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ZONING BOARD OF APPEALS
TOWN HALL WELLESLEY, MA 02181

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ZBA 96-48

Petition of Town of Wellesley/DPW/Water & Sewer Division
T.F. Coughlin Well Site on Wellesley Avenue

Pursuant to due notice, the Special Permit Granting Authority held a Public Hearing on Thursday, July 25, 1996 at 8 p.m. in the Great Hall at the Town Hall, 525 Washington Street, Wellesley, on the petition of TOWN OF WELLESLEY/DPW/WATER & SEWER DIVISION requesting Site Plan Approval pursuant to the provisions of Section XVIA and Section XXV of the Zoning Bylaw to allow construction of a one-story building to be used as a Water Treatment Facility with a footprint of 4,650 square feet and a floor area of 9,300 square feet; and an additional 7,350 square feet of drives and parking area with associated landscaping at the T.F. COUGHLIN WELL SITE on WELLESLEY AVENUE, in a Conservation District, a Water Supply Protection District and a Flood Plain District.

On June 27, 1996, the petitioner filed a request for a hearing before this Authority, and thereafter, due notice of the hearing was given by mailing and publication.

Presenting the case at the hearing was Tim Bailey, Director of the Department of Public Works, who was accompanied by Sidney Farnsworth, Commissioner of the Board of Public Works; Joseph Duggan, Superintendent of the Water & Sewer Division; and Leonard MacKoul, Project Engineer from Earth Tech.

General Background

Mr. Duggan explained that the Water & Sewer Division has arrived at a good solution to the problem defined by the Safe Drinking Water Act. The plan is to build three water treatment facilities to treat all Wellesley water supplies, which consist of seven wells: three wells at Morses Pond and four wells in the Rosemary Valley. There will be one treatment facility at Morses Pond to service the three wells; one facility to combine the T.F. Coughlin Well and the Wellesley Avenue Well, which are 750 feet apart, off of Wellesley Avenue near the Needham Town line; and one facility located diagonally behind the Longfellow Well on the eastbound side of Route 9, which will service the two smaller Rosemary Well and Longfellow Well.

Mr. Duggan stated that the treatment process at all three facilities will be corrosion control and iron and manganese removal. The process will consist of tray aeration with hydroxide addition for pH control, and green sand filtration for iron and manganese removal. The iron and manganese are absorbed on the green sand filter material, and then backwashed out. The backwash water will then be concentrated so that 90% of it can be recycled into the system.

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The remaining 10% will be sent into the MWRA sewer system. The process is identical at the three treatment facilities.

The architecture of the treatment facilities is very similar to the existing well stations. The Morses Pond and Wellesley Avenue facilities will be identical and will be sized for a design flow rate of 2 million gallons per day. These facilities will have 5 of the pressure tank vessels, which are the green sand filters. The Rosemary/Longfellow facility will be sized for a design flow rate of 1 million gallons per day, and will have 4 of the pressure tank vessels.

The first floor of the treatment facility will contain the pressure green sand vessels and the chemical feeds. One side will be dedicated to treatment additions. Beneath the first floor will be a pipe gallery, which will be surrounded by the clear well, which will hold the treated water, and the residual separation tanks, which will contain the concentration of the backwash water where the residuals will be settled out and pumped into the sewer system. The supernatant will be syphoned off and recycled into the headworks of the plant.

The Board asked general questions regarding the capability of the process, equipment and size of the facilities to provide for future changes in the process, or the need for additional equipment.

Mr. Duggan responded that the present flow capacities are the maximum allowable. Mr. Farnsworth stated that the need for future additional equipment is difficult to determine. When the three facilities are completed, Wellesley will be in compliance with the Safe Water Drinking Act. There has been provision for compliance with the radon and groundwater disinfection regulation. The proposed process is as far-thinking as possible.

Jack Brady, Fairbanks Avenue, asked why the buildings could not be increased by another 1,000 square feet to be prepared for any eventuality. Mr. Duggan said that if the extra square footage were available, there would be nothing to fill it. To try to treat in advance for an unknown is not sensible. He added that the facilities have been sited with the goals of treatment process efficiency and expansion.

The Board asked about potential noise. Mr. MacKoul responded that all of the major pumps are located inside the building. The aerator has a small 3/4 horsepower blower located on its top. The diesel generator has intake and exhaust mufflers. The generator will be turned over once every two weeks during the day, but would only be used continually in the event of a town power failure.

The Board asked how much personnel would be involved in running each of the sites. Mr. Duggan said that DEP is exploring this issue with them. DEP would like to see one operator

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at one of the facilities for 4 hours per day, which is more time than is presently required. DEP is suggesting that one facility be designated as a main facility, and the other two as satellites. More maintenance people will be required as there is additional equipment to be serviced. A DPW employee will always be on site when chemical deliveries are made. As the bulk storage tanks have been sized for a minimum 30 day capacity, there would be deliveries once a month or every two months.

The Board noted the lack of bathroom facilities in all of the floor plans. Mr. Duggan said that DEP wanted one of the facilities to have a restroom. It would probably be located in the abandoned Wellesley Avenue pump station. The Board strongly recommended that bathroom facilities be provided in each of the treatment facilities.

Mr. MacKoul gave a general description of the treatment facility, and a detailed explanation of the treatment process.

Site Information

Mr. Duggan explained that at the Wellesley Avenue site, four different locations had been considered. The chosen site is in the hollow where the access road connects the two well stations along the pond. Both the Needham and Wellesley Wetlands Committees were involved, and Orders of Conditions have been issued by both committees. The access road will be ramped up into an excavation into the hill. There will be tree space along the Rosemary Impoundment.

Mr. MacKoul stated that the treatment facility will be a one-story building 100 feet by 45 feet at a height of 28 feet. The building will have a brick veneer and an asphalt shingled roof. The access to the facility will be increased to allow the chemical trucks a necessary turning radius. All of the large pumps are located inside the building to keep noise levels at a minimum. The components located behind the building are the air stripper, emergency diesel generator, the transformer and the propane tank. Because of the deep excavation into the hillside, the trees will be replanted to minimize erosion. There will also be significant tree plantings in front of and behind the building.

Mr. Duggan stated that additional space will be available at the Wellesley Avenue site. A small pump station containing a vertical shaft turbine pump will be constructed over the caisson wells at this site. The existing station will be abandoned as the outmoded pumping equipment will be replaced by the new vertical shaft turbine pump. This station could be used for a future bathroom.

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Statement of Facts

The subject property is located off of Wellesley Avenue between the Wellesley Avenue and T.F. Coughlin Wells on a 50,400 square foot parcel owned by the Town of Wellesley. The parcel is in a Conservation District, a Water Supply Protection District and a Flood Plain District. The site is bounded by Wellesley Avenue to the north, the town of Needham to the south, a Single Residence District to the east and the Wellesley Country Club to the west. There are three existing buildings on the site: the Wellesley Avenue pump station, the T.F. Coughlin pump station and Pump Station No. 3, which will be abandoned.

The petitioner is requesting Site Plan Approval to allow construction of a one-story building to be used as a Water Treatment Facility, with a footprint of 4,650 square feet and a floor area of 9,300 square feet. An additional 7,350 square feet of drives and parking area, which will include 3-5 unmarked spaces, and associated landscaping will be added.

The following plans were submitted: Existing Conditions Plan (2LA-1) dated 4/8/96, signed by Leonard MacKoul, Registered Professional Engineer, and Scott T. Ridder, Registered Landscape Architect; Site Plan (2LA-2) dated 5/23/96, signed by Leonard MacKoul, Registered Professional Engineer, and Scott T. Ridder, Registered Landscape Architect; Floor Plans & Elevations (2A-1) dated 4/8/96, signed by Leonard MacKoul, Registered Professional Engineer, and John W. Look, Registered Architect; Wall Sections (GA-1) dated 4/8/96, signed by Leonard MacKoul, Registered Professional Engineer, and John W. Look, Registered Architect; Outside Piping Plan (2M-1) dated 4/8/96, signed by Leonard MacKoul, Registered Professional Engineer; and Electrical Site Plan (2E-7) dated 4/8/96, signed by Leonard MacKoul, Registered Professional Engineer, and Rama K. Chandra, Registered Professional Engineer. A plan titled Property Line Delineations with site plans for Wellesley Avenue/T.F. Coughlin, Rosemary/Longfellow and Morses Pond, dated July 25, 1996, signed by Douglas R. Stewart, Professional Land Surveyor was also submitted.

The following written information was submitted: An Official Development Prospectus, Test Boring Results prepared by New England Boring Contractors of CT, Inc., dated June 15, 1995; Drainage Calculations and Compensatory Storage dated 4/23/96, revised 5/23/96, prepared by Dale MacKinnon, Registered Professional Engineer; and Hydrant Flow Data Summary, dated 5/23/91, prepared by ISO Commercial Risk Services, Inc.

An Order of Conditions (DEP 324-226) was issued by the Wellesley Wetlands Protection Committee on June 20, 1996, and an Order of Conditions (DEP 234-281) was issued by the Needham Conservation Commission on July 2, 1996.

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The Design Review Board held a Preliminary Review of the project on May 23, 1996, and a Final Review on June 13, 1996. The Design Review Board was not convinced that the Wellesley Avenue site could not have been designed so that such a dramatic reshaping of the hillside was necessary, and voted to offer no comment on the project.

All submitted plans and written information were also sent to the Planning Board, Wetlands Protection Committee, Town Engineer, Board of Health and the Fire Chief, as required by Section XVIA of the Zoning Bylaw. Written responses from each of the above were received and are on file in the office of the Board of Appeals. On July 23, 1996, the Planning Board reviewed the petition and voted to recommend no objection.

The Wetlands Protection Committee held hearings on May 9, May 30, and June 20, 1996. In the Committee's opinion, the proposed plans for on-site recharge meet requirements stipulated in Section XIV-E of the Zoning Bylaw. The site drainage will be routed via two swales into the adjacent water impoundment, which will serve to recharge the water table. It is the Committee's further opinion that the proposed plans for regrading will not detrimentally impact the quality or quantity of ground water.

Decision

This Authority has made a careful study of the materials submitted and the information presented at the hearing. The petitioner's proposed construction of a one-story water treatment facility with a footprint of 4,650 square feet and a floor area of 9,300 square feet, constitutes a Major Construction Project pursuant to Section XVIA of the Zoning Bylaw because it includes the construction of 2,500 or more square feet of gross floor area, and is pursuant to Section XIVB and Section XIVE of the Zoning Bylaw, as it is located in both a Flood Plain District and a Water Supply Protection District.

It is the opinion of this Authority that the submitted plans for the proposed construction of the water treatment facility comply with the Zoning Bylaws of the Town, protect the safety, convenience and welfare of the public, minimize additional congestion in public and private ways, and insure adequate protection for water, sewerage and drainage. Furthermore, they insure compliance with Section XVI and Section XXII of the Zoning Bylaw.

Site Plan Approval is hereby given by this Authority, as voted unanimously at the Public Hearing, pursuant to Section XVIA, Section XIVB, Section XIVC, and Section XIVE of the Zoning Bylaw, subject to the conditions attached hereto as Addendum A.

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Kendall P. Bates
Kendall P. Bates, Acting Chairman



Robert A. Bastille
Robert A. Bastille



William E. Polletta
William E. Polletta

APPEALS FROM THIS DECISION,
IF ANY, SHALL BE MADE PURSUANT
TO GENERAL LAWS, CHAPTER 40A,
SECTION 17, AND SHALL BE FILED
WITHIN 20 DAYS AFTER THE DATE
OF FILING OF THIS DECISION IN
THE OFFICE OF THE TOWN CLERK.

cc: Planning Board
Wetlands Protection Committee
Tim Bailey, Director/DPW
Inspector of Buildings

edg

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ADDENDUM A.

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1. All work shall be performed in accordance with plans submitted and on file with this Authority.
2. All design and construction must comply with all applicable state and local codes.
3. All requirements of the Town of Wellesley Fire Department shall be complied with.
4. All requirements of the Department of Public Works shall be met including, but not limited to the requirement that water, sewer and electric connections, together with drainage connections be made in accordance with DPW standards.
5. Upon completion of the project, a complete set of site utility plans shall be submitted to the Department of Public Works.
6. A copy of the occupancy permit issued by the Inspector of Buildings shall be submitted to this Authority at the time of issuance.
7. All requirements of the Wellesley Wetlands Protection Committee shall be complied with, and the Order of Conditions (DEP 324-226) is hereby incorporated into this decision.
8. The Order of Conditions (DEP 234-281) issued by the Needham Conservation Commission is hereby incorporated into this decision.
9. All requirements of the Department of Environmental Protection shall be met.
10. Although not a condition, the Board of Appeals strongly recommends that bathroom facilities be located at the Wellesley Avenue/T.F. Coughlin Water Treatment Facility.