



ARROWWOOD ENVIRONMENTAL

950 BERT WHITE ROAD
HUNTINGTON, VT 05462
(802) 434-7276 FAX: (802) 434-2102

December 21, 2015

Ms. Zapata Courage
Watershed Management Division
1 National Life Drive, Main St.
Montpelier, VT 05620-3522



Re: Wetlands Individual Permit Application: 2015-342
Ascutney Meadow Solar Project
West Windsor, Vermont

Dear Zapata:

Please find enclosed a Wetlands Permit application filed on behalf of MountainFund, LLC. A check for the amount of \$5,227.00 is included. Upon your notification of completeness, I will move forward with the distribution requirements as outlined in the Vermont Wetland Rules.

Please do not hesitate to contact me with any questions regarding this submittal.

Best regards,

Dori Barton
Wetland Ecologist

Attachments

Vermont Wetland Section Wetland Application Database Form (AFFIX TO THE FRONT OF THE APPLICATION)

Applicant Name: MountainFund, LLC		Representative Name: Dori Barton, Arrowwood Env.	
Town where project is located: West Windsor		County: Windsor	
Project Location Description: Intersection of Rte 44 and Ski Tow Road, West Windsor, Vermont <small>911 Street Address or direction from nearest intersection</small>			
Project Summary: 500 kW AC Solar Generation Facility			
Permit Type Requested (check all that apply)			
<input type="checkbox"/> Vermont General Permit Coverage		<input type="checkbox"/> Wetland Determination	
<input checked="" type="checkbox"/> Vermont Wetland Permit			
Impact Calculations: Total up proposed impacts from wetland tables listed below			
Total Wetland Impact		Total Buffer Zone Impact	
0square feet (s.f.)		19948square feet (s.f.)	
Total Wetland Clearing (qualified linear projects only)		Total Buffer Zone Clearing (qualified linear projects only)	
0square feet (s.f.)		0square feet (s.f.)	
Permit Fees: Make check payable to - State of Vermont			
Wetland Impact Fee: (\$0.75/sf)		Administrative Fee:	
\$0.00		\$240	
Buffer Impact Fee: (\$0.25/sf)		Total Check Amount:	
\$4,987.00		\$5,227.00	
Clearing Fee: (\$0.25/sf)			
\$0.00			
Existing Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry		<input type="checkbox"/> Residential (Subdivision)	
<input type="checkbox"/> Agriculture		<input type="checkbox"/> Industrial/ commercial	
<input type="checkbox"/> Transportation		<input type="checkbox"/> Residential (Single Family)	
<input type="checkbox"/> Parks/Rec/Trail		<input type="checkbox"/> Institutional	
		<input checked="" type="checkbox"/> Undeveloped	
Proposed Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry		<input type="checkbox"/> Residential (Subdivision)	
<input type="checkbox"/> Agriculture		<input checked="" type="checkbox"/> Industrial/ commercial	
<input type="checkbox"/> Transportation		<input type="checkbox"/> Residential (Single Family)	
<input type="checkbox"/> Parks/Rec/Trail		<input type="checkbox"/> Institutional	
		<input type="checkbox"/> No Change	
Proposed Impact Type: (check all that apply)			
<input type="checkbox"/> Buildings		<input checked="" type="checkbox"/> Utilities	
<input type="checkbox"/> Driveway		<input type="checkbox"/> Parking	
<input type="checkbox"/> Road		<input type="checkbox"/> Septic/Well	
<input type="checkbox"/> Parks/Path		<input type="checkbox"/> Stormwater	
<input type="checkbox"/> Agriculture		<input type="checkbox"/> Pond	
<input type="checkbox"/> Dry Hydrant		<input type="checkbox"/> Lawn	
<input type="checkbox"/> Beaver dam alteration		<input type="checkbox"/> Aesthetics	
<input type="checkbox"/> Silviculture		<input type="checkbox"/> Other	
<input type="checkbox"/> Aesthetics		<input type="checkbox"/> No Impact	
Wetland 1: B/C (Label using Wetland ID from application if applicable, use supplemental sheets if more than one wetland is being impacted)			
Wetland Type: PEM/PSS -Emergent anWL		Location: Intersection Rt 44/Ski Tow Rd	
Size Class :		1-5 acres	
Proposed Alterations			
Wetland Alteration:		Wetland Alteration Type (check all that apply)	
Buffer Zone Alteration:			
Wetland Fill: 0s.f.		<input type="checkbox"/> Dredge	
Temporary: 0s.f. Temporary: 0 s.f.		<input type="checkbox"/> Drain	
Permanent: : 0s.f. Permanent: : 19984 s.f.		<input type="checkbox"/> Cut Vegetation	
		<input type="checkbox"/> Stormwater	
		<input checked="" type="checkbox"/> Trench/Fill	
		<input checked="" type="checkbox"/> Other	
Mitigation			
Avoidance and Minimization (s.f. of wetland NOT impacted):		Wetland: s.f. Buffer Zone s.f.	
Wetland Mitigation: (s.f. Gained)			
Restoration s.f.		Enhancement s.f.	
Creation s.f.		Conservation s.f.	
Buffer Zone Mitigation (s.f. Gained):			
Restoration s.f.		Enhancement s.f.	
Creation s.f.		Conservation s.f.	
Reason for Mitigation:			
<input type="checkbox"/> Correction of Violation		<input type="checkbox"/> Mitigation to offset permit impacts	
<input type="checkbox"/> Voluntary			

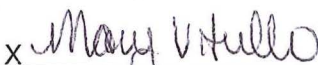

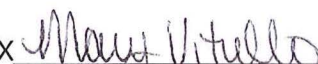
All Applications Should be Mailed To:

**Vermont Wetlands Program
 Watershed Management Division
 One National Life Drive, Main 2
 Montpelier, VT 05620-3522**

Staff To Complete

Wetland Project Number:		
Wetland Project Name:		DEC ID#:
Date Application Received:		
Request for Information Date:		Information Received Date:
Request for Information Date:		Information Received Date:
Date Application Complete:		Distribution Complete Date:
Notice Begin Date:		Notice End Date:
Final Action Date:		Public Meeting Date:
Check#	Check Amount	Date Check Received
Check#	Check Amount	Date Check Received

Vermont Wetland Permit Application/Determination Petition

QUESTION	INSTRUCTIONS AND APPLICANT ANSWER	STAFF NOTE
1. Applicant	If the applicant is someone other than the landowner, the landowner information must also be included below.	
1.1. Applicant Name	MountainFunds, LLC C/O Mary Vitullo	
1.2. Applicant Address	5296 S. Commerce Drive, Suite 102, Salt Lake City, UT 84107	
1.3. Applicant Phone Number	801-803-5771	
1.4. Applicant Email	mary@rockwoodgroup.com	
1.5. Applicant Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="border-top: 1px solid black; padding-top: 5px;"> x  </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Date: 12/16/15 </div> </div>	
2. Representative	Consultant, engineer, or other representative that is responsible for filling out this application, if other than the applicant or landowner	
2.1. Representative Name	Dori Barton, Arrowwood Environmental, LLC	
2.2. Representative Address	950 Bert White Road, Huntington, Vermont, 05462	
2.3. Representative Phone Number	802-434-7276	
2.4. Applicant Email	dori@arrowwoodvt.com	
2.5. Representative Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="border-top: 1px solid black; padding-top: 5px;"> x  </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Date: 12/21/15 </div> </div>	
3. Landowner	Landowner must sign the application. Use this space if landowner is different from the applicant	
3.1. Landowner Name	MFW Associates, LLC C/O Mary Vitullo	
3.2. Landowner Address	5296 S. Commerce Drive, Suite 102, Salt Lake City, UT 84107	
3.3. Landowner Phone Number	801-803-5771	
3.4. Landowner Email	mary@rockwoodgroup.com	
3.5. Landowner Easement	<p>Attach copies of any easements, agreements or other documents conveying permission, and agreement with the landowner stating who will be responsible for meeting the terms and conditions of the permit. List the attachment for this information in this section.</p> <p>Not applicable</p>	
3.6. Landowner Signature (original signature required)	<p>By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.</p> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="border-top: 1px solid black; padding-top: 5px;"> x  </div> <div style="border-top: 1px solid black; padding-top: 5px;"> Date: 12/16/15 </div> </div>	

<p>4. Location of Wetland and Project</p>	<p>Location description should include the road the wetland is located on, the compass direction of the wetland in relation to the road, 911 street address if available, and any other distinguishing geographic features. Intersection of Route 44 and Ski Tow Road, West Windsor, Vermont</p>		
<p>5. Site Visit Date and Attendees</p>	<p>Date of visit with District Wetlands Ecologist 7/14/15</p>	<p>List people present for site visits including Ecologist, landowner, and representatives. Ms. Zapata Courage, Vermont Wetlands Office Ms. Hannah Wingate, Krebs & Lansing</p>	
<p>6. Wetland Classification</p>	<p>The wetland is a Class II wetland because (Choose one): The wetland is mapped on the VSWI map</p>		
<p>7. Description of Entire Wetland or Wetland Complex</p>	<p>Answer the following questions regarding the entire wetland or wetland complex. A wetland complex is generally defined as two or more wetland types that are contiguous and interrelated. Specific questions about the wetland in the project area will follow.</p>		
<p>7.1. Size of Wetland Complex in Acres</p>	<p>Can be obtained from the Environmental Interest Locator Map for mapped wetlands ~4.7 acres</p>		
<p>7.2. Natural Community Types Present</p>	<p>List all wetland types in the wetland or wetland complex and their abundance or relative abundance. For example: 50 acres of softwood forested swamp; or 30% scrub swamp, 70% emergent wetland Old field/wet meadow: 80% Emergent Wetland: 20%</p>		
<p>7.3. Landscape Position</p>	<p>Where is the wetland located on the landscape? Examples: bottom of a basin, edge of a stream, shore of a lake, etc. Edge of stream</p>		
<p>7.4. Wetland Hydrology</p>	<p>Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds. An unnamed tributary to Mill Brook Include answers to the following where appropriate:</p>		
<p>7.4.1. Direction of flow</p>	<p>For example: stream flows from north to south through the wetland complex. stream flows south to north through the wetland complex</p>		
<p>7.4.2. Influence of hydrology on wetland complex</p>	<p>For example: The river provides flood water to the wetland in the spring. Stream likely provides some floodwater to areas of the wetland in the spring</p>		
<p>7.4.3. Relation to the project area</p>	<p>Distance between the project area and any nearby surface waters. approximately 50'</p>		
<p>7.4.4. Hydroperiod</p>	<p>Discuss frequency and duration of flooding, ponding, and/or soil saturation. seasonal ponding in emergent area</p>		
<p>7.5. Surrounding Landuse of the Wetland Complex</p>	<p>For example: rural residential and forested; agricultural and undeveloped, The site is generally bound to the west by forest and Mill Brook, to the north by Route 44 and open fields, to the east by open fields and forest, and to the south by Ski Tow Road and ski area development.</p>		
<p>7.6. Relation to Other Nearby Wetlands</p>	<p>Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question. There is a Class 3 wetland located directly to the west and north of the subject wetland. This wetland is located within the former footprint of a sewer plant lagoon which was filled in 1997. This wetland is of marginal value and functionality.</p>		
<p>7.7. Pre-project Cumulative Impacts to the Wetland</p>	<p>Identify any cumulative ongoing impacts outside of the project that may influence the wetland. Examples include but are not limited to wetland encroachments off the subject property, land management in or surrounding the wetland, or development that influences hydrology or water quality. The wetlands on the property are currently managed as open field with periodic brush cutting. The area of proposed development was historically a waste water disposal facility with lagoons that have were filled in the 1990's.</p>		

8. Description of Subject Wetland	Subject Wetland is defined as the area of wetland in the project area, but not limited to the portion of the wetland to be directly impacted by the project. For the purposes of this application, the subject wetland should encompass any portion of the larger wetland or wetland complex that could be directly or indirectly impacted by the project, as defined by hydrology, vegetation and/or physical characteristics.	
8.1. Context of Subject Wetland	Describe where the subject wetland is in the context of the larger wetland or wetland complex described above. The proposed impact is within the wetland buffer zone of the western portion of the overall wetland complex.	
8.2. Wetland Landuse	For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland. The wetland is currently managed as old field with periodic brush cutting.	
8.3. Wetland Vegetation	List dominant wetland community type and associated dominant plant species. Old field/wet meadow: Salix discolor, Phalaris arundinacea, Solidago gigantea, Lotus corniculatus	
8.4. Wetland Soils	Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description Buckland soil series; Depleted Matrix (F3)	
8.5. Wetland Hydrology	Use descriptions from the ACOE Delineation Manual. Geomorphic position (D2); Shallow Aquitard (D3)	
8.6. Buffer Zone	Describe the buffer zone of the subject wetland including:	
8.6.1. General landuse	For example: mowed road shoulder; forested; old field; paved road and residential lawns etc. Describe any previous and ongoing disturbance in the buffer zone. Old field with periodic brush cutting	
8.6.2. Buffer vegetation	List community type and dominant plant species Old Field: Galium mullogo, Festuca ovina	
8.6.3. Buffer soils	Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description Buckland soil series	

9. Wetland Determination	If the application involves a wetland determination please answer the following. If not, skip to Section 10.	
9.1. Reason for Petition	Please choose one from the dropdown menu: Add a Section 4.6 presumed wetland to the VSWI map	
9.2. Previous Decisions	Please list all determinations and decisions, if any, issued by the Secretary, Panel or former Water Resources Board, pertaining to the wetland or buffer at issue: Not applicable	
9.3. Narrative	Please provide any narrative to support the petition for a wetland determination here. This section is not required for petitions to add a Section 4.6 presumed wetland to the VSWI map, but is required for all other petitions. Not applicable	

If the application is only for a Wetland Determination only, skip to Section 13

10. Project Description		
10.1. Overall Project	Description of the project. For example: six-lot residential subdivision; expansion of an existing commercial building, access drive to a single family residence.	

	500kW (AC) solar generation facility to be known as Ascutney Meadows Solar							
10.2. Project Purpose	For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system To construct a solar generation facility							
10.3. Acres Owned by Applicant	Acreage of subject property. ~18.2							
10.4. Acres Involved in the Project	Acreage of area involved in the project. ~3.3 acres							
11. Project Details	Provide details regarding specific impacts to the wetland and buffer zone							
11.1. Specific Impacts to Wetland and Buffer Zone	List portions of the project that will specifically impact the wetland or buffer zone. The proposed project will involve array construction, conduit trenching, fencing, and ongoing mowing in the wetland buffer zone. The proposed project will have no direct impacts to Class 2 wetlands. See attached site plan for details.							
11.2. Dimension Details	Square footage of buildings, dimension of roads including fill footprint. Not applicable. The existing access road that is located in the wetland buffer zone will not be improved.							
11.3. Bridges and Culverts	Culvert circumference, length, placement and shapes, or bridge details. Not applicable							
11.4. Construction Sequence	Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant Install appropriate erosion controls (see attached site plan for details); construct fence and install posts/racking for solar array from inside the proposed fence location.							
11.5. Stormwater Design	List any stormwater permits obtained or applied for. Describe any stormwater and/or erosion controls proposed to prevent discharges to the wetland and buffer zone. The proposed project does not trigger a Construction General Permit as total disturbed area is 0.41 acres. See attached site plan for erosion control details.							
11.6. Permanent Demarcation of Limits of Impact	Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses. The solar facility will be entirely fenced in following initial clearing of shrub vegetation.							
12. Wetland and Buffer Zone Impacts								
12.1. Wetland Impacts	Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets. Totals <table border="1"> <tr> <td>Wetland Fill</td> <td>0 s.f.</td> </tr> <tr> <td>Temporary Wetland Impact</td> <td>s.f.</td> </tr> <tr> <td>Other Permanent Wetland Impact</td> <td>s.f.</td> </tr> </table> Describe in detail the proposed impact. Not applicable. The proposed project will result in no direct impacts to Class 2 wetlands.	Wetland Fill	0 s.f.	Temporary Wetland Impact	s.f.	Other Permanent Wetland Impact	s.f.	
Wetland Fill	0 s.f.							
Temporary Wetland Impact	s.f.							
Other Permanent Wetland Impact	s.f.							

<p>12.2. Buffer Zone Impacts</p>	<p>Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.</p> <p>Totals</p> <table border="1"> <tr> <td>Temporary Buffer Impact</td> <td>s.f.</td> </tr> <tr> <td>Permanent Buffer Impact</td> <td>19948 s.f.</td> </tr> </table> <p>Describe in detail the proposed impact.</p> <p>Array Construction, Fencing and mowing: 19,872 sq.ft Conduit Trench: 76 sq.ft</p>	Temporary Buffer Impact	s.f.	Permanent Buffer Impact	19948 s.f.	
Temporary Buffer Impact	s.f.					
Permanent Buffer Impact	19948 s.f.					
<p>12.3. Cumulative Impacts</p>	<p>List any potential cumulative or ongoing, direct and indirect impacts on the functions of the wetland that could result from the proposed project. The proposed project will not result any cumulative or ongoing, direct or indirect impacts on the functions and values of the wetland.</p>					
<p>12.4. Avoidance and Minimization</p>	<p>Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section.</p>					
<p>12.4.1. Avoidance</p>	<p>Can the proposed activity be practicably located outside the wetland/buffer zone, or on another site owned or controlled by the applicant or reasonably available to satisfy the basic project purpose? If not, indicate why. This answer should include any examination of alternatives that you have explored including using other properties, requesting easements, and altering the project design.</p> <p>The project cannot be practicably located outside of the entirety of the wetland buffer zone to satisfy the project purpose due to site constraints and the presence of wetland resources. The project has been located to completely avoid direct impacts to Class 2 wetland resources.</p>					
<p>12.4.2. Minimization</p>	<p>If the proposed activity cannot practicably be located outside the wetland/buffer zone, have all practicable measures have been taken to avoid adverse impacts on protected functions? Please include any information on on-site alternatives that have been examined; minimizing the size and scope of the project to avoid impacts; or relocating portions of the project to avoid impacts</p> <p>The proposed project has been located in an area of wetland buffer zone that provides marginal functionality to the overall wetland complex. The area of proposed impact is currently maintained as open field and will be maintained in the same manner upon completion of construction.</p>					
<p>12.4.3. Mitigation</p>	<p>If avoidance of adverse effects on protected functions cannot be practically achieved, has the proposed activity has been planned to minimize adverse impacts on the protected functions and a plan has been developed for the prompt restoration of any adverse impacts on protected functions? Include any information on best management practices to be used for the project both for the initial construction and ongoing use. Also include any proposed restoration of temporary impacts, previously disturbed wetland or buffer zones or proposed conservation that are being used to offset the proposed impacts.</p> <p>No wetland mitigation, as contemplated in the Rules, is planned for Class 2 wetland buffer impacts.</p>					
<p>12.4.4. Compensation</p>	<p>Please refer to Section 9.5c of the rules for compensation, which is appropriate when the project will result in an undue adverse impact. If compensation is proposed please include a summary here.</p> <p>No wetland compensation, as contemplated in the Rules, is planned for Class 2 wetland buffer impacts.</p>					
<p>13. Supporting materials</p>	<p>Where appropriate list the accompanying material by title, author, date and last revision date. Submit these documents and plans with the application.</p>					

<p>13.1. Location map</p>	<p>Provide a project location map that is 8 1/2" x 11" and reproducible in black and white. An Environmental Interest Locator Map is appropriate using the USGS topography map base layer, roads, and VSWI wetlands at minimum. Attached</p>																																									
<p>13.2. Site Plans</p>	<p>List by title, author, date and last revision date. Plans should include wetland delineation and buffer zones, limits of disturbance, erosion controls, building envelopes and permanent memorialization. Proposed 500 kw AC Solar Array Site Plan, Krebs and Lansing, 12/10/15</p>																																									
<p>13.3. ACOE Delineation Forms</p>	<p>List by author, location, and date. Required only for Individual Permits. 8/18/15, Michael Lew-Smith, Wetland B/C (Class 2) and Wetland A (Class 3)</p>																																									
<p>13.4. Other Supporting Documents</p>	<p>Provide any other documentation that supports the application. List photographs; easements; agreements; may include a GIS-compatible wetland submittal for determinations; etc. Not applicable</p>																																									
<p>13.5. List of Abutters (Neighbors with land adjoining wetland or buffer zone)</p>	<p>Attach list of names and mailing addresses or submit as word mailing document. Attached</p>																																									
<p>13.5.1. Newspaper Notification</p>	<p>If choosing the option to fulfill the notice requirement with a newspaper notice, list the newspaper to be used here. A list of names and addresses for immediately adjacent landowners (500 foot radius) of the project area is required for the List of Abutters. ***NOTE: The applicant will be billed directly by the newspaper you list here. Use of newspaper notification may extend the notice period, depending on when the notice posts in the newspaper. Not applicable.</p>																																									
<p>14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.</p>	<p>Wetland Function Summary: (if more than one wetland use supplemental wetland sheets)</p>																																									
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<p>15. Coverage under Vermont General Wetland Permit</p>	<p>If applying for an Individual Vermont Wetland Permit or Determination, please proceed to number 16 and answer the remaining application questions.</p> <p>If applying for Coverage under the Vermont General Wetland Permit, please complete question 15.1 prior to submitting application.</p>																																									
<p>15.1. VWP Vermont General Permit eligibility checklist</p>	<p>If applying for coverage under the Vermont General Wetland Permit, please verify the following to complete the application:</p> <p><input type="checkbox"/> The activity qualifies as an eligible activity for coverage under the</p>																																									

	<p>Vermont General Wetland Permit</p> <p><input type="checkbox"/> The proposed project will meet the conditions applicable to the proposed project in the Vermont Wetland General Permit</p> <p><input type="checkbox"/> The activity does not qualify as an Allowed Use under Section 6 of the Vermont Wetland Rules.</p> <p><input type="checkbox"/> The activity will not result in an undue adverse impact on protected wetland functions and values, nor does it need additional conditions to protect functions and values.</p> <p><input type="checkbox"/> All impacts have been avoided and minimized to the greatest extent possible.</p> <p><input type="checkbox"/> The wetland complex is not significant for Function 5.5 Exemplary Wetland Natural Community or 5.6 Rare, Threatened and Endangered Species Habitat.</p> <p><input type="checkbox"/> The activity is not located in or adjacent to a vernal pool, fen, or bog.</p> <p><input type="checkbox"/> The wetland is not at or above 2,500' in elevation (headwaters wetland).</p> <p><input type="checkbox"/> The project is not located in a Class I wetland or associated buffer zone.</p> <p><input type="checkbox"/> The activity is not an as-built project that constitutes a violation of the Vermont Wetland Rules.</p>	
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Stop here if applying for Coverage under the Vermont General Wetland Permit

<p>Complete the following Functions and Values checklist if applying for an Individual Wetland Permit and/or a Wetland Determination</p>		
<p>Functions and Values</p>	<p>For each Function and Value, first evaluate the entire wetland or wetland complex and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures.</p> <p>If more than one wetland complex is involved, use the Supplemental Wetland Forms.</p>	
<p>16. Storage for Flood Water and Storm Runoff</p>	<p><input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Constricted outlet or no outlet and an unconstricted inlet.</p> <p><input checked="" type="checkbox"/> Physical space for floodwater expansion and dense, persistent, emergent vegetation or dense woody vegetation that slows down flood waters or stormwater runoff during peak flows and facilitates water removal by evaporation and transpiration.</p> <p><input type="checkbox"/> If a stream is present, its course is sinuous and there is sufficient woody vegetation to intercept surface flows in the portion of the wetland that floods.</p> <p><input checked="" type="checkbox"/> Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water.</p> <p><input type="checkbox"/> Hydrologic or hydraulic study indicates wetland attenuates</p>	

	<p>flooding.</p> <p>If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.</p> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Significant flood storage capacity upstream of the wetland, and the wetland in question provides this function at a negligible level in comparison to upstream storage (unless the upstream storage is temporary such as a beaver impoundment). <input type="checkbox"/> Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland. <input type="checkbox"/> Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures. <input type="checkbox"/> Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the landscape that provide this function cumulatively. <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> History of downstream flood damage to public or private property. <input type="checkbox"/> Any of the following conditions present downstream of the wetland, but upstream of a major lake or pond, could be impacted by a loss or reduction of the water storage function. <ul style="list-style-type: none"> <input type="checkbox"/> 1. Developed public or private property. <input type="checkbox"/> 2. Stream banks susceptible to scouring and erosion. <input type="checkbox"/> 3. Important habitat for aquatic life. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. <input type="checkbox"/> Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland. <ul style="list-style-type: none"> <input type="checkbox"/> 1. A large amount of impervious surface in urbanized areas. <input type="checkbox"/> 2. Relatively impervious soils. <input type="checkbox"/> 3. Steep slopes in the adjacent areas. 	
<p>16.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland (adjacent to the proposed wetland buffer impacts) is of marginal value and limited functionality.</p>	
<p>16.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	

The proposed project will have no direct impacts to Class 2 wetland resources and will not effect the physical and vegetative characteristics of the overall wetland complex to perform the function of storage for flood water and stormwater runoff. The proposed project will have no undue adverse impact on this function.

17. Surface and Ground Water Protection

- Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
 - Constricted or no outlets.
 - Low water velocity through dense, persistent vegetation.
 - Hydroperiod permanently flooded or saturated.
 - Wetlands in depositional environments with persistent vegetation wider than 20 feet.
 - Wetlands with persistent vegetation comprising a defined delta, island, bar or peninsula.
 - Presence of seeps or springs.
 - Wetland contains a high amount of microtopography that helps slow and filter surface water.
 - Position in the landscape indicates the wetland is a headwaters area.
 - Wetland is adjacent to surface waters.
 - Wetland recharges a drinking water source.
 - Water sampling indicates removal of pollutants or nutrients.
 - Water sampling indicates retention of sediments or organic matter.
 - Fine mineral soils and alkalinity not low.
 - The wetland provides an obvious filter between surface water or ground water and land uses that may contribute point or nonpoint sources of sediments, toxic substances or nutrients to the wetland, such as: steep erodible slopes; row crops; dumps; areas of pesticide, herbicide or fertilizer application; feed lots; parking lots or heavily traveled road; and septic systems.
- If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.
- Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level.
 - Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake.
 - Presence of ditches or channels that confine water and restrict contact of water with vegetation.
 - Wetland is very small in size, not contiguous to a stream, and not part of a collection of small wetlands in the

	<p>landscape that provide this function cumulatively.</p> <p><input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function.</p> <p><input checked="" type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <p><input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge.</p> <p><input type="checkbox"/> The wetland provides flows to Class A surface waters.</p> <p><input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters.</p> <p><input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated.</p>	
<p>17.1.Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland (adjacent to the proposed wetland buffer impacts) is of marginal value and limited functionality.</p>	
<p>17.2.Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>The proposed project will have no direct impacts to the Class 2 wetland and not effect the physical and vegetative characteristics of the overall wetland complex to perform the function of surface and groundwater protection. The proposed project will have no undue adverse impact on this function.</p>	
<p>18. Fish Habitat</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Contains woody vegetation that overhangs the banks of a stream or river and provides any of the following: shading that controls summer water temperature; cover including refuges created by overhanging branches or undercut banks; source of terrestrial insects as fish food; or streambank stability.</p> <p><input type="checkbox"/> Provides spawning, nursery, feeding or cover habitat for fish (documented or professionally judged). Common habitat includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers.</p> <p><input type="checkbox"/> Documented or professionally judged spawning habitat for northern pike.</p> <p><input type="checkbox"/> Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species.</p> <p><input type="checkbox"/> The wetland is located along a tributary that does not support fish, but contributes to a larger body of water that does support fish. The tributary supports downstream fish by providing cooler water, and food sources.</p>	
<p>18.1.Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	

<p>18.2.Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>19. Wildlife Habitat</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provides resting, feeding staging or roosting habitat to support waterfowl migration, and feeding habitat for wading birds. Good habitats for these species include open water wetlands. <input type="checkbox"/> Habitat to support one or more breeding pairs or broods of waterfowl including all species of ducks, geese, and swans. Good habitats for these species include open water habitats adjacent shallow marsh, deep marsh, shrub wetland, forested wetland, or naturally vegetated buffer zone. <input type="checkbox"/> Provides a nest site, a buffer for a nest site or feeding habitat for wading birds including but not limited to: great blue heron, black-crowned night heron, green-backed heron, cattle egret, or snowy egret. Good habitats for these species include open water or deep marsh adjacent to forested wetlands, or standing dead trees. <input type="checkbox"/> Supports or has the habitat to support one or more breeding pairs of any migratory bird that requires wetland habitat for breeding, nesting, rearing of young, feeding, staging roosting, or migration, including: Virginia rail, common snipe, marsh wren, American bittern, northern water thrush, northern harrier, spruce grouse, Cerulean warbler, and common loon. <input type="checkbox"/> Supports winter habitat for white-tailed deer. Good habitats for these species include softwood swamps. Evidence of use includes deer browsing, bark stripping, worn trails, or pellet piles. <input type="checkbox"/> Provides important feeding habitat for black bear, bobcat, or moose based on an assessment of use. Good habitat for these types of species includes wetlands located in a forested mosaic. <input type="checkbox"/> Has the habitat to support muskrat, otter or mink. Good habitats for these species include deep marshes, wetlands adjacent to bodies of water including lakes, ponds, rivers and streams. <input type="checkbox"/> Supports an active beaver dam, one or more lodges, or evidence of use in two or more consecutive years by an adult beaver population. <input type="checkbox"/> Provides the following habitats that support the reproduction of Uncommon Vermont amphibian species including: <ul style="list-style-type: none"> <input type="checkbox"/> 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and 	

small ponds.

- 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.
- 3. The Four-toed salamander; Fowler's Toad; Western or Boreal Chorus frog, or other amphibians found in Vermont of similar significance.
- Supports or has the habitat to support significant populations of Vermont amphibian species including, but not limited to Pickerel Frog, Northern Leopard Frog, Mink Frog, and others found in Vermont of similar significance. Good habitat for these types of species includes large marsh systems with open water components.
- Supports or has the habitat to support populations of uncommon Vermont reptile species including: Wood Turtle, Northern Map Turtle, Eastern Musk Turtle, Spotted Turtle, Spiny Softshell, Eastern Ribbonsnake, Northern Watersnake, and others found in Vermont of similar significance.
- Supports or has the habitat to support significant populations of Vermont reptile species, including Smooth Greensnake, DeKay's Brownsnake, or other more common wetland-associated species.
- Meets four or more of the following conditions indicative of wildlife habitat diversity:
 - 1. Three or more wetland vegetation classes (greater than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;
 - 2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;
 - 3. Located adjacent to a lake, pond, river or stream;
 - 4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;
 - 5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;
 - 6. One of the following:
 - i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;
 - ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;
 - iii. within 1/4 mile of other wetlands of different dominant classes or open water, but not

	<p style="text-align: center;">hydrologically connected;</p> <p><input type="checkbox"/> Wetland or wetland complex is owned in whole or in part by state or federal government and managed for wildlife and habitat conservation; and</p> <p><input type="checkbox"/> Contains evidence that it is used by wetland dependent wildlife species.</p> <p>If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.</p> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland is small in size for its type and does not represent fugitive habitat in developed areas (vernal pools and seeps are generally small in size, so this does not apply). <input type="checkbox"/> The surrounding land use is densely developed enough to limit use by wildlife species (with the exception of wetlands with open water habitat). Can be negated by evidence of use. <input type="checkbox"/> The current use in the wetland results in frequent cutting, mowing or other disturbance. <input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species. <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The wetland complex is large in size and high in quality. <input type="checkbox"/> The habitat has the potential to support several species based on the assessment above. <input type="checkbox"/> Wetland is associated with an important wildlife corridor. <input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist. 	
<p>19.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	
<p>19.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>20. Exemplary Wetland Natural Community</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Wetlands that are identified as high quality examples of Vermont's natural community types recognized by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department, including rare types such as dwarf 	

	<p>shrub bogs, rich fens, alpine peatlands, red maple-black gum swamps and the more common types including deep bulrush marshes, cattail marshes, northern white cedar swamps, spruce-fir-tamarack swamps, and red maple-black ash seepage swamps are automatically significant for this function.</p> <p>The wetland is also likely to be significant if any of the following conditions are met:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Is an example of a wetland natural community type that has been identified and mapped by, or meets the ranking and mapping standards of, the Natural Heritage Information Project of the Vermont Fish and Wildlife Department. <input type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: <ul style="list-style-type: none"> <input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation; <input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics; <input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type; <input type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or <input type="checkbox"/> A large wetland complex containing examples of several wetland community types. <p>List species or communities of concern:</p>	
<p>20.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	
<p>20.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>21. Rare, Threatened, and Endangered Species Habitat</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> Wetlands that contain one or more species on the federal or state threatened or endangered lists, as well as species that are rare in Vermont, are automatically significant for this function. <p>The wetland is also likely to be significant if any of the following apply:</p> <ul style="list-style-type: none"> <input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists; <input type="checkbox"/> There is credible documentation that threatened or endangered species have been present in past 10 years; 	

	<p><input type="checkbox"/> There is credible documentation that the wetland provides important habitat for any species listed as rare in Vermont (S1 or S2 ranks), state historic (SH rank), or rare to uncommon globally (G1, G2, or G3 ranks) by the Natural Heritage Information Project of the Vermont Fish and Wildlife Department;</p> <p><input type="checkbox"/> There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank).</p> <p>List name of species and ranking: AE conducted an on-site RTE plant survey for the proposed facility on August 18, 2015. No rare, threatened or endangered plant species were discovered in the Project area.</p>	
<p>21.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	
<p>21.2. Statement of no adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>22. Education and Research in Natural Sciences</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Owned by or leased to a public entity dedicated to education or research.</p> <p><input type="checkbox"/> History of use for education or research.</p> <p><input type="checkbox"/> Has one or more characteristics making it valuable for education or research.</p>	
<p>22.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	
<p>22.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>23. Recreational Value and Economic Benefits</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Used for, or contributes to, recreational activities.</p> <p><input type="checkbox"/> Provides economic benefits.</p> <p><input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law.</p> <p><input type="checkbox"/> Used for harvesting of wild foods.</p> <p>Comments:</p>	
<p>23.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	

<p>23.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>24. Open Space and Aesthetics</p>	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Can be readily observed by the public; and <ul style="list-style-type: none"> <input type="checkbox"/> Possesses special or unique aesthetic qualities; or <input type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape; <input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan. <p>Comments:</p>	
<p>24.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p>	
<p>24.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p>	
<p>25. Erosion Control through Binding and Stabilizing the Soil</p>	<p><input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well: <ul style="list-style-type: none"> <input type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input checked="" type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow. <input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. <p>What type of erosive forces are present:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lake fetch and waves <input checked="" type="checkbox"/> High current velocities: <input type="checkbox"/> Water level influenced by upstream impoundment <p>If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.</p> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p>	

	<input type="checkbox"/> The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force. <input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level. <input type="checkbox"/> The stream contains high sinuosity. <input type="checkbox"/> Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.	
<p>25.1. Subject Wetland</p>	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland (adjacent to the proposed wetland buffer impacts) is of marginal value and limited functionality. The stream channel is ~ 50' from the project development.</p>	
<p>25.2. Statement of no undue adverse impact</p>	<p>Please explain how the proposed project will not result in any undue adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>The proposed project will not effect the physical and vegetative characteristics of the overall wetland complex to perform the function of erosion control. The proposed project will have no undue adverse impact on this function.</p>	

LIST OF ADJOINING LANDOWNERS

Ascutney Mountain Resort Owners Ass'n
P.O. Box 1051
Norwich, VT 05055

Mr. Dennis K. Brown
Mrs. Nancy Brown
452 Route 44
Brownsville, VT 05037

Mr. Emerson R. Hoisington
Mrs. Jane G. Hoisington
46 Brook Road
Brownsville, VT 05037

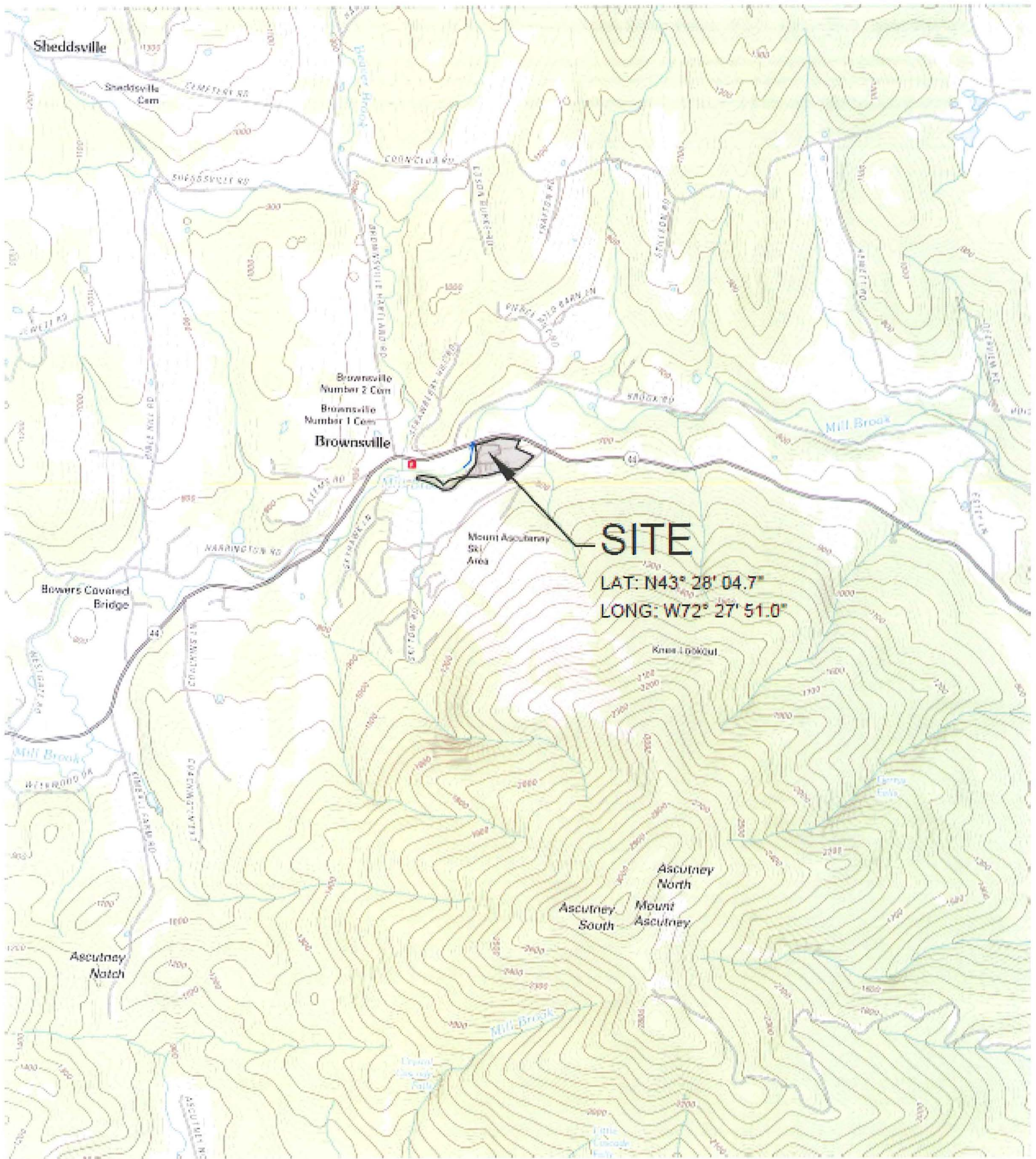
Mr. Alan Hudson
Mrs. Louise Hudson
P.O. Box 152
Brownsville, VT 05037

OLCC Vermont LLC
8505 West Irlo Bronson Memorial Highway
Kissimee, FL 34747

Mr. Dusan Plaustainer
Mrs. Lucille Plaustainer
P.O. Box 553
Brownsville, VT 05037

Mr. L. Leigh Sykes
3504 Theodore Roosevelt Highway
Waterbury, VT 05676

Dick Beatty, Chair
West Windsor Selectboard
P.O. Box 6
Brownsville, VT 05037



LOCATION MAP

SCALE: 1" = 1/2 Mile

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ascutney Meadows Solar City/County: West Windsor, Windsor Co. Sampling Date: 8/18/15
 Applicant/Owner: Mountainfunds, LLC State: VT Sampling Point: Wet A
 Investigator(s): Michael Lew-Smith Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Terraced bench Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 43.46779 Long: -72.463817 Datum: WGS
 Soil Map Unit Name: Buckland Loam NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Area appears to have been impacted by earth work activity in the past. Some top soil removed or disturbed. Flat old field wetland where sampled. Connects to larger and wetter area to the north. Some areas in this area only marginally wet.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) <u>x</u> Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Marginal wetland hydrology

VEGETATION – Use scientific names of plants.

Sampling Point: Wet A

<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>210</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.10</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>85</u>	x 2 = <u>170</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>210</u> (B)	Prevalence Index = B/A = <u>2.10</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>5</u>	x 1 = <u>5</u>																			
FACW species <u>85</u>	x 2 = <u>170</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>210</u> (B)																			
Prevalence Index = B/A = <u>2.10</u>																				
_____ =Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' radius</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
<u>Herb Stratum</u> (Plot size: <u>5' radius</u>)																				
1. _____	_____	_____	_____																	
2. <u>Agrostis capillaris</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
3. <u>Juncus dudleyi</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Lotus corniculatus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Scirpus atrovirens</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Carex annectens</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Old field. Weedy vegetation. Not a natural community.

SOIL

Sampling Point: Wet A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5Y 4/1	97	7.5YR 3/4	3	C	M	Loamy/Clayey	Prominent redox concentrations
8-16	2.5Y 4/2	75	2.5Y 4/4	25	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Pan</u> Depth (inches): <u>8"</u>	Hydric Soil Present? Yes <u>X</u> No <u> </u>
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Remarks:
 Oxidized rhizospheres within 3" of the soil surface. Very rocky soils. Appears to have been disturbed or compacted. Pan at 8" creates a shallow aquitard, another more dense pan at 16".

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ascutney Meadows Solar City/County: West Windsor, Windsor Co. Sampling Date: 8/18/15
 Applicant/Owner: Mountainfunds, LLC State: VT Sampling Point: Upland
 Investigator(s): Michael Lew-Smith Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Terraced bench Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 43.46779 Long: -72.463817 Datum: WGS
 Soil Map Unit Name: Buckland Loam NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>x</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
 Area appears to have been impacted by earth work activity in the past. Some top soil removed or disturbed. Vegetation mainly herbaceous in area of plot.

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Drainage Patterns (B10)
_____ High Water Table (A2)	_____ Moss Trim Lines (B16)
_____ Saturation (A3)	_____ Dry-Season Water Table (C2)
_____ Water Marks (B1)	_____ Crayfish Burrows (C8)
_____ Sediment Deposits (B2)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Drift Deposits (B3)	_____ Stunted or Stressed Plants (D1)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Microtopographic Relief (D4)
_____ Sparsely Vegetated Concave Surface (B8)	_____ FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present? Yes _____ No <u>x</u>
Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____	
Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No wetland hydrology

VEGETATION – Use scientific names of plants.

Sampling Point: Upland

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30' radius</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
1.																				
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
			=Total Cover	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>7</u></td> <td>x 4 = <u>28</u></td> </tr> <tr> <td>UPL species <u>65</u></td> <td>x 5 = <u>325</u></td> </tr> <tr> <td>Column Totals: <u>82</u> (A)</td> <td><u>373</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.55</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>7</u>	x 4 = <u>28</u>	UPL species <u>65</u>	x 5 = <u>325</u>	Column Totals: <u>82</u> (A)	<u>373</u> (B)	Prevalence Index = B/A = <u>4.55</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>7</u>	x 4 = <u>28</u>																			
UPL species <u>65</u>	x 5 = <u>325</u>																			
Column Totals: <u>82</u> (A)	<u>373</u> (B)																			
Prevalence Index = B/A = <u>4.55</u>																				
Sapling/Shrub Stratum (Plot size: <u>15' radius</u>)																				
1.																				
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
			=Total Cover																	
Herb Stratum (Plot size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u><i>Galium mollugo</i></u>	<u>25</u>	<u>Yes</u>		<u>NI</u>															
2.	<u><i>Festuca ovina</i></u>	<u>65</u>	<u>Yes</u>		<u>UPL</u>															
3.	<u><i>Solidago gigantea</i></u>	<u>10</u>	<u>No</u>		<u>FACW</u>															
4.	<u><i>Lotus corniculatus</i></u>	<u>5</u>	<u>No</u>		<u>FACU</u>															
5.	<u><i>Plantago lanceolata</i></u>	<u>2</u>	<u>No</u>		<u>FACU</u>															
6.																				
7.																				
8.																				
9.																				
10.																				
11.																				
12.																				
			=Total Cover																	
Woody Vine Stratum (Plot size: <u> </u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1.																				
2.																				
3.																				
4.																				
			=Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.) Old field. Weedy vegetation. Not a natural community.				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																

SOIL

Sampling Point: Upland

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	2.5Y 3/2	98	10YR 4/4	2	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

- | | | |
|--|--|--|
| Hydric Soil Indicators: | | Indicators for Problematic Hydric Soils³: |
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) | <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) | <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) | <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Marl (F10) (LRR K, L) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Dark Surface (S7) | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>Pan</u> Depth (inches): <u>10"</u>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
Very rocky soil. Difficult to sample. Likely disturbed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Ascutney Meadows Solar City/County: West Windsor, Windsor Co. Sampling Date: 8/18/15
 Applicant/Owner: Mountainfunds, LLC State: VT Sampling Point: Wet C
 Investigator(s): Michael Lew-Smith Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Bench Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): LRR R Lat: 43.46779 Long: -72.463817 Datum: WGS
 Soil Map Unit Name: Buckland Loam NWI classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Low area in disturbed field. Likely disturbed soils; weedy species including Phalaris, Phragmites and Lythrum. Marginally a wetland. Both soils and vegetation barely key out as hydric.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Marginal wetland hydrology. No standing water present now, but evidence of it in the low areas with cattails earlier in the year. Shallow aquitard may be from disturbance. Low area in field.	

VEGETATION – Use scientific names of plants.

Sampling Point: Wet C

	Absolute % Cover	Dominant Species?	Indicator Status																	
<u>Tree Stratum</u> (Plot size: <u>30' radius</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1.																				
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
=Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>68</u></td> <td>x 2 = <u>136</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>103</u> (A)</td> <td><u>256</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.49</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>68</u>	x 2 = <u>136</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>103</u> (A)	<u>256</u> (B)	Prevalence Index = B/A = <u>2.49</u>	
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Column Totals: <u>103</u> (A)	<u>256</u> (B)																			
Prevalence Index = B/A = <u>2.49</u>																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15' radius</u>)																				
1. <u>Salix discolor</u>			FACW																	
2.																				
3.																				
4.																				
5.																				
6.																				
7.																				
=Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5' radius</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.																				
2. <u>Phalaris arundinacea</u>	25	Yes	FACW																	
3. <u>Solidago gigantea</u>	30	Yes	FACW																	
4. <u>Lotus corniculatus</u>	15	No	FACU																	
5. <u>Agrostis capillaris</u>	10	No	FAC																	
6. <u>Euthamia graminifolia</u>	10	No	FAC																	
7. <u>Juncus dudleyi</u>	5	No	FACW																	
8. <u>Symphyotrichum lanceolatum</u>	5	No	FACW																	
9. <u>Symphyotrichum novae-angliae</u>	3	No	FACW																	
10. <u>Gallium mollugo</u>	5	No	NI																	
11.																				
12.																				
108 =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
1.																				
2.																				
3.																				
4.																				
=Total Cover																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Old field. Weedy vegetation. Not a natural community. Some areas with a few cattails, otherwise similar to plot.

SOIL

Sampling Point: Wet C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	2.5Y 4/1	97	7.5YR 3/4	3	C	M	Loamy/Clayey	Prominent redox concentrations
8-16	2.5Y 4/2	75	2.5Y 4/4	25	C	M	Loamy/Clayey	Distinct redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):		Hydric Soil Present? Yes <u>X</u> No <u> </u>
Type: <u>Pan</u>		
Depth (inches): <u>8"</u>		

Remarks:
 Oxidized rhizospheres within 3" of the soil surface. Very rocky soils. Appears to have been disturbed or compacted. Pan at 8" creates a shallow aquitard, another more dense pan at 16".

ASCUTNEY MEADOWS SOLAR

Route 44 Central Windsor, Vermont

Mountaintops, LLC
8286 S. Commerce Drive
Salt Lake City, UT 84197

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164 Main Street, Suite 201
Colchester, VT 05446
T: (802) 878-0376
F: (802) 878-9818
email: @krebsslansing.com
KrebsandLansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

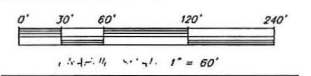
SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPIATION

Civil Engineering:
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Electrical Engineering:
Dan Crockett
Crockett Engineering, LLC
PO Box 5205
Essex Junction, Vermont 05453

Environmental:
Arrowwood Environmental
950 Bert White Road
Huntington, Vermont 05462



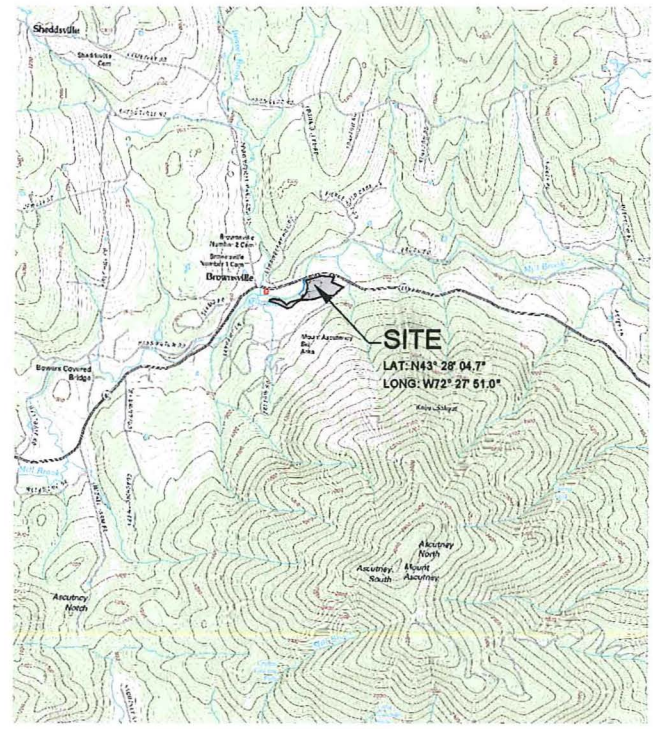
PROPOSED 500 KW AC SOLAR ARRAY

SET/REV	REVISIONS/COMMENTS	DATE

Drawing Title: **SITE PLAN**

DATE of Issue: 12/10/15
Drawn by: HKW Checked by: IAJ
Project No.: 15222 Scale: 1" = 60'
Drawing No.: Rev No.:

C-100



LOCATION MAP
SCALE: 1" = 1/2 Mile

LEGEND:

- EXISTING POWER POLE / PROPOSED POLE
- IRON PIPE FOUND
- EXISTING TREELINE
- EXISTING OVERHEAD POWER LINES
- EXISTING GRADE CONTOUR LINES (5 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (1 FOOT INTERVALS)
- PROJECT PROPERTY LINE
- 50' PROPERTY LINE SETBACK & 100' TRAVELED WAY SETBACK TO SOLAR MODULES
- EXISTING EASEMENT
- WETLAND DELINEATED BY ARROWWOOD ENVIRONMENTAL
- 50' CLASS II WETLAND BUFFER
- EXISTING STREAM
- PROPOSED CLEARING LIMITS
- PROPOSED VEGETATIVE CLEARING
- PROPOSED PERIMETER FENCING
- PROPOSED FIXED SOLAR PANEL RACKING WITH STRING INVERTER (APPROXIMATE LOCATION)
- PROPOSED UNDERGROUND POWER LINE
- LIMITS OF PROPOSED EXCAVATION FOR CONDUIT TRENCH, EQUIPMENT PAD, AND TRANSFORMER WITH ASSOCIATED SECONDARY TRANSFORMER OIL CONTAINMENT AREA
- COMBINATION SILT FENCE AND CONSTRUCTION LIMIT BARRIER FENCE, SEE 'GENERAL EPSC' NOTES
- CONSTRUCTION LIMIT BARRIER FENCE

NOTES:

1. BOUNDARY INFORMATION WAS DERIVED FROM A PLAN PREPARED BY FARNSWORTH SURVEYS FOR MFV ASSOCIATES LLC DATED OCTOBER 8, 2014.
2. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
3. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 VERMONT STATE PLANE 4400 (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD83 (US SURVEY FEET).
4. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY KREBS AND LANSING ENGINEERS IN JULY OF 2015.
5. THE UTILITIES VISIBLE AT THE TIME OF THE SURVEY ARE SHOWN. THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF DIG SAFE MARKINGS. CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
6. THIS IS IN NO WAY A BOUNDARY SURVEY. PROPERTY LINES SHOWN ON THIS PLAN ARE FROM THE ABOVE REFERENCED FARNSWORTH SURVEY PLAN.
7. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN WILL BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECTS REVIEW.

PARCEL INFORMATION:

PARCEL AREA: ±18.2 ACRES
PROPOSED ARRAY AREA: ±3.3 ACRES

PROJECT AREA CALCULATIONS

PROPOSED EXCAVATED SOIL
Excavation necessary to install equipment pad (transformer) = 400 s.f.
Excavation necessary to install equipment pad (switch gear) = 500 s.f.
Underground electric utility work = 1,729 s.f.
Installation of solar racking & panels
288 posts. Impact area for driven posts is 0.25 s.f. per post.
288 posts x 0.25 s.f. per posts = 72 s.f.
1,200 feet of combined perimeter fence / 10 feet per post x 0.262 s.f. per post = 32 s.f.
Misc. other disturbances and construction staging in uplands: 15,000 s.f.
Total Disturbance = 17,701 s.f. (0.41 Acres)

PROPOSED IMPERVIOUS AREA
Equipment pad (transformer) = 150 s.f.
Equipment pad (switch gear) = 175 s.f.
Installation of solar racking & panels
288 posts. Impact area for driven posts is 0.25 s.f. per post.
288 posts x 0.25 s.f. per posts = 72 s.f.
1,200 feet of combined perimeter fence / 10 feet per post x 0.262 s.f. per post = 32 s.f.
Total Project Impervious Post Construction = 428 s.f. (0.01 Acres)

PROPOSED PROJECT LIMITS
Completed Combined Project Limits (defined by the edge of proposed fence) = 3.25 Acres
PROPOSED PLANIMETRIC AREA (FOOTPRINT) OF SOLAR = 43,000 s.f.

GENERAL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) NOTES:

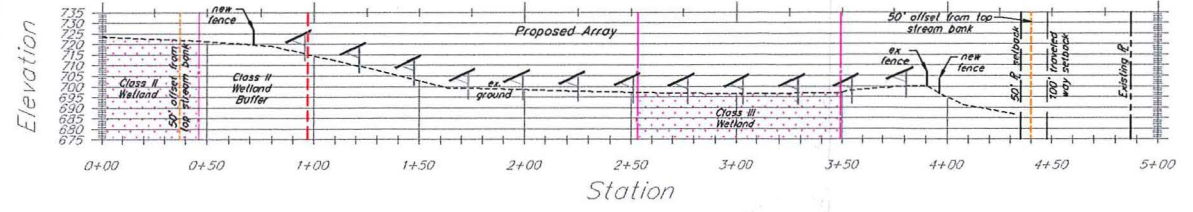
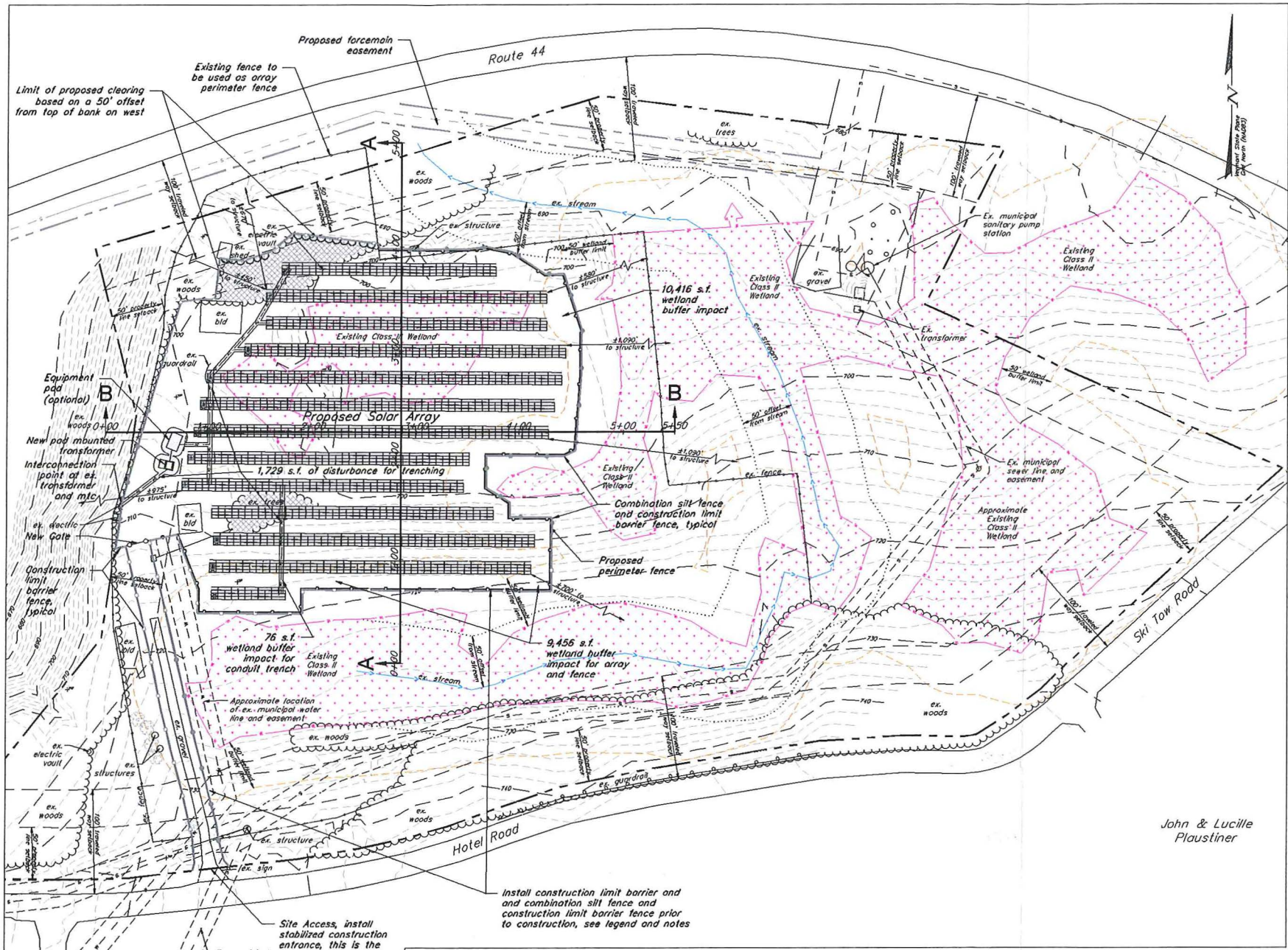
- 1) Reinforced silt fence shall be used within 100-feet of water bodies (wetlands, streams & farm ponds).
- 2) All disturbed areas will be seeded and temporarily stabilized with mulch, or erosion control blanket. Stabilization measures will be maintained through final stabilization.
- 3) The project will be constructed in accordance with the Vermont Standards & Specifications for Erosion Prevention and Sediment Control, 2008.
- 4) All EPSC measures shall be installed prior to any work on the project.
- 5) Access to the project is allowed at the stabilized construction entrance only. No travel through the wetland or wetland buffers outside of the construction limit barrier fence is permitted.

PROPOSED WETLAND IMPACTS

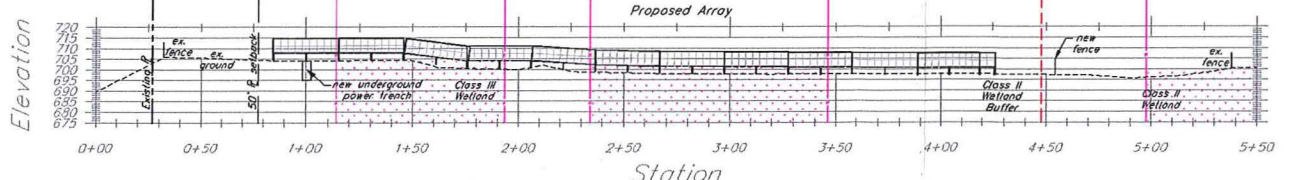
Direct Class II and Class III wetland impacts = 0 s.f.
Wetland buffer zone impacts (all proposed buffer impacts end at the project fence)
a) 10,416 s.f. of array construction and fence on east side of array
b) 9,456 s.f. of array construction and fence on south side of array
c) 75 s.f. of conduit trench on south side of array

PERMANENT CLASS II WETLAND BUFFER DISTURBANCE
New perimeter fencing & solar module deployment & moving = 18,848 s.f.

PERMANENT CLASS III WETLAND DISTURBANCE
Solar module deployment & moving = 8,750 s.f.



SECTION A-A
HORZ. & VERT. SCALE: 1" = 40'



SECTION B-B
HORZ. & VERT. SCALE: 1" = 40'