

100 EAST STATE STREET | P.O. BOX 1309 | MONTPELIER, VT 05601-1309

November 3, 2015

Mrs. Susan Hudson, Clerk
Vermont Public Service Board
112 State Street
Montpelier, VT 05620-2701

Re: **45-Day Notice to Persons and Entities Entitled to Notice Pursuant to Public Service Board Rule 5.110(C), for the BDE East Montpelier Lazar Solar, LLC 500 kW Group Net Metered Solar Array to be located off of Route 2 in East Montpelier, Vermont.**

Dear Mrs. Hudson,

I. Introduction and Background

BDE East Montpelier Lazar Solar, LLC (“Applicant”) is pleased to provide you with this 45-Day Notice in advance of filing a Petition for a Certificate of Public Good (“CPG”) with the Vermont Public Service Board (“Board” or “PSB”), by the Applicant for an approximate 500 kW ground mounted group net metered solar array (the “Project”) to be located off of Route 2 in a subdivision behind the property located at 2537 Route 2 in East Montpelier, Vermont (the “Site”) (the specific parcel does not yet have a E-911 address). This notice is provided in accordance with 30 V.S.A. § 219a, Vermont Statutes Annotated (“Section 219a”) and Vermont Public Service Board Rule 5.100.

Pursuant to PSB Rule 5.110(C), the following letter includes information sufficient to understand the overall Project and its impacts and benefits, including the location of the facility, a description of the proposed Project, construction plans and equipment to be used. This letter also describes the rights of the noticed parties to comment on the Project plans and participate in the PSB Section 219a net-metering review process.

II. 30 V.S.A. Section 219a Petition and Notice

The state permitting process for net-metering projects of this size requires the Applicant to provide notice to certain entities and persons 45-days prior to a formal filing with the PSB. These include:

- The legislative bodies and municipal and regional planning commissions in the communities where the project will be located;
- The Secretary of the Agency of Natural Resources;
- The Commissioner of the Department of Public Service and its Director for Public Advocacy;
- The landowners of record of property adjoining the project sites;
- The Public Service Board; and
- The serving electric company.

Per PSB Rule 5.110(C), recipients of this 45-Day Notice may file inquiries or comments with the Applicant with respect to the Project.

Please send all inquiries or comments during this 45-day notice period to Bullrock Deutsche-Eco, LLC, a company that is assisting the Applicant with the Project:

Andrew Thomas
Bullrock Deutsche-Eco, LLC
145 Pine Haven Shores Road Suite 1150
Shelburne, VT 05482
(802) 999-3377

Recipients will also have the opportunity to file comments with the PSB once an application is filed. This comment period will last for 21 days from the date an application is filed with the PSB, which is expected to be no sooner than December 19, 2015.

The municipal planning commission and regional planning commission, local selectboard, the Agency of Natural Resources, the Department of Public Service, and Green Mountain Power (“GMP”) will receive a copy of the Applicant’s petition when it is filed with the PSB, which will contain all information as required by PSB Rule 5.100. Notice of the filed application shall be provided to the East Montpelier Town Clerk and adjoining property owners.

III. Project Description

The Applicant is proposing to develop an approximate 500 kW ground mounted group net metering solar facility project at the Site located in a subdivision behind the property located at 2537 Route 2 in East Montpelier, Vermont.

The proposed Project will occupy roughly 4 acres on an approximate 8 acre property at the Site. The Site is located in an open field on the north side of Route 2, adjacent to a RV dealership. Residential properties and existing trees are located between Route 2 and the Site. The Applicant met with adjoining landowners to review the proposed Project. Based on that meeting, the Applicant has shifted the Project further north and east to increase the setback distance from the Project and the adjoining property lines. The proposed setbacks from the nearest residences are identified on the attached site plan, Exhibit 1. The public views from Route 2 are limited by the approximate 363 foot setback from the road, and the Project is screened from this road by the intervening structures and vegetation.

The Applicant may need to selectively clear trees for shade purposes to the Project’s south west between the RV dealership and the Site.

A preliminary site plan, which shows exiting conditions and the array footprint as proposed is shown in Exhibit 1. The final site design and equipment selection will occur post permit issuance, however such design will be substantially the same as shown in Exhibit 1.

In summary, the Project will consist of:

- Approximately 2,684 solar panels installed on fixed, pile-driven post mounted racking systems across approximately 4 acres (Exhibit 2 contains a sample racking system);
 - Coated with non-reflective glazing
 - Sloped at an angle of approximately 20 degrees
 - Approximately nine (9) feet high off the ground at their highest point
- Approximately 17 string inverters dispersed across the array that would convert the direct current (DC) generated by the panels to alternate current (AC);

- Network upgrades associated with interconnection of the system into Green Mountain Power's existing 3-phase service along Route 2, including installing approximately two new distribution poles. The first pole shall extend the existing three phase service across Route 2 and be located on the north side of Route 2. The second pole will extend from that point approximate 250 feet to the Project Site, this pole shall carry the necessary pole mounted transformers;
- An approximate 8-foot perimeter fence with approximately 6" vertical spacing; and driven fence posts.
- New gravel access road to the Site, approximately 300 feet long.

Attachments:

- Exhibit 1 – Preliminary Site Plan
- Exhibit 2 – Proposed Equipment Specifications
- Exhibit 3 – Preliminary Environmental Assessment

IV. Construction & Transportation

The Applicant proposes to deliver materials to the Project Site via truck to a temporary construction staging area at the Project Site. Most all transportation activity will occur during the construction phase, which would last approximately three (3) months. Deliveries will be made via Route 2 and other state and local roads, which are accustomed to the type of traffic representative of the proposed daily material delivery. The Project is not expected to require oversize or overweight deliveries. Once operational, activity will consist of periodic visits for system maintenance. Access to and from the Site would be restricted by perimeter fencing in order to secure the site and prevent the public from entering the array. All equipment associated with the Project will be installed in accordance with all applicable regulations and electrical codes.

V. Preliminary Impact Assessment

i. Interconnection

On October 7, 2015, the Applicant filed a 5.500 interconnection application with GMP, whom will further evaluate impacts to the system. These results will be included as part of the Petition, with any system impacts addressed at that time.

ii. Aesthetics

The Project Site is located in an open field set back approximately 363 feet from Route 2, which is the closest road. The orientation of travel along the section of Route 2 in the vicinity of the Project area combined with the existing vegetation and structures between the Project and Route 2 will partially screen the Project as the public travels along the roadway. The public would most likely have a short intermittent view of the Project while traveling south on Route 2. The dense mature existing vegetation will help screen public views of the Project from the south, east and west. While the Applicant has not completed the final design, the Project Site appears well suited to accommodate the Project with limited potential impact on the broader visual resources of the area or town.

Existing vegetation will limit views from the nearby residences to the Project. The Applicant expects to propose landscape screening along with the full Application. Thus, the initial assessment indicates that the Project will not create an undue adverse impact with respect to aesthetics.

The Applicant has hired T.J. Boyle & Associates to assess the Project's potential aesthetic impacts. The Applicant will file an aesthetic assessment of potential aesthetic impacts attributable to the Project as part of its Application with the Public Service Board.

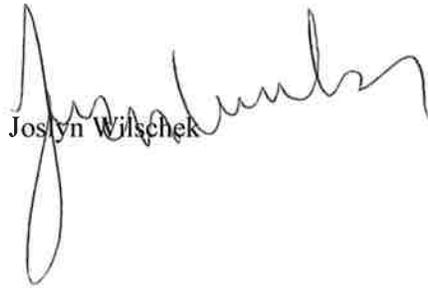
iii. Environmental Impacts

The Applicant hired VHB to assess the Project's potential environmental impacts. VHB's preliminary environmental assessment is attached as Exhibit 3. The Applicant will include a more detailed analysis of environmental impacts with the complete application.

VI. Conclusion

The Project is not expected to result in undue adverse impacts to the applicable criteria. The Applicant looks forward to submitting the full Section 219a filing package, which will contain all information required by the PSB, and for others, to evaluate the merits of the Project for potential award of a Certificate of Public Good.

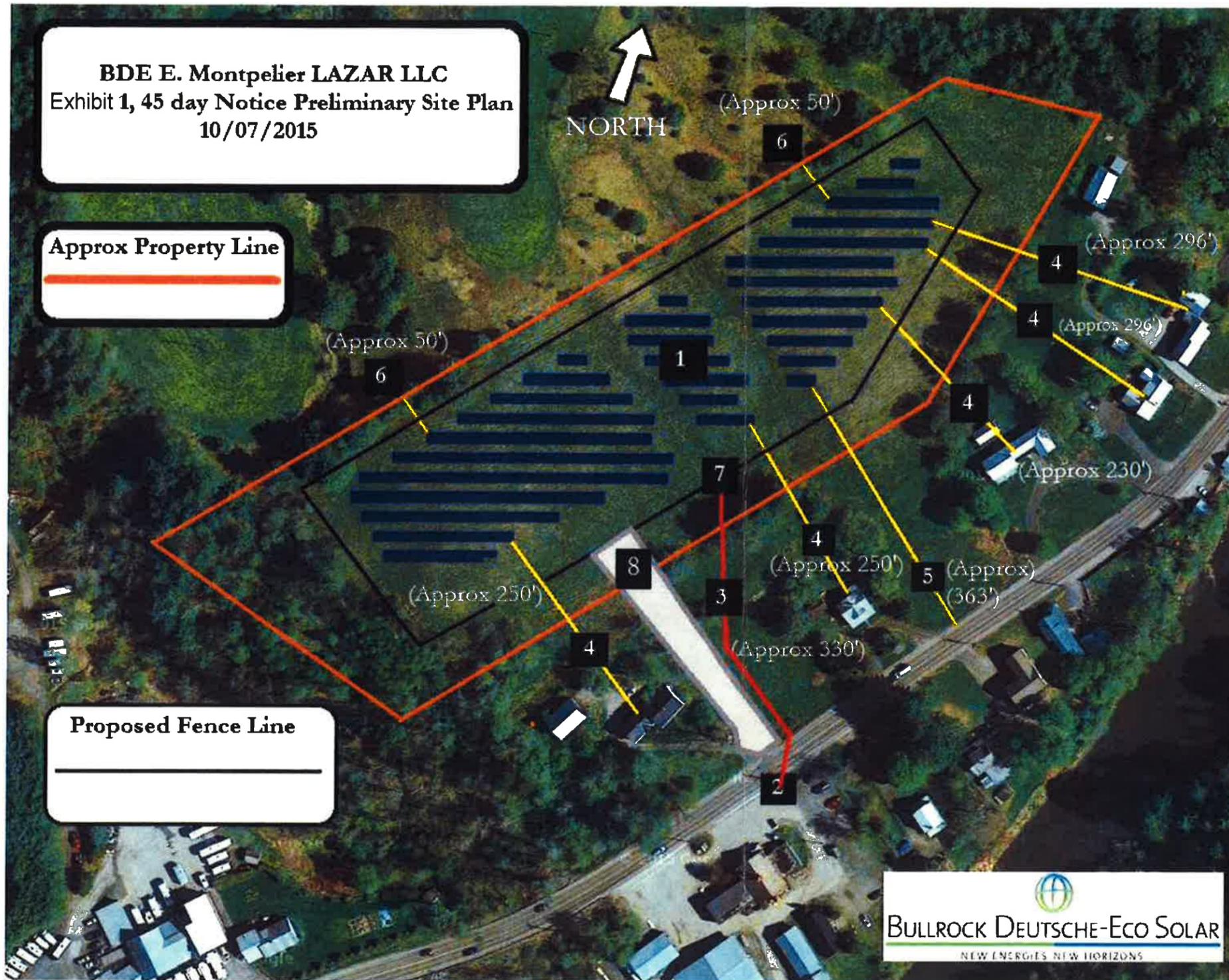
Sincerely,



Joslyn Wilschek

Exhibit 1

Preliminary Site Plan



BDE E. Montpelier LAZAR LLC
 Exhibit 1, 45 day Notice Preliminary Site Plan
 10/07/2015

Approx Property Line

Proposed Fence Line

- | | | | |
|---|-------------------------------------|-----------------------------------|-----------------------------|
| 1. Lot Behind 2537 Rt. 2 East Montpelier, VT. | 3. Overhead Primary Line Extension. | 5. Distance from Site to Roadway. | 7. Point of Interconnection |
| 2. Existing GMP 3Phase | 4. Neighboring Houses. | 6. 50' Offset from Property Line. | 8. Access Road. |



Exhibit 2

Proposed Equipment Specifications

Sunmodule Pro-Series SW 260 POLY (33mm frame)



TUV Power controlled:
Lowest measuring tolerance in industry



Every component is tested to meet
3 times IEC requirements



Designed to withstand heavy
accumulations of snow and ice



Sunmodule Plus:
Positive performance tolerance



25-year linear performance warranty
and 10-year product warranty



Glass with anti-reflective coating



World-class quality

Fully-automated production lines and seamless monitoring of the process and material ensure the quality that the company sets as its benchmark for its sites worldwide.

SolarWorld Plus-Sorting

Plus-Sorting guarantees highest system efficiency. SolarWorld only delivers modules that have greater than or equal to the nameplate rated power.

25-year linear performance guarantee and extension of product warranty to 10 years

SolarWorld guarantees a maximum performance digression of 0.7% p.a. in the course of 25 years, a significant added value compared to the two-phase warranties common in the industry, along with our industry-first 10-year product warranty.*

*in accordance with the applicable SolarWorld Limited Warranty at purchase.
www.solarworld.com/warranty



Sunmodule[®] Pro-Series SW 260 POLY (33mm frame)



PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

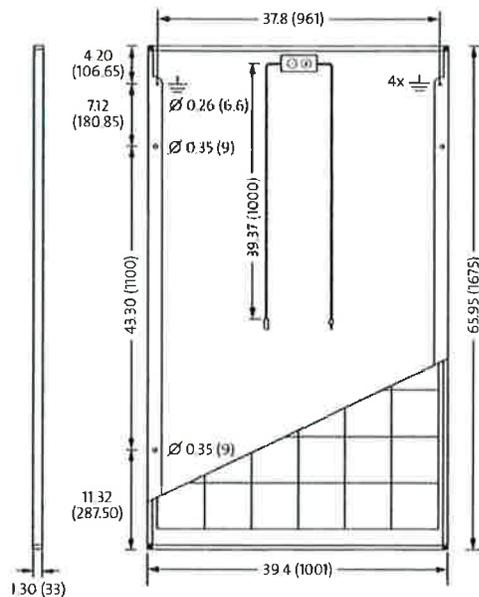
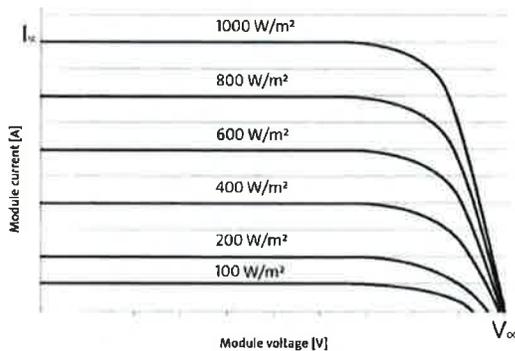
Maximum power	P_{max}	260 Wp
Open circuit voltage	V_{oc}	38.4 V
Maximum power point voltage	V_{mpp}	31.4 V
Short circuit current	I_{sc}	8.94 A
Maximum power point current	I_{mpp}	8.37 A
Module efficiency	η_m	15.51 %

*STC: 1000 W/m², 25°C, AM 1.5

1) Measuring tolerance (P_{max}) traceable to TUV Rheinland: +/- 2% (TUV Power Controlled)

THERMAL CHARACTERISTICS

NOCT	46 °C
TC I_{sc}	0.051 %/°C
TC V_{oc}	-0.31 %/°C
TC P_{mpp}	-0.41 %/°C
Operating temperature	-40°C to 85°C



All units provided are imperial. SI units provided in parentheses. SolarWorld AG reserves the right to make specification changes without notice.

PERFORMANCE AT 800 W/m², NOCT, AM 1.5

Maximum power	P_{max}	192.4 Wp
Open circuit voltage	V_{oc}	34.8 V
Maximum power point voltage	V_{mpp}	28.5 V
Short circuit current	I_{sc}	7.35 A
Maximum power point current	I_{mpp}	6.76 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m², 100% (+/-2%) of the STC efficiency (1000 W/m²) is achieved.

COMPONENT MATERIALS

Cells per module	60
Cell type	Poly crystalline
Cell dimensions	6.14 in x 6.14 in (156mm x 156 mm)
Front	Tempered glass (EN 12150)
Frame	Clear anodized aluminum
Weight	39.7 lbs (18.0 kg)

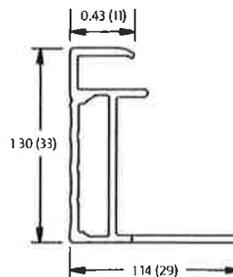
SYSTEM INTEGRATION PARAMETERS

Maximum system voltage SC II / NEC	1000 V	
Maximum reverse current	25 A	
Number of bypass diodes	3	
Design Loads*	Two rail system	113 psf downward 64 psf upward
Design Loads*	Three rail system	178 psf downward 64 psf upward
Design Loads*	Edge mounting	178 psf downward 41 psf upward

* Please refer to the Sunmodule installation instructions for the details associated with these load cases.

ADDITIONAL DATA

Power sorting ¹	-0 Wp / +5 Wp
J-Box	IP65
Module leads	PV wire per UL4703 with H4 connectors
Module type (UL 1703)	I
Glass	Low iron tempered with ARC



- Compatible with both "Top-Down" and "Bottom" mounting methods
- \perp Grounding Locations:
-- 4 locations along the length of the module in the extended flange.



Solidlock®

Fixed Knot

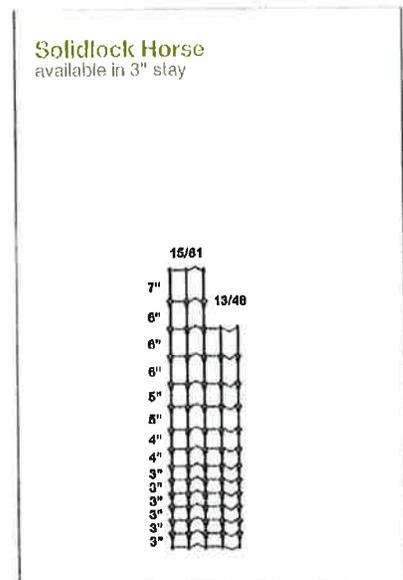
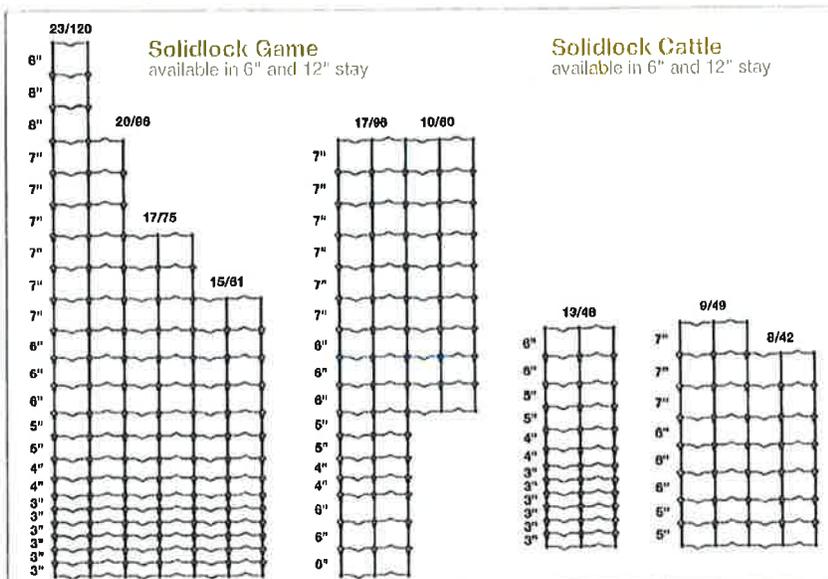
Are you looking for an agricultural fence that's strong, virtually maintenance free, and comes in sizes suited for practically all animals and applications?

Look no further than Solidlock.

Our fixed knot design combined with high tensile wire makes Solidlock the strongest woven wire fence you can buy. This design locks the line wire and stay wire together, giving you the strength you require. Plus Solidlock's use of high tensile wire and solid vertical stays means next to no maintenance. You can spend less time worrying about your fence - whether you want to keep animals in or out.

There's a Solidlock fence option to fit virtually any application you require. Our fence is available in varieties ranging from 42 inches to 120 inches tall. We have larger staggered openings or smaller 3 x 3 inch openings for horse applications.

Solidlock fence is available in Class 3 (heavy coat) galvanized for long life. You can also get Solidlock with Bezinal + Paint advanced coating. Choose either a black or green finish and enjoy the benefits of a product that will last four to six times longer than a standard Class 1 fence.



Solidlock 12.5g Game Fence

Part Number	Fence Design	Height	Vertical Stay Spacing	Roll Length	Top and Bottom Wire Diameter	Main Wire Diameter	Roll Weight	Finish
118218	1060 - 6	60"	6"	330'	12.5g	12.5g	210 lbs	Class 3
118257	1060 - 12	60"	12"	660'	12.5g	12.5g	294 lbs	Class 3
118248	1561 - 6	61"	6"	330'	12.5g	12.5g	279 lbs	Class 3
118269	1775 - 6	75"	6"	330'	12.5g	12.5g	327 lbs	Class 3
118229	1775 - 12	75"	12"	330'	12.5g	12.5g	236 lbs	Class 3
118280	1796 - 6	96"	6"	330'	12.5g	12.5g	355 lbs	Class 3
118271	2096 - 3	96"	3"	165'	12.5g	12.5g	340 lbs	Class 3
118288	2096 - 6	96"	6"	330'	12.5g	12.5g	396 lbs	Class 3
118376	2096 - 6	96"	6"	500'	12.5g	12.5g	601 lbs	Class 3
118241	2096 - 12	96"	12"	330'	12.5g	12.5g	264 lbs	Class 3
118371	2096 - 12	96"	12"	660'	12.5g	12.5g	564 lbs	Class 3
118318	23120 - 6	120"	6"	330'	12.5g	12.5g	492 lbs	Class 3
136692	2096 - 6	96"	6"	330'	12.5g	12.5g	396 lbs	Green
136261	2096 - 6	96"	6"	330'	12.5g	12.5g	396 lbs	Black

Solidlock 12.5g Cattle Fence

Part Number	Fence Design	Height	Vertical Stay Spacing	Roll Length	Top and Bottom Wire Diameter	Main Wire Diameter	Roll Weight	Finish
118185	842 - 6	42"	6"	330'	12.5g	12.5g	157 lbs	Class 3
118144	842 - 12	42"	12"	330'	12.5g	12.5g	110 lbs	Class 3
118221	842 - 12	42"	12"	660'	12.5g	12.5g	220 lbs	Class 3
118199	949 - 6	49"	6"	330'	12.5g	12.5g	182 lbs	Class 3
118162	949 - 12	49"	12"	330'	12.5g	12.5g	129 lbs	Class 3
118239	949 - 12	49"	12"	660'	12.5g	12.5g	257 lbs	Class 3
118226	1348 - 6	48"	6"	330'	12.5g	12.5g	234 lbs	Class 3
118310	1348 - 12	48"	12"	330'	12.5g	12.5g	176 lbs	Class 3

Solidlock 12.5g Horse Fence

Part Number	Fence Design	Height	Vertical Stay Spacing	Roll Length	Top and Bottom Wire Diameter	Main Wire Diameter	Roll Weight	Finish
118150	1348 - 3	48"	3"	100'	12.5g	12.5g	117 lbs	Class 3
118225	1348 - 3	48"	3"	200'	12.5g	12.5g	233 lbs	Class 3
118174	1561 - 3	61"	3"	100'	12.5g	12.5g	140 lbs	Class 3
118249	1561 - 3	61"	3"	200'	12.5g	12.5g	280 lbs	Class 3

Solidlock 14g Sheep & Goat Fence

Part Number	Fence Design	Height	Vertical Stay Spacing	Roll Length	Top and Bottom Wire Diameter	Main Wire Diameter	Roll Weight	Finish
141324	1048 - 3	48"	3"	165'	12.5g	14g	109 lbs	Class 3
137452	1048 - 12	48"	12"	330'	12.5g	14g	105 lbs	Class 3
137453	1048 - 12	48"	12"	660'	12.5g	14g	210 lbs	Class 3

SG 30 / 36KU



Efficient and flexible

- High yields due to efficiency up to 98.5% and CEC efficiency of 98.0%
- Dual MPP trackers control



Grid-friendly

- Continuous active power control
- Reactive power control with power factor 0.8 overexcited ~ 0.8 underexcited
- Includes RS-485 Interface, compatible with all common monitoring systems



Intelligent design

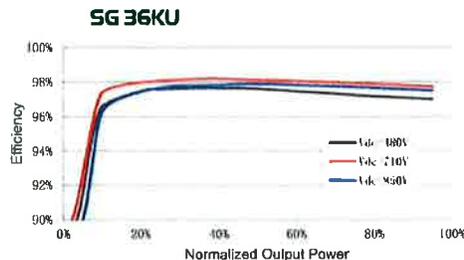
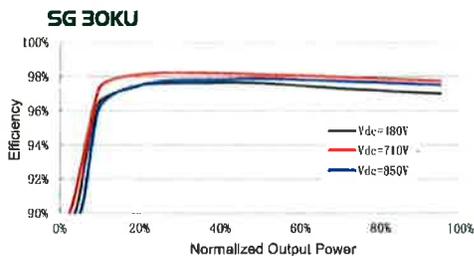
- Integrated combiner box: 10 x Screw terminal pairs with DC string fuses, Type II overvoltage protection and DC switch, more safety and lower the system cost
- Can be wall-mounted without lifting equipment, weight 65 kg
- Can be mounted vertically as well as horizontally, giving maximum design flexibility and lowering installation costs



Reliable

- Product certification: cCSAus, UL 1741, IEEE 1547, IEEE1547.1, CSA C22.2, 107.1-01-2001, FCC Part 15 Sub-part B Class B Limits
- Manufacturer certification: ISO 9001, ISO 14001, OHSAS 18000

Efficiency Curve



Input Side Data

Max. PV input power	34100W	41000W
Max. input voltage	1000Vdc	
Startup voltage	300V	
Nominal input voltage	710V	
MPP voltage range	280~950Vdc	
MPP voltage range for nominal power	480~850Vdc	560~850Vdc
No. of MPPTs	2	
Max. number of PV strings per MPPT	5	
Max. PV Input current(DC1/DC2)	33A*2	
Max. input current for input connector	12A	
Short-circuit current of PV input	40A*2	

SG 30KU**SG 36KU****Output Side Data**

Nominal AC output power	30000W	36000W
Max. AC output power(PF=1)	33240W	39800W
Max. AC output apparent power	33240VA	39800VA
Max. AC output current	40A	48A
Nominal AC voltage	480Vac	
AC voltage range	422~528Vac	
Grid Connection Type	3Ø/3W or 4W+Ground	
Normal output frequency	60Hz	
Grid frequency range	57~63Hz	
THD	<3% (at nominal power)	
DC current injection	<0.5%In	
Power factor	>0.99 default value at nominal power, adj. 0.8 overexcited~0.8 underexcited	

Protection

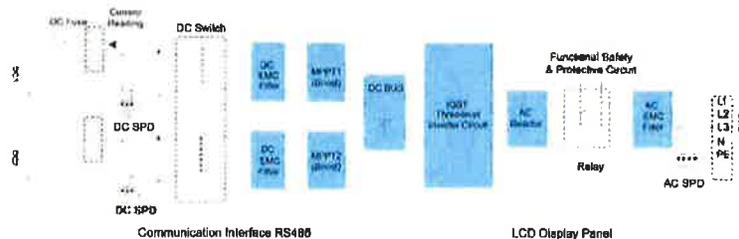
Anti-islanding protection	Yes
LVRT	Yes
DC reverse connection protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
DC switch	Integrated
DC fuse	Integrated
Overvoltage protection	Type III surge arrester (optional Type II DIN rail surge arrester)
AC switch	Optional
AC fuse	Optional

System Data

Max. efficiency	98.5%
CEC efficiency	98.0%
Isolation method	Transformerless
Ingress protection rating	NEMA4X
Night power consumption	<1W
Ambient operating temperature range	-25~ + 60°C (> 45°C derating) -13~+ 140°F (> 113°F derating)
Allowable relative humidity range	0~100%
Cooling method	Smart forced air cooling
Max. operating altitude	4000m (>3000m derating) 13000ft(>9800ft derating)
Display	Graphic LCD
Communication	RS485 (optional Ethernet)
DC connection type	Screw terminals
AC connection type	Spring clamp terminal
Certification	cCSAus
Safety and EMC Standard	UL 1741, IEEE 1547, IEEE1547.1, CSA C22.2#107.1-01-2001, FCC Part 15 Sub-part B, Class B Limits

Mechanical Data

Dimensions (W*H*D)	622*880*250mm 25*34.6*9.8inch
Mounting method	Wall bracket or floor bracket
Weight	65kg 143lbs

Circuit Diagram



GROUND MOUNT STRUCTURES

For Framed and Frameless Photovoltaic Modules



Ultimate Flexibility

The S:FLEX ground mount system allows for easy installation of all framed and frameless photovoltaic modules. The proprietary Bearing Block allows $\pm 45^\circ$ degree of tilt and $\pm 6^\circ$ of side to side flexibility. The Vertical Post system allows up to 12 inches of vertical adjustability in the field with no cutting or welding. Systems are scalable and repeatable.

Maximum Security

Each S:FLEX system is perfectly optimized towards the location specific wind, snow, and seismic load requirements. The designs meet or exceed IBC 2012 standards and are compliant with all current codes and standards.

Quick Assembly

Numerous pre-assembled parts including the universal height-adjustable module clamps in combination with the patented click technology reduce assembly times.

Foundation Optimization

Engineered flexibility greatly reduces grading requirements. Shallow embedment depths speed up the installation and can follow terrain contours. Galvanized steel posts are easy to handle and can be pile driven into difficult terrain including gravel and stone. Alternate foundation options include welded plate, concrete pour, ballast, and ground screw.

Lifetime Longevity

The aluminum and stainless steel components' natural corrosion resistance decreases maintenance and extends the lifetime of the installation. Aluminum rails are lighter and easier to handle than steel systems, therefore reducing shipping and labor costs. In addition, all components are recyclable.

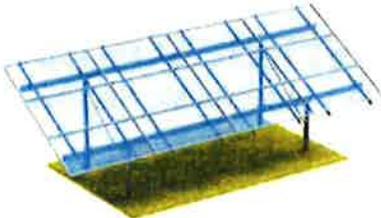
Project Support

If requested, a dedicated representative will support your project from the initial estimate through the final installation. Project specific designs to optimize material use, ease of installation and logistics are essential to a successful project. Permitting packages are available.

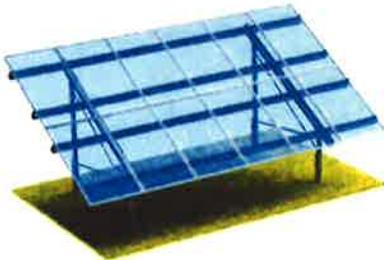
GROUND MOUNT STRUCTURES

For Framed and Frameless Photovoltaic Modules

Overview



Example of a S:FLEX Ground Mount System with modules in landscape orientation



Example of a S:FLEX Ground Mount System with modules in portrait orientation



Standard rails and components are being designed to optimize each ground mount



Various foundation options, (from left to right):
Rammed Post, Post embedded in concrete,
Post with base plate, H-Post embedded in
concrete and ground screw/helical pier

Application	Fixed-Tilt Ground Mount
Tilt	Up to ±45° adjustable in North-South direction
Terrain Slope	Maximum terrain slope tilt: ±8° East-West/ ±45° North-South
Vertical Adjustment	12 inches of adjustability on site with no cutting or welding
Module Clamps	Universal height-adjustable module End-Clamps and Mid-Clamps with patented click-technology offer an easy and quick installation of framed and frameless modules
Module Orientation	Portrait or Landscape
Project Design	Rail/Post spans are optimized for each local wind, snow, and seismic load requirements (Services of a structural engineer are advised.)
Design Standards	Meets or exceeds IBC 2006/2009/2012, ASCE 7-05, ASCE 7-10, Aluminum Design Manual 2005/2010, 2010 AISC code. Compliant in all North American jurisdictions.
Hardware & Tools	Standardized stainless steel bolts and nuts require only the use of a few tools
Grounding	Integrated grounding options are available
Foundation Type	Galvanized steel driven Post, Post embedded in concrete, Post with base plate, H-Post embedded in concrete, above ground ballast and ground screw/helical pier
Manufacturing	Flexible use of various extrusion and fabrication facilities in North and South America as well as Europe to meet the variable demands of the markets
Maintenance	Minimal maintenance due to aluminum rails and components which are naturally corrosion resistant. Easily accessible for grounds and system maintenance.
Warranty	10 year limited product warranty. Extended warranty upon request.
Additional Services	Project specific design and engineering services as well as installation support upon request



Distribution transformers

Single phase overhead distribution transformers 10 kVA through 167 kVA

Power and productivity
for a better world™ **ABB**

Product overview

Application

The ABB overhead transformer may be used alone for the supply of a single phase load or as one of three units in a bank for the supply of a three phase load. The unit may be direct-mounted to a wooden or concrete pole, or cluster mounted on a pole for three phase use. The ABB transformers are designed for servicing residential overhead distribution loads. They are also suitable for light commercial loads, industrial lighting and diversified power applications.

Standards

All units are built in accordance with both CAN CSA C2.1-06 and CAN CSA C2.2-06, except as modified to comply with customer specifications. IEEE C57.12.20 or International Electrotechnical Commission Standard (IEC) may apply if required.

Features

- Core and coils designed for an optimum Total Ownership Cost (TOC)
- Wound core with step-lap joints for increased efficiency and lower noise levels
- "Low-high-low" windings for increased short circuit strength, efficiency and thermal strength
- Computer aided design for mechanical & electrical calculations (C.A.D.)
- Dual voltage designed to meet BIL and short circuit requirements on both connections
- Low voltage leads with embossed markings on all units with 3 LV bushings for easy reading and permanent identification on selected ratings
- Paint system meeting or exceeding the performance of the IEEE C57.12.28 Standard (para. 5.3 to 5.5 included), including the salt spray test
- Lifting lugs meeting all of the requirements of the CSA C2.1-06 and CSA C2.2-06 Standard (including feature to prevent sling slippage)
- Multiple cover clamps to ensure proper sealing and to minimize water retention on the cover edge
- Cover or sidewall mounted high voltage bushing(s) as required
- Low voltage spade or clamp type (basket) terminals as required
- Provision for surge arrester bracket, bracket available as an option
- Automatic self-resealing pressure relief valve

Dual Voltage Transformers and Taps

Dual voltage transformers have proven to be very useful for their versatility which allows lower inventories for the electric utilities

and saves on change out costs in the event of upgrading to higher system voltage. Because taps are also in common use, it is appropriate that dual voltage transformers with taps be considered. As the transformer reliability is adversely affected by the increased number of HV leads introduced by dual voltage designs, ABB recommends the following:

- Dual Voltage transformers without taps should be limited to a 4:1 ratio (eg 2.4 x 8.0 kV)
- If taps are required on both connections, the voltage ratio should be 2:1

Accordingly, ABB recommends that:

- (1) dual voltage transformers without taps be limited to a maximum HV spread of 2400V x 8000V, or 4800V x 16000V, and that
- (2) transformers with taps (for both connections) be limited to a maximum spread of 2.1, for example 7200V x 14400V, or 8000V x 16000V.

Pole Mounted Transformers, Rating Details

General technical information is listed below. Information on less common requirements can be obtained through your ABB sales representative.

- kVA: 10, 15, 25, 37, 50, 75, 100, 167
- Temperature rise : 65 °C
- Cooling type : ONAN
- Single Phase
- Hertz : 60, 50
- Polarity : Additive or Subtractive
- Primary Voltage : 2400V through 34500 GrdY / 19920V
- Secondary Voltage : 120 / 240V, 240 / 480 V, 347V, 600V
- Insulation Class : 25kV (150kV BIL) and below
- Taps: none, or as an option, 4 x 2,5% HV (any combination of full capacity above nominal and /or reduced capacity below nominal)

Options

- Four HV winding taps complete with externally operated tapswitch
- Dual voltage primary complete with externally operated voltage switch
- Extra creep bushing
- Surge arrester bracket
- Internal Fault Detector (IFD)
- Non conductive transformer cover
- Biodegradable vegetable oil (BIOTEMP®)
- Stainless steel tank and cover

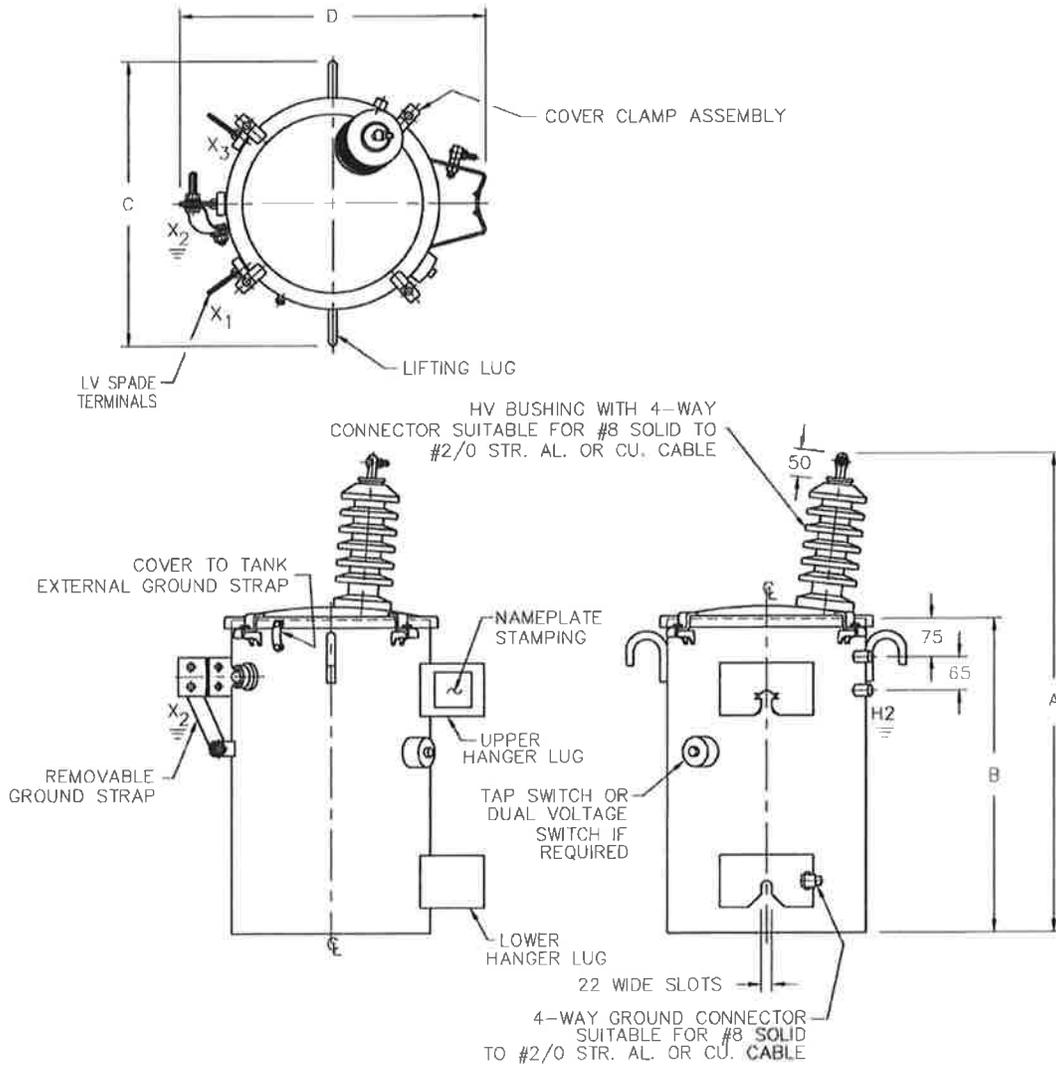
Outline dimensions

Outline Drawings

The influence of the loss evaluation formulae on transformer designs will lead to a wide variety of sizes and weights, thereby making it difficult, for the purpose of this information sheet, to cover the broad range of dimensions.

Typical Dimensions (mm) for grain oriented electrical design

KVA	A	B	C	D	Mass (kg)	Oil (litres)
10	885	560	500	525	100	22
25	935	610	560	590	160	30
50	1035	710	635	675	260	60
75	1035	710	745	840	375	90
100	1135	815	770	965	555	100
167	1335	1015	795	890	690	160



THREE PHASE TRANSFORMER INSTALLATION 12.5 KV CONVENTIONAL

12ADD3CSP
12ADD3CONV

PLUS TABLE A

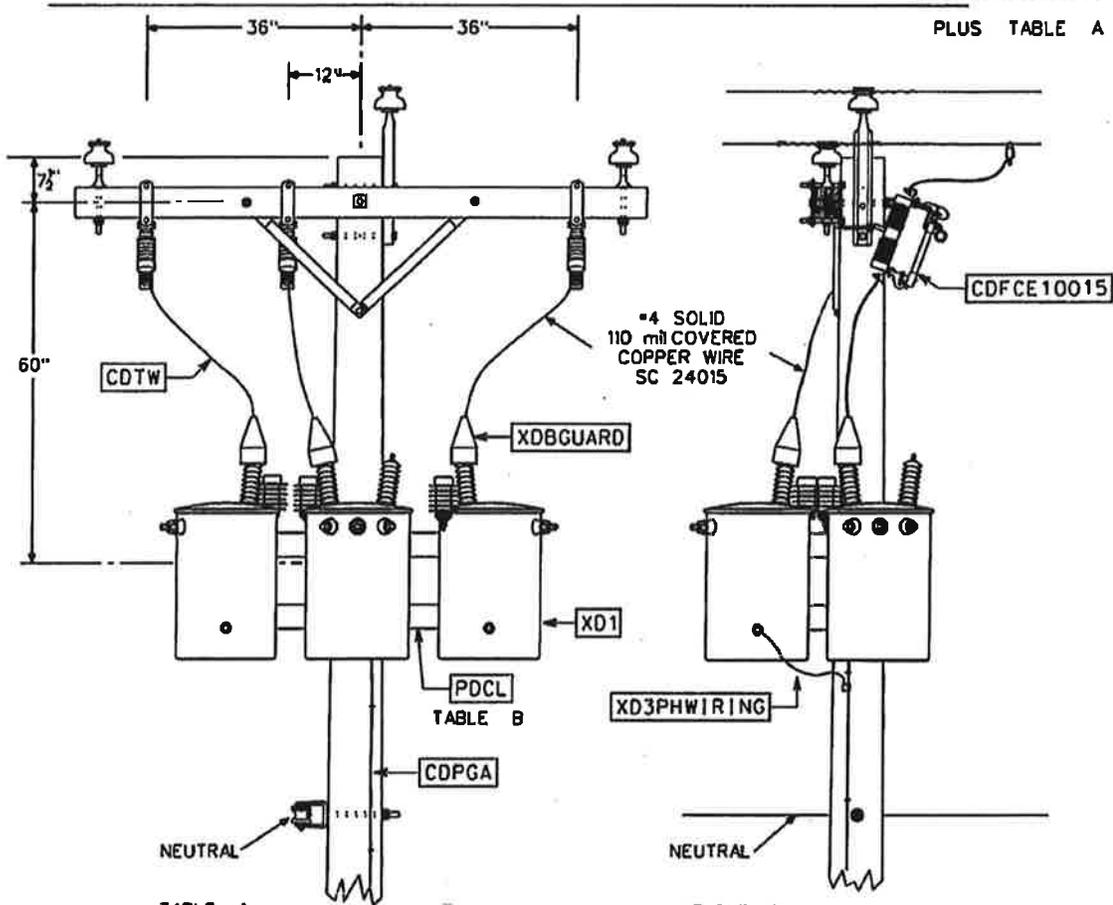


TABLE A

M7.2CSP5	M7.2CSP10	M7.2CSP15
M7.2CONV5	M7.2CONV10	M7.2CONV15
M7.2CONV25	M7.2CONV37	M7.2CONV50
M7.2CONV75	M7.2CONV100	M7.2CONV167

SEE NOTE 3

TABLE B

TRANSFORMER SIZE	TRANSFORMER WEIGHT	CLUSTER MOUNT	CLUSTER COMP. UNIT	MOUNTING HARDWARE
5-25 KVA	500 LBS	22030	PDCLSMALL	3/4"
37-167 KVA	1500 LBS	22032	PDCLLARGE	3/4"
250-500 KVA	3500 LBS	22034	PDCLJUMBO	3/4"

NOTES

1. MAINTAIN MINIMUM 7" CLEARANCE FROM CROSSARM BRACE TO ENERGIZED PARTS OF CUTOUT.
2. USE THE COMBINATION OF MACRO 12ADD3CSP AND THREE M7.2CSP10 TO DESIGN A TRANSFORMER BANK. THE MACROS SHOWN CONTAIN ONE 7,200 VOLT TRANSFORMER WITH 120/240 VOLT SECONDARY. FOR A DUAL VOLTAGE TRANSFORMER OR DIFFERENT SECONDARY VOLTAGE MAKE AN APPROPRIATE SUBSTITUTION OF TRANSFORMER COMPATIBLE UNITS(S).
3. IF THIS STRUCTURE MUST HAVE A BISECT GUY THE DESIGNER SHOULD CONSIDER USING A DROPPED ARM, ALIGNED WITH THE GUY TO GET TAPS PAST THE GUY. THIS WOULD BE SIMILAR TO THE DRAWING FOR 34.5KV CONVENTIONAL BANKS.
4. INCREASE CROSSARM TO CLUSTER MOUNT SPACING FROM 60" TO 72" FOR A4A AND A6A STRUCTURES.



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STANDARD NUMBER

1120 Page 1

Exhibit 3

Preliminary Environmental Assessment



To: Bullrock Deutsche Eco Solar, East
Montpelier Lazar Solar Project
File

Date: October 16, 2015

Memorandum

Project #: 57746.04

From: Alexander A. Finamore, CWS, LSE

Re: East Montpelier Lazar Solar Project Initial Natural Resource
Screening
East Montpelier, VT

At the request of Bullrock Deutsche-Eco Solar ("BDE"), VHB conducted a brief site assessment on the site of the proposed up to 500 kW East Montpelier Lazar Solar Project ("Project") in order to determine the potential presence/absence of the natural resources listed below, and to determine which resources would require detailed assessments. This assessment was conducted for initial support of a planned petition for a Vermont Certificate of Public Good ("CPG") to the Vermont Public Service Board ("PSB"), including completion of a 45-day notice of the petition. As noted above, the following natural resources, subject to review by the PSB and the Vermont Agency of Natural Resources ("ANR"), were the principal subjects of this initial site assessment:

- Streams
- Wetlands
- Shorelines
- Floodways
- Rare and Irreplaceable Natural Areas (significant natural communities)
- Necessary Wildlife Habitat
- Endangered Species

This work was not a comprehensive survey for all such features noted above, but rather the intent was to identify potential features from a brief site walkover that could impact Project planning or design.

SITE DESCRIPTION

The Study Area is approximately 7 acres and includes the areas necessary for the installation of a solar array capable of up to 500 kW (AC) output, electrical interconnection, and permanent vehicular access areas. The proposed project is located in an open field north of Route 2 in East Montpelier, VT (see Attachment 1, Preliminary Natural Resources Map). The site is currently mowed periodically, presumably for hay (see Attachment 2, Site Photographs). The western portion is comprised of wooded and shrub cover west of the field. Slopes onsite range between 8 and 25 percent and are in a north to south direction with some undulating topography within the potential array field. Elevations onsite range between 660 and 740 feet in elevation.

METHODOLOGIES

VHB performed a desktop review of the site prior to the onsite walkover, which included analysis of GIS-based natural resources information available to the public as well as VHB privileged-access database information. This analysis was used to produce mapping to accompany the onsite walkover.



Memorandum

VHB's Senior Wetland Scientist Adam Crary and Environmental Scientist Alex Finamore conducted the site walkover on September 3, 2015. The focus of the walkover was for the presence/absence and general extent of the natural resources identified above.

RESULTS

STREAMS

There is a Vermont Hydrography Dataset ("VHD") mapped perennial stream approximately along the western extents of the Study Area identified as an "Unnamed Tributary to Winooski River". VHB observed this stream as well as an intermittent stream to the northeast of this stream during the site walk. This area will be further investigated during a detailed field-delineation in order to determine the landward extent of a riparian buffer or river corridor as may be required by ANR during design consideration.

WETLANDS

Based on VHB's site assessment, there are three wetlands present within the Study Area that would be jurisdictional under both federal and state regulations. One of the three is a potential Class II wetland due to its association with the perennial stream. The remaining two of these wetlands may be classified as a Class III wetlands as they appear disconnected and they are assumed to provide low function. Filling of wetlands will subject the project to both U.S. Army Corps of Engineers ("USACE") and ANR jurisdiction. Class II wetlands receive a 50-foot protective buffer zone, impacts to which are subject to ANR jurisdiction. Class II wetlands include those that are presumed to be significant under the Vermont Wetland Rules ("VWR"), as well as those that are determined to provide one or more functions at a significant level. VHB did not identify any potential vernal pool locations. VHB recommends that the wetlands be subject to a subsequent detailed field-delineation to identify and locate the boundaries of wetlands and any required buffers that would be considered for siting of the proposed solar array to avoid or minimize wetland impacts.

FLOODWAYS

VHB reviewed available river corridor mapping from ANR, and floodway and other special flood hazard area mapping from the Federal Emergency Management Agency ("FEMA") for the Project Study Area. Based on this database as well as field review, there are areas that would be considered under the Floodways criterion within the study area and VHB recommends designing the project to avoid activities, if possible. These include a mapped 100-Year floodplain (synonymous with floodway fringe) in the southwestern portion of the study area as well as a potential River Corridor off the unnamed perennial stream. VHB recommends including a River Corridor off this stream, and designing the project to avoid construction or operational activities within the corridor and the floodway fringe.

SHORELINES

There are no areas that would be considered Shorelines present within the Study Area.

RARE AND IRREPLACEABLE NATURAL AREAS (SIGNIFICANT NATURAL COMMUNITIES)

VHB did not observe from database or field review any natural communities present within the Study Area that would be considered rare or state significant and therefore there are no potential RINA's present. The wooded portion of the study area (western extent) is comprised of early successional trees as well as abundant non-native shrubs.



Memorandum

NECESSARY WILDLIFE HABITAT

Necessary Wildlife Habitat ("NWH") is most often defined as deer wintering habitat, black bear forage habitat (beech mast or wetlands), black bear travel corridors, or in some cases, moose overwintering area. Based on the results of the desktop review of ANR databases and corroborated by the walkover, none of these habitats are located within the Project Study Area.

ENDANGERED SPECIES

VHB conducted a review of the Natural Heritage Inventory ("NHI") online database for element occurrences ("EO"s) of rare, threatened, or endangered ("RTE") species within the proposed Project Study Area and vicinity. A three-mile radius to the Study Area was used when querying the NHI database. From this, there are no known RTE species mapped within the Study Area and there is minimal habitat potential within the site for RTE species known from the 3-mile vicinity.

Additionally, VHB reviewed the U.S. Fish and Wildlife Service's ("USFWS") online Information, Planning, and Conservation System ("IPaC") database for information regarding federal-listed species in the Project region (Washington County). The Study Area falls within the range of the federally threatened/Vermont endangered northern long-eared bat (*Myotis septentrionalis*). The Project should require minimal to no tree clearing, in which case there is no potential impact to this bat. If tree clearing is proposed, it may need to occur during winter conditions to avoid potential impact, or additional surveys may be necessary.

CONCLUSIONS

Based on the results of VHB's database reviews and initial site walkover, subsequent to follow-up field assessments and design considerations, it appears the Project could be constructed within this site with no significant undue adverse impact to the natural resources criteria reviewed. The findings of this site screening provide insight for preliminary planning purposes only and should not be used for design or advanced site planning in-lieu of detailed and more complete field natural resources inventory and design analysis.

ATTACHMENTS

1. Preliminary Natural Resources Map
2. Site Photographs

ATTACHMENT 1

ATTACHMENT 2

**Natural Resources Site Screening Photographs
BDE East Montpelier Lazar Solar Project
East Montpelier, Vermont**

	
<p align="center">Photograph 1. View looking northwest at potential access from Route 2</p>	<p align="center">Photograph 2. Representative photo of the open field area looking northeast</p>
	
<p align="center">Photograph 3. Representative photo of the open field area looking north</p>	<p align="center">Photograph 4. View looking north of intermittent stream channel west of open field area</p>
	
<p align="center">Photograph 5. View looking north at confluence of perennial stream and intermittent stream channel west of open field area</p>	<p align="center">Photograph 6. View looking west at upland forest/shrub cover west of potential array field</p>