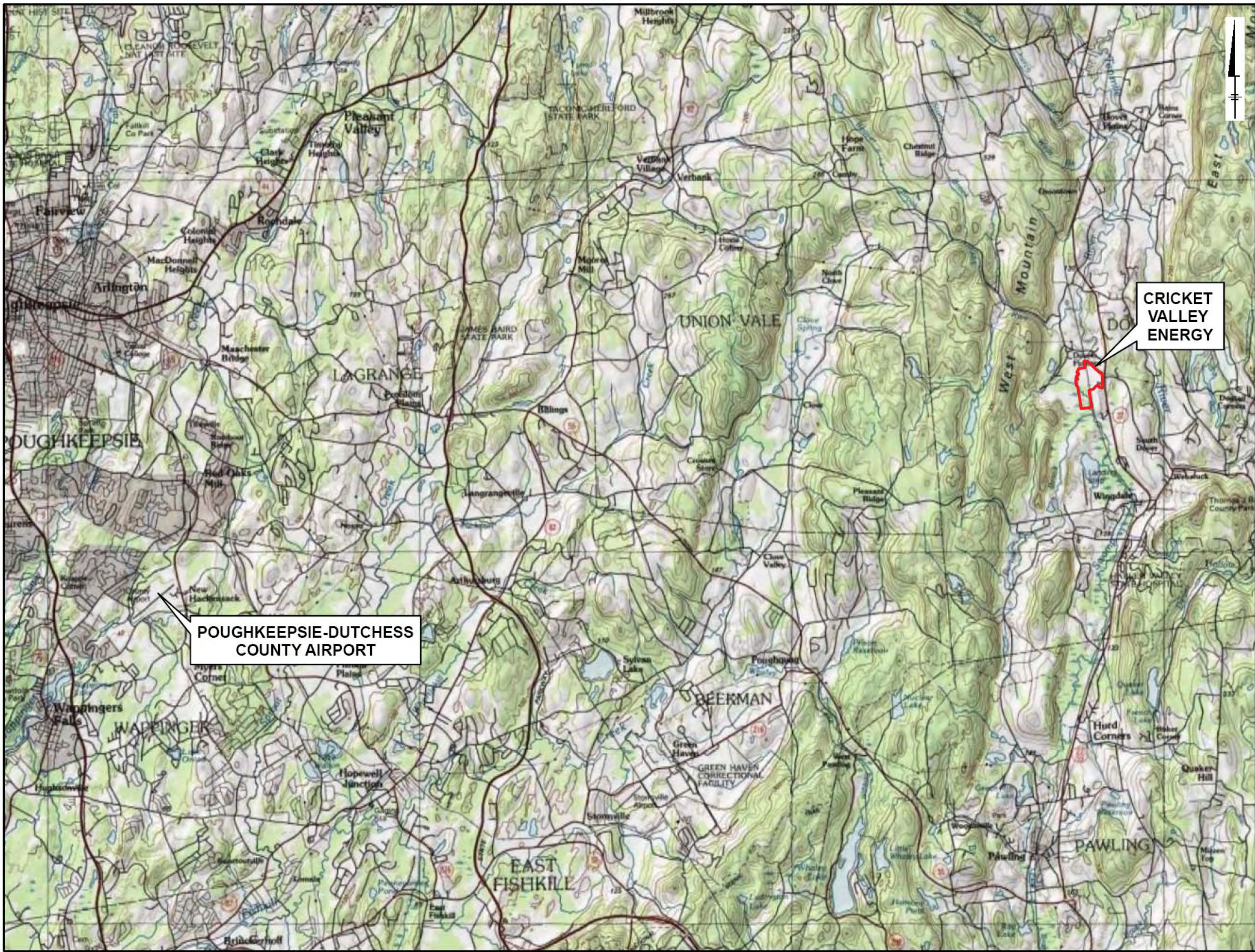


## **Section 4 – Figures**

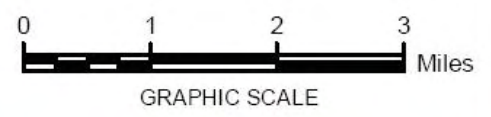
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PROJECT LOCATION

CRICKET VALLEY ENERGY

POUGHKEEPSIE-DUTCHESS COUNTY AIRPORT



**CRICKET HILL ENERGY CENTER**

**FIGURE 4-1  
LOCATION OF POUGHKEEPSIE-DUTCHESS COUNTY AIRPORT**

Dutchess County, New York

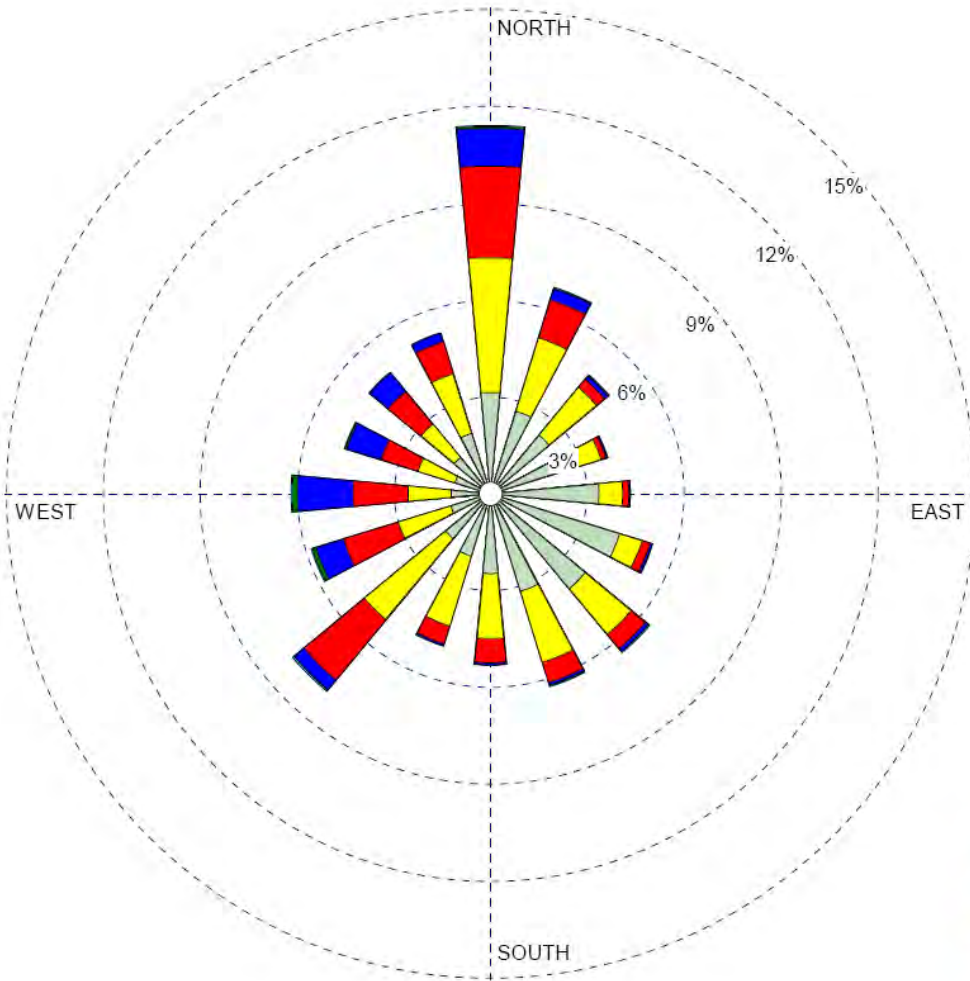
C:\Projects\PP\_Misc\20090511\_CricketHillGIS\FIGURE4-1\GIS\FIGURE4-1.mxd - 9/24/2009 @ 8:52:10 AM

WIND ROSE PLOT:

Wind Rose for March 10, 2005 - March 9, 2010

DISPLAY:

Wind Speed  
Direction (blowing from)



WIND SPEED  
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Calms: 6.19%

COMMENTS:

COMPANY NAME:

**Cricket Valley Energy Center, LLC**

MODELER:

**ARCADIS**

**FIGURE 4-2**



CALM WINDS:

**6.19%**

TOTAL COUNT:

**42235 hrs.**

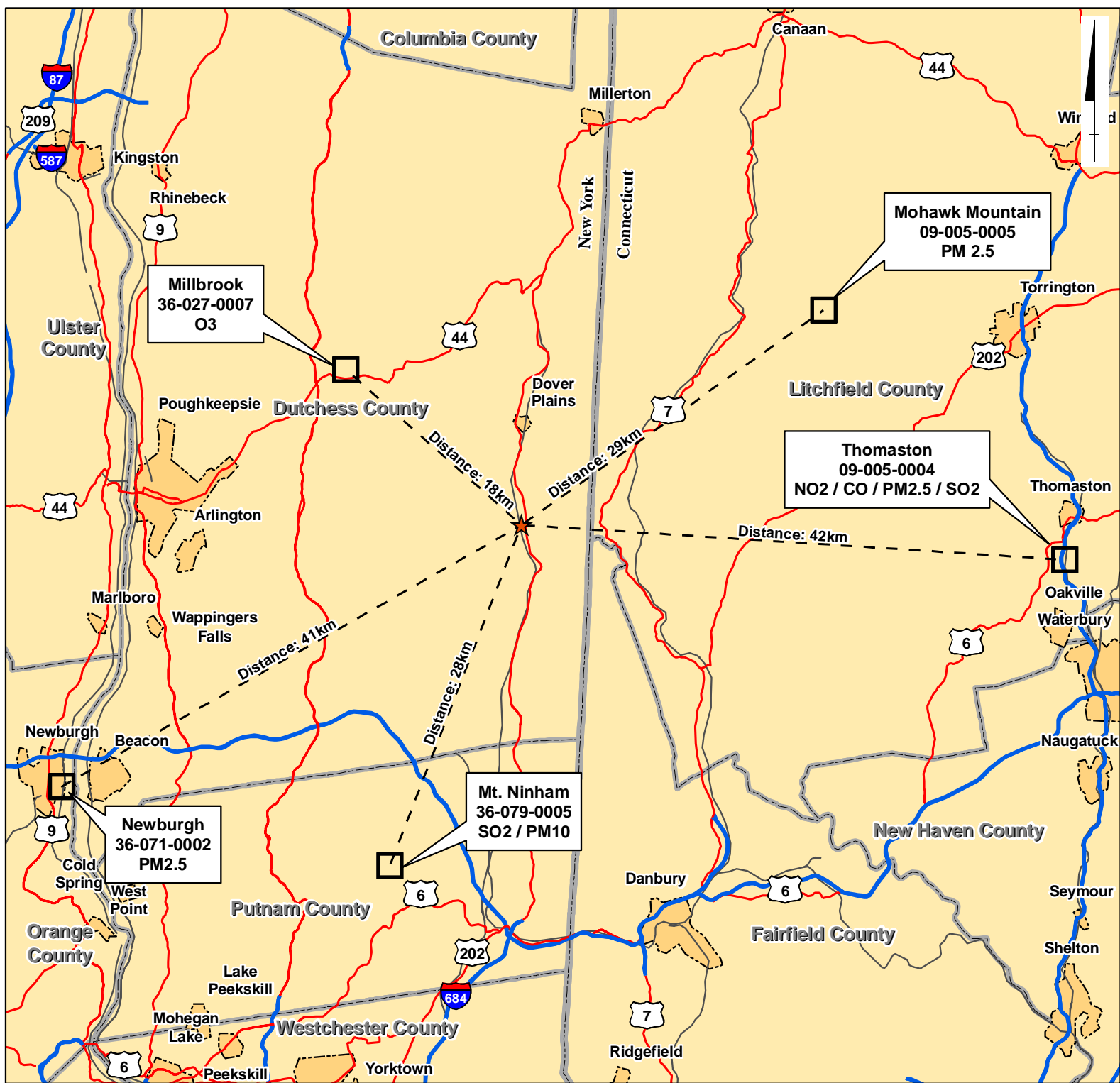
AVG. WIND SPEED:

**5.11 Knots**

DATE:

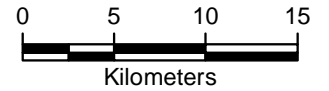
**10/12/2010**

PROJECT NO.:



**Legend**

- Cricket Valley Energy Center  
N41.676168/W73.580618
- Monitoring Station
- Primary Limited Access or Interstate
- Primary US or State Highway
- Urban Area
- County Boundary



Base data courtesy of  
ESRI Street Map Pro



**CRICKET VALLEY  
ENERGY CENTER**

**FIGURE 4-3  
MONITORING STATIONS**

**Dutchess County, New York**

**NOTES**

- CURRENT LAND/RECORD OWNER: HOWLANDS LAKE PARTNERS, LLC PO BOX 285, MOUNT KISCO, NY 10549.
- PARCELS' GRID NUMBERS: 7060-00-493989; 7061-00-465190; 7061-00-580190; 7061-00-585063.

**LEGEND**

- |   |   |
|---|---|
| 1. STACK (HRSG)                               | 32. DUCT FIRING SKID                                    |
| 2. HEAT RECOVERY STEAM GENERATOR              | 33. OIL/WATER SEPARATOR                                 |
| 3. GAS TURBINE                                | 34. GAS TURBINE WATER WASH DRAIN TANK                   |
| 4. GAS TURBINE GENERATOR                      | 35. WASTE WATER HOLDING TANK                            |
| 5. GAS TURBINE INLET FILTER                   | 36. WATER TREATMENT BUILDING                            |
| 6. ROTOR AIR COOLER (KETTLE BOILER TYPE)      | 37. CLOSED COOLING WATER PUMPS                          |
| 7. ISOPHASE BUS DUCT                          | 38. MEDIUM VOLTAGE SWITCHGEAR                           |
| 8. GENERATOR CIRCUIT BREAKER                  | 39. AUXILIARY BOILER                                    |
| 9. AUXILIARY TRANSFORMER                      | 40. AIR COMPRESSORS/DRYERS/RECEIVER                     |
| 10. GAS TURBINE GENERATOR STEP UP TRANSFORMER | 41. CHEMICAL FEED SYSTEM                                |
| 11. FIN FAN COOLER                            | 42. SAMPLE PANEL  |
| 12. DEMINERALIZED WATER TRAILER AREA          | 43. LAYDOWN AREA  |
| 13. DEMINERALIZED WATER STORAGE TANK          | 44. MECHANICAL BUILDING (VACUUM PUMPS/SJAE/ DRAIN TANK) |
| 14. POTABLE WATER STORAGE TANK                | 45. BLOWDOWN DRAIN TANK                                 |
| 15. SERVICE/FIRE WATER STORAGE TANK           | 46. ADMINISTRATION/CONTROL ROOM BUILDING                |
| 16. FIRE PROTECTION PUMP HOUSE                | 47. MAINTENANCE SHOP/WAREHOUSE BUILDING                 |
| 17. STEAM TURBINE GENERATOR                   | 48. FUEL GAS CONDITIONING & PRESSURE REDUCING STATION   |
| 18. CONDENSATE PUMPS                          | 49. RACK  |
| 19. AIR COOLED CONDENSER (ACC)                | 50. BLACK START GENERATOR/EMERGENCY GENERATOR AREA      |
| 20. AIR COOLED CONDENSER PCC                  | 51. GIS SWITCHYARD BUILDING                             |
| 21. BALANCE OF PLANT PCC                      | 52. STATIC FREQUENCY CONVERTERS                         |
| 22. SECONDARY UNIT SUBSTATION                 | 53. PARKING   |
| 23. STEAM TURBINE PCC                         | 54. MAIN GATE   |
| 24. TURBINE GENERATOR BUILDING                | 55. STEAM TURBINE GENERATOR STEP UP TRANSFORMER         |
| 25. AMMONIA STORAGE TANK & FORWARDING PUMPS   | 56. DRAIN COLLECTION TANK                               |
| 26. AMMONIA UNLOADING AREA                    | 57. SECONDARY GATE                                      |
| 27. SCR SKID                                  | 58. SWITCHYARD AREA                                     |
| 28. FUEL GAS PREHEATER                        | 59. BREAKER CABINET                                     |
| 29. CONTINUOUS EMISSIONS MONITORING           | 60. HRSG ENCLOSURE                                      |
| 30. BOILER FEEDWATER PUMPS                    | 61. GAS TURBINE GENERATOR ENCLOSURE                     |

PRELIMINARY MAJOR EQUIPMENT COORDINATES ( FEET )					
LEGEND NO	EQUIPMENT	± NORTH	± EAST	STACK/ EXHAUST DIAM	STACK/ EXHAUST HEIGHT
1	STACK - UNIT 1	611,539	705,509	19'	19' (BY ARCH)
1	STACK - UNIT 2	611,529	705,535	19'	19' (BY ARCH)
1	STACK - UNIT 3	611,511	705,514	19'	19' (BY ARCH)
11	FIN FAN COOLER SOUTH WEST CORNER CELL'S FAN	611,051	705,747	13'	30'
16	FIRE PROTECTION PUMP EXHAUST	612,043	705,752	8'	12'
19	ACC 1 - SOUTH WEST CORNER CELL'S FAN	611,644	705,271	34'	113'
19	ACC 2 - SOUTH WEST CORNER CELL'S FAN	611,410	705,311	34'	113'
19	ACC 3 - SOUTH WEST CORNER CELL'S FAN	611,177	705,350	34'	113'
39	AUXILIARY BOILER STACK	611,539	705,509	.	.
50	BLACK START GENERATOR STACK	611,539	705,509	.	.

ALL STACK/EXHAUST DIAMETERS AND HEIGHTS ARE PRELIMINARY  
 \* EQUIPMENT EXHAUSTS THROUGH THE STACK FOR UNIT 1

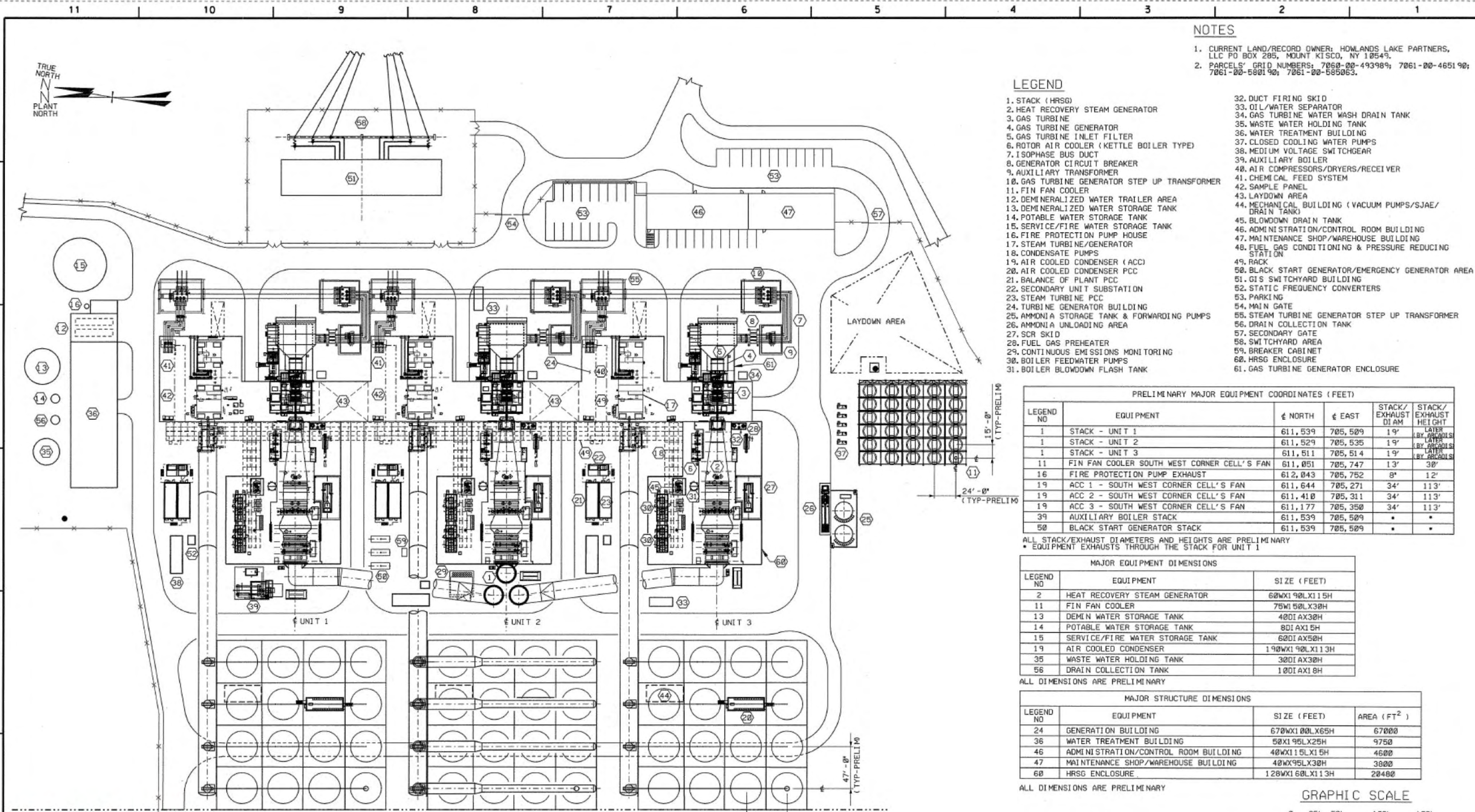
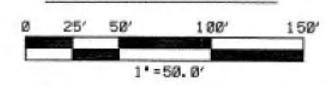
MAJOR EQUIPMENT DIMENSIONS		
LEGEND NO	EQUIPMENT	SIZE ( FEET )
2	HEAT RECOVERY STEAM GENERATOR	60WX190LX115H
11	FIN FAN COOLER	75W150LX30H
13	DEMIN WATER STORAGE TANK	40DIAX30H
14	POTABLE WATER STORAGE TANK	8DIAX15H
15	SERVICE/FIRE WATER STORAGE TANK	60DIAX50H
19	AIR COOLED CONDENSER	190WX190LX113H
35	WASTE WATER HOLDING TANK	30DIAX30H
56	DRAIN COLLECTION TANK	10DIAX10H

ALL DIMENSIONS ARE PRELIMINARY

MAJOR STRUCTURE DIMENSIONS			
LEGEND NO	EQUIPMENT	SIZE ( FEET )	AREA ( FT <sup>2</sup> )
24	GENERATION BUILDING	670WX100LX65H	67000
36	WATER TREATMENT BUILDING	50X195LX25H	9750
46	ADMINISTRATION/CONTROL ROOM BUILDING	40WX115LX15H	4600
47	MAINTENANCE SHOP/WAREHOUSE BUILDING	40WX95LX30H	3800
60	HRSG ENCLOSURE	128WX160LX113H	20400

ALL DIMENSIONS ARE PRELIMINARY

**GRAPHIC SCALE**



**ARCADIS**  
 CRICKET VALLEY ENERGY  
**FIGURE 4-4**  
 General Arrangement  
 Dutchess County, New York

Rev No	Revision	Date	Des	Chkd	Approved	Drawing Control				
G	ISSUED FOR PERMITTING	1/8/09	JGF			Purpose	Approved By	Date	Revised By	Date
H	REVISED TO INCLUDE HRSG AND GENERATOR ENCLOSURES	1/8/09	JFH			For Information	JGF	1/20/09	JGF	1/21/09
						For Comment				
						For Bid				
						For Fabrication				
						For Construction				

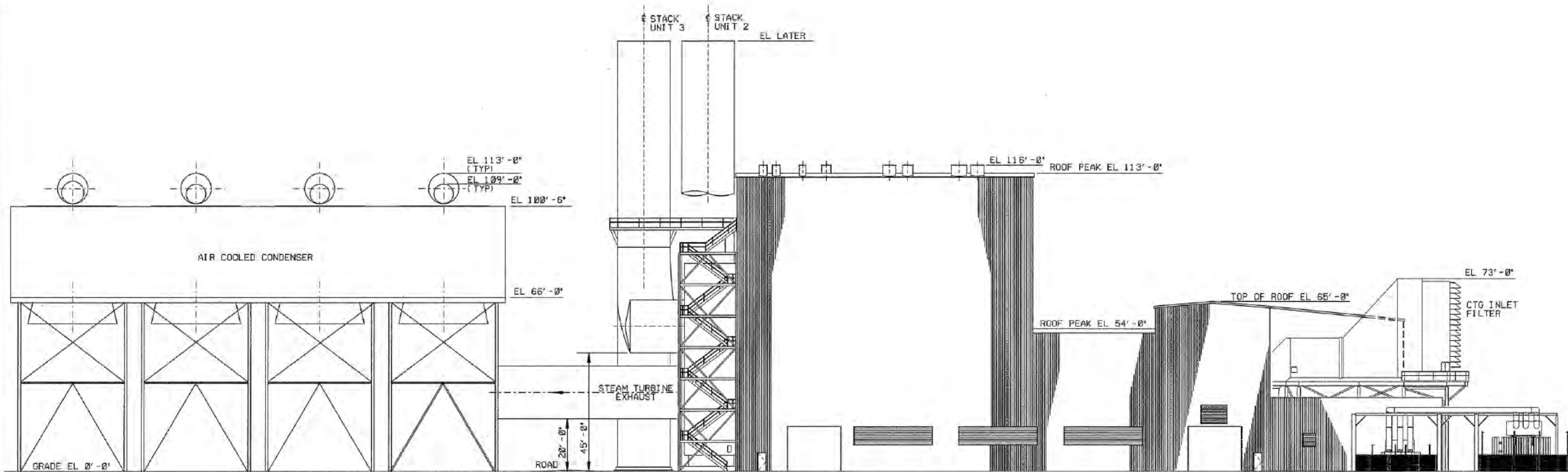
JOSE E. FERRER  
 001 291 2001  
  
 NEW YORK PROFESSIONAL ENGINEER NO. 002621

**advanced power**  
 CRICKET VALLEY ENERGY  
 TOWN OF DOVER  
 DUTCHESS COUNTY, NEW YORK  
**GENERAL ARRANGEMENT  
 POWER ISLAND PLANT**  
  
 BURNS AND ROE ENTERPRISES, INC.  
 Engineers and Constructors - Oradell, NJ  
 New York Certificate of Authorization No. 0004677  
 Drawn: JGF, Designed: JGF, Checked: JGF  
 Lead Engineer: JGF, Date: 1/20/09, Scale: 1"=50'-0"  
 Chief MECHANICAL Engineer: JGF  
 Mark Order: 3000, Drawing No: M210, Sh: H

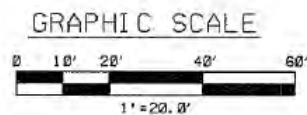
M21.0.DGN 1:3:27 29-OCT-2009

NOTES

1. CURRENT LAND/RECORD OWNER: HOWLANDS LAKE PARTNERS, LLC PO BOX 285, MOUNT KISCO, NY 10549.
2. PARCELS' GRID NUMBERS: 7060-00-493989; 7061-00-465190; 7061-00-580190; 7061-00-585063.
3. ALL ELEVATIONS ARE PRELIMINARY.



UNIT 3  
ELEVATION LOOKING NORTH



PRELIMINARY

**ARCADIS**  
CRICKET VALLEY ENERGY

**FIGURE 4-5**  
Site Elevations

Dutchess County, New York

Rev No	Revision	Date	Dwn	Crkd	Approved Chief Engr	Drawing Control				
						Purpose	Approved By	Date	Released By	Date
E	ISSUED FOR PERMITTING	10/16/09	JGF			For Information	JGF	10/20/09	JGF	10/20/09
F	REVISED TO INCLUDE HRSG AND GENERATOR ENCLOSURES	10/29/09	JFH			For Comment				
						For Bid				
						For Fabrication				
						For Construction				

JORGE E. FERRERO  
Oct 29, 2009

NEW YORK PROFESSIONAL ENGINEER No. 082851-1

**advanced power**

CRICKET VALLEY ENERGY  
TOWN OF DOVER  
DUTCHESS COUNTY, NEW YORK

GENERAL ARRANGEMENT  
UNIT 3 ELEVATION LOOKING NORTH

**BURNS AND ROE ENTERPRISES, INC.**  
Engineers and Constructors - Oradell, NJ  
New York Certificate of Authorization No. 0004677

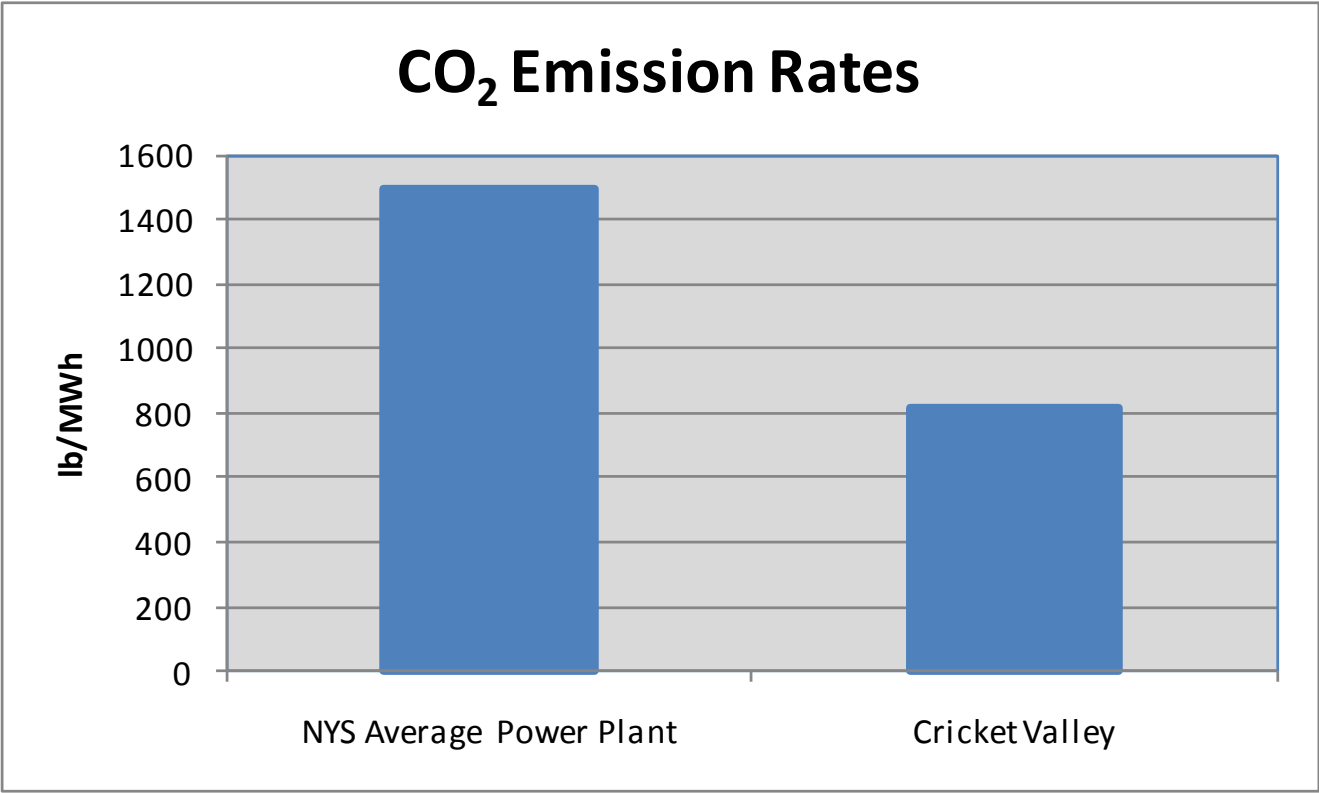
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Lead Engineer	JGF	Date		Approved for Construction	
Scale	1/20'	Sheet	3000	Work Under	
Chief MECHANICAL Engineer		Drawing No	M207	Sh	Rev
					F

M207.DGN

1:31:35

29-OCT-2009

# CO<sub>2</sub> Emission Rates



Source: EPA, 2009. eGRID2007: Emissions & Generation Resource Integrated Data Base, Year 2005 Data.



**CRICKET VALLEY ENERGY**

**FIGURE 4-6  
Comparison of CO<sub>2</sub>  
Emissions**

**Dutchess County, New York**