

Cape Cod Commission  
3225 Main Street  
PO Box 225  
Barnstable, MA 02630 June 14, 2015

**Springhill by Marriott Project**

RE: The Lantern Lane Neighborhood Fragile Water Table, and the  
Drainage decisions for 556 Main Street, Falmouth, MA, Addressing this Issue.

Dear Members of the Cape Cod Commission;

To clarify the issue of Lantern Lane neighborhood drainage situation, it is important to bring to your attention, the previous 2012 Town decisions on this specific property:

1. Regarding the McDonald Application 80-11 filed October 4, 2011 on this same land, the Department of Public Works staff engineer, Scott Schluter, wrote (12-19-2011) on Grading and Drainage:

“This portion of lantern Lane is a problem storm water area with severe flooding at times. The low point on Lantern Lane in front of this project even made it onto television news earlier in the year when a minivan was flood out, stranding its occupants. Extra care in the design of the drainage system should be taken to reduce flow coming off the site however possible. While it isn't likely that there would be a large increase in the storm water runoff after development because almost the entire existing site could be considered impervious, changes in runoff direction could have major impacts on the surrounding drainage system.”  
(attachment 1)

2. Horsley Witten Group, retained by the neighborhood, evaluated the area and concluded that the increase in impervious surface would result in an increase in storm water runoff which will result in increased water table elevation in this area. (attachment 2)

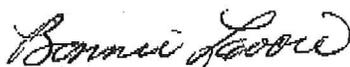
3. Because of the seriousness of the potential drainage problems, the Falmouth Zoning Board of Appeals Decision accepted the revised 2012 plans with a protection clause for the neighborhood:

“Should the drainage system installed prove not adequate to contain on-site water runoff or to prevent the development from increasing ground water and adversely affecting nearby properties, the Board will, upon request of either the Applicant or any neighbor, review the ground water conditions with the interested parties and Town Engineers and may administratively approve or require changes to mitigate said problems.”(attachment 3, no. 3)

Because these previous Town decisions were for the protection of the neighborhood surrounding the exact same property, it would seem mandatory that they be acknowledged and included in the current building proposition.

Respectfully,

Bonnie Lavoie, 7 Morse Pond Road



Jan. 4. 2012 1:45PM

Town of Falmouth

*attachment*

*Pl of many pages*

No. 2786 P. 2

*if Lantern Ln # 80-11*

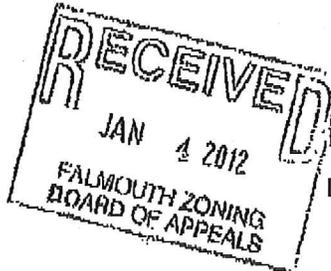
**Department of Public Works  
ENGINEERING DIVISION**



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Falmouth, Massachusetts 02540  
Tel: (508) 467-2643  
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**Memo**

**To:** Brian Currie, Town Planner  
**CC:** File, Peter McConarty, Town Engineer  
**Re:** Daren McDonald Site Plan Review



**From:** Scott Schuter, Staff Engineer  
**Date:** 12/19/2011

The Engineering department reviewed the plans entitled "Plan of Proposed Ice Cream Shop & Mini Golf Course" dated September 21, 2011 and last revised 12/12/11 by Holmes and McGrath Inc., and the submitted drainage calculations for the above referenced project. The following is a list of our comments regarding this project:

Comments from 10/24/2011 Review Memo not addressed:

**Parking and Access**

- No parking count and usage numbers were provided. What is the use of the portion of the building marked "Leased to others," and how many spaces are required for that use? We recommend that a parking summary be provided for all uses on the lot. Now labeled Storage Space of Property Owner, comment still stands.
- The existing parking spaces along Lantern Lane are noted as being designated for the use of 556 Main Street. It appears there will be five fewer spaces with the proposed plans (4 spaces from retaining wall revisions, 1 space for the dumpster). Are these spaces designated in a legal agreement (deed, easement, etc) or a permit/approval (Special Permit, Site Plan Review, or other permit through the Town)? If so how many spaces are required? We recommend that the designated parking spaces be explained further.
- The ends of the existing parking spaces noted as designated to 556 Main Street Use fall within the roadway layout of Lantern Lane. We recommend the spaces be moved onto the property and out of the layout; the spaces be reconfigured to lie outside the layout (angled? parallel?); or the spaces be abandoned as allowed by whatever agreement there is for these spaces (if there is an agreement).

**Grading and Drainage**

- ~~Drainage calculations and plans were not provided for our review.~~ We recommend that drainage plans and calculations be provided showing the 25 year, 1 hour storm is contained within the site, and that improvements are made to the drainage situation in this area.
- This portion of Lantern Lane is a problem stormwater area with severe flooding at times. The low point on Lantern Lane in front of this project even made it onto television news earlier in the year when a minivan was flooded out, stranding its occupants. Extra care in the design of the drainage system should be taken to reduce flows coming off the site however possible. While it isn't likely that there would be a large increase in the stormwater runoff after development because almost the entire existing site could be considered impervious, changes in runoff direction could have major impacts on the surrounding drainage system.
  - o We recommend that drainage from the roof be diverted to infiltration devices.
  - o ~~We recommend that additional catch basins and leaching basins be constructed near the intersection of Lantern Lane and the proposed employee parking lot access drive.~~

**Horsley Witten Group**

Sustainable Environmental Solutions

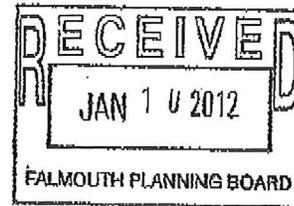
10 River St - Springfield, MA - 01103

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Mr. Brian Curie, Town Planner  
Town Hall  
59 Town Hall Square  
Falmouth, MA 02540

Dear Mr. Curie:



Horsley Witten Group, Inc. has been retained by Gilbert Lavoie (a Falmouth resident who lives in the neighborhood) to review the proposed development, Darren McDonald located at Main Street and Lantern Street. We have reviewed the site plan prepared by Holmes and McGrath. We have also done prior work in the neighborhood for Mr. Lavoie regarding potential flooding concerns that are associated with stormwater runoff and shallow groundwater levels that cause basement flooding.

The proposed plan indicates that the amount of impervious surface on the site will increase from 22% to 50%. This will result in an increase in stormwater runoff. The plan seeks to concentrate the stormwater runoff into one infiltration gallery to be located toward the back of the property. This will result in groundwater mounding and increased water table elevations in this area.

The proposed location of the infiltration facility has shallow groundwater elevation (estimated at 4.5 feet from a neighboring sewer plan) and minimal separation from the bottom of the proposed infiltration gallery (6.6 feet). The Massachusetts Stormwater Management Policy requires a minimum separation of 2.0 feet from seasonal high groundwater elevation. The seasonal high groundwater elevation at this location can be expected to rise as a result of the proposed infiltration facility and the associated groundwater mounding that will occur in post-development conditions. The Massachusetts Stormwater Policy also requires at least two test pits at the location of a proposed infiltration facility. Because this location has shallow groundwater, the test pits should be excavated deep enough to encounter groundwater. Alternatively, a shallow observation well could be drilled for this purpose.

An alternative approach to the site development would be to employ low impact design (LID) techniques. This could include a series of smaller facilities including bioretention systems and infiltration pits spread throughout the site to minimize the concentration of stormwater into any one point. Bioretention facilities have been shown to be highly effective at treating stormwater pollutants and will return a significant amount of water back to the atmosphere via evapotranspiration, thereby reducing the need to infiltrate stormwater. Dispersing the infiltration facility across the site at multiple locations will reduce the groundwater mounding.

I have highlighted the attached site plan to illustrate where a series of these facilities might be located without disrupting the project proponent's design objectives. Please contact me with any questions you might have.

Sincerely,

Scott Horsley, LEED AP  
President

Lavoie

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*Attachment 3-see page 3*

DRAFT October 2014: Bonnie and Gilbert Lavoie

**A History of Recent Developments on Main Street abutting Lantern Lane and Morse Pond Road:** this information is made available to interested residents for the purpose of protecting our neighborhood.

The Lantern Lane neighborhood is composed of a private way running the length of the neighborhood from Main Street to Dillingham Road. Morse Pond Road, another private way near the police station, enters Lantern Lane and is considered part of the Lantern Lane neighborhood. These private ways, owned by the abutting homes, have large trees, no sidewalks, and are partially paved. This neighborhood has 3 ponds on 3 sides and as a result, has a fragile water table that can be easily affected by new abutting projects on Main Street which is the fourth side of this neighborhood.

Properties were purchased with privacy and quiet in mind and this is what maintains the value of our neighborhood. We as a neighborhood presently enjoy a quiet street with signs stating "private way".

We invite new projects to be developed beside the Lantern Lane neighborhood on Main Street. We, as home owners, however, must maintain a quality within this neighborhood with safeguards against water encroachment, noise and commercialization of our road.

In summary, all new commercial or residential buildings that abut our neighborhood from Main Street need to be aware that our water table is fragile and that our roads are private ways. The fragile water table and the private ways need to be considered in the planning of new abutting developments on Main Street which is commercial.

Pertinent recent history illustrates the need to make public our neighborhood concerns for both our water table and our private way.

1. In 2002, the Falmouth Housing Corporation proposed an apartment building for 590, 696, and 704 East Main Street. This project abutted 7 Morse Pond Road. In response to the development, Gilbert Lavoie (7 Morse Pond Road) hired a hydrologist (see 2 letters dated September 24, 2003, and October 1, 2003. in attachment A) and lawyer to investigate the consequences of this huge development. Conrad Lajeunesse (3 Morse Pond Road) helped with this effort. The final outcome was satisfactory in

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- that it protected the water table, not only of the abutting area of Morse Pond Road but also Lantern Lane. The drainage all goes toward Main Street and toward the ocean side and NOT back down into our fragile water table. Failure to redirect the original drainage plans of this large project could have caused flooding of the neighborhood.
2. The apartment project owned by Amancio Correia (614-620 Main Street) abutted Gilbert Lavoie (7 Morse Pond Road) and Conrad Lajeunesse (3 Morse Pond Road), and was erected to the satisfaction of all: Mr. Correia constructed proper drainage that continues protect our property. He also installed a private fence with large landscaping trees. This project has not affected the quiet nature the neighborhood even with the very busy Dunkin Donuts business located within his property. Mr. Correia graciously protected our water table and privacy.
  3. In 2011, a "Plan of Proposed Ice Cream Shop and Mini Golf Course - 80-11" (at Main Street and Lantern Lane) was submitted to the Town Hall. This project abutted neighbors on Lantern Lane. It had the possibility of affecting not only the abutters but the entire neighborhood if drainage was not properly addressed. Neighbors were also concerned about how this project might affect the privacy of the private way of Lantern Lane. A hydrologist was hired (see letter stamped January 10, 2012, attachment B); several residents shared the cost. The proposed ice cream project also submitted drainage reports: Town Hall received the first report on December 21, 2011. The staff engineer responded to this report which was received by the zoning board January 4, 2012. The revised drainage report was received January 11, 2012. (see attachment C)
- The Decision of Falmouth Zoning Board of Appeals 80-11 accepted the project with protection clauses for the neighborhood: Page 14, "4. Should the drainage system installed prove not adequate to contain on-site water runoff or to prevent the development from increasing ground water and adversely affecting nearby properties, the Board will, upon request of either the Applicant or any neighbor, review the ground water conditions with the interested parties and Town Engineers and may administratively approve or require changes to mitigate said problems." The Board also mentioned Lantern Lane on page 13: "The Board finds that the properties noted herein as Map 47B, Section 03, Parcels 016, 017 and 017A and Lots 0, 2 and 4 shall be merged. The Board further finds that Lantern Lane is a private way and not part of this subject property." (see pages 13 and 14 attachment E). The ice cream and mini-golf project was never developed.

*Lavoie**att 3 p 3***Attachments:**

- a. Hydrology reports by Horsley submitted to Planning Board September 24 and October 1, 2003.
- b. Hydrology report by Horsley submitted to Planning Board January 10, 2012.
- c. Drainage report by Holmes and Mcgrath submitted to Planning Board on December 21, 2011; Response to Holmes and Mcgrath from the DPW Staff Engineer on January 4, 2012; final Holmes and Mcgrath drainage report submitted January 11, 2012. Plot plan for project, Sept 21, 2011.
- d. Decision in 2012 of Falmouth Zoning Board of Appeals Special Permit No: 80-11, p. 13-14 noting Lantern Lane as not part of the proposed development and stating protection against drainage problems.

**Items for Lantern Lane Neighborhood to Consider:**

Would it help our neighborhood to create a working paper outlining our drainage situation and private way neighborhood concerns? It would likely have the benefit of easing the process for developers if they were aware of our situation when considering new Main Street developments adjacent to our neighborhood.