



October 18, 2016

To: Acton Planning Board
Cc: Michelle and Brian Daniell; Bruce Ringwall (GPR); Paul Campbell (Town of Acton)
From: Steven L. Bernstein, P.E.

RE: Roosevelt Drive, Acton
Drainage Issue at 2 Jackson Drive, Acton, MA 01720

Dear Planning Board members:

I have been engaged by Michelle and Brian Daniell, 2 Jackson Drive Acton, MA to provide expert technical advice regarding flooding and drainage issues effecting their property due to the construction of the subdivision on Roosevelt Drive, Acton, MA.

I have been working closely with Bruce Ringwall of GPR Engineers (Bruce) and Paul Campbell, Acton's Town Engineer (Paul), and of course my clients to try to resolve this matter.

The flooding issue on the Daniell's property became evident in early January 2016 after a heavy rain storm. At that time, the Daniell's property was flooded and the Town of Acton's Fire Department responded to prevent flooding to their basement.

Bruce was contacted and he immediately made a site visit to help resolve the flooding issue occurring on the Daniell's property. He stated at that time that the Roosevelt's subdivision stormwater system was "not yet fully established" and the wicks may have some sediment due to siltation which may have caused the flooding. He suggested that some interim measures would be taken including placing sand bags along the Daniell's property line behind the swale and some other measures would help divert any flooding onto the Daniell's property until permanent measures could be implemented.

In the springtime, Bruce and I exchanged several emails to develop solutions to the flooding issue. Bruce agreed with these changes however during implementation several of these measures were not done for various reasons. Please note that most of Bruce's recommendations were implemented under his direction.

As you are aware, there has not had been many rainstorms this past year to see if Bruce's fixes have done the job on preventing flooding on the Daniell's property. Recently though on September 15, 2016, Acton had a measureable rainstorm (of about ½" on rainfall). Massachusetts is currently in an extreme drought with rainfall amounts well below normal (about 10" below normal since January 2016) so the ground is quite parched and the groundwater quite low. During and immediate after this recent rainstorm, the basin and swale immediately behind the Daniell's property filled up with water almost immediately and drained more than 72 hours after the storm event ended. The weather forecast had predicted several days of rain and fortunately, the rain stopped. If it did not, the basin would have probably overtopped and flooded into the Daniell's property. This basin has no emergency overflow so once it is filled, water will seek its own level and flow to the low spot; through the berm or over the berm to the Daniell's property. Please note that a draft as-built (dated 7/22/16) has been prepared by GPR but the contour lines are unreadable and there are no spot grades to determine what was actually reconstructed. I have asked several times for this plan to be redrawn and more information to be added to the plans so that I can analyze what was actually constructed.

Just before this the September 15th storm, the Developer had engaged a landscaper to mow the swales and basin. Before this, no maintenance had been done all spring and summer and the swales and basins were choke full of weeds and debris. The new property owner was not aware that any maintenance done for the stormwater system was their responsibilities. Although the grass has been mowed, the grass clippings were left in place which will probably clog the wicks and impede drainage flow, causing more flooding.

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required. I had asked Bruce several times to inform me when the work was being done so I could be onsite to make sure these issues were being addressed however I was not told when the work was being done so I was not ever present. Ms. Daniell was present when "the workers" decided not to raise the berm nor add clay or the plastic liner to prevent water from bleeding through the berm area but was powerless to make them do the work.

We are not asking for the moon. We believe a simple fix will resolve this issue and the Daniell's will be satisfied and they can get along with their lives. It is just not fair that during every rain storm, they have to worry that their property will be flooded.

In conclusion we ask the Planning Board to do the following:

1. Do not release any portion of the remaining Bond for the Roosevelt Drive subdivision until the Daniell's flooding issues are resolved to the Daniell's satisfaction;
2. Request that the Developer correct the flooding/drainage issues as discussed above;
3. Review the Deed Covenants with the property owners that maintenance of the swales and basins be done on a regular basis and the Stormwater Operation and Maintenance Plan be strictly followed;
4. Monitor the flooding over the next 12 months to make sure the stormwater systems for this subdivision are operating per the design intent and make the developer repair or modify the system in the event the system is not working as designed or intended.

Note that once the Bond has been released, no one has any authority or power to make the Developer comply with your Approved Decision of May 20, 2014.

Thank you for your time.

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Memorandum

To: Acton Planning Board

From: Bruce Ringwall

Date: February 24, 2016

Subject: Update to Roosevelt Drive and temporary BMPs needed during construction

Copy: Helene and Guido Gagliano, Christine Minard c/o Sarah Burianek, Michelle and Brian Daniel, Acton Engineering, file 00159A

The purpose of this memo is to re-cap the general construction activities on Roosevelt Drive and update you on recent site modifications during the construction phase.

As you are aware, Roosevelt Drive has been constructed up to the binder course of pavement, the water service, drainage swales and water quality basins per plan. Due to the timing the electrical and data conduits have not been installed. The right shoulder, a good portion of 1 Roosevelt Drive (the existing house lot) and the area of water quality basin #2 do not have grass or vegetation in place. The new Lot 2A (3 Roosevelt Drive) has been entirely cleared and no BMPs' (Best Management Practice) installed. Due to the lack of vegetation adjacent to the stone wick in basin #2 it is assumed that some amount of sediment has gotten into the wick which could impede the infiltration time.

With all of the vegetation removed from 3 Roosevelt Drive and portions of the remaining site without vegetation and the ground frozen the runoff from rain and snow melt will get to the drainage basins faster than when the site development is complete. It was the initial understanding 3 Roosevelt Drive was going to be under construction in the fall of 2015. Given the site work has started at 3 Roosevelt Drive much of the increased rate of runoff is related to the partial work without the installation of temporary BMPs.

On January 10, 2016 the area received roughly 1.2" of rain which filled basin #2 and over topped the low point of the drainage system discharging water into the backyard of 2 Jackson Drive. The owners at 2 Jackson Drive requested the assistance of the Acton Fire Department and the Acton DPW as the water was flowing across their yard and against their house. Between the installation of some sandbags along the discharge location from Roosevelt Drive and the relief of some of the water into 2 Jackson Drive's perimeter drain the water receded without flooding the basement at 2 Jackson Drive.

On January 11, 2016 our office was informed of the issue and I went to Town Hall to get contact information in order to reach out to the abutter as you had just left on vacation. After



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Earthen berm at previous overflow.



Temporary overflow and swale

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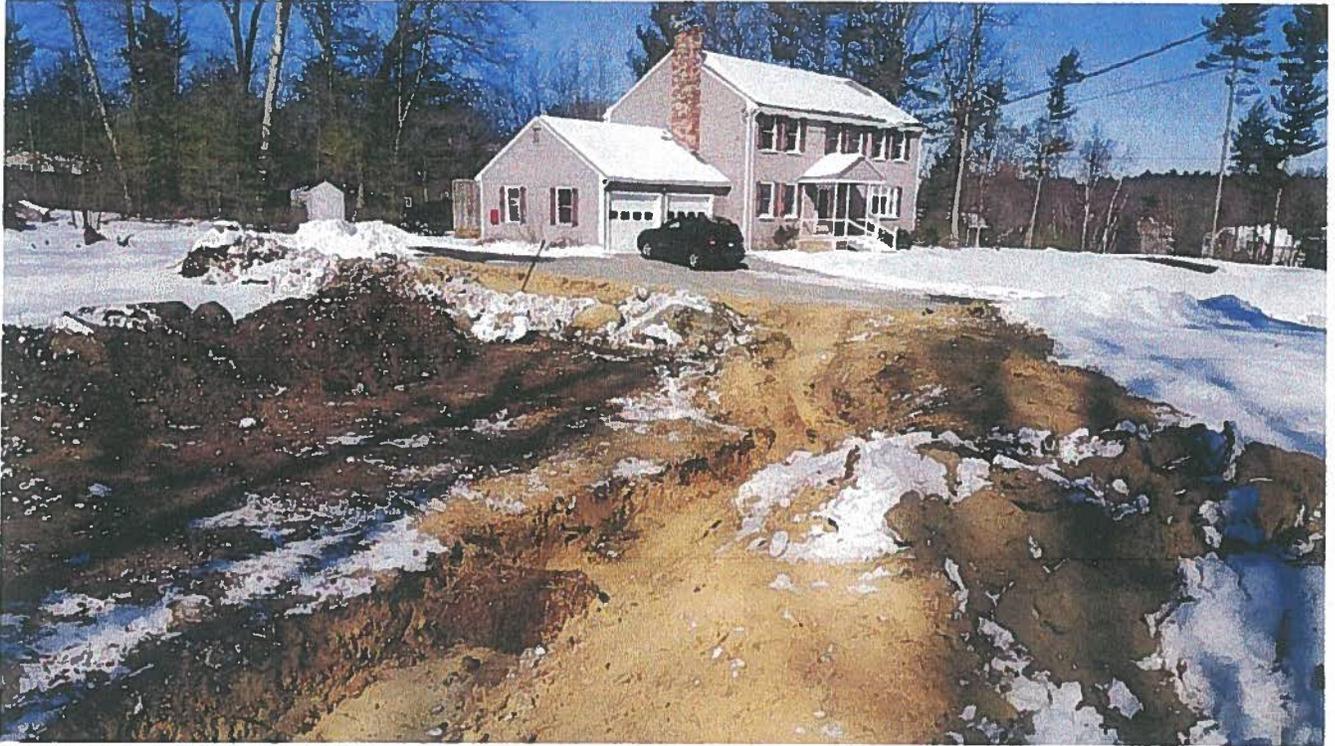
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Trench and berm 1



Trench and berm 2

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Modified basin after 2/16/16 rain and melt



Modified basin after 2/16/16 rain and melt.

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