

Chapter 8

Utility Infrastructure Plan

UTILITY INFRASTRUCTURE

This section describes the existing utility infrastructure surrounding the Project Site and the ability of the existing infrastructure to accommodate the Project. General utility requirements of the Project are provided. A detailed infrastructure analysis will be performed during Design Development.

Wastewater

Existing Sewer System

The City of Somerville owns a sewer located in Mystic Avenue. The sewer flow from the existing building is estimated at 600 gallons per day (gpd) as summarize in Table 1.

Sewer generation rates are based on the values provided in 310 CMR 15 (Title V).

Table 1 Existing Sanitary Sewer Flows

Building Use	Quantity	Unit Flow Rate (gpd/unit)	Flow (gpd)
Service Station (no gas)	4	150 gpd/bay	600
Total Existing Sewer Flow			600 gpd

Proposed Sanitary Sewer System

The net estimated maximum daily wastewater flow from the Project is **1,995 gpd**, as summarized in Table 2.

Table 2 Projected Sanitary Sewer Flows

Building Use	Quantity	Unit Flow Rate (gpd/unit)	Flow (gpd)
Lab/Civic/Conference	33,450 sf	75 gpd/1000 sf	2,508
Retail	1,731 sf	50 gpd/1000 sf	87
Total Proposed Sewer Flow			2,595
Existing Sewer Flow			600
Net Total			1,995

A new sanitary sewer service will be provided for the proposed building and will tie into the sewer line in Mystic Avenue. The 30-inch combined sewer appears to have sufficient capacity to accommodate the Project.

The Project will be subject to the City's inflow/infiltration (I/I) removal program. The Proponent will work with the Engineering Department during the detailed design development phase to determine the appropriate fee to assist in funding I/I mitigation projects within the City.

Water System

Existing Water Service

The City of Somerville owns a 12-inch water main in Mystic Avenue.

Proposed Water Service

The average maximum daily water demand is estimated at 2,195 gpd based on the Project's estimated wastewater generation plus a factor to account for consumption, system losses and other potential usages.

Domestic water and fire protection services are anticipated to connect to the 12-inch water main in Mystic Avenue. The water supply systems servicing the buildings will be gated to minimize public hazard or inconvenience in the event of a water main break. Backflow preventers will be provided where necessary, such as on the fire protection service, to protect the potable water supply.

It is anticipated that the existing infrastructure can support the development. A hydrant flow test will be performed during the Design Development phase to confirm available flow and pressure. If flows and/or pressures are found to be insufficient, it may be necessary to include a fire pump for the development.

Storm Water Management***Existing Storm Drainage System***

Runoff from the existing project site drains overland into Mystic Avenue where it is picked up by catch basins. The existing building does not have roof drains.

Proposed Storm Drainage System

The Project's stormwater management system will consist of green infrastructure including a subsurface infiltration system. It is anticipated that the development will result in the reduction of stormwater runoff such that the 10-year peak flow in proposed conditions will be at or less than the 2-year peak flow in existing conditions. The Project will substantially improve the stormwater quality of the runoff leaving the site. Water quality will be improved by utilizing deep-sump catch basins, proprietary stormwater treatment units, and stormwater recharge. A long-term operation and maintenance plan will be developed to ensure the continued effectiveness of the stormwater management system.

Electrical Service

Eversource owns and maintains the electrical transmission system in the vicinity of the Project. The Proponent will work with Eversource to determine how to feed the Project Site and locate transformers and other electrical equipment, during Design Development of the Project.

Telecommunication Systems

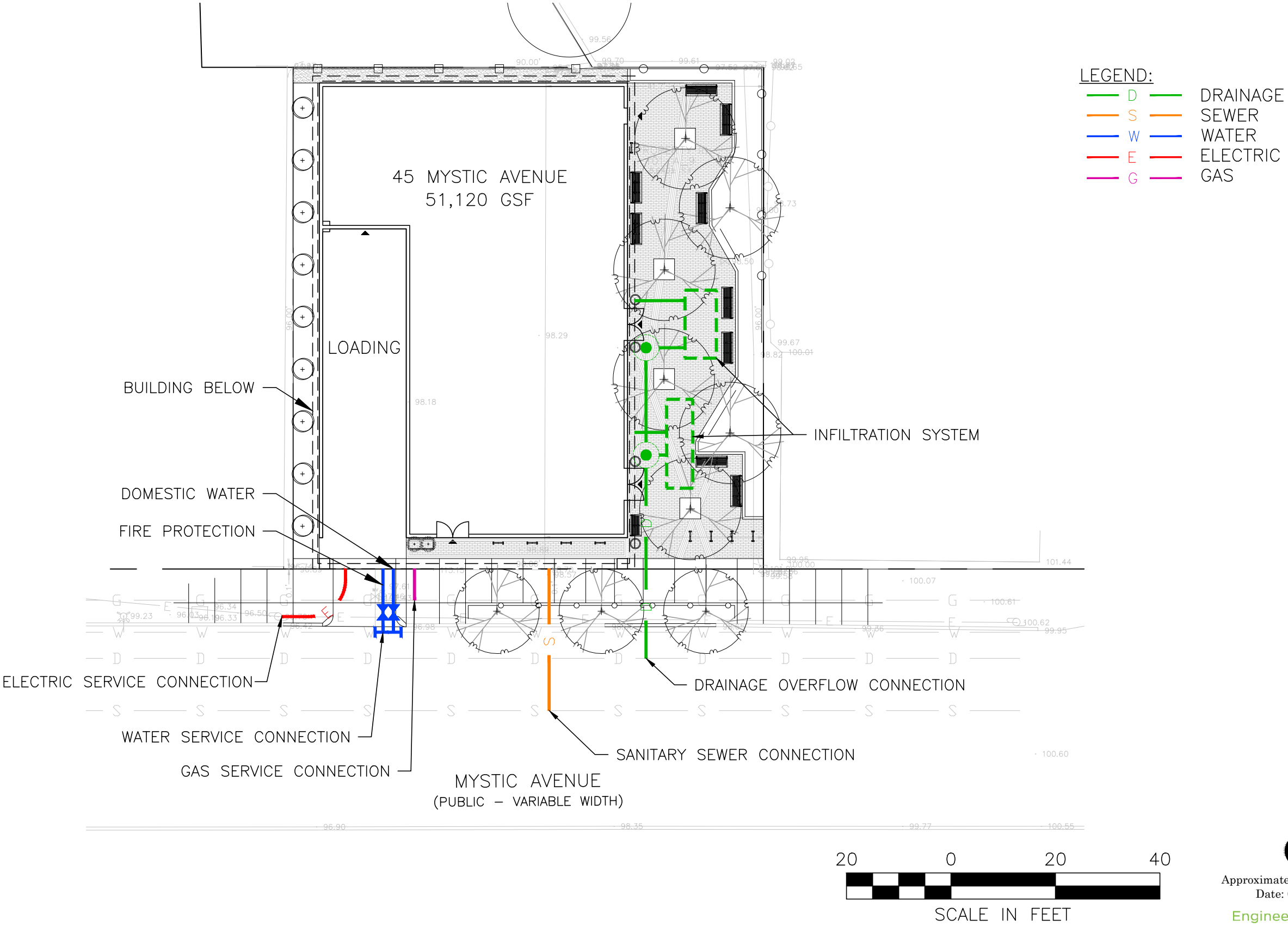
Verizon provides telephone services in the Project area. Services will be coordinated during Design Development.

Verizon and Comcast provide cable tv and internet services in the Project area. The Project Team will work with the service providers to determine the size and source for the proposed building.

Gas Systems

National Grid provides natural gas service in the Project area. They own and maintain a gas main in Mystic Avenue. Services will be coordinated during Design Development.

Figure 1. *Utility Plan*



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