



**MOYSE**  
ENVIRONMENTAL  
SERVICES, INC.  
SOIL AND LAND USE  
CONSULTING

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June 22, 2006

Mr. Chadd Blanchard  
9 Blanchard Road  
Mount Desert, Maine  
04660

RE: Revised Preliminary Site Evaluation Report  
Proposed Residential Subdivision  
Route 1A  
Ellsworth, Maine

## INTRODUCTION

As requested, Moyse Environmental Services, Inc. has conducted preliminary site evaluations on a portion of your property off Route 1A, in Ellsworth, Maine. The area that we investigated, referred to herein as the "site", is the area depicted on your conceptual sketch, which you provided to us during our initial on-site meeting on April 25, 2005. We understand you are proposing to develop a nine-lot, residential subdivision. The purpose of these evaluations was to assess the suitability of the soils on the site for subsurface wastewater disposal (septic systems). We understand that this residential subdivision is to be served by on-site septic systems and individual, private wells. Most of our preliminary site evaluation fieldwork was performed between June 7 and August 12, 2005 based on the sketch plan that you provided to us. We subsequently completed additional fieldwork, on June 19 2006, to address the City Planning Board's request. The municipal subdivision ordinance requires two suitable locations for a septic disposal field per lot on those lots with a depth to limiting factor of less than 24 inches. The following report summarizes our findings and recommendations and should only be reviewed in conjunction with the Final Subdivision Plan for "Ridge View Estates", prepared by T. W. Benson Land Surveying, Inc., dated April 14, 2006.

## SITE LOCATION AND DESCRIPTION

The site is located on the eastern side of Route 1A, approximately 2,200 feet south of the Route 1A and Nicolin Road intersection in Ellsworth, Maine (see Site Location Map attached). The entire property is approximately 100 acres. However, the site encompasses approximately only 40 acres. The site is the western portion of the property, where it fronts on Route 1A. There are two

sections of road frontage. The southerly section is approximately 261 feet and the northern section is essentially a strip of land, approximately 52 feet wide, which follows along the existing road and power line, providing access to the property. This northerly strip extends easterly approximately 570 feet to where it widens out and becomes the main portion of the site. A utility line and the existing gravel road extend down the center of this narrow strip and continue across the center of the site. The utility line ends near the eastern site boundary, however, the gravel road extends off-site to the east. We understand that this is also a right-of-way for Bangor Hydro Electric Company.

The site is undeveloped, except for the gravel road and utility line. It is entirely wooded, most of which is mature forest. However, there is evidence of several timber harvesting operations that have taken place across the site. The majority of the site, all but the eastern edge, is mature forest dominated by mixed-growth forest and areas of deciduous dominated or coniferous dominated. There are old woods roads, barely noticeable now, that meander throughout this area. There was also some single-tree mature pine removal within the past few years. The eastern portion of the site was clearcut approximately 15 to 20 years ago. This is regenerating with very dense deciduous saplings. The topography of the western half of the site is nearly level to gently sloping and the eastern portion slopes downward toward the northeast.

## **SUMMARY OF FINDINGS**

Our soil explorations were based on the Maine Subsurface Wastewater Disposal Rules (The Code), dated October 01, 2002. The Code was updated August 1, 2005 and our soil explorations are still suitable based on the current Code. The Code requires that a minimum of 12 inches of free-draining soil be present for standard installation of a subsurface wastewater disposal system. Hand test pits and auger borings were done at prospective disposal field locations, downslope of likely house sites where possible, to allow for gravity flow. The exact location and size of a home, driveway, lawn, etc. for each lot has not been established. A typical three-bedroom home theoretically generates about 270 gallons of wastewater per day. That is the design flow that we used for our disposal field size estimations and on-site evaluations. We examined the existing soil conditions, including color, texture, consistency, depth to mottling, depth to restrictive layers and related soil properties.

Some of the test pits that are suitable have a limiting factor that is less than 24 inches in depth. Therefore, we understand that the ordinance requires that the lots with these soil conditions (< 24 inches) have two different suitable locations. We have identified two different areas that are suitable for a subsurface wastewater

disposal field on each of these lots, in accordance with the City of Ellsworth's Subdivision Ordinance.

Under provisions of the Rules, we found suitable soils for installing a wastewater disposal field on each lot. Hand dug test pits (HTP) and auger borings (HTB) that found suitable soils are shown on the Final Subdivision Plan for "Ridge View Estates", prepared by T. W. Benson Land Surveying, Inc.

**Lot 1:** Soil exploration HTB 103 is a profile 2AIII, with a dominant soil texture of sandy loam. There is no evidence of the seasonal water table or a firm, restrictive layer. Bedrock was noted at 27 inches. The limiting factor is bedrock at 27 inches. HTP 104 is a profile 2AIII, with dominant soil texture of fine sandy loam. There is no evidence of a seasonal high water table or a firm or restrictive layer. Apparent bedrock was observed at 29 inches. The limiting factor is bedrock at 29 inches. HTP 113 is a profile 2AIIIC, with dominant soil texture of fine sandy loam. There is evidence of a seasonal high water table at 22 inches, however, no evidence of a firm or restrictive layer. Apparent bedrock was observed at 33 inches. The limiting factors are bedrock at 33 inches and the seasonal groundwater table at 22 inches.

**Lot 2:** Soil exploration HTP 114 is a profile 3C, with a dominant soil texture of very stony fine sandy loam. There is evidence of a seasonal high water table at 18 inches and a firm, restrictive layer 27 inches. Bedrock was not observed within 32 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the groundwater table at 18 inches. HTP 103 is a profile 3AIIIC, with dominant soil texture of very stony sandy loam. There is evidence of a seasonal high water table and evidence of a firm or restrictive layer at 17 inches. Apparent bedrock was observed at 32 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the seasonal groundwater table at 17 inches.

**Lot 3:** Soil exploration HTP 106 is a profile 3C, with a dominant soil texture of sandy loam. There is no evidence of a seasonal high water table. However, a firm, restrictive layer was noted at 25 inches. Bedrock was not observed within 28 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the groundwater table at 25 inches. Soil exploration HTP 120 is a profile 3C, with a dominant soil texture of sandy loam. There is evidence of a seasonal high water table and a restrictive layer at 25 inches. Bedrock was not observed within 32 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the seasonal groundwater table at 25 inches.

**Lot 4:** Soil exploration HTP 102 is a profile 3C, with a dominant soil texture of fine sandy loam. There is evidence of a seasonal high water table at 23 inches and a firm, restrictive layer at 26 inches. Bedrock was not observed within 35 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the

groundwater table at 23 inches. Soil exploration HTP 119 is a profile 3C, with dominant soil texture of fine sandy loam. There is evidence of a seasonal high water table at and a restrictive layer at 24 inches. Bedrock was not observed within 28 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the seasonal groundwater table at 24 inches.

**Lot 5:** Soil exploration HTP 108 is a profile 3C, with a dominant soil texture of sandy loam. There is evidence of a seasonal high water table at 21 inches and a firm, restrictive layer at 25 inches. Bedrock was not observed within 31 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the seasonal groundwater table at 21 inches. Soil exploration HTP 115 is a profile 3C, with dominant soil texture of sandy loam. There is evidence of a seasonal high water table at 15 inches and a firm, restrictive layer at 20 inches. Bedrock was not observed within 30 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the groundwater table at 15 inches. A disposal field designed in this area would most likely be a concrete chamber system because it requires a smaller footprint.

**Lot 6:** Soil exploration HTP 109 is a profile 3C, with a dominant soil texture of fine sandy loam. There is evidence of a seasonal high water table at 22 inches and a firm, restrictive layer at 19 inches. Bedrock was not observed within 25 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the seasonal groundwater table at 19 inches. Soil exploration HTP 118 is a profile 3C, with dominant soil texture of sandy loam. There is evidence of a seasonal high water table at 16 and a firm, restrictive layer at 16 inches. The limiting factor is the groundwater table at 16 inches. Bedrock was not observed within 32 inches, and is not anticipated to be within 48 inches in depth.

**Lot 7:** Soil exploration HTP 105 is a profile 2AIII, with a dominant soil texture of fine sandy loam. There is no evidence of a firm, restrictive layer or a seasonal high water table. Apparent bedrock was observed at 26 inches. The limiting factor is the seasonal groundwater table at 26 inches. Some soil features were noted at 13 inches that resemble evidence of the groundwater table. However, they were determined to be a product of soil weathering, not a fluctuating groundwater table.

**Lot 8:** Soil exploration HTP 112 is a profile 3D, with dominant soil texture of fine sandy loam. There is evidence of a seasonal high water table at 12 inches and a firm, restrictive layer at 15 inches. Bedrock was not observed within 18 inches, and is not anticipated within 48 inches. The limiting factor is the seasonal groundwater table at 12 inches. Soil exploration HTP 116 is a profile 3C, with a dominant soil texture of sandy loam. There is evidence of a seasonal high water table at 19 inches and a firm, restrictive layer at 32 inches. Bedrock was not observed within 32 inches, and is not anticipated to be within 48 inches in depth. The limiting factor is the groundwater table at 19 inches. Note that a disposal field

designed in either of these locations would most likely be a concrete chamber system because it requires a smaller footprint.

**Lot 9:** Soil exploration HTP 110 is a profile 3C, with a dominant soil texture of fine sandy loam. There is no evidence of a seasonal high water table. However, a firm, restrictive layer was noted at 23 inches. The limiting factor is a restrictive layer at 23 inches. Bedrock was not observed within 30 inches, and is not anticipated to be within 48 inches in depth. Soil exploration HTP 117 is a profile 3C, with a dominant soil texture of sandy loam. There is evidence of a seasonal high water table and a firm, restrictive layer at 17 inches. The limiting factor is the groundwater table at 17 inches. Bedrock was not observed within 20 inches, and is not anticipated to be within 48 inches in depth.

Please note that these suitable areas may not be the only location available for a septic disposal field. We selected the test pit locations shown based on our opinion of what was a viable option. The final location and design of any disposal system will depend on the final development plans. The proper installation of a septic system relative to a dwelling, wells, driveway, road ditch, easements and property lines are necessary considerations to comply with the Rules. Please note that no part of a subsurface wastewater disposal system should be designed within the easement area unless the appropriate permission is obtained. We also recommend that a backhoe test pit(s) be done at the proposed disposal field location to confirm the subsurface soil conditions prior to finalizing a septic system design. The Ellsworth Development Ordinances should be reviewed and understood to ensure that this project will be in compliance.

We will gladly assist any of the new lot owners with the design of their individual septic systems upon request. It was a pleasure to assist you with this project. Please contact us if you have any questions or need additional information.

Sincerely,

**MOYSE ENVIRONMENTAL SERVICES, INC**



Rodney D. Kelshaw, LSE



David W. Moyse, LSE, CSS  
President

cc: File



