Lamoureux & Dickinson
Civil Engineers ◦ Environmental Engineering ◦ Land Surveying ◦ Wetlands ◦ Transportation ◦ Permitting

February 12, 2016

Tina Heath
District Wetlands Ecologist
Watershed Management Division
1 National Life Drive, Main 2
Montpelier VT 05620-3522

RE: Miller property, Spruce Lane, Williston
Wetland General Permit application

Dear Tina:

On behalf of the applicant, Tim Miller, we are submitting a General Permit application to allow the construction of a driveway to the site of a proposed single-family home on Spruce Lane in Williston. You met with Mr. Miller and myself on October 1, 2015 to view the wetland and discuss regulations. We met again at your office on December 23, 2015 to discuss a preliminary site plan.

The applicant proposes to make use of an existing, culverted equipment access road for the driveway to one of three proposed house sites on this 41-acre property. The proposed driveway would impact 2,901 sq ft of wetland buffer.

Enclosed are the application, check for the application fee, supporting documentation, and the project plans. If you have any questions or need additional information, please don't hesitate to contact me.

Sincerely,

Brian Tremback

Brian Tremback
Certified Professional Soil Scientist
Licensed Designer, Class B
Wetland Scientist
brian@LDengineering.com

cc: Tim Miller

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

Applicant Name: Tim Miller | **Representative Name: Brian Tremback**

Town where project is located: Williston | **County: Chittenden**

Project Location Description: 186 Spruce Lane
911 Street Address or direction from nearest intersection

Project Summary:Construction of a driveway and utilities through wetland buffer to serve a new single-amily home on Lot 2

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	0square feet (s.f.)	Total Buffer Zone Impact	2901square feet (s.f.)
Total Wetland Clearing (qualified linear projects only)	0square feet (s.f.)	Total Buffer Zone Clearing (qualified linear projects only)	0square feet (s.f.)

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

Wetland Impact Fee: ($0.75/sf)	$0.00	Administrative Fee:	$240
Buffer Impact Fee: ($0.25/sf)	$725.25	Total Check Amount:	$965.25
Clearing Fee: ($0.25/sf)	$0.00		

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

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

Proposed Impact Type: (check all that apply)
☐ Buildings ☒ Utilities ☐ Parking ☐ Septic/Well ☐ Stormwater
☒ 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: **Lot 2**

Wetland Type: **PEM - Emergent Wetlar**WL Size Class : **<1 acre**

Proposed Alterations

Wetland Alteration:		Buffer Zone Alteration:		Wetland Alteration Type (check all that apply)	
Wetland Fill:	0s.f.			☐Dredge	☐Drain
Temporary:	0s.f.	Temporary:	0 s.f	☐Cut Vegetation	☐Stormwater
Permanent: :	0s.f.	Permanent: :	2901 s.f	☒Trench/Fill	☐Other

Mitigation

Avoidance and Minimization (s.f. of wetland NOT impacted): Wetland: s.f. Buffer Zone 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	Timothy Miller	
1.2. Applicant Address	186 Spruce Lane Williston, VT 05495	
1.3. Applicant Phone Number	802-233-1497	
1.4. Applicant Email	tmiller@rem-development.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 [signature] Date: 2-12-16	
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	Brian Tremback	
2.2. Representative Address	Lamoureux & Dickinson Consulting Engineers, Inc., 14 Morse Drive, Essex, VT 05452	
2.3. Representative Phone Number	802-878-4450	
2.4. Applicant Email	brian@LDengineering.com	
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 [signature] Date: 2-12-16	
3. Landowner	Landowner must sign the application. Use this space if landowner is different from the applicant	
3.1. Landowner Name	Tim Miller	
3.2. Landowner Address	186 Spruce Lane Williston, VT 05495	
3.3. Landowner Phone Number	802-233-1497	
3.4. Landowner Email	tmiller@rem-development.com	
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. Not applicable	
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 [signature] Date: 2-12-16	
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.	

	186 Spruce Lane, Williston	
5. Site Visit Date and Attendees	Date of visit with District Wetlands Ecologist: October 1, 2015	List people present for site visits including Ecologist, landowner, and representatives.: Tina Heath, Tim Miller
6. Wetland Classification	The wetland is a Class II wetland because (Choose one): The wetland meets the presumption of significance	
7. Description of Entire Wetland or Wetland Complex	Answer the following questions regarding the entire wetland or wetland complex. A wetland complex is generally defined as two or more wetland types that are contiguous and interrelated. Specific questions about the wetland in the project area will follow.	
7.1. Size of Wetland Complex in Acres	Can be obtained from the Environmental Interest Locator Map for mapped wetlands 0.46 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 95% wet meadow, 5% 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. On a hillside in association with groundwater seeps and artificial swales	
7.4. Wetland Hydrology	Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds. Precipitation and groundwater 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. Surface water flows from east to west	
7.4.2. Influence of hydrology on wetland complex	For example: The river provides flood water to the wetland in the spring. Precipitation recharges a shallow groundwater table that is perched on hardpan (dense basal till). Groundwater is discharged to the surface during times of high precipitation and snow melt. Groundwater seeps are located where subsurface flow is slowed by lessening slope or where permeable soil overlying hardpan is at its thinnest. The artificial swales intercept and concentrate surface and groundwater flows, creating localized soil saturation and ponding.	
7.4.3. Relation to the project area	Distance between the project area and any nearby surface waters. The wetland is located about 1,200 ft from a tributary of Allen Brook.	
7.4.4. Hydroperiod	Discuss frequency and duration of flooding, ponding, and/or soil saturation. There is soil saturation and shallow ponding in the wetland in the spring and fall and during times of high precipiation.	
7.5. Surrounding Landuse of the Wetland Complex	For example: rural residential and forested; agricultural and undeveloped, Rural residential	
7.6. Relation to Other Nearby Wetlands	Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question. The wetland drains via ditch and swale to a tributary of Allen Brook. VSWI maps show 61 acres of wetlands associated with the floodplains of the streams.	
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 wetland has been subjected to mowing since the swales were dug in the 1970s and 1980s.	

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. Because of its small size, the subject wetland is considered the same as the wetland complex.	
8.2. Wetland Landuse	For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland. Mowed field	
8.3. Wetland Vegetation	List dominant wetland community type and associated dominant plant species. Reed canary grass, redtop, common buttercup, sedges, and rushes	
8.4. Wetland Soils	Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description Cabot silt loam, Depleted Below Dark Surface	
8.5. Wetland Hydrology	Use descriptions from the ACOE Delineation Manual. High Water Table, Saturation, Drainage Patterns, Geomorphic Position	
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. Mowed field, residential lawn, driveway	
8.6.2. Buffer vegetation	List community type and dominant plant species Red fescue, timothy, red clover, white clover, dandelion, sugar maple, white ash	
8.6.3. Buffer soils	Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description Peru fine sandy loam	

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.	

	Three new single family homes are proposed.	
10.2. Project Purpose	For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system To construct a residential subdivision	
10.3. Acres Owned by Applicant	Acreage of subject property. 41.21 acres	
10.4. Acres Involved in the Project	Acreage of area involved in the project. 41.21 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. Construction of a driveway and utilities for the single family home on Lot 2	
11.2. Dimension Details	Square footage of buildings, dimension of roads including fill footprint. A 12 feet wide gravel driveway is proposed. The utilities will be installed on the shoulders of the driveway. A 14' wide fill footprint is proposed.	
11.3. Bridges and Culverts	Culvert circumference, length, placement and shapes, or bridge details. The driveway will utilize an existing culvert that presently links the wetland on each side of the proposed driveway. A new culvert may also be installed outside the wetland and buffer to maintain existing drainage patterns.	
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 The utilities will be installed first, followed by driveway construction.	
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. Stormwater runoff from the driveway and homesite will flow overland across vegetated terrain. Temporary silt fence will be installed along the downslope edge of the limits of disturbance prior to construction, and removed after final stabilization.	
11.6. Permanent Demarcation of Limits of Impact	Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses. The proposed driveway will be staked prior to construction. The constructed driveway will be 12 feet wide.	
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: 0 s.f. Other Permanent Wetland Impact: 0 s.f. Describe in detail the proposed impact.	

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: 0 s.f. Permanent Buffer Impact: 2901 s.f. Describe in detail the proposed impact. Construction of a driveway and utilities for the single family home on Lot 2. The proposed driveway follows an old farm drive and will utilize the existing culvert installed for the farm drive.	
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. Higher density of residential use	
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 driveway will follow an old farm drive through the wetland buffer, avoiding impacts to the wetland. The driveway is necessary to access the upland portion of the site for construction of a single family home.	
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 installation of the forcemain for Lot 4 will avoid wetland and buffer impacts by using a trenchless method.	
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. Trees will be planted on Lots 2 and 4 to demarcate the edge of the wetland buffer.	
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. The project will not result in an undue adverse impact. No compensation is proposed.	
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.	

	The ANR Natural Resources Atlas map is attached.	
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. Plan Sheet 1, Overall Site Plan, 1-11-2016, last revised 2-8-2016 Plan Sheet 3, Site & EPSC Plan, 1-11-2016 Plan Sheet 5, Details and Specifications, 1-11-2016 (all plans by Lamoureux & Dickinson)	
13.3. ACOE Delineation Forms	List by author, location, and date. Required only for Individual Permits. N/A	
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. Photographs (attached)	
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. Sean & Tracy Murphy 214 Hillcrest Lane, Williston, VT 05495	
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.** No newspaper notification necessary.	
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	

	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	
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.	
17. Surface and Ground Water	☐ Function is present and likely to be significant: Any of the	

Protection	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	
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.	
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	
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.	
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	
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.	
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:	
20.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above	
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.	
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	
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.	
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	
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.	
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	
23.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.	
24. Open Space and Aesthetics	☐ 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:	
24.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above	
24.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue, adverse impact to this function. Include any avoidance and minimization measures relevant to this function.	
25. Erosion Control through Binding and Stabilizing the Soil	☐ 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	

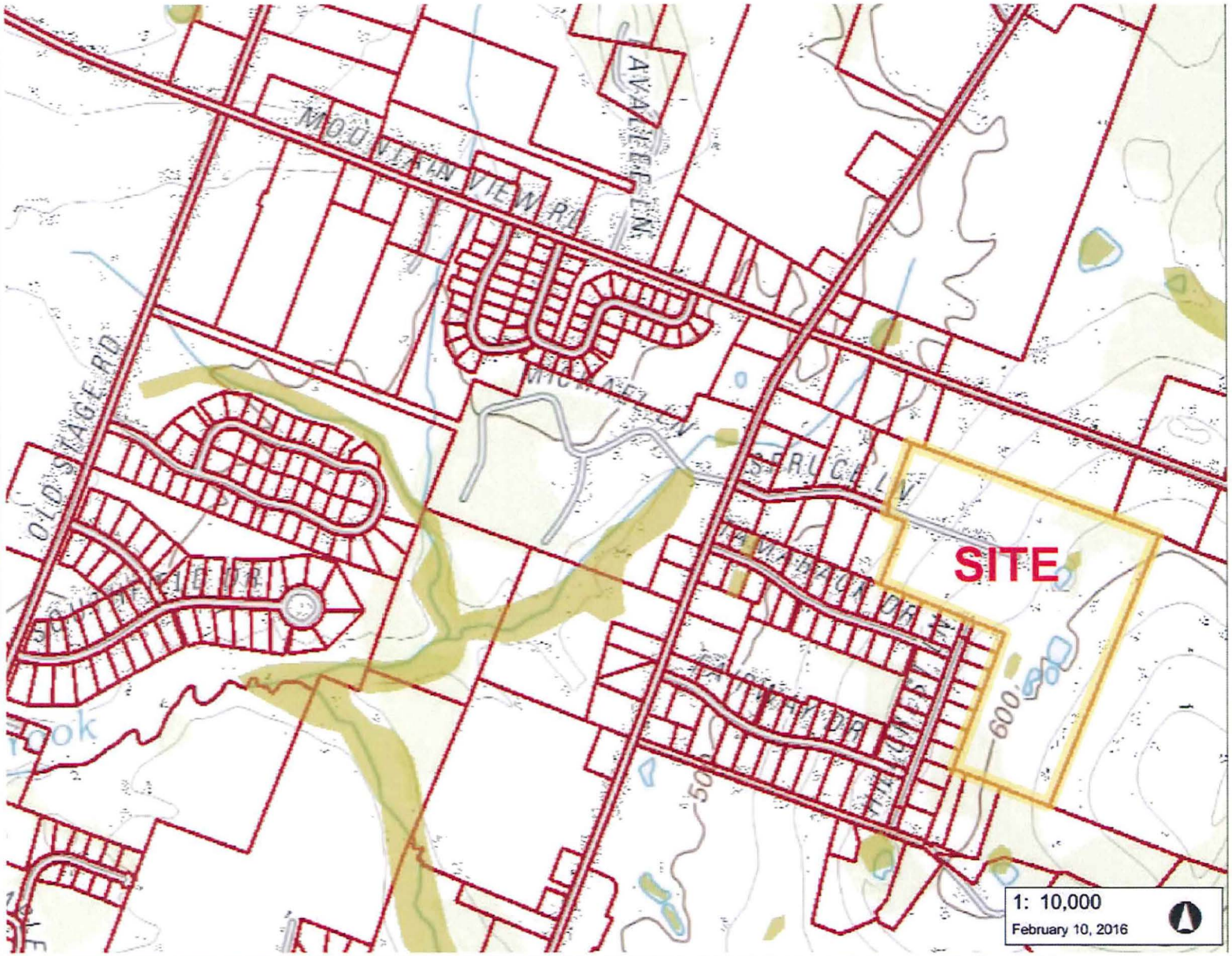
	stream or river corridor.	
25.1. Subject Wetland	Please explain how the subject wetland contributes to the function listed above	
25.2. Statement of no undue adverse impact	Please explain how the proposed project will not result in any undue adverse impact to this function. Include any avoidance and minimization measures relevant to this function.	

VERMONT

Miller Property, Spruce Lane, Williston

Vermont Agency of Natural Resources

vermont.gov



LEGEND

- Wetlands - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
- Parcels (where available)
- Town Boundary

NOTES

Map created using ANR's Natural Resources Atlas

508.0 0 254.00 508.0 Meters

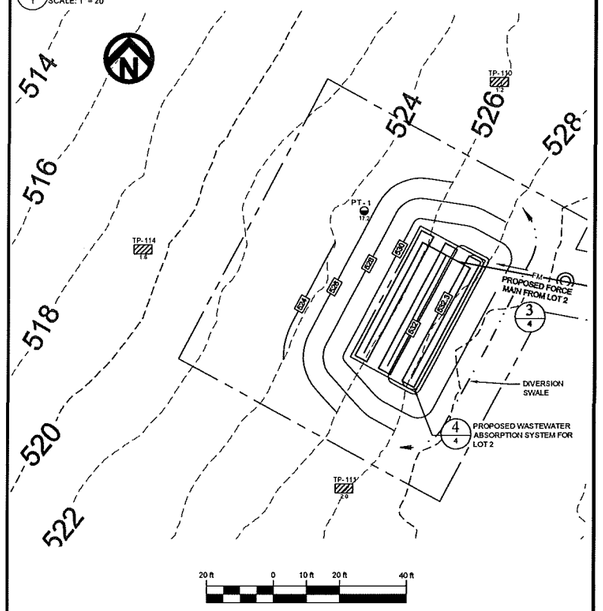
WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 833 Ft. 1cm = 100 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

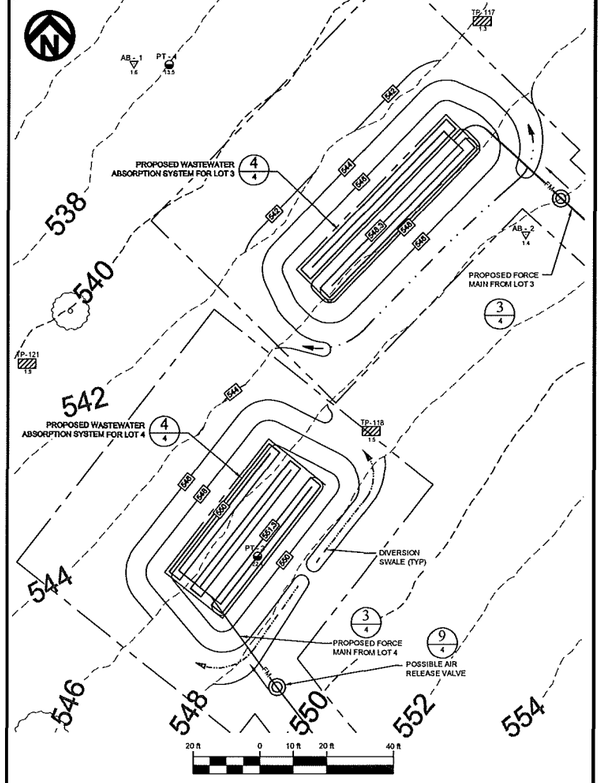
Photo 1. View from near the existing driveway looking north along the route of the proposed driveway near the middle of the photo. (October 16, 2015)

Photo 2. View from near the pond looking west. Existing driveway is at left edge of photo. Route of proposed driveway is perpendicular to the existing driveway and in the middle of the photo.

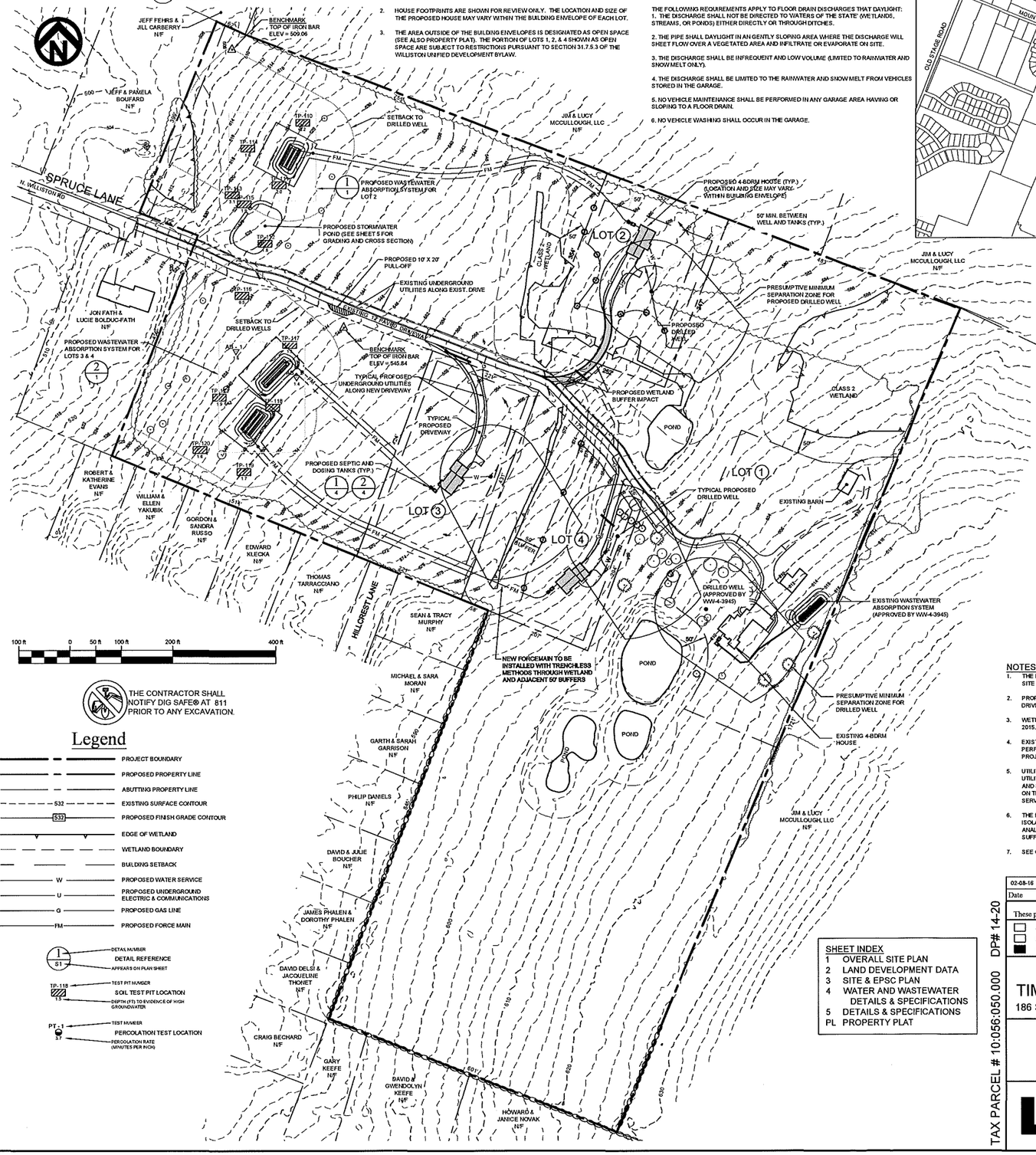
1 WASTEWATER SYSTEM - LOT 2
1 SCALE: 1" = 20'



2 WASTEWATER SYSTEMS - LOTS 3 & 4
1 SCALE: 1" = 20'



3 SITE PLAN
1 SCALE: 1" = 100'



THE CONTRACTOR SHALL NOTIFY DIG SAFE® AT 811 PRIOR TO ANY EXCAVATION.

Legend

- PROJECT BOUNDARY
- PROPOSED PROPERTY LINE
- ABUTTING PROPERTY LINE
- 532 — EXISTING SURFACE CONTOUR
- 532 — PROPOSED FINISH GRADE CONTOUR
- EDGE OF WETLAND
- WETLAND BOUNDARY
- BUILDING SETBACK
- W — PROPOSED WATER SERVICE
- U — PROPOSED UNDERGROUND ELECTRIC & COMMUNICATIONS
- G — PROPOSED GAS LINE
- FM — PROPOSED FORCE MAIN
- 1 / S1 — DETAIL NUMBER / DETAIL REFERENCE / APPEARS ON PLAN SHEET
- TP-118 / 1.5 — TEST PIT NUMBER / SOIL TEST PIT LOCATION / DEPTH (FT) TO EVIDENCE OF HIGH GROUNDWATER
- PT-1 / 3.7 — TEST NUMBER / PERCOLATION TEST LOCATION / PERCOLATION RATE (MINUTES PER INCH)

BUILDING ENVELOPE NOTES:

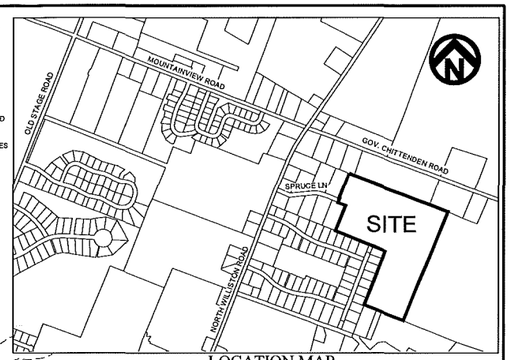
1. THE NEW SINGLE FAMILY HOMES AND ALL ACCESSORY STRUCTURES SHALL BE LOCATED WITHIN THE BUILDING ENVELOPE ON EACH LOT.
2. HOUSE FOOTPRINTS ARE SHOWN FOR REVIEW ONLY. THE LOCATION AND SIZE OF THE PROPOSED HOUSE MAY VARY WITHIN THE BUILDING ENVELOPE OF EACH LOT.
3. THE AREA OUTSIDE OF THE BUILDING ENVELOPES IS DESIGNATED AS OPEN SPACE (SEE ALSO PROPERTY PLAT). THE PORTION OF LOTS 1, 2, & 4 SHOWN AS OPEN SPACE ARE SUBJECT TO RESTRICTIONS PURSUANT TO SECTION 31.7.5.3 OF THE WILLISTON UNIFIED DEVELOPMENT BYLAW.

FLOOR DRAIN NOTES:

A FLOOR DRAIN TO DAYLIGHT IS PROPOSED TO COLLECT AND CONVEY RAINWATER AND SNOW MELT FROM VEHICLES STORED IN THE GARAGE ON EACH LOT.

THE FOLLOWING REQUIREMENTS APPLY TO FLOOR DRAIN DISCHARGES THAT DAYLIGHT:

1. THE DISCHARGE SHALL NOT BE DIRECTED TO WATERS OF THE STATE (WETLANDS, STREAMS, OR PONDS) EITHER DIRECTLY OR THROUGH DITCHES.
2. THE PIPE SHALL DAYLIGHT IN AN GENTLY SLOPING AREA WHERE THE DISCHARGE WILL SHEET FLOW OVER A VEGETATED AREA AND INFILTRATE OR EVAPORATE ON SITE.
3. THE DISCHARGE SHALL BE INFREQUENT AND LOW VOLUME (LIMITED TO RAINWATER AND SNOW MELT ONLY).
4. THE DISCHARGE SHALL BE LIMITED TO THE RAINWATER AND SNOW MELT FROM VEHICLES STORED IN THE GARAGE.
5. NO VEHICLE MAINTENANCE SHALL BE PERFORMED IN ANY GARAGE AREA HAVING OR SLOPING TO A FLOOR DRAIN.
6. NO VEHICLE WASHING SHALL OCCUR IN THE GARAGE.



LOCATION MAP
NOT TO SCALE

SOIL PROFILE SUMMARY

TP-110 TO 121 LOGGED ON JANUARY 30, 2013 AND AB-1 & 2 LOGGED ON 7-29-2013 BY BRIAN TREMBACK

TEST NUMBER	DEPTH TO EVIDENCE OF SEASONAL HIGH GROUNDWATER (FT)	DEPTH TO EXISTING GROUNDWATER (FT)	DEPTH TO BEDROCK (FT)
TP-110	1.2	> 2.4	> 2.4
TP-111	2.0	> 2.6	> 2.6
TP-112	1.8	> 3.0	> 3.0
TP-113	3.1	> 2.6	> 2.6
TP-114	1.6	> 2.6	> 2.6
TP-115	1.9	> 2.6	> 2.6
TP-116	0.5	> 2.7	> 2.7
TP-117	1.3	> 2.7	> 2.7
TP-118	1.5	> 2.6	> 2.6
TP-119	1.7	> 2.9	> 2.9
TP-120	1.6	> 2.7	> 2.7
TP-121	1.9	> 3.1	> 3.1
AB-1	1.6	> 2.1	> 2.1
AB-2	1.4	> 2.6	> 2.6

PERCOLATION TEST

PT-1 & PT-3 BY CHRIS DAY ON 4-9-201
PT-4 BY BRIAN TREMBACK ON 7-29-2013

TEST NUMBER	TEST DEPTH (FT)	PERCOLATION RATE (MIN/IN)
PT-1	1.5	17.2
PT-3	1.5	22.4
PT-4	1.4	13.5

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO PRESENT THE PROPOSED LOT LAYOUT AND RELATED SITE IMPROVEMENTS. FOR LOT BOUNDARY DATA, SEE THE PROPERTY PLAT.
2. PROPOSED DRIVE LOCATIONS MAY VARY, BUT SHALL BE IN ACCORDANCE WITH THE DRIVEWAY CONSTRUCTION SPECIFICATIONS ON SHEET 5.
3. WETLAND DELINEATION AND MAPPING PERFORMED BY BRIAN TREMBACK IN OCTOBER, 2015.
4. EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A TOPOGRAPHIC SURVEY PERFORMED BY L&D AND LIDAR DATA OBTAINED FROM THE 2004 CCPRC ORTHOIMAGERY PROJECT.
5. UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION WITH THE RESPECTIVE UTILITY COMPANY, AS WELL AS THE UTILITY COMPANY CONSTRUCTION SPECIFICATIONS AND STANDARDS. EASEMENTS AND/OR RIGHTS OF WAY, IN ADDITION TO THOSE SHOWN ON THESE PLANS, MAY BE REQUIRED FOR NEW UTILITY LINE EXTENSIONS AND/OR SERVICE CONSTRUCTION.
6. THE LOCATIONS OF THE PROPOSED WELLS HAVE BEEN SELECTED ONLY ON THE BASIS OF ISOLATION DISTANCES. NO HYDROGEOLOGIC INFORMATION WAS GATHERED OR ANALYZED TO ESTABLISH THAT THIS LOCATION WILL SUPPLY POTABLE WATER OF SUFFICIENT QUALITY AND QUANTITY.
7. SEE OTHER SHEETS FOR ADDITIONAL SITE DESIGN DETAILS AND SPECIFICATIONS.

SHEET INDEX

Date	Revision	By
02-08-16	ADD FLOOR DRAIN REQUIREMENTS	ABR

These plans shall only be used for the purpose shown below:

- ☐ Sketch/Concept
- ☐ Preliminary
- ■ Final Town/State Review
- ☐ Act 250 Review
- ☐ Construction
- ☐ Record Drawing

TAX PARCEL # 10:056:050.000 DP# 14-20

PROPERTY OF TIMOTHY & WENDY MILLER

186 SPRUCE LANE WILLISTON, VERMONT

OVERALL SITE PLAN

Project No.	12054
Survey	L&D
Design	BJT
Drawn	BJT/ABR
Checked	DJG
Date	01-11-16
Scale	AS SHOWN
Sheet number	1

Lamoureux & Dickinson Consulting Engineers, Inc.
14 Morse Drive, Essex, VT 05452
802-878-1450 www.LDengineering.com

EROSION PREVENTION AND SEDIMENT CONTROL REQUIREMENTS

PRIOR TO CONSTRUCTION, THE HOMEOWNER AND SITE CONTRACTOR SHALL OBTAIN COVERAGE UNDER GENERAL PERMIT 3-9020 WHICH REGULATES STORMWATER RUNOFF FROM CONSTRUCTION SITES. THIS PROJECT CAN QUALIFY AS HAVING A LOW RISK FOR IMPACTS TO WATER QUALITY, BASED UPON THE FOLLOWING:

- CONSTRUCTION IS PHASED SO THAT WORK ON ONLY ONE LOT/HOME IS UNDERWAY AT A TIME, WITH ALL WORK ON THAT LOT STABILIZED PRIOR TO PROCEEDING WITH CONSTRUCTION ON THE NEXT LOT/HOME.
- A MAXIMUM OF 2 ACRES TOTAL DISTURBANCE ASSOCIATED WITH EACH LOT/HOME.
- A MAXIMUM OF 14 CONSECUTIVE DAYS BEFORE DISTURBED EARTH IS TEMPORARILY OR PERMANENTLY STABILIZED.

THESE CRITERIA FORM THE BASIS FOR THE LOW RISK DETERMINATION. THE SPECIFIC LOT DEVELOPMENT PLANS SHALL BE EVALUATED TO CONFIRM THE LOW RISK DETERMINATION. CHANGES TO THE CRITERIA LISTED MAY AFFECT THE POTENTIAL RISK TO WATER QUALITY, AND CHANGE THE RELATED PERMITTING REQUIREMENTS.

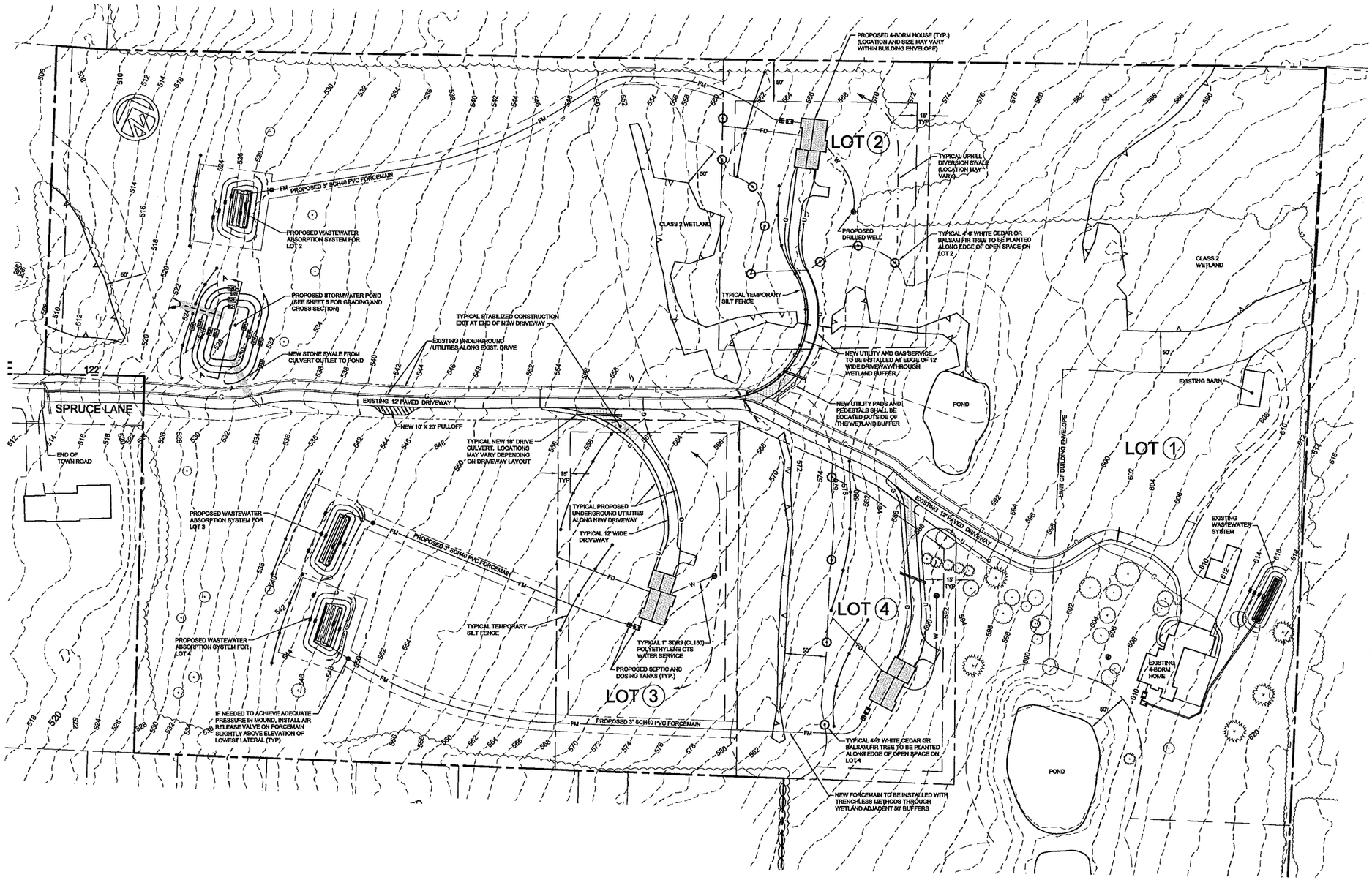
THE CONTRACTOR SHALL REFER TO THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES TO BE IMPLEMENTED ON THE SITE. AT A MINIMUM, THESE SHALL INCLUDE:

- MARKING THE LIMITS OF DISTURBANCE TO PRESERVE EXISTING VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION
- LIMITING THE DISTURBED AREA TO THAT WHICH IS ACTIVELY BEING WORKED
- INSTALLATION OF A STABILIZED CONSTRUCTION EXIT
- INSTALLATION OF SILT FENCE ALONG THE DOWNSLOPE PERIMETER OF THE DISTURBED AREA AND AROUND ALL SOIL STOCKPILES
- PLACEMENT OF EROSION MATTING ON ALL SLOPES 3H:1V OR STEEPER, AND MULCHING ALL OTHER DISTURBED AREAS
- PLACING STONE FILL OR ROCK BORROW IN ALL SWALES/DITCHES HAVING A SLOPE OF 5% OR GREATER
- PLACING STONE FILL OR ROCK BORROW AT ALL NEW CULVERT INLETS AND OUTLETS

EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED PRIOR TO AND FOLLOWING PRECIPITATION EVENTS, BUT NOT LESS THAN ONCE EVERY 7 DAYS. DURING WINTER CONSTRUCTION, MEASURES SHALL BE INSPECTED DAILY WHILE WORK IS UNDERWAY. MAINTENANCE AND REPAIR SHALL BE PERFORMED PROMPTLY.

EPSC / SITE MAINTENANCE REQUIREMENTS

- ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH A VIGOROUS GROWTH OF VEGETATION
- DRIVEWAYS SHALL BE GRADED TO SHED RUNOFF AND AVOID RILLS AND RUTTING. ADD GRAVEL AS NEEDED TO MAINTAIN CROWN.
- MAINTAIN DIVERSION DITCH UPSLOPE OF BUILDING ENVELOPES TO DIVERT UPSLOPE RUNOFF AWAY FROM HOMES & YARDS
- DIRECT ROOFTOP GUTTER DOWNSPOUTS TO RELATIVELY FLAT VEGETATED TERRAIN TO DISPERSE RUNOFF.
- SWALES/DITCHES SHALL BE STABLE WITH NO AREAS OF EXPOSED SOIL. IF EROSION OCCURS, REPAIR WITH TOPSOIL/SEED/MATTING OR STONE FILL / ROCK BORROW
- REMOVE ACCUMULATED SEDIMENT FROM SWALES/DITCHES (WHEN ACCUMULATED DEPTH IS 6" OR GREATER)
- CULVERT INLETS/OUTLETS SHALL BE STABLE WITH NO EROSION. IF EROSION OCCURS, PLACE STONE FILL OR ROCK BORROW



THE CONTRACTOR SHALL NOTIFY DIG SAFE® AT 811 PRIOR TO ANY EXCAVATION.

Legend

- PROJECT BOUNDARY
- PROPOSED PROPERTY LINE
- ABUTTING PROPERTY LINE
- 532 EXISTING SURFACE CONTOUR
- 532 PROPOSED FINISH GRADE CONTOUR
- EDGE OF WETLAND
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- W PROPOSED WATER SERVICE
- U PROPOSED UNDERGROUND ELECTRIC & COMMUNICATIONS
- G PROPOSED GAS LINE
- FM PROPOSED FORCE MAIN
- FD PROPOSED FOOTING DRAIN
- TEMPORARY SILT FENCE
- STABILIZED CONSTRUCTION EXIT

NOTES:

1. SEE DRIVEWAY CONSTRUCTION SPECIFICATIONS ON SHEET 5.
2. UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION WITH THE RESPECTIVE UTILITY COMPANY, AS WELL AS THE UTILITY COMPANY CONSTRUCTION SPECIFICATIONS AND STANDARDS.
3. THE HOMEBUILDER(S) SHALL BE RESPONSIBLE FOR ENSURING THAT THE FOUNDATION AND BASEMENT DESIGN AND CONSTRUCTION ACCOUNT FOR THE PRESENCE OF GROUNDWATER. FOUNDATION DRAIN LOCATIONS AND ELEVATIONS SHOWN ON THIS PLAN ARE CONCEPTUAL ONLY. THE HOMEBUILDER(S) SHALL CONFIRM THAT THE FOUNDATION DRAIN LOCATION AND ELEVATION IS ADEQUATE FOR THEIR PROPOSED FOUNDATION DESIGN.
4. SEE OTHER SHEETS FOR ADDITIONAL SITE DESIGN DETAILS AND SPECIFICATIONS.

GRAPHIC SCALE

60 0 30 60 120 240

(in feet)
1 inch = 60 ft.

Date	Revision	By

These plans shall only be used for the purpose shown below:

- ☐ Sketch/Concept
- ☐ Preliminary
- ■ Final Town/State Review
- ☐ Act 250 Review
- ☐ Construction
- ☐ Record Drawing

DP# 14-20

TAX PARCEL # 10:056:050.000

PROPERTY OF TIMOTHY & WENDY MILLER

186 SPRUCE LANE WILLISTON, VERMONT

SITE & EPSC PLAN

Project No.	12054
Survey	L&D
Design	BJT
Drawn	BJT/ABR
Checked	DJG
Date	01-11-16
Scale	AS SHOWN
Sheet number	3

Lamoureux & Dickinson Consulting Engineers, Inc.
14 Morse Drive, Essex, VT 05452
802-878-4450 www.LDengineering.com

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE TOWN OF WILLISTON PUBLIC WORKS SPECIFICATIONS, AND THESE PLANS.

2. THE CONTRACTOR SHALL CONTACT ALL UTILITIES BEFORE EXCAVATION TO VERIFY THE LOCATION OF ANY UNDERGROUND LINES. THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

3. UTILITIES INFORMATION SHOWN HEREON WERE OBTAINED FROM BEST AVAILABLE SOURCES AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY, PUBLIC OR PRIVATE, SHOWN OR NOT SHOWN HEREON. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL UTILITIES TO THE NEAREST SOURCE THROUGH COORDINATION WITH UTILITY OWNER.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING SURFACES, SOILS, VEGETATION, PAVEMENT AND STRUCTURES NECESSARY TO CONSTRUCT THIS PROJECT UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS AND TRASH FROM THE SITE UPON COMPLETION OF CONSTRUCTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

5. THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ENSURING THAT THE DUST CREATED AS A RESULT OF CONSTRUCTION DOES NOT CREATE A NUISANCE OR A SAFETY HAZARD. THE CONTRACTOR MAY BE REQUIRED TO WET SECTIONS OF THE CONSTRUCTION AREA WITH WATER, OR APPLY CALCIUM CHLORIDE AS DUST CONTROL.

6. ANY SURFACES, LINES, OR STRUCTURES WHICH HAVE BEEN DAMAGED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED TO THE CONDITION AT LEAST EQUAL TO THAT IN WHICH THEY WERE FOUND IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.

7. CONSTRUCTION OBSERVATION AND CERTIFICATION IS OFTEN REQUIRED BY STATE AND LOCAL PERMITS. IT IS RECOMMENDED THAT CONSTRUCTION OF THE IMPROVEMENTS DETAILED ON THESE PLANS BE OBSERVED BY LAMOUREUX & DICKINSON CONSULTING ENGINEERS INC. (L&D) TO DETERMINE IF THE WORK IS BEING PERFORMED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. L&D WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT MAY ARISE FROM: FAILURE TO FOLLOW THESE PLANS AND SPECIFICATIONS AND THE DESIGN INTENT THAT THEY CONVEY, ANY CHANGES MADE IN THE PLANS AND SPECIFICATIONS OR IN THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WITHOUT L&D'S PRIOR KNOWLEDGE AND CONSENT, AND/OR FAILURE TO SCHEDULE OBSERVATION OF THE WORK AND TESTING IN PROGRESS.

8. FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY A MINIMUM OF ONE-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTINUOUS TWO-WAY TRAFFIC WILL BE REQUIRED AT NIGHT, DURING PEAK-HOURS, AND WHEREVER POSSIBLE DURING ACTUAL CONSTRUCTION ACTIVITIES. TEMPORARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL SIGNS SHALL BE ERECTED BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND TOWN STANDARDS.

9. TO ASSURE COMPLIANCE WITH THE PLAN(S), THE CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF STARTING ANY WORK, BEGINNING INSTALLATION OF ANY UTILITIES, STARTING CONSTRUCTION, OF THE WASTEWATER SYSTEMS, AND FINAL INSPECTION.

10. THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE "TEN STATE STANDARDS - RECOMMENDED STANDARDS FOR WATER."

11. TOPSOIL SHALL BE STOCKPILED, SEEDED, AND MULCHED UNTIL REUSED. SILT FENCE SHALL BE PLACED AND STAKED CONTINUOUSLY AROUND THE DOWNSLOPE PERIMETER OF THE TOPSOIL PILES.

12. HEALTHY EXISTING TREES AS SHOWN ON THE SITE PLAN TO BE SAVED SHALL BE PROTECTED BY THE CONTRACTOR.

13. OPEN CUT AREAS SHALL BE MULCHED OUTSIDE OF ACTUAL WORK AREAS, AND SILT FENCE SHALL BE EMPLOYED TO CONFINE SHEET WASH AND RUNOFF TO THE IMMEDIATE OPEN AREA AS ORDERED BY THE ENGINEER.

14. AT COMPLETION OF GRADING, SLOPES, DITCHES, AND ALL DISTURBED AREAS SHALL BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

15. ALL FILL SHALL BE PLACED IN 6 INCH LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 STANDARD PROCTOR, UNLESS OTHERWISE SPECIFIED.

SANITARY & STORM SPECIFICATIONS

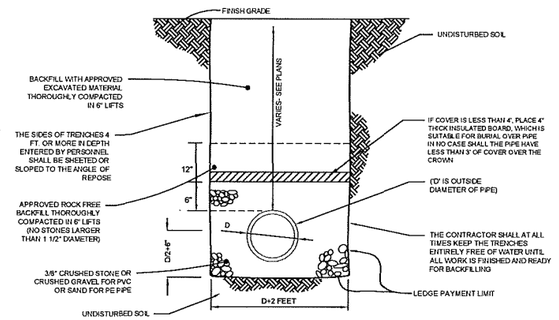
1. THE HORIZONTAL AND VERTICAL SEPARATION FOR SEWER AND WATER LINES SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE "TEN STATE STANDARDS - RECOMMENDED STANDARDS FOR WATER WORKS".

2. SANITARY AND STORM SEWER PIPES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE PLANS. PVC PIPE SHALL BE SDR35 CONFORMING TO ASTM D-3034, ASTM D-3212, AND ASTM F-477. CORRUGATED POLYETHYLENE PIPE SHALL CONFORM TO AASHTO M294-90, TYPE S. PERFORATED UNDERDRAIN PIPE SHALL BE PVC SDR35 CONFORMING TO AASHTO M278-87 OR CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR WALL CONFORMING TO AASHTO M252-90.

3. ALL GRAVITY SANITARY SEWER PIPE SHALL BE PVC SDR 35 CONFORMING TO ASTM D-3034, ASTM D-3212, AND ASTM F-477. FORCEMAIN SEWER PIPE SHALL BE PVC SCH. 40.

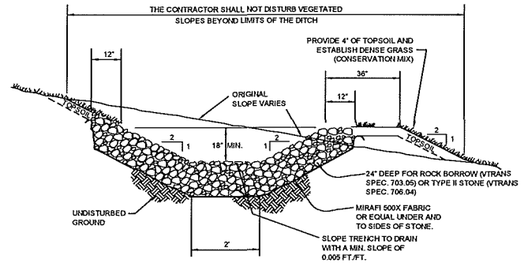
4. ALL TRENCH FILL SHALL BE PLACED IN 6" LIFTS AND THOROUGHLY COMPACTED TO 95% OF MAXIMUM DENSITY OF OPTIMUM MOISTURE AS DETERMINED BY ASTM D968 STANDARD PROCTOR.

5. PIPELINE MATERIALS, METHODS, AND TESTING SHALL BE IN ACCORDANCE WITH THESE PLANS AND ANY APPLICABLE TOWN OR STATE STANDARDS.



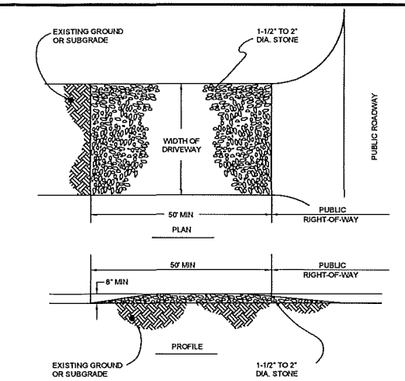
TYPICAL SANITARY SEWER, WATER & STORM TRENCH

NTS



TYPICAL STONE SWALE & SPILLWAY DETAIL

NTS



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT TRACKED, SPILLED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR.

2. THE USE OF CALCIUM CHLORIDE OR WATER MAY BE NECESSARY TO CONTROL DUST DURING THE SUMMER.

3. PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY.

STABILIZED CONSTRUCTION EXIT

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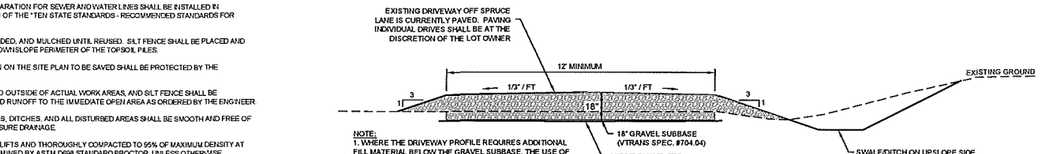
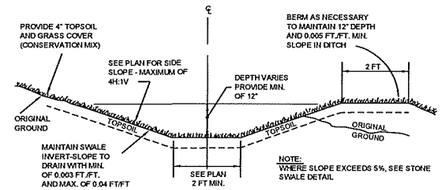


NOTE:
1. WHERE THE DRIVEWAY PROFILE REQUIRES ADDITIONAL FILL MATERIAL BELOW THE GRAVEL SUBBASE, THE USE OF SAND BORROW (VTRANS SPEC. 703.03) IS RECOMMENDED.

THE INDIVIDUAL DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING:
- IN THE FUTURE, THE EXISTING PAVED SHARED DRIVEWAY SHALL REMAIN PAVED WITHIN 50 FEET OF SPRUCE LANE
- THE INDIVIDUAL DRIVEWAYS SHALL HAVE A MAXIMUM GRADE OF 10%
- DRIVEWAYS SHALL BE A MINIMUM OF 12 FEET WIDE
- PULL-OUTS TO PERMIT VEHICLES TO PASS SHALL BE PROVIDED AT 400 FEET INTERVALS
- ALL NEW CULVERTS SHALL HAVE A MINIMUM DIAMETER OF 18"
- DITCHES/SWALES HAVING A SLOPE EXCEEDING 5% SHALL BE LINED WITH TYPE II STONE OR ROCK BORROW

DRIVEWAY CONSTRUCTION REQUIREMENTS

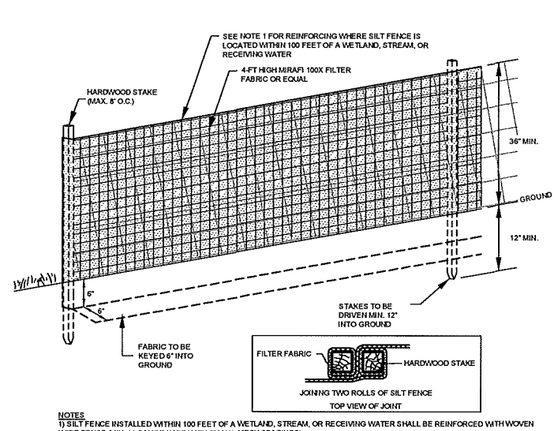
N.T.S.



NOTE:
WHERE SLOPE EXCEEDS 5%, SEE STONE SWALE DETAIL

TYPICAL GRASS SWALE

N.T.S.



NOTES
1) SILT FENCE INSTALLED WITHIN 100 FEET OF A WETLAND, STREAM, OR RECEIVING WATER SHALL BE REINFORCED WITH WOVEN WIRE FENCE (MIN. 14 GAUGE WIRE WITH 6" MAX. MESH SPACING).

2) USE ONLY MANUAL METHODS OF INSTALLATION AND CLEANING WITHIN WETLAND AND BUFFER ZONE.

3) PRIOR TO BEGINNING OF CONSTRUCTION OR EARTHMOVING, THE CONTRACTOR SHALL INSTALL A CONTINUOUS SILT FENCE AT THE LIMIT OF DISTURBANCE SHOWN ON THE SITE PLAN.

4) FROZEN MATERIAL SHALL NOT BE USED TO KEY IN THE BOTTOM OF THE SILT FENCE. IF NECESSARY, GRANULAR BORROW SHALL BE USED BY THE CONTRACTOR TO KEY IN THE SILT FENCE RATHER THAN FROZEN NATIVE MATERIAL.

5) THE CONTRACTOR SHALL INSTALL SILT FENCE AROUND THE PERIMETER OF TOPSOIL STOCKPILES AND AT OTHER LOCATIONS AS NEEDED.

TEMPORARY SILT FENCE

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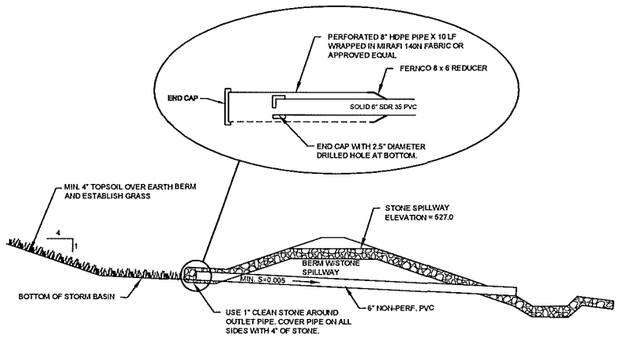
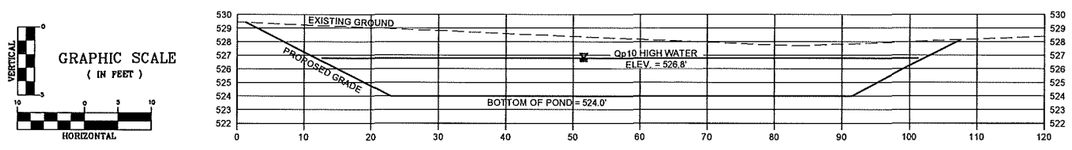
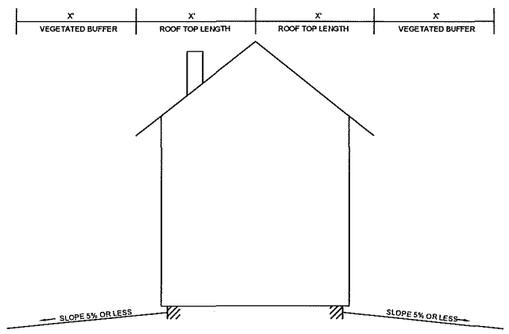


STORMWATER BASIN DETAIL

N.T.S.



POND CROSS SECTION A-A



1. SLOPE LAND AWAY FROM BUILDING AT 5% OR LESS.
2. LENGTH OF 5% (OR LESS) IS TO BE EQUAL TO TO OR GREATER THAN THE CONTRIBUTING ROOFTOP LENGTH (X)
3. SLOPED LAND IS TO BE VEGETATED.
4. WITH GUTTERS, THE ROOFTOP ARE CONTRIBUTING TO ANY ONE DOWNSPOUT LOCATION SHALL NOT EXCEED 1000 S.F.
5. DOWNSPOUTS MUST BE 10 FEET AWAY FROM THE NEAREST IMPERVIOUS SURFACE.

ROOFTOP DISCONNECTION

N.T.S.

Date	Revision	By

These plans shall only be used for the purpose shown below:

- ☐ Sketch/Concept
- ☐ Preliminary
- ■ Final Town/State Review
- ☐ Act 250 Review
- ☐ Construction
- ☐ Record Drawing

DP# 14-20

TAX PARCEL # 10:056:050.000

PROPERTY OF
TIMOTHY & WENDY MILLER
186 SPRUCE LANE WILLISTON, VERMONT

DETAILS AND SPECIFICATIONS

Project No.	12054
Survey	L&D
Design	BJT
Drawn	BJT/ABR
Checked	DJG
Date	01-11-16
Scale	Not to scale
Sheet number	5

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