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ENGINEER'S REPORT FOR PROPOSED WATER DEMAND

PROPOSED INDUSTRIAL REDEVELOPMENT 520 MAIN AVENUE

BOROUGH OF WALLINGTON BERGEN COUNTY, NEW JERSEY

PREPARED FOR

UMDASCH REAL ESTATE USA, LTD.

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MC Project No. 16002631A



ENGINEER'S REPORT

A. Project Description

The project site is located at 520 Main Avenue in Wallington, New Jersey, and is defined as Block 70.01, Lots 1.01, 1.02, 4.02, and 4.03 on the Borough of Wallington tax maps. The site is 26.10 acres in size and is comprised of several industrial buildings with appurtenant site improvements throughout. The existing buildings were primarily used for manufacturing, with some office space as well. The applicant proposes to demolish the existing buildings and construct three new buildings for warehousing and office with typical appurtenant site improvements.

B. Scope

The work shall consist of installing approximately 1,374 linear feet of 3" CL52 DIP domestic water service and 1,671 linear feet of 6" CL52 DIP fire service, as well as valves, three (3) fire hydrants, and a hotbox.

Work shall also include, but not be limited to excavation, backfilling, laying and jointing of pipe, installation of service lines, abandonment and/or removal of existing water lines, testing, restoration to existing structures and road surfaces, and all other incidental work required to complete this work specified on the plans and specifications.

C. Determination of Water Demand and Capacity

To determine whether or not the existing water system has capacity for the proposed development, Maser Consulting studied both the existing and proposed water demand at the site. The values used to determine projected water demand were taken from Table 1 – Average Daily Water Demand in section 7:10-12.5 of the New Jersey Administrative Code (N.J.A.C.).

The existing site consists primarily of manufacturing use with associated office space. For industrial facilities, the average daily water demand is 25 gallons per day (gpd) per employee, and for office uses, the average daily water demand is 0.125 gpd per square foot of gross floor area (gfa). Since limited information is known about the existing operations, the number of employees was estimated using the industry historical data, which indicates based on prior studies that manufacturing uses have an average site employment density of 1 employee per 1,000 sq. ft. gfa. The total area of the existing manufacturing buildings from the prior use is approximately 197,244 sq. ft. and the total area of the existing office space is approximately 4,378 sq. ft. Based on these numbers, the following calculation was performed to determine the existing/prior total average daily water demand:

$$197,244 \text{ sq. ft.} / (1 \text{ employee} / 1,000 \text{ sq. ft.}) = 197.24, \text{ or } 197 \text{ employees}$$

$$(197 \text{ employees}) \times (25 \text{ gpd} / \text{employee}) = 4,925 \text{ gpd}$$

$$(4,378 \text{ sq. ft.}) \times (0.125 \text{ gpd} / \text{sq. ft. gfa}) = 547.3, \text{ or } 547 \text{ gpd}$$

$$4,925 \text{ gpd} + 547 \text{ gpd} = 5,472 \text{ gpd}$$



The proposed development consists of 32,812 sq. ft. of office space and warehouse operations consist of 60 employees on average (two overlapping 40-employee shifts). Based on this information, the flowing calculation was performed to determine the total average daily water demand:

$$(60 \text{ employees}) \times (25 \text{ gpd} / \text{employee}) = 1,500 \text{ gpd}$$

$$(32,812 \text{ sq. ft.}) \times (0.125 \text{ gpd} / \text{sq. ft. gfa}) = 4,101.5, \text{ or } 4,102 \text{ gpd}$$

$$1,500 \text{ gpd} + 4,102 \text{ gpd} = 5,602 \text{ gpd}$$

While the proposed average daily water demand exceeds the existing average daily water demand by 130 gpd, this increase is considered negligible as this is just a 2% increase in demand. Since the increase from existing to proposed average daily water demand is negligible, the existing water system in Main Ave will have adequate capacity for the proposed development. It is also worth noting that a BWSE permit from NJDEP will not be required.

D. Installation and Testing

All installations, construction, and testing shall be in accordance with the requirements and standards set forth in the N.J.A.C., including the New Jersey Plumbing Code, and the standards of the Borough of Wallington.

E. Horizontal and Vertical Separations

Horizontal separation between the proposed sewers and existing and/or proposed water mains will be a minimum of ten (10) feet where possible. Where this separation distance can not be provided, sewers shall be constructed in separate trenches from water mains and shall be a minimum of 18" below water mains, as noted on the site plans.

Vertical separation between proposed sanitary sewers and water main crossings will be maintained at 18" minimum.

F. Conclusions

Since the increase from existing to proposed average daily water demand is negligible, the existing water system in Main Ave will have adequate capacity for the proposed development.