Onsite Engineering, Inc.
Water, Wastewater and Stormwater Specialists

March 27, 2017

Mr. William Depietri
Capital Group Properties
259 Turnpike Road, Suite 100
Southborough, MA 01772

Re: 129 Parker Street Water & Sewer System Capacity Analysis
Maynard, Massachusetts

Dear Bill:

As requested, Onsite Engineering has reviewed the water use and sewage generation from the proposed development and compared these volumes to the overall and available capacity of the Town of Maynard's municipal water and sewer systems. The following is based on information provided by the Town of Maynard Water and Sewer Departments and the proposed redevelopment scenario of the 129 Parker Street site.

Based on information provided by the Town of Maynard Water and Sewer Department, the Town's wastewater treatment facility has a permitted maximum discharge volume of 1,450,000 gallons per day (GPD), on average, and a permitted drinking water production yield of 1,090,000 GPD. Comparing these permitted flows/yields to the average sewage flows and well pumping records, the Town's wastewater treatment facility discharges an average of 700,000 GPD of sewage while the water treatment facility provides 860,000 GPD of water to the Town on an average day. Comparing these actual flow/production volumes to the permitted volumes, there is 750,000 GPD and 230,000 GPD excess capacity in the Town's sewer and water systems, respectively.

As you are aware, the proposed Parker Street development will include a supermarket, retail suites, restaurants, and commercial space as well as residential and senior living dwelling units. In order to estimate the maximum day sewage generation for the development, design flow criteria established by 310 CMR 15.000, Title 5, was applied to the proposed uses. Based upon this analysis, we have determined that the maximum day sewage generation from the proposed project will be 93,403 gallons. Because Title 5 sewage design flow criteria represents a maximum 24 hour flow for a parcel based on its use and includes an estimated 200-percent factor of safety based on the actual average day sewage generation, the conservative actual sewage generation would be 50% of this volume, or 46,702 GPD. Furthermore, as the proposed development's construction would need to meet the current Massachusetts Plumbing Code, low-flow fixtures will be utilized throughout the development,

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which will further reduce the water demand requirements and subsequently reduce sewage generation to levels that should be below the estimated average day demand volume.

To determine the average water use associated proposed development, the calculated average day sewage generation, based on Title 5, was used in concert with a sewage generation to water demand ratio of 90%. Essentially, studies have shown that the average day sewage flow generated from a site is 90% of that day's water demand. This reduction most likely results from losses in the distribution systems and water use for cooking, cooling, etc. that does not get directed to the sewer system. Using this approach, the proposed development, on average, is anticipated to have a water demand of 51,891 GPD.

Lastly, it is important to note that this is a redevelopment project of an existing site and that the Town previously provided both water and sewer services to the old Digital campus. Based upon historic records and estimates of the water use and sewage generated from the site's now vacant buildings, we have estimated the Title 5 flow from that campus was approximately 45,000 gallons per day. This is an important fact as it is worthwhile to note that the existing water and sewer system infrastructure was already capable of providing this service to the site and as a result, the net increase in the demand from this project is just less than 50,000 GPD.

Using the above-mentioned data and estimations of sewage and water demand, Table 1 below provides a succinct summary of pre-development capacity, development demands, and post-development available capacity.

Table 1
Average Sewer Capacity & Water Use Summary
Parker Street Development
Maynard, Massachusetts

	Permitted Volume (GPD)	Pre-Development Volume (GPD)	Proposed Parker Street Development (GPD)	Post-Development Volume (GPD)	Remaining Sewer/Water System Capacity (GPD)
Sewage	1,450,000	700,000	46,702	746,702	702,298
Drinking Water	1,090,000	860,000	51,891	911,891	178,109

As shown above, after the redevelopment of the Parker Street site, there would be approximately 700,000 GDP of excess sewer capacity still available at the WWTF and approximately 178,000 GPD of excess water available for distribution. Therefore, in our professional opinion, the Town's sewer and water systems have the available capacity to accommodate the proposed Parker Street development without significant depletion of the existing reserves available.

We trust that this correspondence meet your current needs. If you have any questions or require any additional information, please feel free to contact me.

Sincerely,

Onsite Engineering, Inc.

David C. Formato, PE
President