
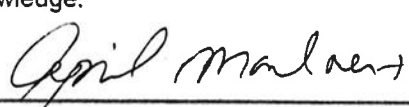
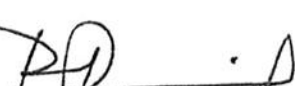


## Vermont Wetland Permit Application/Determination Petition

| 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   | Keystone Development Corporation c/o Frank von Turkovich  |            |
| 1.2. Applicant Address                                      | 300 Swift Street, South Burlington, VT 05403  |            |
| 1.3. Applicant Phone Number                                 | 802-578-2536  |            |
| 1.4. Applicant Email  | fventurkovich@fvtlaw.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> <p style="text-align: center;"> <input checked="" type="checkbox"/>  </p> <div style="float: right; border: 1px solid black; padding: 2px;">                     Date:<br/>10/20/14                 </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                                    | April Moulart, PWS  |            |
| 2.2. Representative Address                                 | 36 Westminster Drive<br>Burlington, VT 05408  |            |
| 2.3. Representative Phone Number                            | 802-999-9905  |            |
| 2.4. Applicant Email  | april.moulart@gmail.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> <p style="text-align: center;"> <input checked="" type="checkbox"/>  </p> <div style="float: right; border: 1px solid black; padding: 2px;">                     Date:<br/>10/20/14                 </div> |            |
| 3. Landowner  | Landowner must sign the application. Use this space if landowner is different from the applicant  |            |
| 3.1. Landowner Name   | The Applicant has a long-term lease on the land.  |            |
| 3.2. Landowner Address                                      |   |            |
| 3.3. Landowner Phone Number                                 |   |            |
| 3.4. Landowner Email  |   |            |
| 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>The landowner has a long-term lease on the land with rights to obtain permits.</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> <p style="text-align: center;"> <input checked="" type="checkbox"/>  </p> <div style="float: right; border: 1px solid black; padding: 2px;">                     Date:<br/>10/20/14                 </div>  |            |
| 4. Location of Wetland and Project                          | 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.  |            |

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|---|---|--|--|
|   | This wetland is located on the south side of Sunset Cliff Road in the New North End of Burlington, Vermont. A location map is attached to this application.   |  |  |
| 5. Site Visit Date and Attendees                    | Date of visit with District Wetlands Ecologist  | List people present for site visits including Ecologist, landowner, and representatives.                                   |  |
|   | There were several site visits including 11/28/12, and 5/2/2014.  | 2012 visit - Alan Quackenbush, April Moulaert, and Karina Dailey.<br>2014 visit – April, Karina, Frank, and Laura Lapierre |  |
| 6. Wetland Classification                           | The wetland is a Class II wetland because (Choose one):<br>The wetland meets the presumption of significance  |  |  |
| 7. Description of Entire Wetland or Wetland Complex | 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.   |  |  |
| 7.1. Size of Wetland Complex in Acres               | Can be obtained from the Environmental Interest Locator Map for mapped wetlands<br>The wetland complex is approximately 22 acres.   |  |  |
| 7.2. Natural Community Types Present                | 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<br>The wetland complex includes approximately 13 acres of forested wetland, 3 acres of wet meadow, and 6 acres of scrub shrub wetland.                       |  |  |
| 7.3. Landscape Position                             | Where is the wetland located on the landscape? Examples: bottom of a basin, edge of a stream, shore of a lake, etc.<br>This wetland is an isolated wetland. It is not associated with a perennial watercourse.  |  |  |
| 7.4. Wetland Hydrology                              | Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds.<br><br>There are no rivers, streams, lakes or ponds on this site. The main source of hydrology for the complex appears to be a combination of a high water table and precipitation.<br>Include answers to the following where appropriate: |  |  |
| 7.4.1. Direction of flow                            | For example: stream flows from north to south through the wetland complex.<br>N/A   |  |  |
| 7.4.2. Influence of hydrology on wetland complex    | For example: The river provides flood water to the wetland in the spring.<br>N/A  |  |  |
| 7.4.3. Relation to the project area                 | Distance between the project area and any nearby surface waters.<br>There is a stream approximately 1,400 feet away from the southern boundary of the site. Lake Champlain is approximately 850 feet away from the southeast boundary of the site.  |  |  |
| 7.4.4. Hydroperiod                                  | Discuss frequency and duration of flooding, ponding, and/or soil saturation.<br>The soils on this site mainly have a high water table and/ or standing water in the fall and the spring and after rain events.  |  |  |
| 7.5. Surrounding Landuse of the Wetland Complex     | For example: rural residential and forested; agricultural and undeveloped,<br>The wetland complex is surrounded by dense residential development, with some small isolated patches of forest.   |  |  |
| 7.6. Relation to Other Nearby Wetlands              | Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question.<br>N/A   |  |  |
| 7.7. Pre-project Cumulative Impacts to the Wetland  | 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.  |  |  |

|                                   |  |   |  |
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|                                   |  | This property has an agricultural history. The wetland complex is located in the City of Burlington and is surrounded by dense residential development. Several informal walking trails run through this property and are generally used for dog walking.   |  |
| 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.<br>Since the majority of the wetland complex is located on the project site, the subject wetland is the same as the wetland complex.   |  |
| 8.2. Wetland Landuse              |  | For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland.<br>Historically, like much of Vermont, the project site used to be in agricultural use. In recent years the wooded areas on the property have been left intact. The field along Sunset Cliff Road has been mowed and/or brush hogged periodically.   |  |
| 8.3. Wetland Vegetation           |  | List dominant wetland community type and associated dominant plant species.<br>The dominant wetland community type on the property would be the forested wetland. Typical species in the forested wetland include red maple ( <i>Acer rubrum</i> ), American elm ( <i>Ulmus americana</i> ), buckthorn ( <i>Rhamnus cathartica</i> ) and skunk cabbage ( <i>Symplocarpus foetidus</i> ).  |  |
| 8.4. Wetland Soils                |  | Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description<br>The NRCS Soil Survey has mapped a few different soil series in the wetland on the site. The wetland soils on this site are a mix of Au Gres sand-over-clay soils and Covington clays. Both have a restricting layer of clay that reduces the rate of water infiltration through the soil. Hydric soil indicators include a depleted soil matrix, sandy redox, and iron-manganese masses. |  |
| 8.5. Wetland Hydrology            |  | Use descriptions from the ACOE Delineation Manual.<br>The wetland hydrologic indicators include soil saturation, high water table, surface water, and oxidized rhizospheres found within the upper 12 inches of the soil profile.   |  |
| 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.<br>Land uses in the buffer zone include a road and woods.  |  |
| 8.6.2. Buffer vegetation          |  | List community type and dominant plant species<br>The buffer zone in the upland forest on this site is dominated by white pine ( <i>Pinus strobus</i> ) and red maple ( <i>Acer rubrum</i> ).   |  |
| 8.6.3. Buffer soils               |  | Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description<br>The soils in the majority of the buffer zone are mapped by NRCS as Au Gres sandy loams. This soil series consists of very deep, somewhat poorly drained sandy soils.  |  |

|                          |                     |   |  |
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| 9. Wetland Determination |                     | If the application involves a wetland determination please answer the following. <b>If not, skip to Section 10.</b>   |  |
| 9.1.                     | Reason for Petition | Please choose one from the dropdown menu:<br><br>Add a Section 4.6 presumed wetland to the VSWI map   |  |
| 9.2.                     | Previous            | 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: |  |

|      |  |  |
|------|--|--|
|      | Decisions  |  |
| 9.3. | Narrative<br>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. |  |

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

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|---|---|--|
| 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.<br>The overall project is the installation and operation of a 2.5 megawatt (MW) (AC) solar array.  |  |
| 10.2. Project Purpose                             | For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system<br>The purpose of this project is to build a solar array with a 2.5 MW capacity.  |  |
| 10.3. Acres Owned by Applicant                    | Acreage of subject property.<br>40 acres.   |  |
| 10.4. Acres Involved in the Project               | Acreage of area involved in the project.<br>Approximately 22 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.<br>The project is a 2.5 MW (AC) solar array that will be connected to Burlington Electric’s distribution system. The current design consists of an 18 acre +/- solar field located on the 40 acre +/- property. The solar array will consist of approximately eleven thousand 300-watt (+/-) PV modules mounted on fixed support structures.<br><br>The array support structures will use driven steel foundation piles and hold the solar panels at a fixed 30 degree tilt angle, facing true solar south. The use of driven piles will minimize soil and vegetation disturbance. The support structures will be designed to hold the bottom of the solar panels at approximately 48” above existing grade so that ground snow accumulation in winter does not affect solar generation. The height of the arrays will be approximately 11’ above grade. Arrays will be placed in east-west rows set a sufficient distance apart (approximately 35 ft) to minimize self-shading.<br><br>The direct current solar power will be converted to alternating current (15 kVA nominal) by inverters at two locations within the solar field. Inverter design includes five Advanced Energy AE-500NX (500 kW) inverters. Inverters and medium voltage transformers will be housed in two prefabricated enclosures (1.5MW and 1MW).<br><br>The solar array area will be located on the northern portion of the property which consists of a mix of open field, scrub shrub vegetation, and upland forest. This area will be cleared of trees and shrubs to allow optimal solar generation. The cleared area will be surrounded by a wire mesh fence (approximately 7’ high) to meet National Electric Code (NEC) requirements. The project will be accessed off of Sunset Cliff Road by way of a single 12’ wide gravel access road through the solar array area (in the upland only) to provide access to the two inverter/transformer enclosures (which will also be |  |

|  |  |               |  |              |         |                          |        |                                |                    |  |
|--|--|---------------|--|--------------|---------|--------------------------|--------|--------------------------------|--------------------|--|
|  | <p>located in the upland).<br/>                 To avoid and minimize impacts on the Class Two wetland, the project has been designed as follows:</p> <ul style="list-style-type: none"> <li>• Solar array support structures and inverter enclosure foundations will be pile driven steel to eliminate the need for concrete footings and foundation excavation.</li> <li>• Electrical conduit will be run above grade in the wetland and its buffer zone.</li> <li>• With the exception of the stormwater outlet within the wetland buffer, no earth moving, grading or excavation will take place within the wetland or its buffer zone.</li> <li>• The rare wetland natural community, described in Section 20, of this application, will not be impacted by the proposed project. Select tree and shrub clearing will occur on portions of the parcel to avoid overshadowing of the solar panels and allow proper maintenance of the facility. Clearing will follow a Vegetation Management Plan that has been submitted to the Agency (see attachment).</li> </ul> <p>Impacts consist of vegetation clearing as depicted on the attached Wetland Impact Plan (C10-01) and a small amount of impact as a result of the driven solar array supports.</p> |               |  |              |         |                          |        |                                |                    |  |
| 11.2.Dimension Details                         | Square footage of buildings, dimension of roads including fill footprint. 1005 piles at 0.125sf per pile.  |               |  |              |         |                          |        |                                |                    |  |
| 11.3.Bridges and Culverts                      | Culvert circumference, length, placement and shapes, or bridge details.<br>N/A   |               |  |              |         |                          |        |                                |                    |  |
| 11.4.Construction Sequence                     | <p>Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant</p> <p>The first step in construction will be to stake out and clearly demarcate the project boundary. The next step will be the installation of erosion and sediment controls. Vegetation cutting will then occur. Once the areas are cleared the panels will be installed on the site. Fencing will be installed around the perimeter of the solar array once construction is completed.</p>   |               |  |              |         |                          |        |                                |                    |  |
| 11.5.Stormwater Design                         | <p>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.</p> <p>An operational stormwater permit (General Permit 3-9015) is not required for the project since the total amount of impervious surface proposed is under the jurisdictional threshold of one acre. A Construction General Permit (General Permit 3-9020) will be obtained as more than one acre of disturbed earth is anticipated for the site. During construction, stormwater Best Management Practices (BMPs) will be installed in accordance with ANR guidelines for construction sites.</p>  |               |  |              |         |                          |        |                                |                    |  |
| 11.6.Permanent Demarcation of Limits of Impact | <p>Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses.</p> <p>No memorialization is proposed along the limits of disturbance for this project since there will be very little activity on the site once it is constructed.</p>   |               |  |              |         |                          |        |                                |                    |  |
| 12.Wetland and Buffer Zone Impacts             |  |               |  |              |         |                          |        |                                |                    |  |
| 12.1.Wetland Impacts                           | <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> <table border="1"> <tr> <td colspan="2"><b>Totals</b></td> </tr> <tr> <td>Wetland Fill</td> <td>91 s.f.</td> </tr> <tr> <td>Temporary Wetland Impact</td> <td>0 s.f.</td> </tr> <tr> <td>Other Permanent Wetland Impact</td> <td>23,096+29,040 s.f.</td> </tr> </table>  | <b>Totals</b> |  | Wetland Fill | 91 s.f. | Temporary Wetland Impact | 0 s.f. | Other Permanent Wetland Impact | 23,096+29,040 s.f. |  |
| <b>Totals</b>                                  |  |               |  |              |         |                          |        |                                |                    |  |
| Wetland Fill                                   | 91 s.f.  |               |  |              |         |                          |        |                                |                    |  |
| Temporary Wetland Impact                       | 0 s.f.   |               |  |              |         |                          |        |                                |                    |  |
| Other Permanent Wetland Impact                 | 23,096+29,040 s.f.   |               |  |              |         |                          |        |                                |                    |  |

|  |   |                         |        |                         |                 |                               |                    |  |
|--|---|-------------------------|--------|-------------------------|-----------------|-------------------------------|--------------------|--|
|  | <p>Describe in detail the proposed impact.</p> <p>1005 piles are proposed for the array layout. Each pile is calculated to be 0.125sf of impact, therefore total impact within the wetland is 91sf.</p> <p>Approximately 23,096sf of tree clearing impact is proposed within the wetland portion of the Forest Management Zone in addition to the 29,040sf of wetland clearing within the facility clearing extent.</p>   |                         |        |                         |                 |                               |                    |  |
| <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><b>Totals</b></p> <table border="1"> <tr> <td>Temporary Buffer Impact</td> <td>0 s.f.</td> </tr> <tr> <td>Permanent Buffer Impact</td> <td>16.5+4,717 s.f.</td> </tr> <tr> <td>Other Permanent Buffer Impact</td> <td>18,057+42,614 s.f.</td> </tr> </table> <p>Describe in detail the proposed impact.</p> <p>Buffer impact includes the 16.5sf associated with the driven piles and approximately 4,717sf of impact associated with the stormwater control outlet.</p> <p>Additionally, approximately 18,057sf of tree clearing impact is proposed within the wetland buffer portion of the Forest Management Zone in addition to the 42,614 sf of buffer clearing within the facility extent.</p>   | Temporary Buffer Impact | 0 s.f. | Permanent Buffer Impact | 16.5+4,717 s.f. | Other Permanent Buffer Impact | 18,057+42,614 s.f. |  |
| Temporary Buffer Impact                | 0 s.f.  |                         |        |                         |                 |                               |                    |  |
| Permanent Buffer Impact                | 16.5+4,717 s.f.   |                         |        |                         |                 |                               |                    |  |
| Other Permanent Buffer Impact          | 18,057+42,614 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.</p> <p>The main impact to the wetland as a result of this project is the cutting of vegetation. The vegetation cutting is not expected to have an undue adverse impact on the quality of wildlife habitat found on the site. Wildlife studies were conducted on this site and no unusual wildlife species were identified. The wildlife species found on this site are common and typical of that found in a suburban environment.</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 Applicant does not have any other land in the area that could host a 2.5 MW project, which is the size of the Power Purchase Agreement the Applicant has with the Burlington Electric Department.</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 Applicant has sized this project so that it has the capacity to generate 2.5 MW of energy. The Applicant has avoided direct impacts to the significant natural community, as directed by the Agency of Natural Resources. The Applicant has proposed the smallest footprint possible in order to have a viable project.</p> <p>In the wetlands and the forest management zone, all pre-construction tree and shrub clearing will be performed by hand using a chainsaw or hand held brush cutter. All wetland and buffer forest management will be conducted during dry or frozen conditions to minimize soil disturbance.</p> |                         |        |                         |                 |                               |                    |  |

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|  | <p>During tree clearing, installation of the solar arrays, and construction of the upland access road, accepted erosion control measures will be used to minimize the amount of sediment discharged to the wetland.</p> <p>Also, proposed for this project is a stormwater detention basin, intended to ensure the upland sitework does not result in an increase in peak stormwater flows into the wetland and onto adjoining properties.</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>Approximately 11 acres is proposed to be conserved as a designated unique natural community (Wet Sand-Over-Clay Forest). This natural community currently contains a variety of invasive species. As mitigation, the Applicant is proposing to perform invasive species control in the wetland and its buffer zone. Please refer to the attached Vegetation Management Plan for more details on the Non-Native Invasive Species Control Plan (NISCP).</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>As is supported in this application, the Applicant does not believe any undue adverse impact will occur to the wetland. To the extent that there is any adverse impact, it has been thoroughly mitigated under Section 9.5b (1)-(3). However, if the Secretary determines that additional mitigation is required, the Applicant believes this project qualifies for mitigation under a compensation agreement or otherwise.</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 ½" 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.</p> <p>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.</p> <p>C10-01 Wetland Impact Plan, TCE, 4/1/2014 and revised 9/5/2014.</p>   |  |
| <p>13.3. ACOE Delineation Forms</p>  | <p>List by author, location, and date. Required only for Individual Permits. ACOE delineation forms are attached to this submittal. The forms were prepared by Karina Dailey (TCE) on 11/6/12.</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.</p> <p>Vegetation Management Plan<br/>L.W. Seddon, LLC – Design Memo<br/>Winter Wildlife Assessment Memo<br/>Avian Study for South Forty Solar<br/>September 26, 2014 TCE Memo</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.</p> <p>See 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. <b>***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.</b></p>  |                                     |                       |                                     |                                     |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
|---|--|-------------------------------------|-----------------------|-------------------------------------|-------------------------------------|-----------------|-----------------|---------------------|-------------------------------------|-------------------------------------|-------------|-------------------------------------|-------------------------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------------|--------------------------|--------------------------|--------------|--------------------------|--------------------------|---------------------|--------------------------|--------------------------|------------------|-------------------------------------|-------------------------------------|-----------------------|--------------------------|--------------------------|-----------------------------|-------------------------------------|-------------------------------------|-----------------|--------------------------|--------------------------|--|
| <p>14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.</p> | <p><b>Wetland Function Summary:</b> (if more than one wetland use supplemental wetland sheets)</p> <table border="1"> <thead> <tr> <th>Functions &amp; Values</th> <th>Subject Wetland</th> <th>Wetland Complex</th> <th>Functions &amp; Values</th> <th>Subject Wetland</th> <th>Wetland Complex</th> </tr> </thead> <tbody> <tr> <td>Flood/Storm Storage</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>RTE Species</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>Surface &amp; Groundwater Protection</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Education &amp; Research</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Fish Habitat</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Recreation/Economic</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Wildlife Habitat</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Open Space/Aesthetics</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Exemplary Natural Community</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Erosion Control</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> | Functions & Values                  | Subject Wetland       | Wetland Complex                     | Functions & Values                  | Subject Wetland | Wetland Complex | Flood/Storm Storage | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | RTE Species | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Surface & Groundwater Protection | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Education & Research | <input type="checkbox"/> | <input type="checkbox"/> | Fish Habitat | <input type="checkbox"/> | <input type="checkbox"/> | Recreation/Economic | <input type="checkbox"/> | <input type="checkbox"/> | Wildlife Habitat | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Open Space/Aesthetics | <input type="checkbox"/> | <input type="checkbox"/> | Exemplary Natural Community | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Erosion Control | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Functions & Values  | Subject Wetland  | Wetland Complex                     | Functions & Values    | Subject Wetland                     | Wetland Complex                     |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| Flood/Storm Storage   | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | RTE Species           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| Surface & Groundwater Protection  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | Education & Research  | <input type="checkbox"/>            | <input type="checkbox"/>            |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| Fish Habitat  | <input type="checkbox"/>   | <input type="checkbox"/>            | Recreation/Economic   | <input type="checkbox"/>            | <input type="checkbox"/>            |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| Wildlife Habitat  | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | Open Space/Aesthetics | <input type="checkbox"/>            | <input type="checkbox"/>            |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| Exemplary Natural Community   | <input checked="" type="checkbox"/>  | <input checked="" type="checkbox"/> | Erosion Control       | <input type="checkbox"/>            | <input type="checkbox"/>            |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |
| <p>15. Coverage under Vermont General Wetland Permit</p>  | <p><b>If applying for an Individual Vermont Wetland Permit or Determination, please proceed to number 16 and answer the remaining application questions.</b></p> <p><b>If applying for Coverage under the Vermont General Wetland Permit, please complete question 15.1 prior to submitting application.</b></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> <ul style="list-style-type: none"> <li><input type="checkbox"/>The activity qualifies as an eligible activity for coverage under the Vermont General Wetland Permit</li> <li><input type="checkbox"/>The proposed project will meet the conditions applicable to the proposed project in the Vermont Wetland General Permit</li> <li><input type="checkbox"/>The activity does not qualify as an Allowed Use under Section 6 of the Vermont Wetland Rules.</li> <li><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.</li> <li><input type="checkbox"/> All impacts have been avoided and minimized to the greatest extent possible.</li> <li><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.</li> <li><input type="checkbox"/>The activity is not located in or adjacent to a vernal pool, fen, or bog.</li> <li><input type="checkbox"/>The wetland is not at or above 2,500' in elevation (headwaters wetland).</li> </ul>  |                                     |                       |                                     |                                     |                 |                 |                     |                                     |                                     |             |                                     |                                     |                                  |                                     |                                     |                      |                          |                          |              |                          |                          |                     |                          |                          |                  |                                     |                                     |                       |                          |                          |                             |                                     |                                     |                 |                          |                          |  |



- The project is not located in a Class I wetland or associated buffer zone.
- The activity is not an as-built project that constitutes a violation of the Vermont Wetland Rules.

**Stop here if applying for Coverage under the Vermont General Wetland Permit**

**Complete the following Functions and Values checklist if applying for an Individual Wetland Permit and/or a Wetland Determination**

**Functions and Values**

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.

If more than one wetland complex is involved, use the Supplemental Wetland Forms.

**16. Storage for Flood Water and Storm Runoff**

- Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.
  - Constricted outlet or no outlet and an unconstricted inlet.
  - 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.
  - 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.
  - Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water.
  - Hydrologic or hydraulic study indicates wetland attenuates flooding.

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.
  - 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).
  - Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland.
  - Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures.

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|   | <p><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> <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 checked="" type="checkbox"/> History of downstream flood damage to public or private property.</p> <p><input checked="" 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.</p> <p><input checked="" type="checkbox"/> 1. Developed public or private property.</p> <p><input type="checkbox"/> 2. Stream banks susceptible to scouring and erosion.</p> <p><input type="checkbox"/> 3. Important habitat for aquatic life.</p> <p><input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated.</p> <p><input checked="" type="checkbox"/> Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland.</p> <p><input checked="" type="checkbox"/> 1. A large amount of impervious surface in urbanized areas.</p> <p><input type="checkbox"/> 2. Relatively impervious soils.</p> <p><input type="checkbox"/> 3. Steep slopes in the adjacent areas.</p> |  |
| <p>16.1. Subject Wetland</p>                      | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland contributes to this function since it has the physical and vegetative characteristics that make the wetland have this function.</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> <p>The Applicant is not proposing to add a significant amount of impervious surface to the wetland or its buffer zone. In addition, there will be no earth moving in the wetland or its buffer zone. Some woody and herbaceous vegetation will be cut from the wetland and its buffer zone but the herbaceous vegetation will continue to grow after the solar array is installed. Therefore, the wetland will continue to provide storage for storm runoff once this project is completed. This project will not have an undue adverse impact on this function.</p>  |  |
| <p>17. Surface and Ground Water Protection</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 checked="" type="checkbox"/> Constricted or no outlets.</p> <p><input checked="" type="checkbox"/> Low water velocity through dense, persistent vegetation.</p> <p><input type="checkbox"/> Hydroperiod permanently flooded or saturated.</p> <p><input type="checkbox"/> Wetlands in depositional environments with persistent vegetation wider than 20 feet.</p> <p><input type="checkbox"/> Wetlands with persistent vegetation comprising a defined delta, island, bar or peninsula.</p>  |  |

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|                             | <ul style="list-style-type: none"> <li><input type="checkbox"/> Presence of seeps or springs.</li> <li><input checked="" type="checkbox"/> Wetland contains a high amount of microtopography that helps slow and filter surface water.</li> <li><input type="checkbox"/> Position in the landscape indicates the wetland is a headwaters area.</li> <li><input type="checkbox"/> Wetland is adjacent to surface waters.</li> <li><input type="checkbox"/> Wetland recharges a drinking water source.</li> <li><input type="checkbox"/> Water sampling indicates removal of pollutants or nutrients.</li> <li><input type="checkbox"/> Water sampling indicates retention of sediments or organic matter.</li> <li><input type="checkbox"/> Fine mineral soils and alkalinity not low.</li> <li><input checked="" type="checkbox"/> 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.</li> </ul> <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> <ul style="list-style-type: none"> <li><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.             <ul style="list-style-type: none"> <li><input type="checkbox"/> Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake.</li> <li><input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation.</li> <li><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.</li> <li><input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function.</li> </ul> </li> <li><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.             <ul style="list-style-type: none"> <li><input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge.</li> <li><input type="checkbox"/> The wetland provides flows to Class A surface waters.</li> <li><input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters.</li> <li><input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated.</li> </ul> </li> </ul> |  |
| <p>17.1.Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p>   |  |

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|  | <p>The subject wetland contributes to this function since it has the physical and vegetative characteristics that make the wetland have this function.</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 Applicant is not proposing to add a significant amount of impervious surface to the wetland or its buffer zone. In addition, there will be no earth moving in the wetland or its buffer zone. Some woody and herbaceous vegetation will be cut from the wetland and its buffer zone but herbaceous vegetation will continue to grow after the solar array is installed. Therefore, the wetland will continue to provide surface and groundwater protection once this project is complete. This project will not have an 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> <ul style="list-style-type: none"> <li><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.</li> <li><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.</li> <li><input type="checkbox"/> Documented or professionally judged spawning habitat for northern pike.</li> <li><input type="checkbox"/> Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species.</li> <li><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.</li> </ul> |  |
| <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 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"> <li><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.</li> <li><input type="checkbox"/> Habitat to support one or more breeding pairs or broods of</li> </ul>  |  |

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.

- 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.
- 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.
- 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.
- 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.
- 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.
- Supports an active beaver dam, one or more lodges, or evidence of use in two or more consecutive years by an adult beaver population.
- Provides the following habitats that support the reproduction of Uncommon Vermont amphibian species including:
  - 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 hydrologically connected;
- Wetland or wetland complex is owned in whole or in part by state or federal government and managed for wildlife and habitat conservation; and
- Contains evidence that it is used by wetland dependent wildlife species.

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

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|   | <p>indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <li><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).</li> <li><input checked="" 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.</li> <li><input type="checkbox"/> The current use in the wetland results in frequent cutting, mowing or other disturbance.</li> <li><input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species.</li> </ul> <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"> <li><input type="checkbox"/> The wetland complex is large in size and high in quality.</li> <li><input type="checkbox"/> The habitat has the potential to support several species based on the assessment above.</li> <li><input type="checkbox"/> Wetland is associated with an important wildlife corridor.</li> <li><input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist.</li> </ul> |  |
| <p>19.1. Subject Wetland</p>                      | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>While the wetland does offer potential wildlife habitat since it meets several of the criterion listed in the functional analysis, the potential is limited by the densely developed urban neighborhoods that largely surround it. The wetland provides this function at a low level.</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>The Applicant has proposed the smallest footprint possible in order to have a viable project. The wetland contains wildlife species that are commonly found in suburban areas. The remainder of the site will remain undeveloped. Therefore, this project will not result in any undue, adverse impact to this function.</p>  |  |
| <p>20. Exemplary Wetland Natural Community</p>    | <ul style="list-style-type: none"> <li><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.</li> <li><input checked="" 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 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.</li> </ul> <p>The wetland is also likely to be significant if any of the following conditions are met:</p>  |  |

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|   | <ul style="list-style-type: none"> <li><input checked="" 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.</li> <li><input type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to:             <ul style="list-style-type: none"> <li><input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation;</li> <li><input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics;</li> <li><input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type;</li> <li><input type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or</li> <li><input type="checkbox"/> A large wetland complex containing examples of several wetland community types.</li> </ul> </li> </ul> <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<br/>         Part of the subject wetland contains an example of the significant C-ranked Wet Sand-Over-Clay Forest.</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.<br/>         The Applicant's consultants have worked with State Natural Heritage Program staff to define the extent of this significant natural community. The Natural Heritage Program requested that the Applicant avoid impacts to the significant natural community and provide a 50-foot buffer zone around it, while allowing for some limited cutting in the buffer zone per a Vegetative Management Plan. The project design has incorporated these requests. Therefore, the proposed project will not have an undue adverse impact to this function.</p>  |  |
| <p>21. Rare, Threatened, and Endangered Species Habitat</p> | <ul style="list-style-type: none"> <li><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.</li> <li><input checked="" 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.</li> </ul> <p>The wetland is also likely to be significant if any of the following apply:</p> <ul style="list-style-type: none"> <li><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;</li> <li><input type="checkbox"/> There is credible documentation that threatened or endangered species have been present in past 10 years;</li> <li><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</li> </ul> |  |



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|  | <p>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:<br/>Juncus torreyi (Torrey's Rush), S2</p>  |  |
| <p>21.1.Subject Wetland</p>                          | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>A small population of Juncus torreyi (Torrey's Rush) was located in the subject wetland near Sunset Cliff Road. The Applicant has consulted with Bob Popp, State Botanist, who requested that the plants either be transplanted and/or seeds collected and sowed in suitable habitat.</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>Since the Applicant is willing to transplant specimens of Juncus torreyi to a suitable location on-site, the proposed project will not result in any undue, adverse impact on 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>   |  |

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|---|---|--|
| 23.2.Statement of no undue adverse impact                   | 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.   |  |
| 24.Open Space and Aesthetics                                | <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"> <li><input type="checkbox"/> Can be readily observed by the public; and <ul style="list-style-type: none"> <li><input type="checkbox"/> Possesses special or unique aesthetic qualities; or</li> <li><input type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape;</li> </ul> </li> <li><input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan.</li> </ul> Comments:   |  |
| 24.1.Subject Wetland  | Please explain how the subject wetland contributes to the function listed above   |  |
| 24.2.Statement of no undue adverse impact                   | 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.   |  |
| 25.Erosion Control through Binding and Stabilizing the Soil | <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"> <li><input 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"> <li><input type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force.</li> <li><input type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow.</li> <li><input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control.</li> </ul> </li> </ul> What type of erosive forces are present: <ul style="list-style-type: none"> <li><input type="checkbox"/> Lake fetch and waves</li> <li><input type="checkbox"/> High current velocities:</li> <li><input type="checkbox"/> Water level influenced by upstream impoundment</li> </ul> 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. <ul style="list-style-type: none"> <li><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. <ul style="list-style-type: none"> <li><input type="checkbox"/> The stream is artificially channelized and/or lacks</li> </ul> </li> </ul> |  |

|  |  |  |
|--|--|--|
|  | <p>vegetation that contributes to controlling the erosive force.</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>higher</i> level.</p> <p><input type="checkbox"/> The stream contains high sinuosity.</p> <p><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> |  |
| <p>25.1.Subject Wetland</p>                      | <p>Please explain how the subject wetland contributes to the function listed above</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>  |  |

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

|  |  |  |  |
|--|--|--|--|
| <b>Applicant Name: Keystone Development Corporation</b>  |  | <b>Representative Name: April Moulaert &amp; Karina Dailey</b> |  |
| <b>Town where project is located: Burlington</b>   |  | <b>County: Chittenden</b>                                      |  |
| <b>Project Location Description: 0 Sunset Cliff Road</b><br><small>911 Street Address or direction from nearest intersection</small>   |  |  |  |
| <b>Project Summary: Installation of a 2.5 MW solar array on a 40 acre undeveloped parcel.</b>  |  |  |  |
| <b>Permit Type Requested</b> (check all that apply)  |  |  |  |
| <input type="checkbox"/> Vermont General Permit Coverage   |  | <input type="checkbox"/> Wetland Determination                 |  |
| <input checked="" type="checkbox"/> Vermont Wetland Permit   |  |  |  |
| <b>Impact Calculations:</b> Total up proposed impacts from wetland tables listed below   |  |  |  |
| Total Wetland Impact   |  | Total Buffer Zone Impact                                       |  |
| 91.0 + 23,096=23,187 (s.f.)  |  | 16.5+4,717+42,614+18,057=65,404.5 (s.f.)                       |  |
| Total Wetland Clearing (qualified linear projects only)  |  | Total Buffer Zone Clearing (qualified linear projects only)    |  |
| 29,040 (per Alan Q) (s.f.)   |  | (s.f.)   |  |
| <b>Permit Fees: Make check payable to - State of Vermont</b>   |  |  |  |
| Wetland Impact Fee: (\$0.75/sf) \$17,390.25  |  | Administrative Fee: \$120                                      |  |
| Buffer Impact Fee: (\$0.25/sf) \$16,351.1  |  | Total Check Amount: \$24,969.97                                |  |
| Clearing Fee: (\$0.25/sf) \$7,260  |  | = \$41,001.35 *Already Paid - \$16,031.38                      |  |
| <b>Existing Land Use Type:</b> (check all that apply)  |  |  |  |
| <input type="checkbox"/> Forestry  |  | <input type="checkbox"/> Residential (Subdivision)             |  |
| <input type="checkbox"/> Agriculture   |  | <input type="checkbox"/> Institutional                         |  |
| <input type="checkbox"/> Transportation  |  | <input checked="" type="checkbox"/> Undeveloped Family         |  |
| <input type="checkbox"/> Parks/Rec/Trail   |  | <input type="checkbox"/> Residential (Single Family)           |  |
| <b>Proposed Land Use Type:</b> (check all that apply)  |  |  |  |
| <input type="checkbox"/> Forestry  |  | <input checked="" type="checkbox"/> Industrial/ commercial     |  |
| <input type="checkbox"/> Agriculture   |  | <input type="checkbox"/> Residential (Subdivision)             |  |
| <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   |  |  |  |
| <b>Proposed Impact Type:</b> (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"/> Other                                 |  |
| <input type="checkbox"/> Silviculture  |  | <input type="checkbox"/> No Impact                             |  |
| <input type="checkbox"/> Aesthetics  |  |  |  |
| <b>Wetland 1: South Forty</b> (Label using Wetland ID from application if applicable, use supplemental sheets if more than one wetland is being impacted) Location: <b>Sunset Cliff Road, Burlington, VT</b> |  |  |  |
| Wetland Type: <b>Several</b>   |  | WL Size Class : <b>PFO and PSS and PEM and combinations</b>    |  |
| <b>Proposed Alterations</b>  |  |  |  |
| <b>Wetland Alteration:</b>   |  | <b>Buffer Zone Alteration:</b>                                 |  |
| Wetland Fill: 91s.f.   |  | 4733.5   |  |
| Temporary: s.f.  |  | Temporary: s.f.  |  |
| Permanent: 23,187s.f   |  | Permanent: 60,671 s.f  |  |
| <b>Wetland Alteration Type</b> (check all that apply)  |  |  |  |
| <input type="checkbox"/> Dredge  |  | <input type="checkbox"/> Drain                                 |  |
| <input checked="" type="checkbox"/> Cut Vegetation   |  | <input type="checkbox"/> Stormwater                            |  |
| <input type="checkbox"/> Trench/Fill   |  | <input type="checkbox"/> Other                                 |  |
| <b>Mitigation</b>  |  |  |  |
| <b>Avoidance and Minimization</b> (s.f. of wetland NOT impacted):  |  | Wetland: 479,160s.f. Buffer Zone 500,000s.f.                   |  |
| <b>Wetland Mitigation: (s.f. Gained)</b>   |  | <b>Buffer Zone Mitigation (s.f. Gained):</b>                   |  |
| Restoration s.f. Enhancement 500,000s.f.   |  | Restoration s.f. Enhancement s.f.                              |  |

|                               |                          |                         |                          |                                     |                          |              |     |
|-------------------------------|--------------------------|-------------------------|--------------------------|-------------------------------------|--------------------------|--------------|-----|
| Creation                      | s.f.                     | Conservation            | s.f.                     | Creation                            | s.f                      | Conservation | s.f |
| <b>Reason for Mitigation:</b> | <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  
 Water Quality Division  
 103 South Main St  
 Building 10 North  
 Waterbury, VT 05671-0408**

**Staff To Complete**

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