

PATHWAYS CONSULTING, LLC

Planning • Civil & Environmental Engineering •
 Surveying • Construction Assistance
 240 Mechanic Street • Suite 100
 Lebanon, New Hampshire 03766
 (603) 448-2200 • Fax: (603) 448-1221

LETTER OF TRANSMITTAL

| | |
|---------------------------------------|----------------|
| Date: September 30, 2015 | Job No.: 12303 |
| Attention: Rebecca Chalmers | |
| RE: Bragg Hill Road, Norwich, Vermont | |
| | |
| | |
| | |
| OCT - 2 2015 | |

TO: Vermont Agency of Natural Resources
 Watershed Management Division
 1 National Life Drive, Main 2
 Waterbury, Vermont 05671-0408

WE ARE SENDING YOU: Attached Under separate cover via _____ the following items:

Shop Drawings Print(s) Plan(s) Disk(s) Specifications

Copy of letter Check Application Materials _____

| COPIES | DATE | NO. | DESCRIPTION |
|--------|-----------------|-------|--|
| 1 | 9/30/15 | 12303 | Vermont Wetland Permit Application/Determination Petition (20 Pages) |
| 1 | 6/14 | 12303 | USGS Plan (1 Page) |
| 1 | 9/15/15 | 12303 | Letter/E-mail from Andy Hodgdon, Norwich Public Works Director, regarding driveway relocation on Bragg Hill (1 Page) |
| 3 | Revised 9/30/15 | 12303 | 24" x 36" Site Plan (3 Sheets) |
| 1 | 9/29/15 | 1061 | Check made payable to State of Vermont in the amount of \$837.50 |

THESE ARE TRANSMITTED as checked below:

For approval Approved as submitted Resubmit _____ copies for approval

For your use Approved as noted Submit _____ copies for distribution

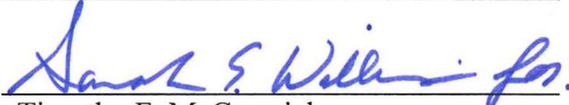
As requested Returned for corrections Return _____ corrected prints

For review and comment _____

FOR BIDS DUE _____ PRINTS RETURNED AFTER LOAN TO US

REMARKS: _____

COPY TO: Leah McLaughry w/enclosures

SIGNED: 
 Timothy F. McCormick
 Certified Soil Scientist/Certified
 Wetland Scientist

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

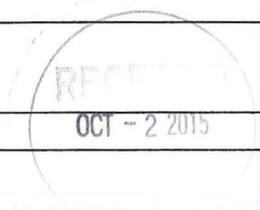
| | | | |
|--|--|--|--|
| Applicant Name: Leah McLaughry | | Representative Name: Pathways Consulting, LLC | |
| Town where project is located: Norwich | | County: Windsor | |
| Project Location Description: Bragg Hill Road Norwich <i>911 Street Address or direction from nearest intersection</i> | | | |
| Project Summary: The project involves the revision of a driveway location on a previously-approved project for the construction of a single-family dwelling with utilities, a driveway, and a small pond. | | | |
| 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 | | 700square feet (s.f.) | Total Buffer Zone Impact |
| | | | 290 square feet (s.f.) |
| Total Wetland Clearing (qualified linear projects only) | | 0square feet (s.f.) | Total Buffer Zone Clearing (qualified linear projects only) |
| | | | N/A square feet (s.f.) |
| Permit Fees: Make check payable to - State of Vermont | | | |
| Wetland Impact Fee: (\$0.75/sf) | | \$525.00 | Administrative Fee: \$240 |
| Buffer Impact Fee: (\$0.25/sf) | | \$725.00 | Total Check Amount: \$837.50 |
| Clearing Fee: (\$0.25/sf) | | \$ | |
| Existing 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"/> 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 checked="" type="checkbox"/> Residential (Single Family) | <input type="checkbox"/> Institutional |
| | | | <input type="checkbox"/> No Change |
| Proposed Impact Type: (check all that apply) | | | |
| <input checked="" type="checkbox"/> Driveway | | <input type="checkbox"/> Road | <input type="checkbox"/> Buildings |
| <input type="checkbox"/> Dry Hydrant | | <input type="checkbox"/> Beaver dam alteration | <input type="checkbox"/> Utilities |
| | | <input type="checkbox"/> Parks/Path | <input type="checkbox"/> Parking |
| | | <input type="checkbox"/> Agriculture | <input type="checkbox"/> Septic/Well |
| | | <input type="checkbox"/> Pond | <input type="checkbox"/> Stormwater |
| | | <input type="checkbox"/> Lawn | |
| | | <input type="checkbox"/> Other | <input type="checkbox"/> No Impact |
| Wetland 1: (Label using Wetland ID from application if applicable, use supplemental sheets if more than one wetland is being impacted) | | Location: Small intermittent stream, northeast side of lot. | |
| Wetland Type: POW/PFO - Open Wate | | WL Size Class : <1 acre | |
| Proposed Alterations | | | |
| Wetland Alteration: | | Buffer Zone Alteration: | Wetland Alteration Type (check all that apply) |
| Wetland Fill: s.f. | | | <input type="checkbox"/> Dredge |
| Temporary: s.f. | | Temporary: s.f. | <input checked="" type="checkbox"/> Cut Vegetation |
| Permanent: : 700 s.f. | | Permanent: : 2900 s.f. | <input type="checkbox"/> Stormwater |
| | | | <input checked="" type="checkbox"/> Trench/Fill |
| | | | <input type="checkbox"/> Other |
| Mitigation | | | |
| Avoidance and Minimization (s.f. of wetland NOT impacted): | | Wetland: s.f. | Buffer Zone s.f. |
| Wetland Mitigation: (s.f. Gained) | | | |
| Restoration s.f. | | Enhancement s.f. | |
| Creation s.f. | | Conservation s.f. | |
| Buffer Zone Mitigation (s.f. Gained): | | | |
| Restoration s.f. | | Enhancement s.f. | |
| Creation s.f. | | Conservation s.f. | |

All Applications Should be Mailed To:

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

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

Vermont Wetland Permit Application/Determination Petition

| QUESTION | INSTRUCTIONS AND APPLICANT ANSWER | STAFF NOTE |
|---|--|---|
| 1. Applicant | If the applicant is someone other than the landowner, the landowner information must also be included below. | |
| 1.1. Applicant Name | Leah McLaughry | |
| 1.2. Applicant Address | 1035 Bragg Hill Road, Norwich, Vermont (Mailing: 1093 Bragg Hill Road) | |
| 1.3. Applicant Phone Number | (603) 359-8622 | |
| 1.4. Applicant Email | leah.mclaughry@lmsre.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: right;">Date: 9-30-15</p> <p>X <u>Leah McLaughry</u></p> | |
| 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 | Pathways Consulting, LLC | |
| 2.2. Representative Address | 240 Mechanic Street, Suite 100, Lebanon New Hampshire 03766 | |
| 2.3. Representative Phone Number | (603) 448-2200 | |
| 2.4. Applicant Email | Tim.McCormick@pathwaysconsult.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: right;">Date: 9-30-15</p> <p>X <u>Timothy F. McCormick</u></p> | |
| 3. Landowner | Landowner must sign the application. Use this space if landowner is different from the applicant | |
| 3.1. Landowner Name | Same as Applicant | |
| 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 McLaughry parcel includes 133.5 acres, 119.3 acres of which are held in a conservation easement by the Upper Valley Land Trust. This project will utilize the second of two areas reserved on the property for a single family home. The property was previously owned by Susan McLaughry and is now owned by Leah McLaughry.</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: right;">Date: 9-30-15</p> <p>X <u>Leah McLaughry</u></p> | |
| 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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| 5. Site Visit Date and Attendees | Date of visit with District Wetlands Ecologist 11/16/2012 8/26/2013 | List people present for site visits including Ecologist, landowner, and representatives. Rebecca Chalmers, Tim McCormick, and Leah McLaughry & Bruce "Buff" McLaughry Martha Abair, Tim McCormick, and Leah McLaughry & Bruce "Buff" McLaughry | |
| 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 The wetland complex on the subject parcel includes approximately 1.5 acres of wetlands. Although not delineated, cursory observation suggests that the total wetland complex area south of Bragg Hill Road is approximately 4 acres in size within approximately 8 acres of hydric soil as mapped by the NRCS. | | |
| 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 Less than 1 percent Open Water, approximately 15 percent Scrub-Schrub, approximately 80 percent Forested approximately, 5 percent wet meadow. | | |
| 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. The wetland complex is located on a gently sloping glacial-till landscape. | | |
| 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 hydrology is from the watershed of surrounding bedrock-controlled areas above the wetland. Water is at surface level in the watershed pools in the gently sloping areas and pockets of the landscape. The watershed and wetland provide the hydrology for an unnamed intermittent stream downgradient from the wetland. 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. A small intermittent stream flows from southwest to northeast along the eastern edge of the wetland. The wetland also drains from southwest to northeast via surface and subsurface flow, including an undefined channel along the western side of the wetland. | | |
| 7.4.2. Influence of hydrology on wetland complex | For example: The river provides flood water to the wetland in the spring. The hydrology from the watershed provides for permanent, saturated conditions in the wetland complex and the small intermittent stream. | | |
| 7.4.3. Relation to the project area | Distance between the project area and any nearby surface waters. The closest surface water to the project is a small pond approximately 500 feet northeast and downgradient from the project. | | |
| 7.4.4. Hydroperiod | Discuss frequency and duration of flooding, ponding, and/or soil saturation. The hydric soil in the wetland area is saturated near the surface for most of the year. The intermittent stream is dry during the summer months. | | |
| 7.5. Surrounding Landuse of the Wetland Complex | For example: rural residential and forested; agricultural and undeveloped, The land surrounding the wetland complex is rural residential and in a conservation easement. | | |
| 7.6. Relation to Other | Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question. | | |

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| <p>Nearby Wetlands</p> | <p>This wetland is not fed by other wetlands. The water source for the wetland is primarily the surrounding watershed to the southwest. However, the subject wetland is connected to, and functions as a source for, other wetlands downslope. The wetlands on this property provide watershed filtration and flood attenuation for the downslope wetlands.</p> | |
| <p>7.7. Pre-project Cumulative Impacts to the Wetland</p> | <p>Identify any cumulative ongoing impacts outside of the project that may influence the wetland. Examples include but are not limited to wetland encroachments off the subject property, land management in or surrounding the wetland, or development that influences hydrology or water quality. No cumulative impacts are expected to influence this wetland either at this time or in the future. The project will develop the second of two areas reserved for a single family home in the conservation easement agreement. The proposed project will include a single family home in an existing clearing, modification to the wetland to provide hydrology for small pond, and sustainable energy. The conservation lands surrounding the project are in Current Use and will remain undeveloped according to the conservation easement. Properties surrounding the project include rural single family dwellings on relatively large parcels of land.</p> | |
| <p>8. Description of Subject Wetland</p> | <p>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.</p> | |
| <p>8.1. Context of Subject Wetland</p> | <p>Describe where the subject wetland is in the context of the larger wetland or wetland complex described above. The subject wetland is located in wet meadow/schrub scrub/forested on a sloping landscape. An intermittent stream, along the eastern edge of the wetland, flows from southwest to northeast, crossing Bragg Hill Road to a small pond approximately 500 feet downslope.</p> | |
| <p>8.2. Wetland Landuse</p> | <p>For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland. The wetland appears to have been part of the pasture lands that historically dominated the Bragg Hill Road highlands. The wetland currently includes a mixture of low vegetation with some trees indicating logging activities some years ago. The eastern side of the wetland is bordered by a grassy meadow, which is the location of the proposed house. The border area around the site includes scrub shrub, forest, and meadow lands.</p> | |
| <p>8.3. Wetland Vegetation</p> | <p>List dominant wetland community type and associated dominant plant species. The dominant wetland plant community is a wet meadow/schrub shrub wetland primarily comprised of sedges, grasses, and alders.</p> | |
| <p>8.4. Wetland Soils</p> | <p>Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description The soil in and around the wetland area is Cabot poorly drained silt loam and/or Buckland moderately well-drained silt loam.</p> | |
| <p>8.5. Wetland Hydrology</p> | <p>Use descriptions from the ACOE Delineation Manual. Water and/or silt-sediments are at or near the surface in the lowest portions of the subject wetland.</p> | |
| <p>8.6. Buffer Zone</p> | <p>Describe the buffer zone of the subject wetland including:</p> | |
| <p>8.6.1. General landuse</p> | <p>For example: mowed road shoulder; forested; old field; paved road and residential lawns etc. Describe any previous and ongoing disturbance in the buffer zone. The buffer east of the wetland includes a wooded upland forest. The buffer on all other sides is a combination of wet meadow and scrub/shrub growth.</p> | |
| <p>8.6.2. Buffer vegetation</p> | <p>List community type and dominant plant species The dominant plant species in the forested buffer area include hemlock, beech, red maple, white pine, alder, and grasses.</p> | |
| <p>8.6.3. Buffer soils</p> | <p>Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description</p> | |

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| | The buffer zone soils include Cabot poorly drained silt loam and Buckland moderately well-drained soils. There are also some shallow to bedrock soils to the south of the subject wetland. | |
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| 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: | |
| 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

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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. This project involves a single-family dwelling with an attached one-bedroom apartment on the remaining reserved parcel within conservation lands. The project will include a well, an on-site wastewater disposal system, a driveway, and a pond. This application represents an amendment request to a previously approved wetland impact plan (Permit # 2014-142). The applicant seeks to revise the original proposed driveway location to an area further to the northwest, still accessig the property from Bragg Hill Road. This revised access area will significantly lesson the driveway slope to the property. | |
| 10.2. Project Purpose | For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system The purpose of this project is to construct a single-family dwelling and an attached one-bedroom apartment with amenities on the remaining parcel reserved within a conservation easement. This application is for an additional phase to revise the driveway location as described in 10.1 above. Please see attached letter from the Norwich Public Works Director. | |
| 10.3. Acres Owned by Applicant | Acreage of subject property. Approximately 4.4 acres. | |
| 10.4. Acres Involved in the Project | Acreage of area involved in the project. The total parcel size is 4.4 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. Beyond the impacts that were permitted for this project on 12/16/14, the new wetland and buffer impacts created by the revised driveway location will be 990. | |
| 11.2. Dimension Details | Square footage of buildings, dimension of roads including fill footprint. Please see project Plans | |
| 11.3. Bridges and Culverts | Culvert circumference, length, placement and shapes, or bridge details. | |

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|--|--|---------------|--|-------------------------|----------|--------------------------|-----------|--------------------------------|--------|--|
| | <p>There will be one, 24 inch culvert x 40 foot long culvert used to cross the intermittent stream on the project.</p> | | | | | | | | | |
| <p>11.4. Construction Sequence</p> | <p>Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant All construction is proposed within the 2014/2015 growing season.</p> | | | | | | | | | |
| <p>11.5. Stormwater Design</p> | <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. A stormwater permit will not be required for this project because the total project impacts as designed are expected to be less than one acre and impervious areas will be less than 0.5 acre. Erosion control measures are proposed as shown on the project plans.</p> | | | | | | | | | |
| <p>11.6. Permanent Demarcation of Limits of Impact</p> | <p>Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses. The limits of disturbance are included on the attached plans.</p> | | | | | | | | | |
| <p>12. Wetland and Buffer Zone Impacts</p> | | | | | | | | | | |
| <p>12.1. Wetland 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> <table border="1" data-bbox="560 926 1385 1052"> <tr> <td colspan="2">Totals</td> </tr> <tr> <td>Wetland Fill</td> <td>700 s.f.</td> </tr> <tr> <td>Temporary Wetland Impact</td> <td>0 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. The previously-permitted wetland impacts included excavation and filling in the subject wetland to construct a small pond. These direct wetland impacts consisted of excavation and stabilization for pond construction. The new impacts will consist of fill and culvert placement in the intermittent stream to construct a driveway/ wetland crossing, and related buffer impacts. Please see the project plans for details.</p> | Totals | | Wetland Fill | 700 s.f. | Temporary Wetland Impact | 0 s.f. | Other Permanent Wetland Impact | 0 s.f. | |
| Totals | | | | | | | | | | |
| Wetland Fill | 700 s.f. | | | | | | | | | |
| Temporary Wetland Impact | 0 s.f. | | | | | | | | | |
| Other Permanent Wetland Impact | 0 s.f. | | | | | | | | | |
| <p>12.2. Buffer Zone Impacts</p> | <p>Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.</p> <table border="1" data-bbox="560 1503 1385 1598"> <tr> <td colspan="2">Totals</td> </tr> <tr> <td>Temporary Buffer Impact</td> <td>0 s.f.</td> </tr> <tr> <td>Permanent Buffer Impact</td> <td>2900 s.f.</td> </tr> </table> <p>Describe in detail the proposed impact. The previously-approved buffer zone impacts will include house and amenity construction (such as the driveway, etc.). Buffer impacts proximate to the proposed house are in an existing grassy meadow. A No Mow Zone is proposed at the edge of the buffer as a form of mitigation. The new buffer zone impacts will be for a small area of vegetative clearing and fill material used to construct the revised driveway.</p> | Totals | | Temporary Buffer Impact | 0 s.f. | Permanent Buffer Impact | 2900 s.f. | | | |
| Totals | | | | | | | | | | |
| Temporary Buffer Impact | 0 s.f. | | | | | | | | | |
| Permanent Buffer Impact | 2900 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> | | | | | | | | | |

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| | | The most significant functions for this wetland include water storage for flood water and storm runoff, surface and groundwater protection, and erosion control through binding stabilization. The proposed driveway relocation for the previously-approved project will have only a minor impact on these functions during construction. | |
| 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>For most of this this project, avoidance measures have been taken as described in the original application. The driveway revision is proposed because it will significantly reduce the driveway slope as it connects to Bragg Hill Road. The site distance will be safer for both the landowner and the oncoming traffic on Bragg Hill Road. We have chosen a location that will only impact the intermittent stream at it's narrowest point with the remaining driveway being constructed in upland area.</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>Wetlands and buffer impact minimization is described in previously-approved application for this project. To revise the driveway location, we are proposing to minimize wetland and buffer impacts by crossing the intermittent stream at the narrowest point of the steam and to place the driveway in the upland areas as far away from surrounding wetlands and buffers as possible.</p> | |
| 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>In the original application, proposed mitigation is in the form of a no mow buffer zone adjacent to the wet meadow wetland. This area will be created during project implementation with erosion control measures, restoration, and stabilization of temporary and permanent impacts in the no mow zone. These same measures will also be implemented in the revised driveway area in order stabilize the stream bank and revegetate the disturbed buffer areas around the driveway. .</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>Compensation will not be necessary for this project.</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>USGS Plan for Leah McLaughry, Bragg Hill Road, Norwich, Vermont, dated 06/14.</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. Site Plan for Leah McLaughry, Bragg Hill Road, Norwich, Vermont, dated 6/25/14, last revised 11/18/15.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|-------------------------------------|-----------------------|-------------------------------------|-------------------------------------|-----------------|-----------------|---------------------|-------------------------------------|-------------------------------------|-------------|--------------------------|--------------------------|----------------------------------|-------------------------------------|-------------------------------------|----------------------|--------------------------|--------------------------|--------------|--------------------------|--------------------------|---------------------|--------------------------|--------------------------|------------------|-------------------------------------|-------------------------------------|-----------------------|--------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|-----------------|-------------------------------------|-------------------------------------|--|
| <p>13.3.ACOE Delineation Forms</p> | <p>List by author, location, and date. Required only for Individual Permits. Timothy F. McCormick, T-1-WET, 11/10/13; Timothy F. McCormick, T-2-WET, 11/10/13; Timothy F. McCormick, T-1-UP, 11/10/13; Timothy F. McCormick, T-2-UP, 11/10/13.</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. Letter/E-mail from Andy Hodgdon, Norwich Public Works Director, regarding driveway relocation on Bragg Hill Road, Norwich, Vermont.</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. 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. ***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. The Valley News</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.</p> | <p>Wetland Function Summary: (if more than one wetland use supplemental wetland sheets)</p> <table border="1" data-bbox="548 1077 1479 1472"> <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>Flood/Storm Storage</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>RTE Species</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Surface & Groundwater Protection</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>Education & 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 type="checkbox"/></td> <td><input type="checkbox"/></td> <td>Erosion Control</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" 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 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 checked="" 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"/> | |
| 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 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 checked="" 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"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>15. Coverage under Vermont General Wetland Permit</p> | <p>If applying for an Individual Vermont Wetland Permit or Determination, please proceed to number 16 and answer the remaining application questions.</p> <p>If applying for Coverage under the Vermont General Wetland Permit, please complete question 15.1 prior to submitting application.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>15.1.VWP Vermont General Permit eligibility checklist</p> | <p>If applying for coverage under the Vermont General Wetland Permit, please verify the following to complete the application:</p> <p><input type="checkbox"/>The activity qualifies as an eligible activity for coverage under the Vermont General Wetland Permit</p> <p><input type="checkbox"/>The proposed project will meet the conditions applicable to the</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | <p>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> | |
| <p>Stop here if applying for Coverage under the Vermont General Wetland Permit</p> | | |

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| <p>Complete the following Functions and Values checklist if applying for an Individual Wetland Permit and/or a Wetland Determination</p> | | |
| <p>Functions and Values</p> | <p>For each Function and Value, first evaluate the entire wetland or wetland complex and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures.</p> <p>If more than one wetland complex is involved, use the Supplemental Wetland Forms.</p> | |
| <p>16. Storage for Flood Water and Storm Runoff</p> | <p><input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <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 checked="" 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 checked="" type="checkbox"/> Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water. <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</p> | |

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| | <p>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 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. <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 1. Developed public or private property. <input checked="" 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 checked="" type="checkbox"/> 2. Relatively impervious soils. <input checked="" type="checkbox"/> 3. Steep slopes in the adjacent areas. | |
| <p>16.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The wetland contributes to this function because it is densely vegetated with persistent or woody vegetation on a slightly-sloping landscape, thereby reducing potential high velocity flows through the downstream landscape. There is room within the wetland for continuous expansion of floodwaters with a dense population of persistent-emergent, and woody vegetation that helps to attenuate flood waters and remove water by evapotranspiration.</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> | |

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| | <p>The proposed over-all project will not adversely impact, but rather enhance this function. The pond will be constructed in a predominantly upland area down slope from the wetland. This will create additional area available for floodwater retention and will have a constricted outlet which will help to keep floodwaters at a manageable level. Most of the wetland upslope from the pond will remain unaltered and vegetated. The water flows through the intermittent stream located northeast of the pond will remain unchanged as no additional flow is expected to be diverted into the stream. The curvert for the driveway will be constructed so as to allow the stream to flow unimpeded, Drainage on the upslope side of the driveway will be directed down the drive and away from the stream, so there will be no additional flow into the stream.</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> <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 checked="" 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 checked="" type="checkbox"/> Presence of seeps or springs. <input checked="" 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 matter. <input type="checkbox"/> Fine mineral soils and alkalinity not low. <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>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"> <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"> <input type="checkbox"/> Presence of dead forest or shrub areas in sufficient | |

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| | <p>amounts to result in diminished nutrient uptake.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Presence of ditches or channels that confine water and restrict contact of water with vegetation. <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. <input type="checkbox"/> Current use in the wetland results in disturbance that compromises this function. <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"> <input type="checkbox"/> The wetland is adjacent to a well head or source protection area, and provides ground water recharge. <input type="checkbox"/> The wetland provides flows to Class A surface waters. <input type="checkbox"/> The wetland contributes to the protection or improvement of water quality of any impaired waters. <input checked="" type="checkbox"/> The wetland is large in size and naturally vegetated. | |
| <p>17.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The wetland contributes to this function because it reduces the level of potential contaminants from the steeper slopes and the surrounding agricultural field areas. The wetland enhances and protects the surface and groundwater in the area by retaining sediments and contaminants in the dense, persistent vegetation of the subject wetland. Potential contaminants will also be retained by the man-made pond and constricted outlet downslope from the existing wetland. The sinuous nature of the intermittent stream and the vegetation along it's banks also contributes to 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>Most of the project will occur outside of the existing wetland area. The pond will be constructed downslope from the wetland thereby allowing the unaltered, existing wetland to continue providing surface and groundwater protection. Trees will be left standing in the area surrounding uphill side and southern side of the pond to provide shade and to keep surface water temperature cool. The intermittent stream on the northeast side of the pond will remain unimpeded as the driveway curvert sizing and construction is designed to maintain the stream's current flow. The proposed project and revision to the driveway location will not result in an undue, adverse affect on this function. .</p> | |
| <p>18. Fish Habitat</p> | <ul style="list-style-type: none"> <input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. <ul style="list-style-type: none"> <input type="checkbox"/> 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 | |

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| | <p>lakes and streams, and seasonally flooded wetlands associated with streams and rivers.</p> <ul style="list-style-type: none"> <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. | |
| <p>18.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above The subject wetland does not contribute to this function</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. N/A</p> | |
| <p>19. Wildlife Habitat</p> | <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 type="checkbox"/> Provides resting, feeding staging or roosting habitat to support waterfowl migration, and feeding habitat for wading birds. Good habitats for these species include open water wetlands. <input type="checkbox"/> Habitat to support one or more breeding pairs or broods of waterfowl including all species of ducks, geese, and swans. Good habitats for these species include open water habitats adjacent shallow marsh, deep marsh, shrub wetland, forested wetland, or naturally vegetated buffer zone. <input type="checkbox"/> Provides a nest site, a buffer for a nest site or feeding habitat for wading birds including but not limited to: great blue heron, black-crowned night heron, green-backed heron, cattle egret, or snowy egret. Good habitats for these species include open water or deep marsh adjacent to forested wetlands, or standing dead trees. <input checked="" 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 checked="" 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.

- 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 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, mowing or other disturbance.
 - The wetland hydrology and character is at a drier end of the scale and does not support wetland dependent species.
- Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level.
 - The wetland complex is large in size and high in quality.
 - The habitat has the potential to support several species based on the assessment above.
 - Wetland is associated with an important wildlife corridor.

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| | <input type="checkbox"/> Wetland is associated with an important wildlife corridor. <input type="checkbox"/> The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist. | |
| <p>19.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland contributes to this function at a moderate level. It is a moderately-sized wet meadow/scrub shrub/forested wetland area that remains saturated for most of the year. The wetland and intermittent stream are not surrounded by a densely populated area and provide, food, water and protection for various species of wildlife habitat.</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 driveway relocation will not have an undue, adverse impact on this function. The proposed location is situated close to, and runs nearly parallel to Bragg Hill Road. So it will be located near a pre-existing travel corridor. Although it will be necessary to clear a wooded area for the driveway, the cleared area will be near the main road rather than deeper into the property. A driveway situated further back into the property would result in forest and wetland fragmentation. The driveway will cross an intermittent stream. The crossing is in a narrow portion of the stream to minimize impacts. A bottomless culvert was added to allow aquatic organisms to move through the stream.</p> | |
| <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. <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. The wetland is also likely to be significant if any of the following conditions are met: <input type="checkbox"/> Is an example of a wetland natural community type that has been identified and mapped by, or meets the ranking and mapping standards of, the Natural Heritage Information Project of the Vermont Fish and Wildlife Department. <input type="checkbox"/> Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: <ul style="list-style-type: none"> <input type="checkbox"/> Deep peat accumulation reflecting a long history of wetland formation; <input type="checkbox"/> Forested wetlands displaying very old trees and other old growth characteristics; <input type="checkbox"/> A wetland natural community that is at the edge of the normal range for that type; <input type="checkbox"/> A wetland mosaic containing examples of several to many wetland community types; or | |

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| | <input type="checkbox"/> A large wetland complex containing examples of several wetland community types. List species or communities of concern: | |
| 20.1. Subject Wetland | Please explain how the subject wetland contributes to the function listed above The subject wetland does not contribute to this function | |
| 20.2. 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 | |
| 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. <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. The wetland is also likely to be significant if any of the following apply: <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). List name of species and ranking: | |
| 21.1. Subject Wetland | Please explain how the subject wetland contributes to the function listed above The subject wetland does not contribute to this function | |
| 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. <input type="checkbox"/> Owned by or leased to a public entity dedicated to | |

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| | <p>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>The subject wetland does not contribute to this function</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>N/A</p> | |
| <p>23. Recreational Value and Economic Benefits</p> | <p><input type="checkbox"/> Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Used for, or contributes to, recreational activities.</p> <p><input type="checkbox"/> Provides economic benefits.</p> <p><input type="checkbox"/> Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law.</p> <p><input type="checkbox"/> Used for harvesting of wild foods.</p> <p>Comments:</p> | |
| <p>23.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland does not contribute to this function</p> | |
| <p>23.2. Statement of no undue adverse impact</p> | <p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>N/A</p> | |
| <p>24. Open Space and Aesthetics</p> | <p><input type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <p><input type="checkbox"/> Can be readily observed by the public; and</p> <p style="padding-left: 40px;"><input type="checkbox"/> Possesses special or unique aesthetic qualities; or</p> <p style="padding-left: 40px;"><input type="checkbox"/> Has prominence as a distinct feature in the surrounding landscape;</p> <p><input type="checkbox"/> Has been identified as important open space in a municipal, regional or state plan.</p> <p>Comments:</p> | |
| <p>24.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland does not contribute to this function</p> | |

| | | |
|---|--|--|
| <p>24.2. Statement of no undue adverse impact</p> | <p>Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.</p> <p>N/A</p> | |
| <p>25. Erosion Control through Binding and Stabilizing the Soil</p> | <p><input checked="" type="checkbox"/> Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function.</p> <p><input checked="" type="checkbox"/> Erosive forces such as wave or current energy are present and any of the following are present as well:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. <input checked="" type="checkbox"/> Good interspersion of persistent emergent vegetation and water along course of water flow. <input type="checkbox"/> Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. <p>What type of erosive forces are present:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lake fetch and waves <input checked="" type="checkbox"/> High current velocities: <input type="checkbox"/> Water level influenced by upstream impoundment <p>If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.</p> <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>lower</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force. <p><input type="checkbox"/> Check box if any of the following conditions apply that may indicate the wetland provides this function at a <i>higher</i> level.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The stream contains high sinuosity. <input type="checkbox"/> Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor. | |
| <p>25.1. Subject Wetland</p> | <p>Please explain how the subject wetland contributes to the function listed above</p> <p>The subject wetland contributes to this function because it consists of a dense population of emergent persistent, and woody vegetation on a gently-sloping landscape. This slows down the hydrology and protects downslope areas from soil erosion during storm water events. The intermittent stream is sinous and vegetated with shrubs and woody vegetation which also contribute to this function.</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> | |

The residence and utilities will be constructed in the meadow outside of the wetland and will not affect the ability of the existing wetland vegetation to control potential erosion in the area. The pond will be constructed outside of the existing intermittent stream and much of the vegetation along the stream will remain unaltered. The pond itself will also function to stabilize erosive forces as it slows down water and traps sediment from the upslope areas. The proposed driveway will be constructed in the narrowest section of the intermittent stream. The culvert will be sized appropriately so that water flow remains unchanged. Seeding, mulching, revegetation and erosion control measures will be implemented immediately to minimize any impact to this function.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| 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) ___ 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 _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No _____ |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Remarks: | |

VEGETATION – Use scientific names of plants.

Sampling Point: _____

| <u>Tree Stratum</u> (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|--|
| 1. _____ | _____ | _____ | _____ | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | 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 = _____ |
| <u>Sapling/Shrub Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Herb Stratum</u> (Plot size: _____) | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| 12. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Woody Vine Stratum</u> (Plot size: _____) | | | | Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Hydrophytic Vegetation Present? Yes _____ No _____ |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | |

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| 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) ___ 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 _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No _____ |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Remarks: | |

VEGETATION – Use scientific names of plants.

Sampling Point: _____

| <u>Tree Stratum</u> (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|---|
| 1. _____ | _____ | _____ | _____ | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | 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 = _____ |
| <u>Sapling/Shrub Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Herb Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| 12. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| <u>Woody Vine Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = 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 or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. |
| <u>Hydrophytic Vegetation Present?</u> Yes _____ No _____ | | | | |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | |

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| 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) ___ 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 _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No _____ |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Remarks: | |

VEGETATION – Use scientific names of plants.

Sampling Point: _____

| <u>Tree Stratum</u> (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|------------------|-------------------|------------------|---|
| 1. _____ | _____ | _____ | _____ | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | 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 = _____ |
| <u>Sapling/Shrub Stratum</u> (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Herb Stratum</u> (Plot size: _____) | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| 12. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| <u>Woody Vine Stratum</u> (Plot size: _____) | | | | Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Hydrophytic Vegetation Present? Yes _____ No _____ |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | |

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _____ City/County: _____ Sampling Date: _____
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): _____ Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ 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 _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____ | Is the Sampled Area within a Wetland? Yes _____ No _____ If yes, optional Wetland Site ID: _____ |
| 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) ___ 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 _____ Depth (inches): _____ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe) | Wetland Hydrology Present? Yes _____ No _____ |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Remarks: | |

VEGETATION – Use scientific names of plants.

Sampling Point: _____

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
|---|---------------------|----------------------|---------------------|---|
| 1. _____ | _____ | _____ | _____ | Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | 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 = _____ |
| Sapling/Shrub Stratum (Plot size: _____) | 1. _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| Herb Stratum (Plot size: _____) | 1. _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| 12. _____ | _____ | _____ | _____ | |
| _____ = 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 or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. |
| Woody Vine Stratum (Plot size: _____) | 1. _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Hydrophytic Vegetation Present? Yes _____ No _____ |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | |

LIST OF ABUTTERS

9/46

Susan F. McLaughry
1093 Bragg Hill Road
Norwich, Vermont 05055

10/6

Lynn W. Tidman, Trustee
980 Bragg Hill Road
Norwich, Vermont 05055

10/4

Michael W. & Barbara B. Hall
1005 Bragg Hill Road
Norwich, Vermont 05055

9/44

Nancy Ann & Douglas G. Cole
61 Old Sudbury Road (1062 Bragg Hill Road)
Wayland, Massachusetts 01778

Fw: Driveway relocation on Bragg Hill

From: Norwich Highway <norwich_highway@earthlink.net>
To: leah.mclaughry@sothebysrealty.com
Cc: buff.mclaughry@sothebysrealty.com
Subject: Fw: Driveway relocation on Bragg Hill
Date: Sep 15, 2015 7:26 PM

Buff and Leah,

I'm resending this. I forgot the s in Sothbey's the first time around.

Andy

-----Forwarded Message-----

>From: Norwich Highway <norwich_highway@earthlink.net>
>Sent: Sep 1, 2015 7:52 PM
>To: leah.mclaughry@sothebyrealty.com
>Cc: buff.mclaughry@sothebyrealty.com
>Subject: Driveway relocation on Bragg Hill

>

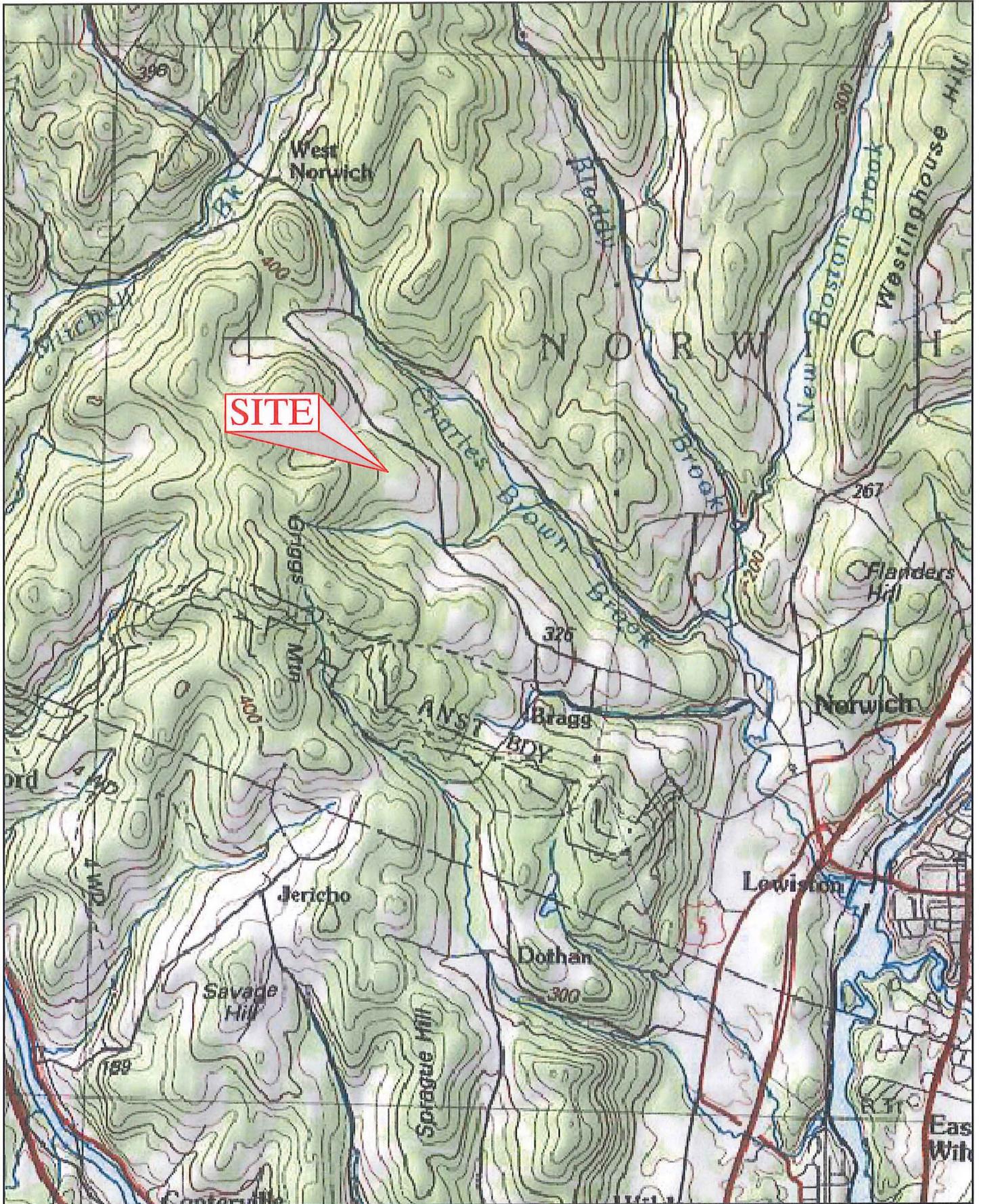
>Leah,

>I reviewed the site plan map today for the proposed new driveway. The sight distance is much improved at the proposed location. The drainage would also be a significant upgrade from what is there now, with less chance for erosion and limiting future damages from any Irene-like storms. Overall, this would be an improvement for both you and the Town.

>Good luck with your project.

>Andy Hodgdon

>Norwich Public Works Director



Pathways Consulting, LLC

240 Mechanic Street, Suite 100
 Lebanon, New Hampshire 03766
 (603) 448-2200 FAX: (603) 448-1221

USGS PLAN FOR

LEAH McLAUGHRY

BRAGG HILL ROAD - NORWICH, VERMONT

SCALE: 1"=4000'
 DESIGNED BY: PAB
 DRAWN BY: PAB
 CHECKED BY: JSG
 DATE: 06/14
 PROJ. NO. 12303

GENERAL NOTES

1. SYSTEM DESIGNED ONLY TO ACCOMMODATE SANITARY SEWER ASSOCIATED WITH NORMAL USE.
2. TEST HOLE AND PERCOLATION TEST LOCATIONS ARE APPROXIMATE.
3. SYSTEM MUST BE INSTALLED IN STRICT ACCORD WITH APPROVED PLAN. ANY CHANGES MUST BE APPROVED BY THE DESIGNER BEFORE ANY CONSTRUCTION BEGINS.
4. ANY DISCREPANCIES IN APPROVED PLANS AND ACTUAL SITE CONDITIONS MUST BE REPORTED TO THE DESIGNER BY THE INSTALLER PRIOR TO CONSTRUCTION.
5. ANY CITY OR STATE DRIVEWAY ACCESS PERMITS TO BE OBTAINED BY THE OWNER.
6. ANY FUTURE REPLACEMENT SYSTEMS MAY HAVE TO BE CONSTRUCTED IN THE SAME AREA AS THE ORIGINAL SYSTEM.
7. DESIGN LOADINGS FOR STRUCTURES TO BE H-10 ASSHITO RATED. IF VEHICULAR TRAFFIC IS ALLOWED OVER SEPTIC SYSTEM DESIGN LOADINGS FOR STRUCTURES TO BE H-20 ASSHITO RATED.
8. PROVIDE READY ACCESS TO SEPTIC TANK FOR PUMPING AND OTHER MAINTENANCE.
9. SURVEY CONTROL POINTS TO BE SET NEAR SEWAGE DISPOSAL SYSTEM PRIOR TO CONSTRUCTION, AS REQUESTED BY OWNER.
10. ALL PVC SHALL BE JOINED TO CONCRETE STRUCTURES BY BUTYL RUBBER OR AN EQUIVALENT SEALANT.
11. PUMP ALL TANKS AT REGULAR INTERVALS, AT LEAST ONCE EVERY THREE YEARS OR 12% AS NEEDED.
12. WETLANDS DELINEATED ON NOVEMBER 16, 2012 BY TIMOTHY F. MCCORMICK, WETLAND SCIENTIST, PATHWAYS CONSULTING, LLC.

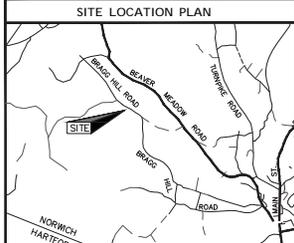
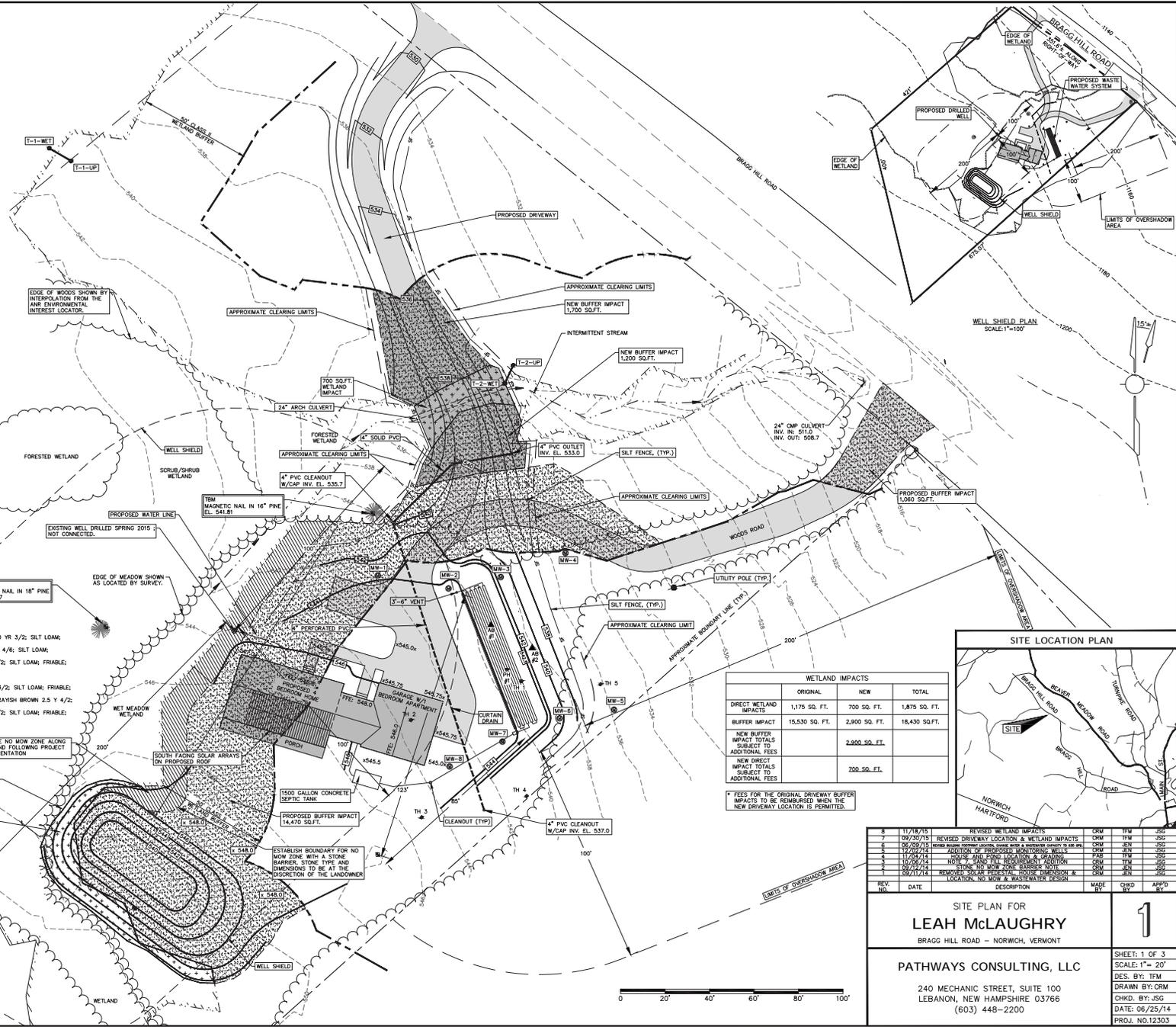
DESIGN NOTES

1. DESIGNER: JEFFREY COOPERSON PERMIT NO.: 5820
2. U.S.D.A. SOIL CONSERVATION SERVICE CLASSIFICATION
3. PERCOLATION RATE: 30 MIN./IN. DATE: 08/13
4. DEPTH OF PERCOLATION TUBE: 24"
5. DEPTH TO SEASONAL HIGH WATER MARK (MOTTLING LINE): 18"
6. DEPTH OF GROUND WATER: N/A
7. DEPTH OF LEDGE OR IMPERMEABLE SUBSTRATUM ENCOUNTERED: N/A
8. DESIGN INTENT: BED BOTTOM TO BE SET
9. THE BOTTOM OF THE EFFLUENT DISPOSAL SYSTEM (EDS) AT FIRST ROW OF PIPES SHALL BE CONSTRUCTED AT ELEV. 542.0 AND THIS IS APPROXIMATELY 18" ABOVE ORIGINAL GROUND ON THE HIGH CONTOUR OF THE DESIGNED EFFLUENT DISPOSAL SYSTEM (EDS).
10. ESTIMATED SEWAGE LOADING: 4 BEDROOM HOUSE (40 GPD) + 1 BEDROOM APARTMENT (40 GPD)
11. SEWAGE LOADING: 4 BEDROOMS + 1 BEDROOM APARTMENT (80 GPD) = 390 L.F. REQUIRED
12. LEACH FIELD AREA PROVIDED: 45' x 6' = 390 L.F. ENVIRO-SEPTIC PROVIDED

CONSTRUCTION NOTES

1. SITE PREPARATION: CLEAR ALL VEGETATION AND ROOTS. REMOVE ORGANIC LOAM LAYER AND STORE FOR LATER USE. ORGANIC LOAM LAYER MUST BE REMOVED FROM BED AND SLOPE. EXTENDING AREAS PRIOR TO FILL PLACEMENT. SCARY SURF. PRIOR TO FILL PLACEMENT.
2. EROSION CONTROL: EROSION CONTROL WILL BE FACILITATED BY THE USE OF HAY BALES/SILT FENCE AT TOP OF SLOPE AND EDGE OF ALL DISTURBED AREAS. CARE SHOULD BE TAKEN TO ASSURE INTEGRITY OF HAY BALES/SILT FENCE AFTER MAJOR STORM EVENTS. ALL DISTURBED SURFACES SHOULD BE SEEDING AS QUICKLY AS POSSIBLE TO MINIMIZE SEDIMENT TRANSPORT.
3. TANK DESIGN SPECIFICATIONS:
 - (A) MINIMUM CONCRETE STRENGTH: 5000 PSI AT 28 DAYS
 - (B) STEEL REINFORCEMENT: ASTM A-615-70, GRADE 60, 1/2" COVER.
 - (C) EARTH COVER: 6" TO 5"
 - (D) WATER TABLE: BELOW FINISHED GRADE.
 - (E) CONSTRUCTION JOINT: SEALED WITH 1" DIAMETER BUTYL RUBBER OR EQUIVALENT, AND DESIGN LOAD ASHITO H-10 OR H-20 FOR VEHICULAR TRAFFIC.
4. TANK EXCAVATION: THE CONTRACTOR WILL PROVIDE AN EXCAVATION FREE OF OBSTRUCTIONS FOR A MIN. CLEARANCE OF 18" AROUND THE OUTSIDE PERIMETER OF TANK. REMOVE 12" OF 3/4" CRUSHED STONE FOR BEDDING. WHEN PLACING THIS BEDDING MATERIAL, IT SHOULD BE NOTED THAT THE BED WILL BE OF A UNIFORM THICKNESS AND LEVEL. PREPARING A PROPER BASE WILL ENSURE THAT NO SETTLEMENT WILL OCCUR. ACCESS TO THE EXCAVATION SHOULD BE FREE OF WATER AND STABLE. TO ALLOW DELIVERY EQUIPMENT TO GET UP THE NECESSARY DISTANCE AWAY.
5. TANK BACKFILL: BACKFILL AROUND ALL VAULTS SHOULD CONSIST OF GOOD COMPACTABLE MATERIAL SUCH AS PEA GRAVEL, SAND OR CLEAN EARTH FILL SO THAT NO VOIDS REMAIN BETWEEN TANK WALLS. BACKFILLING SHOULD BE DONE IN LAYERS. BACKFILLING SHOULD BE DONE MAKING CERTAIN TO COMPACT THE BACKFILL PROGRESSIVELY FROM THE BOTTOM TO TOP SURFACE. ALL BACKFILLING IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. SYSTEM SAND: ALL CONFIGURATIONS OF ENVIRO-SEPTIC REQUIRE A MINIMUM OF 6" OF SYSTEM SAND SURROUNDING THE CIRCUMFERENCE OF THE PIPE. THIS SAND, TYPICALLY GRAVELLY COARSE SAND, MUST ADHERE TO THE FOLLOWING PERCENTAGE AND QUALITY RESTRICTIONS:
 - (A) PERCENTAGE RESTRICTIONS: 25% OR LESS OF THE TOTAL SAND MAY BE GRAVEL. 40%-90% OF THE TOTAL SAND IS TO BE COARSE AND VERY COARSE SAND
 - (B) GRAVEL QUALITY RESTRICTIONS: NO GRAVEL IS TO EXCEED 3/4" IN DIAMETER. NO GRAVEL IS SMALLER THAN 2mm/0.0787" IN DIAMETER. (IT MUST NOT PASS THROUGH A #10 SIEVE.)
 - (C) COARSE SAND QUALITY RESTRICTIONS: NO COARSE SAND IS SMALLER THAN 0.5mm/0.0196" IN DIAMETER. (IT MUST NOT PASS THROUGH A #30 SIEVE.)
 - (D) FINE SAND QUALITY RESTRICTIONS: NO MORE THAN 2% OF THE TOTAL SAND MAY PASS THROUGH A #200 SIEVE.
 - (E) ASTM D 2875 (CONCRETE SAND) MEETS THE ABOVE REQUIREMENTS.
7. FILL SPECIFICATIONS: FILL MATERIAL FOR THE WASTEWATER DISPOSAL FIELDS SHALL BE CLEAN, MEDIUM SAND, FREE OF TOPSOIL, OR HUMUS, DRISDINGS, OR STONES GREATER THAN 6" IN ANY DIMENSION, PLACED IN 12" LAYERS AND COMPACTED, AND WITH ONE OF THE FOLLOWING SIEVE ANALYSIS:

| SIEVE | % PASSING | SIEVE | % PASSING | SIEVE | % PASSING |
|----------|-----------|----------|-----------|----------|-----------|
| NO. 10 | 100 | NO. 4 | 100 | NO. 20 | 85 - 100 |
| NO. 20 | 100 | NO. 8 | 100 | NO. 40 | 75 - 95 |
| NO. 40 | 100 | NO. 16 | 100 | NO. 60 | 55 - 85 |
| NO. 60 | 100 | NO. 30 | 100 | NO. 100 | 55 - 85 |
| NO. 100 | 100 | NO. 60 | 100 | NO. 200 | 55 - 85 |
| NO. 200 | 100 | NO. 100 | 100 | NO. 425 | 55 - 85 |
| NO. 425 | 100 | NO. 200 | 100 | NO. 850 | 55 - 85 |
| NO. 850 | 100 | NO. 425 | 100 | NO. 1750 | 55 - 85 |
| NO. 1750 | 100 | NO. 850 | 100 | NO. 3500 | 55 - 85 |
| NO. 3500 | 100 | NO. 1750 | 100 | NO. 7000 | 55 - 85 |



| WETLAND IMPACTS | | | |
|---|----------------|---------------|----------------|
| ORIGINAL | NEW | TOTAL | |
| DIRECT WETLAND IMPACTS | 1,175 SQ. FT. | 700 SQ. FT. | 1,875 SQ. FT. |
| BUFFER IMPACT | 15,330 SQ. FT. | 2,900 SQ. FT. | 18,430 SQ. FT. |
| NEW BUFFER IMPACT TOTALS SUBJECT TO ADDITIONAL FEES | | 2,900 SQ. FT. | |
| NEW DIRECT IMPACT TOTALS SUBJECT TO ADDITIONAL FEES | | 700 SQ. FT. | |

* FEES FOR THE ORIGINAL DRIVEWAY IMPACTS TO BE REIMBURSED WHEN THE NEW DRIVEWAY LOCATION IS PERMITTED.

| REV. | NO. | DATE | DESCRIPTION | MADE BY | CHKD BY | APP'D BY |
|------|----------|------|--|---------|---------|----------|
| 8 | 11/18/15 | | REVISED WETLAND IMPACTS | CRM | TFM | JSC |
| 7 | 10/25/15 | | REVISED DRIVEWAY LOCATION & WETLAND IMPACTS | CRM | TFM | JSC |
| 6 | 06/29/15 | | REMOVE EXISTING DRIVEWAY, INSTALL NEW DRIVEWAY LOCATED @ 8' SEE PLAN | CRM | JEN | JSC |
| 5 | 11/23/14 | | ADJUSTION OF PROPOSED FOOTING WALLS | CRM | TFM | JSC |
| 4 | 11/23/14 | | ADJUST AND FINISH LOCATION & GRADE | CRM | TFM | JSC |
| 3 | 10/29/14 | | REMOVE EXISTING DRIVEWAY LOCATION | CRM | TFM | JSC |
| 2 | 09/11/14 | | REMOVE SOLAR FOOTING, ADJUST DIMENSIONS & LOCATION | CRM | JEN | JSC |
| 1 | 09/11/14 | | LOCATION, NO. SIZE & WASTEWATER DESIGN | CRM | JEN | JSC |

SITE PLAN FOR
LEAH MCLAUGHRY
 BRAGG HILL ROAD - NORWICH, VERMONT

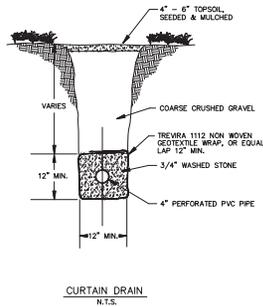
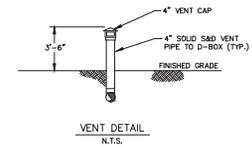
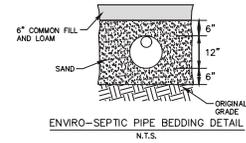
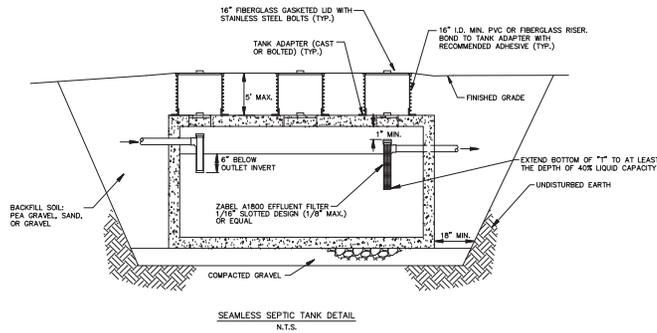
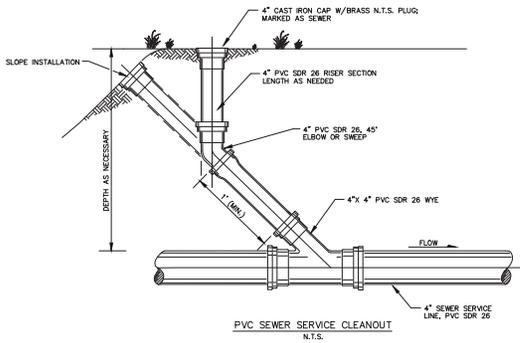
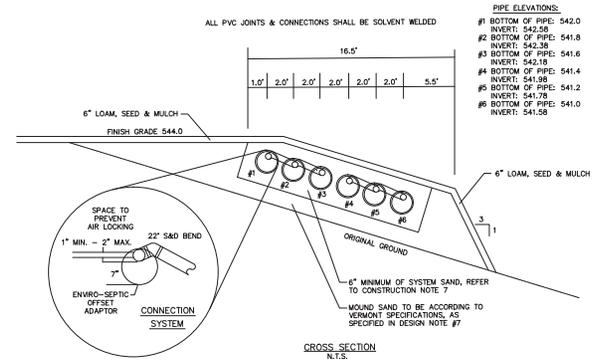
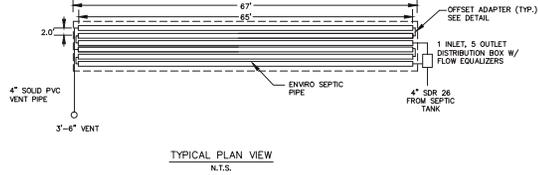
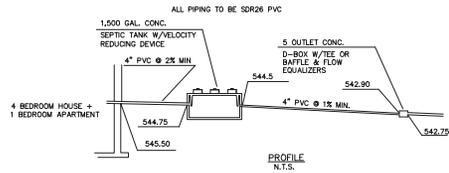
1

PATHWAYS CONSULTING, LLC

240 MECHANIC STREET, SUITE 100
 LEBANON, NEW HAMPSHIRE 03766
 (603) 448-2200

SHEET: 1 OF 3
 SCALE: 1" = 20'
 DES. BY: TFM
 DRAWN BY: CRM
 CHKD. BY: JSC
 DATE: 06/25/14
 PROJ. NO. 12303



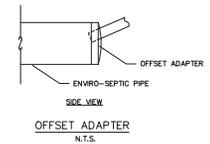


STORAGE CALCULATIONS:

ADD=630 GPD MDD: 630 / 720 MIN. = 875 GPM
 REQUIRED STORAGE 630 GPD x .55 = 346 GALLONS

WELL INFORMATION:

DEPTH: 225'
 STATIC WATER LEVEL: 30' BELOW SURFACE
 LONG TERM YIELD: 8.0 GPM ± 2 = 4.0 GPM
 WELL PUMP TO BE SET 10' FROM THE BOTTOM OF THE WELL
 USING (1AH x MOD/7) = 185' x 875/4.0 = 40.5'
 185'-40.5'=144.5' AVAILABLE IN WELL CASING FOR STORAGE
 144.5' x 1.5 GALLONS/FOOT = 216.75 GALLONS OF STORAGE IN CASING
 216.75 GALLONS + 119 GALLON PRESSURE TANK = 335.75 GALLONS AVAILABLE FOR TOTAL STORAGE



| REVISION NO. | DATE | DESCRIPTION | MADE BY | CHECKED BY | APPROVED BY |
|--------------|----------|--|---------|------------|-------------|
| 4 | 09/30/15 | REVISED DRIVEWAY LOCATION & WETLAND IMPACTS | CRM | TFM | JSG |
| 3 | 07/17/15 | REVISION TO STORAGE CALCULATIONS | CRM | TFM | JSG |
| 2 | 06/09/15 | CHANGE WATER & WASTEWATER CAPACITY TO 630 GPD. | CRM | TFM | JSG |
| 1 | 10/06/14 | NOTE 7, SAND FILL REQUIREMENT ADDITION | CRM | TFM | JSG |

WASTEWATER DISPOSAL DETAILS FOR
LEAH McLAUGHRY
 BRAGG HILL ROAD - NORWICH, VERMONT

PATHWAYS CONSULTING, LLC
 240 MECHANIC STREET, SUITE 100
 LEBANON, NEW HAMPSHIRE 03786
 (603) 448-2200

SCALE: 1"= A.S.
 DESIGNED BY: PAB
 DRAWN BY: PAB
 CHECKED BY: JSG
 DATE: 06/25/14
 PROJ. NO. 12303

EROSION CONTROL SPECIFICATIONS

- SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES.
- RECOGNIZING THAT IMMEDIATE ATTENTION TO EROSION CONTROL PRACTICES DRAMATICALLY IMPROVES SOIL AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY, THE CONTRACTOR SHALL GIVE HIGH PRIORITY TO THE DAILY AND TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT CONTROL MEASURES. IMMEDIATE ACTION AND INSTALLATION OF PRACTICES USUALLY REDUCES LONG TERM COSTS TO THE CONTRACTOR AND PROVIDES BENEFITS TO THE DEVELOPER AND THE PUBLIC GOOD.
- EROSION CONTROL PRACTICES ARE SHOWN ON THE PLANS WITH RESPECT TO LOCATION AS DETERMINED FROM EXISTING TOPOGRAPHY. CHANGES MAY BE INDICATED IN THE FIELD TO IMPROVE EROSION AND SEDIMENT CONTROL.
- CONSTRUCTION SHALL PROCEED UNIT BY UNIT TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE. WITHIN A UNIT, THIS PROCEDURE SHOULD RESULT IN THE EXPOSURE OF THE SMALLEST PRACTICAL LAND AREA AT ANY ONE TIME.
- AREAS ADJACENT TO STREAMS CALL FOR PARTICULAR ATTENTION WITH REGARD TO SILT INTERCEPTION. INSTALL SILT FENCES AS SHOWN ON PLAN AND IN DETAIL BEFORE EARTHWORK COMMENCES. ADDITIONAL FENCING MAY BE REQUIRED AS WORK CONTINUES.
- INSTALL HAY BALE DIKES AND STONE CHECKS AS SHOWN. INSPECT AND MAINTAIN ON A DAILY BASIS. CLEAN ACCUMULATED SEDIMENT AS NECESSARY. LEAVE IN PLACE UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
- CUT AND FILL SLOPES BOTH CALL FOR INTENSIVE EROSION CONTROL MEASURES.

- ALL DISTURBED AREAS SHALL HAVE TOPSOIL SPREAD (4" MINIMUM) AND BE LIMED, FERTILIZED, TILLED, SEEDED AND MULCHED. ALL SLOPES 3:1 (1 RISE ON 3 RUN) AND STEEPER SHALL HAVE MULCH HELD IN PLACE WITH BIODEGRADABLE JUTE NETTING STAPLED AND STAKED. EACH AREA SHALL BE FERTILIZED, PREPARED, SEEDING AND MULCHED (WITH ANCHORED NETTING IF REQUIRED) WITHIN 72 HOURS OF FINAL GRADING. WHEN PERMANENT SEEDING CANNOT BE INSTALLED BY SEPTEMBER, SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL BE INSTALLED IMMEDIATELY AND MAINTAINED IN THAT CONDITION UNTIL PERMANENT PRACTICES CAN BE INSTALLED IN THE FOLLOWING PLANTING SEASON.
- TEMPORARY SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL BE INSTALLED IMMEDIATELY AND MAINTAINED IN THAT CONDITION UNTIL PERMANENT PRACTICES CAN BE INSTALLED IN THE FOLLOWING PLANTING SEASON. TEMPORARY STABILIZATION OF DISTURBED AREAS (SEED BED) PREPARATION: TILL THREE INCHES DEEP MIXING IN FERTILIZER. APPLY LIME 2 TONS/ACRE (1000/1,000 SQ. FT.) FERTILIZER UNIFORMLY APPLY NOT LESS THAN 500#/ACRE (12.5/1,000 SQ. FT.) OF 10-20-20 OR EQUIVALENT. SEEDING: SELECT APPROPRIATE SEEDING MIXTURE FROM TABLE 1 BELOW. SPREAD SEED UNIFORMLY FIRM SOIL BY ROLLING OR PACKING. IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS. MULCHING MULCH ALL DISTURBED AREAS WITH 1-1/2 TO 2 TONS OF HAY OR STRAW PER ACRE (175-350/1,000 SQ. FT.) ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND FLATTER SLOPES SUBJECT TO WASH OR WIND BLOWN. JUTE OR OTHER BIODEGRADABLE NETTING, STAKING AND STAPLING MAY BE REQUIRED.

TABLE 1
PLANT SELECTION AND SEEDING RATES

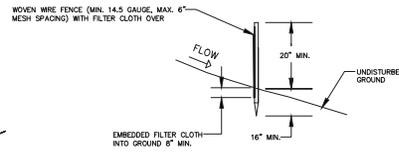
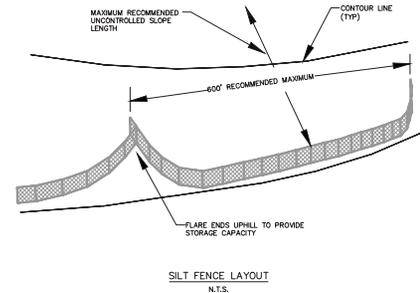
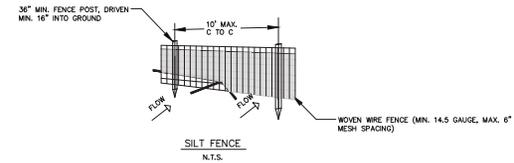
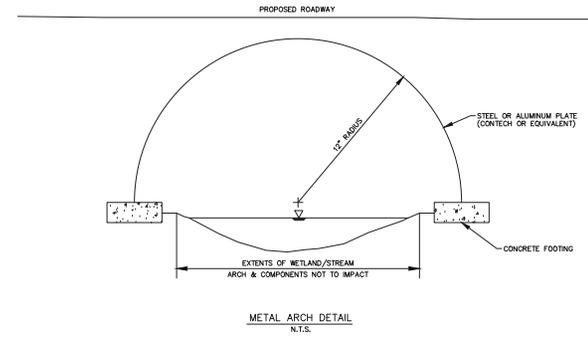
| SPECIES | PER ACRE | PER 1000 SQ.FT. | REMARKS |
|------------|---------------------|-----------------|---|
| WINTER RYE | 2 BU OR 112 LBS. | 2.5 LBS. | BEST FOR FALL SEEDING. SEED AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO DEPTH OF ONE INCH. |
| OATS | 2 1/2 BU OR 90 LBS. | 2 LBS. | BEST FOR SPRING SEEDING. LATER SUMMER PROTECTION. SEED TO DEPTH OF ONE INCH. |
| ANNUAL RYE | 40 LBS. | 1 LB. | GROWS QUICKLY, BUT IS SHORT GRASS DURATION. USE MOSE APPARATUS. ARE IMPORTANT. COVER SEED WITH NO MORE THAN 1/4 INCH OF SOIL. WITH MULCH. SEEDING MAY BE DONE THROUGHOUT GROWING SEASON. OTHERWISE SEED EARLY SPRING OR BETWEEN AUGUST 15 & SEPTEMBER 15. |

- PERMANENT STABILIZATION OF DISTURBED AREAS: SEED BED PREPARATION: TOPSOIL (SANDY LOAM, LOAM, OR SILT LOAM), FRAGILE, FREE OF TREE ROOTS, WEEDS, STONES MORE THAN 1-1/2 INCHES IN DIAMETER OR LENGTH SHALL BE PLACED OVER ALL DISTURBED AREAS IN A 4" (MINIMUM) THICK LAYER. TOPSOIL SHALL BE FREE OF HERBICIDES AND TOXIC MATERIALS. TILL THREE INCHES DEEP MIXING IN THE FERTILIZER AND LIME. APPLY LIME 2 TONS/ACRE (1000/1,000 SQ. FT.) FERTILIZER UNIFORMLY APPLY NOT LESS THAN 500#/ACRE (12.5/1,000 SQ. FT.) OF 10-20-20 OR EQUIVALENT. SEEDING: SELECT APPROPRIATE SEEDING MIXTURE FROM TABLE 2 BELOW. SPREAD SEED UNIFORMLY FIRM SOIL BY ROLLING OR PACKING. IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS. MULCHING MULCH ALL DISTURBED AREAS WITH 1-1/2 TO 2 TONS OF HAY OR STRAW PER ACRE (175-350/1,000 SQ. FT.) ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND ON FLATTER SLOPES SUBJECT TO WASH (WATERWAYS AND/OR WINDBLOWN USING JUTE OR OTHER BIODEGRADABLE NETTING, STAKING, AND STAPLING.

TABLE 2
SEEDING RATES

| MIXTURE | POUNDS PER ACRES | POUNDS PER 1,000 SQ.FT. |
|-----------------------------|------------------|-------------------------|
| A. PARK AND LAWN AREAS | | |
| KANSAS KENTUCKY BLUEGRASS | 60% | 96 |
| JAMESTOWN 2 CHERNYS FESCUE | 20% | 32 |
| PALMER 2 PERENNIAL RYEGRASS | 20% | 32 |
| TOTAL | 100% | 160 |
| B. SLOPE AREAS | | |
| REBEL 2 TALL FESCUE | 40% | 64 |
| WEeping LOVEGRASS | 20% | 32 |
| REBELT 2 HARD FESCUE | 10% | 16 |
| JAMESTOWN 2 CHERNYS FESCUE | 10% | 16 |
| PALMER 2 PERENNIAL RYEGRASS | 10% | 16 |
| WHITE CLOVER | 5% | 8 |
| BLACKWELL SWITCHGRASS | 5% | 8 |
| TOTAL | 100% | 160 |

- TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
- MAINTENANCE DURING THE CONSTRUCTION PERIOD AND UNTIL SUCH TIME AS THE LONG TERM VEGETATION IS ESTABLISHED.
 - DISTURBED AREAS WILL BE FERTILIZED AND RESEEDED.
 - STONE CHECKS, SILT FENCE AND BALED HAY CHECKS WILL BE CHECKED AND CLEANED AS NECESSARY.
 - DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.
 - THE SILT FENCES AND HAY BALE DIKES WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT CIRCUITING.
- REFER TO "GRADING AND UTILITY PLANS" PRIOR TO ANY SITE DISTURBANCE. CONTACT ENGINEER FOR COPIES OF PLAN.
- INSPECTIONS-- THE ENGINEER SHALL BE CONTACTED ON A REGULAR BASIS TO INSPECT ALL EROSION CONTROL PRACTICES AS WELL AS THE MAINTENANCE OF THE EROSION CONTROL COMPONENTS. REFER TO CONSTRUCTION EROSION CONTROL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. EROSION CONTROL PRACTICES SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
- ALL DITCHES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- THE MAXIMUM AMOUNT OF AREA TO BE DISTURBED AND UNSTABILIZED SHALL BE 1 ACRE AT ANY TIME.
- THE MAXIMUM AMOUNT OF TIME ANY AREA MAY BE DISTURBED WITHOUT STABILIZATION SHALL BE 30 DAYS.



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES.
 - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP, MID SECTION AND BOTTOM.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

SILT FENCE SECTION VIEW
N.T.S.

EROSION CONTROL DETAILS FOR
LEAH McCLAUGHRY
BRAGG HILL ROAD - NORWICH, VERMONT

PATHWAYS CONSULTING, LLC
240 MECHANIC STREET, SUITE 100
LEBANON, NEW HAMPSHIRE 03766
(603) 448-2200

| | |
|------------------|--------------|
| SCALE: 1"= A.S. | 3 |
| DESIGNED BY: PAB | |
| CHECKED BY: JSB | |
| DATE: 06/25/14 | |
| PROJ. NO. 12303 | SHEET 3 OF 3 |

| REVISION NO. | DATE | DESCRIPTION | MADE BY | CHECKED BY | APPROVED BY |
|--------------|----------|---|---------|------------|-------------|
| 2 | 11/16/15 | ADDED ARCH OULVERT DETAIL | CRM | TFM | JSB |
| 1 | 09/30/15 | REVISED DRIVEWAY LOCATION & WETLAND IMPACTS | CRM | TFM | JSB |