

BY FAX AND MAIL

August 23, 2005

Secretary Stephen Pritchard
Executive Office of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn: Nicholas Zavalas, MEPA Unit

***Re: Final Environmental Impact Report, Waldenwoods, Milford, MA
EOEA No. 13389***

Dear Secretary Pritchard:

The Charles River Watershed Association has reviewed the above-referenced final environmental impact report (FEIR) and submits the following comments on this planned residential development project. The project will preserve 211 acres via a permanent conservation restriction to be held by the Milford Conservation Commission and the Trustees of Reservations.

Given that the project is located in the headwaters of the Charles River and the Upper Charles is highly stressed, as detailed in our comments on the DEIR, the development should be required to adhere to strong standards on a number of fronts ranging from turf to irrigation, rare species habitat protection, and stormwater management each of which are discussed in detail below. This project will result in a net water deficit to this headwaters area and will alter almost 52 acres of which 16.94 acres will be rendered impervious. Thus the proponent needs to commit to meeting specific standards mentioned in each of the sections and illustrate the incorporation of suggested best management practices on a plan in a supplemental FEIR.

Turf and Irrigation: According to the FEIR, the landscaped areas have been reduced to 16.04 acres as compared to the 21 acres proposed in the DEIR (through reducing the irrigated area to 1/5 acre of turf and landscape for every two residential units). However further reductions in lawn and correspondingly in irrigation should be made by reducing the total area of backyards requiring irrigation. Also little of the water used for lawn and field irrigation is returned to the aquifer for recharge and compacted lawns in themselves are relatively impervious surfaces hindering recharge. While the FEIR includes a plan showing the irrigated areas, detailed landscaping plans with a commitment to xeriscaping should be included and the proponent should commit to reducing water demand in the summer when groundwater stores are most stressed and

stream flow is low. Most of stream flow in the summer is provided by base flow, or groundwater. Reduction in the amount of turf has the added benefit of reducing fertilizer and pesticide use.

The proponent should commit to eliminating in-ground sprinklers, or at a minimum using them only where absolutely necessary. The proponent should commit to relying on rainfall only for irrigation in the majority of turf areas, and using roof runoff for irrigation instead of directing it directly into wetlands. There should be a residential education program developed to reduce irrigation use and a commitment to annual maintenance (in addition to leak detection) of the systems. If used, all sprinklers should be equipped with state-of-the-art moisture sensors.

While the project agrees to comply with watering restrictions imposed by the Milford Water Company (MWC), development of a drought management plan should also be required tied to precipitation levels. We suggest that the proponent look at the Mount Auburn Cemetery's plan, which will be mailed under separate cover, for guidance.

The project is proposing to drill three bedrock irrigation wells to meet the irrigation needs for the residential area. Even though the three well locations are shown to be a minimum of 350 feet from the nearest wetland resource, CRWA remains concerned about the connection between bedrock withdrawals and groundwater levels.¹ The Department of Environmental Protection (DEP) is concerned about the impacts of irrigation wells on streamflow and water supply as evidenced by the requirement in the Ipswich basin water withdrawal permits that communities make these wells subject to the same outdoor watering restrictions as those on public water supply or face further restrictions tied to stream flow. More and more straws in the same aquifer will cumulatively have an impact on the river. All irrigation wells should be metered so withdrawal volumes can be measured. A monitoring program to assess impacts to surface waters from the irrigation wells should also be required. Comprehensive baseline data needs to be collected now; otherwise a monitoring program is not effective.

Rainwater should be harvested from rooftops and stored in cisterns for lawn use. Irrigation wells should only be used to supplement captured rainwater. Lawn areas

¹ As we noted in our comments on the DEIR:

A recent study by the United States Geological Survey (USGS) shows that where there is "vertical connectivity" between the bedrock fracture and the surface layers, bedrock wells behave similarly to groundwater wells and will create a cone of depression that draws down the water table and surface waters for which groundwater provides baseflow. In such cases, the impacts of well withdrawals on surface waters-- wetlands and streams -- is very similar to the effects of groundwater wells. See, Lyford, Carlson and Hansen, *Delineation of Water Sources for Public-Supply Wells in Three Fractured-Bedrock Aquifer Systems in Massachusetts* (USGS 2003). Notably, of the nine bedrock wells studied by USGS, seven had significant impacts on surface waters in the vicinity of the wells approximately equal to the effects that would occur with groundwater wells.

should be allowed to go dormant in times of low rainfall, rather than using well water on these areas. We note that lawns “green up” again with rainfall and this could also be an important component of the project’s water conservation/education program. Lastly, with adequate loam depth and drought- tolerant fescues, once a week watering is all that should be necessary for the areas that are irrigated by in-ground sprinklers. The proponent should commit in the MEPA process and through the drought management plan to reducing the amount of turf, the amount of acreage that is irrigated, and to minimal irrigation of lawn that is irrigated.

Rare Species Habitat

While an update of the status of rare species survey and proposed mitigation at the site is included in the FEIR, further details on the rare species impact minimization and mitigation measures should be provided as part of the Conservation Permit and the adoption of these measures made part of the Section 61 findings. In addition to areas of habitat fragmentation, the habitat impacts of the proposed north-south pedestrian connections between the project’s two access roads from Route 85 need to be further evaluated.

Stormwater Management

Significantly more detailed information about stormwater management should be required in a supplemental FEIR that includes an assessment of the short and long-term impacts to surface water resources. The overall design and strategy of the project’s stormwater management plan is still rudimentary and does not reflect current best stormwater management practices. Proper site design in combination with many landscaping and infiltration techniques distributed throughout the project can cumulatively improve stormwater management cost-effectively. A suite of tools should be evaluated including: preservation of the site’s natural features to the greatest extent possible; planting native vegetation in buffer strips and rain gardens (small planted depressions that can trap and filter runoff); using vegetated areas to slow runoff; and using alternative street design, narrower roads and omission of curbs to reduce impervious surfaces, to name some of the techniques that could be used here. Common low impact development (LID) practices are use of rain gardens and bioretention; rooftop gardens; sidewalk storage; vegetated swales, buffers, and strips; tree preservation; roof leader disconnection; rain barrels and cisterns; permeable pavers and pollution prevention and good housekeeping.

While the proponent has agreed to capture rooftop runoff for some of the residential units and direct it to wetlands (instead of recharging groundwater, which is preferable) there is no discussion on the amount of infiltration to be achieved or any calculations showing amount of stormwater that will be collected. Additionally, there is some level of treatment needed for the first flush of rainwater, which contains contaminants and debris (impurities absorbed from atmosphere, in addition to accumulation of bird droppings and dirt which need to be filtered and screened). Thus instead of directing the roof runoff to wetlands, it might be better to direct it to dry wells as an effective way of recharging ground water.

Detention Basin A can be relocated by modifying the layout for the cluster of units located close to it in a way that stormwater can still flow to it via gravity while the basin is far enough from the wetlands buffer zone. The posting of educational signage at these detention basins and other structural BMP's will ensure that the residents can be adequately informed about the importance of proper stormwater management. The operations and maintenance plan (O& M) needs to be further strengthened and include a snow removal and de-icing plan.

Project Layout

While the development layout does respect wetland boundaries to a large extent it does not follow the site's topography in ways that would minimize cut and fill to the greatest extent possible. Also we note that large sections of the proposed streets have development on only one side or are not lined with structures at all. There is an opportunity to further reduce the extent of the new impervious roadways by concentrating development on both sides of the street wherever possible. To this end the use of cul-de-sacs is not the most efficient for either minimizing the extent of paving or for increasing connectivity within the development. Additionally, sharing a common driveway for adjacent units instead of separate driveways will reduce the amount of pavement to a large extent.

Given that incorporation of low impact development techniques at an overall site level will influence the site layout to some extent, it is imperative that the proponent does a plan showing the actual location of low impact development BMP's on the site as a part of a supplemental FEIR. This plan can be done in conjunction with the stormwater management plan and a combination of conventional BMP's and low impact development BMP's can be used to ensure that collection and infiltration of stormwater can be decentralized to the greatest extent possible.

Conservation Restriction

We suggest in B. Prohibited Uses, subsection 8 that division or conveyance of part of the Open Space parcels be prohibited, rather than making it contingent on the prior written permission of the grantee(s). Also in the Reserved Rights section, we suggest eliminating horseback riding from the recreational uses in view of the sensitive location and public water supply uses.

Please feel free to call me if you have any questions.

Sincerely,

Pallavi K. Mande
Urban Restoration Specialist