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

Applicant Name: Riverside Farm, LLC	**Representative Name: Oakledge Environmental Services, Inc.**
Town where project is located: Colchester	**County: Chittenden**

Project Location Description: 527 Heineberg Road (Route 127), Colchester, VT 05446.
911 Street Address or direction from nearest intersection

Project Summary:Construct a 12 unit residential bldg., single family home, & associated infrastructure.

Permit Type Requested (check all that apply)

☐ Vermont General Permit Coverage ☐ Wetland Determination ☒ Vermont Wetland Permit

Impact Calculations: Total up proposed impacts from wetland tables listed below

Total Wetland Impact	508square feet (s.f.)	Total Buffer Zone Impact	3,529 square feet (s.f.)
Total Wetland Clearing (qualified linear projects only)	square feet (s.f.)	Total Buffer Zone Clearing (qualified linear projects only)	square feet (s.f.)

Permit Fees: Make check payable to - *State of Vermont*

Wetland Impact Fee: ($0.75/sf)	$381.00	Administrative Fee:	$240
Buffer Impact Fee: ($0.25/sf)	$882.25	Total Check Amount:	$1,503.25
Clearing Fee: ($0.25/sf)	$		

Existing Land Use Type: ☐ Forestry ☐ Residential (Subdivision) ☐ Industrial/ commercial
(check all that apply)
☐ Agriculture ☐ Transportation ☐ Parks/Rec/Trail ☒ Residential (Single Family) ☐ Institutional ☒ Undeveloped

Proposed Land Use Type: ☐ Forestry ☐ Residential (Subdivision) ☐ Industrial/ commercial
(check all that apply)
☐ Agriculture ☐ Transportation ☐ Parks/Rec/Trail ☒ Residential (Single Family) ☐ Institutional ☒ No Change

Proposed Impact Type: ☐ Buildings ☒ Utilities ☐ Parking ☐ Septic/Well ☒ Stormwater
(check all that apply)
☐ Driveway ☐ Road ☐ Parks/Path ☐ Agriculture ☐ Pond ☐ Lawn
☐ Dry Hydrant ☐ Beaver dam alteration ☐ Silviculture ☐ Aesthetics ☒ Other ☐ No Impact

Wetland 1: (Label using Wetland ID from application if applicable, use supplemental sheets if more than one wetland is being impacted) Location: **Shown on Wetland Impact Plan**
Wetland Type: **POW/PEM/PSS/PFO** WL Size Class : **> 20 acres**

Proposed Alterations

Wetland Alteration:		**Buffer Zone Alteration:**		**Wetland Alteration Type** (check all that apply)	
Wetland Fill:	s.f.			☐Dredge	☐Drain
Temporary:	508s.f.	Temporary:	1,701 s.f	☐Cut Vegetation	☐Stormwater
Permanent: :	s.f.	Permanent: :	1,828 s.f	☒Trench/Fill	☐Other

Mitigation

Avoidance and Minimization (s.f. of wetland NOT impacted): Wetland: ~3,600,000s.f. Buffer Zone ~340,000 s.f.

Wetland Mitigation: (s.f. Gained)				**Buffer Zone Mitigation (s.f. Gained):**			
Restoration	s.f.	Enhancement	s.f.	Restoration	s.f.	Enhancement	s.f
Creation	s.f.	Conservation	s.f..	Creation	s.f	Conservation	s.f

Reason for Mitigation: ☐ Correction of Violation ☐ Mitigation to offset permit impacts ☐ Voluntary

All Applications Should be Mailed To:

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

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

Vermont Wetland Permit Application/Determination Petition

QUESTION	INSTRUCTIONS AND APPLICANT ANSWER	STAFF NOTE
1. Applicant	If the applicant is someone other than the landowner, the landowner information must also be included below.	
1.1. Applicant Name	Riverside Farm, LLC	
1.2. Applicant Address	c/o Eric Farrell, Farrell Real Estate, P.O. Box 1335, Burlington, VT 05402	
1.3. Applicant Phone Number	(802) 861-3000	
1.4. Applicant Email	efarrell@farrellrealestatevt.com	
1.5. Applicant Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge. X Eric Farrell Date: 10/1/15	
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	Jeffrey Severson, Principal Ecologist, Oakledge Environmental Services, Inc.	
2.2. Representative Address	P.O. Box 4065, Burlington, Vermont 05406	
2.3. Representative Phone Number	(802) 660-8312	
2.4. Applicant Email	jeff.severson@burlingtontelecom.net	
2.5. Representative Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge. X Jeff Severson Date: 10/1/15	
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	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.	
3.6. Landowner Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge. X Eric Farrell Date: 10/1/15	

4. Location of Wetland and Project	Location description should include the road the wetland is located on, the compass direction of the wetland in relation to the road, 911 street address if available, and any other distinguishing geographic features. The 911 address for the project is 527 Heineberg Road (Route 127), Colchester, VT 05446. The wetland extends from south to northeast of the project site on the north side of the Winooski River. A narrow band of the wetland extends north along the toe of the Route 127 shoulder .	
5. Site Visit Date and Attendees	Date of visit with District Wetlands Ecologist December 12, 2014 November 9, 2015	List people present for site visits including Ecologist, landowner, and representatives. Danielle Owczarski, Jeff Severson, Peter Smiar Julie Foley, Jeff Severson, Peter Smiar
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 ±84 acres	
7.2. Natural Community Types Present	List all wetland types in the wetland or wetland complex and their abundance or relative abundance. For example: 50 acres of softwood forested swamp; or 30% scrub swamp, 70% emergent wetland 60 percent hardwood forested swamp, 30 percent emergent wetland, 5 percent shrub swamp, 5 percent open water	
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 adjacent to the Winooski River and occupies a section of the River's floodplain.	
7.4. Wetland Hydrology	Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds. The wetland complex is adjacent to the Winooski River. The main source of wetland hydrology for the wetland complex is seasonal and periodic flooding. Wetland hydrology is also influenced by surface water ponding in landscape depressions with restricted outlets, a shallow ground water table, potential groundwater discharge, and precipitation. Include answers to the following where appropriate:	
7.4.1. Direction of flow	For example: stream flows from north to south through the wetland complex. The Winooski River flows northwesterly along the southern side of the wetland complex.	
7.4.2. Influence of hydrology on wetland complex	For example: The river provides flood water to the wetland in the spring. The Winooski River provides flood water to the wetland complex in spring and during other flood events. Soils remain saturated to ponded in much of the wetland for extended periods of time, due to the location of the wetland complex within a section of the Winooski River floodplain with a restricted outlet, and relatively flat topography with depressions in several abandoned river channel sections.	

7.4.3. Relation to the project area	Distance between the project area and any nearby surface waters. At its closest point, the project area is located approximately 680 feet from the Winooski River, and approximately 180 feet from an oxbow lake that occupies an abandoned river channel.	
7.4.4. Hydroperiod	Discuss frequency and duration of flooding, ponding, and/or soil saturation. The Winooski River typically floods the wetland complex in spring and when water levels in Lake Champlain are high, and during other precipitation-driven flood events. Soils remain saturated to ponded in much of the wetland for extended periods of time.	
7.5. Surrounding Landuse of the Wetland Complex	For example: rural residential and forested; agricultural and undeveloped, A mix of urban residential, forested and undeveloped land, agriculture, and roads (Route 127).	
7.6. Relation to Other Nearby Wetlands	Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question. The wetland complex adjacent to the project site is part of an extensive suite of wetland complexes in the Winooski River floodplain in the Burlington-Colchester Intervale.	
7.7. Pre-project Cumulative Impacts to the Wetland	Identify any cumulative ongoing impacts outside of the project that may influence the wetland. Examples include but are not limited to wetland encroachments off the subject property, land management in or surrounding the wetland, or development that influences hydrology or water quality. The Heinenberg bridge on Route127, and the bed of Route 127, restricts channel migration in the Winooski River. Sections of the floodplain south and east of the project site are farmed.	
8. Description of Subject Wetland	Subject Wetland is defined as the area of wetland in the project area, but not limited to the portion of the wetland to be directly impacted by the project. For the purposes of this application, the subject wetland should encompass any portion of the larger wetland or wetland complex that could be directly or indirectly impacted by the project, as defined by hydrology, vegetation and/or physical characteristics.	
8.1. Context of Subject Wetland	Describe where the subject wetland is in the context of the larger wetland or wetland complex described above. The subject wetland includes sections of the Winooski River floodplain adjacent to the toe of slope east and south of the project area, and a section of a roadside ditch and adjacent sliver of lawn which are located at the northern tip of a wetland finger adjacent to the toe of slope on the southeastern side of Route 127.	
8.2. Wetland Landuse	For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland. The floodplain forest, shrub swamp and emergent wetland east and south of the project area are naturally vegetated. In recent years, the roadside ditch has not been regularly maintained by the Town of Colchester, and has become clogged with sediment from road runoff. The adjacent lawn is mowed regularly.	
8.3. Wetland Vegetation	List dominant wetland community type and associated dominant plant species. The dominant wetland community types are Silver Maple - Ostrich Fern Floodplain Forest and Silver Maple - Sensitive Fern Floodplain Forest. The unmaintained roadside ditch and strip of lawn are not characterized by a natural community. Characteristic species include Typha latifolia, Polygonum sagittatum, Rumex crispus, Solidago canadensis, and unidentifed mowed grass species.	

8.4. Wetland Soils	Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description Wetland soils are mapped as Adams and Windsor loamy sands by the NRCS.	
8.5. Wetland Hydrology	Use descriptions from the ACOE Delineation Manual. The subject wetland is characterized by a seasonal high water table and receives surface water runoff from Route 127 during precipitation events.	
8.6. Buffer Zone	Describe the buffer zone of the subject wetland including:	
8.6.1. General landuse	For example: mowed road shoulder; forested; old field; paved road and residential lawns etc. Describe any previous and ongoing disturbance in the buffer zone. The buffer zone to the east and south of the project area are characterized by hardwood forests. The buffer zone to the west of the project area includes sections of a paved highway, road shoulder, roadside ditch, and lawn. The roadside ditch is irregularly maintained by the municipality. The lawn on the Riverside Farm, LLC property is regularly mowed.	
8.6.2. Buffer vegetation	List community type and dominant plant species The buffer zone in the northern corner of the property is characterized by unidentified mowed lawn grasses, Solidago canadensis, and Acalypha rhomboidea, along with weedy species such as Plantago major, Glechoma hederacea, and Hieracium aurantiacum. The buffer zone on the forested slopes on the south and east sides of the property is characterized by a mix of hardwoods that include Quercus rubra, Fraxinus americana, Carya ovata, and Ulmus americana, along with Prunus serotina and Celtis occidentalis.	
8.6.3. Buffer soils	Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description Buffer zone soils are mapped as Adams and Windsor loamy sands by the NRCS.	

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		

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. The overall project consists of the removal of existing house and barn and construction of (12) unit residential building and single family home with parking, community garden, landscaping, onsite septic system, utility and stormwater improvements.	

10.2. Project Purpose	For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system To construct a (12) unit residential building and single family home.	
10.3. Acres Owned by Applicant	Acreage of subject property. The subject property is ±11.45 acres.	
10.4. Acres Involved in the Project	Acreage of area involved in the project. The project area is ±2.90 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. • ±75-foot section of underground electric conduit; • ±40-foot section of a buried culvert and stone outfall; • Grading for a sidewalk section; • ±20 foot section of gravel and wood stairs; • ±30 foot section of a foundation drain and associated grading; and • Grading for basement egress from the 12-unit residential building.	
11.2. Dimension Details	Square footage of buildings, dimension of roads including fill footprint. No buildings or roads will be constructed in the wetland or buffer zone.	
11.3. Bridges and Culverts	Culvert circumference, length, placement and shapes, or bridge details. No bridges are proposed. A ±40 foot section of a 15-inch diameter HDPE culvert will be located in the buffer zone, as shown on the site plan.	
11.4. Construction Sequence	Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant Prior to construction, silt fencing and construction fencing will be installed in the locations shown on the Erosion Control Plan. Construction fencing will be utilized to define the work areas for the project. Silt fencing will be installed to prevent the movement of sediments into the wetland and buffer zone, per the Silt Fence Detail included on the Erosion Control Notes and Details (Sheet C2.7). Following the installation of the buried electrical conduit, the original ground surface surface contours in the wetland and adjacent buffer zone will be restored. Exposed soils will be covered with topsoil as needed, seeded with a conservation mix, and mulched with straw.	
11.5. Stormwater Design	List any stormwater permits obtained or applied for. Describe any stormwater and/or erosion controls proposed to prevent discharges to the wetland and buffer zone. The applicant has applied for two state stormwater permits that are required for the project: • A VT DEC Operational Stormwater Permit (GP3-9015); and • A VT DEC Construction Stormwater Permit (GP3-9020). Post construction stormwater runoff at the site will be managed in two bioretention areas and an underground infiltration facility. Roadway areas drain via overland flow to the two center bioretention areas while the rooftop runoff is treated in an underground chamber infiltration system. These facilities utilize the existing native sandy soils at the site to provide capture and infiltration of runoff. Erosion control measures are described on the shown on the Erosion Control and Details (Sheet C2.7). Prior to construction, silt fencing, construction fencing, and erosion control matting will be installed in the locations shown on the Erosion Control Plan (Sheet C1.4). The excavation contractor is to implement erosion control practices in strict conformity with the latest revision of the "Low Risk Site Handbook for Erosion Prevention and Sediment Control" published by the VT DEC.	

	Following the installation of the underground electrical conduit, the ground surface contours in the wetland and adjacent buffer zone will be restored to the original grades. In all areas where temporary excavation or permanent grading is proposed, exposed soils will be seeded with a conservation mix and mulched with straw following completion of work.	
11.6. Permanent Demarcation of Limits of Impact	Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses. No permanent memorialization is proposed to mark the limits of disturbance for ongoing uses. The steep banks and thick vegetation will naturally deter ongoing activities within the buffer zone, apart from a designated entry point where the stairs for pedestrian access to the river will be located. The stairs were added to the project at the request of the Town of Colchester, who wanted to ensure future public access to the Winooski River for activities such as fishing. The relatively small, disturbed wetland area where the buried electical conduit will be installed is located along a roadside ditch that the Town of Colchester's is responsible for maintaining. This section of the roadside ditch may be periodically cleaned out and be subject to future maintenance work by the Town.	
12. Wetland and Buffer Zone Impacts		
12.1. Wetland Impacts	Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets. **Totals** Wetland Fill: 0 s.f. Temporary Wetland Impact: 508 s.f. Other Permanent Wetland Impact: 0 s.f. Describe in detail the proposed impact. The installation of a ±25-foot section of underground electric conduit will result in temporary wetland impacts if trenching is required to install conduit in this location.	
12.2. Buffer Zone Impacts	Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets. **Totals** Temporary Buffer Impact: 1,701 s.f. Permanent Buffer Impact: 1,828 s.f. Describe in detail the proposed impact. The following project components will be located within the buffer zone, as shown on the Wetland Impact Plan: • ±75-foot section of underground electric conduit; • ±40-foot section of a buried culvert and stone outfall; • Grading for a sidewalk section; • ±20 foot section of gravel and wood stairs; • ±30 foot section of a foundation drain and associated grading; and • Grading for basement egress from the 12-unit residential building.	

12.3. Cumulative Impacts	List any potential cumulative or ongoing, direct and indirect impacts on the functions of the wetland that could result from the proposed project. The project will temporarily impact 508 SF of previously disturbed wetlands. Cumulative or ongoing, direct or indirect impacts on wetland functions are not anticipated.	
12.4. Avoidance and Minimization	Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section.	
12.4.1. Avoidance	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. The project has been designed to avoid all wetland impacts apart from a ±508 SF section of previously disturbed wetland that may be temporarily impacted by the installation of underground electrical conduit. The electrical conduit is necessary for bringing three-phase electrical service power from an interconnect point on the transmission line located on the north west side of Route 127 (see Sheet W1.0). Grading within the buffer zone in the northwestern corner of the property is necessary to construct a sidewalk along the driveway, as required by the Town of Colchester, install a new 15-inch culvert to convey storm water from the bioretention area, and construct a stone outfall at the culvert outlet (See Sheet W1.0). Buffer zone impacts on the south side of the site are needed to install a set of stairs to provide public access to the Winooski River, as requested by the Town of Colchester. Buffer zone impacts on the east side of the site are necessary for the installation of a foundation drain for the 12-unit residential building, and for safe egress from the building's basement. The location of the primary, 12-unit residential building is restricted by parking and driveway dimension requirements, the need to site the bioretention areas within the driveway loop, and by the siting requirements for the two proposed wastewater disposal areas on the south side of the project plateau. The building envelopes for the other residential unit, accessory structures, driveways and parking areas, lawn, garden, and septic system are located outside of the wetland and buffer zone.	
12.4.2. Minimization	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 The project has been designed to avoid permanent wetland impacts,and minimize temporary and permanent buffer zone impacts to the greatest extent practicable. • As noted, temporary wetland impacts have been restricted to a 508 SF area comprised of a section of neglected drainage ditch and lawn that does not significantly contribute to the functions and values of the entire wetland complex. • To further minimize wetland and buffer zone impacts, the proposed stormwater outfall was relocated from the floodplain south of the project area to its current location in the lawn in the northern corner of the parcel. To minimize the potential for erosion in the wetland and buffer zone, a stone	

outfall will be constructed to dissipate stormwater flow energy from the bioretention basins and the culvert that extends under the driveway.

• The footprint of buffer zone impacts associated with grading for the primary residential building have been minimized by tying the grade to the basement elevation , then to create a small swale near the top of bank to route surface water away from the building foundation.

• Only temporary impacts to the buffer zone are proposed to install the foundation drain. Impacts will be minimized by keeping the construction footprint to the minimum width necessary, and by restoring the slope to its original contours once the foundation drain is installed.

The current site plans reflect additional revisions to several project elements to further minimize impacts, which were implemented following discussions with the Vermont Wetland Office in November 2015. These revisions further reduced permanent buffer zone impacts by 1,019 SF, and reduced temporary buffer zone impacts by 2,416 SF.

• The orientation of the foundation drain for the 12-unit residential building has been shifted, and the disturbance footprint further minimized, to reduce temporary buffer zone impacts from 498 SF to 155 SF, a reduction of 343 SF. No trees are located in the area where the foundation drain will be installed. Currently this section of the slope is characterized by a swale filled with tree branches and coarse woody debris, and, at the top of slope, by herbaceous species such as Rubus idaeus, Rubus occidentalis, and Solidago canadensis.

• Site grading at the top of bank on the east side of the 12 unit residential building was tightened to 2:1 grades to minimize the grading footprint within the buffer zone and minimized the number of trees that will require removal. These measures reduced permanent buffer zone impacts from 1,958 SF to 1,214 SF, a reduction of 744 SF.

• The tighter grades and smaller disturbance footprint at the top of the bank reduced the number of trees that will need to be removed from the eastern buffer zone area to three, two of which are in poor condition: one (1) red oak (Quercus rubra) with three trunks (43 cm, 34 cm, and 28 cm); one (1) box elder (Acer negundo) in poor condition with two trunks (33 cm, 28 cm); and one (1) black cherry (Prunus serotina) in poor condition (16 cm). All measurements are DBH. The restoration plan for the Project calls for 10 woody plantings in the eastern buffer zone impact area as indicated on the Planting Plan: Four (4) shagbark hickory (Carya ovata); three (3) hackberry (Celtis occidentalis); and three (3) red oak (Quercus rubra).

• The Project Team carefully evaluated alternative locations for the stairs to provide public access to the floodplain, which is a Project Condition required by the Town of Colchester. The Team was ultimately concerned that moving the stairs from its proposed location would increase the likelihood of bootleg footpaths developing on the steep bank, which would increase the potential for erosion. To further minimize impacts the construction footprint for the stairs was reduced from 400 SF to 125 SF, a reduction of 275 SF of permanent buffer zone impacts.

• The construction footprint for the culvert installation and grading in the northwest corner of the property was revised to reduce temporary buffer zone impacts from 2,282 SF to 1,343 SF, a reduction of 939 SF.

• The construction footprint for the underground utility installation and grading on the western side of the property was revised to reduce temporary buffer zone impacts from 1,337 SF to 203 SF, a reduction of 1,134 SF.

12.4.3. Mitigation	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. The project has been designed to avoid permanent wetland impacts and adverse impacts on protected wetland functions. Best management practices and restoration measures include the following: Prior to construction, construction fencing is to be installed in the locations shown on the Erosion Control Plan to define the work area and maximum limits of disturbance in the wetland and buffer zone. Silt fencing is to installed where necessary in the locations shown on the Erosion Control Plan, per the detail included on the Erosion Control Notes and Details sheet. As noted, the excavation contractor is to refer to the latest edition of the Low Risk Site Handbook for Erosion Prevention and Sediment Control, published by VT DEC. Equipment required to trench, backfill, and grade the buried utility line route is to operate within the 20-foot wide corridor defined by construction fencing. Sidecast materials from trenching and installation of the electrical conduit will also be confined to the temporary disturbance area. Following construction, surface contours in temporary disturbanc areas will be restored to original grades. Exposed soils are to be topsoiled as needed, seeded with a conservation mix, and mulched with straw.	
12.4.4. Compensation	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. Compensation is not proposed for this project under the Vermont Wetland Rules, as the project will not result in an undue adverse impact to significant wetland functions and values.	
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	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. See attached map	
13.2. Site Plans	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. The following plans, developed Civil Engineering Associates, Inc., are included with the Vermont Wetland Permit application: • Wetland Impact Plan (Sheet W1.0); date: 6/15/15; last revision: 1/13/16 • Erosion Control Plan (Sheet C1.4); date: 6/16/15; last revision: 1/13/16 • Erosion Control Notes and Details (Sheet C2.7); date: 6/20/14; last revision: 1/16/15 T.J.Boyle Associates, LLC prepared the following plan: • Planting Plan (Sheet L-102); date: 11/21/14; last revision: 1/19/16	
13.3. ACOE Delineation Forms	List by author, location, and date. Required only for Individual Permits. Jeffrey Severson; transect location at wetland boundary flag W-30 in floodplain south of project site; 10/18/14	
13.4. Other Supporting Documents	Provide any other documentation that supports the application. List photographs; easements; agreements; may include a GIS-compatible wetland submittal for determinations; etc.	

13.5. List of Abutters (Neighbors with land adjoining wetland or buffer zone)	Attach list of names and mailing addresses or submit as word mailing document. n/f Gloria W. Scribner Revocable Trust, 131 Parsons Road, Colchester, VT 05446 n/f Vermont Agency of Transportation, 57 River Road #1009, Essex, VT 05452
13.5.1. Newspaper Notification	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.**
14. Check Which Functions are Present in the Subject Wetland and in the Wetland Complex.	**Wetland Function Summary:** (if more than one wetland use supplemental wetland sheets)

Functions & Values	Subject Wetland	Wetland Complex	Functions & Values	Subject Wetland	Wetland Complex
Flood/Storm Storage	☐	☒	RTE Species	☐	☐
Surface & Groundwater Protection	☐	☒	Education & Research	☐	☒
Fish Habitat	☐	☒	Recreation/ Economic	☐	☒
Wildlife Habitat	☐	☒	Open Space/ Aesthetics	☐	☒
Exemplary Natural Community	☐	☒	Erosion Control	☐	☒

15. Coverage under Vermont General Wetland Permit	**If applying for an Individual Vermont Wetland Permit or Determination, please proceed to number 16 and answer the remaining application questions.** **If applying for Coverage under the Vermont General Wetland Permit, please complete question 15.1 prior to submitting application.**
15.1. VWP Vermont General Permit eligibility checklist	If applying for coverage under the Vermont General Wetland Permit, please verify the following to complete the application: ☐ The activity qualifies as an eligible activity for coverage under the Vermont General Wetland Permit ☐ The proposed project will meet the conditions applicable to the proposed project in the Vermont Wetland General Permit ☐ The activity does not qualify as an Allowed Use under Section 6 of the Vermont Wetland Rules. ☐ 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. ☐ All impacts have been avoided and minimized to the greatest extent possible. ☐ The wetland complex is not significant for Function 5.5 Exemplary Wetland Natural Community or 5.6 Rare, Threatened and

	Endangered Species Habitat. ☐ The activity is not located in or adjacent to a vernal pool, fen, or bog. ☐ The wetland is not at or above 2,500' in elevation (headwaters wetland). ☐ The project is not located in a Class I wetland or associated buffer zone. ☐ The activity is not an as-built project that constitutes a violation of the Vermont Wetland Rules.	
Stop here if applying for Coverage under the Vermont General Wetland Permit		

Complete the following Functions and Values checklist if applying for an Individual Wetland Permit and/or a Wetland Determination		
Functions and Values	For each Function and Value, first evaluate the entire wetland or **wetland complex** and check all that apply. Secondly, evaluate how the wetland in the project area contributes to that function. Thirdly explain how the project will not result in adverse impacts to this function. Include any information on specific avoidance and minimization measures. If more than one wetland complex is involved, use the Supplemental Wetland Forms.	
16. Storage for Flood Water and Storm Runoff	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ Constricted outlet or no outlet and an unconstricted inlet. ☒ Physical space for floodwater expansion and dense, persistent, emergent vegetation or dense woody vegetation that slows down flood waters or stormwater runoff during peak flows and facilitates water removal by evaporation and transpiration. ☐ If a stream is present, its course is sinuous and there is sufficient woody vegetation to intercept surface flows in the portion of the wetland that floods. ☒ Physical evidence of seasonal flooding or ponding such as water stained leaves, water marks on trees, drift rows, debris deposits, or standing water. ☐ Hydrologic or hydraulic study indicates wetland attenuates flooding. If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level. ☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level. ☐ Significant flood storage capacity upstream of the wetland, and the wetland in question provides this function at a negligible level in comparison to upstream storage (unless the upstream storage is temporary such as a beaver	

	impoundment). ☐ Wetland is contiguous to a major lake or pond that provides storage benefits independently of the wetland. ☐ Wetland's storage capacity is created primarily by recent beaver dams or other temporary structures. ☐ 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. ☒ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level. ☒ History of downstream flood damage to public or private property. ☒ 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. ☒ 1. Developed public or private property. ☒ 2. Stream banks susceptible to scouring and erosion. ☒ 3. Important habitat for aquatic life. ☒ The wetland is large in size and naturally vegetated. ☒ Any of the following conditions present upstream of the wetland may indicate a large volume of runoff may reach the wetland. ☐ 1. A large amount of impervious surface in urbanized areas. ☐ 2. Relatively impervious soils. ☒ 3. Steep slopes in the adjacent areas.	
16.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the east and south of the project area is part of the large, overall wetland complex that provides storage for flood water and storm runoff. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
16.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not reduce the capacity of the overall wetland complex to provide storage for flood water and surface runoff. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts to install the underground electric conduit will not alter the storage capacity of the wetland for flood water and storm runoff. Following the installation of the buried conduit, the soil surface will be regraded to reestablish the original surface contours.	

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

	☒ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level. ☐ The wetland is adjacent to a well head or source protection area, and provides ground water recharge. ☐ The wetland provides flows to Class A surface waters. ☐ The wetland contributes to the protection or improvement of water quality of any impaired waters. ☒ The wetland is large in size and naturally vegetated.	
17.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the east and south of the project area is part of the large, overall wetland complex that provides surface water protection. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
17.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not reduce the capacity of the overall wetland complex to provide surface and ground water protection. The project has been designed to avoid permanent wetland impacts, and will not alter the capacity of the wetland to retain sediments, nutrients and other pollutants transported towards the ditch in surface water runoff. Grading and foundation drain installation on the east side of the project area,and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn that does not significantly contribute to surface and ground water protection. Recently, however, the Town of Colchester has not maintained the ditch, and it has become clogged with sediments. To minimize wetland and buffer zone impacts, the proposed stormwater outfall was relocated from the floodplain south of the project area to its current location in the lawn in the northern corner of the parcel. To minimize the potential for erosion in the wetland and buffer zone, a stone outfall will be constructed to dissipate stormwater flow energy from the bioretention basins and the culvert that extends under the driveway.	
18. Fish Habitat	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ 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. ☒ Provides spawning, nursery, feeding or cover habitat for fish (documented or professionally judged). Common habitat includes deep marsh and shallow marsh associates with lakes and streams, and seasonally flooded wetlands associated with streams and rivers.	

	☐ Documented or professionally judged spawning habitat for northern pike. ☐ Provides cold spring discharge that lowers the temperature of receiving waters and creates summer habitat for salmonoid species. ☐ The wetland is located along a tributary that does not support fish, but contributes to a larger body of water that does support fish. The tributary supports downstream fish by providing cooler water, and food sources.	
18.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the south of the project area includes an oxbow lake that most likely periodically floods in the spring, and potentially provide fish spawning habitat. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
18.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not result in an undue adverse impact to fish habitat within the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter any characteristics of the wetland complex that potentially contribute to fish habitat.	
19. Wildlife Habitat	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ 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. ☒ 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. ☒ Provides a nest site, a buffer for a nest site or feeding habitat for wading birds including but not limited to: great blue heron, black-crowned night heron, green-backed heron, cattle egret, or snowy egret. Good habitats for these species include open water or deep marsh adjacent to forested wetlands, or standing dead trees. ☒ Supports or has the habitat to support one or more breeding pairs of any migratory bird that requires wetland habitat for breeding, nesting, rearing of young, feeding, staging roosting, or migration, including: Virginia rail, common	

snipe, marsh wren, American bittern, northern water thrush, northern harrier, spruce grouse, Cerulean warbler, and common loon.

☐ Supports winter habitat for white-tailed deer. Good habitats for these species include softwood swamps. Evidence of use includes deer browsing, bark stripping, worn trails, or pellet piles.

☐ Provides important feeding habitat for black bear, bobcat, or moose based on an assessment of use. Good habitat for these types of species includes wetlands located in a forested mosaic.

☒ Has the habitat to support muskrat, otter or mink. Good habitats for these species include deep marshes, wetlands adjacent to bodies of water including lakes, ponds, rivers and streams.

☒ Supports an active beaver dam, one or more lodges, or evidence of use in two or more consecutive years by an adult beaver population.

☐ Provides the following habitats that support the reproduction of Uncommon Vermont amphibian species including:

☐ 1. Wood Frog, Jefferson Salamander, Blue-spotted Salamander, or Spotted Salamander. Breeding habitat for these species includes vernal pools and small ponds.

☐ 2. Northern Dusky Salamander and the Spring Salamander. Habitat for these species includes headwater seeps, springs, and streams.

☐ 3. The Four-toed salamander; Fowler's Toad; Western or Boreal Chorus frog, or other amphibians found in Vermont of similar significance.

☒ Supports or has the habitat to support significant populations of Vermont amphibian species including, but not limited to Pickerel Frog, Northern Leopard Frog, Mink Frog, and others found in Vermont of similar significance. Good habitat for these types of species includes large marsh systems with open water components.

☐ Supports or has the habitat to support populations of uncommon Vermont reptile species including: Wood Turtle, Northern Map Turtle, Eastern Musk Turtle, Spotted Turtle, Spiny Softshell, Eastern Ribbonsnake, Northern Watersnake, and others found in Vermont of similar significance.

☐ Supports or has the habitat to support significant populations of Vermont reptile species, including Smooth Greensnake, DeKay's Brownsnake, or other more common wetland-associated species.

☒ Meets four or more of the following conditions indicative of wildlife habitat diversity:

☒ 1. Three or more wetland vegetation classes (greater

than 1/2 acre) present including but not limited to: open water contiguous to, but not necessarily part of, the wetland, deep marsh, shallow marsh, shrub swamp, forested swamp, fen, or bog;

☐ 2. The dominant vegetation class is one of the following types: deep marsh, shallow marsh, shrub swamp or, forested swamp;

☐ 3. Located adjacent to a lake, pond, river or stream;

☒ 4. Fifty percent or more of surrounding habitat type is one or more of the following: forest, agricultural land, old field or open land;

☐ 5. Emergent or woody vegetation occupies 26 to 75 percent of wetland, the rest is open water;

☒ 6. One of the following:

☒ i. hydrologically connected to other wetlands of different dominant classes or open water within 1 mile;

☒ ii. hydrologically connected to other wetlands of same dominant class within 1/2 mile;

☒ iii. within 1/4 mile of other wetlands of different dominant classes or open water, but not hydrologically connected;

☐ Wetland or wetland complex is owned in whole or in part by state or federal government and managed for wildlife and habitat conservation; and

☒ Contains evidence that it is used by wetland dependent wildlife species.

If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level.

☐ Check box if any of the following conditions apply that may 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. ☐ The wetland has been identified as a locally important wildlife habitat by an ANR Wildlife Biologist.	
19.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the east and south of the project area is part of the large, overall wetland complex that provides significant wildlife habitat for a variety of wildlife species. The significance of the overall wetland complex is raised due to its proximity to several other large wetland complexes within the Winooski River floodplain. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
19.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not result in an undue adverse impact to wildlife habitat within the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter any characteristics of the wetland complex that potentially contribute to wildlife habitat.	
20. Exemplary Wetland Natural Community	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ 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: ☒ 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. ☒ Contains ecological features that contribute to Vermont's natural heritage, including, but not limited to: ☐ Deep peat accumulation reflecting a long history of	

	wetland formation; ☐ Forested wetlands displaying very old trees and other old growth characteristics; ☐ A wetland natural community that is at the edge of the normal range for that type; ☐ A wetland mosaic containing examples of several to many wetland community types; or ☒ A large wetland complex containing examples of several wetland community types. List species or communities of concern: Silver Maple - Ostrich Fern Floodplain Forest and Silver Maple - Sensitive Fern Floodplain Forest.	
20.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the south of the project area is part of the large, overall wetland complex, which includes a large cluster of floodplain forest wetland communities that have been identified and mapped as Significant Natural Communities by the Vermont Wildlife Diversity Program in the VT Fish and Wildlife Department. These include high quality examples of Silver Maple - Ostrich Fern Floodplain Forest and Silver Maple - Sensitive Fern Floodplain Forest. The roadside ditch section and strip of lawn do not not meet the definition of a natural community.	
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. The project will not cause an undue adverse impact to the Significant Natural Communities within the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. At the request of the Town of Colchester, a set of stairs is proposed on the south side of the project area to provide public access to the Winooski River. This access route will potentially increase foot traffic within a section of the floodplain forest. The stairs, however, will route foot traffic to a single stabilized route down the steep bank above the floodplain, and reduce the potential for erosion on the bank. Temporary wetland impacts are confined to a previously disturbed location over 300 feet from the floodplain forest to the south of the project area that has been identified as a Significant Natural Community.	
21. Rare, Threatened, and Endangered Species Habitat	☐ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☐ 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.	

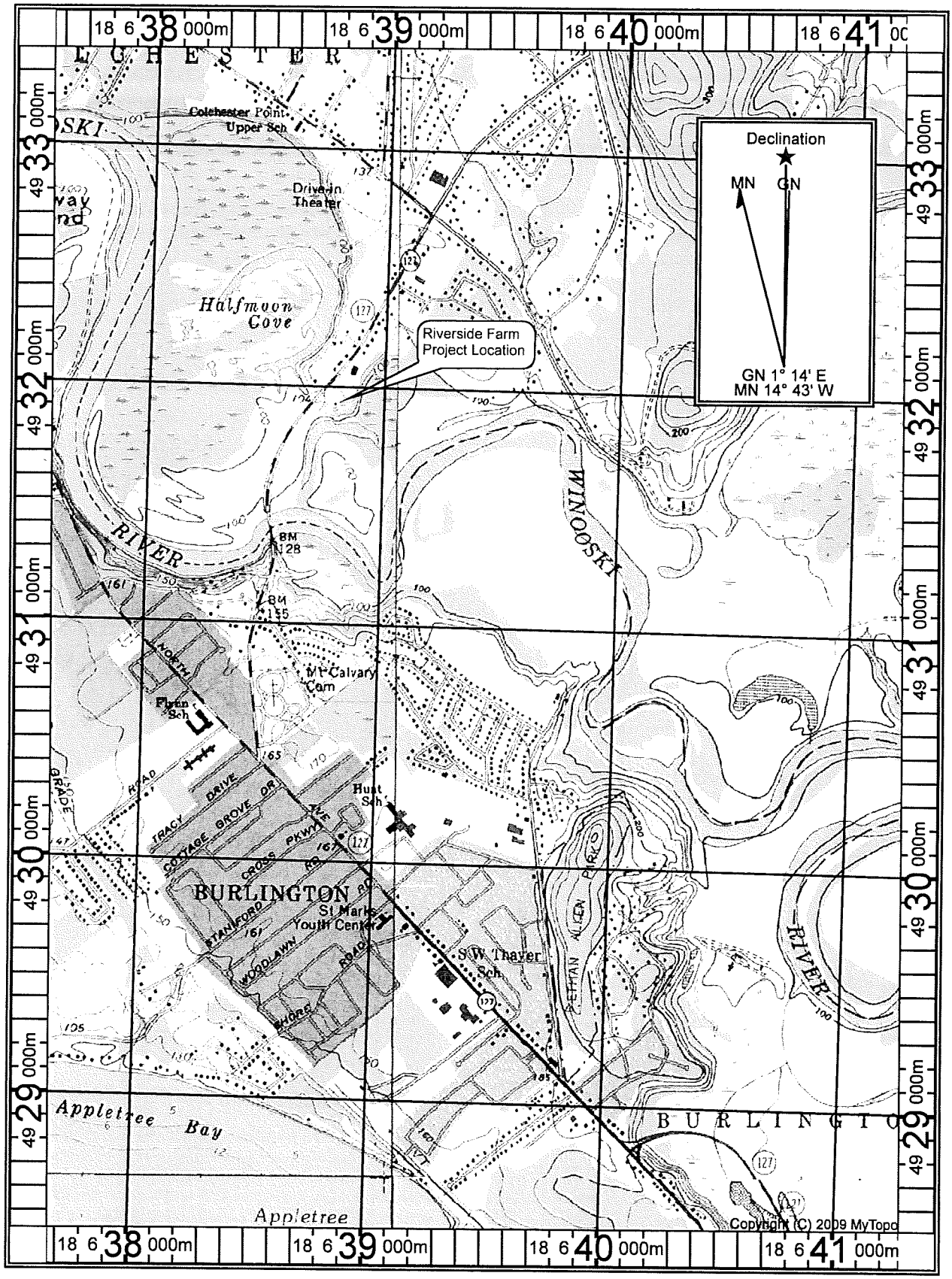
	The wetland is also likely to be significant if any of the following apply: ☐ There is creditable documentation that the wetland provides important habitat for any species on the federal or state threatened or endangered species lists; ☐ There is creditable documentation that threatened or endangered species have been present in past 10 years; ☐ There is creditable 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; ☐ There is creditable 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 There are no known examples of RT&E species within or proximal to the subject wetland. Based on a review of the ANR Natural Resources Atlas, the closest mapped RT&E species locations are approximately 680 feet from the project area, and are associated with the Winooski River. A state-Endangered marshland bird species has been recorded in the Half Moon Cove wetland complex on the northwest side of Route 127, in a location over 700 feet from the project site. The Half Moon Cove wetland complex includes a diverse mix of wetland communities and old oxbow lakes. While similar wetland communities and an oxbow on a smaller scale are found in the overall wetland complex adjacent to the project area, there are no records for this bird species or other RT&E species from the overall wetland complex. The roadside ditch section and strip of lawn are unlikely to provide habitat for any RT&E species.	
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. There are no RT&E records from the overall wetland complex. As noted, the closest mapped RT&E species locations are approximately 680 feet from the project area, and are associated with the Winooski River.	
22. Education and Research in Natural Sciences	☒ Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. ☐ Owned by or leased to a public entity dedicated to education or research. ☐ History of use for education or research. ☒ Has one or more characteristics making it valuable for education or research.	

22.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the east and south of the project area is part of the large, overall wetland complex that is characterized by features that are potentially valuable for education and research. The overall wetland complex is part of an extensive suite of wetland complexes in the Winooski River floodplain in the Burlington-Colchester Intervale. There are several public schools in Burlington and Colchester that are relatively close to the wetland complex. Numerous scientific investigations and studies have been conducted within the Winooski floodplain. It is unknown if studies have specifically targeted the ±84 acre wetland complex adjacent to the project area. The education and research potential of the wetland complex, however, should be considered significant, as this wetland is part of a suite of large, interrelated wetland complexes within the Winooski River floodplain. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
22.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not adversely impact the education and research potential of the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. The proposed stairs will potentially improve access to the wetland for education and research purposes. The stairs will route foot traffic to a single stabilized route down the steep bank above the floodplain, and reduce the potential for erosion on the bank. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter characteristics of the wetland complex that contribute to its education and research potential.	
23. Recreational Value and Economic Benefits	☒ Function is present and likely to be significant: Any of the following characteristics indicate the wetland provides this function. ☒ Used for, or contributes to, recreational activities. ☐ Provides economic benefits. ☒ Provides important habitat for fish or wildlife which can be fished, hunted or trapped under applicable state law. ☐ Used for harvesting of wild foods. Comments:	
23.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the east and south of the project area is part of the large, overall wetland complex that provides potential recreational value and economic benefits. The roadside ditch section and strip of lawn do not significantly contribute to this function.	

23.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not adversely impact the potential recreational value and economic benefits of the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. The proposed stairs will potentially improve access to the wetland for recreational purposes. The stairs will route foot traffic to a single stabilized route down the steep bank above the floodplain, and reduce the potential for erosion on the bank. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter characteristics of the wetland complex that contribute to its potential recreational value and economic benefits.	
24. Open Space and Aesthetics	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ Can be readily observed by the public; and ☐ Possesses special or unique aesthetic qualities; or ☒ Has prominence as a distinct feature in the surrounding landscape; ☐ Has been identified as important open space in a municipal, regional or state plan. Comments: A large section of the wetland complex is strikingly beautiful, however, it is largely hidden out of the public view and is not readily accessible.	
24.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the south of the project area is part of the large, overall wetland complex that is significant for open space and aesthetics. The floodplain forests adjacent to the Winooski River comprise a significant part of the greenbelt along the River that is readily visible from Route 127. This forested section of the wetland complex also forms part of the view experienced by boaters on the Winooski River. The roadside ditch section and strip of lawn do not significantly contribute to this function.	
24.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not result in an undue adverse impact to open space and aesthetics within the overall wetland complex. The proposed project is set back from Route 127 and from the Winooski River, and will not significantly alter public views of the wetland complex.	

	The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter characteristics of the wetland complex that potentially contribute to open space and aesthetics.	
25. Erosion Control through Binding and Stabilizing the Soil	☒ Function is present and likely to be significant: Any of the following physical and vegetative characteristics indicate the wetland provides this function. ☒ Erosive forces such as wave or current energy are present and any of the following are present as well: ☒ Dense, persistent vegetation along a shoreline or stream bank that reduces an adjacent erosive force. ☐ Good interspersion of persistent emergent vegetation and water along course of water flow. ☒ Studies show that wetlands of similar size, vegetation type, and hydrology are important for erosion control. What type of erosive forces are present: ☐ Lake fetch and waves ☒ High current velocities: ☐ Water level influenced by upstream impoundment If any of the above boxes are checked, the wetland provides this function. Complete the following to determine if the wetland provides this function above or below a moderate level. If none of the following apply, the wetland provides this function at a moderate level. ☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *lower* level. ☐ The stream is artificially channelized and/or lacks vegetation that contributes to controlling the erosive force. ☐ Check box if any of the following conditions apply that may indicate the wetland provides this function at a *higher* level. ☐ The stream contains high sinuosity. ☐ Has been identified through fluvial geomorphic assessment to be important in maintaining the natural condition of the stream or river corridor.	
25.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above The subject wetland in the Winooski River floodplain to the south of the project area is part of the large, overall wetland complex that contributes to erosion control through binding and stabilizing the soil along the northern bank of the Winooski River. The roadside ditch section and strip of lawn do not significantly contribute to this function.	

25.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue adverse impact to this function. Include any avoidance and minimization measures relevant to this function. The project will not result in an undue adverse impact to erosion control provided by the overall wetland complex. The project has been designed to avoid permanent wetland impacts. Grading and foundation drain installation on the east side of the project area, and the stairs south of the project area, have been confined to the upper-most section of the wetland buffer. Temporary wetland impacts will be restricted to a 508 SF area comprised of a section of neglected drainage ditch and strip of lawn, and will not alter the capacity of the overall wetland complex to contribute to erosion control.	



SCALE 1:24000

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FEET

Project Location Map
for Riverside Farm
527 Heineberg Road
Colchester, Vermont

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riverside Farm City/County: Colchester/Chittenden Sampling Date: 10/18/14

Applicant/Owner: Riverside Farm, LLC State: VT Sampling Point: T1-Wet

Investigator(s): Jeffrey Severson - Oakledge Env. Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Flood plain Terrace Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): _____ Lat: N 4931870 Long: W 1806388 13 Datum: NAD 27

Soil Map Unit Name: Adams and Windsor loamy sands NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes X No _____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): _____
Water Table Present?	Yes ___	No X	Depth (inches): >20" +
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): >20" +

Wetland Hydrology Present? Yes X No _____

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

Remarks:

SOIL

Sampling Point: T1 -Wet

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	100					silt loam	moist friable, many v.fine & fine roots, few large roots
3-10	10YR 3/2	60	10YR 3/1	40	C	M	silt loam	moist, firm, many v.fine & fine roots, common med-lg roots
10-15	10YR 4/1	50	10YR 3/2	40	C	M	silt loam	moist friable many fine & v.fine roots, common med-lg roots
			10YR 3/3	10	C	M		
15-20+	10YR 4/2	45	10YR 3/2	20	C	M	sandy loam	moist, friable
			10YR 4/3	20	C	M		
			7.5YR 4/4	15	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: T1-Wet

Tree Stratum (Plot size: 30-ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer Saccharinum	63	Y	FACW
2. Populus deltoides	38	Y	FAC
3.			
4.			
5.			
6.			
7.			
	101	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft radius)			
1. Fraxinus nigra	20.5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20.5	= Total Cover	

Herb Stratum (Plot size: 5-ft radius)			
1. Onoclea sensibilis	63	Y	FACW
2. Fraxinus nigra	10.5	N	FACW
3. Quercus rubra	TR	N	FACU
4. Impatiens capensis	TR	N	FACW
5. Rhamnus Cathartica	TR	N	FAC
6. Carex sp	TR	N	?
7.			
8.			
9.			
10.			
11.			
12.			
	73.5	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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.

Hydrophytic Vegetation Present? Yes X No ___

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Riverside Farm City/County: Colchester/Chittenden Sampling Date: 10/8/14

Applicant/Owner: Riverside Farm, LLC State: VT Sampling Point: T1-Up

Investigator(s): Jeffrey Severson Oakledge Env. Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Floodplain Terrace Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): ______ Lat: N 4931878 Long: W 180638813 Datum: NAD 27

Soil Map Unit Name: Adams and Windsor loamy sands NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ___	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: ______

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ 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 X	Depth (inches): ______	
Water Table Present?	Yes ___ No X	Depth (inches): >22" bgs	
Saturation Present? (includes capillary fringe)	Yes ___ No ___	Depth (inches): >22" bgs	**Wetland Hydrology Present?** Yes ___ No ___

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

Remarks:

SOIL

Sampling Point: T1-up

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	2.5Y 3/2	100					silt loam	moist, friable, many v. fine + fine roots, few med. roots
10-15	2.5Y 3/2	80	2.5Y 3/1	20	C	M	silt loam	moist, friable many v. fine + fine roots, few med roots
15-22+	2.5Y 3/2	55	2.5Y 4/3	20	C	M		moist
			2.5Y 4/2	20	C	M		
			7.5YR 2.5/3	5	C	M	fine sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: T1-UP

Tree Stratum (Plot size: 30-ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	63	Y	FACW
2. Salix nigra	20.5	Y	OBL
3. Acer negundo	10.5	N	FAC
4. Ulmus americana	10.5	N	FACW
5. Populus deltoides	10.5	N	FAC
6.			
7.			
	115	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft. radius)			
1. Acer negundo	10.5	Y	FAC
2. Fraxinus nigra	3	Y	FACW
3.			
4.			
5.			
6.			
7.			
	13.5	= Total Cover	

Herb Stratum (Plot size: 5-ft radius)			
1. Rubus occidentalis	20.5	Y	UPL
2. Fraxinus nigra	20.5	Y	FACW
3. Onoclea sensibilis	3	N	FACW
4. Impatiens capensis	3	N	FACW
5. Quercus rubra	TR	N	FACU
6. Geum macrophyllum	TR	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	47	= Total Cover	

Woody Vine Stratum (Plot size: 30-ft. radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 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.

Hydrophytic Vegetation Present? Yes X No ___

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

LEGEND

- EXISTING CONTOUR (336)
- PROPOSED PROPERTY LINE
- PROPOSED SETBACK LINE
- PROPOSED CONTOUR (100)
- PROPOSED CURB
- PROPOSED GRAVEL
- PROPOSED PAVEMENT
- PROPOSED UNDERGROUND ELECTRIC (E)
- PROPOSED FORCEMAIN (FM)
- PROPOSED GAS (G)
- PROPOSED STORM (D)
- PROPOSED GRAVITY SEWER (S)
- PROPOSED TELEPHONE (T)
- PROPOSED WATER (W)
- PROPOSED SWALE
- PROPOSED SEWER MANHOLE
- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED WELL
- PROPOSED HYDRANT
- PROPOSED SHUT OFF
- PROPOSED UTILITY POLE
- PROPOSED LIGHT POLE
- PROPOSED EDGE OF WOODS
- REBAR SET
- CONCRETE MONUMENT SET
- PROJECT BENCHMARK
- FLOOD PLAIN BOUNDARY

TEMPORARY WETLAND IMPACT - 508 SF

PERMANENT WETLAND BUFFER IMPACT - 2,847 SF

TEMPORARY WETLAND BUFFER IMPACT - 4,117 SF

489 SF PERMANENT BUFFER IMPACT FOR GRADING AND CULVERT INSTALLATION

2,282 SF TEMPORARY BUFFER IMPACT FOR GRADING AND CULVERT INSTALLATION

CLEAN OUT EXISTING ROADSIDE DITCH, INSTALL STONE OUTFALL AND STABILIZE DITCH WITH EC MATTING

NEW UNDERGROUND 3-PHASE ELEC. SERVICE

NEW 15" HDPE W/FES INV.=108.2

508 SF WETLAND IMPACT FOR UNDERGROUND UTILITY INSTALLATION

1,337 SF TEMPORARY WETLAND BUFFER IMPACT FOR UNDERGROUND UTILITY INSTALLATION

PROPOSED GRINDER PUMP STATION

ZONING BOUNDARY & LIMITS OF 100 YR. FLOOD ZONE

400 SF PERMANENT BUFFER ZONE IMPACT FOR STEPS INSTALLATION

CLASS 2 WETLAND DELINEATION

50' BUFFER ZONE

498 SF TEMPORARY BUFFER IMPACT FOR FOUNDATION DRAIN INSTALLATION AND GRADING

1,958 SF PERMANENT BUFFER IMPACT FOR SITE GRADING AND BASEMENT EGRESS

PROPOSED 5,000 GALLON SEPTIC TANK

PROPOSED 5,000 GALLON PUMP STATION & VALVE PIT

HEINEBERG DRIVE

VT. RTE. 127

TO BURLINGTON

VT RTE 127 R.O.W.

PROPERTY LINE

PROPERTY LINE BANK OF COVE

Zone "FP"

CMF (2) VTrans

CMF VTrans

CMS

EX. 24" CMP INV=108.0

NEW DMH #1 RIM=113.0 INV. IN= 108.8 INV. OUT=108.5

NEW CB #1 RIM=120.0 INV. IN=114.8 INV. OUT=114.7

NEW CB #2 RIM=120.0 INV. IN=115.4 INV. OUT=115.5

NEW CB #3 RIM=120.2 INV. IN=116.0 INV. OUT=115.9

NEW DMH #2 RIM=123.0 INV. IN (6")=119.0 INV. OUT (2@12")=118.5

BIORETENTION AREA

BIORETENTION AREA

SINGLE FAMILY UNIT F.F. ELEV.=123.8 BASEMENT=114.8

BARN FFE=122.9

GREEN HOUSE

TOOLS

COMMUNITY GARDEN AREA

NEW UNDERGROUND STORMWATER INFILTRATION FACILITY

PROPOSED DISPOSAL FIELD (25x100)

PROPOSED DISPOSAL FIELD 30x100

BUILDING 12 RESIDENTIAL UNITS (3-STORY) F.F. ELEV.=124.0

PROPOSED GAS METER LOCATION (COORD. WITH VT GAS)

6" PERF. SDR 35 PVC FOUNDATION DRAIN

6" SDR 35 PVC FOUNDATION DRAIN OUTLET

TRACES OF WIRE FENCE

IRS

PLAN NOTES

1. Property lines shown are from 2014 survey by CEA.
2. Elevations shown are based on NAVD88.
3. Contours shown north and south of driveway are from LIDAR data by others and have not been verified in the field.
4. North arrow is based on Grid North Vermont Coordinate System of 1983 from GPS observation in the field.
5. Wetland delineation was performed by Oakledge Environmental Services, Inc. and confirmed with VT DEC Wetlands staff December, 2014.

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

SITE ENGINEER:

CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

DRAWN MAB/ACL
CHECKED PBS
APPROVED PBS

PROJECT:

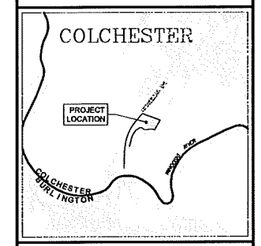
RIVERSIDE FARM

527 HEINEBERG DR.
COLCHESTER
VERMONT 05446

OWNER:

RIVERSIDE FARM, LLC

P.O. BOX 1335
BURLINGTON VT
05402



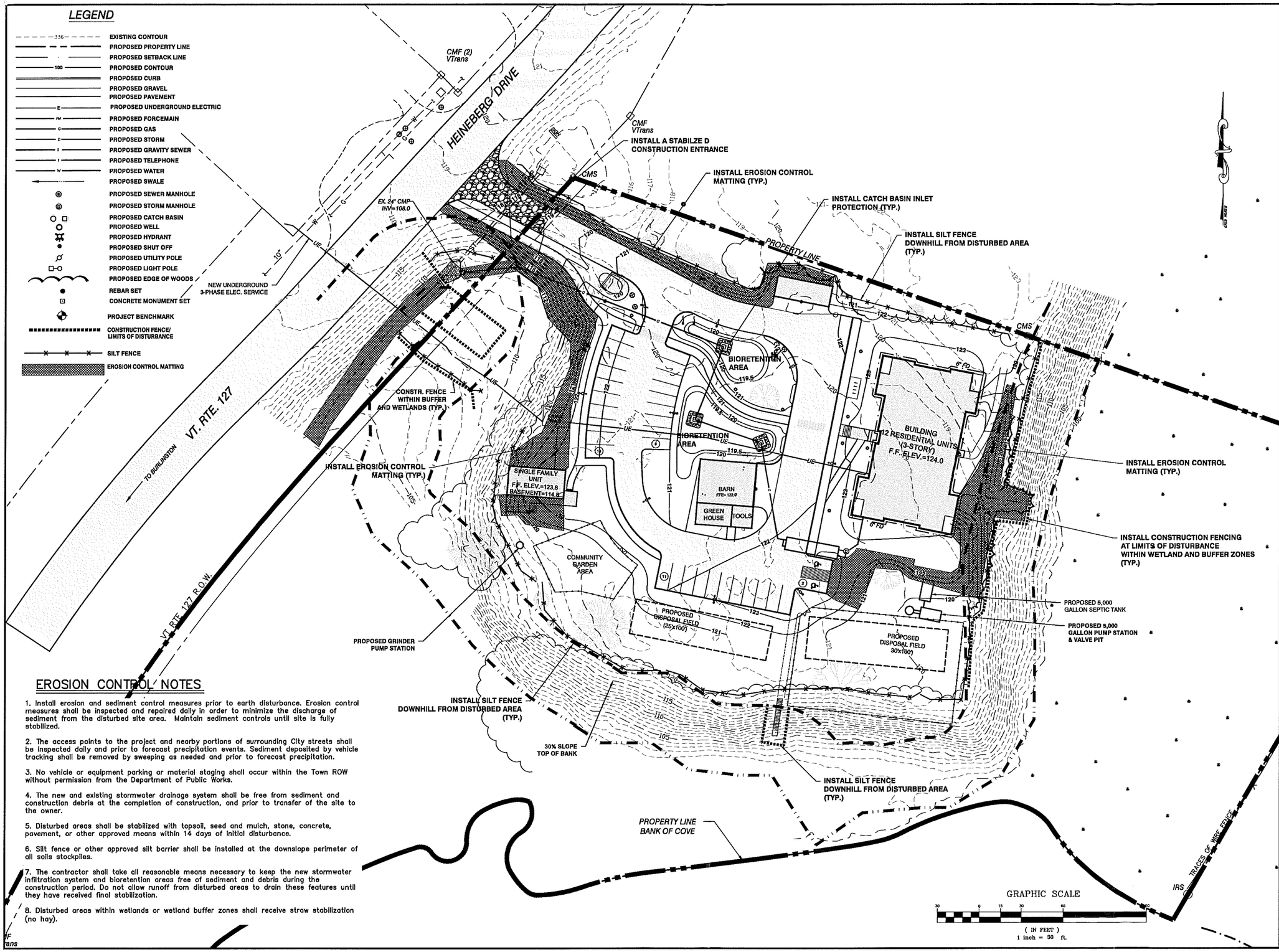
LOCATION MAP
NTS

DATE	CHECKED	REVISION
9/24/15	PBS/ACL	REVISED IMPACT AREAS
10/6/15	PBS	REVISED IMPACT AREAS, WETLAND APP.

WETLAND IMPACT PLAN

DATE JUN. 15, 2015
SCALE 1" = 30'
PROJ. NO. 13220

DRAWING NUMBER W1.0



EROSION CONTROL NOTES

1. Install erosion and sediment control measures prior to earth disturbance. Erosion control measures shall be inspected and repaired daily in order to minimize the discharge of sediment from the disturbed site area. Maintain sediment controls until site is fully stabilized.

2. The access points to the project and nearby portions of surrounding City streets shall be inspected daily and prior to forecast precipitation events. Sediment deposited by vehicle tracking shall be removed by sweeping as needed and prior to forecast precipitation.

3. No vehicle or equipment parking or material staging shall occur within the Town ROW without permission from the Department of Public Works.

4. The new and existing stormwater drainage system shall be free from sediment and construction debris at the completion of construction, and prior to transfer of the site to the owner.

5. Disturbed areas shall be stabilized with topsoil, seed and mulch, stone, concrete, pavement, or other approved means within 14 days of initial disturbance.

6. Silt fence or other approved silt barrier shall be installed at the downslope perimeter of all soils stockpiles.

7. The contractor shall take all reasonable means necessary to keep the new stormwater infiltration system and bioretention areas free of sediment and debris during the construction period. Do not allow runoff from disturbed areas to drain these features until they have received final stabilization.

8. Disturbed areas within wetlands or wetland buffer zones shall receive straw stabilization (no hay).

SITE ENGINEER:
CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

DRAWN: MAB/ACL
CHECKED: PBS
APPROVED: PBS

PROJECT:

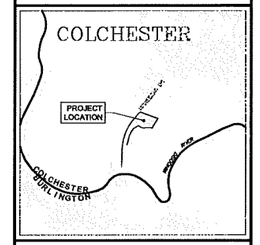
RIVERSIDE FARM

527 HEINEBERG DR.
COLCHESTER
VERMONT 05446

OWNER:

RIVERSIDE FARM, LLC

P.O. BOX 1335
BURLINGTON VT
05402



LOCATION MAP
NTS

DATE	CHECKED	REVISION
7/14/2015	PBS/ACL	PRELIMINARY PLAN SUBMITTAL
8/25/2015	PBS/ACL	REVISED SINGLE FAMILY UNIT
9/28/2015	PBS/ACL	ADJ. WEST PARKING, FINAL PLAN APP.
9/29/2015	PBS/ACL	DEC STORMWATER SUBMITTAL
10/6/2015	PBS	DEC WETLAND PERMIT APP.

EROSION CONTROL PLAN

DATE: JUN. 16, 2015
SCALE: 1" = 30'
PROJ. NO.: 13220
DRAWING NUMBER: C1.4

Introduction

This project is subject to the terms and conditions of the authorization from the State of Vermont to discharge construction related storm water runoff.

Coverage under the State Construction General Permit 3-9020 is required for any construction activity that disturbs 1 or more acres of land, or is part of a larger development plan that will disturb 1 or more acres.

This project has been deemed to qualify as a Low Risk Site which is subject to the erosion prevention and sediment control (EPSC) standards set for in the State of Vermont's
Low Risk Site Handbook for Erosion Prevention and Sediment Control

The following narrative and implementation requirements represent the minimum standard for which this site is required to be maintained as regulated by the State of Vermont.

Any best management practices (BMPs) depicted on the project's EPSC Site plan which go beyond the Handbook requirements are considered to be integral to the management of the site and represent components of the municipal EPSC approval for the project which shall be implemented.

The EPSC plan depicts one snap shot in time of the site. All construction sites are fluid in their day to day exposures and risks as it relates to minimizing sediment loss from the site. **It is the responsibility of the Contractor to implement the necessary BMP's to comply with the Low Risk Handbook standards outlined on this sheet based on the interim site disturbance conditions which may or may not be shown on the EPSC Site Plan.**

Specific BMPs which are critical to allowing the project to be considered a Low risk site include the items checked below:

- Limit the amount of disturbed earth to two acres or less at any one time.
- There shall be a maximum of 14 consecutive days of disturbed earth exposure in any location before temporary or final stabilization is implemented.
- The project is to disturb less than two acres of soil with an erodibility higher than K=0.17.
- Limit the project soil disturbance to less than two acres with slopes greater than 5%.

This project is authorized to disturb up to 2.9 acres

1. Mark Site Boundaries

Purpose:
Mark the site boundaries to identify the limits of construction. Delineating your site will help to limit the area of disturbance, preserve existing vegetation and limit erosion potential on the site.

How to comply:
Before beginning construction, walk the site boundaries and flag trees, post signs, or install orange safety fence. Fence is required on any boundary within 50 feet of a stream, lake, pond or wetland, unless the area is already developed (existing roads, buildings, etc.)

2. Limit Disturbance Area

Purpose:
Limit the amount of soil exposed at one time to reduce the potential erosion on site.

Requirements:
The permitted disturbance area is specified on the site's written authorization to discharge. Only the acreage listed on the authorization form may be exposed at any given time.

How to comply:
Plan ahead and phase the construction activities to ensure that no more than the permitted acreage is disturbed at one time. Be sure to properly stabilize exposed soil with seed and mulch or erosion control matting before beginning work in a new section of the site.

3. Stabilize Construction Entrance

Purpose:
A stabilized construction entrance helps remove mud from vehicle wheels to prevent tracking onto streets.

Requirements:
If there will be any vehicle traffic off of the construction site, you must install a stabilized construction entrance before construction begins.

How to Install
Rock Size: Use a mix of 1 to 4 inch stone
Depth: 8 inches minimum
Width: 12 feet minimum
Length: 40 feet minimum (or length of driveway, if shorter)
Geotextile: Place filter cloth under entire gravel bed

Maintenance:
Redress with clean stone as required to keep sediment from tracking onto the street.

4. Install Silt Fence

Purpose:
Silt fences intercept runoff and allow suspended sediment to settle out.

Requirements:
Silt fence must be installed:
- on the downhill side of the construction activities
- between any ditch, swale, storm sewer inlet, or waters of the State and the disturbed soil

* *Hay bales must not be used as sediment barriers due to their tendency to degrade and fall apart.*

Where to place:
- Place silt fence on the downhill edge of bare soil. At the bottom of slopes, place fence 10 feet downhill from the end of the slope (if space is available).
- Ensure the silt fence catches all runoff from bare soil.
- Maximum drainage area is ¼ acre for 100 feet of silt fence.
- Install silt fence across the slope (not up and down hills!)
- Install multiple rows of silt fence on long hills to break up flow.
- Do not install silt fence across ditches, channels, or streams or in stream buffers.

How to install silt fence:
- Dig a trench 6 inches deep across the slope
- Unroll silt fence along the trench
- Ensure stakes are on the downhill side of the fence
- Join fencing by rolling the end stakes together
- Drive stakes in against downhill side of trench
- Drive stakes until 16 inches of fabric is in trench
- Push fabric into trench; spread along bottom
- Fill trench with soil and pack down

Maintenance:
- Remove accumulated sediment before it is halfway up the fence.
- Ensure that silt fence is trenched in ground and there are no gaps.

5. Divert Upland Runoff

Purpose:
Diversion berms intercept runoff from above the construction site and direct it around the disturbed area. This prevents clean water from becoming muddied with soil from the construction site.

Requirements:
If storm water runs onto your site from upslope areas and your site meets the following two conditions, you must install a diversion berm before disturbing any soil.
1. You plan to have one or more acres of soil exposed at any one time (excluding roads).
2. Average slope of the disturbed area is 20% or steeper.

How to Install:
1. Compact the berm with a shovel or earth-moving equipment.
2. Seed and mulch berm or cover with erosion control matting immediately after installation.
3. Stabilize the flow channel with seed and straw mulch or erosion control matting. Line the channel with 4 inch stone if the channel slope is greater than 20%.
4. Ensure the berm drains to an outlet stabilized with riprap. Ensure that there is no erosion at the outlet.
5. The diversion berm shall remain in place until the disturbed areas are completely stabilized.

6. Slow Down Channelized Runoff

Purpose:
Stone check dams reduce erosion in drainage channels by slowing down the storm water flow.

Requirements:
If there is a concentrated flow (e.g. in a ditch or channel) of storm water on your site, then you must install stone check dams. Hay bales must not be used as check dams.

How to Install:
Height: No greater than 2 feet. Center of dam should be 9 inches lower than the side elevation
Side slopes: 2:1 or flatter
Stone size: Use a mixture of 2 to 9 inch stone
Width: Dams should span the width of the channel and extend up the sides of the banks
Spacing: Space the dams so that the bottom (toe) of the upstream dam is at the elevation of the top (crest) of the downstream dam. This spacing is equal to the height of the check dam divided by the channel slope.
Spacing (in feet) = Height of check dam (in feet)/Slope in channel (ft/ft)

Maintenance:
Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam. If significant erosion occurs between check dams, a liner of stone should be installed.

7. Construct Permanent Controls

Purpose:
Permanent storm water treatment practices are constructed to maintain water quality, ensure groundwater flows, and prevent downstream flooding. Practices include detention ponds and wetlands, infiltration basins, and storm water filters.

Requirements:
If the total impervious* area on your site, or within the common plan of development, will be 1 or more acres, you must apply for a State Storm water Discharge Permit and construct permanent storm water treatment practices on your site. These practices must be installed before the construction of any impervious surfaces.

How to comply:
Contact the Vermont Storm water Program and follow the requirements in the Vermont Storm water Management Manual. The Storm water Management Manual is available at:
www.vtwaterquality.org/stormwater.htm
*An impervious surface is a manmade surface, including, but not limited to, paved and unpaved roads, parking areas, roofs, driveways, and walkways, from which precipitation runs off rather than infiltrates.

8. Stabilize Exposed Soil

Purpose:
Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to stabilize exposed soil. Mulches and matting protect the soil surface while grass is establishing.

Requirements:
All areas of disturbance must have temporary or permanent stabilization within 7, 14, or 21 days of initial disturbance, as stated in the project authorization. After this time, any disturbance in the area must be stabilized at the end of each work day.

The following exceptions apply:

- Stabilization is not required if earthwork is to continue in the area within the next 24 hours and there is no precipitation forecast for the next 24 hours.
- Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches).

All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade.

How to comply:
Prepare bare soil for seeding by grading the top 3 to 6 inches of soil and removing any large rocks or debris.

Seeding Rates for Temporary Stabilization
April 15 - Sept. 15 — Ryegrass (annual or perennial: 20 lbs/acre)
Sept. 15 - April 15 — Winter rye: 120 lbs/acre

Seeding Rates for Final Stabilization:Choose

Seeding Rates for Final Stabilization:

Choose from:	Variety	lbs. /acre	lbs. /1000 sq ft.
Birds-foot trefoil	Empire Pardee	5[1]	0.1
or			
Common white clover	Common	8	0.2
plus			
Tall Fescue	KY-31 Rebel	10	0.25
plus			
Redtop	Common	2	
or			
Ryegrass (perennial)	Pennfine Lmn	5	0.1

1- Mix 2.5 each of Empire and Pardee OR 2.5 lbs. of Birds foot and 2.5 lbs. white clover per acre

Mulching Rates
April 15 - Sept.15 – Hay or Straw: 1 inch deep (1-2 bales/1000 s.f.)
Sept.15 - April 15 – Hay or Straw: 2 in. deep (2-4 bales/1000 s.f.)

Erosion Control Matting
As per manufacturer's instructions

Hydroseed
As per manufacturer's instructions

9. Winter Stabilization

Purpose:
Managing construction sites to minimize erosion and prevent sediment loading of waters is a year-round challenge. In Vermont, this challenge becomes even greater during the late fall, winter, and early spring months.
'Winter construction' as discussed here, describes the period between October 15 and April 15, when erosion prevention and sediment control is significantly more difficult.
Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion.

Requirements for Winter Shutdown:
For those projects that will complete earth disturbance activities prior to the winter period (October 15), the following requirements must be adhered to:
1. For areas to be stabilized by vegetation, seeding shall be completed no later than September 15 to ensure adequate growth and cover.
2. If seeding is not completed by September 15, additional non-vegetative protection must be used to stabilize the site for the winter period. This includes use of Erosion Control Matting or netting of a heavy mulch layer. Seeding with winter rye is recommended to allow for early germination during wet spring conditions.
3. Where mulch is specified, apply roughly 2 inches with an 80-90% cover. Mulch should be tracked in or stabilized with netting in open areas vulnerable to wind.

Requirements for Winter Construction
If construction activities involving earth disturbance continue past October 15 or begin before April 15, the following requirements must be adhered to:
1. Enlarged access points, stabilized to provide for snow stockpiling.
2. Limits of disturbance moved or replaced to reflect boundary of winter work.
3. A snow management plan prepared with adequate storage and control of meltwater, requiring cleared snow to be stored down slope of all areas of disturbance and out of storm water treatment structures.
4. A minimum 25 foot buffer shall be maintained from perimeter controls such as silt fence.
5. In areas of disturbance that drain to a water body within 100 feet, two rows of silt fence must be installed along the contour.
6. Drainage structures must be kept open and free of snow and ice dams.
7. Silt fence and other practices requiring earth disturbance must be installed ahead of frozen ground.
8. Mulch used for temporary stabilization must be applied at double the standard rate, or a minimum of 3 inches with an 80-90% cover.
9. To ensure cover of disturbed soil in advance of a melt event, areas of disturbed soil must be stabilized at the end of each work day, with the following exceptions:
   - If no precipitation within 24 hours is forecast and work will resume in the same disturbed area within 24 hours, daily stabilization is not necessary.
   - Disturbed areas that collect and retain runoff, such as house foundations or open utility trenches.
10. Prior to stabilization, snow or ice must be removed to less than 1 inch thickness.
11. Use stone to stabilize areas such as the perimeter of buildings under construction where construction vehicle traffic is anticipated. Stone paths should be 10 to 20 feet wide to accommodate vehicular traffic.

10. Stabilize Soil at Final Grade

Purpose:
Stabilizing the site with seed and mulch or erosion control matting when it reaches final grade is the best way to prevent erosion while construction continues.

Requirements:
Within 48 hours of final grading, the exposed soil must be seeded and mulched or covered with erosion control matting.

How to comply:
Bring the site or sections of the site to final grade as soon as possible after construction is completed. This will reduce the need for additional sediment and erosion control measures and will reduce the total disturbed area.
For seeding and mulching rates, follow the specifications under Rule 8, Stabilizing Exposed Soil.

11. Dewatering Activities

Purpose:
Treat water pumped from dewatering activities so that it is clear when leaving the construction site.

Requirements:
Water from dewatering activities that flows off of the construction site must be clear. Water must not be pumped into storm sewers, lakes, or wetlands unless the water is clear.

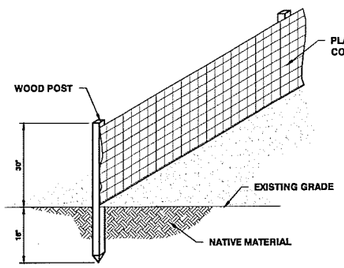
How to comply:
Using sock filters or sediment filter bags on dewatering discharge hoses or pipes, discharge water into silt fence enclosures installed in vegetated areas away from waterways. Remove accumulated sediment after the water has dispersed and stabilize the area with seed and mulch.

12. Inspect Your Site

Purpose:
Perform site inspections to ensure that all sediment and erosion control practices are functioning properly. Regular inspections and maintenance of practices will help to reduce costs and protect water quality.

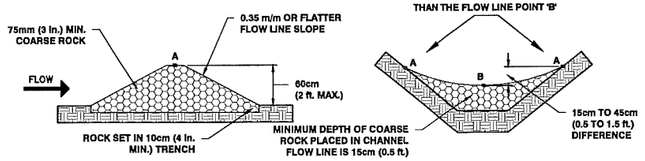
Requirements:
Inspect the site at least once every 7 days and after every rainfall or snow melt that results in a discharge from the site. Perform maintenance to ensure that practices are functioning according to the specifications outlined in this handbook.

In the event of a noticeable sediment discharge from the construction site, you must take immediate action to inspect and maintain existing erosion prevention and sediment control practices. Any visibly discolored storm water runoff to waters of the State must be reported. Forms for reporting discharges are available at:
www.vtwaterquality.org/stormwater.htm

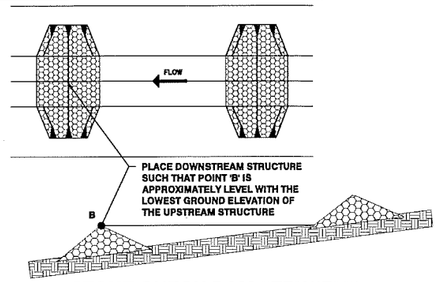


CONSTRUCTION FENCE DETAIL
N.T.S.

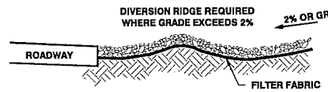
D-50 OF ROCK (MM)	DOWNSTREAM FLOWLINE SLOPE OF STRUCTURE (m/m) 0.35	0.30	0.25	0.20	0.15	0.10
	MAXIMUM WATER DEPTH OVER ROCK (mm)					
75	15	18	20	25	33	46
150	30	36	41	50	68	100



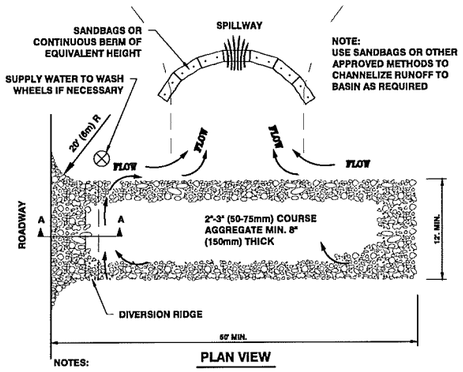
SIDE VIEW FRONT VIEW



STONE CHECK DAM STRUCTURE
N.T.S.



SECTION A-A



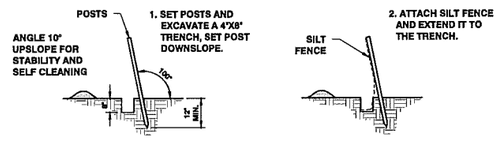
NOTE: USE SANDBAGS OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED

NOTES:

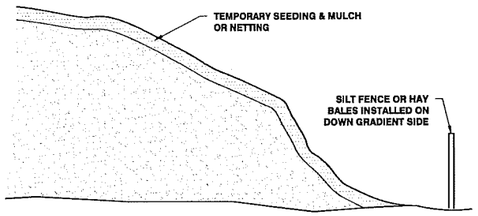
PLAN VIEW

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

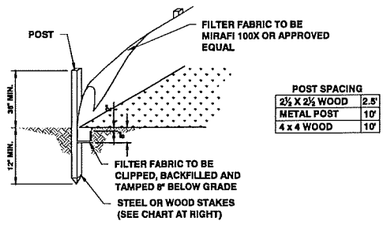
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



SILT FENCE CONSTRUCTION DETAIL
N.T.S.



TEMPORARY STOCKPILE DETAIL
N.T.S.



POST SPACING	
2½ X 2½ WOOD	2.5'
METAL POST	10'
4 x 4 WOOD	10'

NOTES:
1. INSTALL MIRIFI ENVIROFENCE, OR APPROVED EQUAL OR AS DETAILED HEREIN.
2. INSTALL SILT FENCES AT TOES OF ALL UNPROTECTED SLOPES AND AS PARALLEL TO CONTOURS AS POSSIBLE. THIS INCLUDES ALL FILLED OR UNPROTECTED SLOPES CREATED DURING CONSTRUCTION, NOT NECESSARILY REFLECTED ON THE FINAL PLANS. CURVE THE ENDS OF THE FENCE UP INTO THE SLOPE. REMOVE SEDIMENT WHEN ACCUMULATED TO HALF THE HEIGHT OF THE FENCE. SILT FENCES ARE TO BE MAINTAINED UNTIL SLOPES ARE STABILIZED.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.

SILT FENCE DETAIL
N.T.S.

XX/XX/XXXX

SITE ENGINEER:
CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2322 FAX: 802-864-2271 web: www.cea-vt.com

DRAWN MAB
CHECKED SAV
APPROVED PBS

OWNER:
RIVERSIDE FARM
527 HEINEBERG DR.
COLCHESTER
VERMONT 05446

PROJECT:
RIVERSIDE FARM, LLC
P.O. BOX 1335
BURLINGTON VT
05402

DATE	CHECKED	REVISION
10/20/2014	PBS	SKETCH PLAN SUBMITTAL
1/16/2015	PBS	PRELIMINARY PLAN SUBMITTAL

EROSION CONTROL NOTES AND DETAILS

DATE JUN. 20, 2014
SCALE AS SHOWN
PROJ. NO. 13220
DRAWING NUMBER C2.7

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