

PROJECT INFORMATION	
SCOPE OF WORK:	RELOCATION OF (1) DISH & (2) DIPOLE ANTENNAS FROM EXISTING GUY TOWER TO NEW LATTICE TOWER. INSTALLATION OF (1) DISH ANTENNA ON NEW LATTICE TOWER
APPLICANT:	VELCO (VERMONT TRANSCO LLC) 366 PINNACLE RIDGE ROAD RUTLAND, VT 05701
LANDLORD:	TOWN OF MIDDLEBURY 94 MAIN ST. MIDDLEBURY, VT 05733
	SITE MANAGER: VERIZON WIRELESS 118 FLANDERS RD WESTBOROUGH, MA 01581
SITE ADDRESS:	717 SPRINGSIDE DR MIDDLEBURY, VT 05753
LATITUDE:	44.026069° N 44° 01' 33.85" N
LONGITUDE:	72.215194° W 73° 09' 42.33" W
TYPE OF SITE:	LATTICE TOWER/INDOOR EQUIPMENT
TOWER HEIGHT:	163'-0"±
RAD CENTER:	120'-0"±
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY



DRAWING INDEX

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VICINITY MAP

GENERAL NOTES

- CALL 811
- 
- DigSafe**
MA-ME-NH-RI-VT
- WWW.DIGSAFE.COM

**72 HOURS PRIOR
UNDERGROUND SERVICE ALERT**



1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEMS AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

1. FOR THE PURPOSE OF SUBCONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR — AIROSMITH
SUBCONTRACTOR — GENERAL CONTRACTOR (CONSTRUCTION)
OWNER — VELCO
2. 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.
3. 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.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. 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.
10. 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 OWNER.
11. 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.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

- SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE
REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

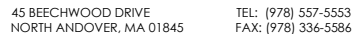
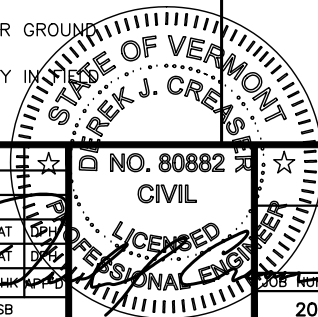
MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H,
STRUCTURAL STANDARDS FOR STEEL

EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS					
AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



717 SPRINGSIDE DR
MIDDLEBURY, VT 05753
ADDISON COUNTY



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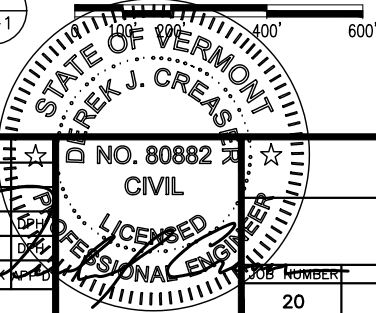


PROJECT INFORMATION & DIMENSIONS													
	EXISTING (PRIOR TO MINIMIS MODIFICATIONS)					PROPOSED					NET INCREASE (SQ.FT)		
	EQUIPMENT	DIMENSIONS (INCHES)		QTY.	VISIBLE AREA (SQ.FT)	EQUIPMENT	DIMENSIONS (INCHES)		QTY.	VISIBLE AREA (SQ.FT)			
		H	W				H	W					
SURFACE AREA OF THE FACES OF ANTENNAS ON SUPPORT STRUCTURE	DIPOLE	86.8	x	3	(2)	3.62							
	DISH	26.0ø					3.69	DISH	74.8ø				30.52
							<u>EXISTING EQUIPMENT TO REMAIN</u>						
							DIPOLE	86.8	x	3	(2)	3.62	
							DISH	26.0ø				3.69	30.52
	TOTAL VISIBLE AREA:					7.31	TOTAL VISIBLE AREA: 34.14						
VERTICAL EXTENSION FROM EXISTING SUPPORT STRUCTURE	0					0					0		
HORIZONTAL EXTENSION FROM EXISTING SUPPORT STRUCTURE	APPROX. 4'—0"					APPROX. 5'—6"					1'—6"±		
AMOUNT OF IMPERVIOUS SURFACE BEING ADDED TO SITE	0 FT²					0 FT²					0'		



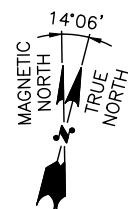
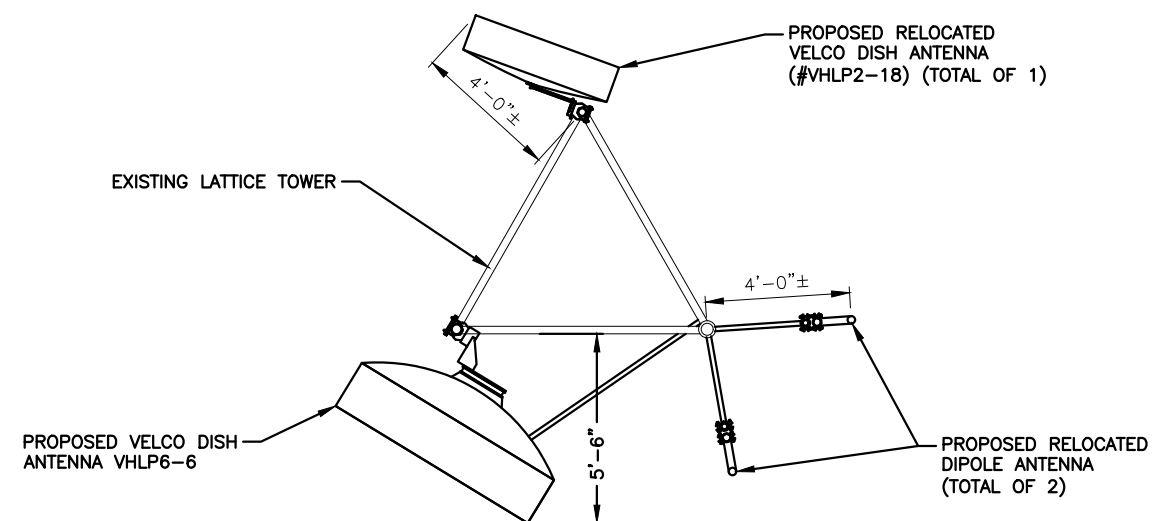
SITE PLAN
22x34 SCALE: 1"=200'
11x17 SCALE: 1"=400'

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A-1



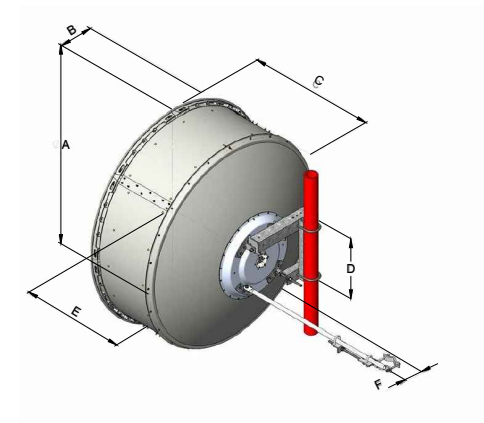
NOTE:

1. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP AND BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION AND NEAR THE ENTRY PORTS ON SHELTERS). ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 75 FEET.
2. THE CONTRACTOR SHALL CONDUCT A SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION AND STIMULUS RESPONSE MEASUREMENTS.
3. DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE BUILDING.
4. ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, JUST BEFORE ENTERING THE BUILDING AS WELL AS INSIDE THE BUILDING, BEFORE CONNECTION TO THE SURGE SUPPRESSERS. SEE EQUIPMENT AND COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.



ANTENNA PLAN

SCALE: N.T.S



VHLP6-6 DIMENSION CHART

ANTENNA SIZE. FT.	A	B	C	D	E	F
6'	74.8"	13.4"	47.5"	22.4"	39.4"	6.9

ANTENNA DETAIL
SCALE: N.T.S



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845



366 PINNACLE RIDGE ROAD
RUTLAND, VT 05701

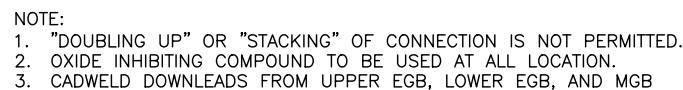
SITE NUMBER:
SITE NAME: MIDDLEBURY -
CHIPMAN HILL

717 SPRINGSIDE DR
MIDDLEBURY, VT 05753
ADDISON COUNTY



AIROSMITH DEVELOPMENT INC.
125 HIGH ROCK AVENUE
SARATOGA SPRINGS, NY 12866

[illegible]



A technical line drawing of a 16-pin D-sub connector. The connector is a rectangular block with a D-shaped notch on its left side. It features 16 pins arranged in two rows of eight. A mounting bracket is attached to the top of the connector, and a screw is shown passing through the bracket and the connector block. The drawing is a black and white line art illustration.

The seal is circular with the text "STATE OF VERMONT" at the top and "ERIK J. CREAS" at the bottom. In the center, it reads "D NO. 80882" and "CIVIL". Below that, it says "LICENSED PROFESSIONAL ENGINEER". The seal is stamped over a document with a grid pattern.