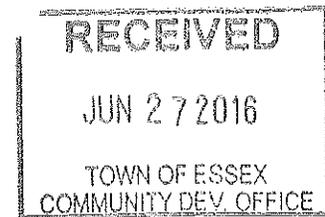


6/27/16

Renzo L. White  
75 Brigham Hill Lane  
Essex, Vermont



## **Narrative**

In 2006 the Ms. White subdivided the subject 25.3 acre property from a 123.9 acre parcel on the westerly side of Brigham Hill Lane. The 25.3 acre lot contains her existing residence while the remaining 98.6 acres of undeveloped land is now owned by Brigham Hill Associates, LLC. The preceding LLC, which was formed by Ms. White and other members of her family also owns an additional, undeveloped 30± acre parcel located on the east side of Brigham Hill Lane. In this instance, all lands that surround the Ms. White's property is owned by the her and her family.

Ms. White now proposes to subdivide a 10 acre lot from her 25.3 acre parcel. The new lot (Lot 2) is proposed for eventual construction of a single family residence. Her existing single family home will be retained on a 10 acre lot (Lot 1). The remaining 5.3 acres will be conveyed as a boundary adjustment to the adjoining lands owned by Brigham Hill Associates, LLC. A boundary survey depicting the proposed subdivision and boundary adjustment has been prepared by Button Professional Land Surveyors, PC.

The westerly half of the overall parcel consists of hardwood trees and conifers. The easterly half of Lot 1 contains a meadow with some apple trees. The easterly half of Lot 2 appears primarily overgrown with brush and small trees (brush). No deeryard, wetlands or hydric soils are identified on the Vermont ANR Atlas or town maps. Because the house on Lot 1 was built in the early 1800's the property is noted as having a historic structure on the Town of Essex "Historic Sites" map (Map #19).

The proposed building envelope includes 1.9± acres of moderately sloping land that extends westerly... to a point where grades begin to exceed 20%. The new home would be served by an onsite drilled water supply and mound-type wastewater system. The existing house is similarly served by an onsite drilled well and mound system. Wastewater systems and water supplies have been designed by Willis Design Associates, Inc. Permit approval from the Vermont Dept. of Environmental Conservation is pending.

A new access from Brigham Hill Lane is proposed to serve Lot 2. The proposed driveway will require ledge removal in order to maintain desired grades to a house site within the building envelope. The design depicts a 12 foot wide driveway that extends approximately 300 feet to a turn-around at an assumed house location within the building envelope. A site-specific design of the driveway has been prepared by Trafton Engineering Associates, LLC. A general specification that details blasting requirements is attached as well.

## **Construction Specification 400 – Excavation**

### **1. Scope**

The work shall consist of the excavation required by the drawings and specifications and disposal of the excavated materials. Excavation is the removal of earth, rock, or other materials to the lines and grades specified in the Site Plan(s) and Contract Documents.

### **2. Classification**

Excavation is classified as common excavation, rock excavation, or unclassified excavation in accordance with the following definitions.

**Common excavation** is defined as the excavation of all materials that can be excavated, transported, and unloaded using heavy ripping equipment and wheel tractor-scrappers with pusher tractors or that can be excavated and dumped into place or loaded onto hauling equipment by excavators equipped with attachments (shovel, bucket, backhoe, dragline, or clam shell) appropriate to the material type, character, and nature of the materials.

**Rock excavation** is defined as the excavation of all hard, compacted, or cemented materials that require blasting or the use of ripping and excavating equipment larger than defined for common excavation. The excavation and removal of isolated boulders or rock fragments larger than 1 cubic yard encountered in materials otherwise conforming to the definition of common excavation shall be classified as rock excavation. The presence of isolated boulders or rock fragments larger than 1 cubic yard is not in itself sufficient cause to change the classification of the surrounding material.

**Unclassified excavation** is defined as the excavation of all materials encountered, including rock materials, regardless of their nature or the manner in which they are removed.

### **3. Blasting**

The transportation, handling, storage, and use of dynamite and other explosives shall be directed and supervised by a person(s) of proven experience and ability who is authorized and qualified to conduct blasting operations. The blasting Contractor shall provide the Engineer (or owner's representative) and Excavation Contractor with a Blasting Plan and prepare and maintain daily Blasting Logs whenever blasting is performed at the site.

All drilling and blasting procedures shall be in accordance with the Vermont Agency of Transportation 2011 Standard Specifications for Construction Book, Section 205.

#### **Explosives**

All explosives will be delivered to the blast site on a daily basis. There will be no overnight storage on site. Only the amount of explosives required to perform the day's work will be brought to the site. All explosives will be stored in approved magazines when not in use. All blasting materials will be perchlorate free.

#### **Blaster Qualifications**

The blaster in charge of this project will be fully licensed and insured in the State of Vermont and have received the requisite amount of training in the safe use and handling of explosives. All blasters must be familiar with all OSHA Regulations, State Regulations, and Federal

Regulations regarding construction site safety, including transportation, use and handling of explosive materials. Weekly safety meetings are to be held on site by the General Contractor, with a record of that meeting returned to the Owner's on-site representative.

#### **Licenses and Permits**

The drilling and blasting contractor shall be fully licensed and insured for the transportation, use, and handling of explosives. Blasting permits, as required, will be obtained from the local authorities by the drilling and blasting contractor when blasting is about to begin.

All blasting shall be performed in accordance with all applicable laws and regulations including, but not limited to, the Vermont Occupational Safety and Health Administration regulations. Vermont has adopted by reference, Code of Federal Regulations ("CFR") OSHA regulations regarding explosives and blasting, and CVR 24 050 013 (Secretary of State Rule Log #92-041) (Rules Pertaining to VOSHA- Process Safety Management of Highly Hazardous Chemicals; Explosives and Blasting Agents). Specifically, Vermont has incorporated by reference 29 CFR Part 1910.109 Explosives and Blasting Agents and 29 CFR Part 1910.119 Process Safety Management of Highly Hazardous Chemicals, and 29 CFR 1926 Subpart U Blasting and the Use of Explosives. In addition, blasting will be conducted in accordance with the "Best Management Practices for Blasting to Avoid Environmental Contamination".



July 6, 2016

Town of Essex  
Department of Planning & Zoning  
81 Main Street  
Essex Jct., VT 05452

Attn: Sharon L. Kelley – Zoning Administrator

Re: TRANSMITTAL – Narrative Memo Driveway Design  
Project: 75 Brigham Hill Lane Subdivision– Renzo White

Dear Sharon:

Enclosed please find a narrative memo (2 pages) describing the driveway design basis and grading for the above referenced project.

Please do not hesitate to contact me with any questions.

Sincerely,

TRAFTON ENGINEERING ASSOCIATES LLC

A handwritten signature in purple ink, appearing to read "Trafton M. Crandall".

Trafton M. Crandall, P. E.

Cc: Renzo White

Enclosure

**MEMO**

Re: DRIVEWAY DESIGN - 75 Brigham Hill Lane, Renzo White  
Date: July 5, 2016  
To: Town of Essex Planning & Zoning – Sharon Kelley  
From: Trafton Crandall P.E.

A proposed design has been prepared for a single subdivided lot driveway at the 75 Brigham Hill Lane property. The plans titled Driveway/Road Design, and Driveway/Road Design Profile & Details, both dated 06/07/16 are referenced.

**Town Standards:**

Slope: 3% maximum for first 20 feet of drive, with -3% first 12 feet  
Maximum slope of drive = 10% (not exceed for any >50 ft length)  
Must meet B – 71 State AOT Standard for Drive Intersection  
Curves: 20' minimum curve radius at entrance (B-71)  
Sight Distance: 390 feet @ 35 mph (posted road speed limit) (B-71)  
Culverts: 18" diameter and 30 foot length minimum (per DPW)  
Drainage Ditches: Stone lining and check dams required where slope of drive exceeds 5%.  
Width: 12' minimum for first 20' of drive at entrance, then 10' minimum

**Design:**

Slope: The entrance is -3% and then +5% for first 22 feet, then transitions to 10.0% until the 40-ft marker, then slopes up to 14% from 50 to the 70 ft station, then transitions back to 10.0 % at the 90 ft station. The slope is then 10% until the 260 ft station. The remainder of the drive flattens out to 4.7% and then 3.75% at the 300 ft station at the parking area. (See the enclosed Design Profile graphic showing the slopes)

The section of the drive that exceeds 10% slope is about a 48 foot length, with a 20 foot length at the maximum slope of 14%.

Culvert: An 18" by 40 foot HDPE culvert is proposed at the entrance.  
Curves: The minimum 20-foot radius curve is used for the entrance and then a minimum of a 30-foot radius or more is used on curves for the remainder of the drive.



- Ditches:** Ditching is shown on both sides of the drive because it is cut into the slope for the first 250 feet of drive length. Stone lining and check dams will be required for all drive with slope > 5% (i.e. up to 270 foot station).
- Sight Distance:** The town road is relatively straight and more than the minimum sight distances are present in both directions. (meets requirements)
- Width:** 12' drive for entire length proposed.
- Turn-Around** A wide hammer-head type turnaround is proposed at the end of the drive that measures 70 feet in extent from one lobe to the other. Lobes are 22 feet wide, allowing for large vehicle turn-around and parking.

#### **Discussion of Design:**

The object of the drive design is to provide the shortest length and minimum slope to service the desired building envelope and house site location, while meeting all Town and State requirements. The proposed grade does exceed the 10% maximum grade for a short length of less than 50 feet, as allowed in Zoning Article III (G) (4) (a). This was done to reduce the amount of excavation where it is known that shale ledge exists at the site. This will reduce the depth of cut by 1 to 2 feet over a length of over 200 feet of the drive, significantly reducing excavating and/or blasting costs. The bedrock has not been investigated, but is expected to be weathered shale or limestone that is relatively feasible to excavate with a large excavator equipped with a pneumatic hammer. Blasting may be necessary.

It is understood that the Essex Fire Department would prefer a pull-off allowing vehicles to pass along the drive. This is possible to do at the 190 to 220 foot station of the drive by widening to 20 feet for a length of 30 feet.

The design exceeds the 10% maximum slope designated by Essex, but meets all State of Vermont B – 71 State AOT Standards for driveway and highway access and runs for less than 50 feet. Design meets all other Town requirements. The average grade of the entire 300 foot drive is 9.2%

Sent 6/28/16  
Lenzo/Wilij

**Jennifer Booker**

---

**From:** Essex Fire Chief <ccole183@comcast.net>  
**Sent:** Tuesday, June 28, 2016 11:37 AM  
**To:** Jennifer Booker  
**Subject:** Re: 75 Brigham Hill Road

The fire department is against this road design as it exceeds the maximum grade limit allowed per NFPA of 10%. This application should be denied as submitted.

---

**From:** "Jennifer Booker" <[JBooker@ESSEX.ORG](mailto:JBooker@ESSEX.ORG)>  
**To:** "Charlie Cole" <[ccole183@comcast.net](mailto:ccole183@comcast.net)>  
**Sent:** Tuesday, June 28, 2016 11:20:43 AM  
**Subject:** 75 Brigham Hill Road

Good morning,  
Here is a boundary adjustment and simple parcel for 75 Brigham Hill Road.  
Please have comments back by July 11<sup>th</sup>.

Jenn Booker  
Community Development Secretary  
81 Main Street. Essex Junction VT 05452  
802-878-1343  
[Jbooker@essex.org](mailto:Jbooker@essex.org)

Sent  
Renzo/Willis  
7/11/16

**Jennifer Booker**

---

**From:** Brad Larose  
**Sent:** Monday, July 11, 2016 2:25 PM  
**To:** Jennifer Booker  
**Subject:** RE: comments back

...and the same for 75 Brigham Hill Road.

**Chief Bradley J. LaRose**  
**Essex Police Department**  
**145 Maple Street**  
**Essex Junction, Vermont 05452**  
**[blarose@essex.org](mailto:blarose@essex.org)**  
**(802) 857-0093 direct**

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**From:** Jennifer Booker  
**Sent:** Monday, July 11, 2016 2:25 PM  
**To:** Brad Larose  
**Subject:** RE: comments back

thanks

---

**From:** Brad Larose  
**Sent:** Monday, July 11, 2016 2:15 PM  
**To:** Jennifer Booker  
**Subject:** RE: comments back

Jenn –

The police department has no concerns regarding 73 Jericho Road.

**Chief Bradley J. LaRose**  
**Essex Police Department**  
**145 Maple Street**  
**Essex Junction, Vermont 05452**  
**[blarose@essex.org](mailto:blarose@essex.org)**  
**(802) 857-0093 direct**

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**From:** Jennifer Booker  
**Sent:** Monday, July 11, 2016 1:31 PM  
**To:** Aaron Martin; Allyson Vile; Charlie Cole; Brad Larose  
**Subject:** comments back

I need comments back for 73 Jericho Road and  
comments back for 35 Discovery Road – if you have not sent them.

Thanks,

Jenn Booker

Sent Reno 7/21/16  
Kuffner

# Memorandum

To: Sharon Kelley, Town Zoning Administrator  
Greg Duggan, Town Planner  
From: Dennis E. Lutz, P.E., Public Works Director  
Aaron K. Martin, P.E., Utilities Director / Town Engineer  
Date: July 21, 2016  
Subject: 75 Brigham Hill Lane  
Simple Parcel Subdivision

---

The Public Works department has reviewed the proposed Simple Parcel Subdivision and Boundary Line adjustment for 75 Brigham Hill Lane and offers the following comments.

## Transportation

1. A traffic impact fee will be required for this project at the time of final project approval for adding additional vehicles to Brigham Hill Lane. This fee will be calculated using the frontage for the new proposed lot, (Lot #2). The gravel road impact fee for 200 feet of frontage is currently based on the following:

$$\begin{aligned}(200 \text{ ft}) \times (0.25 \text{ ft}) \times (9 \text{ ft}) &= 450 \text{ CF} && \text{(half of road)} \\(450 \text{ CF}) \times (1 \text{ CY} / 27 \text{ CF}) &= 16.7 \text{ CY} \\(16.7 \text{ CY}) \times (\$35.00 / \text{CY}) &= \mathbf{\$584.5}\end{aligned}$$

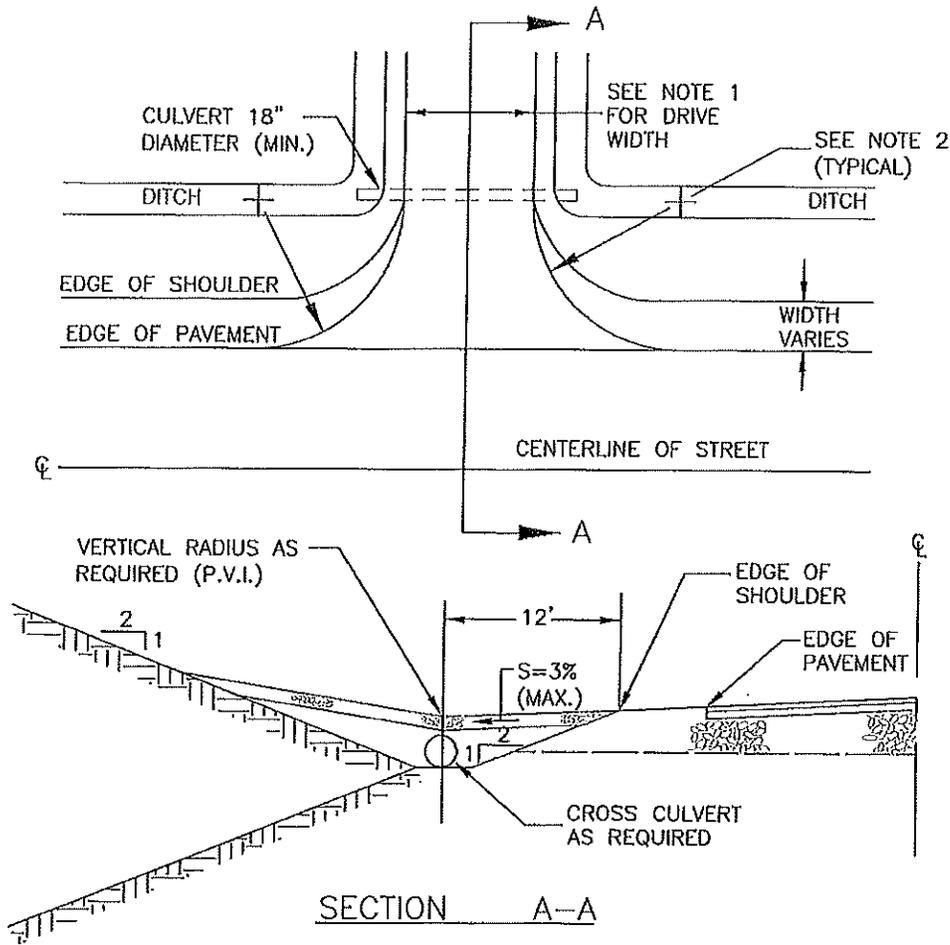
2. It appears the applicant will be constructing a new curb cut for proposed Lot #2 and utilizing the existing curb cut for Lot #1. The drive location for Lot #2 will require the following upgrades.
  - a. The applicant must apply for, and receive approval from the Public Works office for the new curb cut to Lot #2. (Application Attached)
  - b. The applicant shall construct the new drive as directed in the attached detail.
  - c. All vegetation, 50-feet either side of the centerline of the proposed drive to Lot #2 within the Town R.O.W., shall be cleared.

## Water and Sewer

1. The Town does not review onsite water and sewer systems. Public Works recommends that the Planning commission require the applicant as a condition of approval to provide a letter from the State of Vermont ANR approving both onsite systems prior to issuance of a building permit.

### **Storm water**

1. All storm water impacts caused by the increase in proposed impervious area must be mitigated onsite and not allowed to impact surrounding properties or the Town R.O.W. No Exceptions.
2. The applicant will be required to install a drive culvert for the proposed drive to Lot #2. The minimum pipe diameter shall be 18-Inches. Refer to the attached curb cut detail for further direction.



SECTION A-A

NOTES :

- 1) DRIVE WIDTHS SHALL BE AS FOLLOWS  
 SINGLE DRIVE: 10 FEET (MIN.)  
 DOUBLE DRIVE: 15 FEET (MAX.)  
 COMMERCIAL DRIVE: 40 FEET (MAX.)
- 2) EDGE OF PAVEMENT RADII  
 MAJOR / COLLECTOR ROAD: 30 FEET  
 MINOR ROAD / DEAD END: 25 FEET  
 COMMERCIAL / INDUSTRIAL: 30 FEET (MIN.)
- 3) MAXIMUM DRIVE GRADE SHALL BE 3%  
 FROM PVI TO EDGE OF SHOULDER



TOWN OF ESSEX  
 PUBLIC WORKS  
 61 MAIN STREET  
 ESSEX JCT., VT  
 05452  
 P: 802 876-1344  
 F: 802 876-1355  
 E: www.essex.org

TOWN OF ESSEX, VERMONT  
 STANDARD SPECIFICATIONS FOR CONSTRUCTION

RURAL DRIVEWAY

Detail No: 100.09  
 Scale: NOT TO SCALE  
 Date: NOV. 2015

A-9

**TOWN OF ESSEX, VERMONT  
APPLICATION FOR CURB CUT / UTILITY PERMIT**

Pursuant to Title 19 V.S.A. Section 43. Application for curb cut and Utility Installation in Town Right-of-Way

All applications for curb cuts and utility installations shall be submitted to the Director of Public Works / Town Engineer for review. Applicants shall submit the information requested on this form and any additional information requested by the Director of Public Works / Town Engineer for a clear understanding of this application. The permit is issued under authority of the Town Manager in accordance with Section 601 of the Town Charter and 24 V.S.A. paragraph 1236 (2).

Application No. \_\_\_\_\_ / \_\_\_\_\_  
Date

Property Address: \_\_\_\_\_

Owner Address: \_\_\_\_\_

Owner Name: \_\_\_\_\_

Phone Number: (home) \_\_\_\_\_ (work) \_\_\_\_\_ (cell) \_\_\_\_\_

Tax Map # \_\_\_\_\_ Tax Parcel \_\_\_\_\_ Tax Lot \_\_\_\_\_

Application is for: (check one)

A) New Curb Cut  B) Utility Installation: Overhead  Underground

Please use attached diagram to describe location and type of installation.

Comments be Director of Public Works / Town Engineer:

Culvert: Yes  No  Water Bar(s): Yes  No

Culvert Diameter: (18 inch minimum) \_\_\_\_\_ Total length of Culvert: (30 foot minimum) \_\_\_\_\_

\*\*\* FOR OFFICE USE ONLY \*\*\*

Signature of Owner: \_\_\_\_\_

Fee Paid \$ \_\_\_\_\_

Approved  Rejected

\_\_\_\_\_  
Per Authority of the Town Manager by the  
Director of Public Works / Town Engineer

1. Culvert must be HIGH DENSITY POLYETHYLENE (HDPE) PIPE
2. Culvert will be purchased by the Applicant
3. Culvert will be purchased and installed by the applicant. The Town of Essex Department of Public Works will inspect.

Note: A MINIMUM OF 24 HOURS NOTICE IS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION. WITHIN 24 HOURS OF COMPLETION, THE APPLICANT IS REQUIRED TO NOTIFY THE DIRECTOR OF PUBLIC WORKS / TOWN ENGINEER FOR INSPECTION PURPOSES.



## Gregory Duggan

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**From:** Aaron Martin  
**Sent:** Thursday, July 21, 2016 1:17 PM  
**To:** Gregory Duggan  
**Subject:** Re: 75 Brigham Hill Lane

Potential site distance issues

Sent from my iPhone

On Jul 21, 2016, at 1:11 PM, Gregory Duggan <[gduggan@ESSEX.ORG](mailto:gduggan@ESSEX.ORG)> wrote:

Thanks, Aaron. What is the need for the clearing of vegetation on each side of the driveway?

GD

Greg Duggan, Planner  
Town of Essex, 81 Main St.  
Essex Junction, VT 05452  
802-878-1343  
[gduggan@essex.org](mailto:gduggan@essex.org)

---

**From:** Aaron Martin  
**Sent:** Thursday, July 21, 2016 12:45 PM  
**To:** Gregory Duggan; Sharon Kelley  
**Cc:** Jennifer Booker; Dennis Lutz  
**Subject:** 75 Brigham Hill Lane

Review attached

Aaron Martin, P.E.  
Utilities Director / Town Engineer  
Town of Essex  
P: 802.878.1344  
F: 802.878.1355  
C: 802.363.5607  
[www.essex.org](http://www.essex.org)



*Emailed to Aaron, Willis,  
Trafton  
7/22/16  
GD*



1: 23,825  
 July 20, 2016



1:210.0 0 605.00 1,210.0 Meters  
 WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
 © Vermont Agency of Natural Resources  
 1" = 1985 Ft 1cm = 238 Meters  
 THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.



**LEGEND**

- Deer Wintering Areas
- Habitat Blocks
  - 10 - Higher Priority
  - 9
  - 8
  - 7
  - 6
  - 5
  - 4
  - 3
  - 2
  - 1 - Lower Priority
  - 0
- Roads**
  - Principal Arterial
  - Minor Arterial
  - Rural Major Collector
  - Rural Minor Collector
  - Urban Collector
  - Local
  - Not part of the Functional Classifc
- Waterbody
- Stream
- Parcels (where available)
- Town Boundary

**NOTES**

Map created by Greg Duggan using ANR's Natural Resources Atlas.