

From: Baldwin, Kenneth <KBALDWIN@RC.com>
Sent: Tuesday, September 8, 2020 10:59 AM
To: Bachman, Melanie <Melanie.Bachman@ct.gov>; CSC-DL Siting Council <Siting.Council@ct.gov>; Fontaine, Lisa <Lisa.Fontaine@ct.gov>
Cc: Mayo, Rachel <rmayo@RC.com>
Subject: TS-VER-025-200827 - 1325 Cheshire Street, Cheshire CT

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Attorney Bachman

On August 27, 2020, Cellco filed the above referenced tower share application for the tower site at 1325 Cheshire Street in Cheshire. Since the time of the original filing Cellco has determined that it would install a propane-fueled generator rather than a diesel generator.

Attached to this email is a revised set of project plans showing the location of Cellco's equipment, the new propane generator and the new propane fuel tank. All improvements will remain within the limits of the fenced facility compound. Also attached are the specifications for the propane generator.

We respectfully request that these modified plans and the use of a propane be included as a part of the TS-VER-025-200827 filing.

Thank you in advance for your cooperation.

Kenneth C. Baldwin

Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Direct 860.275.8345 | Fax 860.275.8299
kbaldwin@rc.com | www.rc.com
[Bio](#) | [Contact Card](#)



**EPA-Certified for Stationary
Emergency Applications**

Ratings Range

Standby:	kW	60 Hz
	kVA	30
		30- 38



The Kohler® Advantage

- High Quality Power**
 Kohler generators provide advanced voltage and frequency regulation along with ultra-low levels of harmonic distortion for excellent generator power quality to protect your valuable electronics.
- Extraordinary Reliability**
 Kohler is known for extraordinary reliability and performance and backs that up with a premium five-year or 2000 hour limited warranty.
- All-Aluminum Sound Enclosure**
 Durable aluminum sound-attenuating enclosure.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	Natural Gas 130°C Rise		LP Gas 130°C Rise	
				Standby Rating kW/kVA	Amps	Standby Rating kW/kVA	Amps
4D8.3	120/208	3	60	30/38	106	30/38	106
	127/220	3	60	30/38	100	30/38	100
	120/240	3	60	30/38	92	30/38	92
	120/240	1	60	30/30	125	30/30	125
	139/240	3	60	30/38	92	30/38	92
	220/380	3	60	30/38	58	30/38	58
	277/480	3	60	30/38	46	30/38	46
	347/600	3	60	30/38	37	30/38	37
4P7BX	120/208	3	60	30/38	106	30/38	106
	127/220	3	60	30/38	100	30/38	100
	120/240	3	60	30/38	92	30/38	92
	120/240	1	60	30/30	125	30/30	125
	139/240	3	60	30/38	92	30/38	92
	220/380	3	60	30/38	58	30/38	58
4E8.3	277/480	3	60	30/38	46	30/38	46
	347/600	3	60	30/38	37	30/38	37
4E8.3	120/240	1	60	30/30	125	30/30	125
4Q7BX	120/240	1	60	30/30	125	30/30	125

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set accepts rated load in one step.
- A five-year/2000 hour limited warranty covers all generator set systems and components. A five-year extended comprehensive limited warranty is also available.
- Engine Features
 - Powerful and reliable 2.2 L turbocharged liquid-cooled engine
 - Electronic engine management system.
 - Simple field conversion between natural gas and LPG fuels while maintaining emission certification.
- Innovative Cooling System
 - Electronically controlled fan speeds minimize generator set sound signature.
- Alternator features:
 - Kohler's wound field excitation system with its unique PowerBoost™ design delivers great voltage response and short-circuit capability.
 - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Kohler designed controller for one-source system integration and remote communication. See Controller on page 3.
- Certifications
 - The generator set engine is certified by the Environmental Protection Agency (EPA) to conform to the New Source Performance Standard (NSPS) for stationary spark-ignited emissions.
 - UL 2200/cUL listing is available.
 - The generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
 - CSA certification is available.
 - Accepted by the Massachusetts Board of Registration of Plumbers and Gas Fitters.
- Approved for stationary standby applications in locations served by a reliable utility source.

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Exciter type	Brushless, Wound-Field
Leads: quantity, type	
4D	12, Reconnectable
4E	4, 110- 120/220- 240 V
4PX	12, Reconnectable
4QX	4, 110- 120/220- 240 V
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
480 V 4D8.3 (12 lead)	120
240 V 4E8.3 (4 lead)	74
480 V 4P7BX (12 lead)	180
240 V 4Q7BX (4 lead)	113

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Application Data

Engine

Engine Specifications	
Manufacturer	Kohler
Engine: model, type	KG2204T, 2.2 L, 4-Cycle Turbocharged
Cylinder arrangement	In-line 4
Displacement, L (cu. in.)	2.2 (134.25)
Bore and stroke, mm (in.)	91 x 86 (3.5 x 3.4)
Compression ratio	10.5:1
Piston speed, m/min. (ft./min.)	340 (1016)
Main bearings: quantity, type	5, plain alloy steel
Rated rpm	1800
Max power at rated RPM, kW (HP)	
LPG	47.8 (64.1)
Natural Gas	47.6 (63.9)
Cylinder head material	Cast Iron
Piston type and material	High Silicon Aluminum
Crankshaft material	Nodular Iron
Valve (exhaust) material	Forged Steel
Governor type	Electronic
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±1.0%
Frequency	Fixed
Air cleaner type, all models	Dry

Engine Electrical

Engine Electrical System	
Ignition system	Electronic
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	14
Ampere rating	90
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Qty., rating for - 18°C (0°F)	One, 630
Battery voltage (DC)	12
Battery group size	24

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust temperature at rated kW, dry exhaust, °C (°F)	610 (1130)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)

Fuel

Fuel System	
Fuel type	Natural Gas or LPG
Fuel supply line inlet	1 NPTF
Natural gas fuel supply pressure, kPa (in. H ₂ O)	1.7-2.7 (7-11)
LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O)	1.7-2.7 (7-11)

Fuel Composition Limits *	Nat. Gas	LP Gas
Methane, % by volume	90 min.	—
Ethane, % by volume	4.0 max.	—
Propane, % by volume	1.0 max.	85 min.
Propene, % by volume	0.1 max.	5.0 max.
C ₄ and higher, % by volume	0.3 max.	2.5 max.
Sulfur, ppm mass	25 max.	
Lower heating value, MJ/m ³ (Btu/ft ³), min.	33.2 (890)	84.2 (2260)

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Application Data

Lubrication

Lubricating System

Type	Full Pressure
Oil pan capacity, L (qt.) ‡	4.2 (4.4)
Oil added during oil change (on average), L (qt.) ‡	3.3 (3.5)
Oil pan capacity with filter, L (qt.) ‡	8.5 (9.0)
Oil filter: quantity, type ‡	1, Cartridge
‡ Kohler recommends the use of Kohler Genuine oil and filters.	

Cooling

Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	2.65 (0.7)
Radiator system capacity, including engine, L (gal.)	13.2 (3.5)
Engine jacket water flow, Lpm (gpm)	62 (16.4)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	22.5 (1280)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	qty. 3 @ 406 (16)
Fan power requirements (powered by engine battery charging alternator)	12 VDC, 18 amps each

Operation Requirements

Air Requirements

Radiator-cooled cooling air, m ³ /min. (scfm) ‡	51 (1800)
Combustion air, m ³ /min. (cfm)	1.6 (57)
Air over engine m ³ /min. (cfm)	25 (883)
† Air density = 1.20 kg/m ³ (0.075 lbm/ft ³)	

Fuel Consumption ‡

Natural Gas, m ³ /hr. (cfh) at % load	Standby Ratings
100%	11.9 (421)
75%	10.0 (355)
50%	8.2 (289)
25%	6.3 (223)
0%	4.5 (158)

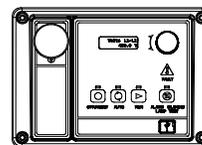
LP Gas, m ³ /hr. (cfh) at % load	Standby Ratings
100%	4.6 (164)
75%	3.7 (131)
50%	2.8 (99)
25%	1.9 (66)
0%	1.0 (34)

‡ Nominal fuel rating: Natural gas, 37 MJ/m³ (1000 Btu/ft.³)
LP vapor, 93 MJ/m³ (2500 Btu/ft.³)

LP vapor conversion factors:

- 8.58 ft.³ = 1 lb.
- 0.535 m³ = 1 kg.
- 36.39 ft.³ = 1 gal.

Controller



APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
 - Measurements are selectable in metric or English units
 - Remote communication thru a PC via network or serial configuration
 - Controller supports Modbus® protocol
 - Integrated hybrid voltage regulator with ±0.5% regulation
 - Built-in alternator thermal overload protection
 - NFPA 110 Level 1 capability
- Refer to G6-161 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

Sound Enclosure

- Durable aluminum, sound-attenuating enclosure with quiet operation of 57 dB(A) log average @ 7 m (23 ft.) at no load.
- Internally mounted silencer.
- Fade-, scratch, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.

Standard Features

- Alternator Protection
- Aluminum Sound Enclosure with Enclosed Silencer
- Battery Rack and Cables
- Flexible Fuel Line
- Gas Fuel System (includes fuel mixer, electronic secondary gas regulator, gas solenoid valve, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral Vibration Isolation
- Local Emergency Stop Switch
- Low Fuel Pressure Switch (with NFPA fuel module)
- Oil Drain Extension
- Operation and Installation Literature
- Standard 5-Year Limited Warranty

Available Options

Approvals and Listings

- CSA Certified
- UL 2200 Listing

Controller

- 15-Relay Dry Contact Board
- Communication Products
- Input/Output Module (2 inputs, 5 outputs)
- Lockable Emergency Stop (lockout/tagout)
- Manual Key Switch
- Manual Speed Adjust
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay

Enclosure Accessories

- Enclosure Doors for 291 kph (181 mph) Wind Load

Starting Aids*

- Block Heater, 110- 120 V
- Block Heater, 220- 240 V

Oil Pan Heater*

- Oil Pan Heater, 110- 120 V
- Oil Pan Heater, 190- 240 V

* One block heater or oil pan heater is required for ambient temperatures below 0°C (32°F). At temperatures below -18°C (0°F) installation of both heaters is required.

Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger, 6 Amp
- Battery Charger, 10 Amp w/Alarms
- Battery Heater
- Temperature Compensation for 10 Amp Battery Charger

Miscellaneous

- Air Cleaner Restriction Indicator
- Certified Test Report
- Engine Fluids Added
- Maintenance Kit (filters, spark plugs, oil)
- Rated Power Factor Testing

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

- Optional Extended 5-Year/2000 Hour Comprehensive Limited Warranty

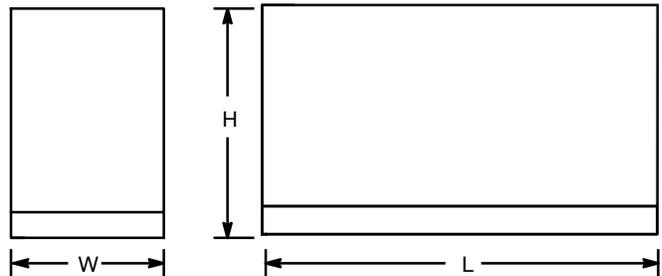
Other Options

- _____
- _____
- _____
- _____
- _____
- _____
- _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 2280 x 830 x 1182
 (89.8 x 32.7 x 46.5)

Weight, with engine fluids, kg (lb.): 635 (1432)



NOTE: This drawing is provided for reference only and should not be used for planning. Contact your local distributor for more detailed information.

DISTRIBUTED BY:

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 7/1/20
 ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 7/10/20
 ANTENNA SUPPORT STRUCTURE (170'± MONOPOLE) STRUCTURAL ANALYSIS DATE: 7/17/20 (BY OTHERS)



20 ALEXANDER DRIVE, WALLINGFORD, CT 06492

CHESHIRE NORTHEAST 2 CT

1325 CHESHIRE STREET
 CHESHIRE, CT 06410

**PROJECT TYPE: WIRELESS TELECOMMUNICATIONS
 COLLOCATION ON EXISTING 170'± MONOPOLE**

SITE INFORMATION:

LAND OWNER: TOWN OF CHESHIRE (C/O SEWER FILTRATION PLAN)
 1325 CHESHIRE STREET
 CHESHIRE, CT 06410

TOWER OWNER: INSITE TOWERS, LLC
 1199 NORTH FAIRFAX STREET, SUITE 700
 ALEXANDRIA, VA 22314

APPLICANT: CELCO PARTNERSHIP
 (dba VERIZON WIRELESS)
 20 ALEXANDER DRIVE
 WALLINGFORD, CT 06492

SITE ADDRESS: 1325 CHESHIRE STREET
 CHESHIRE, CT 06410

COUNTY: NEW HAVEN COUNTY, CT

SITE CONTROL POINT: CENTER OF EXISTING MONOPOLE
 N 41°-31'-57.33" (41.532592°) (NAD '83)
 W 72°-52'-13.73" (72.870481°) (NAD '83)

ZONING CLASSIFICATION: R-40 (RESIDENTIAL)

ZONING JURISDICTION: TOWN OF CHESHIRE, CT

TAX ID PARCEL NUMBER: MAP 38 LOT 180

ARCHITECT / ENGINEER: CHAPPELL ENGINEERING ASSOCIATES, LLC
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752

POWER COMPANY: EVERSOURCE ENERGY
 247 STATION DRIVE, SE 210
 WESTWOOD, MA 02090
 (781) 441-3610

TELEPHONE COMPANY: VERIZON
 185 FRANKLIN STREET
 BOSTON, MA 02107
 (800) 941-9900

GENERAL NOTES

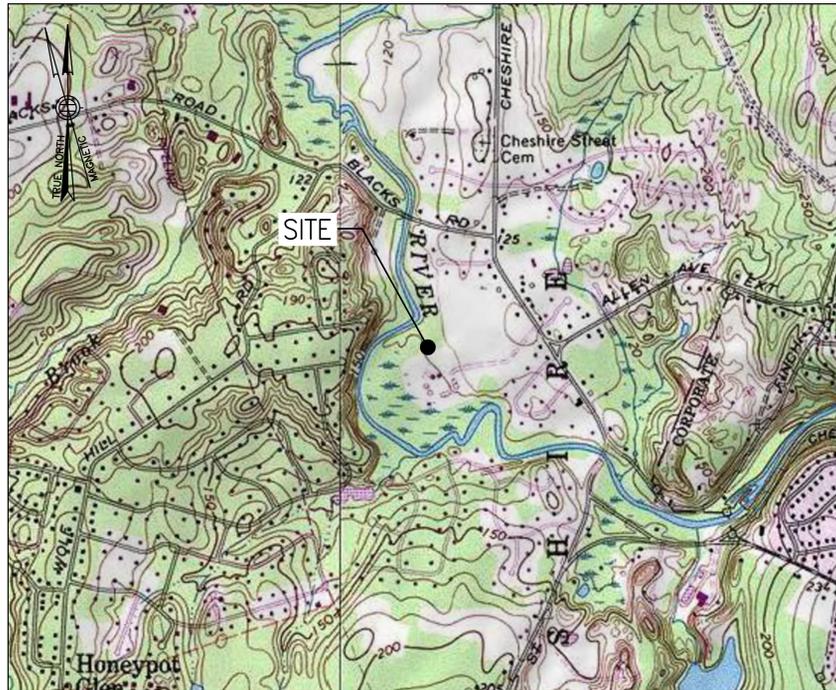
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
 - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

AT LEAST 72 HOURS PRIOR TO DIGGING,
 THE CONTRACTOR IS REQUIRED TO
 CALL BEFORE YOU DIG AT 811



VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TURN RIGHT ONTO BARNES INDUSTRIAL ROAD SOUTH. TURN LEFT AT THE 1ST CROSS STREET ONTO CT-68 WEST. TURN RIGHT ONTO CT-70 EAST. TURN SLIGHT LEFT ONTO CHESHIRE STREET. THE SITE WILL BE ON THE LEFT SIDE.

SHEET INDEX

DWG.	DESCRIPTION	REV.
T01	TITLE SHEET	2
GN01	GENERAL NOTES	2
C01	PROPERTY PLAN	2
A01	EQUIPMENT COMPOUND PLAN	2
A02	EQUIPMENT AREA PLAN & DETAILS	2
A03	EAST AND NORTH EQUIPMENT COMPOUND ELEVATIONS	2
S01	ICE SHIELD FRAMING PLAN & STRUCTURAL DETAILS	2
RF01	ANTENNA MOUNTING PLAN AND DETAILS	2
RF02	ANTENNA DETAILS AND ANCILLARY EQUIPMENT SPECIFICATIONS	2
RF03	RF COLOR CODE SPECIFICATIONS AND PLUMBING DIAGRAM	2
P01	PLUMBING NOTES AND SCHEMATIC	2
E01	ELECTRICAL SPECIFICATIONS AND NOTES	2
E02	EQUIPMENT COMPOUND UTILITY PLAN & DETAILS	2
E03	ELECTRICAL DIAGRAMS & DETAILS	2
E04	SCHEMATIC GROUNDING PLAN & DETAILS	2
E05	GROUNDING DETAILS	2

DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

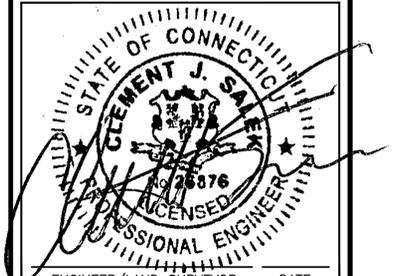
- THIS IS AN UNMANNED AND RESTRICTED ACCESS INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
- THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
- NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
- NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.



"Because Better Matters"



R.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752
 (508) 481-7400
 www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE
 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:
CHESHIRE NORTHEAST 2 CT
 1325 CHESHIRE STREET
 CHESHIRE, CT 06410

DRAWING TITLE:
 TITLE SHEET

DRAWING NO:
T01

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NMC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – VERIZON WIRELESS
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – VERIZON WIRELESS
OEM – ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC. 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACK FILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- CONSTRUCTION SHALL COMPLY WITH VERIZON WIRELESS NETWORK STANDARD #NSTD123 TO THE MAXIMUM EXTENT FEASIBLE UNLESS PRECLUDED OR LIMITED BY DESIGN SHOWN ON THESE DRAWINGS.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE VERIZON WIRELESS SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- A CHAMFER ¼" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
- CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25252-000-3PS-GET-00001 UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
- COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #3 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
- CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.



CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil • Structural • Land Surveying

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:

CHESHIRE NORTHEAST 2 CT

1325 CHESHIRE STREET
CHESHIRE, CT 06410

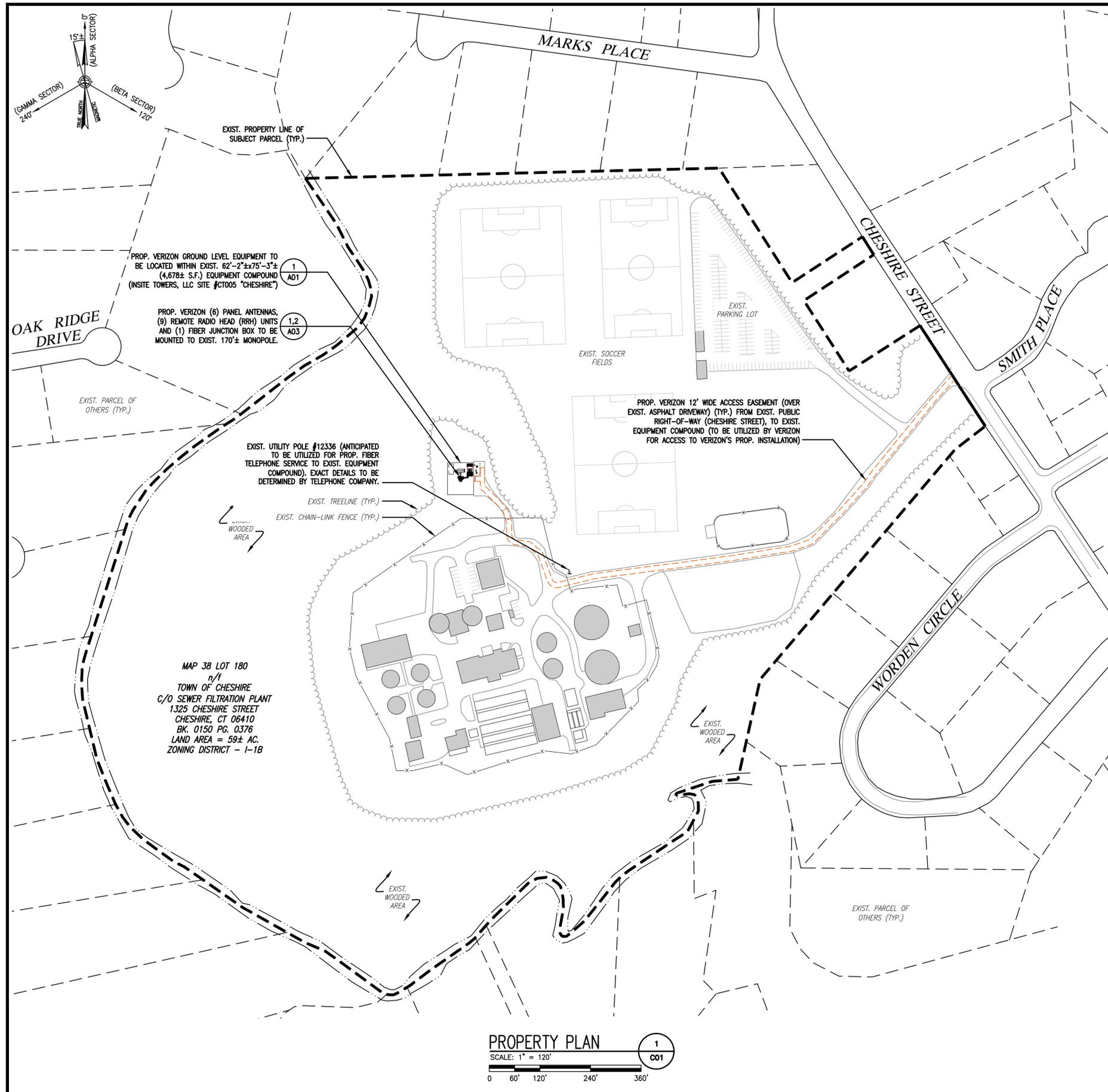
DRAWING TITLE:

GENERAL NOTES

DRAWING NO.:

GN01

SCALE: N/A	DESIGNED BY: GRS DRAWN BY: NMC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	



GENERAL NOTES:

- 1A. DESIGN VISIT DATE: 6/12/20
- 1B. FAA 1A FIELD SURVEY DATE: 6/16/20
2. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88)
3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD '83)
4. SITE CONTROL POINT: CENTER OF EXISTING MONOPOLE
LATITUDE: N. 41°-31'-57.33" (41.532592°) (NAD '83)
LONGITUDE: W. 72°-52'-13.73" (72.870481°) (NAD '83)
5. LAND OWNER: TOWN OF CHESHIRE (C/O SEWER FILTRATION PLAN)
1325 CHESHIRE STREET
CHESHIRE, CT 06410
6. TOWER OWNER: INSITE TOWERS, LLC
1199 NORTH FAIRFAX STREET, SUITE 700
ALEXANDRIA, VA 22314
7. TOWER OWNER SITE ID: SITE #CT005 "CHESHIRE"
8. SITE ADDRESS: 1325 CHESHIRE STREET
CHESHIRE, CT 06410
9. APPLICANT: CELCO PARTNERSHIP
(dba VERIZON WIRELESS)
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492
10. JURISDICTION: TOWN OF CHESHIRE, CT
11. TAX ID: MAP 38 LOT 180
12. DEED REFERENCE: BK. 0150 PG. 0376
13. PLAN REFERENCES: TOWN OF CHESHIRE ASSESSOR/GIS MAPS
14. ZONING DISTRICT: R-40 (RESIDENTIAL)
15. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO THE COMMENCEMENT OF ANY SITE WORK. CALL DIGSAFE 1-888-344-7233 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.
16. THE PROPERTY LINES SHOWN WERE COMPILED UTILIZING TOWN OF CHESHIRE ASSESSOR'S PLANS, GIS, RECORDED DEEDS, PLANS OF REFERENCE AND A LIMITED GROUND SURVEYS OF THE PROPERTY PERFORMED BY CHAPPELL ENGINEERING ASSOCIATES ON 6/12/2020 & 6/16/2020.
17. THE SITE IS LOCATED IN FLOOD HAZARD ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS SHOWN ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF CHESHIRE, (MAP NUMBER 09009C0161J) EFFECTIVE 05/16/2017.
18. BEARING SYSTEM OF THIS PLAN IS BASED ON TRUE NORTH. TRUE NORTH WAS ESTABLISHED FROM EXIST. PLAN REFERENCE. IT IS NOT INTENDED TO BE AN EXACT REPRESENTATION OF TRUE NORTH.

LEGEND

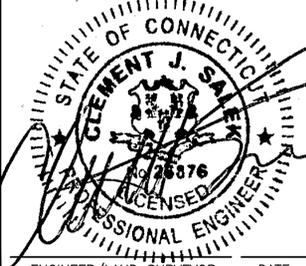
---	OR	STREET	PROPERTY LINE
---			ABUTTING PROPERTY LINE
---			PROPERTY OFFSET/RADIUS
---			EXIST. EASEMENT
-x-x-x-x-			EXIST. CHAIN LINK FENCE
-□-□-□-			EXIST. STOCKADE FENCE
---			EXIST. EDGE OF PAVEMENT
---OHW---			EXIST. OVERHEAD UTILITIES
~~~~~			EXIST. TREELINE
---OHW---			PROP. OVERHEAD UTILITIES
---T/E---			PROP. UTILITIES
○			EXIST. UTILITY POLE
-----			EXIST. STONE WALL
-----			ZONING BOUNDARY



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**REVISIONS**

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

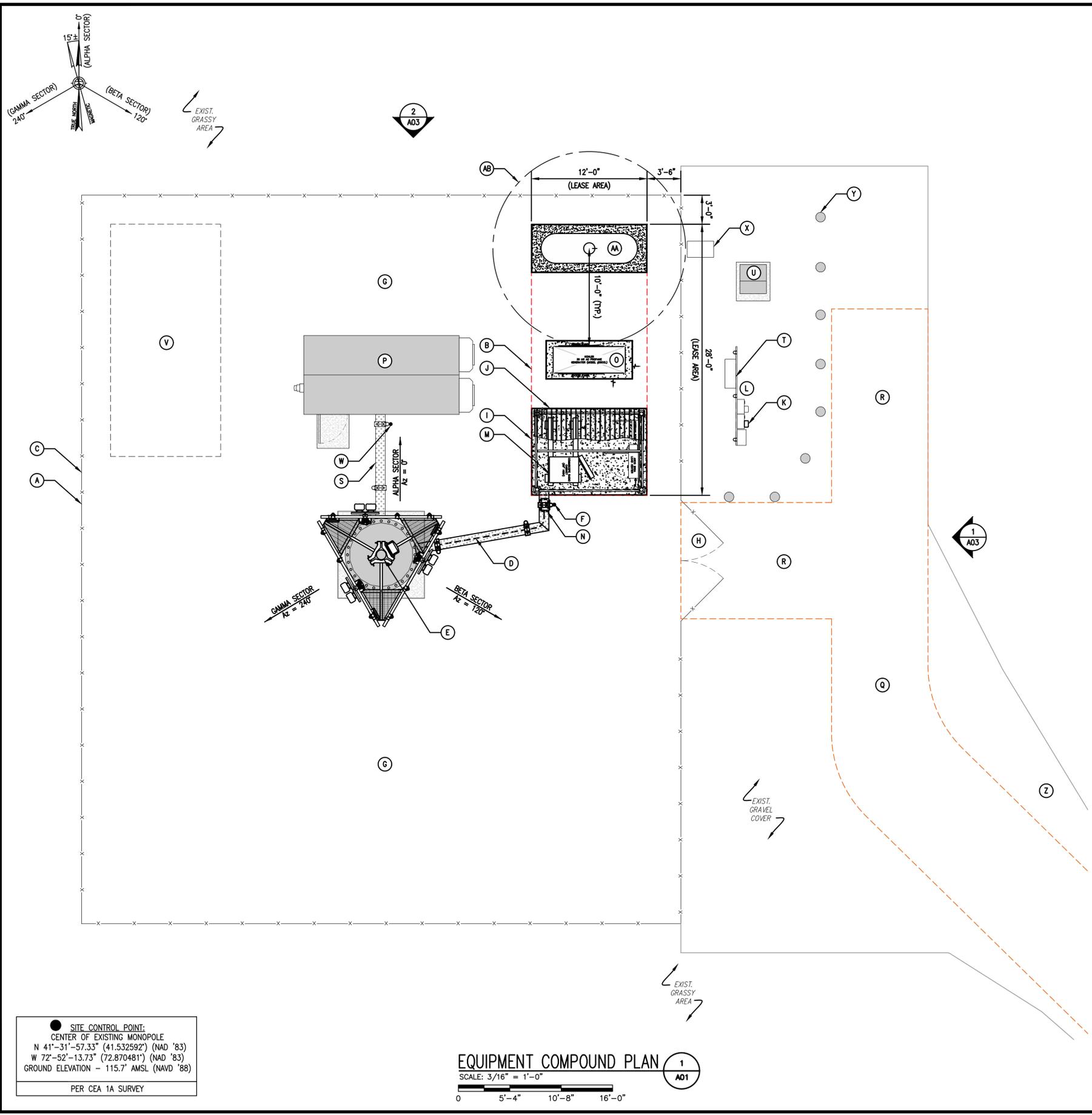
PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
**PROPERTY PLAN**

DRAWING NO.:  
**C01**



SCALE: 1" = 120'	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	



LEGEND	
ITEM	DESCRIPTION
(A)	EXIST. 62'-2"x75'-3"± (4,678± S.F.) EQUIPMENT COMPOUND (INSITE TOWERS, LLC SITE #C0005 "CHESHIRE") (TYP.)
(B)	LIMITS OF VERIZON'S PROP. 12'-0"x28'-0" (336 S.F.) LEASE AREA (TYP.)
(C)	EXIST. 8'± CHAIN-LINK FENCE SURROUNDING EXIST. 62'-2"x75'-3"± (4,678± S.F.) EQUIPMENT COMPOUND (TYP.)
(4 A02)	(D) PROP. VERIZON (2)-LOW INDUCTANCE 6x12 HYBRID SIGNAL CABLES ROUTED ALONG PROP. OVERHEAD CABLE ICE BRIDGE (TYP.) FROM VERIZON'S PROP. EQUIPMENT TO EXIST. MONOPOLE AS SHOWN.
(E)	EXIST. 170'± MONOPOLE
(3 RF01)	(F) PROP. VERIZON GPS ANTENNA MOUNTED TO PROP. ICE BRIDGE POST. TOP OF GPS ANTENNA SHALL BE MOUNTED 2'-0" ABOVE TOP OF BRIDGE.
(G)	EXIST. GRAVEL COVER WITHIN EXIST. COMPOUND
(H)	EXIST. 12'-6"± DOUBLE SWING GATE
(6 S01)	(I) PROP. VERIZON 12'-0"x9'-0" (108 S.F.) REINFORCED CONCRETE PAD
(1-4 S01)	(J) PROP. VERIZON 11'-4"x8'-10" (100± S.F.) METAL DECK ICE SHIELD (SHOWN TRANSPARENT FOR CLARITY) ABOVE PROP. EQUIPMENT
(K)	EXIST. VACANT METER SOCKET AND DISCONNECT BREAKER KNOCKOUT TO BE UTILIZED FOR VERIZON'S PROP. 200A ELECTRIC SERVICE TO PROP. EQUIPMENT INSTALLATION.
(L)	EXIST. ELECTRIC METER BANK
(1,2 A02)	(M) PROP. VERIZON EQUIPMENT CABINET MOUNTED TO PROP. STEEL SLEEPER BEAMS ON PROP. 12'-0"x9'-0" (108 S.F.) REINFORCED CONCRETE PAD
(4 RF02)	(N) PROP. VERIZON FIBER JUNCTION BOX (TOTAL OF 1) MOUNTED TO PROP. ICE BRIDGE POST (IF REQUIRED)
(1 E01)	(O) PROP. VERIZON 30 KW BACK-UP PROPANE GENERATOR MOUNTED TO PROP. 9'-0"x4'-0" (36 S.F.) CONCRETE PAD
(P)	EXIST. TOWN OF CHESHIRE 16'±x8'± EQUIPMENT SHELTER
(Q)	PROP. VERIZON 12' WIDE ACCESS EASEMENT (OVER EXIST. DRIVEWAY) (TYP.) FROM EXIST. PUBLIC RIGHT-OF-WAY (CHESHIRE STREET), TO EXIST. EQUIPMENT COMPOUND (TO BE UTILIZED BY VERIZON FOR ACCESS TO VERIZON'S PROP. INSTALLATION). SEE SHEET 001 FOR CONTINUATION TO CHESHIRE STREET.
(R)	PROP. VERIZON 12'x20' PARKING SPACE OR TURN-AROUND AREA
(S)	EXIST. TOWN OF CHESHIRE OVERHEAD CABLE ICE BRIDGE (TYP.)
(T)	EXIST. TELCO CABINET
(U)	EXIST. ELECTRIC TRANSFORMER ON EXIST. CONCRETE PAD
(V)	APPROXIMATE LOCATION OF FUTURE AT&T LEASE AREA
(W)	EXIST. TOWN OF CHESHIRE GPS ANTENNA
(X)	EXIST. ELECTRIC PULLBOX
(Y)	EXIST. BOLLARD (TYP.)
(Z)	EXIST. GRAVEL ACCESS DRIVE
(- P01)	(AA) PROP. VERIZON 500 GALLON WATER CAPACITY (400 GALLON OPERATING CAPACITY) PROPANE TANK ON PROP. 12'-0"x5'-0" (60 S.F.) CONCRETE PAD
(AB)	10' CLEARANCE RADIUS FROM PROP. PROPANE TANK SOURCE OF IGNITION (TYP.)

● SITE CONTROL POINT:  
 CENTER OF EXISTING MONOPOLE  
 N 41°-31'-57.33" (41.532592') (NAD '83)  
 W 72°-52'-13.73" (72.870481') (NAD '83)  
 GROUND ELEVATION - 115.7' AMSL (NAVD '88)

PER CEA 1A SURVEY

EQUIPMENT COMPOUND PLAN 1 A01

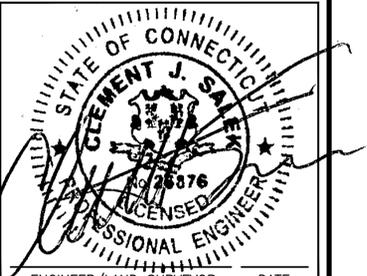
SCALE: 3/16" = 1'-0"

0 5'-4" 10'-8" 16'-0"



**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
 Civil · Structural · Land Surveying

R.K. EXECUTIVE CENTRE  
 201 BOSTON POST ROAD WEST, SUITE 101  
 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:

**CHESHIRE NORTHEAST 2 CT**  
 1325 CHESHIRE STREET  
 CHESHIRE, CT 06410

DRAWING TITLE:

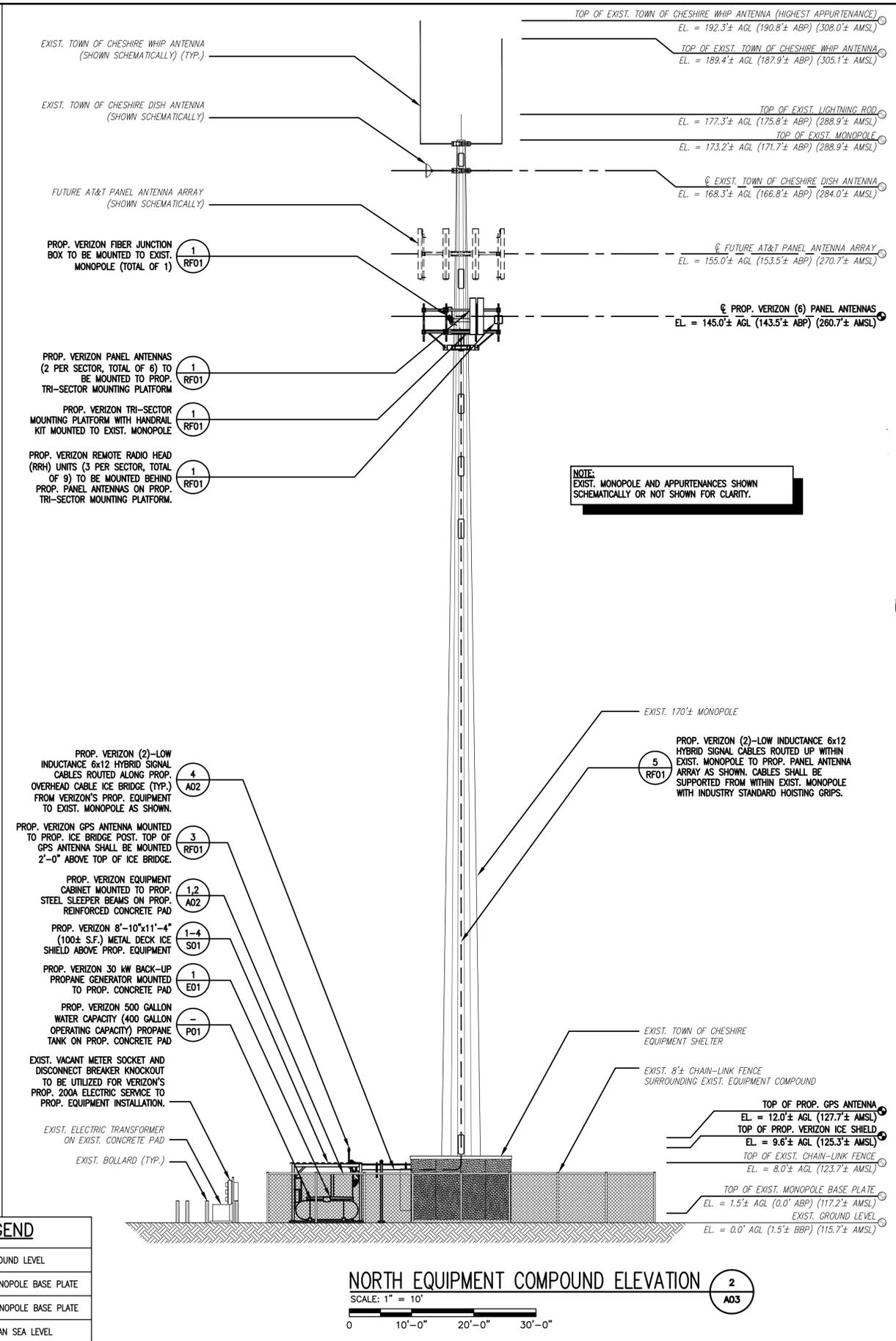
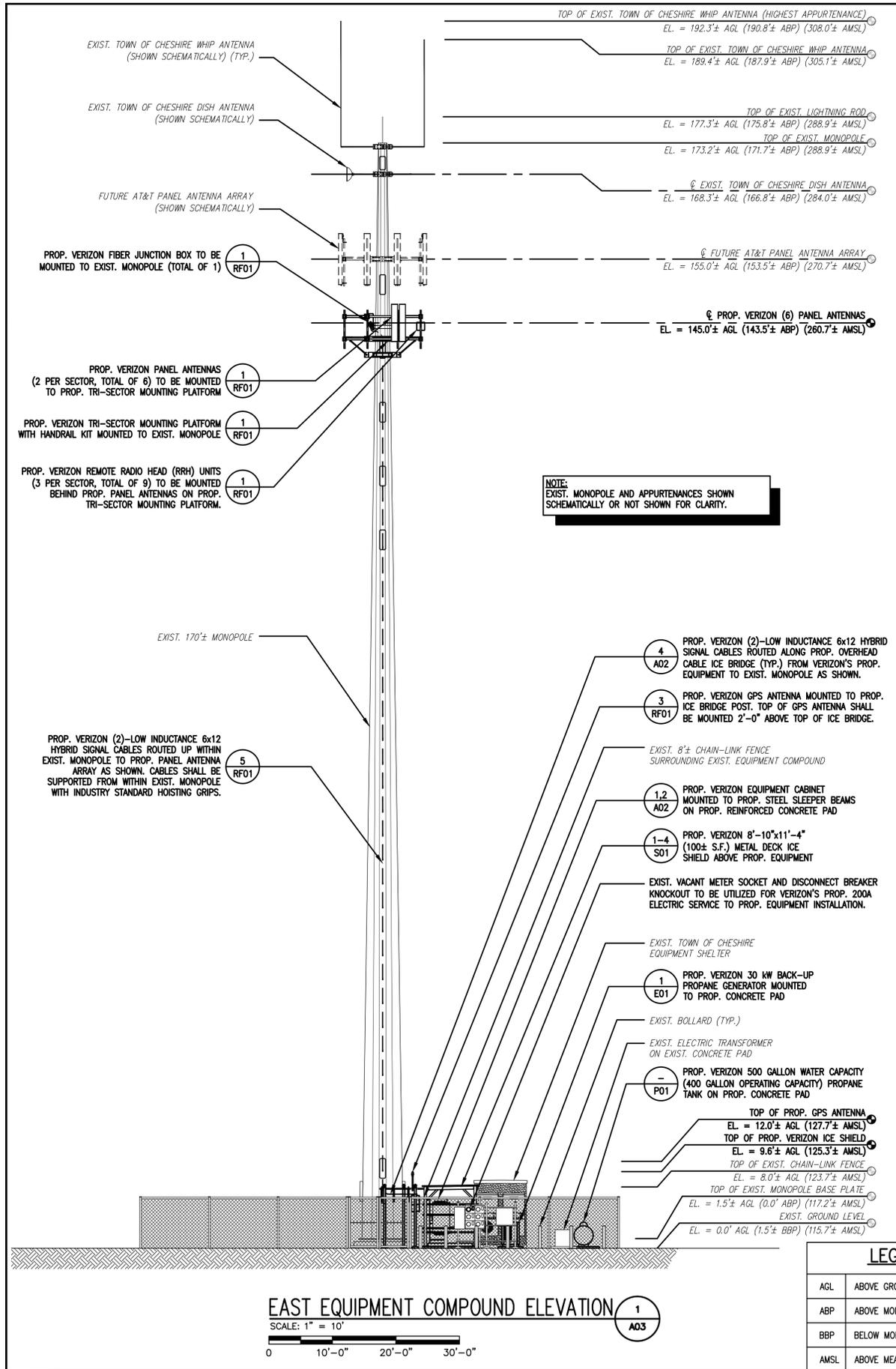
**EQUIPMENT COMPOUND PLAN**

DRAWING NO:

**A01**

SCALE: 3/16" = 1'-0"	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZV LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	





**verizon**  
"Because Better Matters"

**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
Civil-Structural-Land Surveying

R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com

**STATE OF CONNECTICUT**  
CLEMENT J. SA...  
LICENSED PROFESSIONAL ENGINEER  
ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

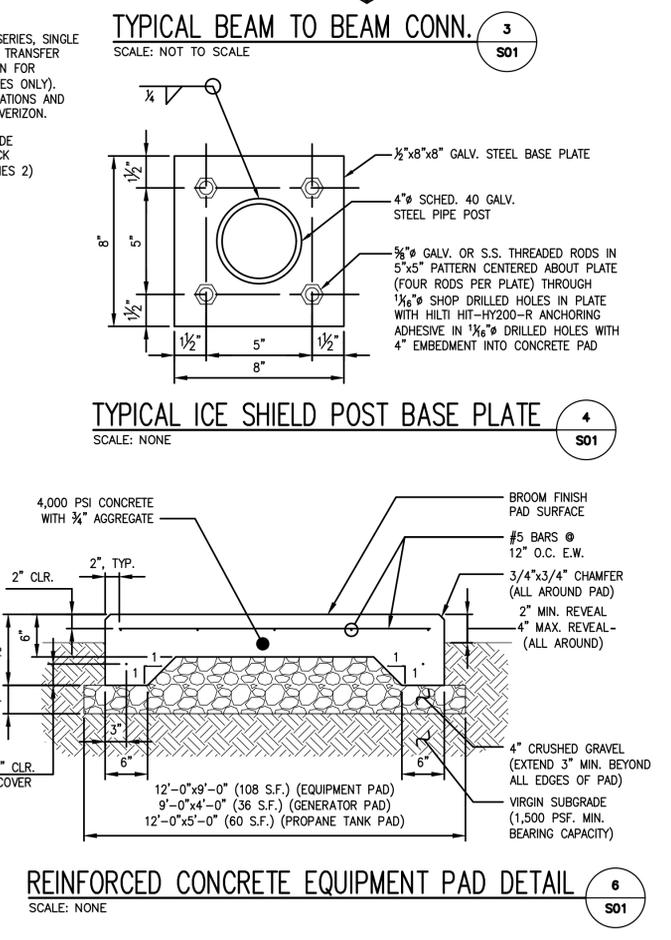
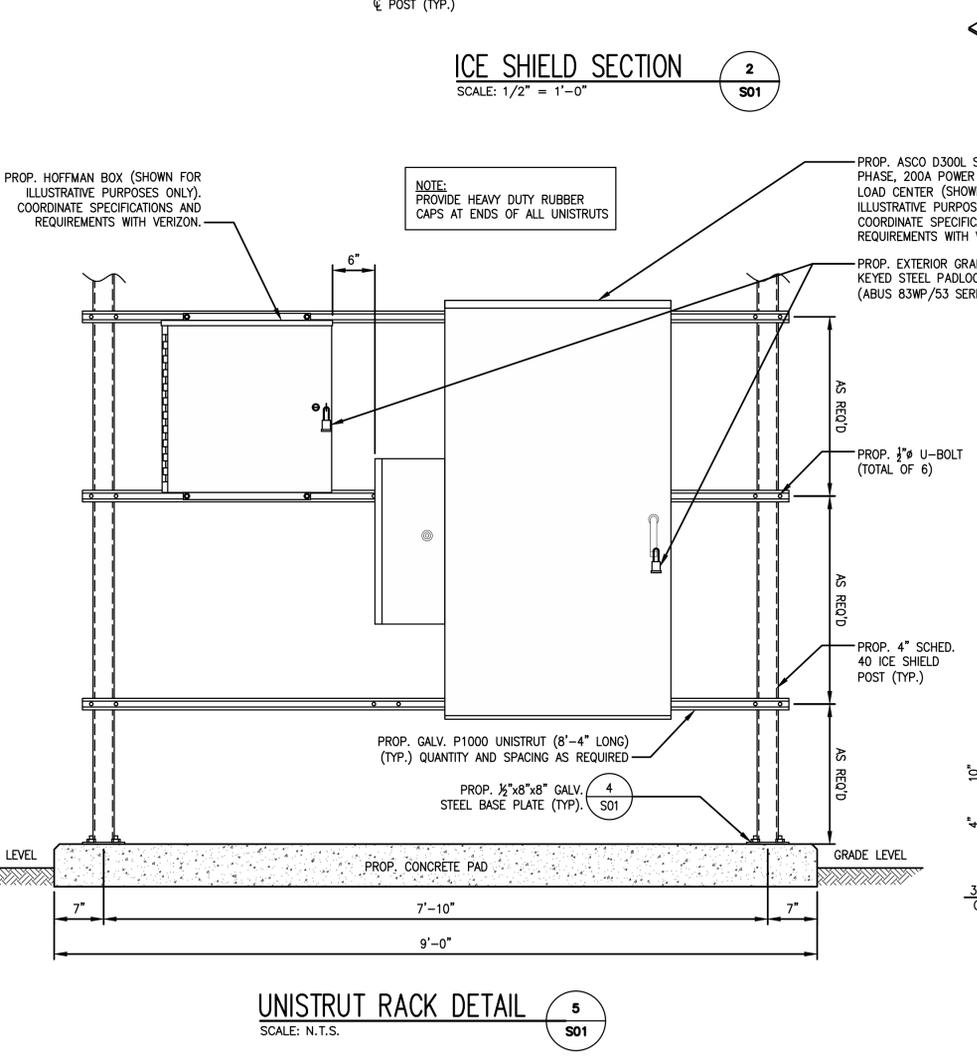
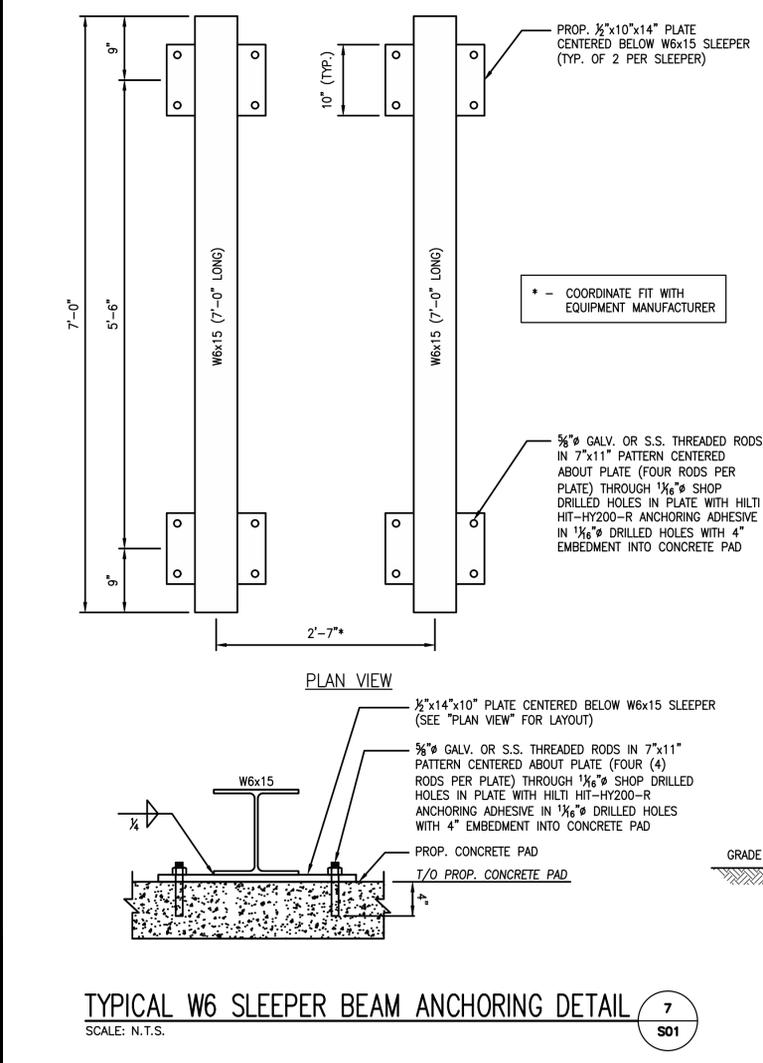
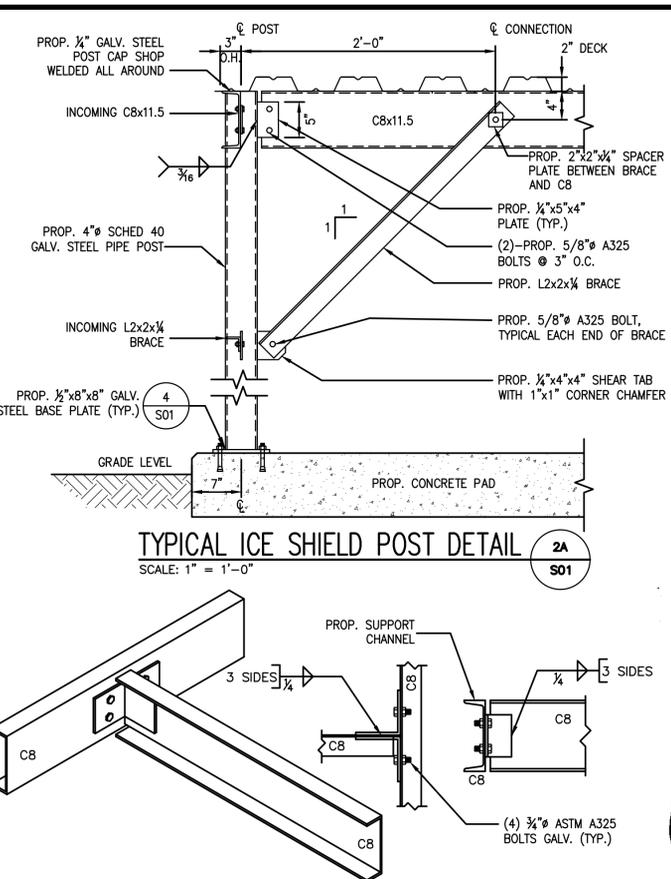
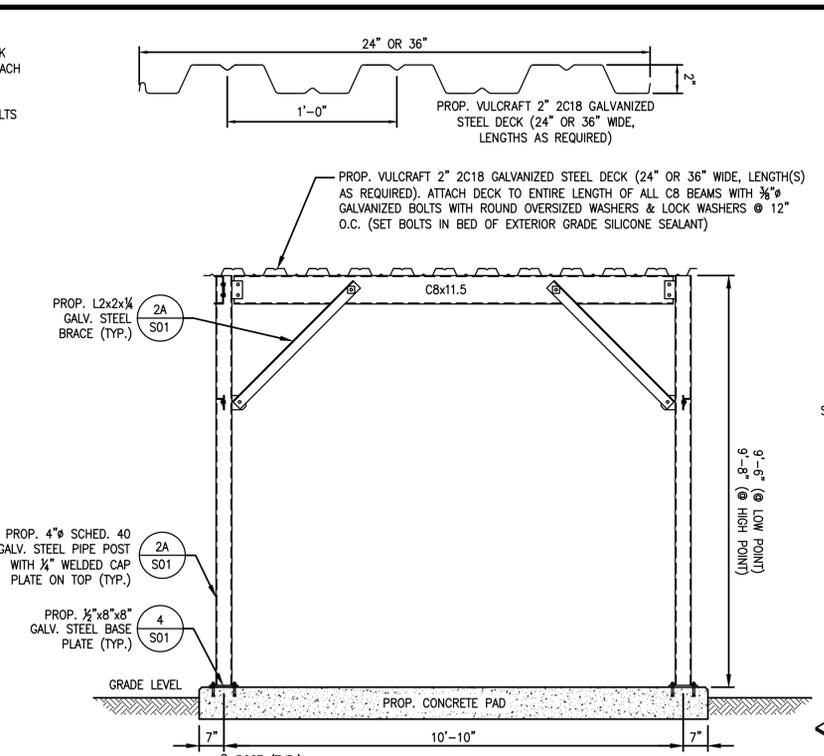
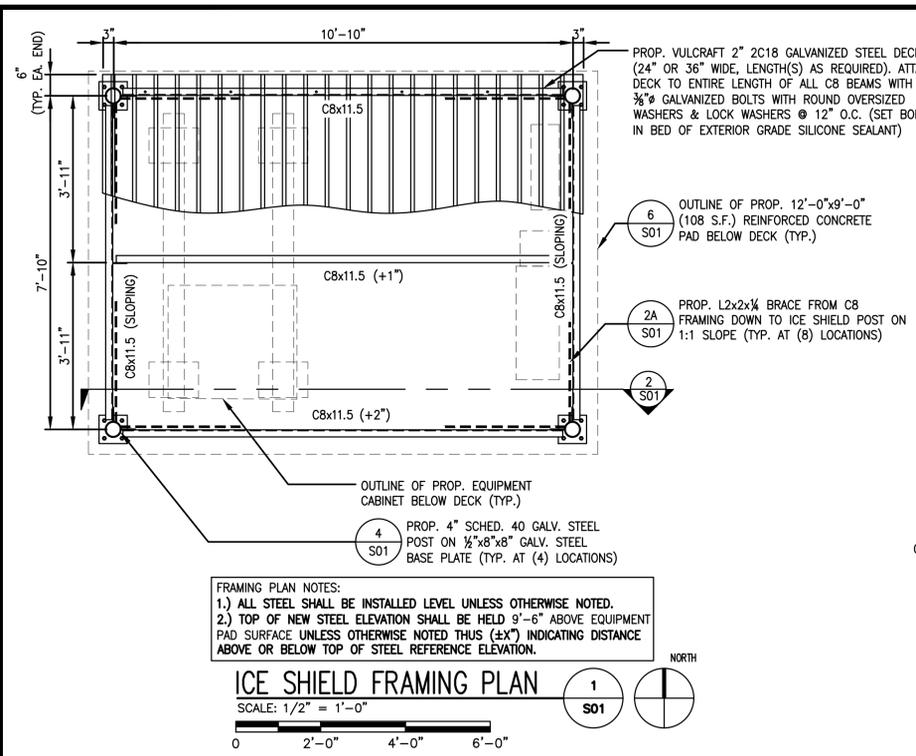
REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

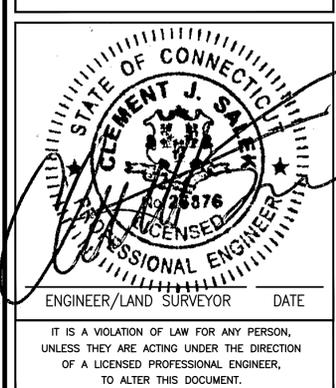
DRAWING TITLE:  
**EAST AND NORTH EQUIPMENT COMPOUND ELEVATIONS**

DRAWING NO:  
**A03**

SCALE: 1" = 10'	DESIGNED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	DRAWN BY: NWC	CHECKED BY: GRS
	ORIGINAL ISSUE DATE: 8/17/20	



**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
 Civil - Structural - Land Surveying  
 R.K. EXECUTIVE CENTRE  
 201 BOSTON POST ROAD WEST, SUITE 101  
 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com



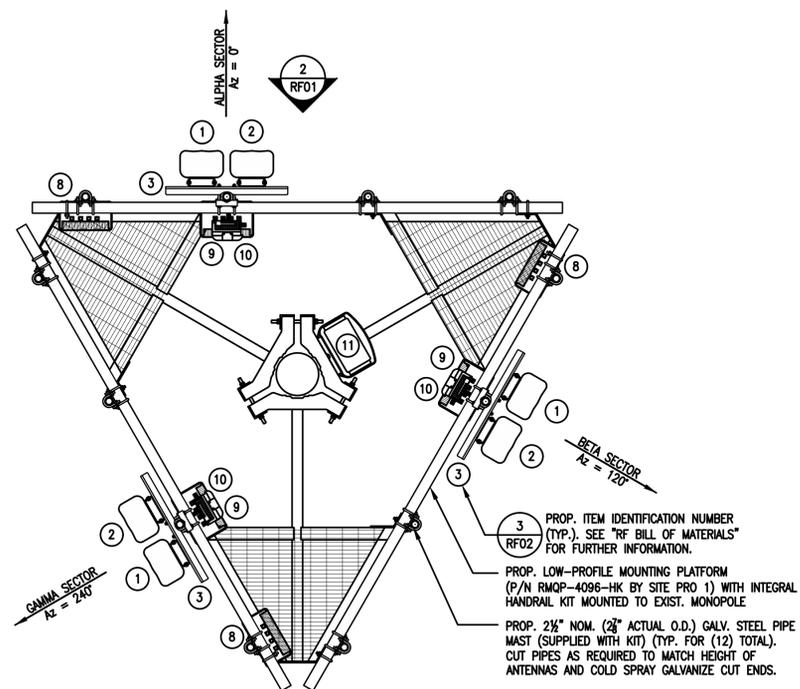
REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
 1325 CHESHIRE STREET  
 CHESHIRE, CT 06410

DRAWING TITLE:  
**ICE SHIELD FRAMING PLAN & STRUCTURAL DETAILS**

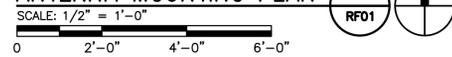
DRAWING NO.:  
**S01**

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZV LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

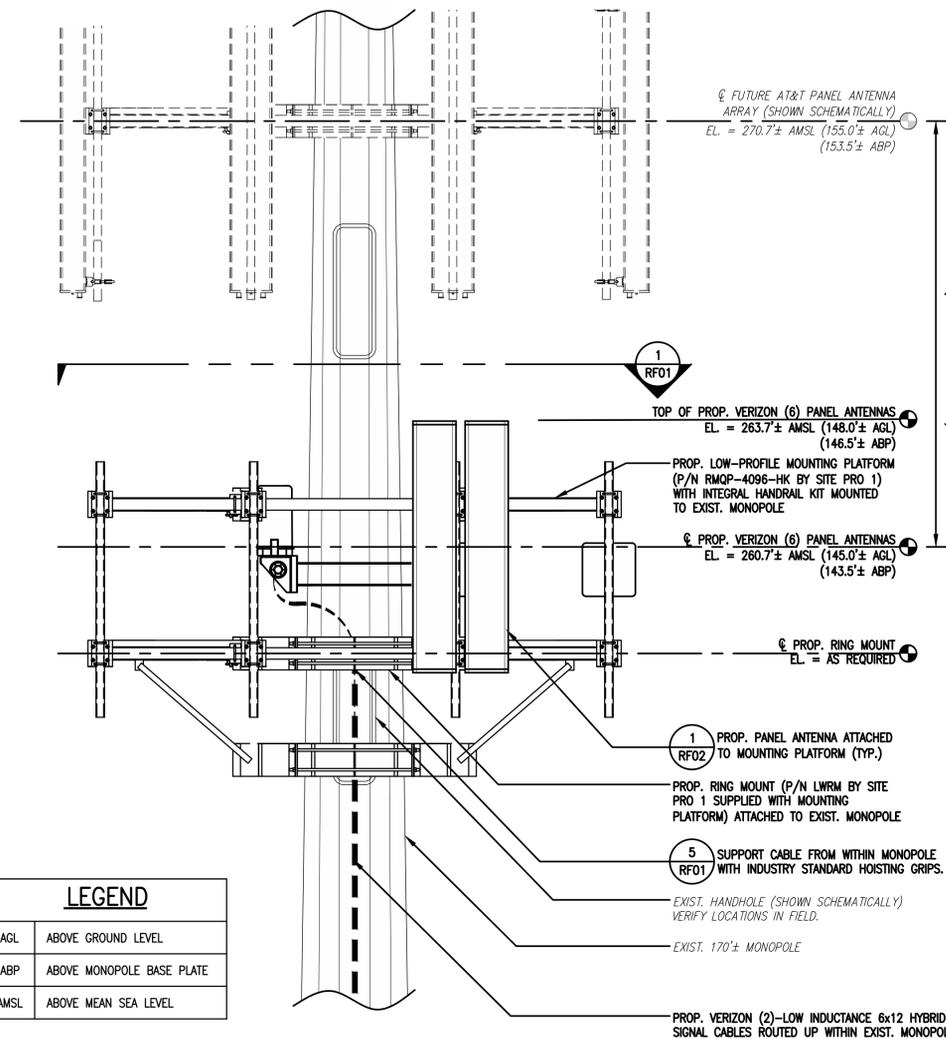


(MONOPOLE PLAN VIEW AT ELEVATION 145.0'± AGL)

**ANTENNA MOUNTING PLAN**



**RADIO FREQUENCY (RF) DESIGN NOTES:**  
 1) ALL RADIO FREQUENCY (RF) DESIGN INFORMATION CONTAINED ON THIS SHEET IS SHOWN SCHEMATICALLY.  
 2) THE GENERAL CONTRACTOR SHALL CONFIRM ALL RF DESIGN ELEMENTS SHOWN (INCLUDING BUT NOT LIMITED TO PANEL ANTENNA MODELS & ARRANGEMENT, AZIMUTHS, REMOTE RADIO HEAD (RRH) UNIT MODELS & ARRANGEMENT AND CABLING DIAGRAMS/SCHEMATICS) WITH THE VERIZON WIRELESS RF ENGINEER AT THE TIME OF CONSTRUCTION.

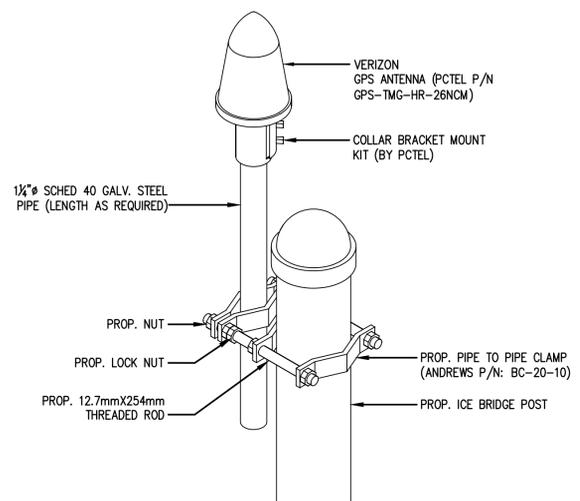


**ANTENNA MOUNTING PLATFORM MOUNTING DETAIL**

SCALE: 1/2" = 1'-0" RF01

**LEGEND**

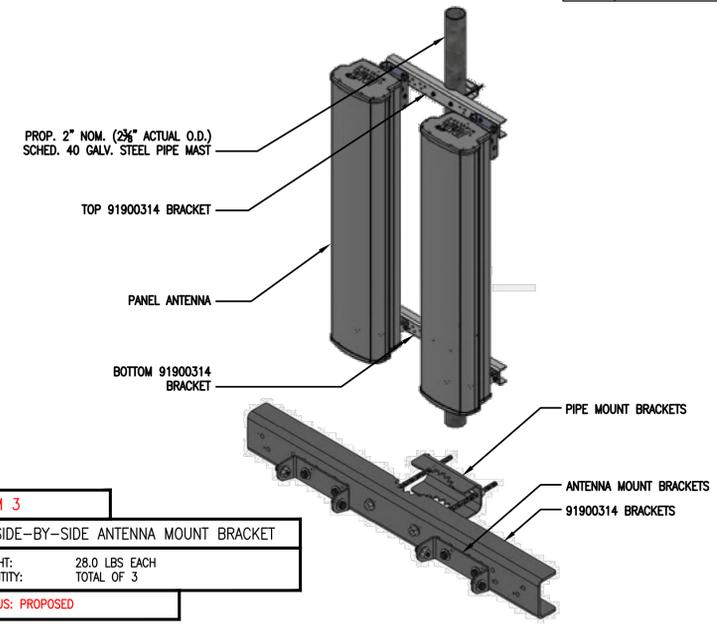
AGL	ABOVE GROUND LEVEL
ABP	ABOVE MONOPOLE BASE PLATE
AMSL	ABOVE MEAN SEA LEVEL



**NOTE:**  
 THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1 1/2" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

**GPS ANTENNA MOUNTING DETAIL**

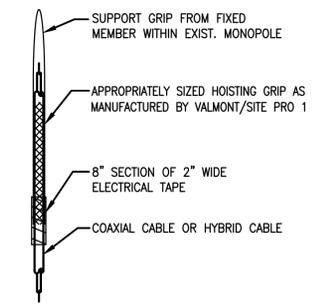
SCALE: N.T.S. RF01



**ITEM 3**  
**SIDE-BY-SIDE ANTENNA MOUNT BRACKET**  
 WEIGHT: 28.0 LBS EACH  
 QUANTITY: TOTAL OF 3  
 STATUS: PROPOSED

**TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT (JMA PART #91900314)**

SCALE: NOT TO SCALE RF01



**TYPICAL HOISTING GRIP DETAIL**

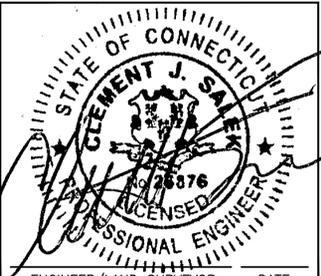
SCALE: NONE RF01



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
 201 BOSTON POST ROAD WEST, SUITE 101  
 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE  
 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**REVISIONS**

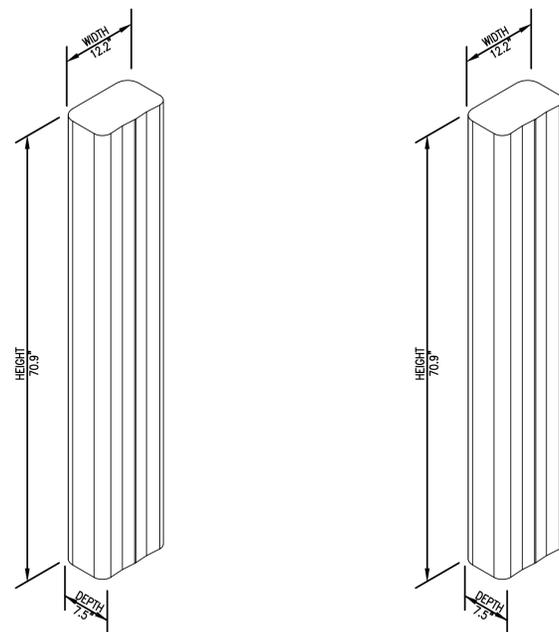
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

**PROJECT NAME:**  
**CHESHIRE NORTHEAST 2 CT**  
 1325 CHESHIRE STREET  
 CHESHIRE, CT 06410

**DRAWING TITLE:**  
**ANTENNA MOUNTING PLAN AND DETAILS**

**DRAWING NO.:**  
**RF01**

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	
	CHECKED BY: GRS	
GEA PROJECT NO.:	ORIGINAL ISSUE DATE:	470040
96210.397	8/17/20	



<b>ITEM 1</b>
LTE (700/850/1900/2100 MHz) PANEL ANTENNA
DIMENSIONS: 70.9'H x 12.2'W x 7.5'D
WEIGHT: 53.4 LBS EACH
QUANTITY: 1 PER SECTOR, TOTAL OF 3
STATUS: PROPOSED

<b>ITEM 2</b>
LTE (700/850/1900/2100 MHz) PANEL ANTENNA
DIMENSIONS: 70.9'H x 12.2'W x 7.5'D
WEIGHT: 53.4 LBS EACH
QUANTITY: 1 PER SECTOR, TOTAL OF 3
STATUS: PROPOSED

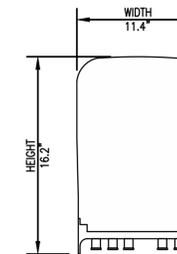
TYPICAL PROP. PANEL ANTENNA SPECIFICATIONS 1  
SCALE: N.T.S. RF02



<b>ITEM 8</b>
LTE/CDMA (700/850 MHz) REMOTE RADIO HEAD UNIT
DIMENSIONS: 15.0'H x 15.0'W x 8.1'D
WEIGHT: 70.3 LBS
QUANTITY: 1 PER SECTOR, TOTAL OF 3
STATUS: PROPOSED



<b>ITEM 9</b>
PCS-AWS (1900/2100 MHz) REMOTE RADIO HEAD UNIT
DIMENSIONS: 15.0'H x 15.0'W x 10.0'D
WEIGHT: 84.4 LBS
QUANTITY: 1 PER SECTOR, TOTAL OF 3
STATUS: PROPOSED



<b>ITEM 10</b>
(BAND 48 (3.5 GHz)) NR AU RRH
DIMENSIONS: 13.9'H x 8.6'W x 4.2'D
WEIGHT: 18.6 LBS EACH
QUANTITY: 1 PER SECTOR, TOTAL OF 3
STATUS: PROPOSED

TYPICAL REMOTE RADIO HEAD (RRH) UNIT DIMENSIONS 2  
SCALE: N.T.S. RF02

RF BILL OF MATERIALS (PROP. (FINAL) CONFIGURATION)						
SITE NAME: CHESHIRE NORTHEAST 2 CT A = ALPHA SECTOR B = BETA SECTOR G = GAMMA SECTOR						
ITEM (SEE PLAN)	DESCRIPTION	BAND	QTY	STATUS	CABLE LENGTH/UNIT SIZE	COMMENTS
1	PANEL ANTENNA	700/850/1900/2100	3 TOTAL (A,B,G)	PROP.	70.9'H x 12.2'W x 7.5'D (53.4 lbs, each)	MOUNTED TO PROP. SIDE-BY-SIDE MOUNT
2	PANEL ANTENNA	700/850/1900/2100	3 TOTAL (A,B,G)	PROP.	70.9'H x 12.2'W x 7.5'D (53.4 lbs, each)	MOUNTED TO PROP. SIDE-BY-SIDE MOUNT
3	SIDE-BY-SIDE ANTENNA MOUNT KIT	-	3 TOTAL (A,B,G)	PROP.	28.0 lbs, each	MOUNTED TO PROP. PIPE MAST
4	6x12 LOW-INDUCTANCE HYBRID SIGNAL CABLE (MAIN LINE)	-	2 TOTAL	PROP.	170 FT.±	ROUTED UP WITHIN EXIST. MONOPOLE TO PROP. ANTENNA ARRAY
5	1x1 HYBRID SIGNAL CABLE (JUMPER)	-	9 TOTAL (3 PER SECTOR)	PROP.	5 FT. EACH	ROUTED FROM PROP. UPPER OVP BOX TO PROP. REMOTE RADIO HEAD (RRH) UNITS
6	1/2" COAXIAL CABLE (JUMPER)	-	48 TOTAL (16 PER SECTOR)	PROP.	5 FT. EACH	ROUTE FROM PROP. REMOTE RADIO HEAD (RRH) UNITS TO PROP. ANTENNAS
7	RET CONTROL CABLE(S) (JUMPER)	-	PER RF REQ.	PROP.	5 FT. EACH	ROUTE FROM PROP. REMOTE RADIO HEAD (RRH) UNITS TO PROP. ANTENNAS
8	REMOTE RADIO HEAD (RRH) UNIT	700/850	3 TOTAL (A,B,G)	PROP.	15.0'H x 15.0'W x 8.1'D (70.3 lbs, each)	MOUNTED TO PROP. PIPE MAST
9	REMOTE RADIO HEAD (RRH) UNIT	1900/2100	3 TOTAL (A,B,G)	PROP.	15.0'H x 15.0'W x 10.0'D (84.4 lbs, each)	MOUNTED TO PROP. PIPE MAST
10	REMOTE RADIO HEAD (RRH) UNIT	BAND 48	3 TOTAL (A,B,G)	PROP.	13.9'H x 8.6'W x 4.2'D (18.6 lbs, each)	MOUNTED TO PROP. PIPE MAST
11	UPPER OVP BOX WITH SURGE	-	1 TOTAL	PROP.	29.58'H x 16.5'W x 12.6'D (32.0 lbs, each)	MOUNTED TO EXIST. MONOPOLE
12	LOWER OVP RACK	-	1 TOTAL	PROP.	-	INTEGRAL WITHIN EQUIPMENT CABINET

THIS RF BILL OF MATERIALS (BOM) HAS BEEN COMPILED FROM ANTENNA RECOMMENDATION DATA SHEET DATED 7/1/2020. CONTRACTOR SHALL CONFIRM ALL FINAL RF MATERIALS/EQUIPMENT TO BE USED WITH VERIZON WIRELESS RF ENGINEER DURING CONSTRUCTION.

RF BILL OF MATERIALS (FINAL CONFIGURATION) 3  
SCALE: NONE RF02

**Procedure**  
Mounting Procedures

4.1 A mounting base is delivered with the unit. The base allows either wall/ladder or pole mounted installation. See picture to identify the holes for each installation method.

4.2 **Option 1: Pole Mount**  
Using supplied hardware, mount Bracket to 2" to 4" diameter pole.

4.3 **Option 2: Unistrut**

4.4 **Option 3: Monopole**  
Use 1" stainless steel bands (not supplied) through slots on bracket to mount to Monopole.

**Gland/Insert Definitions**

5.1 See picture to identify Base Gland Assembly Definitions.

Assembled in unit as shipped:

Qty	Connector Size	Pos	Insert P/N	Insert Hole	Cable Type
2	M75	A	190-0760	42mm	6x12 RL
4	M75	B	190-0738	3x 16.5mm	1x2

Included in kit shipped with unit:

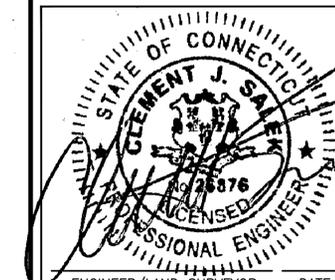
Qty	Connector Size	Insert P/N	Insert Hole	Cable Type	Purpose	Pos
2	M75	190-0760	42mm	6x12 RL	2 glands fit 1 each 6/12 Hyb	B
2	M75	190-0747	2x 24.5mm	2x12 DC	2 glands fit 2 each #6 12 cond DC	B
1	M75	190-0905	2x 10.5mm	2x12 Fiber	1 gland fit 2 x 12 fiber trunk	B
1	M75	190-0912	2x 9.5mm	2 ETH	1 gland fits 2 ethernet cable	B

<b>ITEM 11</b>
FIBER JUNCTION BOX
DIMENSIONS: 29.5'H x 16.5'W x 12.6'D
WEIGHT: 32.0 LBS
QUANTITY: TOTAL OF 1
STATUS: PROPOSED

TYPICAL FIBER JUNCTION BOX DIMENSIONS, SCHEMATIC AND MOUNTING PROCEDURE 4  
SCALE: N.T.S. RF02



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
**ANTENNA DETAILS AND ANCILLARY EQUIPMENT SPECIFICATIONS**

DRAWING NO:  
**RF02**

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	
	CHECKED BY: GRS	
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	470040

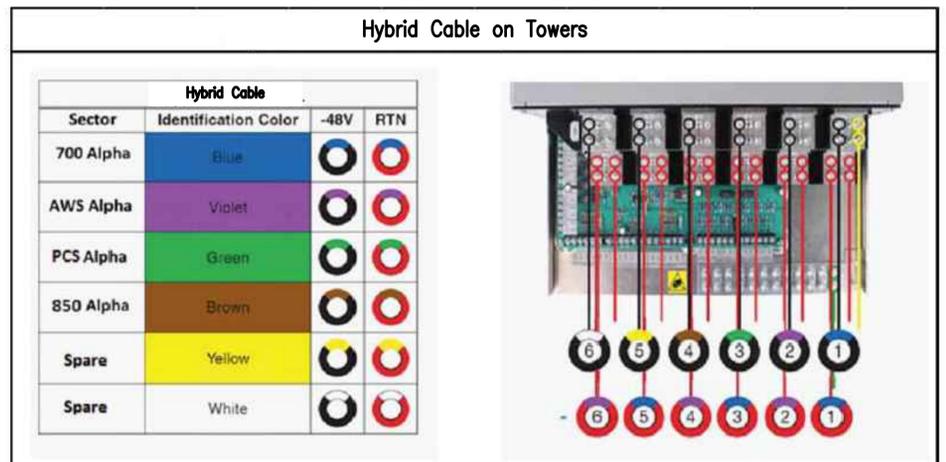
Line Color Code	Band	Tx/Rx	Color Pairs	Sector	Cable Length (FT)
BR	850	Tx0/Rx0	Blue + Red	ALPHA	170'±
BY	850	Tx1/Rx1	Blue + Yellow		
BG	1900 CDMA	Tx0/Rx0	Blue + Green		
BBG	1900 CDMA	Tx1/Rx1			
BP	700	Tx0/Rx0	Blue + Purple		
BBP	700	Tx1/Rx1			
BBBP	700	Tx2/Rx2			
BBBBP	700	Tx3/Rx3	Blue + Brown		
BBr	AWS	Tx0/Rx0			
BBBr	AWS	Tx1/Rx1			
BBBBr	AWS	Tx2/Rx2			
BBBBBr	AWS	Tx3/Rx3	Blue + Green		
BGG	1900 LTE	Tx0/Rx0			
BBGG	1900 LTE	Tx1/Rx1			
BBBGG	1900 LTE	Tx2/Rx2			
BBBBGG	1900 LTE	Tx3/Rx3			
WR	850	Tx0/Rx0		White + Red	BETA
WY	850	Tx1/Rx1	White + Yellow		
WG	1900 CDMA	Tx0/Rx0	White + Green		
WVG	1900 CDMA	Tx1/Rx1			
WP	700	Tx0/Rx0	White + Purple		
WWP	700	Tx1/Rx1			
WWWP	700	Tx2/Rx2			
WWWWP	700	Tx3/Rx3	White + Brown		
WBr	AWS	Tx0/Rx0			
WWBr	AWS	Tx1/Rx1			
WWWBr	AWS	Tx2/Rx2			
WWWWBr	AWS	Tx3/Rx3	White + Green		
WGG	1900 LTE	Tx0/Rx0			
WWGG	1900 LTE	Tx1/Rx1			
WWWGG	1900 LTE	Tx2/Rx2			
WWWWGG	1900 LTE	Tx3/Rx3			
OR	850	Tx0/Rx0		Orange + Red	GAMMA
OY	850	Tx1/Rx1	Orange + Yellow		
OG	1900 CDMA	Tx0/Rx0	Orange + Green		
OOG	1900 CDMA	Tx1/Rx1			
OP	700	Tx0/Rx0	Orange + Purple		
OOP	700	Tx1/Rx1			
OOPP	700	Tx2/Rx2			
OOOPP	700	Tx3/Rx3	Orange + Brown		
OBr	AWS	Tx0/Rx0			
OObR	AWS	Tx1/Rx1			
OObBr	AWS	Tx2/Rx2			
OObBBr	AWS	Tx3/Rx3	Orange + Green		
OGG	1900 LTE	Tx0/Rx0			
OOGG	1900 LTE	Tx1/Rx1			
OOOGG	1900 LTE	Tx2/Rx2			
OOOOGG	1900 LTE	Tx3/Rx3			

CABLE LENGTH PROVIDED BELOW IS APPROXIMATE IN NATURE AND REFLECTED AS AN ADJUSTED VALUE TO PROVIDE ADEQUATE LENGTH. ANY FIELD MEASUREMENTS OF ANTICIPATED CABLE LENGTH IS ENCOURAGED IN AN EFFORT TO REDUCE SLACK AND TO OPTIMIZE DESIGN. SUCH FIELD MEASUREMENTS MAY SUPERCEDE THE LENGTH PROVIDED BELOW AT THE DISCRETION OF THE GENERAL CONTRACTOR

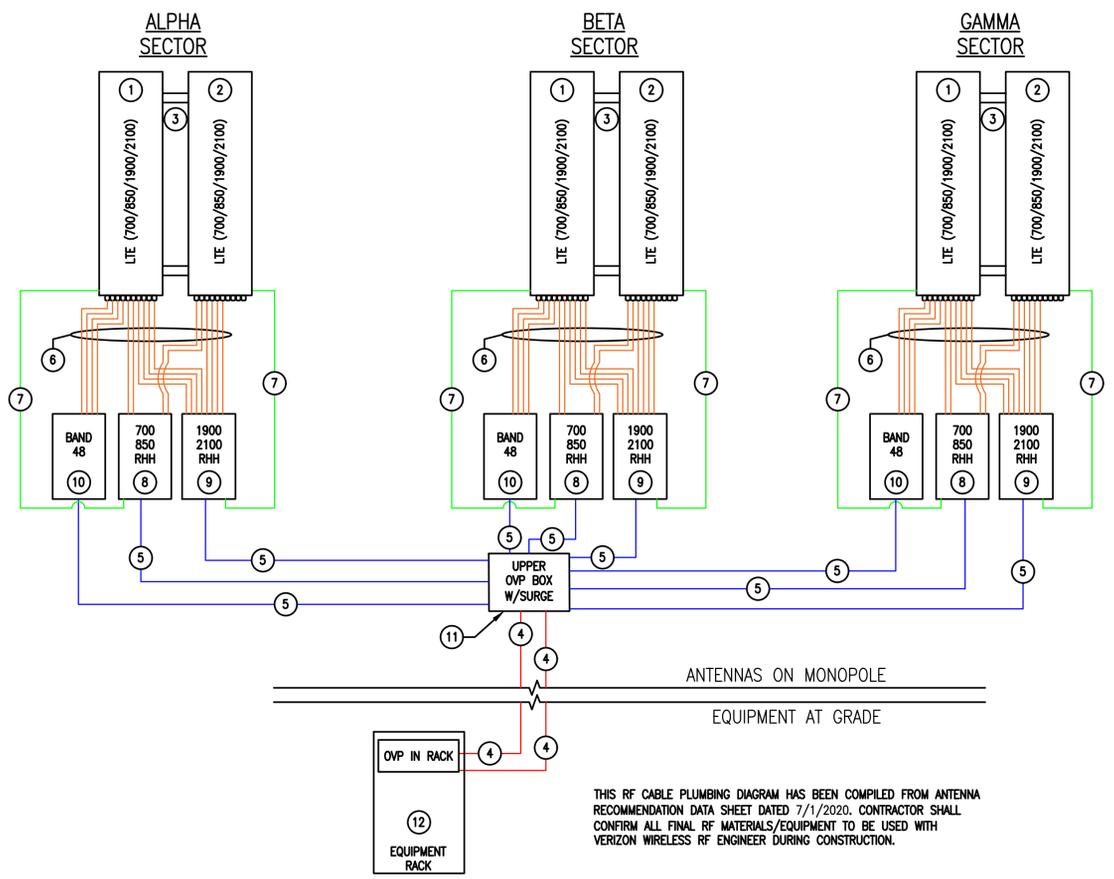
CABLE LENGTH PROVIDED BELOW IS APPROXIMATE IN NATURE AND REFLECTED AS AN ADJUSTED VALUE TO PROVIDE ADEQUATE LENGTH. ANY FIELD MEASUREMENTS OF ANTICIPATED CABLE LENGTH IS ENCOURAGED IN AN EFFORT TO REDUCE SLACK AND TO OPTIMIZE DESIGN. SUCH FIELD MEASUREMENTS MAY SUPERCEDE THE LENGTH PROVIDED BELOW AT THE DISCRETION OF THE GENERAL CONTRACTOR

LINE COLOR CODE SPECIFICATIONS 1 RF03

LEGEND	
RED	## = HYBRID CABLE (MAIN LINE)
PURPLE	## = COAXIAL CABLE (MAIN LINE)
BLUE	## = 1x1 HYBRID CABLE (JUMPER)
ORANGE	## = 1/2" COAXIAL CABLE (JUMPER)
GREEN	## = RET CONTROL CABLE(S) (JUMPER)



HYBRID CABLE COLOR CODE SPECIFICATIONS 2 RF03



RF CABLE PLUMBING DIAGRAM (FINAL CONFIGURATION) 3 RF03

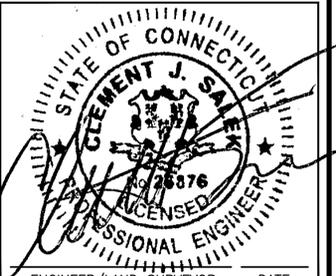
THIS RF CABLE PLUMBING DIAGRAM HAS BEEN COMPILED FROM ANTENNA RECOMMENDATION DATA SHEET DATED 7/1/2020. CONTRACTOR SHALL CONFIRM ALL FINAL RF MATERIALS/EQUIPMENT TO BE USED WITH VERIZON WIRELESS RF ENGINEER DURING CONSTRUCTION.



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE  
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
RF COLOR CODE SPECIFICATIONS AND PLUMBING DIAGRAM

DRAWING NO:  
**RF03**

SCALE: N/A	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
GEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

**GENERAL PLUMBING NOTES:**

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE AND FULLY OPERATING SYSTEM INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY AS INDICATED ON DRAWINGS AND AS DESCRIBED IN THESE SPECIFICATIONS.
2. THE CONTRACTOR SHALL PERFORM ALL CUTTING, DEMOLISHING, REMOVAL, DISPOSAL, PATCHING, SEALING, RESTORATION AND ALL ELSE REQUIRED TO COMPLETE THE PLUMBING INSTALLATION.
3. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LOCALLY PRESIDING BUILDING CODE AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
4. THIS CONTRACTOR SHALL PAY ALL FEES AND TAXES, OBTAIN ALL PERMITS AND APPROVALS, FILE THE REQUIRED DOCUMENTS AND CAUSE ALL INSPECTIONS.
5. SHOP DRAWINGS OF THE FOLLOWING SHALL BE SUBMITTED TO THE OWNER'S PROJECT REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION:
  - A. LAYOUT OF ALL EQUIPMENT
  - B. DIMENSIONED AND DETAILED PIPING LAYOUT
  - C. MANUFACTURER'S SPECIFICATIONS OF ALL EQUIPMENT SPECIFIED
  - D. DETAILED CONTROL WIRING DIAGRAMS
6. ALL PIPE HANGERS SHALL BE ATTACHED TO THE BUILDING/SUPPORT STRUCTURE. PROVIDE TRAPEZE SUPPORTS AS REQUIRED.
7. THE DIGGING OF HANGERS, CHOPPING, CORE DRILLING, WORK IN OTHER TENANT SPACES OR OCCUPIED AREAS, WORK CREATING FUMES ETC. OR WORK DEEMED BY THE OWNER TO BE A NUISANCE TO OTHER TENANTS SHALL BE DONE AFTER WORKING HOURS.
8. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS AND FLOORS SHALL BE FIRESTOPPED WITH HILTI FIRESTOPPING MATERIAL. PROVIDE PIPE SLEEVES FOR ALL PENETRATIONS SEALED WITH AN APPROVED FIRESTOP.
9. THIS CONTRACTOR SHALL FURNISH A ONE (1) YEAR GUARANTEE ON PARTS AND LABOR OF THE INSTALLATION FROM THE DATE OF OWNER ACCEPTANCE AND A FIVE (5) YEAR COMPRESSOR WARRANTY WHERE AVAILABLE.
10. CONTRACTOR SHALL FURNISH ALL NECESSARY CONTROLS, STARTERS, PUMPS, MOTORS, PANELS AND RELAYS ETC. FOR A FULLY FUNCTIONING SYSTEM.
11. BAKELITE LABELS SHALL BE INSTALLED AT ALL NEW EQUIPMENT FOR IDENTIFICATION PURPOSES.
12. ANY REQUIRED SHUTDOWNS OF BASE BUILDING SYSTEMS FOR CONNECTION OF TENANT SYSTEMS MUST BE PRIOR APPROVED AND COORDINATED WITH ALL APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES. THIS CONTRACTOR SHALL ASSUME ALL FEES REQUIRED BY THE OWNER TO ARRANGE AND SUPERVISE THE SHUTDOWN(S).
13. THE CONTRACTOR SHALL VISIT THE LOCATIONS OF ALL PROPOSED WORK AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING AND FORECASTED CONDITIONS AND LIMITATIONS.
14. VERIFY ALL EXISTING CONDITIONS. ALL NEW PIPING AND EQUIPMENT SHALL BE COORDINATED WITH ALL EXISTING DUCTWORK, PIPING, ELECTRICAL AND GENERAL SITE CONDITIONS.
15. ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL AND GENERAL SITE CONDITIONS SHOWN ARE APPROXIMATE AND EXACT CONDITIONS MUST BE VERIFIED IN THE FIELD THROUGHOUT CONSTRUCTION.
16. ALL WORK SHALL CONFORM TO THE GOVERNING BASE BUILDING/PROPERTY STANDARDS.
17. THE CONTRACTOR SHALL COORDINATE WITH THE BASE BUILDING/PROPERTY MANAGEMENT AS TO THE DELIVERY OF EQUIPMENT AND SCHEDULING OF WORK SO AS TO NOT INTERFERE WITH THE OPERATION OF THE OCCUPIED FACILITIES. ANY REQUIRED SHUTDOWNS OF THE EXISTING BASE BUILDING/PROPERTY SYSTEMS OR WORK OUTSIDE OF THE DEMISING AREA SHALL BE STRICTLY COORDINATED WITH ALL APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES.
18. ALL ANCILLARY POWER AND LINE VOLTAGE WIRING SHALL BE DONE BY A LICENSED AND INSURED ELECTRICAL CONTRACTOR BASED UPON THE DIAGRAMS FURNISHED BY THE MECHANICAL CONTRACTOR.

**GENERAL PLUMBING NOTES (CONTINUED):**

21. ALL MATERIAL AND APPARATUS SHALL BE NEW AND IN FIRST CLASS CONDITION. ALL MATERIAL AND APPARATUS SHALL HAVE MARKINGS OR A NAMEPLATE IDENTIFYING THE MANUFACTURER AND PROVIDING SUFFICIENT REFERENCE TO ESTABLISH QUALITY, SIZE AND CAPACITY. ALL WORKMANSHIP SHALL BE OF THE FINEST POSSIBLE BY EXPERIENCED MECHANICS OF THE PROPER TRADE. IN GENERAL, ALL MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE CONSIDERED ACCEPTABLE. ALL HOISTS, SCAFFOLDS, STAGING, RUNWAYS, TOOLS, MACHINERY AND EQUIPMENT REQUIRED FOR THE PERFORMANCE OF THE WORK SHALL BE FURNISHED BY THIS CONTRACTOR. MATERIAL AND EQUIPMENT SHALL BE STORED AND MAINTAINED IN CLEAN CONDITION AND PROTECTED FROM WEATHER, MOISTURE AND PHYSICAL DAMAGE.
20. THE CONTRACTOR SHALL PERSONALLY INSPECT THE SITE OF THE PROPOSED WORK DURING THE CUSTOMER'S BID WALK OR AS OTHERWISE ARRANGED WITH APPROPRIATE BUILDING/PROPERTY REPRESENTATIVES AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT PRICE.
21. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED FROM THE PREMISES DAILY TO PREVENT ACCUMULATION. THE CONTRACTOR SHALL COOPERATE IN MAINTAINING REASONABLY CLEAN PREMISES AT ALL TIMES THROUGHOUT CONSTRUCTION. IMMEDIATELY PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL PERFORM A FINAL CLEANUP OF DIRT AND REFUSE RESULTING FROM THE WORK PERFORMED. THE CONTRACTOR SHALL CLEAN ALL MATERIAL AND EQUIPMENT INSTALLED UNDER THE CONTRACT. DIRT, DUST, PLASTER, STAINS AND ALL FOREIGN MATTER SHALL BE REMOVED FROM ALL SURFACES. DAMAGED FINISHES SHALL BE TOUCHED UP AND RESTORED TO THEIR ORIGINAL CONDITION.
22. THE DRAWINGS ARE SCHEMATIC IN NATURE, BUT SHOW THE VARIOUS COMPONENTS OF THE SYSTEMS APPROXIMATELY TO SCALE AND ATTEMPT TO INDICATE HOW THEY ARE TO BE INTEGRATED WITH OTHER PARTS OF THE BUILDING/STRUCTURE. FIGURED DIMENSIONS SHALL BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS. DETERMINE EXACT LOCATIONS BY FIELD MEASUREMENTS, CHECKING THE REQUIREMENTS OF OTHER TRADES AND BY REVIEWING ALL CONTRACT DOCUMENTS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS WHICH COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

**GAS PIPING NOTES:**

1. GAS PIPING SHALL BE DESIGNED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE LATEST REVISION AND IN ACCORDANCE WITH NFPA 54.
2. GAS PIPE SIZING SHALL BE BASED ON TABLE M-805.4.1(2) IN THE BOCA NATIONAL MECHANICAL CODE. A MAXIMUM PIPE LENGTH OF 200 FT. SHALL BE USED FOR THIS DESIGN.
3. GAS PIPING SHALL BE OF MATERIAL SPECIFIED ON PLANS WITH ALL INDUSTRY STANDARD FITTINGS. WHERE GAS PIPING CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE SUPPLY PIPE, A 100% SHUT-OFF GAS COCK AND A UNION.
4. GAS PIPING HANGERS AND SUPPORTS SHALL CONFORM TO THE REQUIREMENTS OF "STANDARD PRACTICE FOR PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION AND INSTALLATION" (ANSI/MSS SP-58-2009). ALL PIPE SHALL BE SUPPORTED IN A NEAT AND WORKMANLIKE MANNER.
5. PORTIONS OF A GAS PIPING SYSTEM INSTALLED IN CONCEALED LOCATIONS SHALL NOT HAVE UNIONS, TUBE FITTINGS OR RUNNING THREADS. NO GAS VALVES SHALL BE INSTALLED IN ABOVE CEILING OR BELOW GRADE LOCATIONS.
6. ALL GAS VENTS FROM PRESSURE RELIEF OR PRESSURE LIMITING DEVICES SHALL BE PIPED THE FULL OUTLET SIZE AND SHALL BE FITTED WITH AN AGA APPROVED FITTING WITH INSECT SCREEN. PROVIDE CAULKING OR PROPER FLASHING AT VENTS.
7. BRANCH OUTLET PIPES SHALL BE TAKEN FROM THE TOP OR SIDES OF THE HORIZONTAL LINES AND NOT THE BOTTOM.
8. USE DIELECTRIC UNIONS WHERE DISSIMILAR METALS ARE JOINED TOGETHER.
9. INSPECT, TEST AND PURGE THE GAS PIPING SYSTEM IN ACCORDANCE TO NFPA 54 - PART 4 AND ALL LOCAL REQUIREMENTS. MINIMUM REQUIREMENTS SHALL BE 5 PSIG FOR A PERIOD OF 2 HOURS.

**PLUMBING PROCEDURAL, PREPARATION AND TESTING NOTES:**

1. DUE TO THE NATURE OF THIS SYSTEM AND OTHER SIMILAR SYSTEMS IN USE BY THE OWNER, THE CONTRACTOR SHALL PROVIDE THE SYSTEMS AS SPECIFIED. SUBSTITUTIONS SHALL NOT BE CONSIDERED AT THIS TIME UNLESS DIRECTED BY OWNER.
2. ALL WORK WITHIN LIVE ELECTRICAL PANELS SHALL OCCUR DURING HOURS ACCEPTABLE TO THE PANEL OWNER.
3. THE CONTRACTOR SHALL PROVIDE TWO (2) DAYS ADVANCED NOTIFICATION OF ALL DELIVERIES TO THE SITE AND SEVEN (7) DAYS ADVANCED NOTIFICATION OF ANY REQUIRED SERVICE SHUT-DOWNS.
4. THE CONTRACTOR SHALL MAINTAIN INTERFACE WITH THE OWNER AND WITH ALL OF THEIR CONTRACTORS, VENDORS AND ENGINEERING FIRMS.
5. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING TO BE HELD AT THE JOB SITE OR IN THE AREA WHERE THE INSTALLATION WILL TAKE PLACE.
6. PRIOR TO THE START OF CONSTRUCTION, ALL WORKERS SHALL BE BRIEFED ON ALL SAFETY REQUIREMENTS PERTINENT TO THE WORKING ENVIRONMENT.
7. THE CONTRACTOR SHALL INSURE THE AVAILABILITY AND ACCESSIBILITY OF ADEQUATE ON-SITE FIRE EXTINGUISHERS, SAFETY EQUIPMENT BOARDS AND FIRST AID STATIONS.
8. ALL CONNECTIONS, TEST MEASUREMENTS AND ADJUSTMENTS SHALL BE DIRECTLY WITNESSED BY AN OWNER APPROVED PROJECT SUPERVISOR.
9. PRIOR TO THE START-UP OF THE SYSTEMS, THE CONTRACTOR SHALL CHECK ALL COMPONENTS AND DEVICES, LUBRICATE ITEMS ACCORDINGLY AND TIGHTEN ALL CONNECTIONS. AFTER ALL SYSTEMS HAVE BEEN INSPECTED AND ADJUSTED, CONFIRM ALL OPERATING FEATURES REQUIRED BY THE DRAWINGS AND SPECIFICATIONS AND MAKE FINAL ADJUSTMENTS AS NECESSARY.
10. APPROPRIATE FACTORY REPRESENTATIVES SHALL BE ON SITE TO COMMISSION THE SYSTEM.
11. CONTRACTOR SHALL INSPECT AND TEST ALL PIPING AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
12. AUTHORIZED PERSONNEL SHALL CONDUCT CLEANING, PURGING AND TESTING PROCEDURES. TESTING OF PIPING SHALL UTILIZE HYDROSTATIC OR PNEUMATIC MEASURES. OXYGEN OR LP GAS IS NOT TO BE USED.
13. PURGE PIPING WITH INERT GAS PRIOR TO INTRODUCING LP GAS.
14. CONDUCT A FUNCTIONAL TEST OF ALL ISOLATION VALVES, EXCESS FLOW VALVES AND PRESSURE RELIEF VALVES.
15. CONTRACTOR SHALL SUBMIT TO THE OWNER THREE (3) COPIES EACH OF MATERIAL FOR MAINTENANCE AND OPERATION INSTRUCTION MANUALS APPROPRIATELY BOUND INTO MANUAL FORM INCLUDING APPROVED COPIES OF MANUFACTURER'S CATALOG SHEETS, WIRING DIAGRAMS, MAINTENANCE INSTRUCTIONS, OPERATING INSTRUCTIONS AND PARTS LISTS (REVISED IF NECESSARY TO SHOW SYSTEM AND EQUIPMENT AS ACTUALLY INSTALLED). CONTRACTOR SHALL ALSO PROVIDE ADEQUATE VERBAL INSTRUCTIONS OF SYSTEM OPERATION AND RE-START TO OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE WORK.

GENERATOR: TBD SUPPLIED BY VERIZON, INSTALLED BY CONTRACTOR.

CONTRACTOR SHALL OBTAIN FULL SPECIFICATIONS FROM VERIZON PRIOR TO BID.

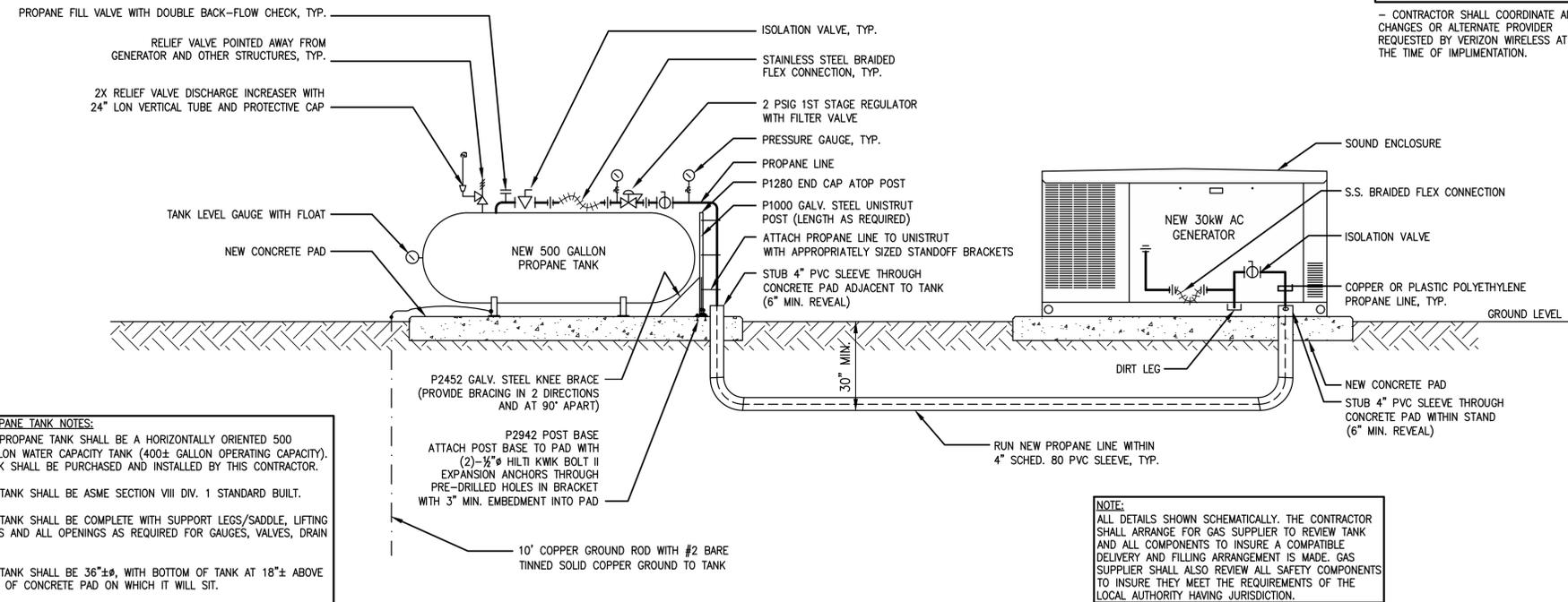
CONTRACTOR SHALL ARRANGE FOR GENERATOR START-UP SERVICES.

**PROPANE GAS ACCOUNT:**  
CONTRACTOR SHALL ARRANGE FOR NEW GAS ACCOUNT TO BE ESTABLISHED WITH CONSUMERS PROPANE. VERIZON TO SUPPLY INFORMATION FOR ACCOUNT.

F.F. HITCHCOCK CO.  
264 SANDBANK ROAD  
CHESHIRE, CT 06410  
(203) 272-5400

- CONTRACTOR SHALL COORDINATE ANY CHANGES OR ALTERNATE PROVIDER REQUESTED BY VERIZON WIRELESS AT THE TIME OF IMPLEMENTATION.

LEGEND	
	PLUG VALVE
	UNION
	PIPE DROP
	PIPE RISE
	PUSH BUTTON SWITCH



**PROPANE TANK NOTES:**

- 1.) PROPANE TANK SHALL BE A HORIZONTALLY ORIENTED 500 GALLON WATER CAPACITY TANK (400± GALLON OPERATING CAPACITY). TANK SHALL BE PURCHASED AND INSTALLED BY THIS CONTRACTOR.
- 2.) TANK SHALL BE ASME SECTION VIII DIV. 1 STANDARD BUILT.
- 3.) TANK SHALL BE COMPLETE WITH SUPPORT LEGS/SADDLE, LIFTING LUGS AND ALL OPENINGS AS REQUIRED FOR GAUGES, VALVES, DRAIN ETC.
- 4.) TANK SHALL BE 36"±Ø, WITH BOTTOM OF TANK AT 18"± ABOVE TOP OF CONCRETE PAD ON WHICH IT WILL SIT.
- 5.) TANK SHALL BE FACTORY PRIMED AND PAINTED WHITE TO INDUSTRY STANDARDS.

**NOTE:**  
ALL DETAILS SHOWN SCHEMATICALLY. THE CONTRACTOR SHALL ARRANGE FOR GAS SUPPLIER TO REVIEW TANK AND ALL COMPONENTS TO INSURE A COMPATIBLE DELIVERY AND FILLING ARRANGEMENT IS MADE. GAS SUPPLIER SHALL ALSO REVIEW ALL SAFETY COMPONENTS TO INSURE THEY MEET THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

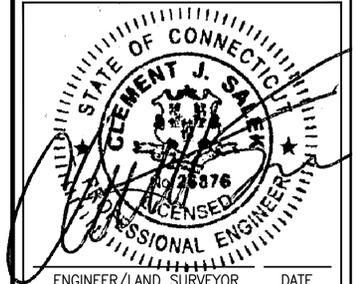
**PROPANE PIPING SCHEMATIC** 1  
SCALE: NOT TO SCALE P01



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE  
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
**PLUMBING NOTES AND SCHEMATIC**

DRAWING NO:  
**P01**

SCALE: NOT TO SCALE	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

## ELECTRICAL SPECIFICATIONS

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS REQUIRED TO MAKE READY FOR USE THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS. MAKE ALL NECESSARY CONNECTIONS AT "PACKAGED" EQUIPMENT.
- THE ELECTRICAL SYSTEMS SHALL BE SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. ALL MATERIAL AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THE WORK SHALL BE FURNISHED AT NO EXTRA COST.
- FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL, STATE AND NATIONAL CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO:  
THE 2018 CONNECTICUT STATE BUILDING CODE  
THE NATIONAL ELECTRICAL CODE (NFPA-70)  
THE CONNECTICUT ELECTRIC CODE  
THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)  
THE LIFE SAFETY CODE (NFPA 101)  
THE STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURE AND ANTENNAS (TIA/EIA-222-G)
- MATERIALS AND EQUIPMENT SHALL BE NEW, UNUSED AND UNDERWRITERS' LABORATORIES, INC. LISTED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS IN A TIMELY FASHION, INCLUDING RESPONSIBILITY FOR DETERMINING AVAILABILITY/LEAD TIME FOR ALL NECESSARY EQUIPMENT.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES FOR PERMITS AND INSPECTIONS. WHERE NEW COMMERCIAL POWER SERVICE IS PROVIDED TO THE SITE, OR EXISTING SERVICE MUST BE MODIFIED, CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE ELECTRIC UTILITY, SHALL PERFORM ALL OF HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY, AND SHALL PAY ALL UTILITY SERVICE BACK CHARGES.
- ALL WIRING OUTSIDE SHALL BE INSTALLED IN HEAVY-GAUGE, (SCHEDULE 40) RIGID STEEL CONDUIT, HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE WITH AN ADDITIONAL FACTORY-APPLIED FINISH INSIDE AND OUTSIDE. CUT ENDS SHALL BE REAMED, THREADED AND COLD GALVANIZED. NO COMPRESSION FITTING WILL BE ACCEPTED.
- UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 AND INSTALLED NOT LESS THAN 30 INCHES BELOW FINISHED GRADE.
- WIRING INSTALLED IN THE BUILDING THAT IS SHOWN TO BE IN CONDUIT SHALL BE INSTALLED IN EMT. EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE.
- LIQUID TIGHT, FLEXIBLE METAL CONDUIT SHALL BE USED FOR ALL MOTOR TERMINATIONS AND FOR CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. FLEXIBLE METAL CONDUIT SHALL CONSIST OF A FLEXIBLE, CORROSION RESISTANT METAL CORE WITH AN EXTRUDED, WATERTIGHT, SYNTHETIC JACKET. CONDUITS SMALLER THAN 1-1/2" SHALL HAVE A CONTINUOUS GROUND CONDUCTOR UNDER THE JACKET.
- NO CONDUIT SMALLER THAN 3/4" ELECTRICAL TRADE SIZE SHALL BE USED, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS. BOX SIZES SHALL BE 4" SQUARE MINIMUM, BUT NOT LESS THAN THAT REQUIRED BY THE CONNECTICUT ELECTRICAL CODE.
- FITTINGS AND EXPOSED SWITCH, OUTLET AND CONTROL STATION BOXES AND OTHER EXPOSED BOXES 4" SQUARE SHALL BE CAST OR MALLEABLE IRON WITH CADMIUM-ZINC FINISH AND CAST COVERS WITH STAINLESS STEEL SCREWS.
- FLUSH SWITCH AND OUTLET BOXES SHALL BE HOT-DIPPED GALVANIZED, PRESSED STEEL WITH NYLON COVER PLATES, COLOR AS DETERMINED BY THE ENGINEER.
- EXCEPT AS OTHERWISE SHOWN, TERMINAL, JUNCTION AND PULL BOXES LARGER THAN 4" SQUARE SHALL BE SHEET STEEL. STEEL BOXES SHALL BE HOT-DIPPED GALVANIZED. BOXES AND COVERS SHALL BE NOT LESS THAN 14 GAUGE METAL. COVERS SHALL BE GASKETED AND FASTENED WITH STAINLESS STEEL HARDWARE.
- FITTINGS USED WITH LIQUID TIGHT, FLEXIBLE CONDUIT SHALL BE OF THE SCREW-IN, COMPRESSION TYPE WITH SEALING RING. FITTINGS LARGER THAN 1-1/4" SHALL BE FURNISHED WITH INTEGRAL GROUND LUGS.
- HANGERS, RODS, BACK PLATES, BEAM CLAMPS, ETC. SHALL BE GALVANIZED IRON OR STEEL. CONDUITS SHALL BE SUPPORTED AT LEAST EVERY 5 FEET.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS. CONDUIT RUNS SHALL BE STRAIGHT AND TRUE. CONDUIT SHALL BE SUPPORTED BY MEANS OF TWO-HOLE PIPE CLAMPS. BACK PLATES SHALL BE INSTALLED WHERE REQUIRED TO RAISE CONDUITS FROM THE SURFACE. MULTIPLE, HORIZONTAL RUNS SHALL BE SUPPORTED ON TRAPEZE HANGERS WITH STEEL HORIZONTAL MEMBERS AND THREADED RODS NOT LESS THAN 3/8 INCHES IN DIAMETER. HANGERS SHALL BE ATTACHED TO STRUCTURAL STEEL BY MEANS OF BEAM CLAMPS. SPOT TYPE INSERTS SHALL BE USED IN CONCRETE.
- CONDUIT BENDS SHALL BE CAREFULLY MADE TO PREVENT DISTORTION OF THE CIRCULAR CROSS-SECTION. NO CONDUIT RUN SHALL HAVE MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN PULLING POINTS. CHANGES IN DIRECTION SHALL BE MADE WITH BENDS, STANDARD ELBOWS AND PULLBOXES. BENDS IN PARALLEL RUNS SHALL BE CONCENTRIC.
- CONDUIT SHALL NOT BE SUPPORTED FROM PIPING, PIPING SUPPORTS, DUCTWORK, SUSPENDED CEILING SUPPORTS OR MECHANICAL EQUIPMENT SUBJECT TO VIBRATION OR REMOVAL.
- THE ENDS OF ALL CONDUITS SHALL BE TIGHTLY PLUGGED DURING BUILDING CONSTRUCTION UNTIL WIRES ARE TO BE PULLED. SPARE CONDUITS SHALL BE FURNISHED WITH THREADED CAPS.
- CONDUITS SHALL BE TERMINATED AT UNGASKETED SHEET STEEL BOXES AND ENCLOSURES WITH DOUBLE LOCK NUTS AND SUITABLE BUSHINGS. BUSHINGS INSTALLED ON CONDUITS CONTAINING GROUND WIRES SHALL BE GROUNDING TYPE. CONDUITS SHALL BE TERMINATED AT GASKETED SHEET METAL BOXES AND ENCLOSURES WITH CONDUIT HUBS.
- CONDUCTORS SHALL BE ANNEALED, 98 PERCENT CONDUCTIVITY, SOFT-DRAWN COPPER. NO CONDUCTOR SMALLER THAN NO. 12 AWG SHALL BE USED, EXCEPT AS OTHERWISE NOTED.
- WIRE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE 600 VOLT, TYPE THWN. WIRE FOR CONTROL CIRCUITS SHALL BE 600 VOLT, TYPE THWN, NO. 14 AWG, STRANDED. SERVICE CONDUCTORS AND FEEDERS SHALL BE TYPE XHHW. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID. NO. 8 AWG AND LARGER SHALL BE STRANDED.
- ALL CONDUCTORS SHALL BE CAREFULLY HANDLED TO AVOID KINKS OR DAMAGE TO INSULATION. LUBRICANTS SHALL BE USED TO FACILITATE WIRE PULLING. LUBRICANTS SHALL BE UL LISTED FOR USE WITH THE INSULATION SPECIFIED.
- ALL EQUIPMENT AND MATERIALS SHALL BE GROUNDED IN STRICT ACCORDANCE WITH THE CONNECTICUT ELECTRICAL CODE, AND THE STANDARD REQUIREMENTS OF VERIZON WIRELESS AND LUCENT.
- DISCONNECT SWITCHES SHALL BE 480 OR 240 VOLT, HEAVY-DUTY, QUICK-MAKE, QUICK BREAK, VISIBLE BLADE, 2 POLE WITH EXTERNAL OPERATING HANDLE AND FULL COVER INTERLOCK. SWITCHES INSTALLED OUTSIDE SHALL BE NEMA TYPE 3R ENCLOSED.
- WALL SWITCHES SHALL BE SINGLE POLE 3-WAY OR 4-WAY, INDICATING, TOGGLE-ACTION, FLUSH, QUIET TYPE, SPECIFICATION GRADE, RATED 20 AMPERE, 120-277 VOLT. COLOR AS DETERMINED BY ENGINEER.
- GENERAL PURPOSE RECEPTACLES SHALL BE DUPLEX, 2 POLE, 3 WIRE, STRAIGHT BLADE, NYLON FACE, GROUNDING TYPE, 20 AMPERE, 125 VOLT, SPECIFICATION GRADE. COLOR AS DETERMINED BY ENGINEER.
- PANELS SHALL BE PER DIRECTED BY THESE DRAWINGS WITH TYPED DIRECTORIES.
- CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL-MAGNETIC TYPE WITH RMS SYMMETRICAL INTERRUPTING RATING OF NOT LESS THAN 22,000 AMPERE FOR 240 VOLT BREAKERS. ENCLOSED BREAKERS SHALL HAVE PADLOCKING PROVISIONS AND EXTERNAL OPERATING HANDLE WITH FULL COVER INTERLOCK. BREAKERS SHALL BE 1" MODULES MINIMUM.
- NAMEPLATES SHALL BE PROVIDED FOR ALL EQUIPMENT INDICATING VOLTAGE, PHASE, USE AND SOURCE OF ORIGIN. DEVICES SHALL BE LABELED INDICATING VOLTAGE AND BRANCH CIRCUIT. BRANCH CONDUCTORS SHALL BE LABELED INDICATING BRANCH CIRCUIT. FEEDER CONDUCTORS SHALL INDICATE PHASE.
- ALL EXTERIOR CONDUCTOR/LUG TERMINALS SHALL HAVE AN ANTIOXIDANT APPLIED.
- ALL SPRING TYPE WIRE CONDUCTORS USED IN EXTERIOR BOXES SHALL BE SILICON FILLED.

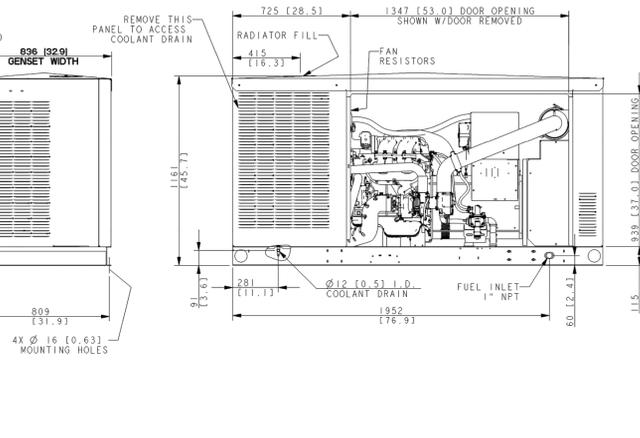
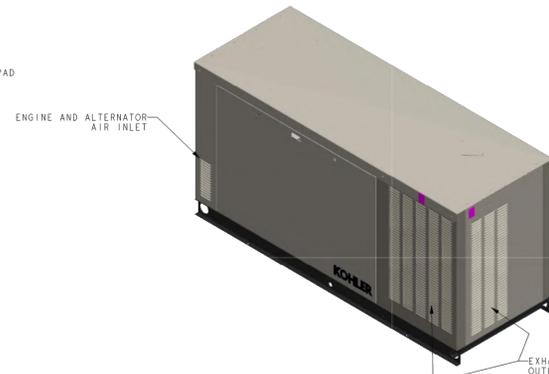
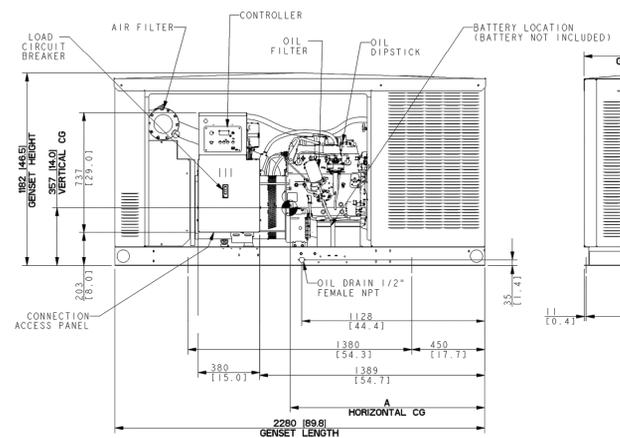
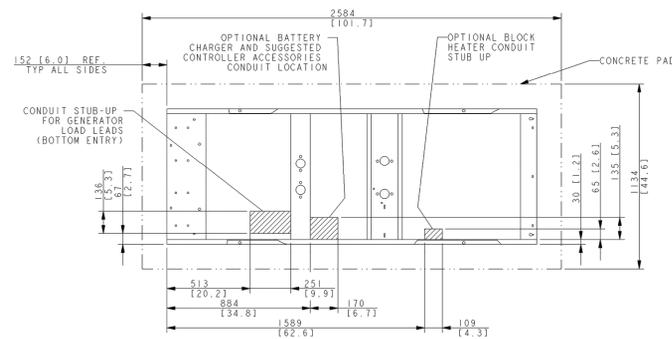
- ELECTRICAL CONTRACTOR SHALL AS PART OF HIS WORK INCLUDE ALL FITTINGS, SLEEVES AND MINOR CUTTING REQUIRED FOR HIS WORK, INCLUDING FIRES-STOPPING.
- THE ELECTRICAL CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE HIS OWN, WHERE DIRECTED, STORAGE AND OFFICE SPACE.
- FIVE COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.
- ELECTRICAL CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR AND MATERIALS, SCAFFOLDING TOOL AND TRANSPORTATION NECESSARY FOR COMPLETE INSTALLATION.
- ELECTRICAL CONTRACTOR TO FURNISH ENGINEER ONE SET OF MYLARS OF "AS BUILT" DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY POWER & LIGHTING AS REQ'D.

## GROUNDING GENERAL NOTES

- ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
- ALL CONNECTIONS TO HALO GROUND RING AND ALL CABLE TRAY JUMPERS SHALL BE #6 AWG, INSULATED, STRANDED, COPPER WIRE.
- ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (T&B #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (T&B OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
- MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
- ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
- CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
- CONNECT TO HALO GROUND USING C-TAP (#54730).
- CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.

## GENERAL NOTES

- CONTRACTOR SHALL VISIT THE SITE TO MAKE HIMSELF AWARE OF THE EXISTING CONDITIONS.
- BRANCH CIRCUIT RUNS 100 FT AND OVER SHALL BE #10 AWG CONDUCTORS.
- THESE DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHT, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PLUMBING CONTRACTORS AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT, THE POWER WIRING, THE CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS REQUIRED BY THIS CONTRACTOR FOR COMPLETELY OPERATIVE HVAC AND PLUMBING SYSTEMS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
- INTERRUPTIONS TO THE EXISTING ELECTRICAL SERVICE FOR SPLICING CONNECTIONS, RENOVATION OF EXISTING DISTRIBUTION, BRANCH CIRCUITS, INSTALLATION OF NEW ELECTRIC SERVICE, AND SHALL BE AS SHORT AS POSSIBLE, AND TO THE CONVENIENCE OF THE OWNER.
- ALL CONDUIT SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED. NO INTERIOR HORIZONTAL CONDUIT BELOW 7'-8" AFF IN FINISHED SPACES.
- ALL WIRING TO BE 3/4", 2#12 & 1#12 GROUND, UNLESS OTHERWISE NOTED.
- NO BX OR ROMEX CABLE IS PERMITTED.
- ALL WIRING DEVICES AND EQUIPMENT SHALL BE 20A SPECIFICATION GRADE AND UL LISTED.
- ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
- ALL RECEPTACLE AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL SIZE EQUIPMENT GROUNDING CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
- ALL WALL PENETRATIONS FOR TELCO, POWER, AND GROUNDING SHALL REQUIRE PVC SLEEVES.
- ALL SWITCHES SHALL BE FORTY-EIGHT (48) INCHES AFF, UNLESS OTHERWISE NOTED.
- ALL RECEPTACLES SHALL BE EIGHTEEN (18) INCHES AFF, UNLESS OTHERWISE NOTED.
- ALL WIRING SHALL BE IN METAL RACEWAY & NO. 12 AWG COPPER MIN. UNLESS OTHERWISE NOTED.
- WIRE COLOR SHALL BE PER STANDARD CODING BY PHASE.
- FOR UTILITY BILLING, PLEASE SEND TO:  
VERIZON WIRELESS  
20 ALEXANDER DRIVE  
WALLINGFORD, CT 06492



KOHLER 30kW PROPANE GENERATOR (PART #30CCL)  
OVERALL GENERATOR (ENCLOSURE) APPROXIMATE  
DIMENSIONS: 89.8\"/>

## GENERATOR DETAIL

SCALE: NONE

1  
E01

## LEGEND

### ELECTRICAL SYMBOLS

(M)	METER
(X)	GROUND ROD/TEST (OBSERVATION) WELL
(X)	GROUND ROD
(▲)	CADWELD TYPE CONNECTION
(●)	COMPRESSION TYPE CONNECTION
(---	GROUNDING WIRE
(1/E02)	REPRESENTS DETAIL NUMBER
(□)	1'X4' SURFACE MTD. FLOURESCENT LIGHTING FIXTURE
(□)	SELF CONTAINED EMERG. LIGHTING UNIT
(S)	20A-120V-1P TOGGLE SWITCH
(M)	MAGNETIC DOOR SWITCH (DOOR JAMB TYPE)
(●)	20A-120V QUADRAPLEX RECEPTACLE, GROUNDING TYPE, 2-CKT. NO.
(●/wp)	20A-120V DUPLEX RECEPTACLE, GROUNDING TYPE. WP = WEATHERPROOF GFI = GROUND FAULT
(□)	SIMPLEX RECEPTACLE, GROUNDING TYPE. TL = TWIST LOCK
(□)	JUNCTION BOX
(P1)	PANELBOARD 'P1'
(M)	MOTOR - NUMERAL DENOTES HORSEPOWER
(M)	WEATHER PROOF DISCONNECT SWITCH
(M)	FUSED DISCONNECT SWITCH - '3R' & '1' - NEMA ENCLOSURE
(M)	THERMOSTAT *M - HI TEMPERATURE ALARM THERMOSTAT
(M)	HUMIDISTAT *M - HI/LO HUMIDITY ALARM HUMIDISTAT
(M)	COMBINATION SMOKE/HEAT DETECTOR WITH MINI HORN SIMPLEX CAT.#2098-9696 WITH FORM A & C CONTACTS
(P1-2)	HOMERUN TO PANEL (FURNISH & INSTALLED BY MECHANICAL)
(□)	SURGE ARRESTOR - JOSLYN CAT. NO. 1455-85
(AFF)	ABOVE FINISHED FLOOR
(M)	MOTORIZED DAMPER
(2#12-3/4\"/>	
(TC)	ALARM TERMINAL CABINET

### ABBREVIATIONS

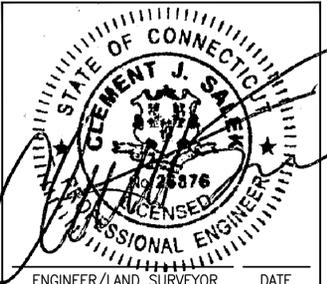
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
GPS	GLOBAL POSITIONING SYSTEM
PCS	PERSONAL COMMUNICATION SYSTEM
RWY	RACEWAY
TYP.	TYPICAL
RGS	RIGID GALVANIZED STEEL
EMT	ELECTRICAL METALLIC TUBING
DWG	DRAWING
EMT	INTERIOR GROUND RING (HALO)
GEN	GENERATOR
GR	GROWTH
CGBE	COAX GROUND BAR EXTERNAL
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MGB	MASTER GROUND BAR
PVC	RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
EBH	ETHERNET BACK HAUL

**verizon**

"Because Better Matters"

**CHAPPELL ENGINEERING ASSOCIATES, LLC**  
Civil - Structural - Land Surveying

R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

### REVISIONS

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:

**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:

**ELECTRICAL SPECIFICATIONS AND NOTES**

DRAWING NO.:

**E01**

SCALE:	DESIGNED BY: GRS	VZW LOCATION CODE:
AS SHOWN	DRAWN BY: NWC	
CEA PROJECT NO.:	CHECKED BY: GRS	470040
96210.397	ORIGINAL ISSUE DATE:	8/17/20



- PROP. 500 GALLON WATER CAPACITY (400 GALLON OPERATING CAPACITY) PROPANE TANK MOUNTED TO PROP. CONCRETE PAD (P01)
- PROP. BACK-UP POWER CONDUIT, GENERATOR CONTROL/ALARM CONDUIT AND HEATER/CHARGER CONDUIT ROUTED BELOW PROP. CONCRETE PAD FROM PROP. POWER CABINET TO PROP. GENERATOR.
- PROP. VERIZON ELECTRIC SERVICE CONDUIT AND FIBER TELEPHONE SERVICE CONDUITS ROUTED UNDERGROUND (TYP.) FROM VERIZON'S PROP. EQUIPMENT TO EXIST. ELECTRIC METER BANK AND TELCO CABINET.

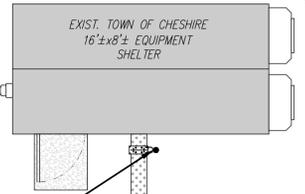
- PROP. VERIZON 30 KW BACK-UP PROPANE GENERATOR MOUNTED TO PROP. CONCRETE PAD (E01)
- PROP. VERIZON PROPANE SERVICE LINE ROUTED UNDERGROUND TO PROP. VERIZON BACK-UP GENERATOR (P01)

- PROP. POWER CABINET MOUNTED TO PROP. UNISTRUT SUPPORTS BETWEEN PROP. ICE SHIELD POSTS (COORDINATE EQUIPMENT SPECIFICATIONS WITH VERIZON WIRELESS)
- PROP. DUPLEX GFCI RECEPTACLE IN WEATHERPROOF 1-GANG WORK BOX WITH CLEAR PLASTIC COVER
- PROP. 180 MINUTE TIMER SWITCH FOR LIGHT IN WEATHERPROOF 1-GANG WORK BOX WITH CLEAR PLASTIC COVER MOUNTED TO PROP. ICE SHIELD POST

- PROP. 1" CONDUIT ROUTED FROM PROP. BTS CABINET TO PROP. PROPANE TANK FOR LP TANK MONITOR (-48 VDC POWER)

- PROP. DUAL LED FLOOD LIGHT (RAB LIGHTING PART #BULLET2X12B) MOUNTED TO PROP. ICE SHIELD POST. (TOTAL OF 2) (MOUNTING DETAILS BY CONTRACTOR)

- PROP. VERIZON EQUIPMENT CABINET MOUNTED TO PROP. STEEL SLEEPER BEAMS ON PROP. REINFORCED CONCRETE PAD (A02)



EXIST. TOWN OF CHESHIRE GPS ANTENNA  
EXIST. TOWN OF CHESHIRE OVERHEAD CABLE ICE BRIDGE (TYP.)

EXIST. 170'± MONOPOLE

EXIST. GRAVEL COVER (WITHIN COMPOUND)

EXIST. GRAVEL COVER

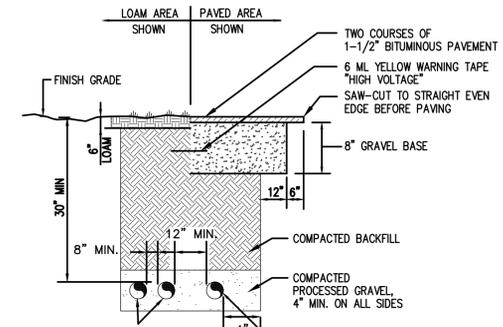
**NOTES:**  
1.) SEE ONE LINE DIAGRAMS ON SHEET E03 FOR FURTHER CONDUIT DETAILS

- EXIST. 8'± CHAIN-LINK FENCE SURROUNDING EXIST. 62'-2"x75'-3"± (4,678± S.F.) EQUIPMENT COMPOUND (TYP.)
- EXIST. ELECTRIC PULLBOX
- EXIST. ELECTRIC TRANSFORMER ON EXIST. CONCRETE PAD
- EXIST. BOLLARD (TYP.)
- EXIST. TELCO CABINET

- EXIST. VACANT METER SOCKET AND DISCONNECT BREAKER KNOCKOUT TO BE UTILIZED FOR VERIZON'S PROP. 200A ELECTRIC SERVICE TO PROP. EQUIPMENT INSTALLATION.

- PROP. VERIZON FIBER TELEPHONE SERVICE TO BE ROUTED UNDERGROUND (WITHIN EXIST. VACANT CONDUIT) FROM EXIST. TELCO CABINET TO EXIST. UTILITY POLE #12336 FOR FIBER TELEPHONE SERVICE PROVIDER/CUSTOMER HANDOFF (FIBER DEMARK LOCATION). SEE SHEET CD1 FOR LOCATION OF EXIST. UTILITY POLE #12336. EXACT ROUTING OF PROP. FIBER TELEPHONE SERVICE TO BE COORDINATED WITH LESSOR/PROPERTY OWNER AND TELEPHONE COMPANY DURING CONSTRUCTION.

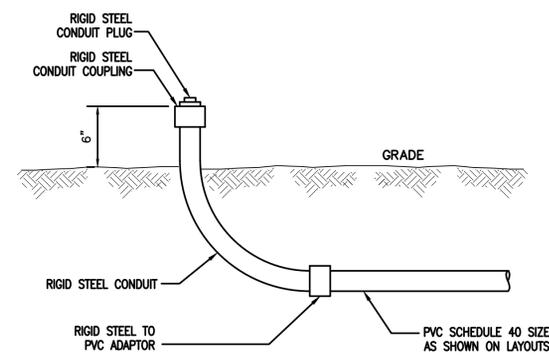
**EQUIPMENT COMPOUND UTILITY PLAN** (1)  
SCALE: 3/16" = 1'-0"  
E02



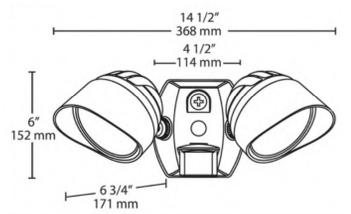
SCHEDULE 40 CONDUITS FOR NEW ELECTRICAL AND TELEPHONE SERVICES SEE UTILITY AND SITE PLANS. PROVIDE APPROVED PULL BOXES AS REQUIRED, AND COORDINATE INSTALLATION W/ ALL UTILITY COMPANIES FOR INTERFACING AT TERMINATION POINTS. PROVIDE FULL LENGTH PULL ROPS (TYP.).

NOTE: DETAIL AS SHOWN IS FOR SECONDARY ELECTRIC SERVICE. PRIMARY HIGH VOLTAGE SERVICE REQUIRES 4" CONCRETE ENCASEMENT.

**TYPICAL BURIED CONDUIT DETAIL** (2)  
SCALE: NONE  
E02



**TYPICAL CONDUIT STUB-UP DETAIL** (3)  
SCALE: NONE  
E02



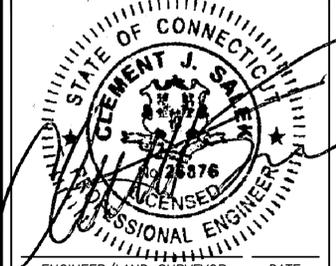
RAB LIGHTING - BULLET2X12B  
24W  
BLACK

MOUNT PER MANUFACTURER'S SPECIFICATIONS

**TYPICAL LED FLOOD LIGHT DETAIL** (4)  
SCALE: N.T.S.  
E02



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE  
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

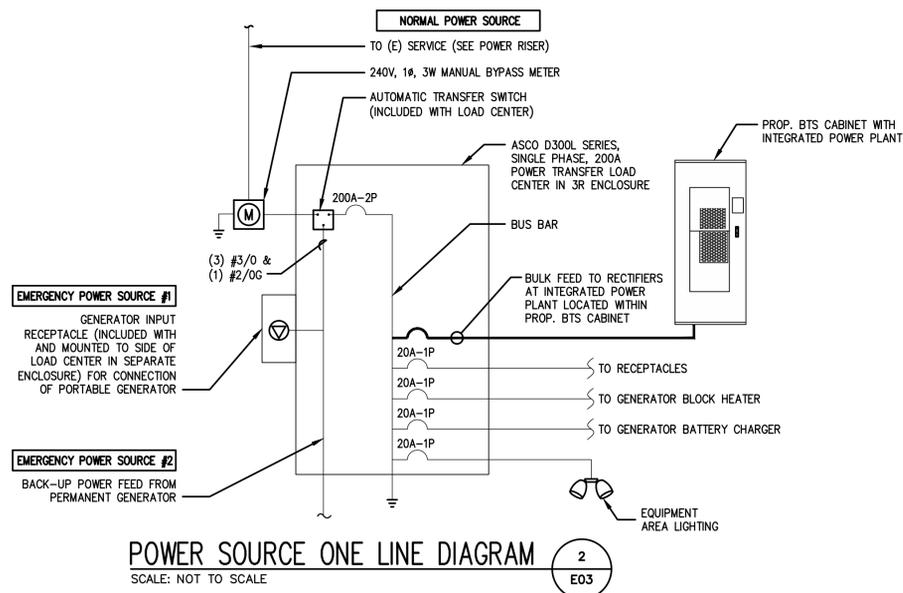
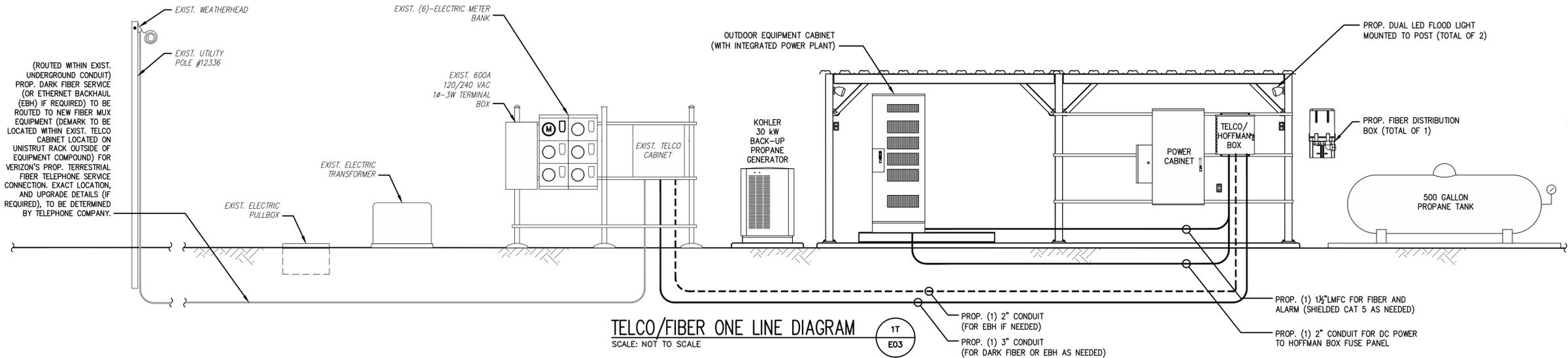
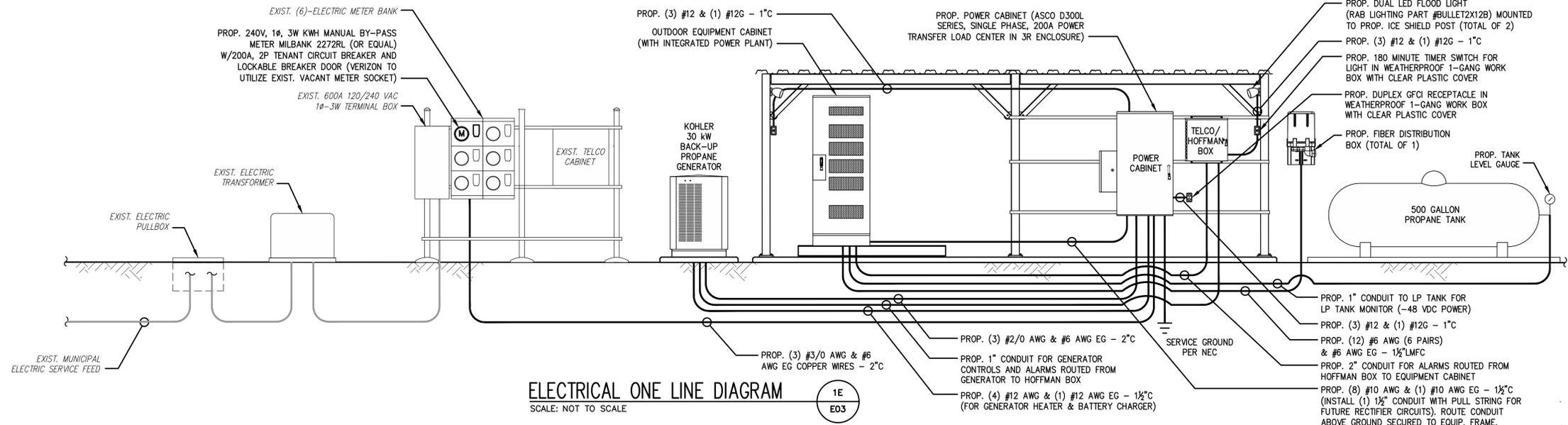
REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
**EQUIPMENT COMPOUND UTILITY PLAN & DETAILS**

DRAWING NO:  
**E02**

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	



ASCO D300L SERIES, SINGLE PHASE, 200A POWER TRANSFER LOAD CENTER IN 3R ENCLOSURE

**ELECTRICAL PANEL SCHEDULE** 65,000 A.I.C. NEMA 3R

CKT #	DESCRIPTION	AMP	AMP	DESCRIPTION	CKT #
1	RECTIFIER #1	30	30	FUTURE RECTIFIER	2
3	RECTIFIER #2	30	30	FUTURE RECTIFIER	4
5	RECTIFIER #3	30	20	PAD LIGHTING	6
7	RECTIFIER #4	30	-	BLANK	8
9	RECTIFIER #5	30	-	BLANK	10
11	RECTIFIER #6	30	-	BLANK	12
13	RECTIFIER #7	30	-	BLANK	14
15	RECTIFIER #8	30	-	BLANK	16
17	GFCI RECEPTACLE/LIGHT	20	-	BLANK	18
19	GENERATOR BLOCK HEATER	20	-	BLANK	20
21	GENERATOR BATTERY CHARGER	20	-	BLANK	22
23	BLANK	-	-	BLANK	24
25	BLANK	-	-	BLANK	26
27	BLANK	-	-	BLANK	28
29	BLANK	-	-	BLANK	30

- ONE-LINE DIAGRAM NOTES:**
- 1) PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS INSIDE AND OUT.
  - 2) COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH VERIZON WIRELESS AND ELECTRIC COMPANY.
  - 3) ALL CONDUIT ROUTING SHOWN ON THESE DIAGRAMS IS SCHEMATIC IN NATURE AND INTENDED TO CONVEY GENERAL INTENT ONLY.
  - 4) ALL PROPOSED UTILITY DESIGN ELEMENTS SHOWN ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN TO BE PROVIDED BY UTILITY PROVIDERS AND VERIZON WIRELESS. CONTRACTOR SHALL OBTAIN A COPY OF THE FINAL UTILITY DESIGN BY UTILITY COMPANY PRIOR TO COMMENCEMENT OF WORK.

**UTILITY CONTACTS**

ELECTRICAL: EVERSOURCE ENERGY  
247 STATION DRIVE, SE 210  
WESTWOOD, MA 02090  
(781) 441-3610

TELEPHONE: VERIZON  
185 FRANKLIN STREET  
BOSTON, MA 02107  
(800) 941-9900

MAKE ALL CONNECTIONS AS PER UTILITY COMPANY'S REQUIREMENTS.

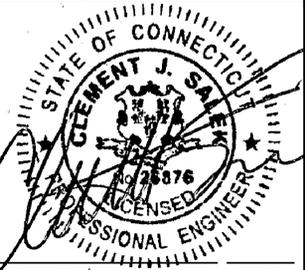
**ELECTRICAL PANEL SCHEDULE** 3  
SCALE: NTS



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**REVISIONS**

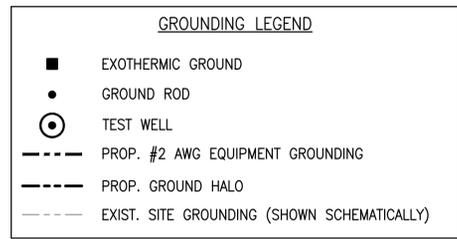
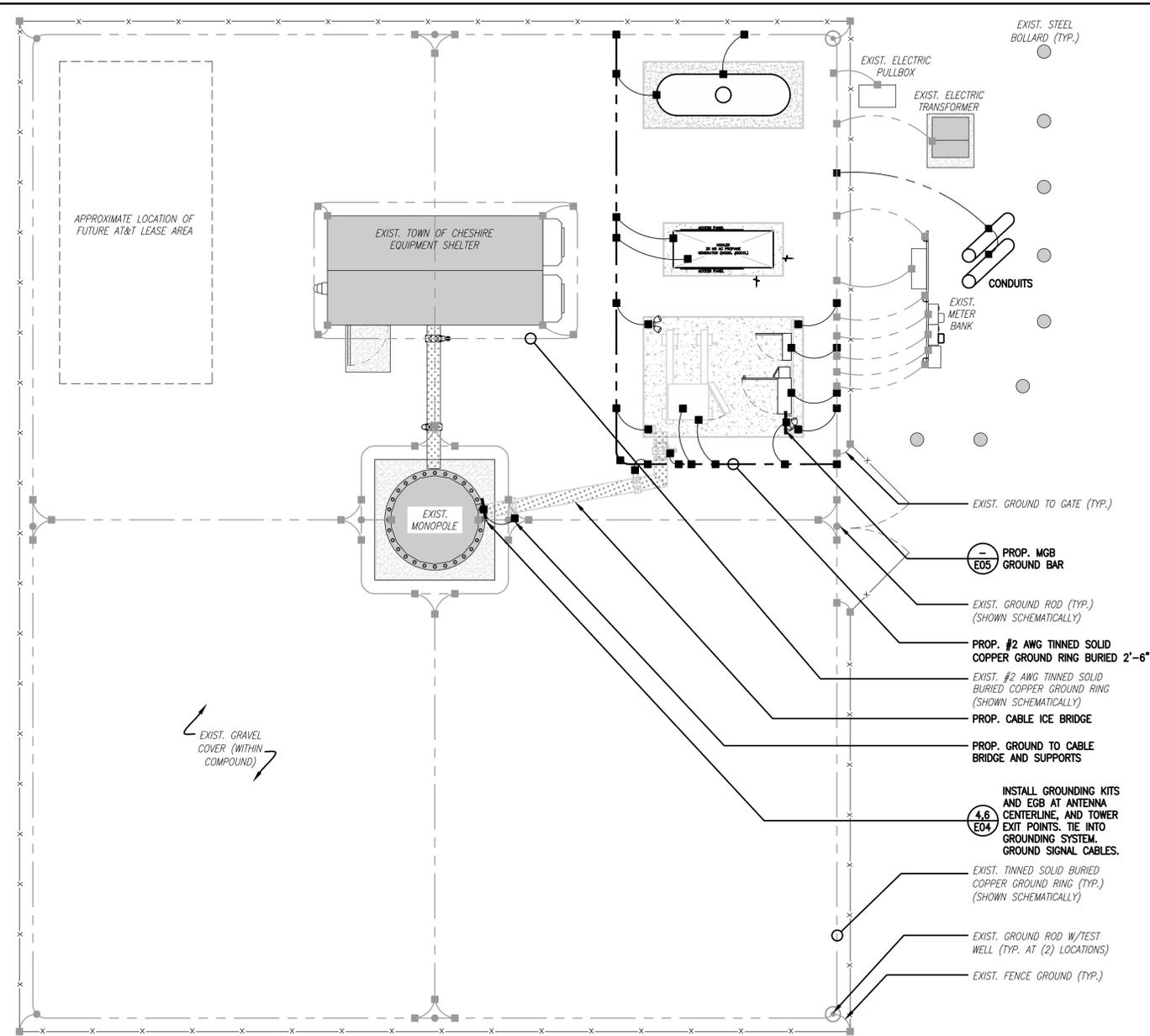
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

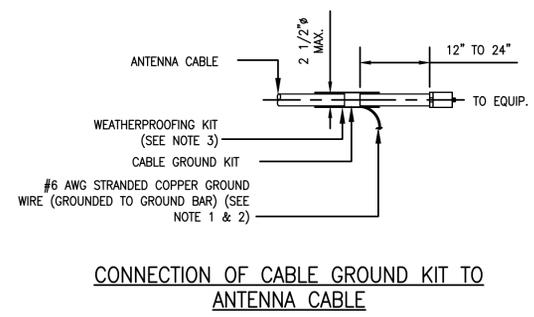
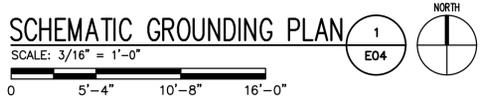
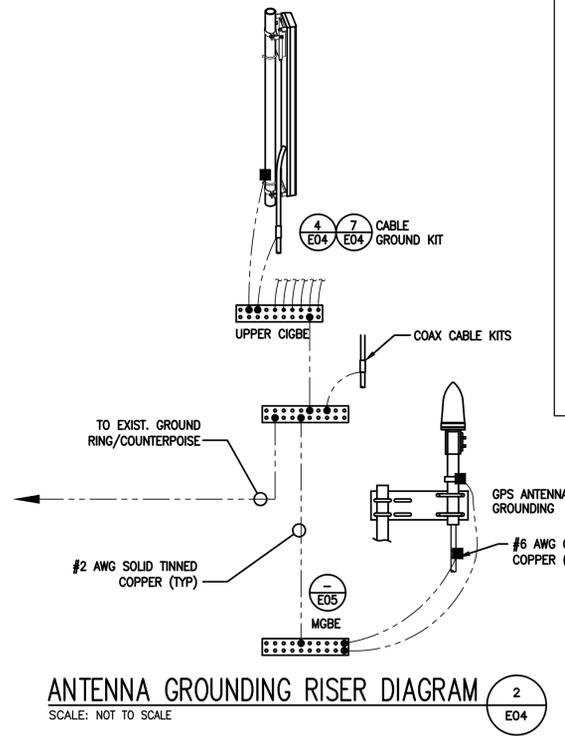
DRAWING TITLE:  
**ELECTRICAL DIAGRAMS & DETAILS**

DRAWING NO.:  
**E03**

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

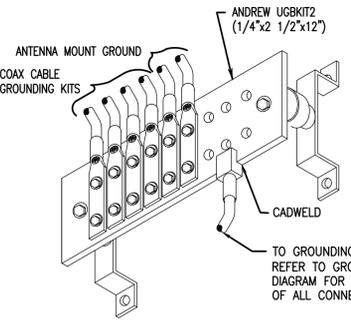


- ### ELECTRICAL AND GROUNDING NOTES:
- ELECTRICAL**
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
  - CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
  - SERVICE TO EQUIP. SHALL BE 120/240 VAC, 200 AMP, 1Ø, 60 Hz.
  - THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- GROUNDING**
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
  - ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
  - ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
  - ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
  - ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
  - ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
  - GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8"Ø 10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 48" BELOW FINAL GRADE.
  - CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
  - USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
  - MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
  - ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON AND INSTALLED BY CONTRACTOR.

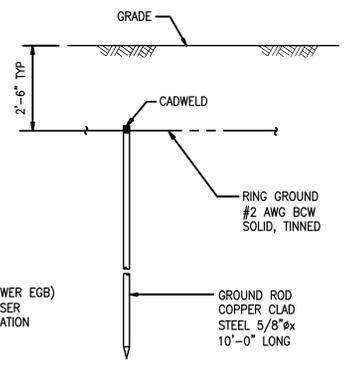


- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
  - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
  - WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

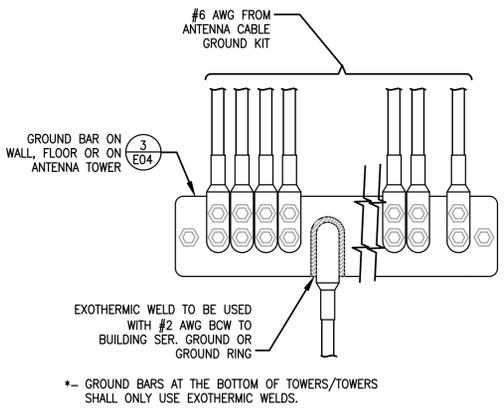
**DETAIL 3**  
SCALE: NOT TO SCALE  
E04



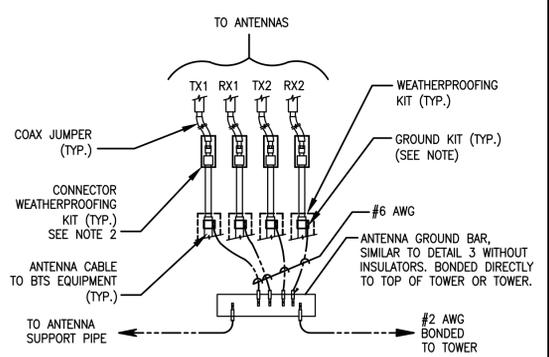
**GROUND BAR (EGB)**  
SCALE: NOT TO SCALE  
E04



**GROUND ROD**  
SCALE: NOT TO SCALE  
E04



**INSTALLATION OF GROUND WIRE TO GROUND BAR**  
SCALE: NOT TO SCALE  
E04



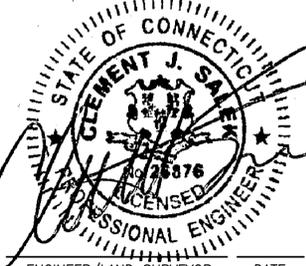
**CONNECTION OF GROUND WIRE TO GROUNDING BAR, TOWER**  
SCALE: NOT TO SCALE  
E04



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

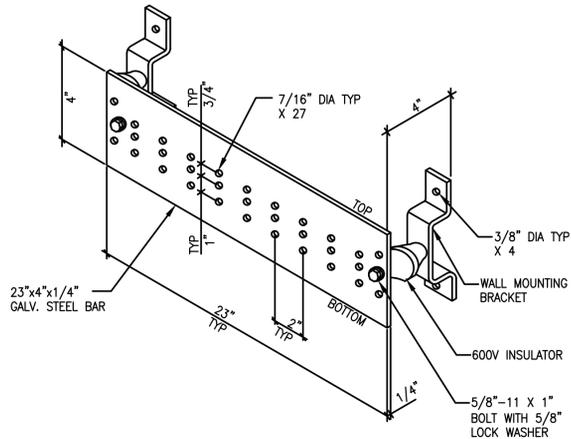
REVISIONS		
NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:  
**CHESHIRE NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:  
**SCHEMATIC GROUNDING PLAN & DETAILS**

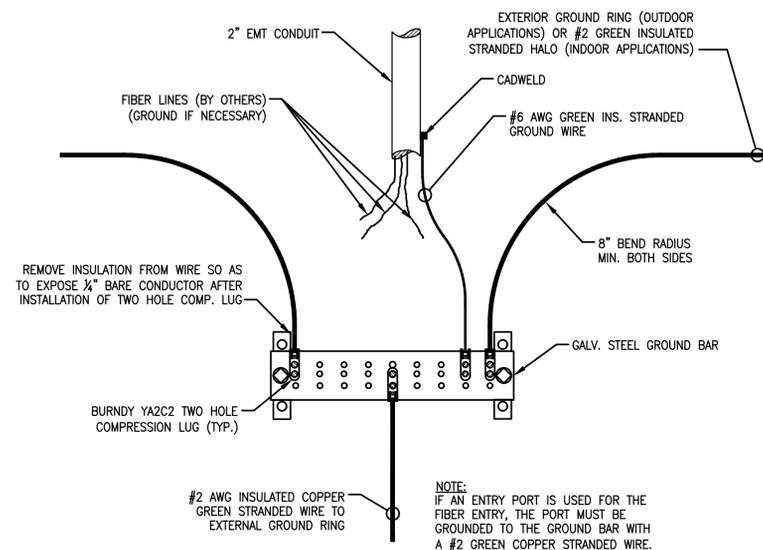
DRAWING NO:  
**E04**

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	

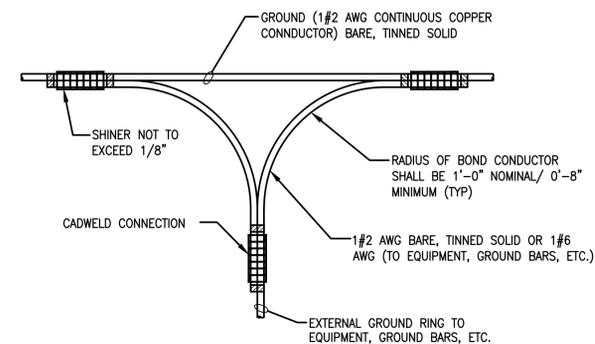


- 1. SURFACE PREPARATION:** ALL CONNECTIONS MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE MADE BARE TO ENSURE PROPER CONTACT. NO WASHERS SHALL BE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS SHALL HAVE AN ANTI-OXIDANT AGENT APPLIED PRIOR TO INSTALLATION.
- 2. BUSS PREPARATION:** ALL GALV. STEEL BUSSES SHALL BE CLEANED, POLISHED AND AN ANTI-OXIDANT APPLIED. NO FINGERPRINTS OR DISCOLORED STEEL WILL BE PERMITTED.
- 3. TERMINATIONS:** ALL EQUIPMENT TERMINATIONS SHALL BE MADE WITH A BURNDY TWO HOLE COMPRESSION LUG WITH 10-24x3/4" LONG S.S. SCREWS, NUTS AND LOCK WASHERS. ALL BUSS TERMINATIONS SHALL BE MADE WITH A CAD-WELD OR BURNDY YC2C2 2 HOLE COMPRESSION LUG OR EQUAL. ALL INTERIOR HALO ATTACHMENTS SHALL BE MADE USING A BURNDY YC2C2 COMPRESSION LUG.

**TYP. INTERIOR & EXTERIOR GROUND BAR**  
SCALE: N.T.S.

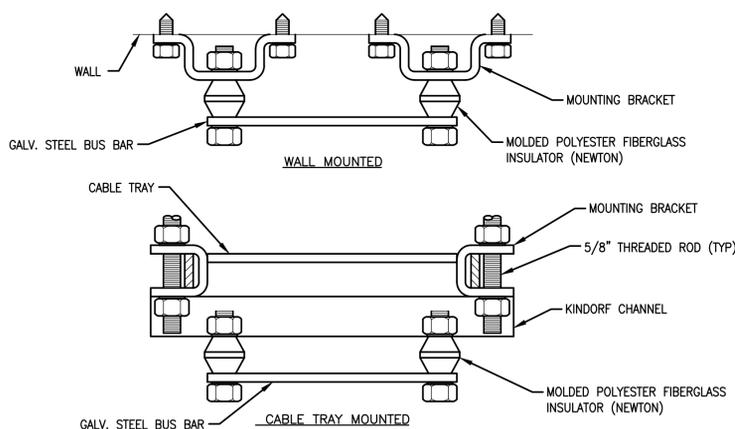


**INTERIOR GROUNDING AT TELCO ENTRY**  
SCALE: N.T.S.

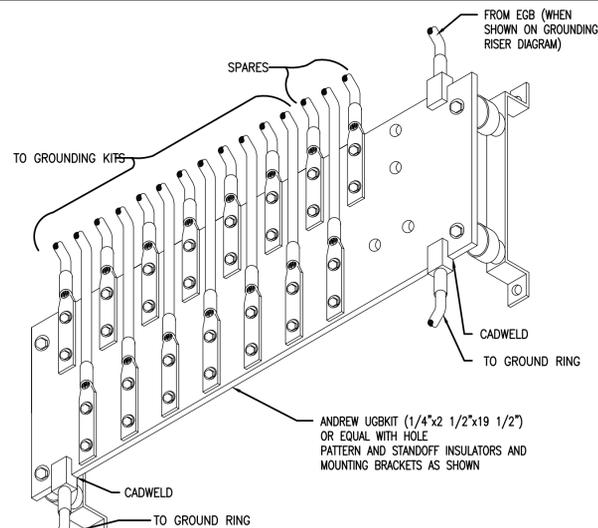


NOTE: ALL CONNECTION TO GROUND SHALL BE NON-DIRECTIONAL

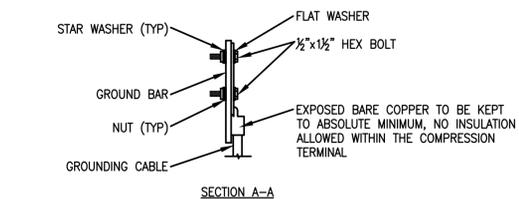
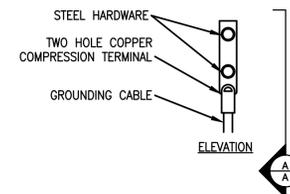
**NON-DIRECTIONAL SPLICE**  
SCALE: N.T.S.



**BUS BAR MOUNTING**  
SCALE: N.T.S.

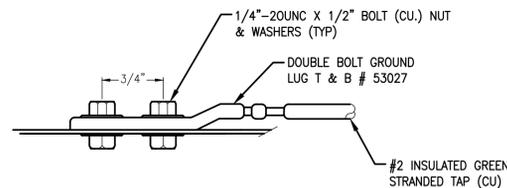


**MASTER GROUND BAR (MGB)**  
SCALE: NOT TO SCALE

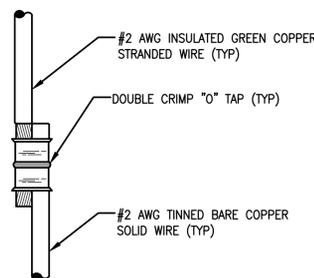


- NOTE:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
  - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

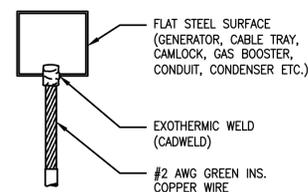
**TYPICAL GROUND BAR CONNECTION DETAIL**  
SCALE: N.T.S.



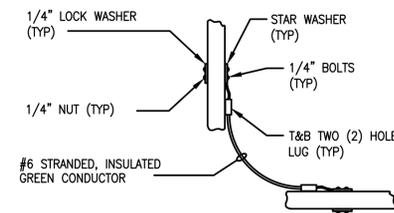
**TYPICAL EQUIPMENT GROUND CONNECTION**  
SCALE: N.T.S.



**TYPICAL GROUND CONNECTION SPLICE DETAIL**  
SCALE: N.T.S.



**TYP. CADWELD #2 GREEN TO FLAT STEEL SURFACE**  
SCALE: NOT TO SCALE



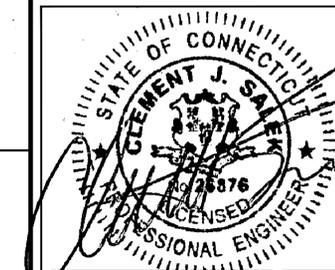
**CABLE TRAY GROUNDING**  
SCALE: N.T.S.



"Because Better Matters"



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



ENGINEER/LAND SURVEYOR DATE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**REVISIONS**

NO.	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	8/17/20
1	ISSUED FOR CONSTRUCTION (FINAL)	8/21/20
2	REVISED GENERATOR DESIGN	9/2/20

PROJECT NAME:

**CHESHIRE  
NORTHEAST 2 CT**  
1325 CHESHIRE STREET  
CHESHIRE, CT 06410

DRAWING TITLE:

GROUNDING DETAILS

DRAWING NO:

**E05**

SCALE: AS SHOWN	DESIGNED BY: GRS DRAWN BY: NWC CHECKED BY: GRS	VZW LOCATION CODE: 470040
CEA PROJECT NO.: 96210.397	ORIGINAL ISSUE DATE: 8/17/20	