3009 FEDERAL HILL DRIVE FALLS CHURCH, VIRGINIA 22044 phone 703.533.1006

July 1, 2011

DECEIVED

JUL - 5 2011

CONNECTICUT

SITING COUNCIL

Chairman Robert Stein Connecticut Siting Council 10 Franklin Square New Britain, CT 06051

SUBJECT: Sprint Spectrum L.P.'s Notice of Intent to Make an Exempt Modification to an

Existing Facility at 99 Briar Hill Road, Groton, CT 06340

(Site # CT33XC584)

Dear Chairman Stein:

Pursuant to R.C.S.A. Sections 16-50j-73 and 16-50j-72(b), Sprint Spectrum L.P. (Sprint) hereby gives notice to the Connecticut Siting Council (Council) and the Town of Groton of its intent to make an exempt modification to an existing telecommunications facility located at 99 Briar Hill Road, Groton, Connecticut.

Sprint plans to install a hydrogen fuel cell at its 99 Briar Hill Road facility to provide emergency backup power in the event of an electric outage. This planned installation does not constitute a modification subject to the Council's review as it falls within those activities provided for in R.C.S.A. Section 16-50j-72(b)(2). Specifically, this installation will not change the height of the existing tower, will not extend the boundaries of the existing compound, will not increase noise levels at the site by six decibels or more, and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards.

#### PROPOSED INSTALLATION

Sprint plans to install a 10 kW Altergy hydrogen fuel cell generator within the existing fenced equipment compound; the installation mounted to a new concrete pad. The fuel cell will be inside a cabinet measuring 3'6" x 2'2" x 6'0". The hydrogen cylinder storage cabinet has overall dimensions of 4'8" x 4'8" x 6'0".

Please contact me at 703.533.1006 or <u>Hulshart@earthlink.net</u> should you have any questions about this planned modification.

Sincerely,

Mark Hulshart Principal

cc: Mr. Mark Oefinger, Town Manager, Town of Groton

Mr. Bob Cox, General Manager, Citadel Broadcasting (property owner)



	lom Power™ 10 kW System n FPS Power Cabinet	FPS-1024-240	FPS-1024-240-400	FPS-1048-240	FPS-1048-240-40
Physical	Dimensions (w x d x h)	26" x 42" x 72" [66 cm x 107 cm x 183 cm]			
	Weight	705 lbs [320 kg]	885 lb [401 kg]	705 lbs [320 kg]	885 lb [401 kg]
	Number of FPS Engines	2			
	Number of TPMs	0	2	0	2
Performance	Rated power	10 kW			
	Rated current	42	20 A	2	10 A
	Operating voltage (nominal)	24	VDC	48	VDC
	Operating voltage (range)	21 to :	29 VDC		58 VDC
	Standing Input Current (nominal)	2.46 A @ 24 VDC 1.23 A @ 48 V		@ 48 VDC	
Operation	Ambient temperature <sup>2</sup>	- 4 °F to 104 °F [- 20 °C to +40 °C]			
	Relative humidity, noncondensing	5 to 100%			
	Location	Outdoor only			
	Auxiliary AC in <sup>2</sup>	120 V, 60 Hz, 10 A, single phase			
Storage	Ambient temperature	+ 40 °F to +113 °F {+4 °C to +45 °C			
	Relative humidity, noncondensing	5 to 100%			
Fuel	Gaseous hydrogen purity	Hydrogen (H <sub>2</sub> ) 99.95% certified Industrial Grade			al Grade
	Supply pressure range	40 to 150 PSIG [2.8 to 10.5 kg/cm²]			
	Typical operating pressure	100 PSIG [7.03 kg/cm²]			
	Consumption	600 g/hour @ 10 kW			
Monitoring /	Standard	Ethernet, USB, Serial, 4 Dry Contacts			ects
Control	Optional	Wireless Telemetry			
	Rectifier Supply Voltage	n/a 27.0 ± 0.6 VDC n/a 54.0 ± 0.6 VD			

<sup>&</sup>lt;sup>1</sup>Polarity is determined by customer requirements and ground connections.

 $<sup>^2</sup>$ For operation below +10 °C, the FPS must be connected to the grid and supplied with AC power until a grid failure, at which time the heat generated by the FPS will be sufficient to maintain operation of the FPS at temperatures between - 20 °C and +10 °C.



SITE NAME:

CITADEL/GROTON

SITE NUMBER:

CT33XC584

SITE ADDRESS:

99 BRIAR HILL ROAD

GROTON, CT 06340

SITE TYPE:

**EXISTING COLLOCATE GUYED TOWER** 

C-1

C-2

S-1

S-2

E-2

E-3

E-4

G-1



6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

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AKJ
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# 0 06/27/2011 ISSUED FOR BUILDING PERMIT DESCRIPTION REV DATE



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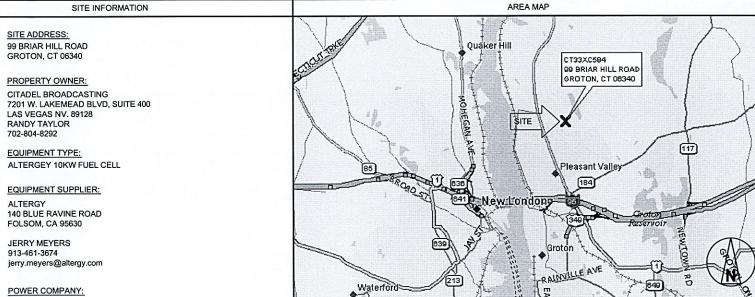
CITADEL/GROTON CT33XC584 99 BRIAR HILL ROAD **GROTON, CT 06340 CO-LOCATION** 

SHEET TITLE

**TITLE SHEET & PROJECT DATA** 

SHEET NUMBER

T-1



**GROTON UTILITIES** 

TELCO COMPANY:

COUNTY:

**NEW LONDON** 

41° 23' 6.50" N

-72° 4' 11.35" W -72.06982

BRYAN HANSEN

41.38514

LATITUDE (NAD83):

LONGITUDE (NAD83):

CONTACT ENGINEER:

WORK: 913-458-7343 E-MAIL: hansenbj@bv.com

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE 2003 INTERNATIONAL BUILDING CODE WITH 2005 STATE OF CONNECTICUT AMENDMENTS 2003 INTERNATIONAL MECHANICAL CODE WITH 2005 STATE OF CONNECTICUT AMENDMENTS 2003 INTERNATIONAL PLUMBING CODE WITH 2005 STATE OF CONNECTICUT AMENDMENTS 2005 NEC NATIONAL ELECTRICAL CODE IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL

INSTALL POWER BACK UP EQUIPMENT TO EXISTING SITE WITHIN EXISTING COMPOUND. INSTALL (1) NEW FUEL CELL WITH (1) FUEL STORAGE CABINET ON CONCRETE PAD AND CONNECT TO THE SITE'S DC POWER PLANT BUS

APPLICABLE CODES

PROJECT DESCRIPTION

ENGINEER OF RECORD

DRAWING INDEX

TITLE SHEET & PROJECT DATA

**EQUIPMENT CABINET DETAILS** 

HYDROGEN PIPING SCHEMATIC

OVERALL CONDUIT DETAILS

ELECTRICAL WIRING DIAGRAM

GROUNDING PLAN AND DETAILS

FUEL CELL INTERNAL WIRING DIAGRAM

ELECTRICAL ONE-LINE DIAGRAMS

CONCRETE PAD DETAILS

OVERALL SITE PLAN

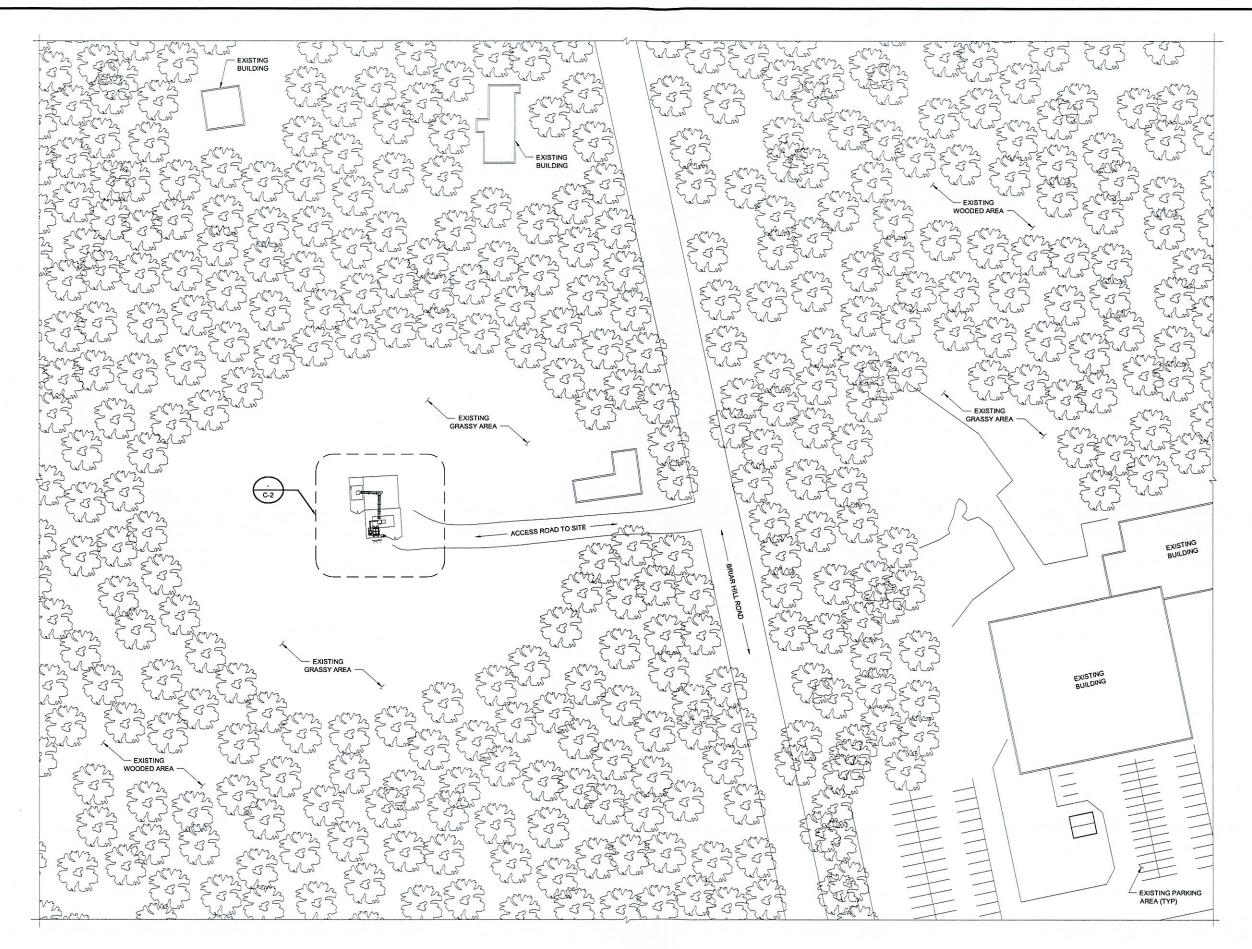
CHRISTOPHER ALAN KRAFFT PE # 080438

**BLACK & VEATCH CORPORATION** 

DRIVING DIRECTIONS FROM NEAREST AIRPORT

GROTON-NEW LONDON AIRPORT: HEAD WEST ON SOUTH ROAD/RUNWAY LANE/TOWER AVENUE TOWARDS RHODE ISLAND LANE, TURN RIGHT AT HIGH ROCK ROAD, TURN RIGHT AT POQUONNOCK ROAD, TURN LEFT AT LONG HILL ROAD, CONTINUE ONTO CT-12 S, TURN RIGHT AT GUNGYWAMP ROAD, TURN LEFT AT BRIAR HILL ROAD, DESTINATION WILL BE ON THE LEFT.

LOCATION MAP CT33XC584 99 BRIAR HILL ROAD GROTON, CT 06340 ELDERBERRY RD GREENWOOD ST Conning Towers-Nautilus Park





6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

PRO	DIECT NO:	168202	
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CHE	CHECKED BY:		
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REV	DATE	DESCRIPTION	



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> CITADEL/GROTON CT33XC584 99 BRIAR HILL ROAD GROTON, CT 06340 CO-LOCATION

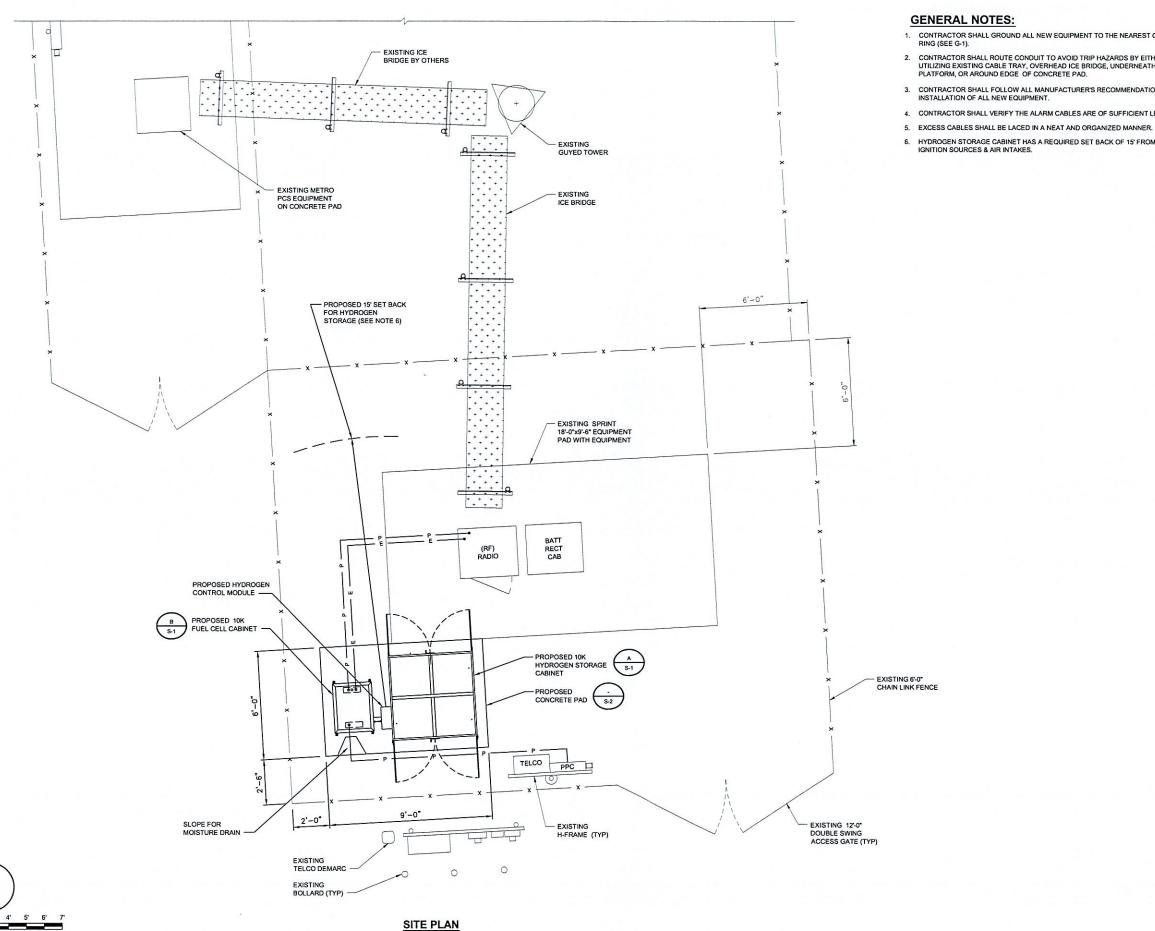
> > SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

C-1





#### **GENERAL NOTES:**

- CONTRACTOR SHALL GROUND ALL NEW EQUIPMENT TO THE NEAREST GROUND RING (SEE G-1).
- CONTRACTOR SHALL ROUTE CONDUIT TO AVOID TRIP HAZARDS BY EITHER UTILIZING EXISTING CABLE TRAY, OVERHEAD ICE BRIDGE, UNDERNEATH RAISED PLATFORM, OR AROUND EDGE OF CONCRETE PAD.
- 3. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ALL NEW EQUIPMENT.
- 4. CONTRACTOR SHALL VERIFY THE ALARM CABLES ARE OF SUFFICIENT LENGTH.
- 6. HYDROGEN STORAGE CABINET HAS A REQUIRED SET BACK OF 15' FROM IGNITION SOURCES & AIR INTAKES.



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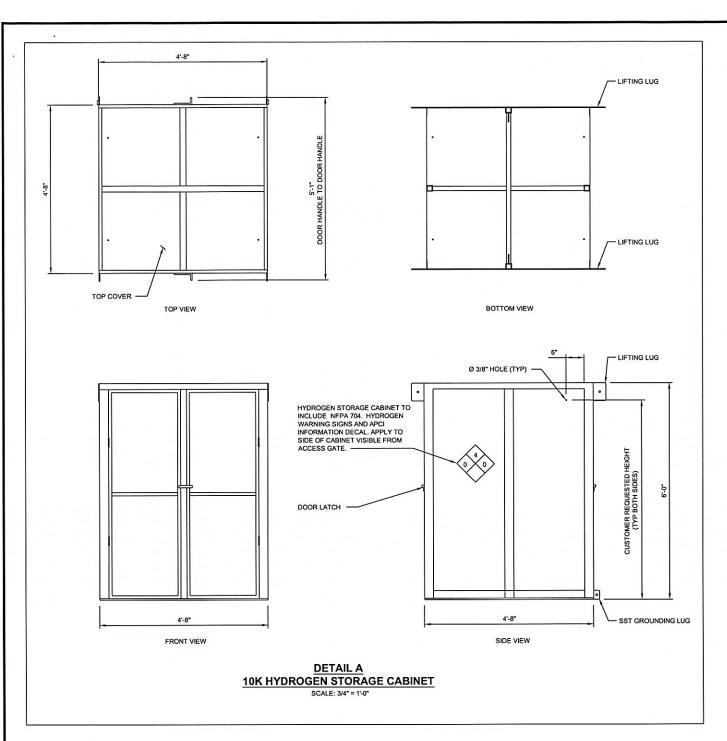
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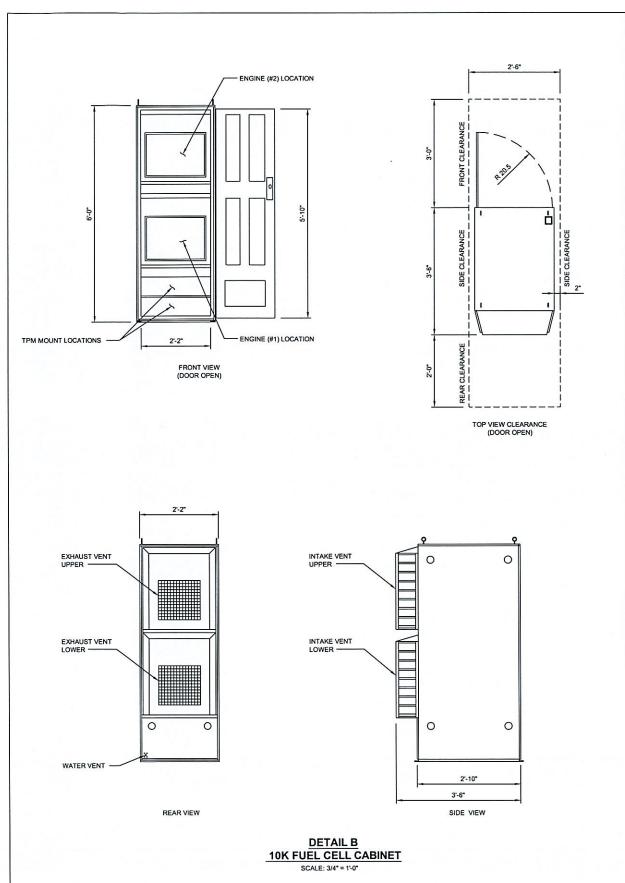
SHEET TITLE

SITE PLAN

SHEET NUMBER

**C-2** 







6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



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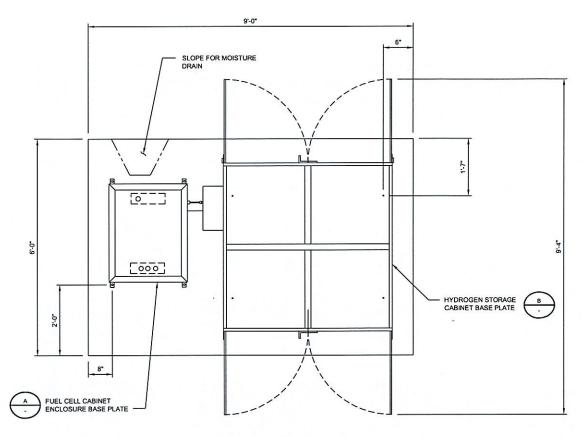
> CITADEL/GROTON CT33XC584 99 BRIAR HILL ROAD GROTON, CT 06340 CO-LOCATION

> > SHEET TITLE

EQUIPMENT CABINET DETAILS

SHEET NUMBER

S-1



**ELEVATION CONCRETE PAD** 

SCALE: 3/4" = 1'-0"

PLAN VIEW CONCRETE PAD SCALE: 3/4" = 1'-0"

2"-0"

<del>/</del> [000]

FRONT OF CABINET

**DETAIL A** 

CABINET

**BOLT PATTERN** 

SCALE: 1" = 1'-0"

DC POWER CONDUIT STUB UP LOCATION

ELECTRICAL SIGNAL AND AUX A/C POWER STUB UP LOCATION —

(4) 1/2"Ø HILTI KWIK BOLT 3 EXPANSION ANCHORS FOR FUEL CELL CABINET. 3 1/4" MIN. EMBEDMENT BASE PLATE (1/2" THICK)

2"
TYP

(4) 1/2"Ø HILTI BOLT 3 EXPANSION
ANCHORS FOR HYDROGEN STORAGE
CABINET. 3 1/4" MIN. EMBEDMENT

DETAIL B

10K HYDROGEN STORAGE CABINET

BOLT PATTERN

SCALE: 1" = 1'-0"



6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

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> > SHEET TITLE

**CONCRETE PAD DETAILS** 

SHEET NUMBER

S-2

CUSTOMER LOAD AND EQUIPMENT

COMMUNICATIONS

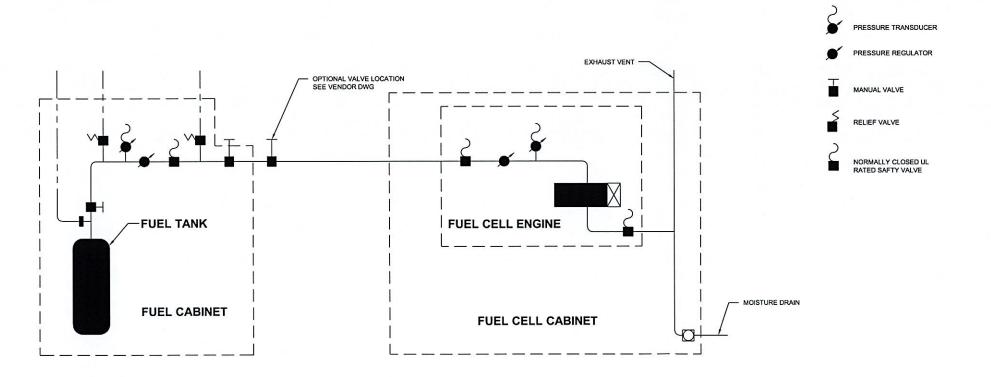
DC POWER MAIN

SENSOR SIGNAL
HARNESS

HYDROGEN STORAGE

FUEL CELL
FUEL TUBING

TYPICAL CONNECTION DIAGRAM



**HYDROGEN PIPING SCHEMATIC** 

#### **HYDROGEN CONNECTION NOTES:**

STEP 1. ROUTE HYDROGEN GAS LINE AND CONNECT TO THE FPS POWER CARINET

- IDENTIFY THE KNOCKOUT LOCATION TO BE USED FOR THE SENSOR /
  SIGNAL HARNESS AND FUEL TUBING ROUTING. OPEN KNOCKOUT
  LOCATION IN THE FPS POWER CABINET.
- INSTALL CONDUIT AND ROUTE TUBING FROM THE HYDROGEN STORAGE MODULE TO THE FPS POWER CABINET.
- CONNECT THE HYDROGEN LINE TO THE 3/8" TO 1/4" REDUCER COMPRESSION (PROVIDED) FITTING IN THE FPS POWER CABINET. TIGHTEN FITTING 1 1/4 TURNS PAST HAND TIGHT. THE LINE IS LOCATED IN THE LOWER REAR SECTION OF FPS POWER CABINET.

STEP 2. ROUTE THE SENSOR / SIGNAL HARNESS FROM THE FPS POWER CABINET TO THE HYDROGEN STORAGE MODULE.

- ROUTE THE SENSOR / SIGNAL HARNESS THROUGH THE CONDUIT USED FOR THE HYDROGEN TUBING.
- CONNECT THE PRESSURE TRANSDUCER, HYDROGEN SOLENOID VALVE, AND DOOR ALARM (IF EQUIPPED) TO THE SENSOR / SIGNAL HARNESS.

**HYDROGEN PIPING LEGEND** 



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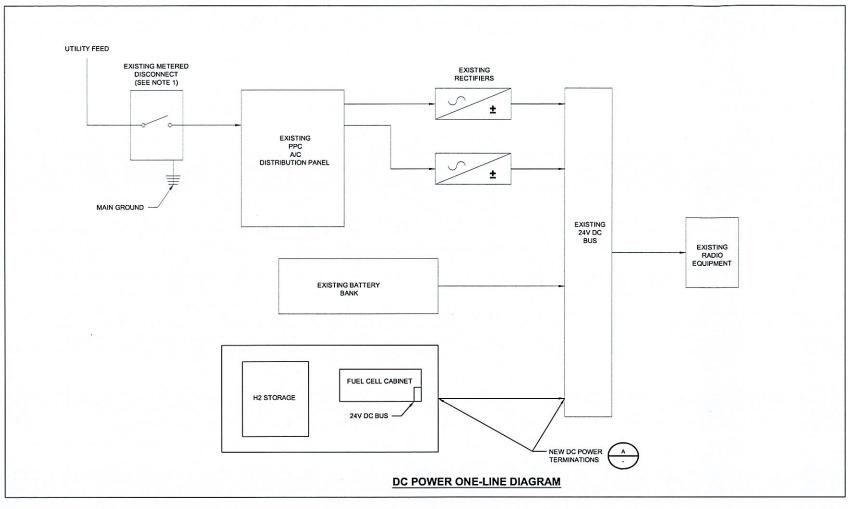
CITADEL/GROTON CT33XC584 99 BRIAR HILL ROAD GROTON, CT 06340 CO-LOCATION

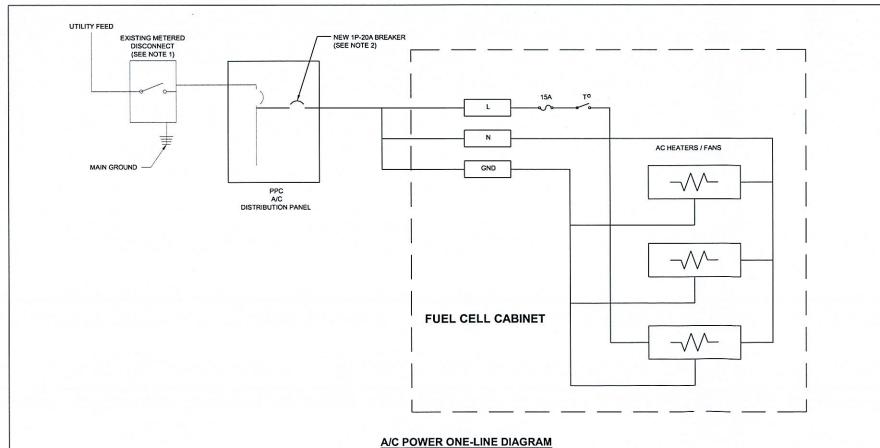
SHEET TITLE

HYDROGEN PIPING SCHEMATIC

SHEET NUMBER

M-1



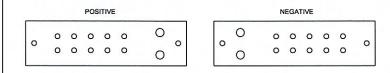


#### **GENERAL ELECTRICAL NOTES:**

- ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), AND LOCAL CODES.
- ALL ELECTRICAL MATERIALS, EQUIPMENT AND INSTALLATION PROCEDURES SHALL CONFORM WITH SPRINT'S STANDARD CONSTRUCTION SPECIFICATIONS.
- ALL MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA NFPA, AND "UL" LISTED.
- 4. THE ELECTRICAL PLANS, DETAILS, AND DIAGRAMS SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC ONLY. ACTUAL FIELD CONDITIONS AND SITE REQUIREMENTS SHALL DICTATE THE AMOUNT AND LOCATION OF EQUIPMENT.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY THE NEC AND ALL APPLICABLE LOCAL CODES.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE A MINIMUM INTERRUPTING RATING OF 65,000 AIC (UNLESS NOTED OTHERWISE).
- REFER TO THE VENDOR DRAWINGS OF THE PPC CABINET, BATTERY, AND BTS CABINETS FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT.
- 8. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL INSTALLATION.
- 9. LABEL ALL ELECTRICAL EQUIPMENT PER SPRINT'S SPECIFICATIONS.
- ALL SINGLE-PHASE SELF-CONTAINED METER CONNECTION DEVICES MUST INCLUDE HORN TYPE BYPASS PROVISIONS SO THAT SERVICE WILL NOT BE INTERRUPTED WHEN A METER IS REMOVED FROM THE SOCKET.
- 11. USE METER CONNECTION DEVICES LABELED BY THE MANUFACTURER WITH THE LETTERS "CECHA".
- ALL INTERIOR CONDUITS AND BUSHINGS SHALL BE EMT. ALL EXTERIOR SHALL BE PVC UNLESS NOTED OTHERWISE (SEE SPRINT'S STANDARD CONSTRUCTION SPECIFICATIONS).
- 13. PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS. THE PULL STRINGS ARE TO BE 200 LB. TEST POLYETHYLENE CORD. PROVIDE CAP ON THE END OF EACH CONDUIT AND MARK AS SHOWN ON THIS SITE PLAN.
- 14. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITIES EASEMENTS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. VERIFY WITH UTILITY NEW SERVICE HAS BEEN APPLIED FOR. THERE SHALL BE NO SPLICING OF GROUND CONDUCTORS BELOW GRADE.
- UTILITY RACK AND CONDUIT SIZES TO BE FIELD DETERMINED BY CONTRACTOR IN ACCORDANCE WITH THE LOCAL JURISDICTION.
- ALL WORK SHALL MEET OR EXCEED ALL APPLICABLE LOCAL AND NATIONAL ELECTRICAL CODE REQUIREMENTS.
- 17. ALL INSTALLATION AND EQUIPMENT SHALL MEET OR EXCEED SPRINT CONSTRUCTION SPECIFICATIONS

#### **ELECTRICAL NOTES:**

- 1. LIGHT SHADED LINES INDICATE EXISTING CONSTRUCTION.
- CONTRACTOR TO VERIFY POWERWAVE MODEL AND ASSOCIATED POWER REQUIREMENTS.
  IF LARGER CIRCUIT BREAKERS ARE REQUIRED, CONTRACTOR SHALL PROVIDE CORRECT ELECTRICAL
  CONDUCTOR SIZES.



## DETAIL A BUS BARS MOUNTED IN FUEL CELL & BTS CABINETS

DESCRIPTION:	BUS BAR. BB19, ENERSYS
COPPER BUS BAR MATERIAL PER ASTM B-49, B-152, B-171, B187, B-188, B-283	C11000 99.9% COPPER - ELECTROLYTIC TOUGH PITCH (ETP)
COPPER BUS BAR LENGTH	7.25" (184mm)
COPPER BUS BAR WIDTH	2.0" (50.8mm)
COPPER BUS BAR THICKNESS	0.25" (6.35mm)
MAXIMUM CURRENT RATING	975A @50C RISE
OLTAGE LIMIT (INSULATOR BREAKDOWN)	3000V



6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

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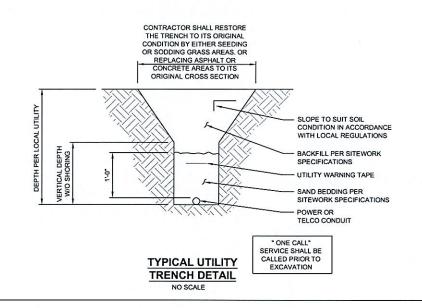
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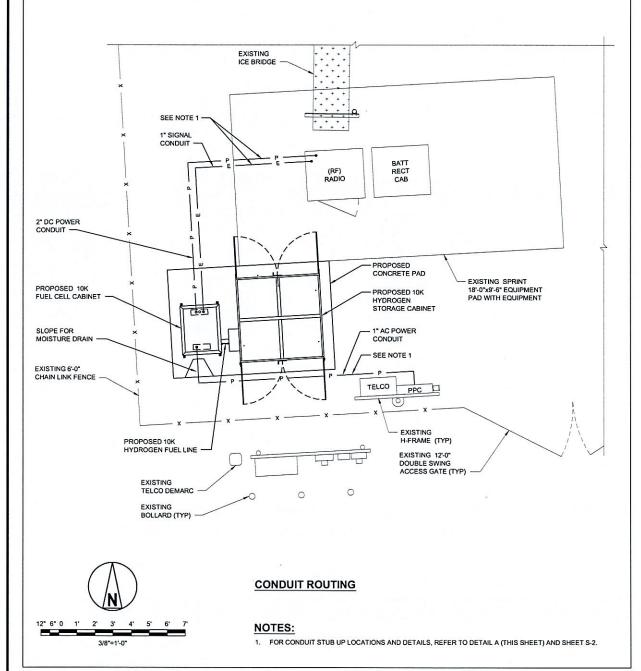
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> > SHEET TITLE

ELECTRICAL ONE-LINE DIAGRAMS

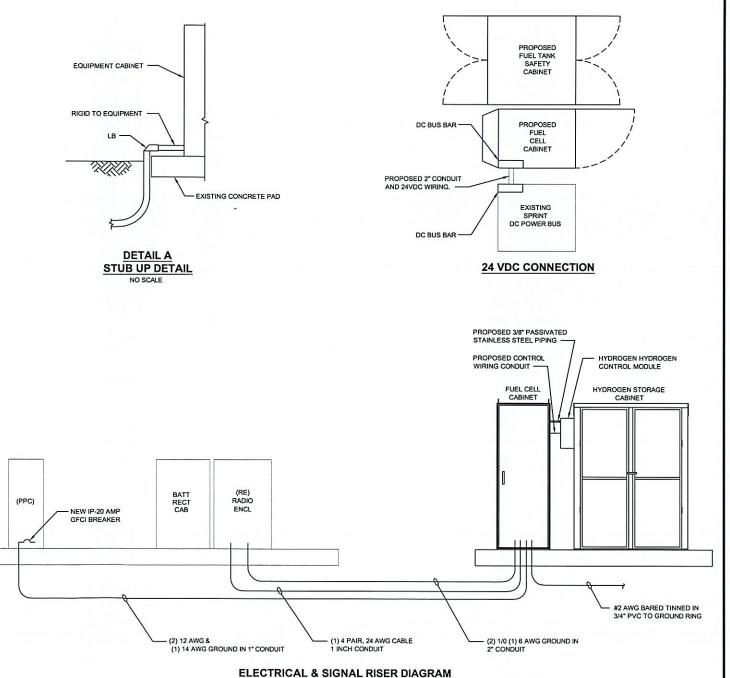
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#### **GENERAL NOTES:**

- MATERIALS: ALL HANGERS, SUPPORTS, FASTENERS AND HARDWARE SHALL BE ZINC COATED OR OF EQUIVALENT CORROSION RESISTANCE BY TREATMENT OR INHERENT PROPERTY, AND SHALL BE MANUFACTURED PRODUCTS DESIGNED FOR THE APPLICATION. PRODUCTS FOR OUTDOOR USE SHALL BE HOT DIP GALVANIZED.
- CÓNDUIT SEALS: INSTALL CONDUIT SEAL FOR EACH CONDUIT PENETRATING AN EXTERIOR BUILDING WALL BELOW
  GRADE (UNLESS PENETRATION IS BELOW LOWEST BUILDING FLOOR SLAB), AND ELSEWHERE AS INDICATED, AND SO AS
  TO ACHIEVE A SEALED WATERTIGHT INSTALLATION. MATCH EXISTING CONDITIONS AND MEET OR EXCEED INTEGRITY OF
  WAILS
- INSTALLATION: RIGIDLY SUPPORT AND SECURE ALL MATERIALS, RACEWAY AND EQUIPMENT TO BUILDING STRUCTURE USING HANGERS, SUPPORTS AND FASTENERS, SUITABLE FOR THE USE, MATERIALS AND LOADS ENCOUNTERED. PROVIDE ALL NECESSARY HARDWARE. PROVIDE CONDUIT SUPPORTS AT MAXIMUM 5 FT. O.C.
- 4. STRUCTURAL MEMBERS: DO NOT CUT, DRILL OR WELD ANY STRUCTURAL MEMBER EXCEPT AS SPECIFICALLY APPROVED BY THE ENGINEER.
- INDEPENDENT SUPPORT: DO NOT SUPPORT MATERIALS OR EQUIPMENT FROM OTHER EQUIPMENT, PIPING, DUCTWORK OR SUPPORTS FOR SAME.
- MISCELLANEOUS SUPPORTS: PROVIDE ANY ADDITIONAL STRUCTURAL SUPPORT STEEL BRACKETS ANGLES, FASTENERS AND HARDWARE AS REQUIRED TO ADEQUATELY SUPPORT ALL ELECTRICAL MATERIALS AND EQUIPMENT.
- 7. ONE HOLE STRAPS SHALL NOT BE USED FOR CONDUITS LARGER THAN 3/4"Ø.





6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

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SHEET TITLE

OVERALL CONDUIT DETAILS

SHEET NUMBER

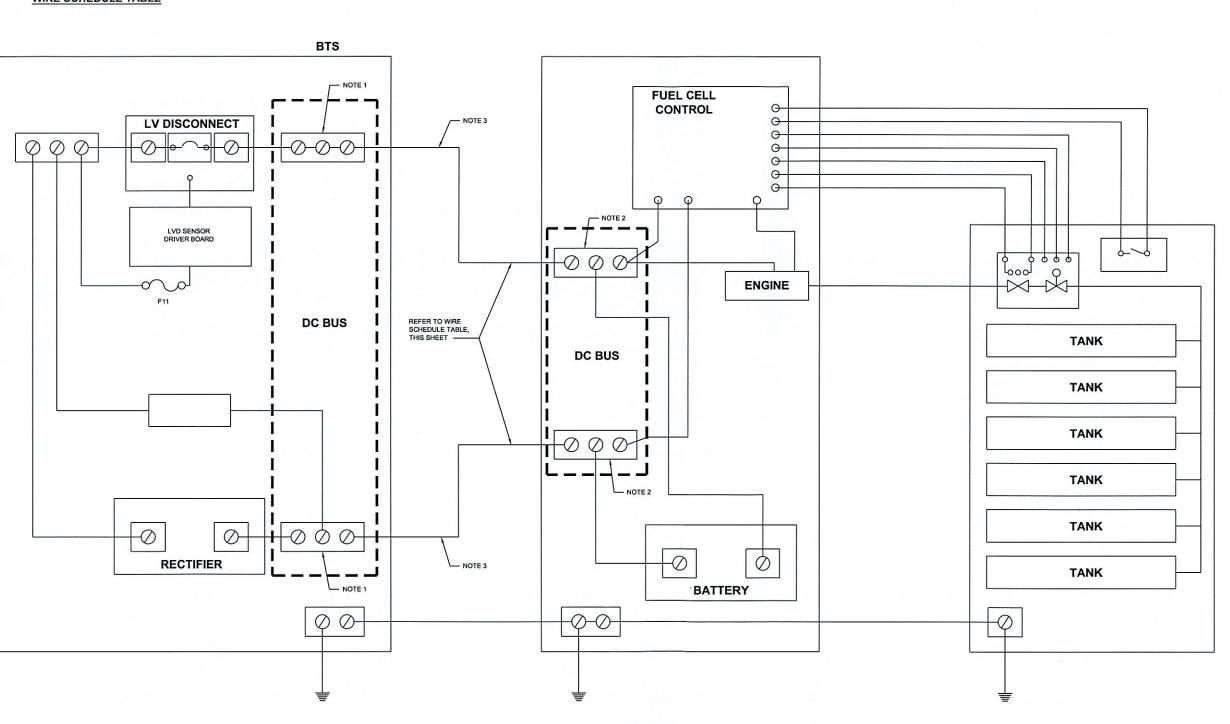
DC WIRE SIZE GUIDE		
BATTERY DISTANCE FROM FUEL CELL	48V ALTERGY @ 5KW (105A)	48V ALTERGY @ 10KW (105A)
10'	#1 AWG	3/0 AWG
20'	#1 AWG	4/0 AWG
30'	1/0 AWG	4/0 AWG
40'	1/0 AWG	4/0 AWG
50'	2/0 AWG	250 MCM
>50'	IN SITUATIONS WHERE FUEL CELL TO THE BA	TO DETERMINE WIRE SIZE THE DISTANCE FROM THE TTERY BANK IS GREATER AN 50'

THIS GUIDE IS FOR REFERENCE ONLY. THE INSTALLER IS RESPONSIBLE FOR SELECTING THE PROPER WIRE FOR EACH INSTALLATION IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC)

#### **WIRE SCHEDULE TABLE**

#### NOTES:

- BTS BUS BAR LUGS-TWO HOLE, 1/4" HOLE, 5/8" SPACING.
   ALTERGY FUEL CELL BUS LUGS TWO HOLE, 1/4" HOLE, 5/8" SPACING.
   RECOMMENDED CABLE POWERFLEX 1000, SIZED PER APPLICATION.



**WIRING DIAGRAM** 



6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

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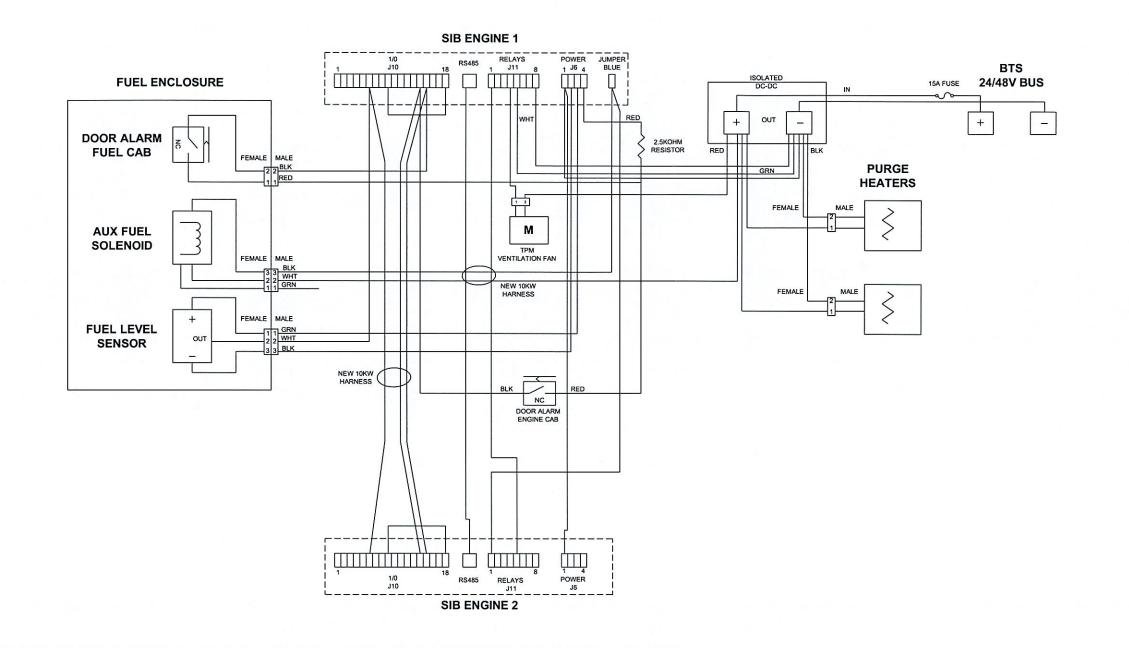
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SHEET TITLE

**ELECTRICAL** WIRING DIAGRAM

SHEET NUMBER



WIRING SCHEMATIC



6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251



10950 GRANDVIEW DRIVE OVERLAND PARK, KANSAS 66210 (913) 458-2000

168202

PROJECT NO:

DRA	AWN BY:	AKJ
CHE	ECKED BY:	ВН
0	06/27/2011	ISSUED FOR BUILDING PERMIT
REV	DATE	DESCRIPTION /



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.

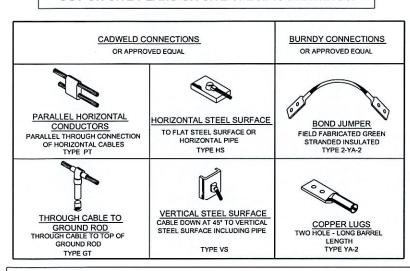
> CITADEL/GROTON CT33XC584 99 BRIAR HILL ROAD GROTON, CT 06340 CO-LOCATION

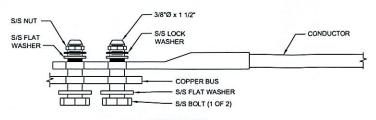
> > SHEET TITLE

FUEL CELL INTERNAL WIRING DIAGRAM

SHEET NUMBER

## THE DETAILS ON THIS SHEET APPLY ONLY AS CALLED OUT ON SITE PLANS OR SITE SPECIFIC DRAWINGS.





### LUG DETAIL

#### NOTES:

- ALL HARDWARE 18-8 STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
- FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND (BURNDY PENETROX E, OR THOMAS & BETTS KOPR-SHIELD).

#### GROUNDING NOTES:

- THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- 2. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- 3. ALL EXTERIOR GROUNDING CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- 4. ALL EXTERIOR GROUNDING CONDUCTORS SHALL BE 2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- CONNECTIONS TO THE GROUNDING 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 ADEQUATED YELLOW THE PROTECTION OF THE PR
- . MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.

HYDROGEN TANKS AND ENGINE STAND ALONE GROUNDING DETAIL (IF APPLICABLE)

SURFACING

GRADE



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SHEET TITLE

GROUNDING PLAN AND DETAILS

SHEET NUMBER

G-1

