



June 10, 2011

Utility Analysis

Drainage

The majority of runoff from the developed portions of the site is collected in catch basins and discharged through closed drainage to the detention basin southeast of the fire station and the forested wetland to the east of the fire station. Developed site features include; the existing high school roof, parking lots and fields.

The proposed drainage will outlet to the existing detention basin and forested wetland as it does in the existing conditions and will be treated for water quality. Peak flows as well as volumes will be reduced through low impact development features and underground storage systems.

There are several existing connections between the isolated wetland areas which will be reproduced in proposed conditions. Portions of the roof runoff from the new school will be stored and recycled in the grey water system of the school. Roof runoff exceeding the storage capacity will be treated and discharged as it does under existing conditions.

Water

There is a 16" transite water main in Plymouth Street. Based on plans provided by the Town and information from the Water Superintendent, an 8-inch cement lined cast iron lateral service off of the 16" main runs between the High School and the southeast property line. The 8" line services the building addition and is terminated the end near an existing water fountain. A 6" service feeds the High School building off of the 8" line. The 6" service enters the building at the east corner. There are three hydrants on the 8" water line associated with the High School. Water service is also available at Bedford Street through a 12" ductile iron pipe that was installed last year.

The proposed school will be supplied with fire protection water and domestic water from a loop system connecting to both Central Street and Bedford Street. Fire flow test results indicated a fire water booster pump is not necessary at this time.

The site is proposed to have hydrants located throughout and the locations will be coordinated with the East Bridgewater Fire Department.

Sewer

Sanitary waste from the school was originally treated by an on-site septic system located within the limits of the little league field south of the elementary school. It is the Town's understanding that this system has been closed out and abandoned in place. The current septic system was constructed in 1975 during the building expansion project. The current system includes a 36,000 square foot sub-surface sand filter system, sewage dosing counter, chlorine neutralization system, and a 10,000 gallon septic tank. The existing system also treats waste from the Central Elementary School. According to the Board of Health Agent, the Council on Aging Building and



the Town Hall have their own septic tanks but discharge sewer waste to the leach field used by the Elementary School and High School. The Fire Department has its own septic system.

Numerous problems have been reported for the existing septic system including back-ups, pump failures, sinkholes, and sub-surface piping failures.

The proposed school requires an onsite wastewater treatment plant and discharge to a leaching field which is proposed approximately 2,800 feet east of the site at the East Bridgewater Middle School (Gordon School).

Sanitary sewerage will be pumped to the onsite wastewater treatment plant by a sanitary lift station located outside the south west corner of the school. All school sanitary flows will flow by gravity to the lift station and pumped through a sanitary force main to the wastewater treatment plant.

Gas

Columbia Gas of Massachusetts (formerly Bay State Gas) is the supplier of gas to the Town of East Bridgewater. The high school is currently supplied by a 1 ½" high-pressure connection to a 3" high-pressure line in Plymouth Street. Existing plans show the service coming on to the property and entering the school at the east corner of the building. High-pressure gas is also available on Bedford Street.

The proposed gas routing shows gas service being provided off of Bedford Street. The final routing of the gas line will be determined by the gas company during construction.

Electric

The existing electric service is 2000 amp, 122/08 volt, 3-phase overhead service. Overhead electric lines run between the school and southeast property line and feed the school after passing through the existing transformer located near the southwest face of the school building. The school also has a 150 kW natural gas emergency generator.

Proposed service will be 4000 amp, 277/480 volt, 3 phase. Overhead high voltage electric service is available in the area.

Oil Tanks

There are two underground oil tanks located at the southeast face of the building. School personnel indicated that they are 15,000-gallon tanks. Legal abandonment and disposal of these tanks is proposed.