Village of Johnson, Vermont

Commercial/Industrial Park
Feasibility Study

Jewett Property
Vermont Route 15
Johnson, Vermont

April 2010

Prepared by
Ruggiano Engineering, Inc.
5 Lake Street
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Introduction

Ruggiano Engineering, Inc. (REI) has conducted a preliminary feasibility study of the existing Jewett Property, located on Vermont Route 15, across from Wescom Road at the west edge of the Village of Johnson. Our site evaluation included review of the existing topography, site access, soil conditions and other natural development constraints such as wetlands and wildlife habitat. Locations and availability of nearby utilities, such as municipal water supply and wastewater disposal, were evaluated. A review of the scope of necessary permits for a commercial/industrial park was performed, including a meeting with the District Act 250 Coordinator to discuss potential permitting hurdles. We then, based on the development constraints identified, developed conceptual park layout plans to depict possible park configurations. Finally, estimated site construction and other project costs were assembled for the conceptual access road, common utilities and the anticipated permitting and development scope.

Site Description

The existing Jewett parcel is approximately 17.6 acres in size, of which about 5 acres is an open meadow, with the rest of the property wooded. Access to the site is directly from Vermont Route 15, where sight distance is very good to both the east and west, and there is approximately 150 feet of road frontage. The parcel is generally rectangular in shape, with the exception of the south end of the property, where existing residential lots front on Route 15. The Johnson Town/Village boundary crosses the property, extending from the easterly edge of the frontage on Route 15 to the westerly property line as depicted on the enclosed Existing Conditions Plan, thus the majority of the parcel is situated in the Village, with the southwest corner located in the Town of Johnson. The property is also bisected by an existing telephone transmission line that includes a 30 foot wide right-of-way, as depicted on the enclosed plans. In addition, a V.A.S.T. snowmobile trail runs through the center of the property from north to south, providing access to the existing gas station and convenience store across Route 15 from the site.

Site topography includes gentle to moderate slopes over most of the property, with a very steep hill in the northwest corner. Slopes range from approximately 2% in the open meadow near the north end of the site, to over 10% along the east and west boundaries and as the site rises from Route 15. The site generally slopes from north to south, and is depressed in the center of the property, where snowmelt and stormwater runoff discharge alongside the V.A.S.T. trail toward Route 15. Small portions of the drainage way may be classified as Class III wetlands, as there was standing water in a few small areas near the existing trail as depicted on the Existing Conditions Plan. Grades slope moderately to steeply away from the site along the west, north and east boundaries.

Soils at the site are identified on United States Department of Agriculture mapping as Adams loamy fine sand and Salmon very fine sandy loam. The enclosed plans include a tabulated summary of the soils at the site, and the USDA soil descriptions are included as an attachment to this report. A portion of the soils, particularly the Adams soils with 2 to 8% slopes, and the Salmon soils with 3 to 15% slopes, are categorized as having "Statewide" agricultural importance. The other mapped soils on the site are generally considered to be too steep for commercially viable agricultural practices. Agricultural soil values are discussed further under the Act 250 portion of this report. Soils generally appear to be stable in their current state of slopes and vegetation. Aside from the aforementioned drainage way and associated small wet areas, the site appears to be well drained and dry. Steeply sloping areas may present challenges when developing individual sites in the proposed park, solutions to which may include blasting, retaining walls and other slope stabilization methods.

The site is bordered on the south by existing medium density residential uses, on the west by existing low density/rural residential, and on the north and east sides by undeveloped woods. The dense tree cover to the north and east of the site has been identified by the State of Vermont Department of Fish & Wildlife as significant deer wintering area, providing protection from deep snows and wind. In addition, substantial evidence of deer grazing was observed throughout the site, which is typical of undeveloped areas adjacent to deer wintering habitat. The affect on the development potential of the site due to the presence of wildlife habitat is discussed further under the Act 250 section of this report. Correspondence between REI and the Department of Fish & Wildlife is also included as an attachment.

A substantial portion of the site is located within the source protection area for the Johnson Village Water Department. Since the project is anticipated to be served by municipal wastewater disposal, this is not anticipated to be a major concern. This issue is further discussed under the Act 250 section of this report, specifically Criterion 1(A).

Water Supply, Wastewater Disposal and Other Utilities

The Village of Johnson has both municipal water supply and municipal sewer in the immediate vicinity of the project. An existing 8" diameter water main runs along Vermont Route 15 directly adjacent to the site. Extension of water service to the project would likely include an 8" diameter water main, run parallel to the proposed access road, with hydrants for fire protection. Individual lot service sizes would be determined at the time the lots were developed, based on a particular use's instantaneous water demand, inclusion of sprinkler systems, etc. There are no known limitations on water capacity that would affect the development potential of this site. A detailed evaluation of the future water main extension would be required in order to determine if adequate water pressure exists. If necessary, water pressure could be improved using booster pumps, etc.

Wastewater disposal would be served by connection to the existing municipal sewer system, located in the Highland Heights mobile home park across Vermont Route 15 from the site. The Village treatment facility has sufficient reserve capacity to serve the proposed park. The wastewater capacity available for the project would be limited by the existing wastewater pump station, located in the park. We have estimated that the existing pump station has over 10,000 gallons per day (gpd) of unused capacity. If necessary, the pump station could be upgraded, such as by increasing the storage capacity by adding or replacing the storage tank, in order to increase capacity if required for a specific tenant in the park. Collection of wastewater on the project site would include a gravity sewer system, run parallel to the access road to Route 15. The new sewer could then be extended along Route 15 to the east, where it could be connected to an existing sewer manhole in Center Street, near the intersection with Route 15. This configuration would also allow for future connection of the existing residences along that portion of Route 15 to abandon their aging soil based disposal systems and connect to the municipal sewer system.

Other utilities, such as electric, telephone, high speed internet and cellular telephone service are available at the site as well. Existing overhead power and underground telephone line locations, directly adjacent to Route 15, are depicted on the enclosed plans. There are no known issues related to either grid in this area that would prevent extension of these utilities to serve the project. Heating and other operational fuel needs would presumably be facilitated by either propane or fuel oil, and/or renewable energy resources associated with individual uses. There is no natural gas pipeline in this area.

Stormwater Discharge

A search of the State of Vermont Water Quality Division's database revealed no streams or waterways categorized as impaired due to urban runoff in the vicinity of the project. Stormwater controls would need to be designed to meet the requirements of the Water Quality Divisions rules, including detention for up to and including a 10 year storm, treatment and infiltration practices. This would include at least one stormwater detention pond, as depicted on the enclosed conceptual site plans, as well as other treatment and infiltration practices. Erosion and Sediment controls would be required both during and after construction, including stone lining of all swales with a longitudinal slope of greater than 5%, installing temporary stone check dams, silt fence, and seeding and mulching all disturbed areas not receiving pavement or a finished stone or gravel surface. If any individual site is developed such that the common detention pond would no longer provide the necessary treatment or detention, individual onsite stormwater controls may be required for those uses. Additional information regarding permitting is provided in the Required Permits section of this report.

Required Permits

The following list represents a summary of the required permits, and specific thresholds that require a given permit to be applied for in this case:

1) **Local Approvals** (including water and sewer allocations for individual lots, etc.).

2) State of Vermont Wastewater Management Division, **Wastewater System and Potable Water Supply (WW) Permit**. This permit also serves as the State's mechanism for subdivision approval for the park as a whole. Individual lot developers would then need to amend the WW Permit based on their specific use, water and sewer services, allocations, etc.

3) State of Vermont Water Supply Division **Public Water System Permit to Construct**. This permit is required whenever constructing an extension of the municipal system over 500 feet long, and if a hydrant is being installed.

4) State of Vermont Water Quality Division, Stormwater Section **Stormwater Discharge Permit**. A stormwater discharge permit will be required since the development as a whole will create over an acre (43,560 square feet) of impervious surfaces. Buildings, parking lots, walkways and slabs are typical impervious surfaces. A permit could be obtained based on a project master plan, with a maximum amount of impervious surface assigned to each individual lot. The permit may need to be amended if individual uses are more intensive than that assumed for the master plan.

5) State of Vermont Water Quality Division, Stormwater Section **Construction General Permit**. All projects that disturb more than 1 acre of surface area require this, an erosion and sediment control permit. The permit limits the amount of soil that can be disturbed at one time and includes erosion and sediment control guidelines and practices intended to prevent discharge of sediment and pollutants from the construction site.

6) **VTrans Highway Access Permit**. This permit is sometimes referred to as a "curb cut" permit, but must be obtained for all work to take place within the right-of-way of the State highway. This would include the access road, stormwater discharge and utility extensions/connections. A traffic study will likely be required, and VTrans could require improvements to Vermont Route 15 as a condition of approval. While we do not believe that it would be warranted in this case, required improvements could include a signalized intersection or exclusive left turn lane(s) on Route 15.

7) **Act 250 (Land Use) Permit.** An Act 250 permit is required for development of a commercial project greater than 1 acre in size where there are no duly adopted zoning regulations. The Act 250 permitting requirements are discussed in more detail in the next section of this report.

Act 250

For the Act 250 permitting process, there are 10 criteria that a project must meet. While many of the sub-criteria are not applicable to certain types of projects, most would apply in this case. The following lists potential issues that may arise or that have been addressed in our preliminary investigation:

a) *Criterion 1 – Air Pollution.* This criterion is not of concern for the first phase of the project, which would include construction of the common infrastructure (road, water, sewer, etc.). However, certain industrial and manufacturing processes emit fumes, smoke, noise, odors, dust, vapors, toxic or radioactive materials, etc., and may require further studies in order to meet this criterion.

b) *Criterion 1(A) – Headwaters.* This criterion may apply, due to the situation of the site within the watershed of the Village municipal water supply. Additional precautions may be necessary in order to ensure water quality regulations are met.

c) *Criterion 1(B) – Waste Disposal.* This criterion primarily addresses disposal of domestic and industrial/manufacturing waste materials, including chemicals, fuels, batteries, etc. A management plan will need to be prepared and followed, that will include provisions such as prohibiting outside storage of hazardous wastes and other materials.

d) *Criterion 1(C) – Water Conservation.* Provisions will be required in order to conserve water, such as low-flow fixtures and recycling of process water.

e) *Criterion 1(D) – Floodways.* Not applicable.

f) *Criterion 1(E) – Streams.* There are no named streams on the site. Some level of protection of the existing drainage way may be required. The conceptual layouts presented depict the proposed access road placed to minimize impacts to the existing drainage channel.

g) *Criterion 1(F) – Shorelines.* Not applicable.

h) *Criterion 1(G) – Wetlands.* As noted earlier in this report, there may be a small area of Class III wetlands on the site, however there are no mapped (Class II) or

documented wetlands. Prevention of disturbance, or minimizing disturbance, should address this criterion without requiring any buffers. If wetland impacts are less than 3,000 square feet, the activity is considered to be Non-Reporting, and no permit is required from the Army Corps of Engineers. The State of Vermont Wetland Division was contacted for comment, and their response, in the form of a letter from Shannon Morrison is attached.

i) *Criteria 2 and 3 – Water Supplies.* These criteria are not of concern, given that the Village has adequate reserve capacity in the municipal water system and that the project should not adversely impact any nearby water sources (wells).

j) *Criterion 4 – Soil Erosion and Drainage.* This criterion will be addressed by obtaining the Stormwater Discharge Permit and Construction General Permit. A site-specific erosion control plan will need to be prepared and approved in order to meet this criterion.

k) *Criterion 5 – Highways and Other Means of Transportation.* The conditions at the intersection of the proposed access road and Route 15 appear to be sufficient to meet the requirements of safe sight distance and access to the State highway. This criterion would essentially be demonstrated by obtaining the VTrans 1111 Access Permit. A traffic study may be required in order to demonstrate that an acceptable level of service will be maintained on Route 15 and Wescom Road. Pedestrian and bicycle safety must also be addressed, which could include construction of sidewalks, bike lanes, etc., and demonstration of adequate parking such that vehicles will not have to park along the road will be necessary.

l) *Criterion 6 – Educational Services.* A project must not create an unreasonable burden on the ability of the municipality to provide educational services. In general, numbers of school-aged children across the State of Vermont are in decline. Since the majority of workers would be anticipated to come from the local work force, significant impact on the school system is not expected to result from this project. Demonstration of this criterion may involve obtaining a letter or completed impact questionnaire from the school district.

m) *Criterion 7 – Municipal Services.* Letters or a completed impact questionnaire will need to be obtained from applicable police, fire and rescue services, as well as water and wastewater allocations indicating that municipal services can be provided, in order to meet this criterion.

n) *Criterion 8 – Scenic Beauty, Historic Sites, and Natural Areas.* The proposed project is located primarily within the Village limits. A buffer may be required in order to mitigate visual impacts of the project on adjoining residential uses, as depicted on the enclosed conceptual plans. The State of Vermont Division for

Historic Preservation was contacted as part of our preliminary site assessment. As of the date of this report, we have not received a response. A copy of our letter, requesting a review of the site, is attached. Based on information provided by the property owner, the parcel was part of a larger farmstead, and there are no known historic sites at this location.

o) *Criterion 8(A) – Wildlife and Endangered Species Habitat.* The Department of Fish and Wildlife has determined that the wooded areas directly to the north and east of the site are categorized as deer wintering areas. The Department of Fish & Wildlife typically requires a 300 foot undisturbed buffer from deer wintering areas. If the buffer were to be strictly applied in this case, approximately 8 acres along the north and east sides of the site could not be developed. Accounting for the voluntary 50 foot buffer depicted on the conceptual plans, approximately 5 acres of developable land would be lost, which would likely render the project infeasible. However, the Department of Fish & Wildlife would likely accept an alternative form of mitigation, such as imposing development restrictions on a nearby site with similar or better quality habitat. In cases where off-site mitigation is accepted, a 4 to 1 area ratio is required. We would therefore anticipate that an area of approximately 20 acres would need to be conserved off site in order to mitigate the buffer impacts necessitated by the proposed development. A copy of our correspondence with Amy Alfieri of the Department of Fish and Wildlife is attached.

p) *Criterion 9(A) – Impact of Growth.* It must be demonstrated that the project will not significantly impact the municipality's ability to provide services to its residents. An evaluation of tax benefit versus cost of services is normally included, in order to demonstrate that the project will benefit the municipality, rather than burden it. Since the local workforce will most likely fill employment positions, and the potential residential/population increase due to the project is minimal, the project is not expected to substantially increase the population growth in the area. Since the project's purpose is to secure economic stability and provide reasonable growth potential, this criterion should be easily met.

q) *Criterion 9(B) – Primary Agricultural Soils; Criterion 9(C) – Productive Forest Soils; and Criterion 9(D) – Protection of Earth Resources.* The State of Vermont Agency of Agriculture is likely to consider the "Statewide" soils identified on the plans as "Primary Agricultural Soils" in evaluating project impacts. These soils comprise approximately 4.74 acres of the site, and all of that would be considered to be impacted by the project. Due to the location of the site (situated within the Village limits, distance from nearby agricultural practices, etc.), the Agency of Agriculture would likely support off-site mitigation. Unlike the Fish & Wildlife Department's mitigation approach, Prime Ag mitigation normally involves payment of a fee, with which the Agency purchases development rights, etc. The

ratio and cost per acre varies by soil type and location, however a typical average ratio is 2.25 to 1, at a cost of $1,500 to $2,500 per acre. Thus, for 4.74 acres of impacted area, the impact fee would be: 4.74 X 2.25 X ($1,500 to $2,500) = $15,997.50 to $26,662.50. If slopes exceed 15%, one may contest that those soils do not meet the definition for prime ag soils, thus reducing the impact and fee. The site does not appear to contain substantial valuable earth resources.

r) *Criterion 9(E) – Extraction of Earth Resources.* Not applicable. This criterion applies to sites where materials such as sand, gravel, crushed rock, marble, slate or granite will be extracted.

s) *Criterion 9(F) – Energy Conservation.* This criterion can be met by adhering to current energy codes and standards, such as high efficiency boilers, fluorescent lighting, and insulation. Commercial buildings will be required to meet Vermont's Commercial Building Energy Standards (CBES) and the Vermont Guidelines for Energy Efficient Commercial Construction. Cooperative efforts with Efficiency Vermont are often included when demonstrating compliance with this criterion.

t) *Criterion 9(G) – Private Utilities.* If portions of the project, such as the road, stormwater system or other utilities will be turned over to an association, rather than being owned and maintained by the municipality, proper mechanisms must be demonstrated (such as protective covenants) to protect the municipality from future burdens.

u) *Criterion 9(H) – Scattered Development.* The proposed project site is arguably contiguous to existing settlement and is situated primarily within the Village limits. Numerous other commercial services, such as stores and restaurants, are within walking distance of the project site. While categorization as "scattered development" is subject to interpretation, this project does not appear to constitute scattered development.

v) *Criterion 9(J) – Public Utilities.* This criterion is typically satisfied by obtaining "ability to serve" letters from the applicable utility companies (such as electric and telephone, water, sewer and highway departments, if applicable). In addition, it is advisable to work with the utility companies when designing the layout of the project infrastructure in order to provide the required components and separation distances.

w) *Criterion 9(K) – Public Investments.* This criterion is generally addressed under previously noted criteria, and includes public investments such as highways, water and sewer lines, schools, parks, wildlife refuges, municipal or state buildings, publicly financed projects and public waterways.

x) *Criterion 9(L) – Rural Growth Areas.* Not applicable.

y) *Criterion 10 – Local and Regional Plans.* The applicant must demonstrate conformance with the municipal and regional plan, and, if applicable, the municipality's capital improvement plan. This generally involves including relevant sections of those plans with the application, along with an explanation of how the project meets the goals and guidelines outlined in those plans. Typically, the project drawing(s) is also forwarded to the Regional Planning Commission for review and comment early in the planning process in order to incorporate their comments where feasible.

Conceptual Plans/Layouts

We have prepared three plans, copies of which are enclosed with this report. The first plan, Sheet C-1, Existing Conditions Plan, represents the existing site conditions. Among the features depicted on the plan are:

- Approximate property boundaries, based on Village and State mapping and previous development plans for the project (see plan references on the drawing).
- Existing ground contours, based on previous development plans and the United States Geological Survey (USGS) mapping.
- Existing mapped soils, based on United States Department of Agriculture Soil Conservation Service (SCS) mapping.
- Estimated limits of existing deer wintering habitat, based on published mapping (Vermont Environmental Interest Locator) and our site visit with Amy Alfieri of the State of Vermont Department of Fish and Wildlife.
- Estimated limits of the source protection area for the Johnson Village Water Department water supply.
- Approximate location of potential Class III wetland, based on site observation.
- Other site features, such as known overhead and underground utilities, Town/Village line, existing groundwater monitoring wells, and the existing V.A.S.T. snowmobile trail, based on previous development plans, site visits and information provided by the Village of Johnson (see plan references on drawings).

The second plan, Sheet C-2, Conceptual Plan #1, depicts one possible layout for a commercial/industrial park on the site. The plan illustrates a 5 lot subdivision, with lots ranging from 2.4 acres to 3.9 acres in size. Proposed buildings range in size from 4,800 square feet to 15,000 square feet, with potential for expansion on most of the sites. The lots would be accessed by means of a common road, approximately 1,130 feet in length. The plan features a voluntary 50 foot perimeter buffer, which is typical of planned unit developments in other towns, and provides some separation between existing wildlife and residential areas and the proposed development. Building locations and orientations are arranged to follow the existing grade of the land where possible, in order to minimize necessary cuts and fills to develop the lots. A common stormwater collection and treatment system would be incorporated, including a detention pond near the south end of the site as illustrated.

The third plan, Sheet C-3, Conceptual Plan #2, depicts an alternative layout for a commercial/industrial park with a residential component. This plan includes 5 commercial/industrial lots, ranging from 1.8 acres to 3.4 acres in size. Proposed buildings range in size from 4,800 square feet to 15,000 square feet, with potential for expansion on most of the sites. Concept #2 also includes five residential building lots, ranging in size from 0.46 to 0.78 acres. The residential lots could be sold as a means of recovering some of the funding for the purchase of the parcel and/or construction of the common infrastructure (roads, stormwater system and common utilities). The residential lots would also serve as a buffer between the new commercial/industrial uses and existing adjacent residences.

The commercial/industrial lots would be accessed by means of a common road, approximately 1,130 feet in length. An additional cul de sac road off of the commercial/industrial access road, approximately 300 feet in length, would provide access to the residential lots. As illustrated on the plan, the residential lot owners would own to the centerline of that road, thus would own, maintain and pay taxes on that road. This plan also features a voluntary 50 foot perimeter buffer. Building locations and orientations are arranged to follow the existing grade of the land where possible, in order to minimize necessary cuts and fills to develop the lots. A common stormwater collection and treatment system would be incorporated, including a detention pond near the south end of the site as illustrated.

Project Cost Estimates

A construction, permitting and development-related cost estimate for the proposed park and common infrastructure has been prepared and is attached. As noted elsewhere in this report, and on the cost estimate itself, there could be additional or unforeseen costs, such as water system storage or booster pumps, intersection improvements/signalization, blasting), etc. The estimates do not include development of any of the actual lots.

Attachments:

1) Estimated Project Costs
2) Letters to and from Shannon Morrison (Wetlands)
3) Letter to and correspondence with the Vermont Department of Fish & Wildlife
4) Letter to the Vermont Division for Historic Preservation
5) Vermont Agency of Natural Resources Environmental Interest Locator Map
6) G.I.S. Mapping from the Village of Johnson
7) USDA Soil Conservation Service soil descriptions
8) Existing Conditions Site Plan (C-1)
9) Conceptual Plan #1 (C-2)
10) Conceptual Plan #2 (C-3)

Ruggiano Engineering, Inc.
April 2010
Project Number: 10016

Village of Johnson, Vermont
Jewett Property Feasibility Study

Estimated Project Costs

Item Description	Quantity	Units	Unit Cost	Item Cost
Access Road	1130	LF	$100	$113,000
Water Line	1100	LF	$50	$55,000
Fire Hydrant	4	EA	$2,500	$10,000
Sewer Line	1500	LF	$35	$52,500
Manholes	8	EA	$3,000	$24,000
Boring Sewer (Rte. 15)	1	EA	$5,000	$5,000
Route 15 Culvert	1	EA	$5,000	$5,000
Relocate/raise poles	4	EA	$5,000	$20,000
Landscaping/trees	60	EA	$200	$12,000
Signage & Striping	1	LS	$1,500	$1,500
Power & Telephone	1150	LF	$75	$86,250
Site Prep, seed, mulch	1	LS	$25,000	$25,000
Stormwater Controls	1	LS	$60,000	$60,000
Erosion Control	1	LS	$20,000	$20,000
			10% contingency	$48,925
			Subtotal	**$538,175**
Other Related Costs				
Purchase of Property				$350,000
Prime Ag Mitigation				$25,000
Wetland Delineation				$2,500
Engineering				$35,000
Permit Application Fees				$10,000 *
Traffic Study				$5,000
Boundary Survey/Plat and Topographic Survey				$15,000
Legal Fees				$10,000
			Total	**$990,675**
* *Municipality may be exempt from permit application fees*				

Note: This estimate was prepared for feasibility evaluation only, and may not reflect or include all final costs associated with developing this property. Actual construction costs will vary depending on economic conditions, material costs and contractor work load. VTrans or other State agencies may require other improvements or upgrades, such as turn lanes, signs or traffic signals that are not included in this estimate.

RUGGIANO
Engineering, inc.
Civil Engineers • Land Use Planners

March 30, 2010

Water Quality Division
103 South Main Street, Bldg 10 North
Waterbury, Vermont 05671-0408

Attention: Shannon Morrison, District Wetlands Ecologist

Re: Proposed Commercial/Light Industrial Park
VT Route 15, Johnson

our file 10016

Dear Shannon,

Ruggiano Engineering is conducting a feasibility study for the Town of Johnson for the above-referenced project. Could you please comment on whether or not wetlands exist at the site, and if so, any potential impact the project may have on the wetlands?

For your use, we have enclosed a plan of known existing conditions at the site, including a site location map. If you would like to visit the site, please call to set up a time at your convenience.

Thank you.

Sincerely,

Ruggiano Engineering, Inc.

Brenda Kane Hammond

Brenda Kane Hammond, Office Coordinator

Enclosure
bkh

Cliff Collins

From: Alfieri, Amy [Amy.Alfieri@state.vt.us]
Sent: Monday, April 26, 2010 10:41 AM
To: Cliff Collins
Subject: RE: Johnson - Park Site

Clifford,

Our network is down and I need to run a couple things by John Austin before I answer the questions below. My hope is he will be in the office tomorrow.

Although for points 1 and 2 below, I can answer YES.

Amy

Amy Alfieri
Wildlife Specialist
Vermont Fish and Wildlife Dept.
5 Perry St, Suite 40
Barre, VT 05641
office (802) 479-4439
fax (802) 476-0129
Amy.Alfieri@state.vt.us

From: Cliff Collins [mailto:cliff@shrugg.com]
Sent: Thursday, April 22, 2010 11:18 AM
To: Alfieri, Amy
Cc: Duncan Hastings; Lea Kilvadyova
Subject: Johnson - Park Site

Hi Amy,

It was good to see you yesterday, and heck, walking around in the woods beats sitting at a desk on a sunny 70 degree afternoon any day! The purpose of this email, as we discussed onsite, is two-fold. First, to establish contact and provide you with my email and other contact info:

Clifford R. Collins, Jr., P.E.

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Second, to follow up on our site visit of the Jewett property, where the Village of Johnson is exploring the option of a small commercial/industrial park. Assuming you will be discussing our situation and options with John Austin, we would like to know about the following:

1) Please confirm that the deer wintering area limits tend to generally follow the top of the bank at the back of the property (north line), and vary along the east line based on density of cover.

2) Please confirm that the strip along the ridge line at the westerly edge of the property is not consistent with deer wintering yard, as size, cover and exposure were not conducive to sheltering deer from winter weather.

3) You mentioned a typical 300 foot buffer from the wintering area limits for grazing and separation from human activity. As we discussed, this has a "project killing" impact if we can not build within 300 feet of the north and east property lines. How much can the buffer be reduced, with and without mitigation? For example, if mitigation is proposed, can the buffer be reduced to zero, or some other number?

4) As Duncan asked, is there any consideration in reducing the buffer distance based on commercial or industrial uses being less intrusive on deer habitat than a residential development?

5) Is there an option of installing some type of visual barrier (i.e. hedge, fence, etc.) to effectively separate the buffer area from the human activity that would allow us to reduce the buffer without off-site mitigation?

6) If we were to proceed with off-site mitigation, can we get credit for whatever buffer we do maintain on the site? For example, we anticipate maintaining a 50 foot buffer around the perimeter of the project. That probably adds up to at least an acre, maybe two, of buffer. Can that area be deducted before applying the 4 to 1 ratio for off-site mitigation?

We look forward to hearing back from you. As I mentioned yesterday, we are presenting our findings to the public next Wednesday, so any feedback you can provide before then will be much appreciated.

Thanks!

-Cliff

Cliff Collins

From: Alfieri, Amy [Amy.Alfieri@state.vt.us]
Sent: Tuesday, April 27, 2010 12:25 PM
To: Cliff Collins
Subject: RE: Johnson - Park Site

HI Cliff

After my discussions with John Austin, we are willing to entertain the idea of mitigation for your proposed project. Basically, the mitigation should be based on impacts to the 300 foot buffer that is represented by the edge of habitat as discussed in the field. If you can provide a calculation of impact acreage, then an off-site mitigation ratio of 4:1 can be derived.

I am reluctant to reduce the buffer in any way due to the extensive browsing and use of the area as noted on our site visit. However, if you do maintain a 50-foot buffer around the perimeter of the project, this can be deducted from the total impact calculation.

A site visit should be scheduled to assess the quality of habitat on any proposed mitigation site. As I mentioned in the field, it would need to be an outstanding mitigation opportunity with habitat equal to or of greater function and value to that of the impacted site.

I hope this answers your questions.

Amy

Amy Alfieri
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5 Perry St, Suite 40
Barre, VT 05641
office (802) 479-4439
fax (802) 476-0129
Amy.Alfieri@state.vt.us

Cliff Collins

From: Alfieri, Amy [Amy.Alfieri@state.vt.us]
Sent: Tuesday, April 27, 2010 12:28 PM
To: Cliff Collins
Subject: RE: Johnson - Park Site

One more thing –

John and I both agree that a deed restriction with forest management plan on any mitigation parcel is a better route than tackling the hurdles of a conservation easement. This simply means that no development will be allowed on the parcel and it will be managed such to maintain the habitat in perpetuity with oversight by FWD.

Amy

Amy Alfieri
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March 17, 2010

Division for Historic Preservation
Pavilion Building
Montpelier, VT 05602

Attention: Scott Dillon, State Archaeologist

Re: Proposed Commercial/Light Industrial Park
VT Route 15, Johnson

our file 10016

Dear Scott:

Ruggiano Engineering is conducting a feasibility study for the Town of Johnson for the above-referenced project. Could you please provide comments from the Division for Historic Preservation regarding potential impacts to historically significant items?

For your use, we have enclosed a plan of known existing conditions at the site, including a site location map. If you would like to visit the site, please call to set up a time at your convenience.

Thank you.

Sincerely,

Ruggiano Engineering, Inc.

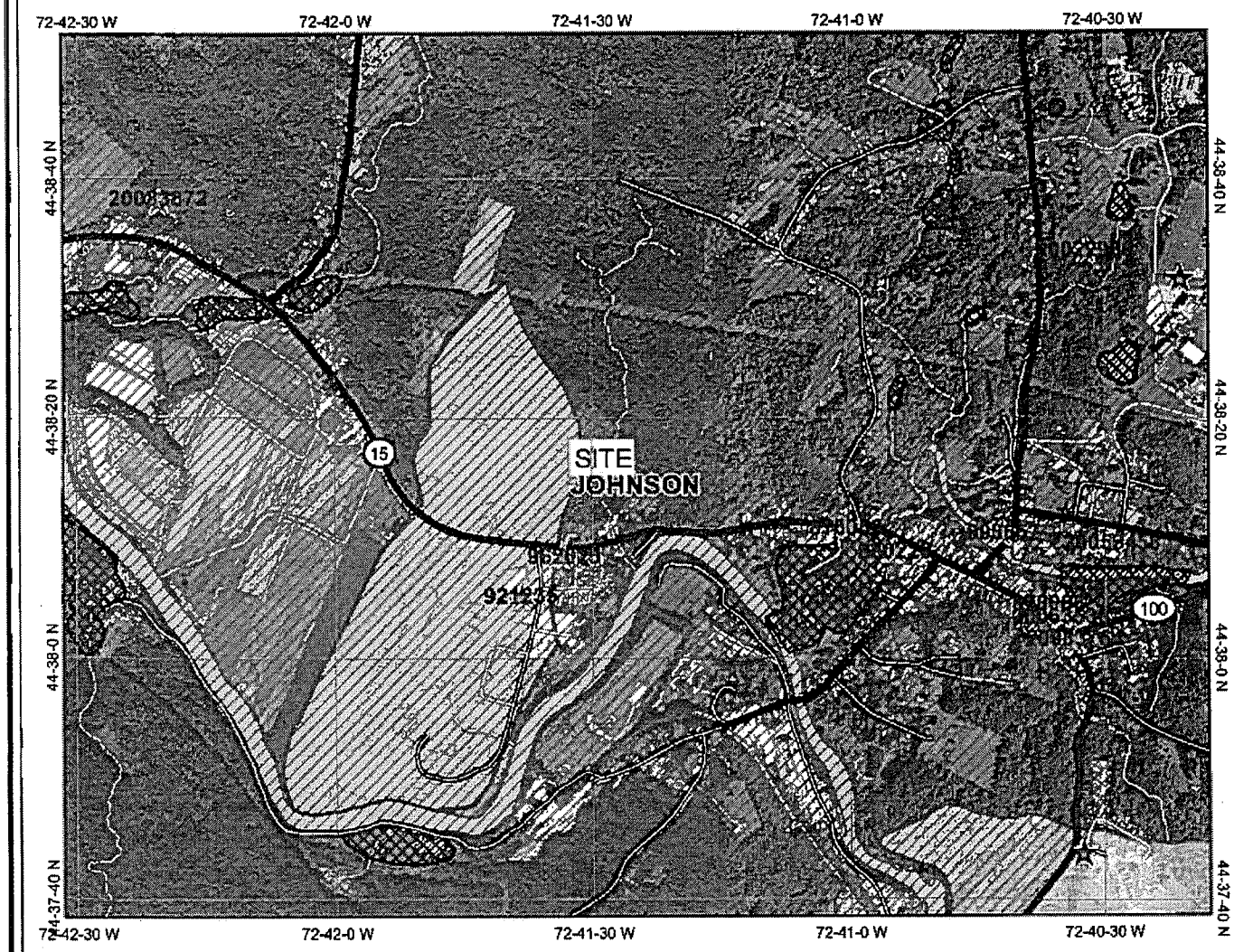
Clifford R. Collins, Jr., P.E.

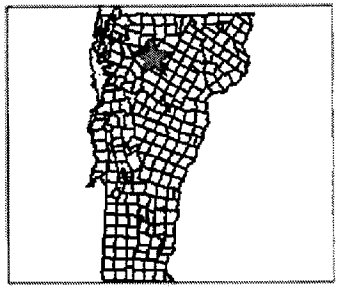
Enclosure
CRC//bkh

5 Lake Street • St. Albans, VT 05478 • Ph. 802.524.9300 • Fax. 802.524.9700

ANR Environmental Interest Locator

Vermont Agency of Natural Resources (ANR)





Legend

- Hazardous Waste Site
- Roads
- US Highway
- Vermont State Highway
- Class One
- Class Two
- Legal Trail
- Emergency U-Turn Area
- Proposed Class Two
- Proposed Class Three
- Proposed Vermont State Highway
- Proposed US Highway
- Proposed Interstate
- Discontinued
- Interstate
- Class Three
- Class Four
- State/National Forest Highway
- Military Road (No Public Access)
- Private Road
- VSWI
- Class 1 Wetland
- Class 2 Wetland
- Class 3 Wetland
- GroundWaterSPA
- Hydrography Lakes and Ponds (VHD 5k)
- Hydrography (VHD 5k)
- VT County Boundary
- VT Town Boundaries (No Fill)
- NAIP Color Orthophotos
- VT State Boundary (Fill)

VT State Plane Meters (NAD83)

Scale: 1:15,895

Map center: 484911, 237505

URL: http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp

3/4/10

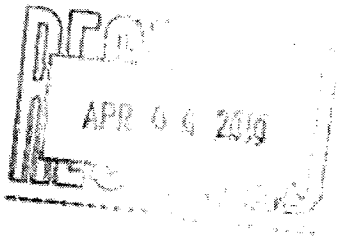
10016

VERMONT

Vermont Department of Environmental Conservation
Water Quality Division
103 South Main Street, Building 10 North
Waterbury, VT 05671-0408

Agency of Natural Resources

[phone] 802-241-3770
[fax] 802-241-3287



April 5, 2010

Brenda Kane Hammond
Ruggiano Engineering, Inc.
5 Lake Street
St. Albans, VT 05478

RE: VT Route 15 Light Industrial Park, Johnson, Wetland Project #2010-025

Dear Brenda:

On March 31, 2010, we received your communication regarding the above mentioned project. According to our maps there are no VSWI mapped wetlands or hydric soils located in the project area. However, based on the topography there appears to be a drainage feature through the property that may prove to have some wetland characteristics. I recommend you r office do some preliminary site work to identify any drainage features or wet areas on the property. As the project is likely to need an Act 250 permit if it is light industrial, you will need to have appropriate setbacks from any water feature including streams and wetlands. You may want to hire a consultant to delineate these features so you can put them on a plan. I'm happy to do a site visit once this preliminary work is done.

Sincerely,

Shannon Morrison
District Wetlands Ecologist

RUGGIANO engineering, inc.
Civil Engineers • Land Use Planners

March 17, 2010

Vermont Department of Fish & Wildlife
111 West Street
Essex Junction, VT 05452

Attention: John Gobeille

Re: Town of Johnson — Project 10016
Proposed Commercial/Light Industrial Park, VT Route 15

Dear John:

Ruggiano Engineering is conducting a feasibility study for the Town of Johnson regarding a commercial/light industrial park at the so-called "Jewett Property" on Vermont Route 15. A plan of existing conditions, including site location map, is included for your use.

We are aware of a mapped deer habitat at the northwest corner of the lot, and would appreciate your comments regarding any impact this type of project may have on that habitat, or other wildlife related issues.

If you have any questions or would care to visit the site, please let us know. Thank you.

Sincerely,

Ruggiano Engineering, Inc.

Clifford R. Collins, Jr., P.E.

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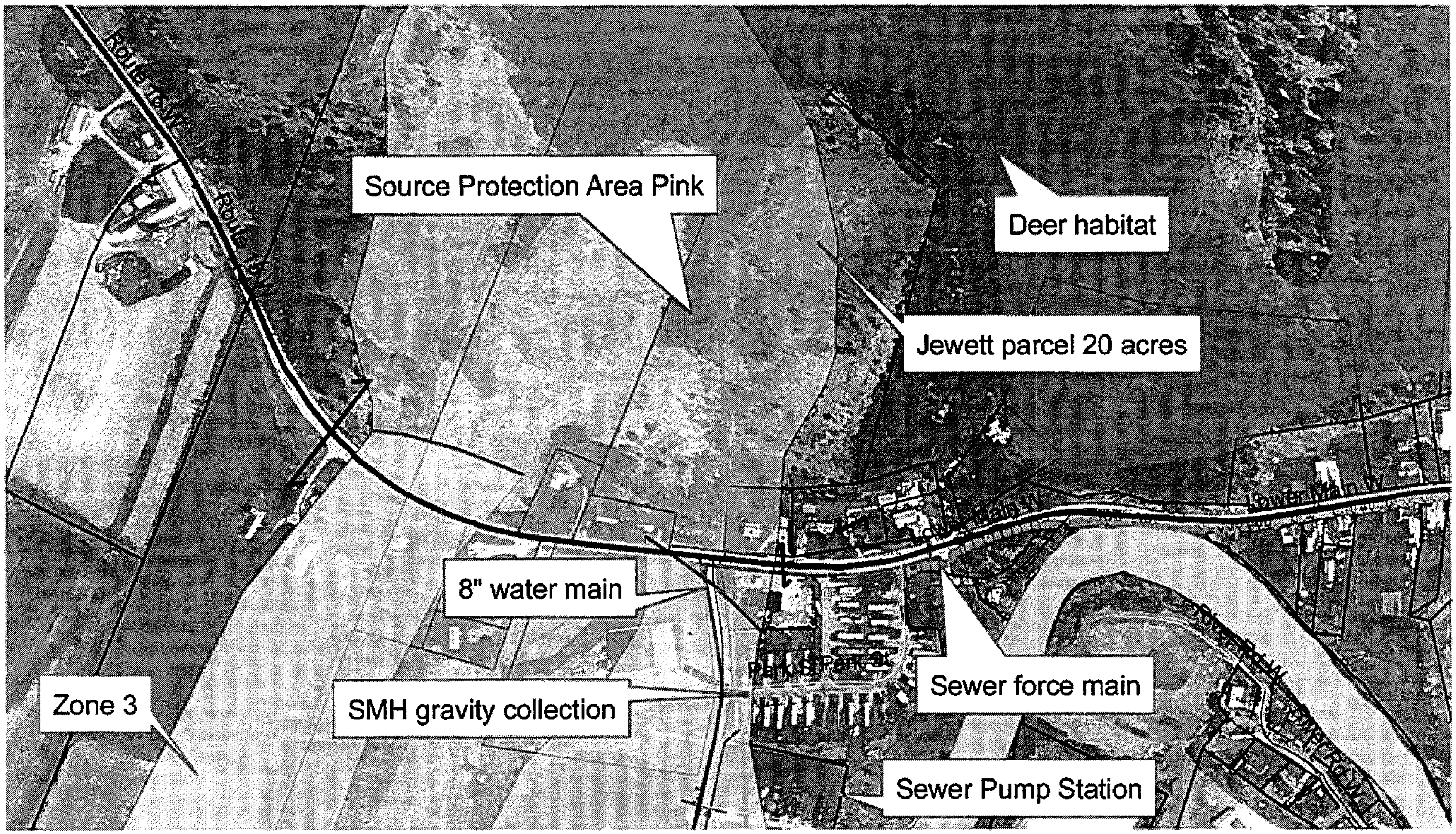
Source Protection Area Pink
Deer habitat
Jewett parcel 20 acres
Lower Main W
8" water main
Sewer force main
SMH gravity collection
Zone 3
Sewer Pump Station

junction of Vt. Route 109 and Plot Road, 50 feet southwest of Plot Road, town of Johnson:

O1—1 inch to 0, softwood litter.
A1—0 to 1 inch, black (5YR 2/1) loamy fine sand; moderate medium granular structure; very friable; many roots; very strongly acid; abrupt smooth boundary.
A2—1 to 5 inches, pinkish gray (7.5YR 6/2) loamy fine sand; weak fine granular structure; very friable; few roots; very strongly acid; abrupt broken boundary.
B21h—5 to 7 inches, dark reddish brown (5YR 3/3) loamy fine sand; weak fine subangular blocky structure; very friable; common roots; very strongly acid; clear wavy boundary.
B22ir—7 to 13 inches, dark brown (7.5YR 4/4) loamy fine sand; weak fine granular structure; very friable; common roots; very strongly acid; gradual wavy boundary.
B23—13 to 20 inches, yellowish brown (10YR 5/6) fine sand; weak fine granular structure; very friable; few roots; very strongly acid; gradual wavy boundary.
B3—20 to 26 inches, light olive brown (2.5Y 5/6) fine sand; single grain; loose; few roots; very strongly acid; gradual wavy boundary.
C—26 to 60 inches, olive yellow (2.5Y 6/6) fine and medium sand; single grain; loose; very few roots; very strongly acid.

The thickness of solum ranges from 16 to 30 inches. Reaction ranges from medium acid to very strongly acid. The depth to bedrock is more than 5 feet. Coarse fragments make up as much as 20 percent of the soil.

The A1 horizon has hue of 5YR or 7.5YR, value of 2 through 4, and chroma of 1 or 2. Some pedons have an Ap horizon. It has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It is loamy fine sand and is granular.

The A2 horizon has hue of 7.5YR or 10YR, value of 5 through 7, and chroma of 1 or 2. It is loamy fine sand or loamy sand. Tongues of the A2 and B21h horizons 1 to 4 feet apart extend into the B22ir horizon to a depth of 6 to 12 inches.

The B21h horizon has hue of 5YR through 10YR and value and chroma of 2 through 4. It is loamy fine sand or loamy sand. It is very friable, but in some pedons it is as much as 50 percent firm or very firm nodules of ortstein.

The lower part of the B horizon has hue of 7.5YR through 2.5Y, with 2.5Y hue restricted to the B3 horizon, and has value and chroma of 3 through 6. It is loamy fine sand to sand and is granular to single grain. It ranges from very friable to loose.

The C horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 through 6. It is sand or coarse sand. In some pedons lenses of gravel are below a depth of 40 inches.

Adams Variant

The Adams Variant consists of moderately deep, well drained to excessively drained soils on terraces in valleys. The soils formed on bedrock-controlled outwash plains. The soils are underlain by micaceous schist at a depth of 20 to 40 inches. Slopes range from 8 to 50 percent and are dominantly 8 to 15 percent.

The Adams Variant soils are similar to the Adams, Colton, Duxbury, and Tunbridge soils. The Adams Variant soils are not as deep as the Adams soils, have less gravel in the substratum than the Colton or Duxbury soils, and have more sand in the solum than the Tunbridge soils.

Typical profile of Adams Variant loamy fine sand, 8 to 15 percent slopes, in woodland, 1-1/2 miles west of Johnson Village, 1/4 mile north of Vt. Route 15, 200 feet south of the Lamoille River, town of Johnson:

O1—2 inches to 1 inch, softwood litter.
O2—1 inch to 0, black decomposed softwood litter.
A2—0 to 3 inches, pinkish gray (7.5YR 6/2) loamy fine sand; weak fine granular structure; friable; many roots; strongly acid; abrupt broken boundary.
B21h—3 to 6 inches, dark reddish brown (5YR 3/3) loamy fine sand; weak fine granular structure; friable; many roots; strongly acid; clear wavy boundary.
B22ir—6 to 12 inches, dark brown (7.5YR 4/4) sand; single grain; loose; common roots; strongly acid; clear wavy boundary.
B3—12 to 32 inches, dark yellowish brown (10YR 4/4) sand; sigle grain; loose; few roots; strongly acid; abrupt wavy boundary.
R—32 inches, gray micaceous schist.

The thickness of solum and depth to bedrock range from 20 to 40 inches. The soil is loamy fine sand to sand. Reaction ranges from medium acid to very strongly acid. Coarse fragments make up less than 10 percent of the soil. Tongues of the A2 and B21h horizons extend into the B22ir horizon at intervals of 1 to 4 feet to a depth of 6 to 12 inches.

Some pedons have an Ap horizon. It has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. It is loamy fine sand.

The A2 has chroma of 0 through 2. It is loamy fine sand to sand.

The B horizon has hue of 5YR through 10YR, value of 3 through 5, and chroma of 3 through 6. It is loamy fine sand to sand.

Allagash series

The Allagash series consists of deep, well drained soils formed in outwash deposits. The soils are on terraces and deltas in valleys.

The Allagash soils are similar to Salmon, Adams, Duxbury, and Colton soils. Allagash soils have more

A2—4 to 7 inches, light gray (7.5YR 7/1) very fine sandy loam; weak fine granular structure; friable; few roots; very strongly acid; abrupt wavy boundary.
B21h—7 to 8 inches, dark reddish brown (5YR 3/3) very fine sandy loam; weak medium subangular blocky structure; friable; many roots; strongly acid; abrupt wavy boundary.
B22ir—8 to 13 inches, dark brown (7.5YR 4/4) very fine sandy loam; weak medium subangular blocky structure; friable; common roots; strongly acid; clear wavy boundary.
B23—13 to 20 inches, olive brown (2.5Y 4/4) very fine sandy loam; weak medium subangular blocky structure; friable; few roots; medium acid; clear wavy boundary.
B3—20 to 26 inches, olive (5Y 5/4) very fine sandy loam; massive; friable; few roots; medium acid; clear wavy boundary.
C—26 to 60 inches, olive (5Y 4/3) very fine sandy loam; massive; friable; few roots; medium acid.

The solum thickness ranges from 20 to 30 inches. The depth to bedrock is more than 5 feet. Reaction ranges from very strongly acid to medium acid throughout the profile. The coarse-fragment content ranges from 0 to 5 percent.

The A1 or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. Each is very fine sandy loam or silt loam.

The A2 horizon has hue of 5YR through 7.5YR, value of 6 or 7, and chroma of 0 through 2. It is very fine sandy loam or silt loam.

The upper part of the B horizon has hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 2 through 4.

The lower part of the B horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 3 or 4. It is very fine sandy loam or silt loam.

The C horizon has value of 4 or 5 and chroma of 3 or 4. It is very fine sandy loam or silt loam. The lower part of the C horizon exhibits varving.

Salmon Variant

The Salmon Variant consists of moderately deep, well drained soils that formed in lacustrine sediments. Slopes range from 8 to 50 percent but are dominantly 15 to 25 percent.

The Salmon Variant soils are similar to Salmon, Lyman, Boothbay, and Allagash soils. The Salmon Variant soils are shallower than the Salmon soils, which have bedrock at a depth of 60 inches or more, and are deeper than the Lyman soils, which have bedrock at a depth of less than 20 inches. Salmon Variant soils have less gravel in the substratum than the Allagash soils and are not as deep. Salmon Variant soils do not have the mottles in the subsoil of the Boothbay soils and have less clay.

Typical profile of Salmon Variant very fine sandy loam, in an area of Salmon Variant-Salmon very fine sandy loams, rocky, 8 to 15 percent slopes, in woodland, 3/8 mile northwest of town road 4, 1 mile south of Vt. Route 15, town of Wolcott:

O2—1 inch to 0, black decomposed leaf litter.
A1—0 to 3 inches, dark reddish brown (5YR 2/2) very fine sandy loam; weak very fine granular structure; very friable; many roots; very strongly acid; abrupt irregular boundary.
A2—3 to 4 inches, gray (10YR 6/1) very fine sandy loam; weak fine subangular blocky structure; friable; common roots; very strongly acid; abrupt broken boundary.
B21h—4 to 5 inches, dark reddish brown (5YR 3/2) very fine sandy loam; weak fine subangular blocky structure; friable; common roots; very strongly acid; abrupt wavy boundary.
B22ir—5 to 8 inches, dark reddish brown (5YR 3/3) very fine sandy loam; weak fine subangular blocky structure; friable; common roots; very strongly acid; abrupt wavy boundary.
B3—8 to 22 inches, dark brown (10YR 3/3) very fine sandy loam; weak fine subangular blocky structure; friable; few roots; strongly acid; clear wavy boundary.
C—22 to 30 inches, olive (5Y 5/3) very fine sandy loam; massive; friable; few roots; strongly acid; 5 percent coarse fragments; abrupt wavy boundary.
R—30 inches, micaceous schist.

The solum thickness ranges from 20 to 30 inches. The depth to bedrock is 20 to 40 inches. Reaction ranges from very strongly acid to medium acid throughout the profile. The coarse-fragment content ranges from 0 to 5 percent.

The A1 or Ap horizon has hue of 5YR through 10YR, value of 2 through 4, and chroma of 2 through 4. Each is very fine sandy loam or silt loam.

The A2 horizon has hue of 7.5YR or 10YR, value of 6 or 7, and chroma of 0 through 2. It is very fine sandy loam or silt loam.

The upper part of the B horizon has hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 2 through 4. The lower part of the B horizon has hue of 10YR through 5Y, value of 4 or 5, and chroma of 3 or 4. The B horizon is very fine sandy loam or silt loam.

The C horizon has value of 4 or 5 and chroma of 3 or 4. It is very fine sandy loam or silt loam. The lower part of the C horizon in some profiles exhibits varving.

Scantic Variant

The Scantic Variant consists of deep, poorly drained soils on strongly dissected lacustrine terraces in valleys. Slopes range from 8 to 50 percent but are dominantly 30 to 45 percent.

The Scantic Variant soils are similar to Boothbay and Swanville soils but contain more clay.