

# BLAKEMAN ENGINEERING, INC.

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ENGINEERING: PLANNING  
DESIGN  
PERMITTING

SEPTIC SYSTEM DESIGN  
SITE PLANNING and DESIGN  
SUBDIVISION DESIGN

TM 091-004-000

## Stormwater and Erosion Control Plan Summary

*Alepa Property*

*178 Poor Road  
New London, New Hampshire*

*September 13, 2016*

Plans have been prepared for adding a small addition on to an existing 3-BR house with a detached garage on a +/-1.1 acre property on Lake Sunapee. Blakeman Engineering, Inc. has prepared a plan to manage stormwater relative to the new construction and for erosion and sediment control during the active construction process. The stormwater and erosion control measures have been designed in accordance with Town of New London Zoning Requirements and with Volumes 2 and 3 of the "New Hampshire Stormwater Management Manual", Dec., 2008.

Temporary erosion control during construction shall be managed via the erection of silt fence downslope of all work areas. Additionally the site contractor is required by this plan to monitor the weather and construct temporary diversions and sediment traps as needed for single storm events that may be forecast. Layout and Detail for the silt fence can be found on sheet D1 of the project plans (*Stormwater and Erosion Control Plan* prepared for Christopher Alepa, 178 Poor Road, New London, NH, dated September 13, 2016).

The proposed method of infiltrating the run-off from increased impervious area due to the new construction will be to capture roof run-off with gutters below three separate roof areas (labeled "A", "B" and "C" on the plan) and divert this water into two stone infiltration trenches. The stone beds have been sized to infiltrate the runoff from a 1" rainfall over the contributing area.

From the Shoreland Permit-By-Notification site plan (NH DES PBN 2015-03211) the existing impervious surfaces total ±6736 SF (26%) and the proposed impervious surfaces total ±7138 SF (27.5%), for an increase of 402 SF. A 1" rainfall across the 402 SF increased impervious area yields a 34 CF treatment volume. This correlates to 85 CF of clean ¾" – 1 ½" stone. Each of the trenches have been sized to contain the volume of runoff from a 1" rainfall without taking into account infiltration during the storm event. The total volume provided in the two stone trenches is approx. 128 CF. The total contributing roof area directed to these trenches is ±607 SF. In other words, while the project plans require treating the runoff volume generated from a ±1.5% increase in impervious area, the trenches as presented herein provides the capacity for treating the runoff volume for a ±2.3% increase in impervious.

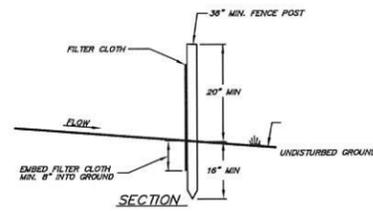
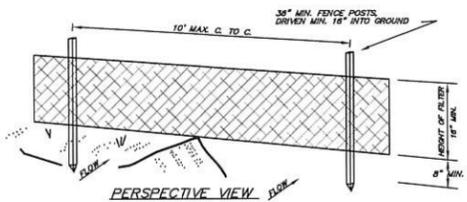
Based on the above, construction of the two infiltration trenches will provide compliance with the Town of New London Shoreland Zoning Requirements.

Please don't hesitate to contact me should there be any questions or concerns regarding this analysis.

Respectfully Submitted,  
**Blakeman Engineering, Inc.**

  
Peter J. Blakeman, PE

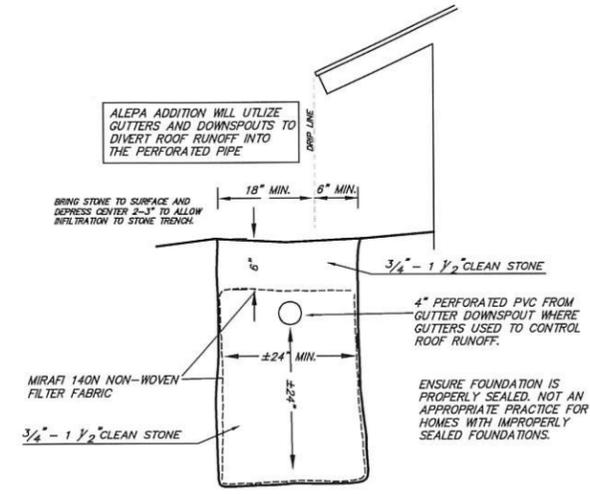




- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE:**
1. FILTER CLOTH TO BE FASTENED SECURELY TO FENCE POST WITH TIES AT TOP, MID SECTION AND BOTTOM.
  2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED STAPLED.
  3. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT 'BLIGHT' IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

- MAINTENANCE REQUIREMENTS:**
1. INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. ANY NECESSARY REPAIRS SHALL BE MADE IMMEDIATELY.
  2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
  3. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIERS.
  4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

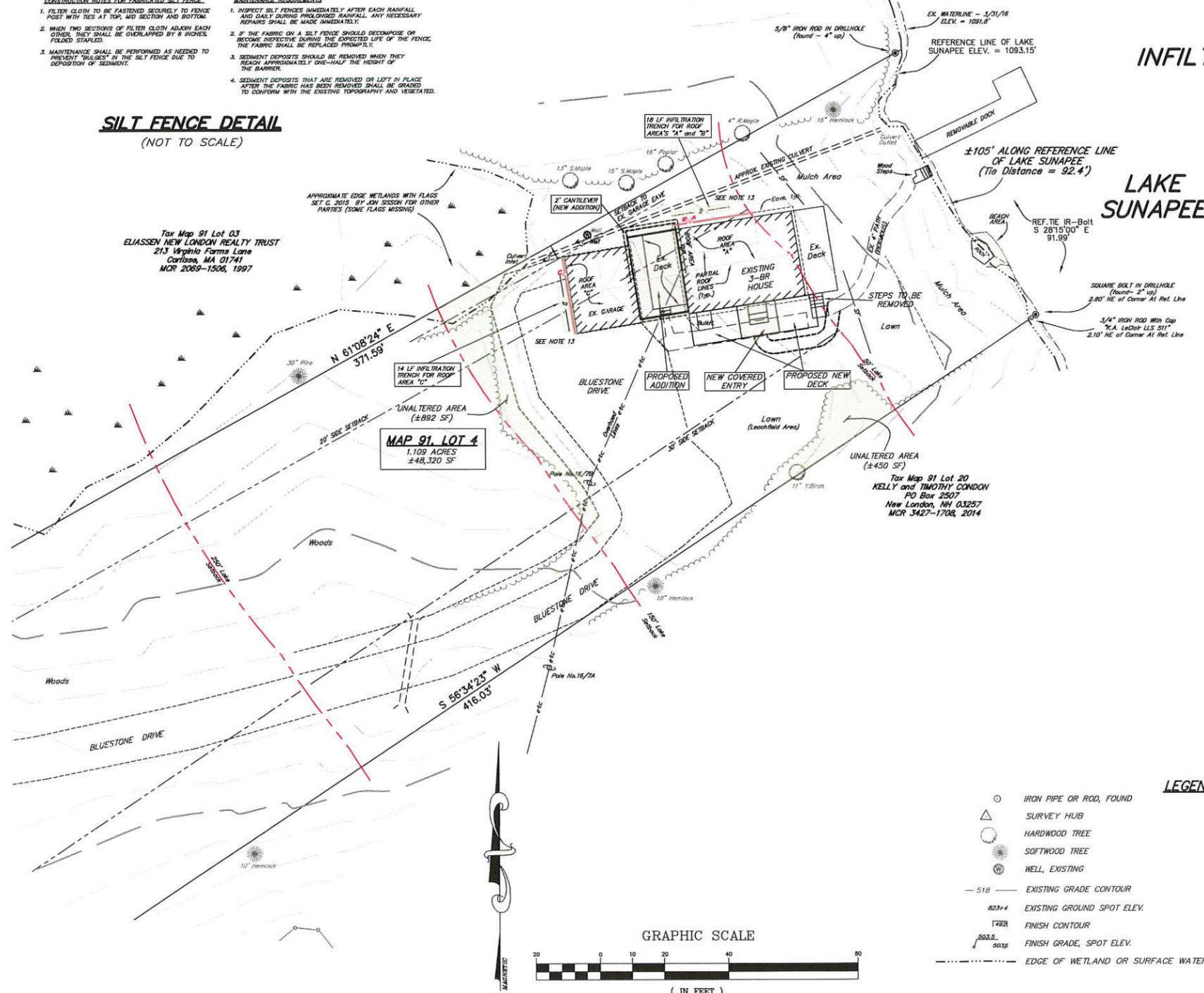
**SILT FENCE DETAIL**  
(NOT TO SCALE)



**INFILTRATION TRENCH DETAIL**

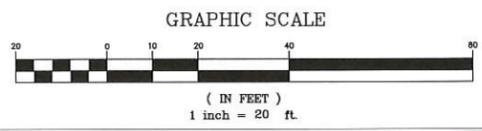
**GENERAL NOTES**

1. Detail and topographic surveying has been provided by Pennyroyal Hill Land Surveying, Croydon, NH.
2. The intent of this plan is to show the stormwater and erosion control measures proposed to meet stormwater requirements of managing the stormwater due to the proposed increased impervious area.
3. Erosion control practices shall be installed and maintained in accordance with this Site Plan and with BEST MANAGEMENT PRACTICES as outlined in the "NH Stormwater Manual, Volume 3: Erosion and Sediment Controls during Construction" dated December, 2008.
4. Silt fence and any other erosion and sediment control measure shall be installed as shown on the plan. It shall be left in place and maintained as necessary until the site is fully stabilized. It is the contractor's responsibility to inspect these measures weekly until the area above is stabilized, whether the contractor is actively working on-site or not, and always after any rainstorm of 1/2" or greater.
5. Disturbed areas not otherwise noted on the plan shall be stabilized with a 6" covering of screened loam and immediately seeded in areas where grass/lawn already exists. Where slopes are steeper than 4:1 (horiz.:vert.), they shall be covered with North American Green erosion control matting (S75BN or equivalent) stapled in place according to the manufacturers requirements.
6. Contractor is responsible for notifying DIG-SAFE prior to starting construction.
7. Contractor shall monitor weather and take any necessary temporary measures needed to prevent erosion and sediment transport. These measures can be such practices as small sediment basins or diversions constructed for overnight or over the weekend if rain is forecast.
8. Env-Wq 1403.03 (b): Within 3 days of final grading or temporary suspension of work in an area that is in the protected shoreland, all exposed soil areas shall be stabilized by:
  - (1) Seeding and mulching, if during the growing season;
  - (2) If not within the growing season, by mulching with tack or netting; or
  - (3) With an alternative method of temporary stabilization as specified in Env-Wq 1500
9. RSA 483-B:9-III(d): No fertilizer shall be applied to vegetation or soils located within 25 feet of the reference line of any public water. Beyond 25 feet, slow or controlled release fertilizer, as defined by rules adopted by department, may be used.
10. Runoff from the roof areas noted as "A", "B" and "C" shall be managed using gutters with downspouts that convey the runoff into infiltration trenches as noted. See Detail for Infiltration Trenches on this sheet.
11. NH DES Shoreland Permit-By-Notification 2015-03211 was issued for this property and was prepared by others. Per the approved plan the existing impervious area is 26% and post construction impervious area is 27.5%. The increased impervious is 1.5% or ±400 SF.
12. Stormwater measures on this stormwater plan are sized to treat the runoff from 607 SF of roof area, or 2.3% of the impervious area.
13. Soil probes to a depth of 42"± were looked at in the footprint of both proposed infiltration trenches. In both locations there was permeable sand and gravelly sand fill down to at least the depth probed. A water table was not encountered in either probe.



**LEGEND**

|        |                                  |     |                               |
|--------|----------------------------------|-----|-------------------------------|
| ○      | IRON PIPE OR ROD, FOUND          | --- | PROPOSED SILT FENCE           |
| △      | SURVEY HUB                       | --- | EXISTING CULVERT/STORMDRAIN   |
| ○      | HARDWOOD TREE                    | ▭   | EXISTING BUILDING             |
| ○      | SOFTWOOD TREE                    | ▭   | PROPOSED ADDITION             |
| ⊕      | WELL, EXISTING                   | ▭   | PROPOSED OPEN DECK            |
| ---    | EXISTING GRADE CONTOUR           | ▭   | PROPOSED INFILTRATION TRENCH  |
| 8231.4 | EXISTING GROUND SPOT ELEV.       | --- | PROPOSED GUTTER AND DOWNSPOUT |
| 428    | FINISH CONTOUR                   |     |                               |
| 503.2  | FINISH GRADE, SPOT ELEV.         |     |                               |
| 503.2  | FINISH GRADE, SPOT ELEV.         |     |                               |
| ---    | EDGE OF WETLAND OR SURFACE WATER |     |                               |



**STORMWATER and EROSION CONTROL PLAN**

PREPARED FOR  
**CHRISTOPHER ALEPA**

FOR PROPERTY LOCATED AT  
178 POOR ROAD ~ TAX MAP 91, LOT 04  
NEW LONDON, NEW HAMPSHIRE  
SEPTEMBER 13, 2016

**RECEIVED**  
SEP 13 2016

**BLAKEMAN ENGINEERING, INC.**  
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No. 8229  
LICENSED PROFESSIONAL ENGINEER

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