



Richard Harris <rharris@southhadleyma.gov>

Third-party review for Title 5

Sharon Hart <shart@southhadleyma.gov>

Wed, Jun 10, 2020 at 10:45 AM

To: jessica collins <collins@shadleyma.org>, "Dr. Walter Wolf" <wolf13174@msn.com>, Tony Judge <tjudge@judgecompany.com>, "K. PIO" <kwalshpio@shschools.com>, [redacted], Jennifer Jernigan <jernigan@southhadleyma.gov>, South Hadley Town Planner Richard Harris <rharris@southhadleyma.gov>

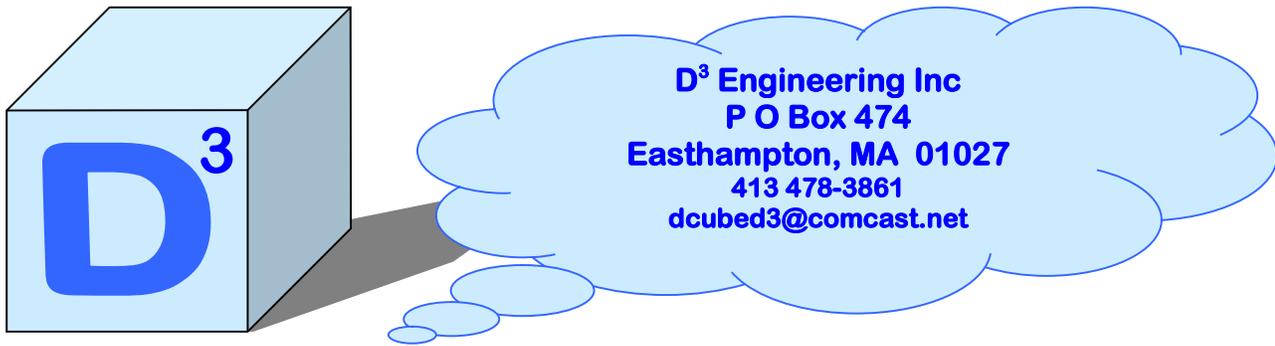
Please see attached; third-party review for Title 5

Sharon Hart,
Emergency Management Director,
Director of Public Health
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South Hadley, MA 01075
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5 attachments

-  **North Pole Estates Title 5 Plan Review third-party elevation.pdf**
20K
-  **North Pole Estates Title 5 Plan Review third-party lot 2 frosty.pdf**
8K
-  **North Pole Estates Title 5 Plan Review third party lot 3 frosty.pdf**
5K
-  **North Pole Estates Title 5 Plan Review third-party lot 6 7 frosty.pdf**
8K
-  **North Pole Estates Title 5 Plan Review third-party lot 8 frosty.pdf**
8K



June 4, 2020

Sharon Hart, Director
Board of Health
116 Main Street, Suite 103
South Hadley, MA 01075

Re: North Pole Estates –
Title 5 plan Review

Dear Ms. Hart

D Cubed Engineering was retained to do a Title 5 plan review for four lots that were submitted in January of this year. Enclosed please find the review for each of the lots. These four lots are part of a larger subdivision proposed for this location. An issue before the South Hadley Board of Health is that most of the remaining of the lots are in an active gravel pit where material is still being removed. All lots have had 2 percolation tests done on them and 2 test pits as required on 310 CMR 15.0 (Tile 5) for new construction.

The percolation test requires elevations to depict the elevation at which the leaching was done. The depth is from the natural ground elevation of the lot on which the percolation and deep holes are done. In typical lots where such tests are done the various soil types are classified to ensure that testing is being done in naturally occurring soil and not fill. Most naturally occurring soils at a minimum have an “A, B” horizon. This however is not the case for many of the lots for North Pole Estates. Two of the lots reviewed did not have a “A B” horizon.

Not having a “A B” horizon makes it more difficult to determine if the location of the test pits and deep holes have been relocated without doing a new percolation test. With a “A B” horizon in place, the location of percolation and deep holes are easy to visually find the location and verify their location due disturbed soil. The test locations are shown on a map of sorts with reference to a point along with the test forms.

Having the lots which are surveyed within an active gravel bank, makes their location, especially the depth of each percolation test to the naturally occurring ground elevation susceptible to being altered. With an active gravel bank, there is a good chance that the elevation of each percolation test can be lowered. The lowering of the elevation from where the test was done, invalidates that test. As a result, it is my recommendation that each of the percolation test done on each lot have an elevation associated with each of them which are referenced to a benchmark that cannot be moved. In addition, before any construction is initiated for any leach field on a lot, a

surveyed elevation for that test site must be done to verify that the elevation for the percolation location is the same as the original elevation.

If you have any questions on the plan reviews done or any of the above, please contact the undersigned at 413 478 3861.

Respectfully Yours

Roland J. Dupuis P.E

Enclosures - 4

Title 5 Plan Review

Location: Lot 2 Frosty Lane South Hadley, MA

Upon looking at the plan, my first impression is that the design is a “cookie cutting” genetic verbiage. As an example:

“Remove A and B soil horizons up to 5’ around the leaching bed.”

According to the soil profile, only a “C” layer exists. In addition, the plan calls for a “vent” and from what is specified in CMR 15.00 no criteria are present to call for venting.

The following are items that need to be corrected:

1. All new lots need four deep holes with 2 percolations to be done.
 - a. Only perc test locations are shown on the plan.
 - b. Show other 2 deep holes with elevations.
2. Plan does not state that there are no wells within 100 ft.
3. There is no provision/comment that the proposed risers and lids are to be sealed to prevent infiltration into septic tank. (*this important since it is down gradient from higher elevation subject to sheet flow at times*).
4. Native back fill. Where is this coming from? There is no “A -B” layers on site.
5. Benchmark must be on site. There is no temporary benchmark on plan as stated in item 7 of “Construction Notes.” Cannot put onus on contractor to transfers temporary benchmarks onto site. (*Suggest that benchmark be at one of two test pits not shown on plan*).
6. Is the septic tank supposed to be a 2-compartment tank? If yes, it is not shown in the plan with
7. Septic system profile does not show existing ground elevations.
8. Flow into “D-box” should not be at a 90° this will create unbalance flow into D-box. Suggest “T” in D- Box rather than baffle wall. Have not seen one. Who manufactures them?
9. Item 5 under “Contractor Notes,” is adequate for a site that has an “A -B” horizons, but not under this site where only the C horizon exists. The whole site needs some type of cover that will support vegetative growth to stabilize the soil area on the site.
10. D-Boxes do not distribute flow evenly. Gravity flow from a house will not use enough of the field and having laterals spaced as far apart as shown will use even less of the field. Suggest smaller lateral separation

Title 5 Plan Review

Location: Lot 3 Frosty Lane South Hadley, MA

Upon looking at the plan, my first impression is that the design is a “cookie cutting” genetic verbiage. As an example:

“Remove A and B soil horizons up to 5’ around the leaching bed.”

According to the soil profile, only a “C” layer exists. In addition, the plan calls for a “vent” and from what is specified in CMR 15.00 no criteria are present to call for venting.

The following are items that need to be corrected:

1. All new lots need four deep holes with 2 percolations to be done.
 - a. Only perc test locations are shown on the plan.
 - b. Show other 2 deep holes with elevations.
2. Plan does not state that there are no wells within 100 ft.
3. There is no provision/comment that the proposed risers and lids are to be sealed to prevent infiltration into septic tank. (*this important since it is down gradient from higher elevation subject to sheet flow at times*).
4. Native back fill. Where is this coming from? There is no “A -B” layers on site.
5. Benchmark must be on site. There is no temporary benchmark on plan as stated in item 7 of “Construction Notes.” Cannot put onus on contractor to transfers temporary benchmarks onto site. (*Suggest that benchmark be at one of two test pits not shown on plan*).
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9. Item 5 under “Contractor Notes,” is adequate for a site that has an “A -B” horizons, but not under this site where only the C horizon exists. The whole site needs some type of cover that will support vegetative growth to stabilize the soil area on the site.
10. D-Boxes do not distribute flow evenly. Gravity flow from a house will not use enough of the field and having laterals spaced as far apart as shown will use even less of the field. Suggest smaller lateral separation

Title 5 Plan Review

Location: Lot 6/7 Frosty Lane South Hadley, MA

Upon looking at the plan, my first impression is that the design is a “cookie cutting” genetic verbiage.

The following are items that need to be corrected:

1. All new lots need four deep holes with 2 percolations to be done.
 - a. Only perc test locations are shown on the plan.
 - b. Show other 2 deep holes with elevations.
2. Plan does not state that there are no wells within 100 ft.
3. There is no provision/comment that the proposed risers and lids are to be sealed to prevent infiltration into septic tank. (*this important since it is down gradient from higher elevation subject to sheet flow at times*).
4. Native back fill. Where is this coming from? There is no “A -B” layers on site.
5. Is the septic tank supposed to be a 2-compartment tank? If yes, it is not shown in the plan with
6. Septic system profile does not show existing ground elevations.
7. Flow into “D-box” should not be at a 90° this will create unbalance flow into D-box. Suggest “T” in D- Box rather than baffle wall. Have not seen one. Who manufactures them?
8. D-Boxes do not distribute flow evenly. Gravity flow from a house will not use enough of the field and having laterals spaced as far apart as shown will use even less of the field. Suggest smaller lateral separation.
9. The plan calls for a “vent” and from what is specified in CMR 15.00 no criteria are present to call for venting.

Title 5 Plan Review

Location: Lot 8 Frosty Lane South Hadley, MA

Upon looking at the plan, my first impression is that the design is a “cookie cutting” genetic verbiage.

The following are items that need to be corrected:

1. All new lots need four deep holes with 2 percolations to be done.
 - a. Only perc test locations are shown on the plan.
 - b. Show other 2 deep holes with elevations.
2. Plan does not state that there are no wells within 100 ft.
3. There is no provision/comment that the proposed risers and lids are to be sealed to prevent infiltration into septic tank. (*this important since it is down gradient from higher elevation subject to sheet flow at times*).
4. Native back fill. Where is this coming from? There is no “A -B” layers on site.
5. Is the septic tank supposed to be a 2-compartment tank? If yes, it is not shown in the plan with
6. Septic system profile does not show existing ground elevations.
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