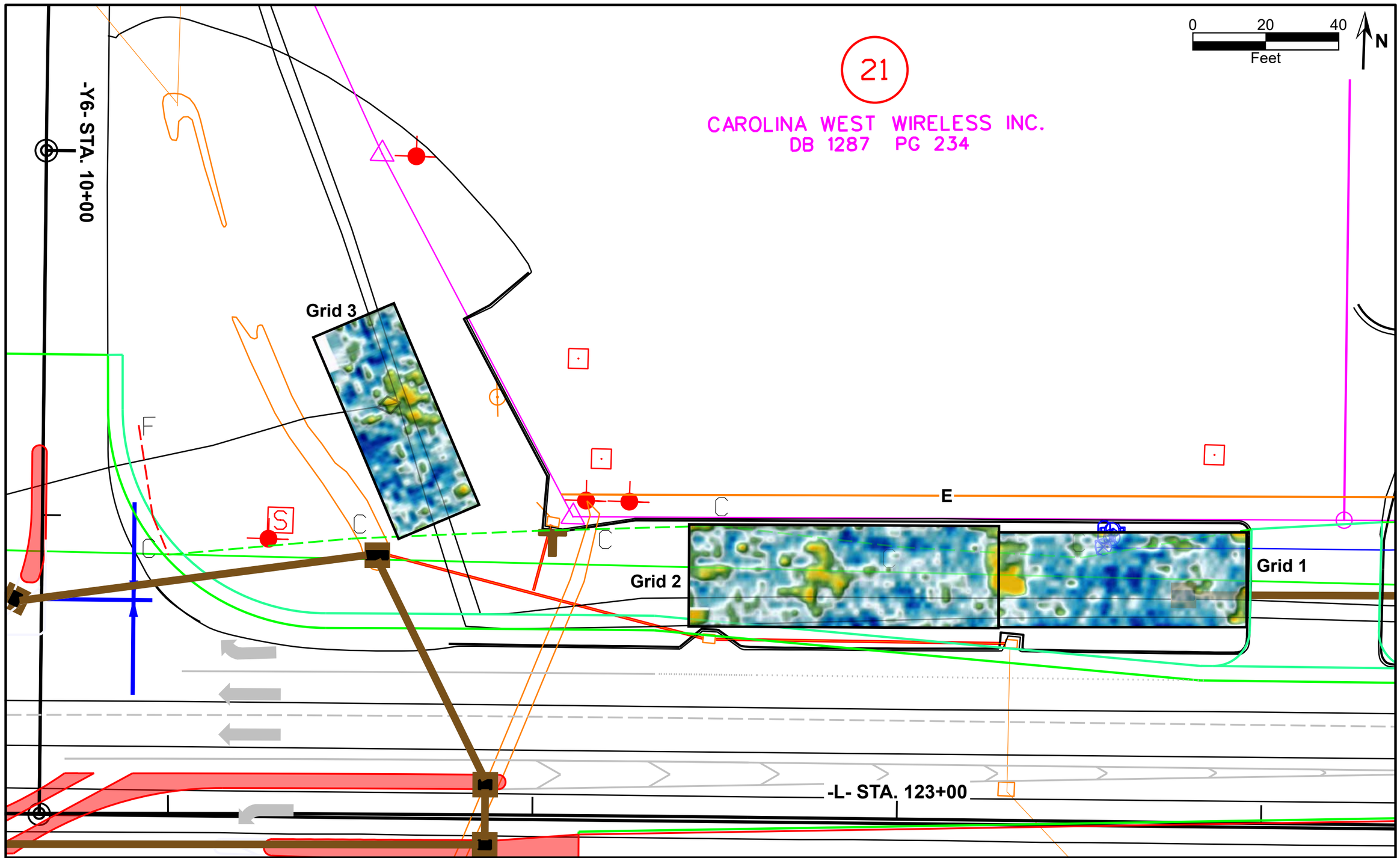


Figure 5 Shallow GPR Depth Slices (0.2 to 0.5 ft.)	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

0 20 40
Feet

N

21

CAROLINA WEST WIRELESS INC.
DB 1287 PG 234

-Y6- STA. 10+00

Grid 3

2.3 - 2.6 foot
depth slice

E

Former Driveway

Grid 2

Grid 1

-L- STA. 123+00

Figure 6 Intermediate GPR Depth Slices (1.7 to 2.0 ft.)	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

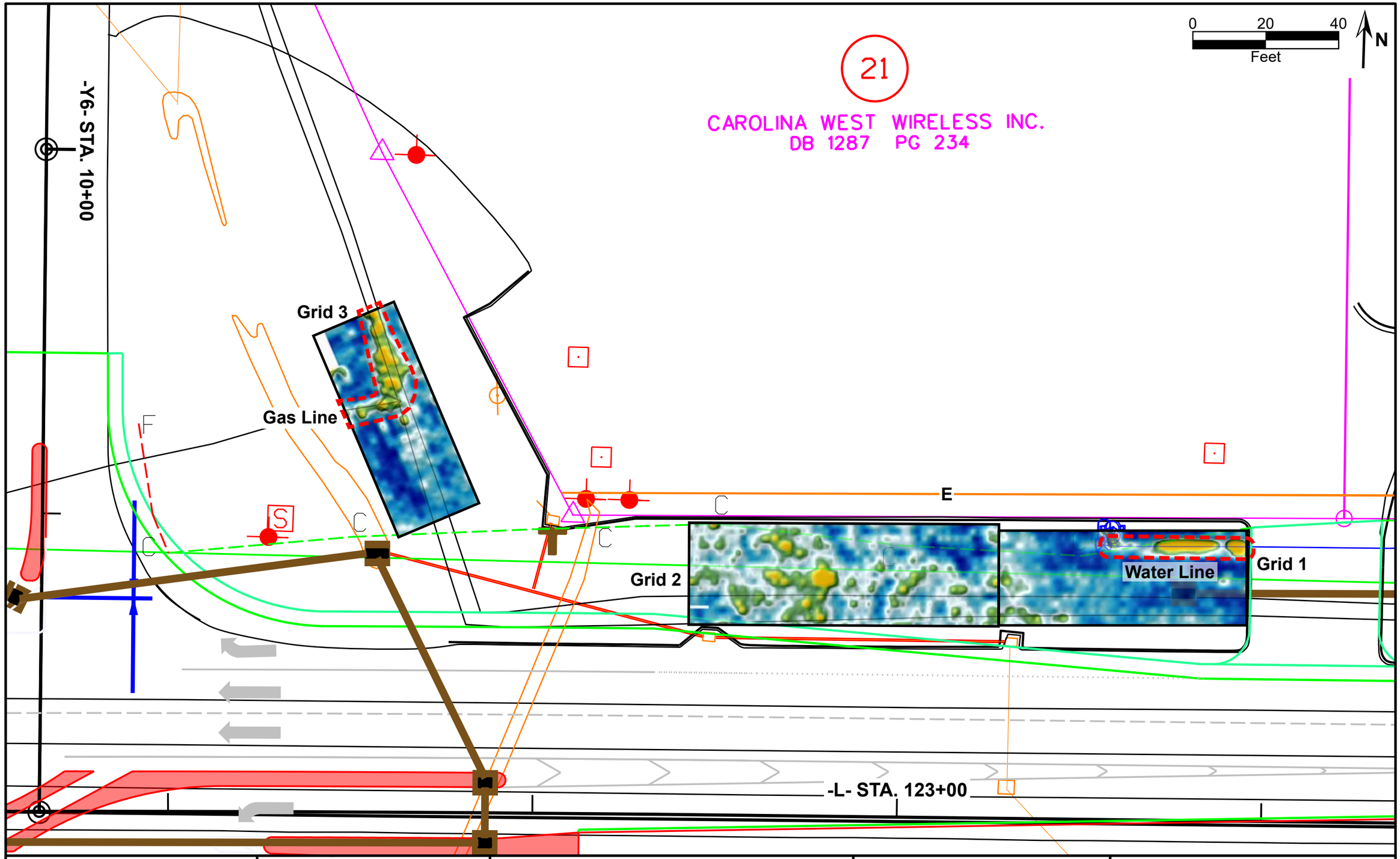
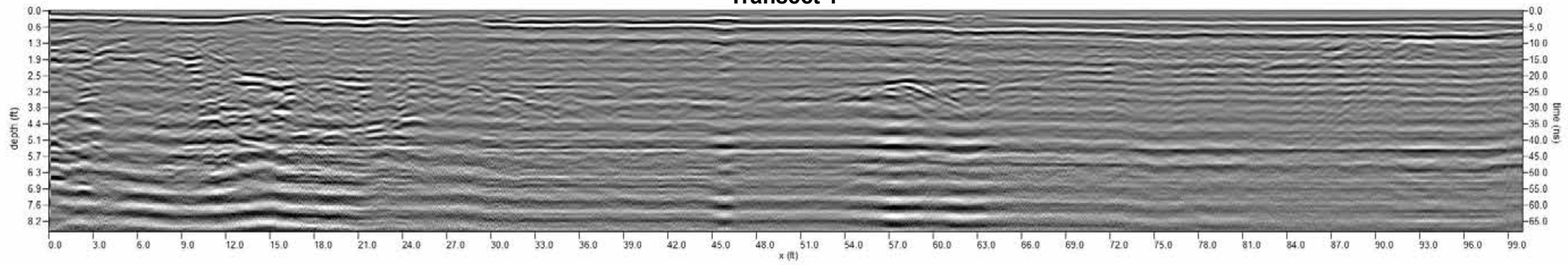
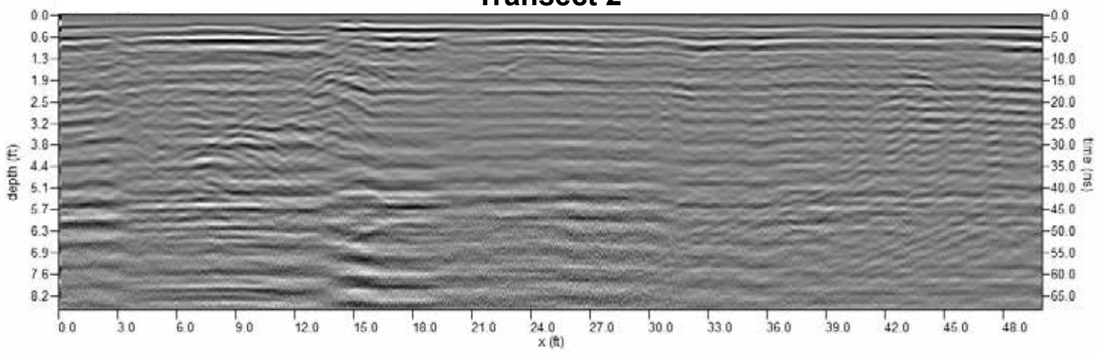


Figure 7 Deep GPR Depth Slices (3.7 to 4.0 ft.)	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

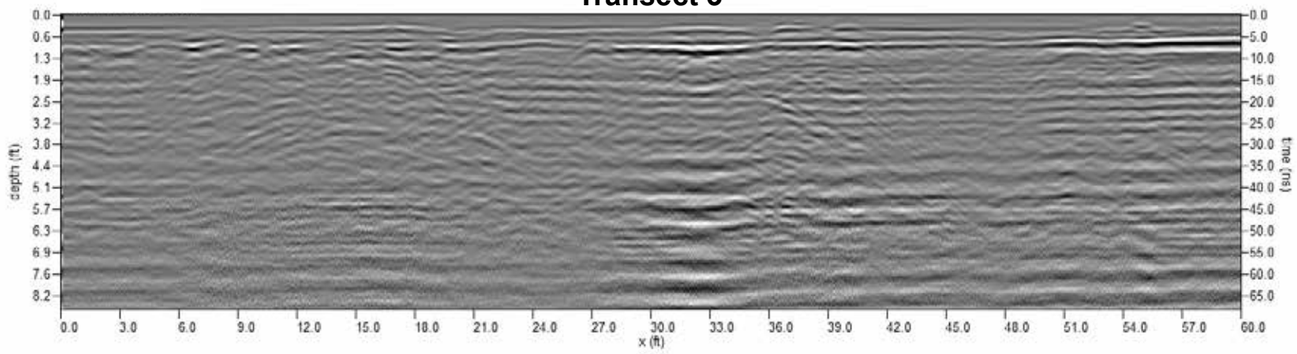
Transect 1



Transect 2



Transect 3



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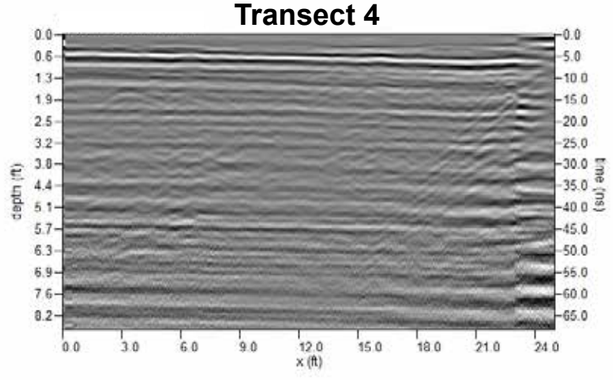
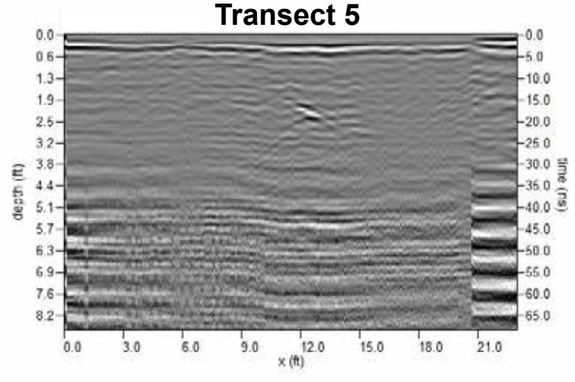


Transect 5



Transect 6

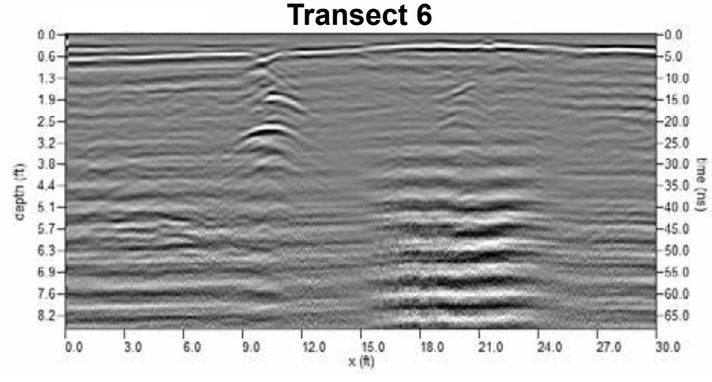


Figure 8a GPR Transect Profiles 1 through 6	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

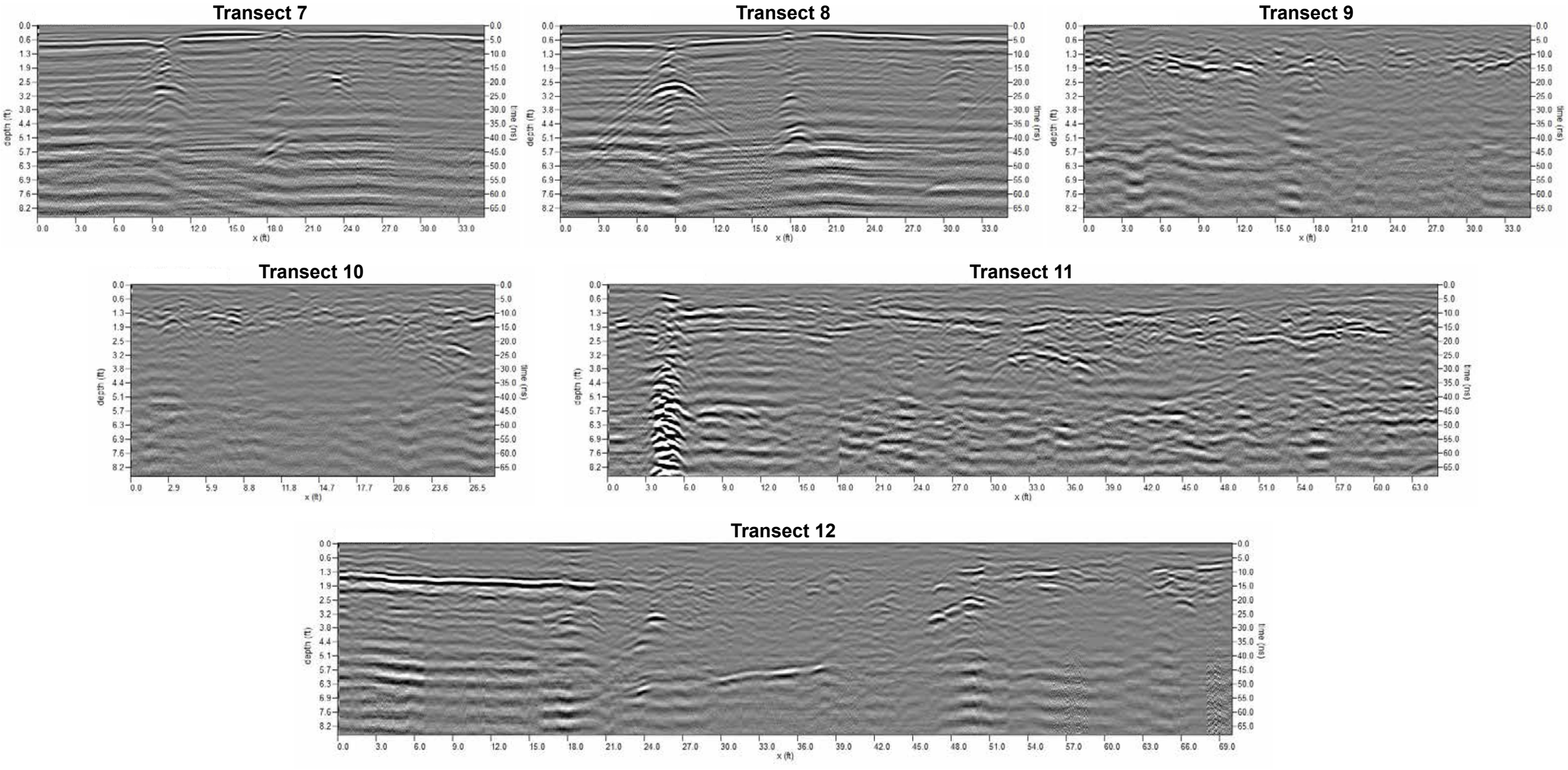
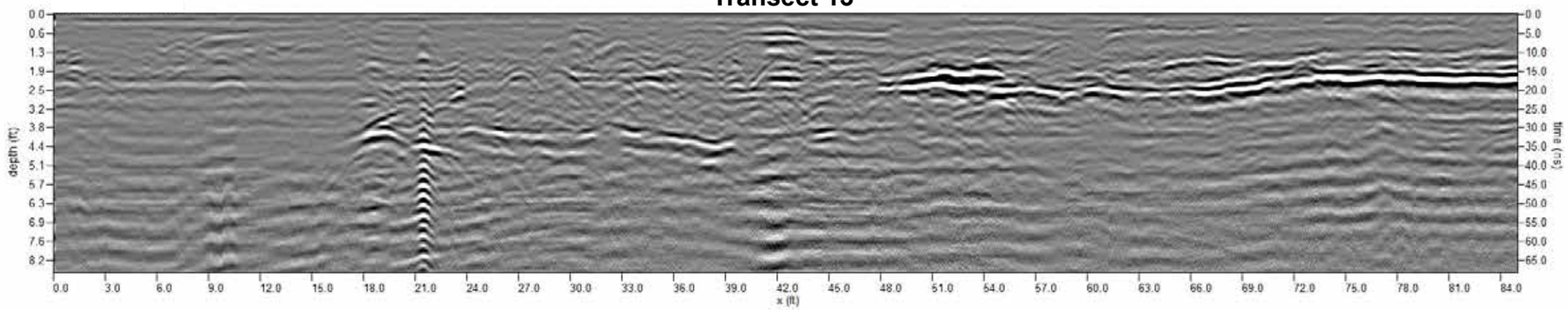
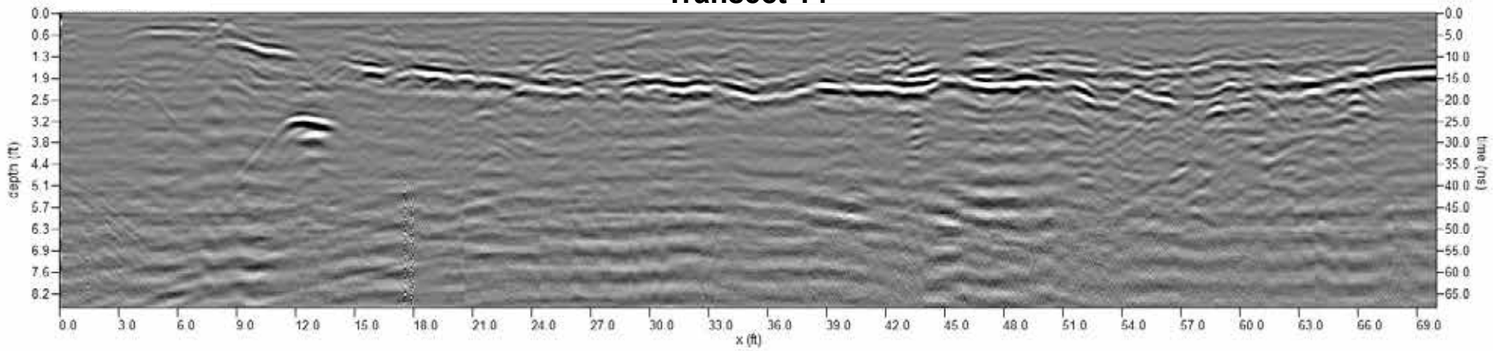


Figure 8b GPR Transect Profiles 7 through 12	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

Transect 13



Transect 14



Transect 15

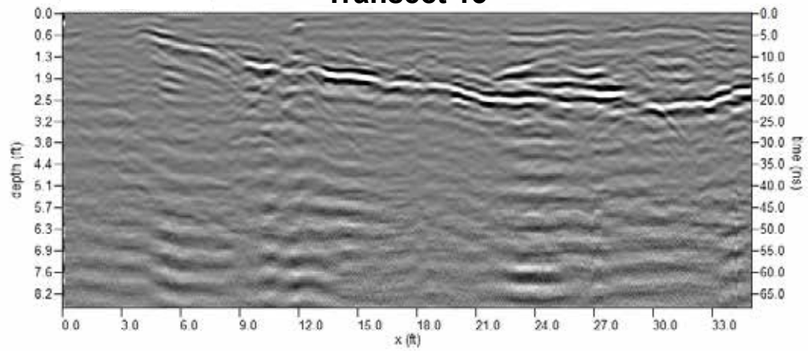


Figure 8c GPR Transect Profiles 13 through 15	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC

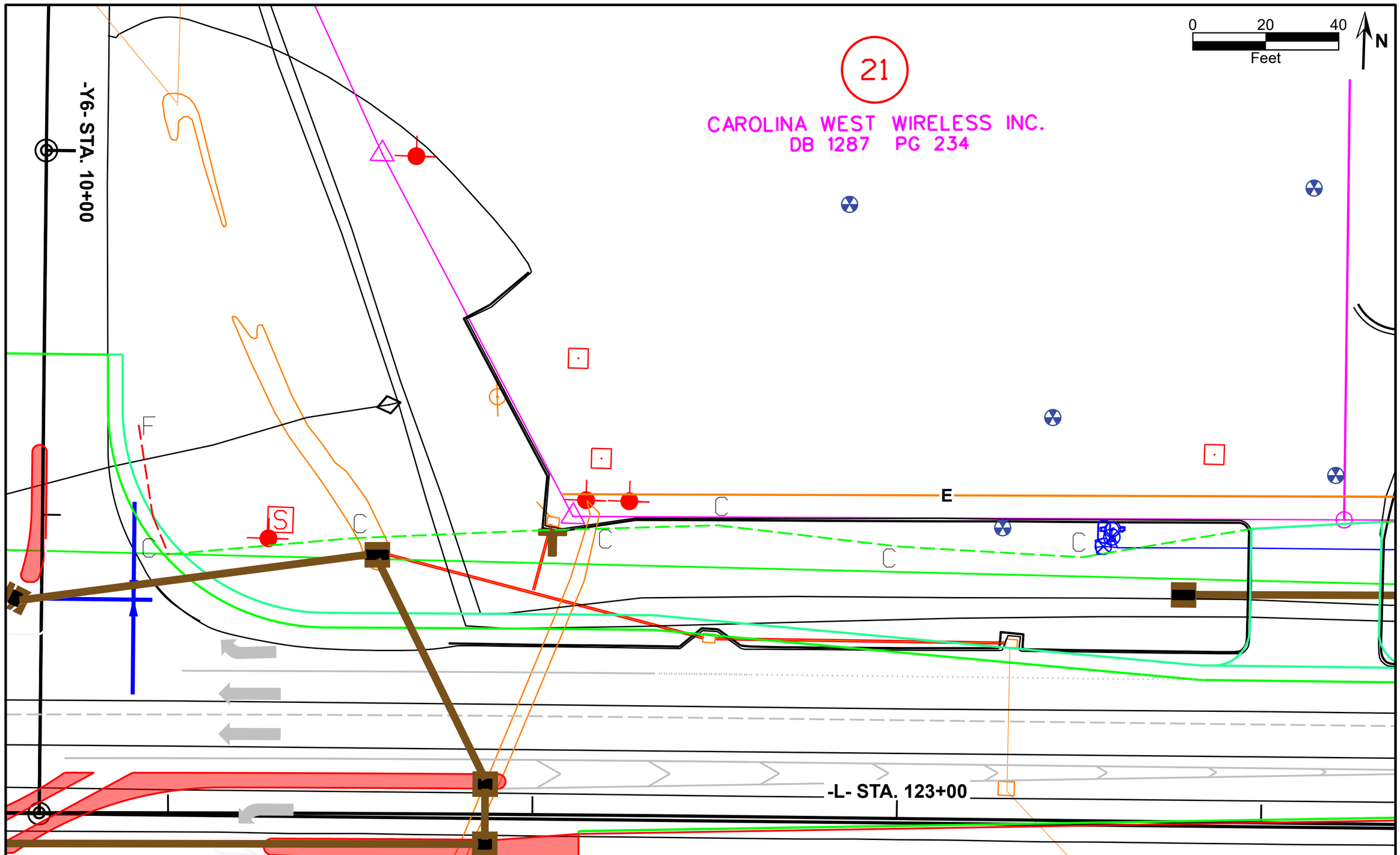


Figure 9 Site Plan with Monitoring Well Locations	State Project: U-5312 Wilkes County, NC	Carolina West Wireless, Inc. Property 1858 US Hwy 421 Wilkesboro, NC	Parcel #021 Facility I.D. #: 00-05067	Seramur & Associates, PC Boone, NC