*Existing Verizon Wireless Cellular Coverage Cornwall, Connecticut and Surrounding Area (*Map Scale is 1:30,000)*

Coverage plot assumes 55% site loading on the Cellco system

Legend

☒	Proposed Verizon Wireless Facility	▨	Municipal and Private Open Space
☒	Existing Verizon Wireless Facilities	▨	School
▨	Existing Verizon Wireless Cellular Coverage	▨	State Forest/Park
		●	Open Water
		☐	Town Line

*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.

VHB verizon wireless

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Existing Verizon Wireless PCS Coverage
Cornwall, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)

Coverage plot assumes 55% site loading on the Cellco system

SHARON N
NORFOLK
PROPOSED FACILITY
CORNWALL
CORNWALL
CORNWALL 2
SHARON
SHARON 2
GOSHEN
GOSHEN
GOSHEN SOUTH
MOHAWK MTN CT
LITCHFIELD
Housatonic State Forest
Wyantenock State Forest
Mohawk State Forest
Mohawk Mountain State Park
Housatonic Meadows State Park
Kent Falls State Park
The Nature Conservancy Benton Hill Fen (owned)
The Nature Conservancy Cathedral Pines Preserve (owned)
The Nature Conservancy Bantam River Preserve (easement)
Housatonic Scout Reservation (bsa)
Cornwall Consolidated School
Sharon Center School
Goshen Consolidated School
Sharon Country Club
Tyler Lake Heights Association
Tyler Lake
West Side Pond
North Pond
Miles Pond
Hatch Pond
Dog Pond
Woodbridge Lake
Camp Mohawk (YMCA)
Camp Cochiplanee
Ivy Mountain State Park
Gilette Reservoir
Goshen Agricultural Society
Country Club Of Torrington
Bantam Pond
Housatonic River
West Branch Shepaug River
East Branch Shepaug River
Furnace Brook
Guinea Brook
Macedonia Brook
Mill Brook
Hollenbeck River
West Side Pond Brook
Nickel Mine Brook
Beardsley Pond Brook
Hart Brook
Bantam River
Butternut Brook
Gerse Brook
Hawkins Pond
Town Green
Peoples Swamp Rd
Goshen Rd
Lake Rd
Bantam Rd
Newcomb Rd
Bartholomew Hill Rd
Baldwin's Rd
Town Hill Rd
Cream Hill Rd
Rowe Rd
Cobble Hill Rd
Wachenut Road
Mudgy Pd
Hark Rd
Mack Hollow Rd
Kent Cliffs
Ellsworth Rd
Jones Hill Rd
Miller Hill Rd
Mudge Pond Brook
Veterans Field
361
343
41
4
7
128
125
43
63
45

Legend

- Proposed Verizon Wireless Facility
- Existing Verizon Wireless Facilities
- Existing Verizon Wireless PCS Coverage
- Municipal and Private Open Space
- School
- State Forest/Park
- Open Water
- Town Line

*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.

0 0.5 1 2 Miles

VHB

verizon wireless

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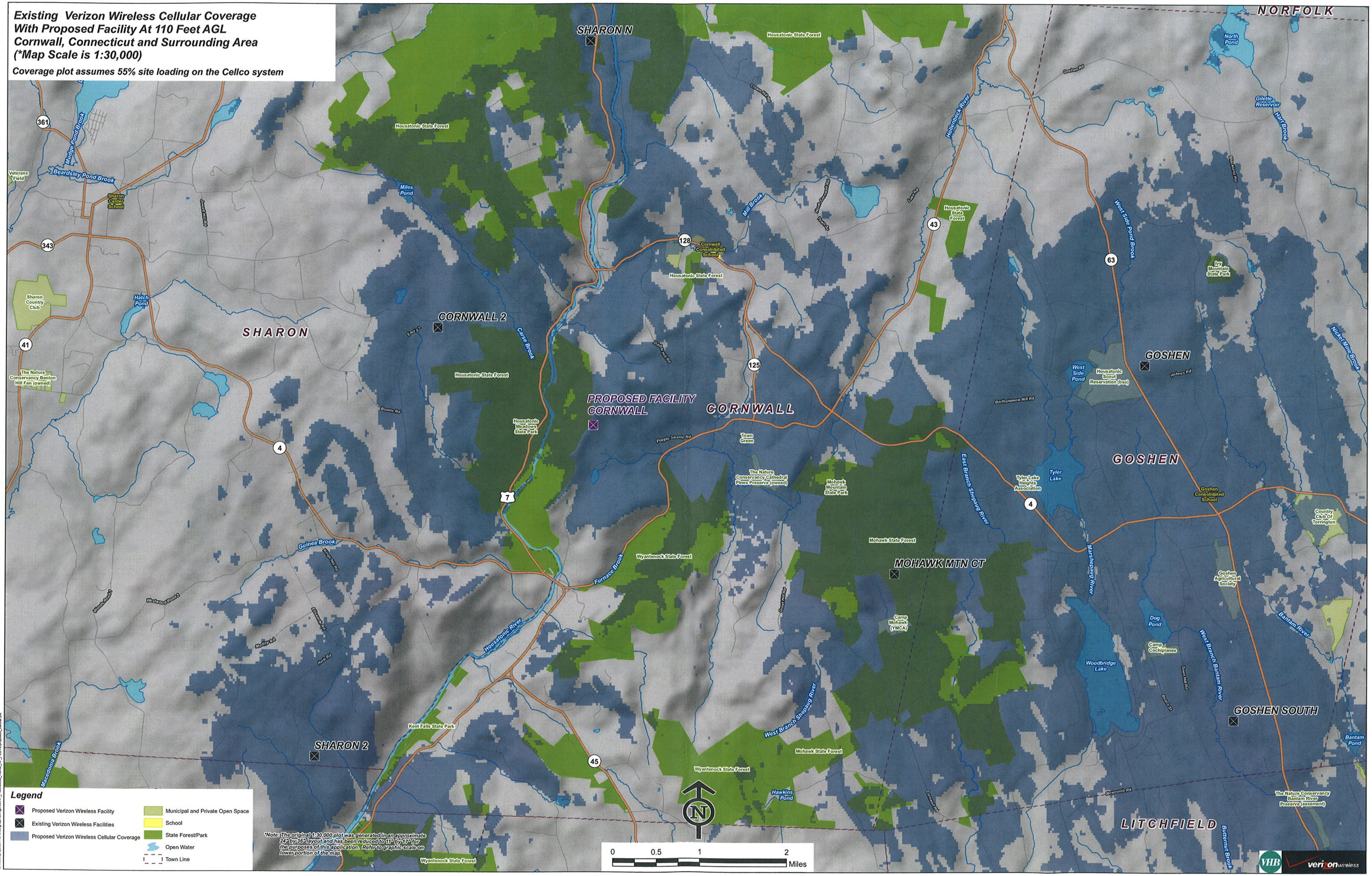
Existing Verizon Wireless Cellular Coverage
With Proposed Facility At 110 Feet AGL
Cornwall, Connecticut and Surrounding Area
(*Map Scale is 1:30,000)
Coverage plot assumes 55% site loading on the Cellco system
NORFOLK
SHARON N
SHARON
CORNWALL 2
PROPOSED FACILITY
CORNWALL
CORNWALL
GOSHEN
GOSHEN
MOHAWK MTN CT
GOSHEN SOUTH
SHARON 2
LITCHFIELD
Housatonic State Forest
Housatonic Meadows State Park
Mohawk State Forest
Mohawk Mountain State Park
Wyantenock State Forest
Kent Falls State Park
Cornwall Consolidated School
Goshen Consolidated School
Sharon Center School
Sharon Country Club
Town Green
Tyler Lake
Woodbridge Lake
Dog Pond
North Pond
Hatch Pond
Miles Pond
Hawkins Pond
Bantam Pond
West Side Pond
Housatonic River
West Branch Shepaug River
East Branch Shepaug River
Marshepaug River
West Branch Bantam River
Bantam River
Guinea Brook
Furnace Brook
Mill Brook
Macedonia Brook
Beardsley Pond Brook
Hollenbeck River
Legend
Proposed Verizon Wireless Facility
Existing Verizon Wireless Facilities
Proposed Verizon Wireless Cellular Coverage
Municipal and Private Open Space
School
State Forest/Park
Open Water
Town Line
*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.
0 0.5 1 2
Miles
N
VHB
verizonwireless

Existing Verizon Wireless PCS Coverage
With Proposed Facility At 110 Feet AGL
Cornwall, Connecticut and Surrounding Area
*(*Map Scale is 1:30,000)*

Coverage plot assumes 55% site loading on the Cellco system

Legend

- ☒ Proposed Verizon Wireless Facility
- ☒ Existing Verizon Wireless Facilities
- ▨ Proposed Verizon Wireless PCS Coverage
- ▨ Municipal and Private Open Space
- ▨ School
- ▨ State Forest/Park
- Open Water
- Town Line

**Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.*

*Verizon Wireless LTE (700 MHz) Coverage With Proposed Facility At 110 Feet AGL Cornwall, Connecticut and Surrounding Area (*Map Scale is 1:30,000)*

Coverage plot assumes 55% site loading on the Cellco system

*Note: The original 1:30,000 plot was generated in an approximate 24" by 36" layout and has been reduced to 11" by 17" for the purposes of this application. Refer to graphic scale on lower portion of the map.

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Vertically Polarized, Log-Periodic 80° / 14 dBd
806-960 MHz

Mechanical specifications

Length	1800	mm	70.9	in
Width	140	mm	5.5	in
Depth	335	mm	13.2	in
Depth with z-bracket	375	mm	14.8	in
Weight [4]	9.5	kg	21.0	lbs
Wind Area Fore/Aft [6]	0.25	m^2	2.7	ft^2
Wind Area Side [6]	0.61	m^2	6.6	ft^2
Max Wind Survivability [6]	>201	km/hr	>125	mph
Wind Load @ 100 mph (161 km/hr) [6]				
Fore/Aft	415	N	93	lbf
Side	878	N	198	lbf

Antenna consisting of aluminum alloy with brass feedlines covered by a gray, UV safe fiberglass radome. RoHS compliant.

Mounting & Downtilting

Mounting hardware attaches to pipe diameter Ø50-102 mm; Ø2.0-4.0 in. If the lock-down brace is used, the maximum diameter is Ø88.9 mm (3.5 in).

Mechanical downtilt angle 0-22°
Mounting & Downtilt Bracket Kit 21700000

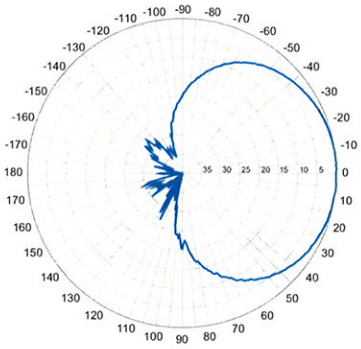
Electrical specifications

Frequency Range	806-960 MHz
Impedance	50Ω
Connector [3]	NE or E-DIN Female 1 port / Center
VSWR [1]	≤ 1.4:1
Polarization	Vertical
Gain [1]	14 dBd
Power Rating [2]	500 W
Half Power Angle [1]	
Horizontal Beamwidth	80°
Vertical Beamwidth	10°
Electrical downtilt [5]	5°
Null fill [1]	10%
Lightning protection	Direct ground

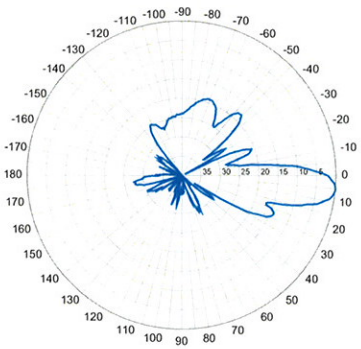
1) Typical values.
2) Power rating limited by connector only.
3) NE indicates an elongated N connector. E-DIN indicates an elongated DIN connector.
4) Antenna weight does not include brackets.
5) Add'l downtilts may be available. Check website for details.
6) Values reflect installation with all three brackets utilized.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation-pattern[1]



Horizontal



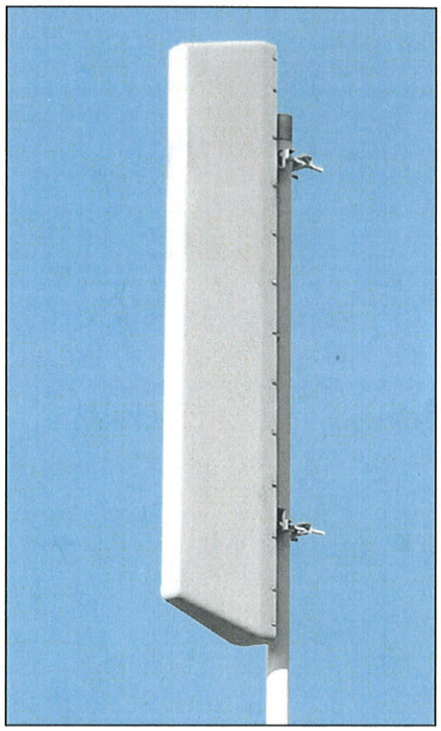
Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the front-to-back ratio.

LPA-80080/6CF __ 5°

When ordering replace "__" with connector type.



Featuring our Exclusive 3T Technology™ Antenna Design:

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad bandwidth and superior performance.
- Air as insulation for virtually no internal signal loss.

Warranty:
This antenna is under a five-year limited warranty for repair or replacement.

Revision Date: 08/18/08

806-960 MHz

815.399.0001 • antel@antelinc.com • www.antelinc.com

Amphenol Antel, Inc. The Antenna Technology Company

Vertically Polarized, Log Periodic 80° / 17.5 dBi

LPA-185080/12CF __ 4°

When ordering replace "__" with connector type.

Mechanical specifications

	Length	1806	mm	71.1 in
	Width	104	mm	4.1 in
	Depth	150	mm	5.9 in
	Depth with t-bracket	178	mm	7.0 in
4)	Weight	4.8	kg	10.5 lbs
	Wind Area			
	Fore/Aft	0.19	m^2	2.0 ft^2
	Side	0.27	m^2	2.9 ft^2
	Rated Wind Velocity (Safety factor 2.0)	>270	km/hr	>168 mph
	Wind Load @ 100 mph (161 km/hr)			
	Fore/Aft	325	N	73.1 lbs
	Side	440	N	98.9 lbs

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiberglass radome.

Mounting and Downtilting

Mounting brackets attach to a pipe diameter of Ø50-102 mm (2.0-4.0 in).

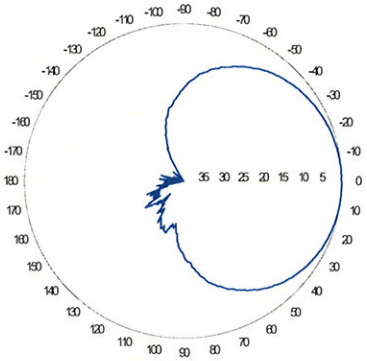
Mounting bracket kit #26799997
Downtilt bracket kit #26799999

The downtil bracket kit includes the mounting bracket kit.

Electrical specifications

	Frequency Range	1850-1990 MHz
	Impedance	50Ω
3)	Connector(s)	NE or E-DIN 1 port / center
1)	VSWR	≤ 1.4:1
	Polarization	Vertical
1)	Gain	17.5 dBi
2)	Power Rating	250 W
1)	Half Power Angle	
	H-Plane	80°
	E-Plane	5°
1)	Electrical Downtilt	4°
1)	Null Fill	10%
	Lightning Protection	Direct Ground

Radiation pattern[1)]



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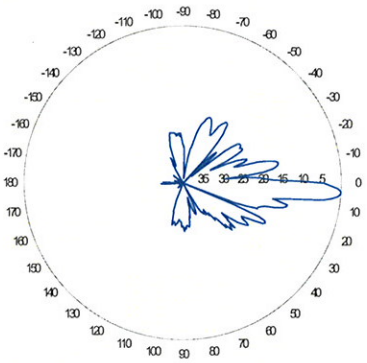
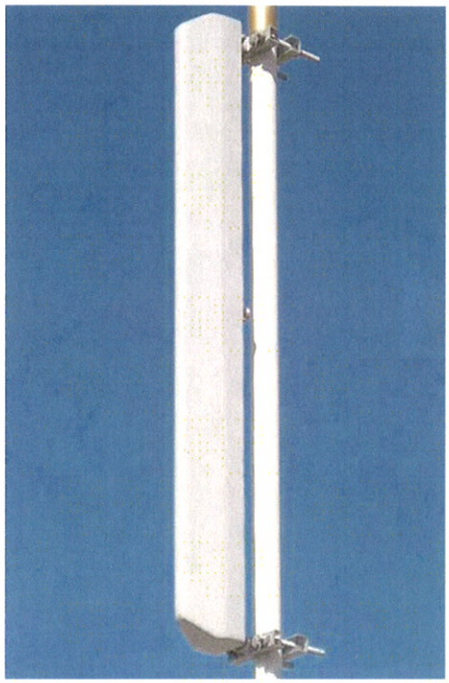


Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the Front-to-Back ratio.



Amphenol Antel's Exclusive 3T (True Transmission Line Technology) Antenna Design:

- True log-periodic design allows for superior front-to-side characteristics to minimize sector overlap.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad band-width and superior performance.
- Air as insulation for virtually no internal signal loss.

This Amphenol Antel antenna is under a five-year limited warranty for repair or replacement.

Antenna available with center-fed connector only.

1) Typical values.
2) Power rating limited by connector only.
3) NE indicates an elongated N connector.
E-DIN indicates an elongated DIN connector.
4) The antenna weight listed above does not include the bracket weight.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

CF Denotes a Center-Fed Connector.

1850-1990 MHz

Amphenol Antel, Inc. 1300 Capital Drive Rockford, Illinois 61109 USA Tel. (815) 399-0001
Toll-Free (888) 417-9562 Fax. (815) 399-0156 antel@antelinc.com www.antelinc.com

Revision Date: 7/12/07

Slant ±45° Dual Polarized Panel 80° / 13.5 dBd
696-900 MHz

Mechanical specifications

Length	1805	mm	71.1	in
Width	205	mm	8.1	in
Depth	145	mm	5.7	in
Depth with z-bracket	185	mm	7.3	in
Weight [4]	8.2	kg	18	lbs
Wind Area Fore/Aft	0.37	m^2	3.9	ft^2
Wind Area Side	0.26	m^2	2.8	ft^2
Max Wind Survivability	>201	km/hr	>125	mph
Wind Load @ 100 mph (161 km/hr)				
Fore/Aft	558	N	126	lbf
Side	433	N	97	lbf

Antenna consisting of aluminum alloy with brass feedlines covered by a UV safe fiber-glass radome.

Mounting & Downtilting

Mounting hardware attaches to pipe diameter Ø50-160 mm; Ø2.0-6.3 in.

Mounting Bracket Kit	36210003
Downtilt Bracket Kit	36210004

Electrical specifications

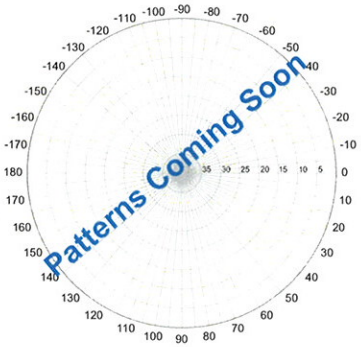
Frequency Range	696-900 MHz
Impedance	50Ω
Connector [3]	NE or E-DIN Female 2 ports / Center
VSWR [1]	≤ 1.35:1
Polarization	Slant ±45°
Isolation Between Ports [1]	< -30 dB
Gain [1]	13.5 dBd 15.5 dBi
Power Rating [2]	500 W
Half Power Angle [1]	
Horizontal Beamwidth	80°
Vertical Beamwidth	10°
Electrical downtilt [5]	4°
Null fill [1]	5%
Lightning protection	Direct ground

Patented Dipole Design: U.S. Patent No. 6,608,600 B2

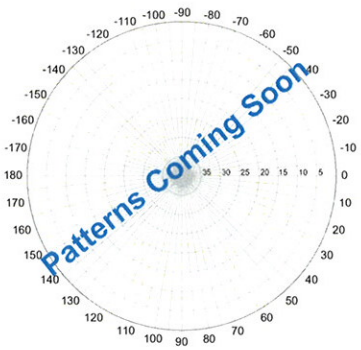
1) Typical values.
2) Power rating limited by connector only.
3) NE indicates an elongated N connector. E-DIN indicates an elongated DIN connector.
4) Antenna weight does not include brackets.
5) Add'l downtilts may be available. Check website for details.

Improvements to mechanical and/or electrical performance of the antenna may be made without notice.

Radiation-pattern[1]



Horizontal



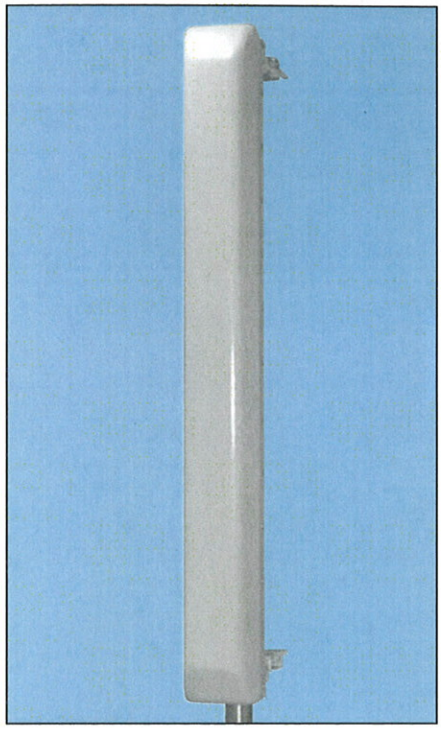
Vertical

Radiation patterns for all antennas are measured with the antenna mounted on a fiberglass pole.

Mounting on a metal pole will typically improve the front-to-back ratio.

BXA-70080/6CF __ 4°

When ordering replace "__" with connector type.



PRELIMINARY

Featuring our Exclusive 3T Technology™ Antenna Design:

- Watercut brass feedline assembly for consistent performance.
- Unique feedline design eliminates the need for conventional solder joints in the signal path.
- A non-collinear system with access to every radiating element for broad band-width and superior performance.
- Air as insulation for virtually no internal signal loss.

Warranty:
This antenna is under a two-year limited warranty for repair or replacement.

Revision Date: 05/04/09

696-900 MHz

815.399.0001 • antel@antelinc.com • www.antelinc.com

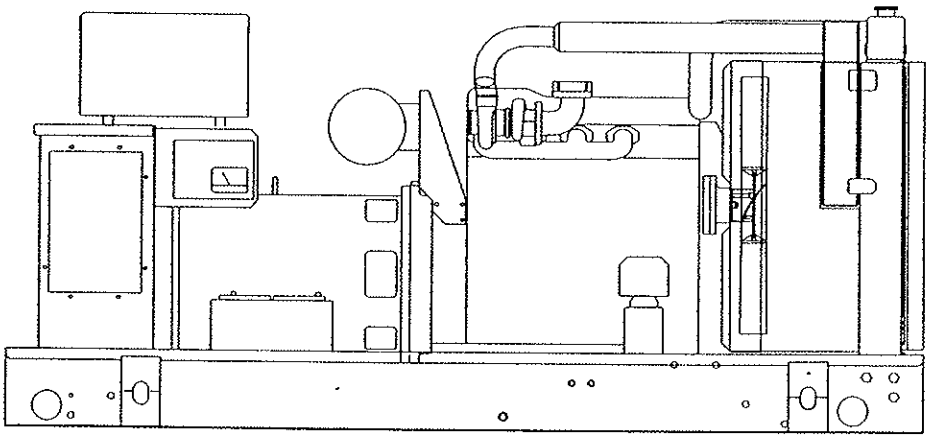
Amphenol Antel, Inc. The Antenna Technology Company

SD060

Liquid Cooled Diesel Engine Generator Sets

Continuous Standby Power Rating
60KW 60 Hz / 60KVA 50 Hz

Prime Power Rating
48KW 60 Hz /48KVA 50 Hz



Power Matched
GENERAC 3.9DTA ENGINE
Turbocharged

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.

- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ ELECTRO-MAGNETIC INTERFERENCE
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
  - ✓ SHORT CIRCUIT TESTING
  - ✓ UL 2200 COMPLIANCE AVAILABLE

- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component. You are never on your own when you own an GENERAC POWER SYSTEM.

- **ECONOMICAL DIESEL POWER.** Low cost operation due to modern diesel engine technology. Better fuel utilization plus lower cost per gallon provide real savings.

- **LONGER ENGINE LIFE.** Generac heavy-duty diesels provide long and reliable operating life.

- **GENERAC TRANSFER SWITCHES, SWITCHGEAR AND ACCESSORIES.** Long life and reliability is synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems, accessories, switchgear and controls for total system compatibility.

GENERAC®
POWER SYSTEMS, INC.

APPLICATION & ENGINEERING DATA

SD060

GENERATOR SPECIFICATIONS

TYPE	Four-pole, revolving field
ROTOR INSULATION	Class H
STATOR INSULATION	Class H
TOTAL HARMONIC DISTORTION	<3%
TELEPHONE INTERFERENCE FACTOR (TIF)	<50
ALTERNATOR	Self-ventilated and drip-proof
BEARINGS (PRE-LUBED & SEALED)	1
COUPLING	Direct, Flexible Disc
LOAD CAPACITY (STANDBY)	100%
LOAD CAPACITY (PRIME)	110%

NOTE: Emergency loading in compliance with NFPA 99, NFPA 110, paragraph 5-13.2.6. Generator rating and performance in accordance with ISO8528-5, BS5514, SAE J1349, ISO3046 and DIN6271 standards.

EXCITATION SYSTEM

☐ BRUSHLESS	Magnetically coupled DC current ✓
	Eight-pole exciter w/ battery-driven field boost ✓
	Mounted outboard of main bearing ✓
☐ PERMANENT MAGNET EXCITER	Eighteen pole exciter ✓
	Magnetically coupled DC current ✓
	Mounted outboard of main bearing ✓
REGULATION	Solid-state ✓
	±1% regulation ✓

GENERATOR FEATURES

- Four pole, revolving field generator is directly connected to the engine shaft through a heavy-duty, flexible disc for permanent alignment.
- Generator meets temperature rise standards for class "F" insulation as define by NEMA MG1-32.6 and NEMA1-1.65, while the insulation system meets the requirements for the higher class "H" rating.
- All models have passed a three-phase symmetrical short circuit test to assure system protection and reliability.
- Unit is tested with an oscillograph for motor-starting ability by measuring instantaneous voltage dip.
- All models utilize an advanced wire harness design for reliable interconnection within the circuitry.
- Magnetic circuit, including amortisseur windings, tooth and skewed stator design, provides a minimal level of waveform distortion and an electromagnetic interference level which meets accepted requirements for standard AM radio, TV, and marine radio telephone applications.
- Voltage waveform deviation, total harmonic content of the AC waveform, T.I.F. (Telephone Influence Factor) and non-linear loading have been evaluated to acceptable standards in accordance with NEMA MG1.
- Alternator is self-ventilated and drip-proof constructed.
- Fully life-tested protective systems, including "field circuit and thermal overload protection" and optional main-line circuit breakers are capable of handling full output capacity.
- System Torsional acceptability confirmed during Prototype Testing.

ENGINE SPECIFICATIONS

MAKE	GENERAC
MODEL	3.9DTA
CYLINDERS	4 in-line
DISPLACEMENT	3.9 Liter (238 cu.in.)
BORE	104 mm (4.09 in.)
STROKE	115 mm (4.52 in.)
COMPRESSION RATIO	16.5:1
INTAKE AIR	Turbocharged/Aftercooled
NUMBER OF MAIN BEARINGS	5
CONNECTING RODS	4-Drop Forged Steel
CYLINDER HEAD	Cast Iron Overhead Valve
PISTONS	4- Aluminum Alloy
CRANKSHAFT	Hardened, Steel

VALVE TRAIN

LIFTER TYPE	Solid
INTAKE VALVE MATERIAL	Special Heat Resistant Steel
EXHAUST VALVE MATERIAL	Special Heat Resistant Steel
HARDENED VALVE SEATS	Replaceable

ENGINE GOVERNOR

☐ MECHANICAL (Gear Driven)	Standard
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	5.0%
STEADY STATE REGULATION	±0.33%
☐ ELECTRONIC	Optional
FREQUENCY REGULATION, NO-LOAD TO FULL LOAD	0.5%
STEADY STATE REGULATION	±0.25%

LUBRICATION SYSTEM

TYPE OF OIL PUMP	Gear
OIL FILTER	Full flow, Cartridge
CRANKCASE CAPACITY	18 Litres (19 qts.)
OIL COOLER	Oil to water

COOLING SYSTEM

TYPE OF SYSTEM	Pressurized, Closed Recovery
WATER PUMP	Pre-Lubed, Self-Sealing
TYPE OF FAN	Pusher
NUMBER OF FAN BLADES	7
DIAMETER OF FAN	457 mm (18 in.)
COOLANT HEATER	120V, 1800 W

FUEL SYSTEM

FUEL	#2D Fuel (Min Cetane #40) (Fuel should conform to ASTM Spec.)
FUEL FILTER	Single Cartridge
FUEL INJECTION PUMP	Stanadyne
FUEL PUMP	Mechanical
INJECTORS	Multi-Hole, Nozzle Type
ENGINE TYPE	Direct Injection
FUEL LINE (Supply)	7.94 mm (0.31 in.)
FUEL RETURN LINE	6.35 mm (0.25 in.)
STARTING AID	Glow Plugs

ELECTRICAL SYSTEM

BATTERY CHARGE ALTERNATOR	30 Amps at 24 V
STARTER MOTOR	24 V
RECOMMENDED BATTERY	(2)—12 Volt, 90 A.H., 4DLT
GROUND POLARITY	Negative

Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). Prime (Unlimited Running Time): Applicable for supplying electric power in lieu of commercially purchased power. Prime power is the maximum power available at variable load. A 10% overload capacity is available for 1 hour in 12 hours. (All ratings in accordance with BS5514, ISO3046, ISO8528 and DIN6271).

GENERAC®
POWER SYSTEMS, INC.

SD060

OPERATING DATA

	STANDBY		PRIME	
	SD060		SD060	
GENERATOR OUTPUT VOLTAGE/KW-60Hz		Rated AMP		Rated AMP
120/240V, 1-phase, 1.0 pf	60	250	48	200
120/208V, 3-phase, 0.8 pf	60	208	48	166
120/240V, 3-phase, 0.8 pf	60	180	48	144
277/480V, 3-phase, 0.8 pf	60	90	48	72
600V, 3-phase, 0.8 pf	60	72	48	58
NOTE: Consult your Generac dealer for additional voltages.				
GENERATOR OUTPUT VOLTAGE/KVA-50Hz		Rated AMP		Rated AMP
110/220V, 1-phase, 1.0 pf	48	218	38	172
115/200V, 3-phase, 0.8 pf	60	173	48	138
100/200V, 3-phase, 0.8 pf	60	173	48	138
231/400V, 3-phase, 0.8 pf	60	87	48	69
480V, 3-phase, 0.8 pf	60	72	48	58
NOTE: Consult your Generac dealer for additional voltage				
MOTOR STARTING KVA				
Maximum at 35% instantaneous voltage dip	120/208/240V	277/480V	120/208/240V	277/480V
with standard alternator; 50/60 Hz	100/120	117/141	100/120	117/141
with optional alternator; 50/60 Hz	234/281	276/331	234/281	276/331
FUEL				
Fuel consumption—60 Hz Load	100%	80%	100%	80%
gal./hr.	4.3	3.6	3.6	3.0
liters/hr.	16.3	13.5	13.6	11.3
Fuel consumption—50 Hz gal./hr.	3.6	3.0	3.0	2.5
liters/hr.	13.5	11.2	11.3	9.3
Fuel pump lift				
COOLING				
Coolant capacity System - lit. (US gal.)	15.9 (4.2)		15.9 (4.2)	
Engine - lit. (US gal.)	6.4 (1.7)		6.4 (1.7)	
Radiator - lit. (US gal.)	9.5 (2.5)		9.5 (2.5)	
Coolant flow/min. 60 Hz - lit. (US gal.)	128 (34)		128 (34)	
50 Hz - lit. (US gal.)	107 (28)		107 (28)	
Heat rejection to coolant 60 Hz full load BTU/hr.	170,900		136,700	
Heat rejection to coolant 50 Hz full load BTU/hr.	142,400		113,900	
Inlet air to radiator 60 Hz - m^3/min. (cfm)	204 (7,200)		204 (7,200)	
50 Hz - m^3/min. (cfm)	170 (6004)		170 (6004)	
Max. air temperature to radiator °C (°F)	54.4 (130)		54.4 (130)	
Max. ambient temperature °C (°F)	48.9 (120)		48.9 (120)	
COMBUSTION AIR REQUIREMENTS				
Flow at rated power 60 Hz - cfm	209		168	
50 Hz - m^3/min.	4.7		3.8	
EXHAUST				
Exhaust flow at rated output 60 Hz - m^3/min. (cfm)	15.5 (549)		12.4 (439)	
50 Hz - m^3/min. (cfm)	12.3 (434)		10 (353)	
Max recommended back pressure "Hg	1.5		1.5	
Exhaust temperature 60 Hz (full load) °C (°F)	524 (975)		459 (858)	
Exhaust outlet size	3"		3"	
ENGINE				
Rated RPM 60 Hz	1800		1800	
50 Hz	1500		1500	
HP at rated KW 60 Hz	92		74	
50 Hz	73		59	
Piston speed 60 Hz - m/min. (ft./min.)	414 (1358)		414 (1358)	
50 Hz - m/min. (ft./min.)	345 (1132)		345 (1132)	
BMEP 60 Hz - psi	170		138	
50 Hz - psi	161		130	
DERATION FACTORS				
Temperature				
5% for every 10°C above - °C	25		25	
2.77% for every 10°F above - °F	77		77	
Altitude				
1.1% for every 100 m above - m	1829		1829	
3.5% for every 1000 ft. above - ft.	6000		6000	

STANDARD ENGINE & SAFETY FEATURES

SD060

- High Coolant Temperature Automatic Shutdown
- Low Coolant Level Automatic Shutdown
- Low Oil Pressure Automatic Shutdown
- Overspeed Automatic Shutdown (Solid-state)
- Crank Limiter (Solid-state)
- Oil Drain Extension
- Radiator Drain Extension
- Factory-Installed Cool Flow Radiator
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Rubber-Booted Engine Electrical Connections
- Secondary Fuel Filter
- Fuel Lockoff Solenoid
- Stainless Steel Flexible Exhaust Connection
- Battery Charge Alternator
- Battery Cables
- Battery Tray
- Vibration Isolation of Unit to Mounting Base
- 12 Volt, Solenoid-activated Starter Motor
- Air Cleaner
- Fan Guard
- Control Console
- Radiator Duct Adapter

OPTIONS

OPTIONAL COOLING SYSTEM ACCESSORIES
- O Coolant Heater 120V

OPTIONAL FUEL ACCESSORIES
- O Flexible Fuel Lines
- O UL Listed Fuel Tanks
- O Base Tank Low Fuel Alarm
- O Primary Fuel Filter
- O Primary Fuel Filter with Heater

OPTIONAL EXHAUST ACCESSORIES
- O Critical Exhaust Silencer

OPTIONAL ELECTRICAL ACCESSORIES
- O Battery, 12 Volt, 135 A.H., 4DLT
- O 2A Battery Charger
- O 10A Dual Rate Battery Charger
- O Battery Heater

OPTIONAL ALTERNATOR ACCESSORIES
- O Alternator Upsizing
- O Alternator Strip Heater
- O Alternator Tropicalization
- O Voltage Changeover Switch
- O Main Line Circuit Breaker

CONTROL CONSOLE OPTIONS
- O Analog Control "C" Panel (Bulletin 0151160SBY)
- O Analog/Digital Control "E" Panel (Bulletin 0161310SBY)

ADDITIONAL OPTIONAL EQUIPMENT
- O Automatic Transfer Switch
- O Isochronous Governor
- O 3 Light Remote Annunciator
- O 5 Light Remote Annunciator
- O 20 Light Remote Annunciator
- O Remote Relay Panels
- O Unit Vibration Isolators (Pad/Spring)
- O Oil Make-Up System
- O Oil Heater
- O 5 Year Warranties
- O Export Boxing
- O GenLink® Communications Software

OPTIONAL ENCLOSURE
- O Weather Protective
- O Sound Attenuated
- O Aluminum and Stainless Steel
- O Enclosed Muffler

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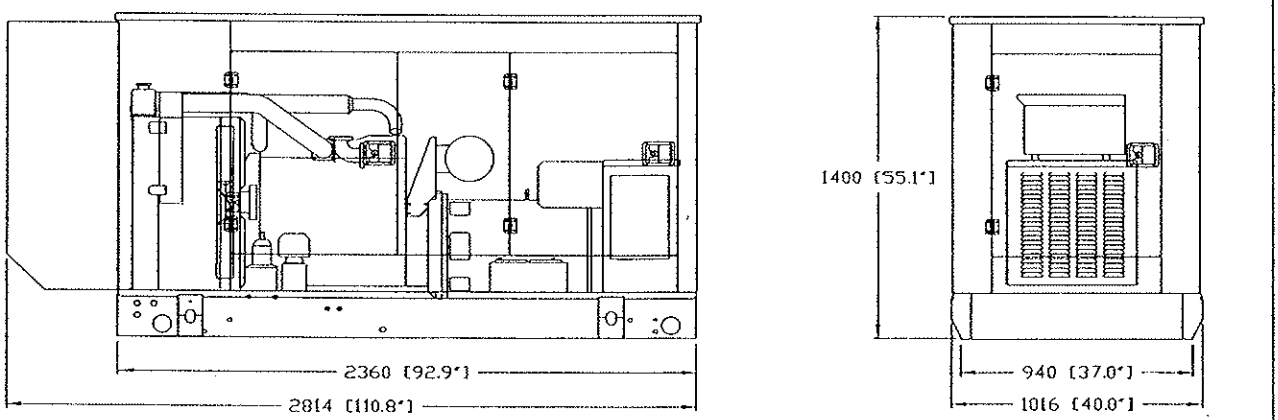

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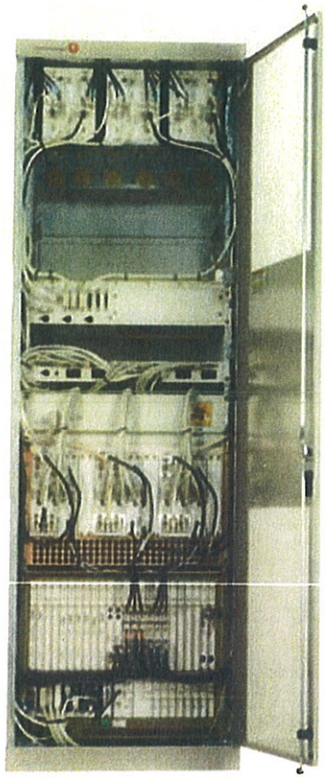
Lucent CDMA Modular Cell 4.0B Indoor

For CDMA Networks



Lucent CDMA Modular Cell 4.0B is a high capacity base station equipped with the state-of-the-art technologies developed by Bell Labs. The product brings you outstanding carrier density and immediate OPEX savings. This indoor product can support up to 8 carriers/3 sectors per frame. It is twice the density of Modular Cell 4.0 (indoor). Modular Cell 4.0B offers full spectrum coverage in a single frame, dramatically simplifying growth patterns. As the leader in spread spectrum technology, Lucent Technologies continues to introduce innovations to the market: Multi-Carrier Radio (15MHz), Block Filters/Wideband Filters, and 40W Power Amplifier Modules are the latest assets integrated in the base station.

Features

The Modcell 4.0B indoor version offers a small footprint with exceptional carrier density in a standard ETSI cabinet.

- Indoor Single Frame Configuration
- 1-8 carriers per frame at 3 sectors (will support up to 11 carriers with Auxiliary Amplifier Frame)
- Dual Band: one cell to the ECP & mobile
- Close Loop Gain Control
- Timing and Controller Redundancy
- Integrated Power option
- Support CDMA2000™1X, and EV-DO Rev.0, with future support to EV-DO Rev. A
- IP Backhaul and Ethernet Backhaul capable
- 6-Sector option ready
- Intelligent Antenna option ready

Benefits

- Optimized for highest carrier density, smooth growth in one frame
- Conserves indoor footprint, reducing hardware and floor space requirements
- Minimizes configuration complexity
- Software-Only Carrier Add at certain carrier counts
- Flexible channel growth planning
- Designed to use existing power supply
- Grow CDMA carriers on only 2 antennas/sector
- Multi-Carrier Radio (15MHz), Block Filters/ Wideband Filters, and 40W Power Amplifier Modules

Lucent Technologies
Bell Labs Innovations

Technical Specifications

Description	Specification
1. **Configurations**	
a. Sectors	3, 4 and 6
b. Carriers	1–8 per frame at 3 sectors (up to 11 with Auxiliary Amplifier Frame)
2. **CDMA Channel Card Capacity**	12 slots; CMU IVB capable
3. **T1, E1 Facilities**	Maximum of 20 per cabinet when equipped with URC-II's
4. **User Alarms**	7 Power Alarms, 25 User Alarms
5. **GPS Antenna**	Yes
6. **Air Interface Standards**	T1A/E1A 95-A plus TSB-74; T1A/E1A 95-B for 850 MHz; CDMA 2000
7. **Frequency Bands**	850MHz/1900 MHz; 300 to 2100 MHz capable
8. **Vocoder**	8 Kbps; 8 Kbps EVRC; 13 Kbps; SMV-ready
9. **Environmental Cabinet Housing**	Standard ETSI cabinet; UL50 compliant; zero rear clearance
10. **Cabinet Access**	Front Access
11. **Operating Temperature Range**	Range: -5 to +40°C (continuous)
12. **Dimensions**	600 mm W x 600 mm D x 1880 mm H (23.6 x 23.6 x 74) inches
13. **Estimated Installed Weight**	365 kg (785 lbs.) DC [8 carriers in one cabinet]
14. **Power Options**	Integrated Power, AC 120/240 Volt Input, -48V or +24 V DC Conversion Non-integrated Power requires either + 24 VDC Input or - 48 VDC Input
15. **Power Consumption**	
a. 3 Carrier/3 Sectors	2167 W
b. 6 Carrier/3 Sectors	5449 W
c. 11 Carrier/3 Sectors	10026 W
16. **RF Power (at J4)**	25 W per carrier (850) FCC Rated short-term average 20 W per carrier (850) FCC Rated long-term average 20 W per carrier (1900) FCC Rated short-term average 16 W per carrier (1900) FCC Rated long-term average
17. **Minimal Antenna Configuration**	2 antennas/sector
18. **Filter**	Block and Wide Band Dual Duplex
19. **Growth Frame**	PCS AUX Frame, Dual Band Growth Frame
20. **Operational Accessories**	Integrated Power
21. **Channel Elements**	Channel pooling across sectors or carriers

To learn more about our comprehensive portfolio, please contact your Lucent Technologies Sales Representative or visit our web site at http://www.lucent.com.

MOB-Mod4B-i 0106

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Site Search Summary
Cornwall

Section 16-50j-74(j) of the Regulations of Connecticut State Agencies requires the submission of a statement that describes "the narrowing process by which other possible sites were considered and eliminated." In accordance with this requirement, descriptions of the general site search process, the identification of the applicable search area and the alternative locations considered for development of the proposed telecommunications facility in Cornwall are provided below.

Site Search Process

To initiate its site selection process in an area where a coverage or capacity problem has been identified, Cellco first establishes a "site search area." In any search area, Cellco seeks to avoid the unnecessary proliferation of towers and to reduce the potential adverse environmental effects of the cell site, while at the same time maximizing the quality of service provided from a particular facility. These objectives are achieved by initially locating existing towers and other sufficiently tall structures within and near the site search area. If any such structures are found, they are evaluated to determine whether they are capable of supporting Cellco's telecommunications equipment at a location and elevation that satisfies its technical requirements.

Cellco maintains four (4) existing communications facilities within approximately five (5) miles of the proposed Cornwall Facility. These facilities, however, cannot provide the coverage or capacity relief needed in the identified problem areas, along Route 7, portions of Route 4 and local roads in central portions of Cornwall. (See Attachment 7).

Existing Cellco Facilities

	OWNER/OPERATOR (CELLCO SITE NAME)	FACILITY TYPE	LOCATION	CELLCO ANTENNA HEIGHT
1.	American Tower (Mohawk Mountain)	79' Lattice	Mohawk Mountain Cornwall, CT	65' and 57'
2.	AT&T (Sharon 2)	110' Monopole	70 Herb Road Sharon, CT	110'
3.	State of Connecticut (Cornwall 2)	195' Lattice	7 Surdan Mountain Road Sharon, CT	163'
4.	SBA (Sharon North)	130' Monopine	477 Route 7 Sharon, CT	130'

If existing towers or other tall structures are not available or technically feasible, other locations are investigated where the construction of a new tower is required to provide adequate elevation to satisfy Cellco's requirements. The list of available locations may be further reduced if, after preliminary negotiations, the property owners withdraw a site from further consideration. From among the remaining locations, the proposed sites are selected by eliminating those that have greater potential for adverse environmental effects and fewer benefits to the public (i.e., those requiring taller towers, possibly with lights; those with substantial adverse impacts on densely populated residential areas; and those with limited ability to share space with other public or private telecommunications entities). It should be noted that in any given site search, the weight afforded to factors considered in the selection process will vary depending upon the availability and nature of sites within the search area.

Identification of the Cornwall Search Area

The purpose of the proposed Cornwall Facility is to provide reliable cellular, PCS and LTE service to a significant coverage gap that have been identified along Route 7, portions of Route 4, as well as local roads in central Cornwall. These coverage gaps were identified using best server propagation modeling tools. These tools are fine-tuned regularly through the use of base-line drive data.

Cellco issued its Cornwall search area in November of 2007. (See attached Search Area Map). As a matter of practice, Cellco's initial site search effort focuses on municipal or other quasi-public properties that might be available and appropriate locations for a telecommunications facility. If no public properties are available, Cellco investigates private land within or near the designated search area.

Sites Investigated in the Cornwall Area

In addition to the existing communications facilities listed above, Cellco identified and investigated eight (8) sites in the Cornwall area. (See attached Site Search Summary Map).

1. Gulliver Property – 16 Bell Road Extension, Cornwall – Cellco investigated and ultimately signed a lease for the use of a portion of this 41-acre parcel off Bell Road Extension. The proposed cell site area maintains a ground elevation of approximately 1,001 feet AMSL. Cellco can satisfy its coverage objectives in the Cornwall area from this location with antennas located 110 feet above ground level.

2. Collins Property – 78 Popple Swamp Road, Cornwall –Cellco investigated and ultimately signed a lease for the use of a portion of this 25.4-acre parcel located south of the Bell Road Extension parcel. This site was presented as an alternative candidate in Cellco's technical report presented to the Town of Cornwall in July 2009. As site development plans progressed, project engineers determined that the severe topography of this parcel made it difficult, if not impossible, to construct the cell site in the proposed location. Significant grading and tree clearing would have been required to develop an access driveway to the cell site

location and appropriate and necessary stormwater drainage systems. This work would have resulted in significant adverse environmental effects. An alternative location on this parcel was investigated, approximately 750 feet south of the Bell Road Extension tower site. This location would have required an access road of approximately 3,600 feet (.68 miles), extending from Popple Swamp Road over challenging terrain, resulting in significant adverse environmental effects. Alternative access over the Bell Road Extension parcel was explored. The 78 Popple Swamp Road property does not have any rights of access over the Bell Road Extension parcel and the owner of the Bell Road Extension parcel was not willing to grant such rights.

3. Hare Property – Bell Road Property – This is a 76-acre parcel located to the northeast of the 16 Bell Road Extension property. Cellco investigated several alternative tower locations on this parcel evaluating accessibility, constructability and overall environmental effect of a tower site. Ultimately this site was rejected by Cellco's RF engineers because a tower at this location could not satisfy its coverage objectives in the area. Cellco explored tower heights up to 199 feet at this site and, due to an intervening ridge line to the west, a tower on this parcel could not provide coverage along Route 7, the principal coverage objective in the area.

4. Churchill Property – 10 Guinea Road, Sharon – Cellco investigated the use of this 2.41-acre parcel located west of Route 7 and south of Route 4 in Sharon, Connecticut. Cellco's RF engineers rejected this parcel because it is located too far to the south to provide the coverage needed along Route 7. A cell site at this location would not connect with coverage from Cellco's existing Cornwall 2 cell site to the north.

5. Locke Property – 260 Dibble Hill Road, West Cornwall – Cellco investigated the use of a parcel at 260 Dibble Hill Road in West Cornwall. This parcel to the north of the Gulliver parcel and was rejected by Cellco's RF engineers as being located too far to the north to satisfy Cellco's coverage objectives in the area. Cellco anticipates the need for an additional cell site to the north to provide coverage between its existing Sharon North, Cornwall 2 and Cornwall cell sites. Cellco will investigate this parcel further for its ability to satisfy the objectives of that search area.

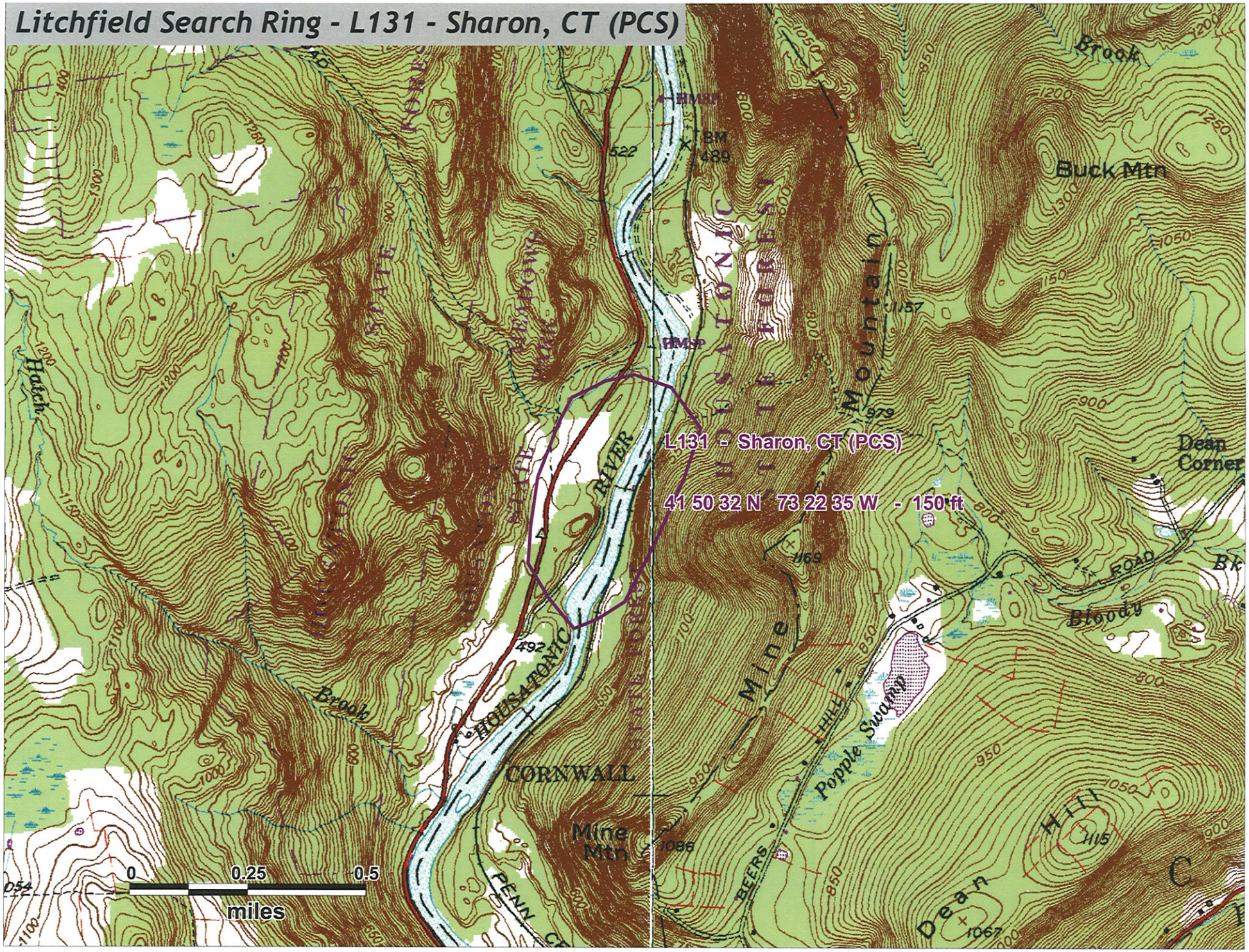
6. Town of Cornwall Property (Map C7-1-4) – Cellco, at the request of Cornwall's First Selectman, investigated the use of a land-locked 25-acre Town-owned parcel north of the Gulliver property. The site is located too far to the north and east to satisfy Cellco's coverage objectives in the area and was rejected by RF engineers. A significant intervening ridge between this parcel and Route 7 to the west would block wireless service to Cellco's primary objective.

7. Trinity Episcopal Church – Cellco investigated this 429-acre parcel owned by Trinity Episcopal Church at the request of Cornwall's First Selectman. Steep

topography and watercourses make the southerly portion of this parcel unusable for the siting of a telecommunications facility. More usable portions of this parcel are located too far to the north to satisfy Cellco's coverage objectives. This parcel may provide Cellco with an alternative to consider as a part of a future search ring to the north.

8. Housatonic State Forest, Route 7, Cornwall – Cellco investigated the area immediately west of the proposed cell site along Route 7. This area is within the Housatonic State Forest. The Connecticut Department of Environmental Protection has made it clear that State Park land would not be made available for the siting of a telecommunications facility.

Litchfield Search Ring - L131 - Sharon, CT (PCS)



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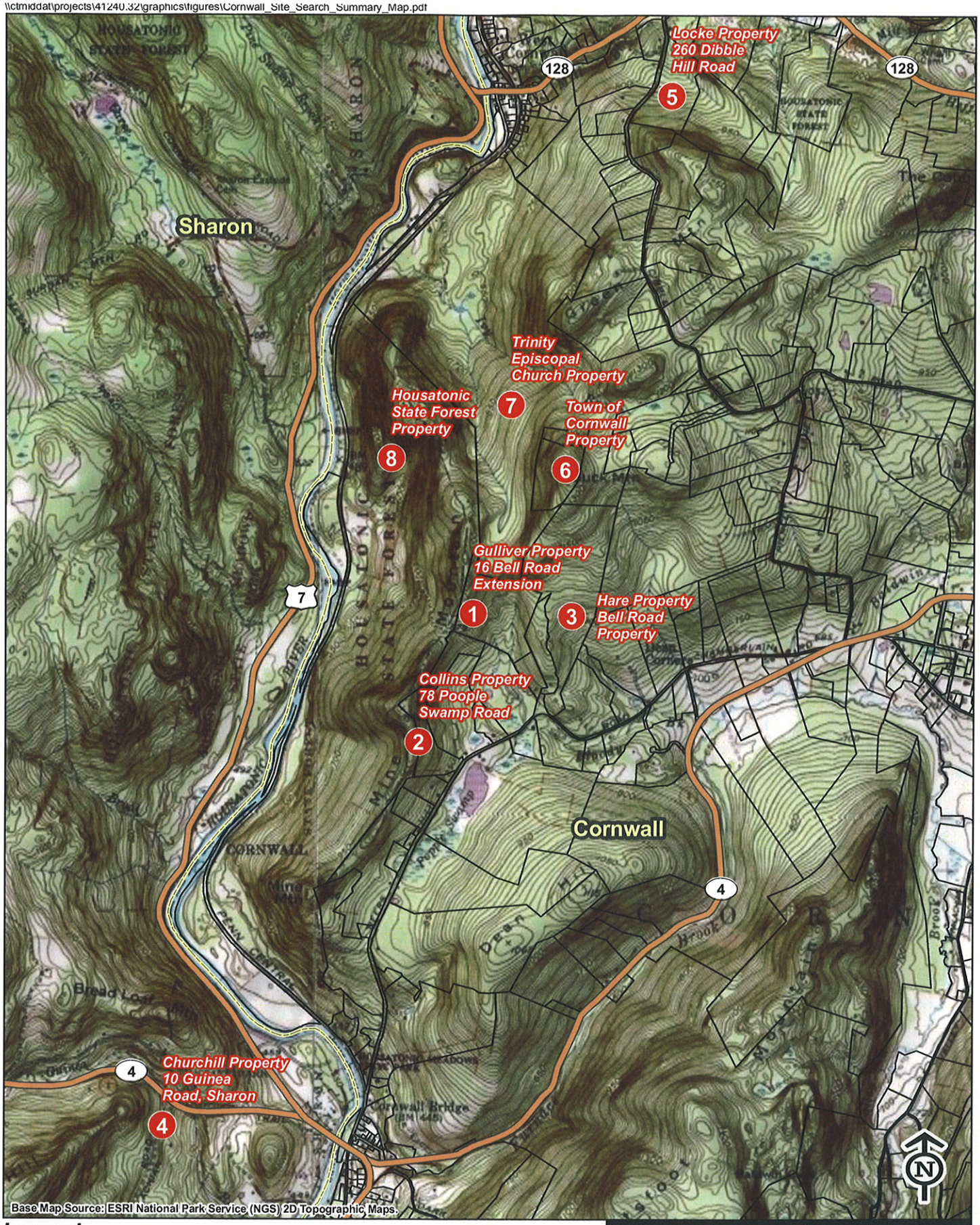

Legend

1 Sites Investigated

Assessor Parcel Boundary

2,000 1,000 0 2,000 Feet

Vanasse Hangen Brustlin, Inc.

Site Search Summary Map
Proposed Verizon Wireless
Telecommunications Facility
Cornwall
16 Bell Road Extension
Cornwall, Connecticut