

ELECTRICAL SYMBOLS LEGEND

	SELECTOR SWITCH 2 POSITION		THERMAL OVERLOAD RELAY
	NORMALLY OPEN TIME DELAY CLOSING AFTER COIL ENERGIZED		DETAIL DESIGNATION
	NORMALLY CLOSED TIME DELAY OPENING AFTER COIL ENERGIZED		DETAIL CALL OUT
	INDICATOR LIGHT		SHEET REFERENCE
	REMOTE DEVICE CONNECTION		GROUND ROD
	CLOSED RELAY CONTACT		GROUND ROD IN GROUND WELL
	OPEN RELAY CONTACT		GROUND RISER FROM THE GROUND PLATE (REBAR)
	TERMINAL TO EXTERNAL REMOTE DEVICE		BOLTED AND WELDED GROUND CONNECTIONS, RESPECTIVELY
	WIRE TERMINAL OR CONNECTION POINT		GROUND CABLE: • EMBEDDED IN CONCRETE • BURIED IN EARTH • EXPOSED
	SINGLE PHASE MOTOR		CONDUIT EXPOSED
	MOTOR OVERLOAD RELAY		CONDUIT RUN UNDERGROUND OR IN CONCRETE
	LIMIT SWITCH		BARE COPPER WIRE IN SLAB OR UNDERGROUND GRID, SIZE AS NOTED
	CONTROL RELAY		TRANSFORMER W/ DELTA-Y AND GROUND
	TRANSFORMER		UTILITY METER
	SELECTOR SWITCH 3 POSITION MAINTAINED CONTACT		UTILITY CT
	LEVEL SWITCH CLOSING ON FALLING LEVEL		MOTOR, HORSEPOWER AS NOTED
	LEVEL SWITCH CLOSING ON RISING LEVEL		CIRCUIT BREAKER
	CONTROL SWITCH PUSHBUTTON, MOMENTARY CONTACT		ELECTRICAL PANEL
	GROUND CONNECTION		FUSE
	FRACTIONAL HP MOTOR		MOTOR STARTER NEMA SIZE AS NOTED
	CONTROL STATION		DISCONNECT SWITCH SIZE AS NOTED
	JUNCTION BOX		GFCI DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE		INCANDESCENT FIXTURE
	LIGHT FIXTURE TYPE AS INDICATED		POLE MOUNTED HID FIXTURE
	FUSED DISCONNECT		ELECTRICAL CONNECTION
	SINGLE LIGHT SWITCH		
	DISCONNECT UNFUSED SIZE NOTED		
	CONTACTOR/STARTER (NO. OF POLES SHOWN)		
	CIRCUIT BREAKER (NO. OF POLES SHOWN)		
	SOLENOID		
	FLOW SWITCH CLOSING ON LOW FLOW		
	PRESSURE SWITCH CLOSING ON RISING PRESSURE		

EQUIPMENT GROUNDING CONDUCTORS

FUSE OR CB SIZE	CB SIZE (COPPER)
15	14
20	12
30	10
40	10
60	10
100	8
200	6
300	4
400	3
500	2
600	1
800	1/0
1000	2/0
1200	3/0
1600	4/0
2000	250
2500	350

GROUNDING ELECTRODE CONDUCTOR SERVICE ENTRANCE OR SEPARATELY DERIVED SYSTEM

COPPER CONDUCTOR	WIRE SIZE
#2 OR SMALLER	#8
1 OR 1/0	#6
2/0 OR 3/0	#4
>3/0 THRU 350 KCMIL	#2
>350 KCMIL THRU 600 KCMIL	1/0

GENERAL NOTES:

1. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH-IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO ENSURE NEC CODE CLEARANCE REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
2. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED BEFORE BEGINNING ROUGH-IN.
3. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH-IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC.
4. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH ELECTRICAL ROOMS OR SPACES; OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN THE OTHER AREAS.
5. ALL PENETRATIONS OF FLOORS, WALLS AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL.
6. FOR PACKAGE EQUIPMENT PROVIDED ON THE PROJECT, SOME CONDUITS AND WIRES ARE SHOWN ON THE DRAWINGS, BUT IT IS EXPECTED THAT SOME ADDITIONAL CONDUITS AND WIRES MAY BE REQUIRED BY EQUIPMENT MANUFACTURERS TO COMPLETE INSTALLATION. IT IS INCUMBENT UPON THE GENERAL CONTRACTOR TO COORDINATE THIS REQUIREMENT WITH HIS SUBCONTRACTORS TO MAKE SURE THAT EQUIPMENT SUPPLIER PROVIDED ALL NECESSARY ELECTRICAL INFORMATION TO ELECTRICAL SUBCONTRACTOR FOR INCLUSION WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
7. IF OTHER THAN FIRST NAMED EQUIPMENT IS USED, IT SHALL BE CAREFULLY CHECKED FOR ELECTRICAL REQUIREMENTS AND CONTROL REQUIREMENTS OF ALTERNATE EQUIPMENT. SHOULD CHANGES OR ADDITIONS OCCUR IN ELECTRICAL WORK, OR THE WORK OF OTHER CONTRACTORS BE REVISED BY THE ALTERNATE EQUIPMENT, THE COST OF ALL CHANGES SHALL BE BORNE BY THE CONTRACTOR.
8. IT IS THE ELECTRICAL SUBCONTRACTOR'S RESPONSIBILITY TO DELIVER THE COMPLETE SET OF PLANS IN ORDER TO INSURE THAT ALL ITEMS RELATED TO ELECTRICAL POWER AND CONTROL SYSTEMS ARE COMPLETELY ACCOUNTED FOR.
9. ALL EQUIPMENT DIMENSIONS SHOWN ON PLANS AND ELEVATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL USE THE SHOP DRAWINGS FOR PROPER LAYOUT, FOUNDATION AND PAD, ETC. FOR FINAL INSTALLATION WITHOUT ANY ADDITIONAL COST TO THE OWNER.
10. THE DRAWINGS DIAGRAMMATICALLY INDICATE THE DESIRED LOCATION AND ARRANGEMENT OF OUTLETS, CONDUIT RUNS, EQUIPMENT AND OTHERS ITEMS. DETERMINE EXACT LOCATIONS IN THE FIELD BASED ON PHYSICAL SIZE AND ARRANGEMENT OF EQUIPMENT, FINISHED ELEVATIONS, AND OTHERS OBSTRUCTIONS. LOCATIONS SHOWN ON THE DRAWINGS, HOWEVER, SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE.

Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS

PROFESSIONAL ENGINEER
DOUGLAS MAX STEWART
NO. 173312
STATE OF VT
11-22-2013

NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW: **D. STEWART**
CHECKED: **D. STEWART**
APPROVED: **J. BECKMAN**

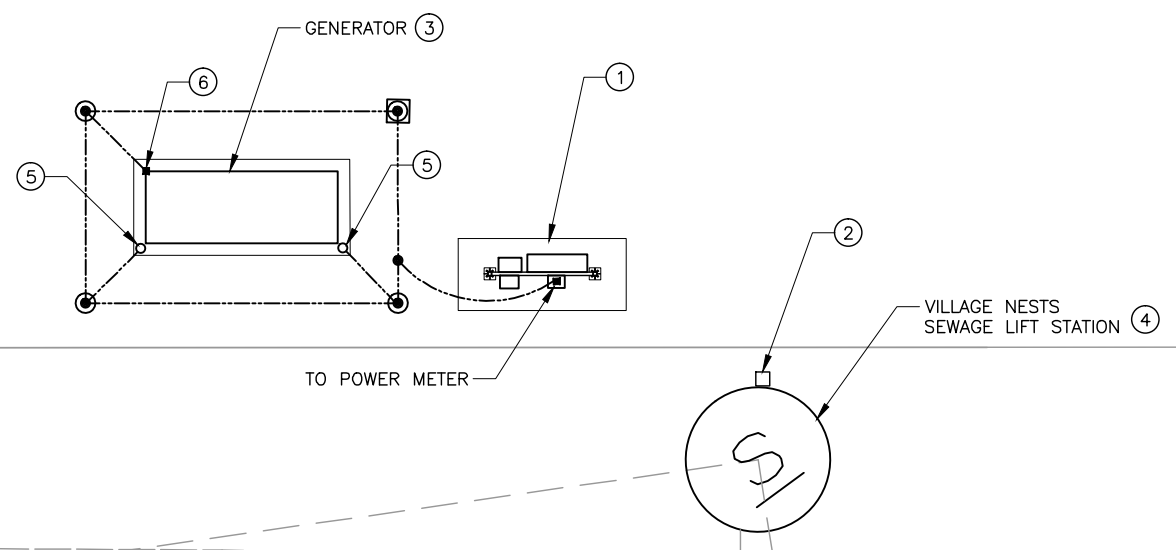
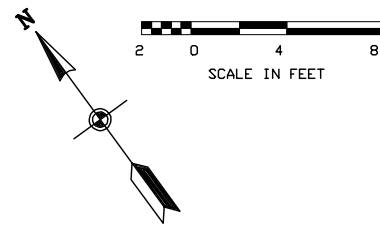
DESIGN: **T. BIRD**
DRAWN: **D. LAMPH**

ELECTRICAL SYMBOLS AND NOTES

PROJECT NUMBER: 347-13-01.01
DATE: NOVEMBER 2013

DRAWING NO. **E-1**

SHEET 1 OF 5



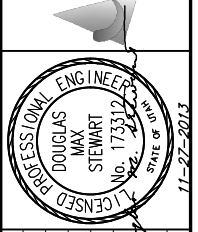
GENERAL NOTES:

1. THE GROUNDING SYSTEM SHALL HAVE A GROUND RING OF #2 AWG BARE COPPER BURIED NOT LESS THAN 30" BELOW THE EARTH'S SURFACE. CONNECT REBAR TO THE GROUND RING VIA #2 AWG BARE COPPER GROUND CABLE (GROUND RISERS). EQUIPMENT AND MISCELLANEOUS METALWORK SHALL BE CONNECTED TO THE GROUND RING WITH #2 AWG BARE COPPER GROUND CABLE. #2 AWG CONDUCTOR FROM GROUND RING SHALL CONNECT TO METER BASE, AND MANUAL TRANSFER SWITCH. THE GROUND RING SHALL BE A MINIMUM OF 2 FEET FROM FOUNDATION WHERE POSSIBLE. REFER TO DETAILS E-5001, E-5002, E-5003.
2. DRAWING SHOWS TYPICAL LOCATIONS OF GROUNDING SYSTEM COMPONENTS.
3. DRAWING SHOWS APPROXIMATE LOCATIONS AND MINIMUM NUMBER OF RISERS AND GROUNDING CONNECTIONS TO BE INSTALLED.
4. REFER TO POWER ONE-LINE DIAGRAM FOR GENERATOR SIZE AND CONDUIT AND CONDUCTOR SIZES.
5. REFER TO POWER ONE-LINE DIAGRAM FOR PUMP SIZES AND QUANTITY. FOR CONDUIT AND CONDUCTOR SIZES REFER TO POWER ONE-LINE DIAGRAM AND CONTROL BLOCK DIAGRAM.

KEY NOTES:

- ① SEWAGE LIFT STATION CONTROL PANEL, AUTOMATIC TRANSFER SWITCH, POWER METER, AND POWER PANEL. REFER TO POWER ONE-LINE DIAGRAM AND CONTROL BLOCK DIAGRAM FOR SIZES AND MORE INFORMATION. REFER TO DETAIL E-5073 FOR MOUNTING INFORMATION.
- ② JUNCTION BOX TO CONNECT PUMP CABLES AND LEVEL SWITCHES REFER TO DETAIL E-5201.
- ③ STANDBY GENERATOR WITH CONCRETE PAD AND GROUND SYSTEM. THE GENERATOR PAD SHALL BE SIZED BY CONTRACTOR FOR GENERATOR. REFER TO DETAIL E-5081, APPROXIMATE SIZE IS 9 FEET LONG AND 4 FEET WIDE.
- ④ REFER TO CIVIL DRAWINGS FOR LOCATION AND MECHANICAL DRAWINGS FOR SECTION VIEW OF LIFT STATION.
- ⑤ CONNECT TO REBAR.
- ⑥ CONNECT TO GENERATOR.

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CONSULTING ENGINEERS



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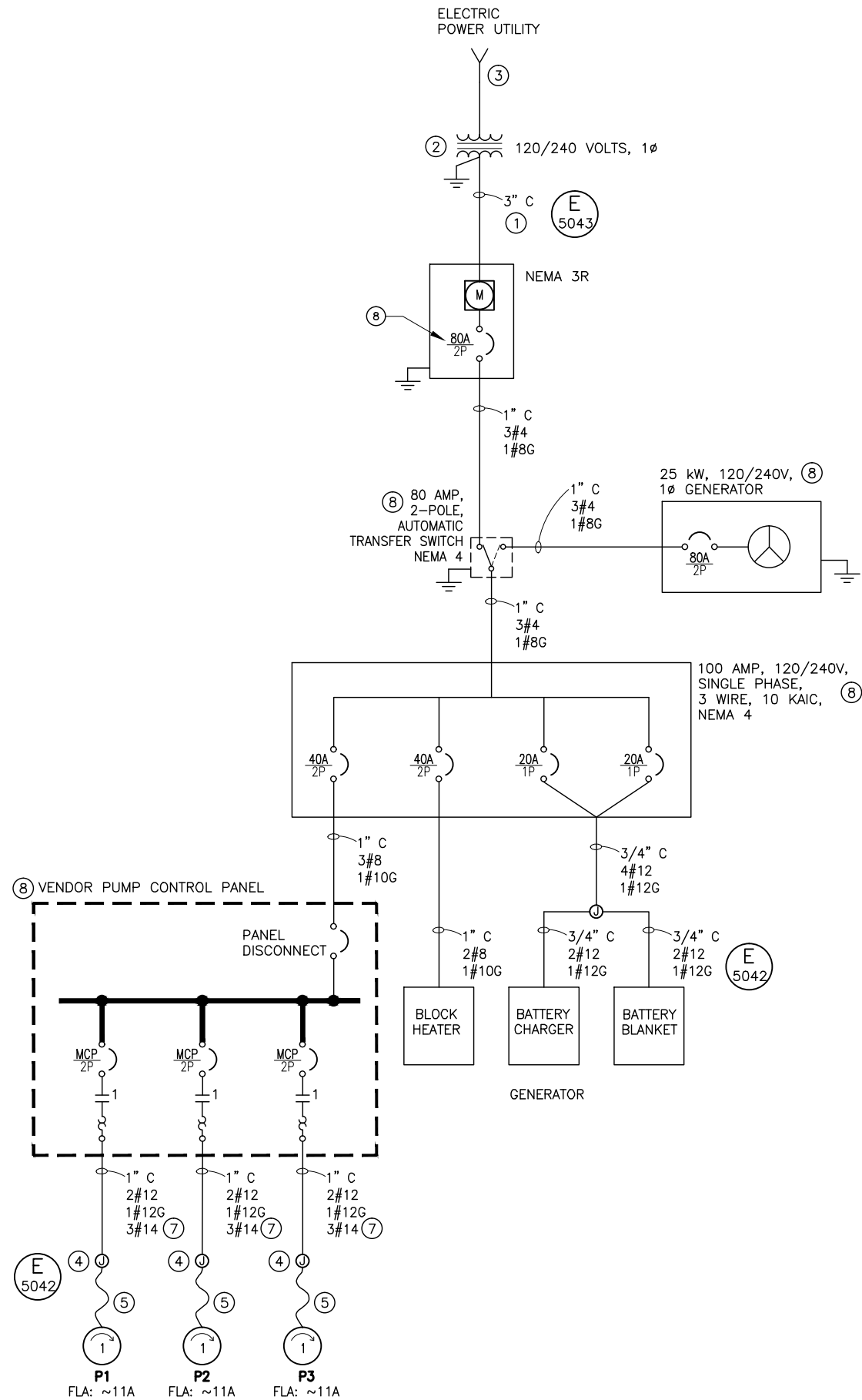
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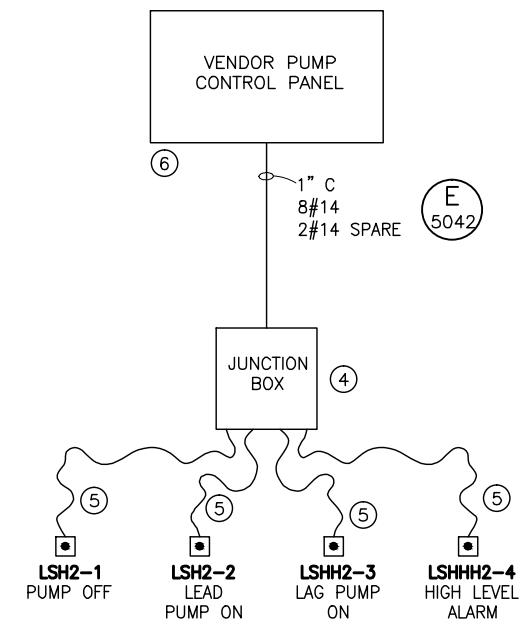
PROJECT NUMBER: 347-13-01.01
DATE: NOVEMBER 2013

ELECTRICAL
ELECTRICAL SITE PLAN
SEWAGE LIFT STATION
VILLAGE NESTS

DRAWING NO. **E-2**
SHEET **2** OF **5**



POWER ONE-LINE DIAGRAM



CONTROL BLOCK DIAGRAM

GENERAL NOTES:

- REFER TO SITE PLAN FOR EQUIPMENT LOCATION.

KEY NOTES:

- CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT IN ACCORDANCE WITH ROCKY MOUNTAIN POWER REQUIREMENTS. CONDUCTORS SHALL BE INSTALLED BY ROCKY MOUNTAIN POWER.
- PROVIDED AND INSTALLED BY ROCKY MOUNTAIN POWER.
- PROVIDED AND INSTALLED BY DEVELOPER.
- HAZARDOUS LOCATION JUNCTION BOX AND CONDUIT SEAL REFER TO DETAIL E-5201.
- MANUFACTURER'S CABLE.
- PROVIDE AND INSTALL AN INTRINSICALLY SAFE BARRIER FOR EACH LEVEL SWITCH. THE LEVEL SWITCHES SHALL BE MADE FOR LOW ENERGY CIRCUITS TO BE USED IN A HAZARDOUS LOCATION, ANCHOR SCIENTIFIC TYPE GSI - GOLD OR EQUAL.
- 3#14 CONDUCTORS ARE FOR MOTOR ALARM SIGNALS.
- VANDAL PROOF PADLOCKABLE ENCLOSURE.

Bowen Collins & Associates, Inc.
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PROFESSIONAL ENGINEER
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11-27-2013

NO.	DATE	REV. BY	DESCRIPTION	REVISIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW CHECKED D. STEWART APPROVED D. STEWART	DESIGN DESIGN T. BIRD DRAWN D. LAMPH
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SEWER LIFT STATION #1 POWER ONE-LINE DIAGRAM

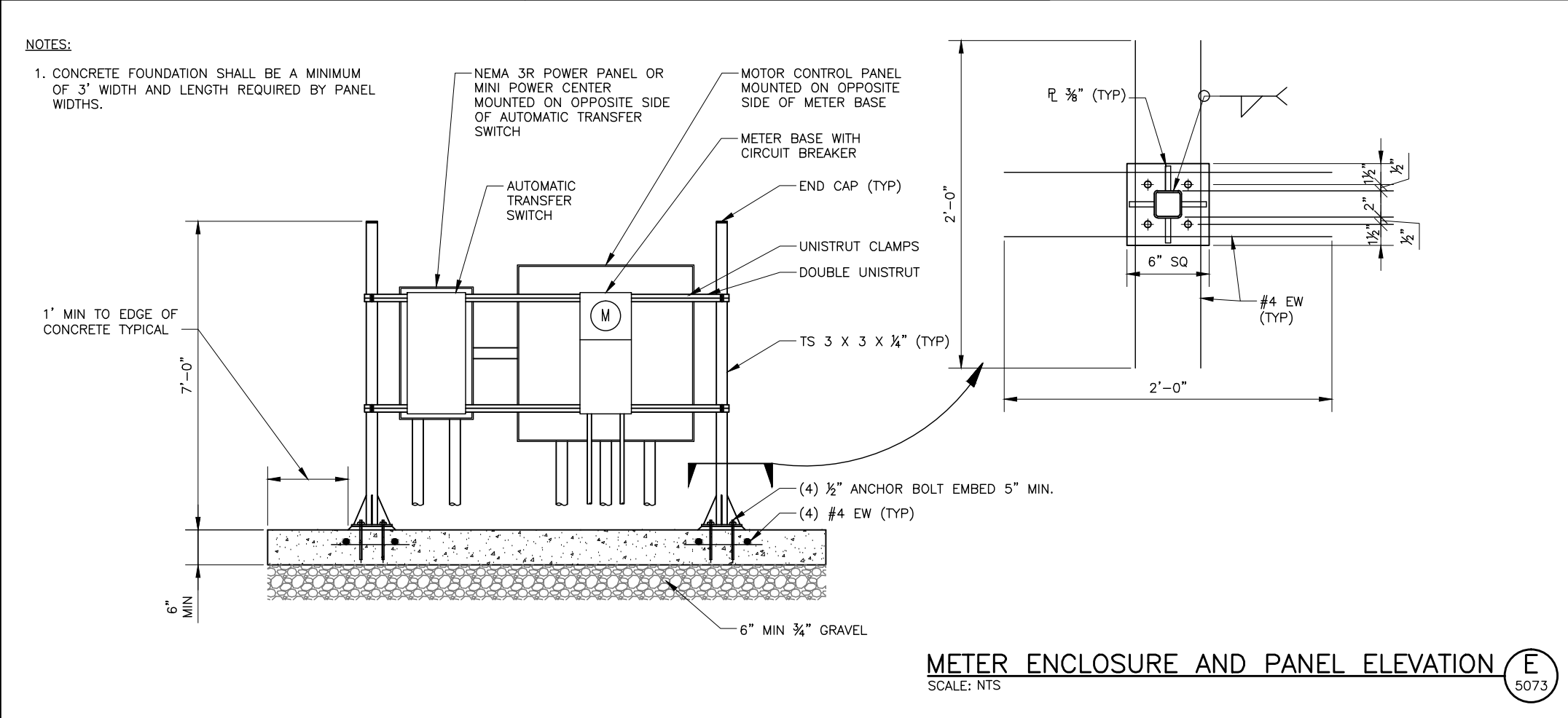
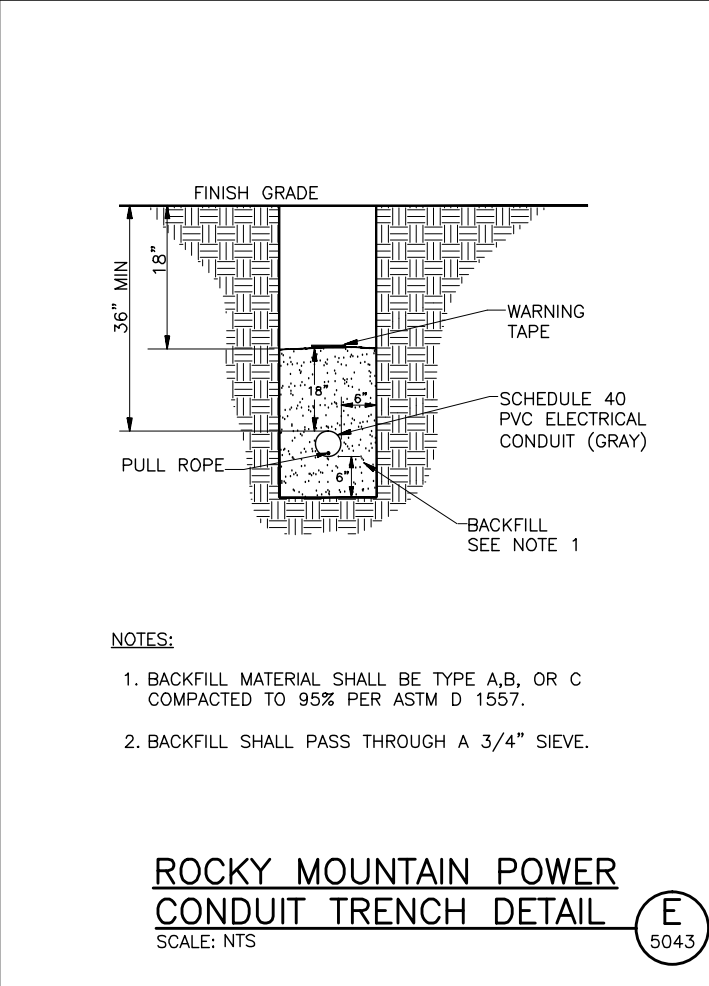
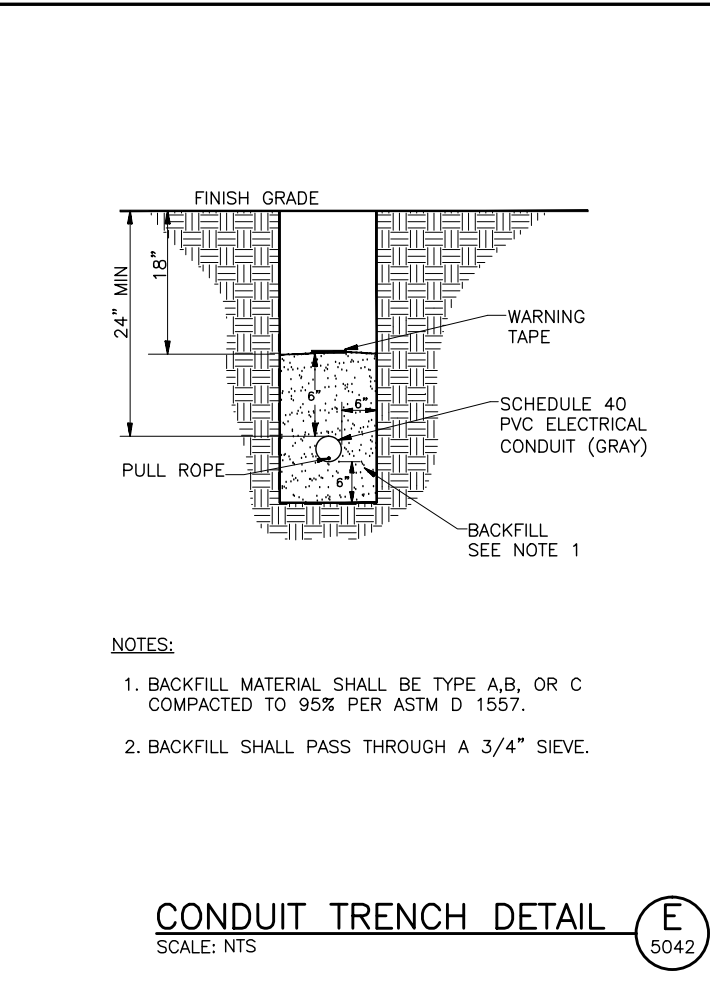
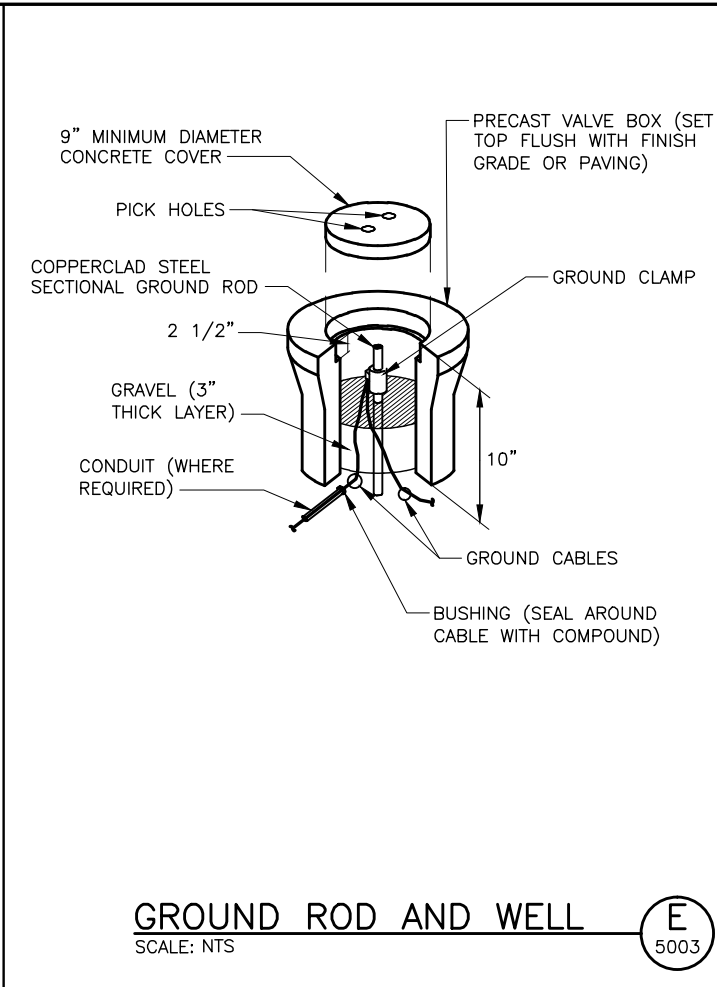
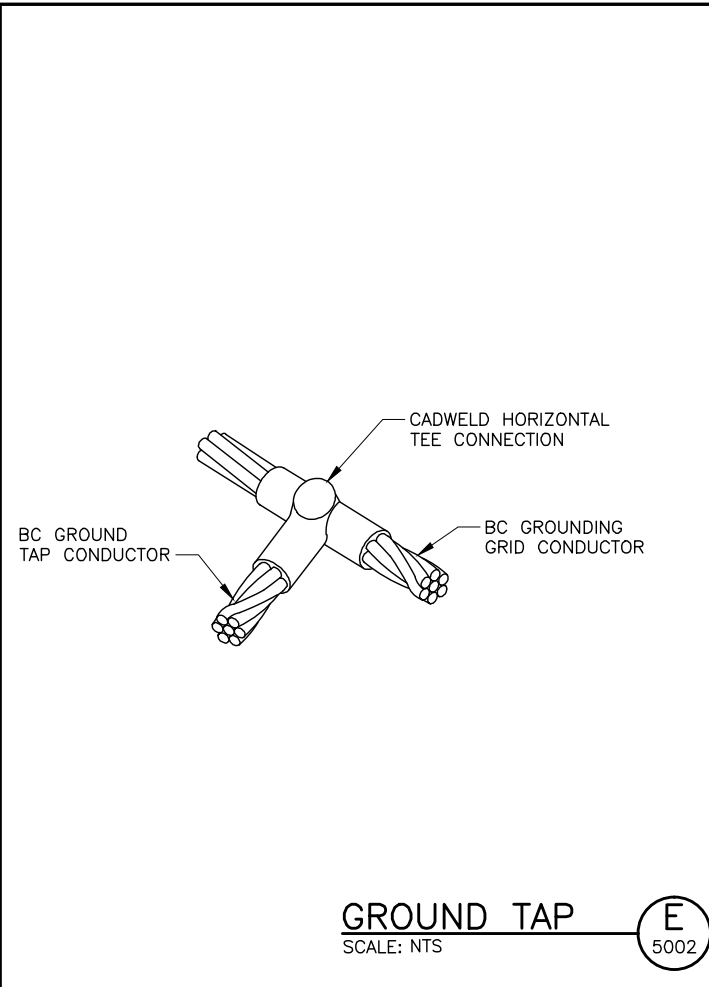
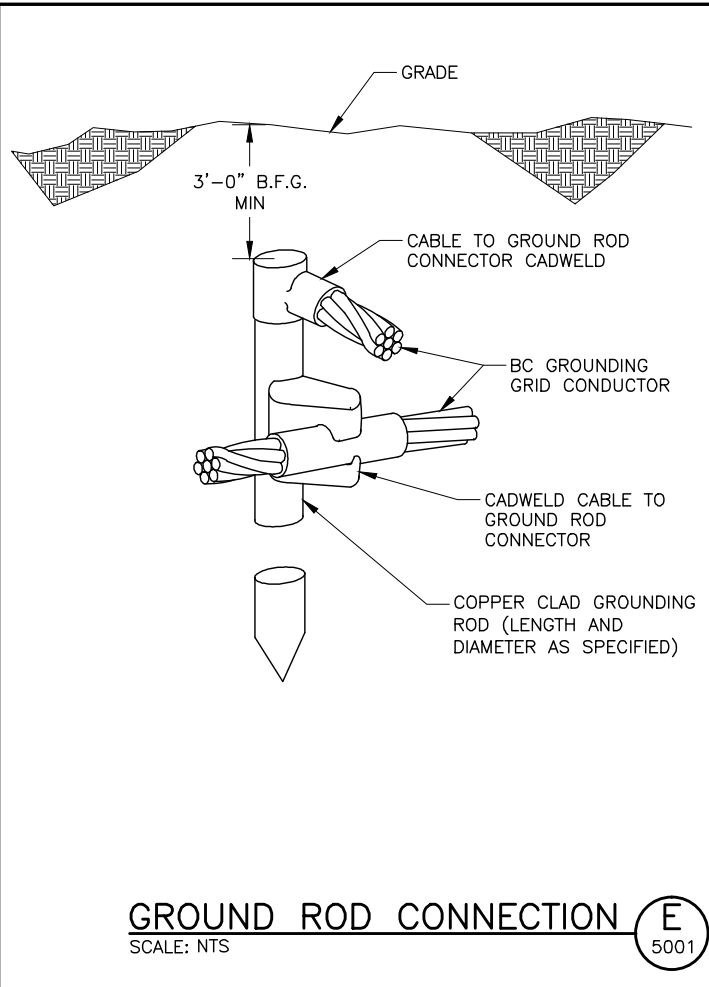
ELECTRICAL

SUMMIT AT POWDER MOUNTAIN VILLAGE NESTS POWDER MOUNTAIN, UT

DATE: NOVEMBER 2013 PROJECT NUMBER 347-13-01-01

DRAWING NO. **F-3**

SHEET **3** OF **5**



Bowen Collins & Associates, Inc.
CONSULTING ENGINEERS

REGISTERED PROFESSIONAL ENGINEER

DOUGLAS MAX STEWART

NO. 173312

STATE OF UTAH

NO.	DATE	REV. BY	DESCRIPTION	REVISIONS

VERIFY SCALE
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DESIGN
DESIGN T. BIRD
DRAWN D. LAMPH

REVIEW
CHECKED D. STEWART
APPROVED J. BECKMAN

ELECTRICAL

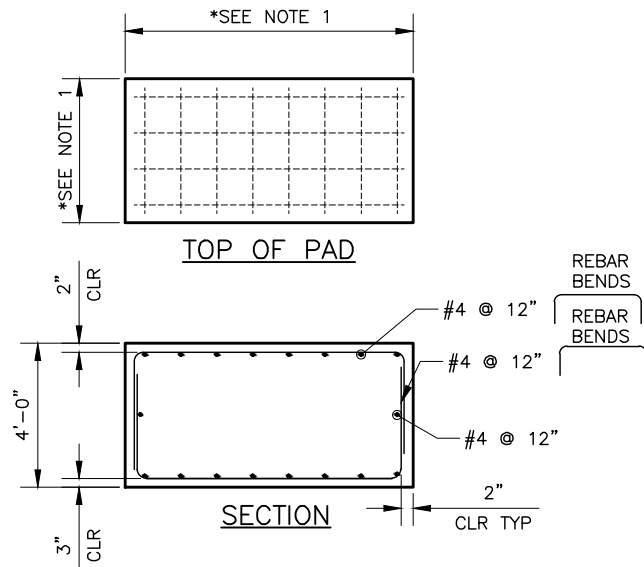
VILLAGE NESTS
SUMMIT AT POWDER MOUNTAIN
POWDER MOUNTAIN, UT

ELECTRICAL DETAILS - 1

DATE: NOVEMBER 2013
PROJECT NUMBER 347-13-01.01

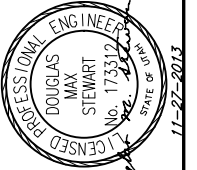
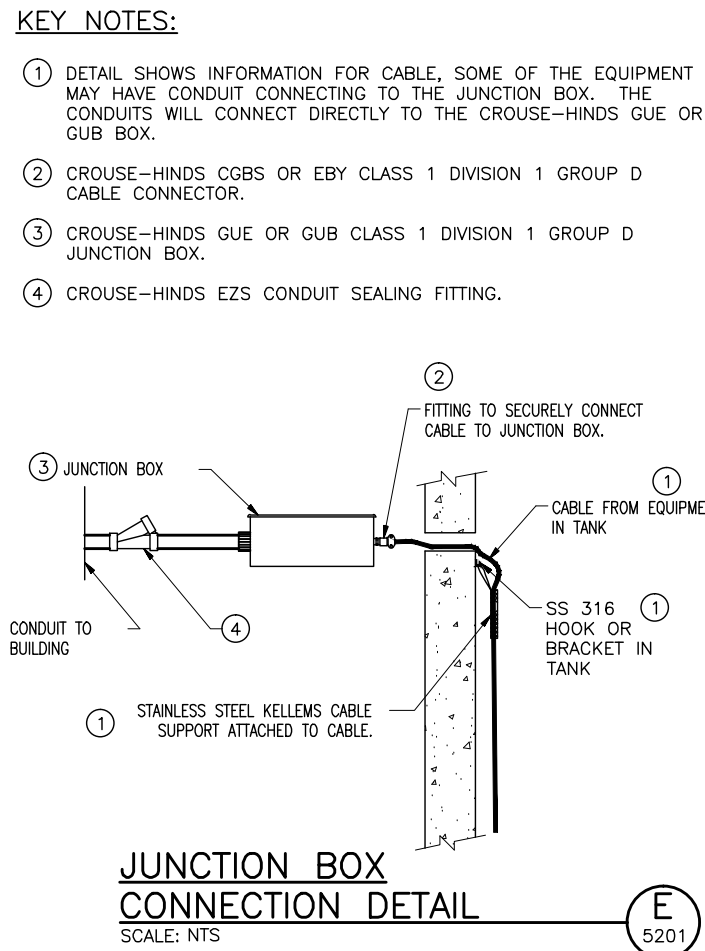
DRAWING NO. **GE-1**

SHEET **4** OF **5**



NOTES:
 1. THE LENGTH AND WIDTH OF THE GENERATOR PAD WILL BE SIZED AS NEEDED TO ACCOMMODATE THE GENERATOR WITH AN ADDITIONAL EIGHT INCHES OF SPACE ON ALL SIDES. ANCHOR GENERATOR TO CONCRETE PAD WITH FOUR 5/8" EPOXY ANCHORS, MINIMUM 4" EMBEDDED INTO CONCRETE.

CONCRETE GENERATOR PAD (E) 5081
 SCALE: NTS



NO.	DATE	REV. BY	DESCRIPTION

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
 CHECKED: D. STEWART
 APPROVED: J. BECKMAN

DESIGN
 DESIGN: T. BIRD
 DRAWN: D. LAMPH

ELECTRICAL
ELECTRICAL DETAILS - 2
 DATE: NOVEMBER 2013
 PROJECT NUMBER: 347-13-01.01