




Engineering Department Memorandum

To: George Proakis – Director of Planning
Adam Duchesneau – Planner

From: Robert King – Director of Engineering 

cc: File

Date: 1/12/2012

Re: 485 Mystic Valley Parkway – Capen Court Phase III

At the request of the Office of Strategic Planning and Community Development (OSPCD), this memorandum has been prepared to summarize the review of materials submitted for the subject project.

The Engineering Department has reviewed correspondence from Frank Kelly (23 Irvington Road resident) provided to the Somerville ZBA dated January 2, 2012. Correspondence was related to “Problems with Capen Court Phase III Stormwater Report & Civil Engineering Plan Mismatch.” This correspondence included information provided by Steven Bernstein, PE (civil engineer representing Mr. Kelly). A subsequent response prepared by Owen M. Wartella, PE, of Nitsch Engineering dated January 11, 2012 was also reviewed.

I would anticipate that the response prepared by Mr. Wartella addresses the concerns included in Mr. Kelly’s original correspondence; however the following information has been summarized in an effort to respond to each concern directly.

Issue No. 1: Soil Type Data Mismatch

The drainage report prepared and submitted by Nitsch Engineering references USDA and NRCS soils data for the subject property. This is standard engineering practice used to design a stormwater system (that incorporates infiltration) when a project is in the preliminary permitting phase. Once approved by the ZBA and/or Planning Board, this office will typically require additional soils testing prior to issuance of a building permit to confirm that assumptions made in the design phase are accurate. Additionally, it should be noted that the infiltration rate assumed in the Nitsch Engineering drainage report was 0.090 in/hour (D Soil) which is a very conservative rate for the soils assumed in the preliminary investigation.

Regardless of the above, this Administration and Department are always considerate of abutters to any proposed development projects, and as a result I would support the request to complete soils testing at this phase to confirm the stormwater system will function as currently designed. Language pertaining to that condition has been included at the conclusion of this memorandum.

Issue No. 2: How does the Stormwater System actually work?

It is my opinion that the response submitted by Mr. Wartella should clarify any confusion in interpretation of the routing diagram in the drainage report. However, should additional clarification be requested by Mr. Kelly, this Department would ask that it be provided by the Nitsch Engineering.

Issue No. 3: Impact of the Phase II recharge system against the Proposed Building in Phase III.

Based on a review of the "As Built" plans for phase II and the proposed plans associated with phase III, the existing infiltration system and the new proposed system are over 100 feet apart. While I can appreciate the concern for impact of one system on another, it is my opinion that the soils testing highlighted above will give all parties a better understanding of soil conditions on the property, how accurate the assumed infiltration rate actually is and provide confirmation that there is no connection between the two systems.

Issue No. 4: Mismatch between the Stormwater report and the Civil and Landscape report.

Based on the Site Utility Plan (C201), the proposed infiltration system is located on the north-east side of the new building. The Post-Construction Hydrology Plan depicts the infiltration system (4P) on the opposite side of the building. However, it should be noted that the routing diagram (Drainage Diagram) associated with the actual hydraulic model indicates 1P is hydraulically connected to 4P. This is consistent with the proposed utility plans. Additionally, the data included as part of the hydraulic simulation indicates that 1P is hydraulically connected to 4P. It was clear during my review of the documents that this was a labeling error and not a modeling error.

Regardless of the above, I have reached out to Nitsch Engineering and this plan is being revised. I anticipate that revised copies will be submitted to the Board prior to the hearing.

Recommendations:

Based on concerns expressed by the abutting property owners, it is recommended that soils testing be completed as part of this review process. Soils testing procedures and infiltration rates shall be determined using methodology outlined in the current MassDEP Stormwater Regulations. Results of the test shall be provided to this office.

Should testing confirm that the assumed infiltration rate is accurate, the system shall be constructed as designed. Should testing indicate that soils have a greater infiltration rate than that used in the hydraulic model, the system shall be constructed as designed. Should testing indicate that soils provide less than the assumed infiltration rate, the drainage report and utilities plans shall be modified accordingly.