



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	Vermont Agency of Transportation, c/o Glenn Gingras	
1.2. Applicant Address	One National Life Drive, Montpelier, VT 05633	
1.3. Applicant Phone Number	802-279-0583	
1.4. Applicant Email	glenn.gingras@vermont.gov	
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: center;"> <div style="text-align: center;"> <p>X </p> </div> <div style="text-align: center;"> <p>Date: 12/9/15</p> </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	DuBois & King, Inc., c/o Charlotte Brodie	
2.2. Representative Address	6 Green Tree Drive, South Burlington, VT 05403	
2.3. Representative Phone Number	802-728-2702	
2.4. Applicant Email	cbrodie@dubois-king.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: center;"> <div style="text-align: center;"> <p>X</p> </div> <div style="text-align: center;"> <p>Date:</p> </div> </div>	
3. Landowner	Landowner must sign the application. Use this space if landowner is different from the applicant	
3.1. Landowner Name	Most of the work will be completed within the State of Vermont Right-of-Way. There will be some minor work completed outside of that ROW which will require temporary construction easements to be obtained by the State of Vermont.	
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>All landowner easements to be obtained will state that the State of Vermont and the Vermont Railway (lessee) will be responsible for all conditions of the State Wetlands permit.</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: center;"> <div style="text-align: center;"> <p>X </p> </div> <div style="text-align: center;"> <p>Date: 12/9/15</p> </div> </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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1.1. Applicant Name	Vermont Agency of Transportation, c/o Glenn Gingras	
1.2. Applicant Address	One National Life Drive, Montpelier, VT 05633	
1.3. Applicant Phone Number	802-828-3979	
1.4. Applicant Email	glenn.gingras@state.vt.us	
1.5. Applicant Signature (original signature required)	<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <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>X</p> </div> <div style="width: 25%;"> <p>Date:</p> </div> </div>	
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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.	

	The project is located approximately 1300' east of Lime Kiln Road, and approximately 800 north of the intersection of Lime Kiln Road and US Route 7, as shown on the attached NRA Location map.		
5. Site Visit Date and Attendees	Date of visit with District Wetlands Ecologist	List people present for site visits including Ecologist, landowner, and representatives.	
	April 2013	Julie Foley (District Wetlands Ecologist) and Charlotte Brodie (D&K Wetlands Biologist)	
6. Wetland Classification	The wetland is a Class II wetland because (Choose one): The wetland is mapped on the VSWI map		
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 Mapped as 290 ac.		
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 90% emergent, 10% scrub swamp		
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. Flat land, low lands of the Champlain Valley		
7.4. Wetland Hydrology	Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds. The main source of the hydrology appears to be a high groundwater table, although there is also some contribution from an unnamed tributary to Little Otter Creek. 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. The stream flows northeasterly through the wetland complex.		
7.4.2. Influence of hydrology on wetland complex	For example: The river provides flood water to the wetland in the spring. The main source of the wetland hydrology appears to be the high groundwater table, although some overbank flow from the unnamed tributary also is likely to occur.		
7.4.3. Relation to the project area	Distance between the project area and any nearby surface waters. 330' to unnamed tributary.		
7.4.4. Hydroperiod	Discuss frequency and duration of flooding, ponding, and/or soil saturation. Soil saturation is very prolonged. Flooding is likely to be associated with spring highwater and high rainfall events.		
7.5. Surrounding Landuse of the Wetland Complex	For example: rural residential and forested; agricultural and undeveloped, Primarily agriculture and rural residential.		
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. 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. Rail line, local roads, agriculture.		
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 impacted wetland is at the western edge of the large wetland complex.	
8.2. Wetland Landuse	For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland. Agricultural field, old field, a small strip of brush along the ROW fence. Disturbance includes an active rail line, local roads and active agricultural fields.	
8.3. Wetland Vegetation	List dominant wetland community type and associated dominant plant species. The dominant vegetation on the east side of the tracks includes sedges, with minor components of red-osier dogwood and black ash along the edges of the tracks. The dominant vegetation on the west side of the tracks includes reed canary grass and agricultural grasses.	
8.4. Wetland Soils	Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description Livingston Clay. Soil investigation at the site found clay loam soils (A11), depleted below dark surface.	
8.5. Wetland Hydrology	Use descriptions from the ACOE Delineation Manual. Predominantly saturation (A3)	
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. Agricultural fields, side slopes of an active rail line.	
8.6.2. Buffer vegetation	List community type and dominant plant species Emergent vegetation, including timothy grass, reed canary grass, clover and vetch.	
8.6.3. Buffer soils	Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description Vergennes clay. Soil investigation found presence of clay loam soils that are actively being farmed, and may be artificially drained with relict features.	

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: General Permit Project number 2014-057 was issued on 6/11/2014. This is an amendment to that permit for additional impacts that were not counted. This permit will now fall under the threshold of an Individual Permit.	
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.	

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

10. Project Description		
10.1. Overall Project	<p>Description of the project. For example: six-lot residential subdivision; expansion of an existing commercial building, access drive to a single family residence.</p> <p>The project includes the installation of a new culvert using jacking techniques, grouting of 72' of the existing culvert, installation of headwalls and placing of stone fill.</p>	
10.2. Project Purpose	<p>For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system</p> <p>The culvert headwall appears to have moved since installation. The culvert is constructed from large rocks, and several gaps are now noticeable between the rocks. The slope and ballast directly above the culvert have sloughed down the slope and have likely infiltrated between the cover stones. This area may continue to erode if proper treatment is not performed, which may in turn create an unstable slope and unstable tracks. The purpose of the project is to install a new culvert and to stabilize the surrounding area of railroad tracks.</p>	
10.3. Acres Owned by Applicant	<p>Acreage of subject property.</p> <p>The applicant owns the entire rail line and associated ROW.</p>	
10.4. Acres Involved in the Project	<p>Acreage of area involved in the project.</p> <p>Less than one acre.</p>	
11. Project Details	Provide details regarding specific impacts to the wetland and buffer zone	
11.1. Specific Impacts to Wetland and Buffer Zone	<p>List portions of the project that will specifically impact the wetland or buffer zone.</p> <p>The impacts to wetland are primarily temporary, and are associated with staging of the construction materials. The permanent impacts to wetland are associated with stone fill placed to stabilize the inlet and outlet of the new culvert.</p> <p>The impacted buffer is all within the prism of the railroad tracks. Work within that prism is considered non-substantial modification, and does not require regulation.</p>	
11.2. Dimension Details	<p>Square footage of buildings, dimension of roads including fill footprint.</p> <p>40' X 60' staging area on each side of the tracks and culvert replacement.</p>	
11.3. Bridges and Culverts	<p>Culvert circumference, length, placement and shapes, or bridge details.</p> <p>Existing 3' X 3' concrete culvert to be replaced with a 48' long, 5' 6" inside diameter steel jacked casing with a 5/8" thick cement lining.</p>	
11.4. Construction Sequence	<p>Describe any details pertaining to the work planned in the wetland and buffer in terms of sequence or phasing that is relevant</p> <p>Drainage water that is present will continue to flow through the existing pipe during construction. During the jacking operation, the area will be isolated and a staging area will be temporarily installed (likely filter fabric and clean stone fill) to allow equipment access. The new pipe will be jacked underneath the rail line, then cement grouted, followed by construction of wingwalls, placement of stone fill, and re-routing of water into new pipe after curing of the cement. The old pipe will then be grouted and will remain in place.</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>Appropriate erosion and sediment control features will be in place according to the low risk handbook. Features will include silt fence and project demarcation fencing to isolate the work area.</p>	
11.6. Permanent Demarcation of Limits	Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses.	

of Impact	None.									
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">Totals</td></tr> <tr> <td>Wetland Fill</td><td>354 s.f.</td></tr> <tr> <td>Temporary Wetland Impact</td><td>3748 s.f.</td></tr> <tr> <td>Other Permanent Wetland Impact</td><td>0 s.f.</td></tr> </table> <p>Describe in detail the proposed impact.</p> <p>A new culvert and headwalls will be installed, and stone fill will be placed at the inlet and outlet of the new culvert. Temporary impacts will include the staging of construction equipment and materials.</p>	Totals		Wetland Fill	354 s.f.	Temporary Wetland Impact	3748 s.f.	Other Permanent Wetland Impact	0 s.f.	
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Totals										
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12.3. Cumulative Impacts	<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>None</p>									
12.4. Avoidance and Minimization	Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section.									
12.4.1. Avoidance	<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>This is an existing culvert replacement, so impacts cannot be completely avoided.</p>									
12.4.2. Minimization	<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>Minimization efforts include: constructing a new culvert that is sized according to modern standards for hydraulic capacity, thus reducing the negative impacts of an undersized culvert; use of best management practices for erosion and sediment control; using VTrans Standard Specifications for Construction; promptly removing fills and re-establishing</p>									

	vegetation in disturbed areas. All equipment will be visually inspected and cleaned of soils prior to entering wetlands and buffers.													
12.4.3. Mitigation	<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>All temporarily disturbed areas will be restored to original grade and seeded and mulched.</p>													
12.4.4. Compensation	<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>None proposed.</p>													
13. Supporting materials	Where appropriate list the accompanying material by title, author, date and last revision date. Submit these documents and plans with the application.													
13.1. Location map	<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>See attached.</p>													
13.2. Site Plans	<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>New Haven Culvert 96.10, Wetland Impact Sheet, dated 11/3/2015, designed by Peter Bero.</p>													
13.3. ACOE Delineation Forms	<p>List by author, location, and date. Required only for Individual Permits.</p> <p>Charlotte Brodie, Vermont Rail Culver 96.10, 4/15/13.</p>													
13.4. Other Supporting Documents	<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>Photos attached.</p>													
13.5. List of Abutters (Neighbors with land adjoining wetland or buffer zone)	<p>Attach list of names and mailing addresses or submit as word mailing document.</p> <p>1) Bolduc Farm 6124 Ethan Allen Highway New Haven, VT 05472</p> <p>2) Charles and Brenda Charron 273 Lime Kiln Road New Haven, VT 05472</p>													
13.5.1. Newspaper Notification	<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.</p> <p>Addison County Independent</p>													
14. Check Which Functions are Present in the Subject Wetland and in the Wetland	<p>Wetland Function Summary: (if more than one wetland use supplemental wetland sheets)</p> <table border="1"> <thead> <tr> <th>Functions & Values</th><th>Subject Wetland</th><th>Wetland Complex</th><th>Functions & Values</th><th>Subject Wetland</th><th>Wetland Complex</th></tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	Functions & Values	Subject Wetland	Wetland Complex	Functions & Values	Subject Wetland	Wetland Complex							
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Complex.	Flood/Storm Storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RTE Species	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	Open Space/Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>
	Exemplary Natural Community	<input type="checkbox"/>	<input type="checkbox"/>	Erosion Control	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15. Coverage under Vermont General Wetland Permit	<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>					
15.1. VWP Vermont General Permit eligibility checklist	<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 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>					
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
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	<p>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> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Constricted outlet or no outlet and an unconstricted inlet. <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. <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. <input 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. <input type="checkbox"/> Hydrologic or hydraulic study indicates wetland attenuates flooding. <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 	

	<p>function.</p> <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. 	
16.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>A stream running through the wetland has the opportunity to spread out over a wide floodplain within the very flat wetland, thus storing floodwaters for slow release downstream.</p>	
16.2. Statement of no undue adverse impact	<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 amount of permanent impact is limited to 364 SF of the placement of stone fill. The work involves the replacement of an existing culvert with a new culvert designed to modern standards of hydraulic capacity, thus improving the effectiveness of the culvert and reducing the potential for erosion associated with undersized culverts.</p>	
17. Surface and Ground Water Protection	<ul style="list-style-type: none"> <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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Constricted or no outlets. <input checked="" type="checkbox"/> Low water velocity through dense, persistent vegetation. <input checked="" type="checkbox"/> Hydroperiod permanently flooded or saturated. <input type="checkbox"/> Wetlands in depositional environments with persistent vegetation wider than 20 feet. <input type="checkbox"/> Wetlands with persistent vegetation comprising a defined delta, island, bar or peninsula. <input type="checkbox"/> Presence of seeps or springs. <input type="checkbox"/> Wetland contains a high amount of microtopography that helps slow and filter surface water. <input type="checkbox"/> Position in the landscape indicates the wetland is a headwaters area. <input checked="" type="checkbox"/> Wetland is adjacent to surface waters. <input type="checkbox"/> Wetland recharges a drinking water source. <input type="checkbox"/> Water sampling indicates removal of pollutants or nutrients. <input type="checkbox"/> Water sampling indicates retention of sediments or organic 	

	<p>matter.</p> <p><input checked="" type="checkbox"/> Fine mineral soils and alkalinity not low.</p> <p><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.</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> <p><input type="checkbox"/> Presence of dead forest or shrub areas in sufficient amounts to result in diminished nutrient uptake.</p> <p><input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation.</p> <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 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>	
17.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The wetland is within and surrounded by agricultural land. Sediments and toxicants associated with agricultural activities can be stabilized/retained/transformed by the wetland vegetation.</p>	
17.2. Statement of no undue adverse impact	<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 amount of permanent impact is limited to 364 SF of the placement of stone fill. The work involves the replacement of an existing culvert with a new culvert designed to modern standards of hydraulic capacity, thus improving the effectiveness of the culvert and reducing the potential for erosion associated with undersized culverts. By reducing the potential for erosion, the potential for negative impacts to surface waters is reduced. Temporarily disturbed areas will be promptly restored with seed and mulch.</p>	
18. Fish Habitat	<p><input type="checkbox"/> Function is present and likely to be significant: Any of the</p>	

	<p>following physical and vegetative characteristics indicate the wetland provides this function.</p> <ul style="list-style-type: none"> <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. <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. <input type="checkbox"/> Documented or professionally judged spawning habitat for northern pike. <input type="checkbox"/> Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species. <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. 	
18.1.Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>The stream within the wetland is small and slow-moving due to the flatness of the land. Most of the adjacent land is devoted to agriculture. Therefore, the wetland is not considered significant for this function.</p>	
18.2.Statement of no undue adverse impact	<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>N/A</p>	
19.Wildlife Habitat	<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 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 checked="" 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: <div style="margin-left: 20px;"> <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. </div> <div style="margin-left: 20px;"> <input type="checkbox"/> 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams. </div> <div style="margin-left: 20px;"> <input type="checkbox"/> 3. The Four-toed salamander; Fowler's Toad; Western or Boreal Chorus frog, or other amphibians found in Vermont of similar significance. </div> | |
| | <input type="checkbox"/> 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. | |
| | <input type="checkbox"/> 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. | |
| | <input checked="" type="checkbox"/> 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 indicate the wetland provides this function at a *lower* level.
- ☐ 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).
 - ☐ 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.
 - ☒ The current use in the wetland results in frequent cutting,

	<p>mowing or other disturbance.</p> <p><input type="checkbox"/> The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species.</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 wetland complex is large in size and high in quality.</p> <p><input type="checkbox"/> The habitat has the potential to support several species based on the assessment above.</p> <p><input type="checkbox"/> Wetland is associated with an important wildlife corridor.</p> <p><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>Please explain how the subject wetland contributes to the function listed above</p> <p>While the wetland is large in size, it is relatively low in quality, as it appears to be intermittently used for agriculture, keeping the vegetation limited to low herbaceous vegetation. The wetland complex is considered significant for this function due to its potential to provide some feeding habitat for great blue herons, and its potential to provide habitat for smooth greensnakes and DeKay's brownsnakes. The Town of New Haven is mapped as summer range for the Indiana bat. However, coordination with the USFWS indicates that the project area does not qualify as Indiana bat or northern long-eared bat roosting habitat, and that no further consultation is necessary. (see attached email to/from Susi VonOettingen and Charlotte Brodie, dated July 25, 2015.</p>	
19.2. Statement of no undue adverse impact	<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>While the wetland's wildlife value is limited, it is the most limited in the vicinity of the project, which is on edge of the wetland, and adjacent to active agricultural use and an active railroad.</p> <p>The amount of permanent impact is limited to 364 SF of the placement of stone fill.</p>	
20. Exemplary Wetland Natural Community	<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"/> 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.</p> <p>The wetland is also likely to be significant if any of the following conditions are met:</p> <p><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.</p>	

	<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>None.</p>	
20.1. Subject Wetland	<p>Please explain how the subject wetland contributes to the function listed above</p> <p>N/A</p>	
20.2. Statement of no undue adverse impact	<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>N/A</p>	
21. Rare, Threatened, and Endangered Species Habitat	<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; <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; <input type="checkbox"/> There is credible documentation that the wetland provides habitat for multiple uncommon species of plants or animals (S3 rank). <p>List name of species and ranking:</p> <p>None</p>	

21.1.Subject Wetland	Please explain how the subject wetland contributes to the function listed above N/A	
21.2.Statement of no 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. N/A	
22.Education and Research in Natural Sciences	<input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> Owned by or leased to a public entity dedicated to education or research. <input type="checkbox"/> History of use for education or research. <input type="checkbox"/> Has one or more characteristics making it valuable for education or research. 	
22.1.Subject Wetland	Please explain how the subject wetland contributes to the function listed above N/A	
22.2.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. N/A	
23.Recreational Value and Economic Benefits	<input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> Used for, or contributes to, recreational activities. <input type="checkbox"/> Provides economic benefits. <input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law. <input type="checkbox"/> Used for harvesting of wild foods. Comments:	
23.1.Subject Wetland	Please explain how the subject wetland contributes to the function listed above N/A	
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. N/A	
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"> <input checked="" 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. Comments: Can be observed by the public, but does not possess special or unique aesthetic qualities and is not prominent as a distinct feature in the surrounding landscape. Therefore, it is not considered significant for this function.	
24.1.Subject Wetland	Please explain how the subject wetland contributes to the function listed above N/A	
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. N/A	
25.Erosion Control through Binding and Stabilizing the Soil	<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. <input checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well: <input checked="" type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input checked="" type="checkbox"/> Good interspersions of persistent emergent vegetation and water along course of water flow. <input checked="" type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. What type of erosive forces are present: <input type="checkbox"/> Lake fetch and waves <input checked="" type="checkbox"/> High current velocities: <input type="checkbox"/> Water level influenced by upstream impoundment 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. <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. <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.	
25.1.Subject Wetland	Please explain how the subject wetland contributes to the function listed above	

	The wetland stabilizes the soil adjacent to the intermittent stream.	
25.2.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.	
	The amount of permanent impact is limited to 364 SF of the placement of stone fill. The work involves the replacement of an existing culvert with a new culvert designed to modern standards of hydraulic capacity, thus improving the effectiveness of the culvert and reducing the potential for erosion associated with undersized culverts. The temporarily impacted wetland areas will be promptly restored by seeding and mulching.	

Vermont Wetland Section

Wetland Application Database Form

(AFFIX TO THE FRONT OF THE APPLICATION)

Applicant Name: Vermont Agency of Transportaion		Representative Name: DuBois & King, Inc., c/o Charlotte Brodie	
Town where project is located: New Haven		County: Addison	
Project Location Description: The project is located approximately 1300' east of Lime Kiln Road, and approximately 800 north of the intersection of Lime Kiln Road and US Route 7 in the Town of New Haven. <i>911 Street Address or direction from nearest intersection</i>			
Project Summary: Replacement of an undersized culvert and destabilized embankment with an adequately-sized culvert.			
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		4102square feet (s.f.)	
Total Wetland Clearing (qualified linear projects only)		0square feet (s.f.)	
Total Buffer Zone Impact		0square feet (s.f.)	
Total Buffer Zone Clearing (qualified linear projects only)		0square feet (s.f.)	
Permit Fees: Make check payable to - State of Vermont			
Wetland Impact Fee: (\$0.75/sf)		\$3076.50	
Buffer Impact Fee: (\$0.25/sf)		\$0.00	
Clearing Fee: (\$0.25/sf)		\$0.00	
Administrative Fee:		\$240	
Total Check Amount:		\$3316.5	
Existing Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry <input type="checkbox"/> Residential (Subdivision) <input type="checkbox"/> Industrial/ commercial <input checked="" type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Transportation <input type="checkbox"/> Parks/Rec/Trail <input type="checkbox"/> Residential (Single Family) <input type="checkbox"/> Institutional <input type="checkbox"/> Undeveloped			
Proposed Land Use Type: (check all that apply)			
<input type="checkbox"/> Forestry <input type="checkbox"/> Residential (Subdivision) <input type="checkbox"/> Industrial/ commercial <input type="checkbox"/> Agriculture <input type="checkbox"/> Transportation <input type="checkbox"/> Parks/Rec/Trail <input type="checkbox"/> Residential (Single Family) <input type="checkbox"/> Institutional <input checked="" type="checkbox"/> No Change			
Proposed Impact Type: (check all that apply)			
<input type="checkbox"/> Buildings <input type="checkbox"/> Utilities <input type="checkbox"/> Parking <input type="checkbox"/> Septic/Well <input type="checkbox"/> Stormwater <input type="checkbox"/> Driveway <input type="checkbox"/> Road <input type="checkbox"/> Parks/Path <input type="checkbox"/> Agriculture <input type="checkbox"/> Pond <input type="checkbox"/> Lawn <input type="checkbox"/> Dry Hydrant <input type="checkbox"/> Beaver dam alteration <input type="checkbox"/> Silviculture <input type="checkbox"/> Aesthetics <input checked="" type="checkbox"/> Other <input type="checkbox"/> No Impact			
Wetland 1: MM 96.10 (Label using Wetland ID from application if applicable, use supplemental sheets if more than one wetland is being impacted)			
Location:		Off of Lime Kiln Road	
Wetland Type: PEM - Emergent Wetlar WL Size Class : > 20 acres			
Proposed Alterations			
Wetland Alteration:		Wetland Alteration Type (check all that apply)	
Wetland Fill: 354s.f.		<input type="checkbox"/> Dredge <input type="checkbox"/> Drain	
Temporary: 3748s.f.		<input type="checkbox"/> Cut Vegetation <input type="checkbox"/> Stormwater	
Permanent: : 0s.f.		<input checked="" type="checkbox"/> Trench/Fill <input type="checkbox"/> Other	
Temporary: 0 s.f.			
Permanent: : 0 s.f.			
Mitigation			
Avoidance and Minimization (s.f. of wetland NOT impacted):		Wetland: 0s.f. Buffer Zone 0s.f.	
Wetland Mitigation: (s.f. Gained)			
Restoration	0s.f.	Enhancement	0s.f.
Creation	0s.f.	Conservation	0s.f.
Buffer Zone Mitigation (s.f. Gained):			
Restoration	0 s.f.	Enhancement	0s.f.
Creation	0s.f.	Conservation	0s.f.

Reason for Mitigation:	<input type="checkbox"/> Correction of Violation	<input type="checkbox"/> Mitigation to offset permit impacts	<input type="checkbox"/> Voluntary
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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



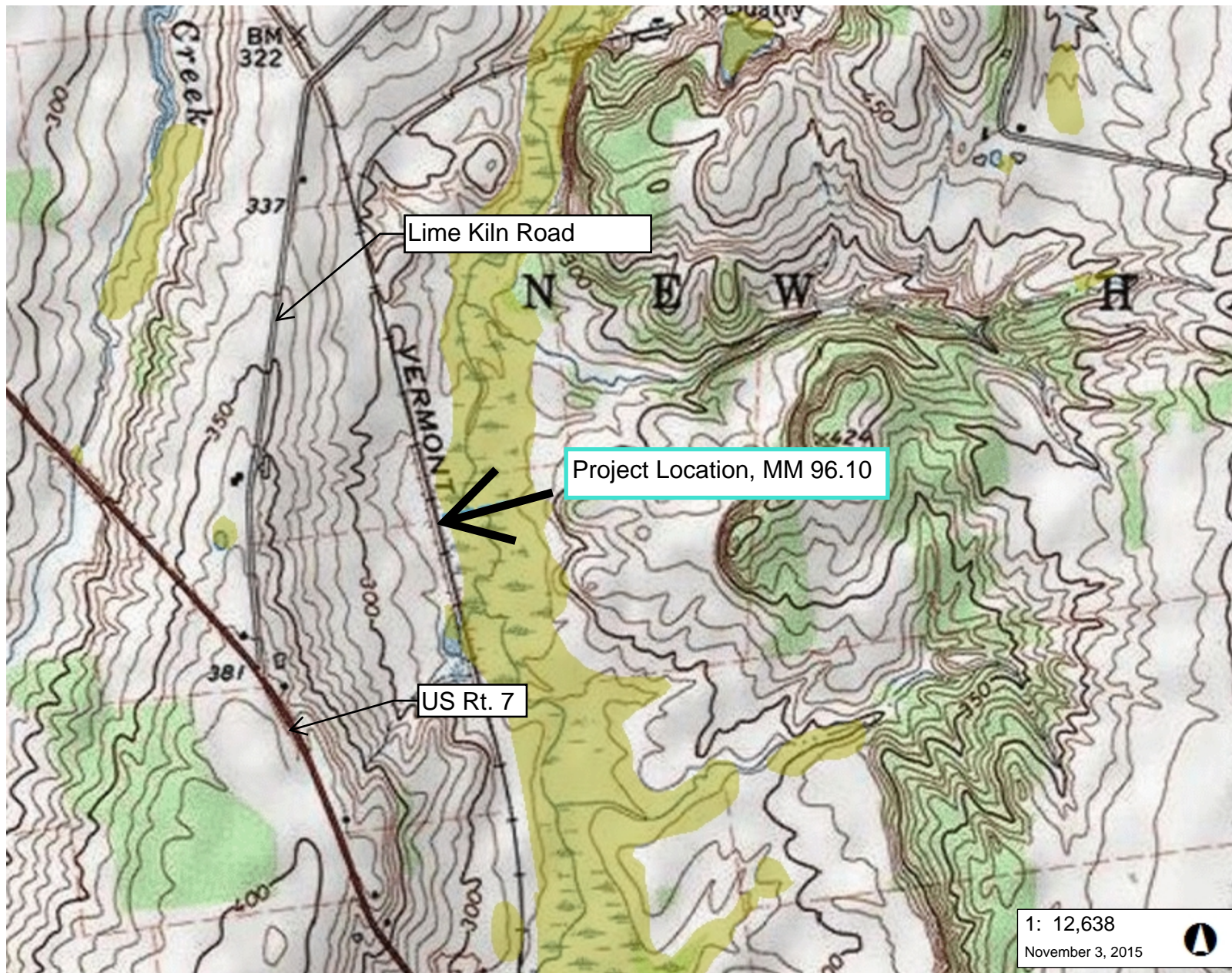
LEGEND

Wetlands - VSWI

Class 1 Wetland

Class 2 Wetland

Town Boundary



1: 12,638

November 3, 2015



NOTES

Map created using ANR's Natural Resources Atlas

642.0 0 321.00 642.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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1" = 1053 Ft.

1cm = 126 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

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LEGEND

- Rare Threatened Endangered
 - Threatened or Endangered
 - Rare
- Significant Natural Community
 - Uncommon Species and Other
 - Animal
 - Plant
 - Natural Community
- Deer Wintering Areas
- Indiana Bat Hibernacula
- AE/VCE Confirmed Vernal Pools
- AE/VCE Unconfirmed Vernal Pools
- Wetlands - VSWI
 - Class 1 Wetland
 - Class 2 Wetland
- Waterbody
- Stream
- Town Boundary



1: 5,625

February 11, 2014



286.0 0 143.00 286.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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1" = 469 Ft. 1cm = 56 Meters

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NOTES

Map created using ANR's Natural Resources Atlas
RTE, Natural Communities, Wetlands

PROJECT NAME:	NEW HAVEN	CULVERT	96.10
PROJECT NUMBER:	RREWO0IA		
FILE NAME:	...z136520erobdrpermt1svanr.dgn	PLOT DATE:	11/3/2015
PROJECT LEADER:	J. TUCKER	DRAWN BY:	E. OHANIAN
DESIGNED BY:	P. BERO	CHECKED BY:	E. DETRICK
WETLAND IMPACT SHEET		SHEET	1 OF 1

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Vermont Rail, Culvert 96.10 City/County: New Haven/ Addison Sampling Date: 4/15/13
 Applicant/Owner: VTrans State: VT Sampling Point: A1
 Investigator(s): Charlotte Brodie Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Flat land Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 44.13457 Long: -72.18514 Datum: _____
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Culvert 96.10</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

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) <input checked="" type="checkbox"/> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ 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) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 		
Remarks: 		

Sampling Point: A1

Sampling Point: A1

[illegible]

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No

US Army Corps of Engineers

VEGETATION – Use scientific names of plants.

 Sampling Point: A1

Tree Stratum (Plot size: <u>30'r</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>None</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 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.																
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover				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 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.																
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
_____ = Total Cover																				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover																				
Herb Stratum (Plot size: <u>5'r</u>) 1. <u>Phalaris arundinacea</u> <u>63</u> <u>x</u> <u>FACW</u> 2. <u>Phleum pratense</u> <u>38</u> <u>x</u> <u>FACU</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ _____ = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15' r</u>) 1. <u>None</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ _____ = Total Cover																				
Tree Stratum (Plot size: <u>30'r</u>) 1. <u>None</u> 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ _____ = Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)
 * Although the dominance ratio is 50/50, there is more of the wetland species than the upland, the upland species is planted, and the vegetation in the vicinity where farming is not occurring is virtually all hydrophytic. Therefore, I am calling this plot hydrophytic.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Vermont Rail, Culvert 96.10 City/County: New Haven/ Addison Sampling Date: 4/15/13
 Applicant/Owner: VTrans State: VT Sampling Point: A2
 Investigator(s): Charlotte Brodie Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Flat land Local relief (concave, convex, none): None
 Slope (%): _____ Lat: 44.13457 Long: -72.18514 Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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>
Hydric Soil Present? Yes <u>X</u> No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<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): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
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:		

Sampling Point: A2

Sampling Point: A2

[illegible]

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X** Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Soils is actively farmed, and may be artificially drained, with relict hydric indicators.

VEGETATION – Use scientific names of plants.

 Sampling Point: A2

Tree Stratum (Plot size: <u>30'r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
Sapling/Shrub Stratum (Plot size: <u>15' r</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
				_____ = Total Cover
Herb Stratum (Plot size: <u>5'r</u>)				
1. <u>Phleum pratense</u>	<u>38</u>	<u>x</u>		<u>FACU</u>
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>x</u>		<u>FACW</u>
3. <u>Trifolium repens</u>	<u>20</u>	<u>x</u>		<u>FACU</u>
4. <u>Vicia sativa</u>	<u>20</u>	<u>x</u>		<u>FACU</u>
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
				<u>98</u> = Total Cover
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
				_____ = Total Cover

Remarks: (Include photo numbers here or on a separate sheet.)

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

 Total Number of Dominant Species Across All Strata: 4 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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 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.

Hydrophytic Vegetation Present? Yes _____ No X

East side



West side





Peter Bero <pbero@dubois-king.com>

VT Rail culvert replacement, New Haven, Indiana Bat Summer Range

2 messages

Charlotte Brodie <cbrodie@dubois-king.com>

Sat, Jul 25, 2015 at 9:03 AM

To: "USFWS Concord, NH" <susi_vonOettingen@fws.gov>

Cc: Peter Bero <pbero@dubois-king.com>, "Gingras, Glenn" <glenn.gingras@state.vt.us>

Hi Susi,

The VT Agency of Transportation is proposing to replace a failing culvert on the Vermont Rail track in New Haven, VT, at Mile Marker 96.10 (see attached Location Map and NRA maps).

The Town of New Haven is listed by the USFWS as Indiana Bat summer range.

Please see the attached project plan and photos of the project site. The eastern side of the tracks is dominated by herbaceous wetland, with a few scattered trees as shown in the photos. The western side of the tracks is agricultural field. The project area is quite limited, as you will see on the plans.

Could you please let me know if any further coordination is required for this species?

Also, please "reply to all" on your response.


Thank you,

Charlotte Brodie
Field Naturalist
DuBois & King, Inc.
6 Green Tree Drive
South Burlington, VT 05403
802-728-7202

5 attachments

 **Location Map.pdf**
685K

 **NRA, RTE, natural communities, wetlands.pdf**
568K

 **NRA, Indiana Bat summer range.pdf**
432K

 **Wetland Impact Sheet 1 of 1, 07.25.15.pdf**
350K

 **Photo Exhibit 96.10.pdf**
559K

vonOettingen, Susi <susi_vonoettingen@fws.gov>

Thu, Jul 30, 2015 at 3:46 PM

To: Charlotte Brodie <cbrodie@dubois-king.com>

Cc: Peter Bero <pbero@dubois-king.com>, "Gingras, Glenn" <glenn.gingras@state.vt.us>, "Darling, Scott" <scott.darling@state.vt.us>

Hi Charlotte,

I don't believe this would be considered Indiana bat or northern long-eared bat roosting habitat. No further consultation necessary.

Susi

Susi von Oettingen
Endangered Species Biologist
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
(W) 603-223-2541 ext. 6418
Please note my new extension.

www.fws.gov/newengland

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