



25575 Butternut Ridge Rd.  
North Olmsted, OH 44070  
June 2, 2008

North Olmsted Planning and Design Commission,  
North Olmsted City Engineer, North Olmsted City Council  
5200 Dover Center Road  
North Olmsted, OH 44070

Gentlemen:

At the Planning Commission meeting on May 14, I was told that the drainage calculations would be available and it was my understanding from the city engineer that they would be available in time for a review by my consultants prior to any action on the project. Such a report has not been available to date.

Since Planning is now drafting a report to city council, I engaged a registered engineer with a specialty in hydrology to review the plans.

His preliminary review is an attachment to this letter.

He does ask some very specific questions to which I am requesting answers. I am also requesting answers to the questions I asked in my letter to Planning and Council in January of this year and a copy of the hydrology study by the developer.

Sincerely,

A handwritten signature in cursive script, appearing to read "Clifford C. Crabs".

Clifford C. Crabs

Attachment: Hydrosphere Engineering Preliminary review of the proposed Biddulph Trail Subdivision.

FILE COPY FILE COPY



## HYDROSPHERE ENGINEERING

P.O. Box 360530  
Cleveland, Ohio 44136-0009  
440-973-4054 or 330-721-2722

May 27, 2008

Clifford Crabs  
25575 Butternut Ridge Road  
North Olmsted, Ohio 44070

Subject: Preliminary review of the proposed Biddulph Trail Subdivision

### INTRODUCTION

The Biddulph Trail Subdivision is proposed for construction to the west of your property located at the address noted above. Your property shares a common boundary approximately 580 feet long with the proposed subdivision. This letter has been prepared to explain to you the possible impacts of the construction of the subdivision on the water and drainage on your property.

### SOURCES OF INFORMATION

The following sources of information were used in the formulation of the contents of this letter:

1. A site inspection of your property on May 19, 2008. The site of the proposed subdivision was observed from your property. You were also interviewed about the water supply and drainage of your property.
2. A blueprint entitled "Biddulph Trail Cluster Homes: Preliminary Site Engineering, Utilities & Storm Water Management Plan dated October 27, 2007 and signed by Peter D. Zwick registered professional engineer E-48781. Referenced in this letter as Zwick, 2007.
3. A set of blueprints prepared by the Arcus Group, Inc. with various titles and no professional signatures. The set of blueprints are a preliminary set of construction and landscaping plans for the proposed Biddulph Trail subdivision. Referenced in this letter as Arcus Group, 2007

## BRIEF DESCRIPTION OF THE PROPOSED SUBDIVISION

According to the Arcus Group (2007), the proposed Biddulph Trail Subdivision consists of 29 cluster homes, related storm water management facilities, landscaped buffers, and open space. Storm water runoff from the proposed subdivision would be conveyed by a storm sewer to a detention basin located in the southern section of the proposed subdivision. The detention basin would discharge by pipe to a creek to the south.

The cluster homes would have their sanitary sewers connected to a 36 inch diameter interceptor sanitary sewer which is located toward the south end of the proposed Biddulph Trail street. The sanitary sewer system tributary to the 36 inch diameter interceptor sanitary sewer has deteriorated to such a degree that during rainfall events, the 36 inch pipe becomes surcharged and flows under pressure. There have been several events of manhole lids being lifted off, and one or more of your neighbors have observed geysers of sewage spewing from the 36 inch pipe.

## QUESTIONS AND ISSUES RELATED TO THE PROPOSED SUBDIVISION

1. You obtain your potable water from a well which comes from a confined aquifer. You pump the water and treat it. Will the construction of the utility trenches and basements intercept the water that ordinarily flows toward your well and deny you of your water supply?
2. You have a pond on your property which you use for raising fish and irrigation. Will the construction of the subdivision intercept the water which normally flows into your pond causing you to be unable to raise fish and use the water for irrigation? Will the construction of the subdivision cause the quality of the water entering your pond to degrade so that the fish are harmed?
3. Zwick (2007) shows a storm sewer for rear yard drainage behind Sublots 22 through 29 with no landscape buffer. The Arcus Group (2007) shows a landscape buffer with no storm sewer. It appears that the plan would be to plant trees over the top of the storm sewer. The landscaped buffer should not contain a storm sewer. Both should be shown side by side. Each should be at least 20 feet wide.
4. Zwick (2007) and the Arcus Group (2007) show that the homes on Sublots 17 and 18 are going to be constructed almost directly over the 36 inch diameter interceptor sanitary sewer. It is a common misconception that sewers last forever, but in reality they wear out and must be replaced. How will the 36 inch sewer be replaced on Sublots 17 and 18? Either one or the other of those sublots should be eliminated.

5. There is no emergency spillway and overflow path shown for the storm water runoff coming from the detention basin. Without the emergency spillway, either Sublot 21, Sublot 22, your property, or your neighbor's property could receive flood flows if the detention basin outlet should become plugged. It is also possible for the overflow to go directly into the sanitary manhole located on the 36 inch diameter interceptor sanitary sewer. The detention basin should be located south of the 36 inch diameter interceptor sanitary sewer. All sublots should be located north of the 36 inch diameter interceptor sanitary sewer. An emergency overflow spillway should be provided.
6. Since the 36 inch diameter interceptor sanitary sewer surcharges during wet weather, it may possible that the proposed cluster homes could have sanitary sewage backup in the basements. A hydraulic study should be performed to determine the maximum elevation to which the sanitary sewage can rise. Simply stated, will the sewage geysers be able to reach the basement floors? Will the homeowners be told that the City of North Olmsted has a deteriorated sanitary sewer system and their new home may be flooded with sanitary sewage?
7. No hydrologic study of the proposed storm sewer and detention basin was available. It is not possible to determine if the proposed detention basin is adequately sized. The shape of the proposed detention basin does not lend itself to the treatment of the storm water runoff. A hydrologic study should be completed prior to any form of preliminary approval being given.

Several issues must be resolved to ensure that your property will not be damaged by the construction of the proposed subdivision. If any part of this letter is not clear, please contact the undersigned.

Sincerely,

*Philip H. De Groot*

Philip H. De Groot, Ph.D., P.E.