



Charles River Watershed Association

By Fax and Mail

September 25, 2006

Robert Golledge, Jr., Secretary
Executive Office of Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn: William Gage, MEPA Office

**Re: *Expanded Environmental Notification Form, Westwood Station,
Westwood, MA EOE #13826***

Dear Secretary Golledge:

The Charles River Watershed Association (CRWA) submits the following comments on the Expanded Environmental Notification Form (EENF) for the above-referenced project.

The proposal for this 141 acre site includes an increase in impervious area by 19.6 acres; the existing industrial park, comprising 80 acres of impervious area (*75% of surface area compacted, covered in pavement, buildings, railroad; see EENF p.80*) will be converted to a mixed use development comprising 100 impervious acres.

Buildings will occupy an area of 4.58 million s.f. Drinking water wells that supply the Dedham Westwood Water District are located within and adjacent to the proposed project area (*Zone 1 protection 400 ft.*). Waters of the Commonwealth in the project area include the Neponset River, to which stormwater discharges are currently directed and which suffers from low flow, particularly in the summer months, and is defined as a "moderately stressed" basin under the MA Water Resources Commission's *Stressed Basin report*). Five wetlands subject to protection under the state Wetland Protection Act and the Westwood Wetland Protection Bylaw are also located within the project area.

We commend the developer, Cabot, Cabot & Forbes, for its efforts toward incorporating transit-oriented development (TOD) and smart growth principles into the project design, and in choosing to redevelop an existing site, concentrating uses. The project will include such features as garage parking, mixed use buildings and mass transit linkages, which reduce impervious areas for parking within the development, and may result in an estimated 20% less auto trips per year than conventional development scenarios for the

same number of residences. However, the water resources, stormwater management plans and transportation infrastructure designs presented in the EENF should be modified to incorporate more low impact development (LID) techniques, “green building” practices, and public amenities in order to offer the benefits of a truly ‘smart’ growth development and to minimize the environmental impacts of the project.

Both a Draft and Final EIR will be required for this project. The following comments and requests for clarifications should be addressed in the DEIR.

- **WATER AND WASTEWATER:** Major projects in the approval process for Dedham and Westwood will place large demands on the Dedham Westwood Water District (DWWD). Together, Westwood Station, Legacy Place (EOEA # 13677) and Hebrew Senior Life (EOEA # 13199) will require upwards of 500,000 gallons of water per day.¹ Water conservation, recharge of stormwater, and wastewater infiltration are quite important for this project.

Westwood and Dedham are both significant net exporters of water because their water supplies come from local sources, while their wastewater is discharged to the MWRA sewer system and thus leaves the basin en route to the main treatment works. This results in a large water deficit. Infiltration and inflow (I/I) into the sewer pipes exacerbates the water deficit as do municipal storm drains, which convey stormwater runoff to surface waters instead of infiltrating it back into the ground. According to the EENF at p. 26, it has been estimated that as much as 50% of the water pumped from the White Lodge well field adjacent to University Avenue in Westwood is from direct infiltration from the Neponset River. The impacts of the DWWD wells on the river are well established.

The Department of Environmental Protection (DEP) will soon be revising DWWD’s water withdrawal permit to include conditions intended to reduce overall water use and particularly, outdoor water. Pursuant to DEP’s recent Water Management Act (WMA) Policy (2004) and Guidance (2006), DWWD’s permit will include a residential performance standard of 65 gallons per person per day. Westwood currently is not meeting this standard. The permit will also require reductions in industrial and commercial water use.²

The basis and breakdown of the water and wastewater projections should be thoroughly discussed in the DEIR. It should also evaluate water conservation measures, including water reuse, for the project, and the educational and training programs to be put in place to ensure the success of water conservation efforts.

¹ The DEIR should explain the basis for the statement in the EENF at p. 107 that a maximum day of 475,000 gpd at buildout is projected.

² The EENF at p. 216 states that the project will meet the goals and objectives of DEP’s Water Management Policy, including 65 rgpcd, 10% or less unaccounted for water, and a summer to winter water use ratio of 1.2 or less. The methods by which the project will achieve these performance standards should be detailed in the DEIR.

The proponents should commit to installing (and/or requiring in lease terms that tenants install)³ state-of-the-art low water use appliances -- dishwashers and washing machines -- and toilets. The use of turf should be minimized and only drought-tolerant fescues utilized. The proponent should commit to the use of xeriscaping to further reduce water demand.

DWWD is developing a Conservation Fee Program for development to offset the increased demand on the public water supply system. This fee, which is separate from the access fee required for new water users, will as we understand it, be used to reduce water demand by financing water conservation measures, such as the installation of low flow toilets in older homes and subsidizing front loading washing machines and other low flow devices. We think the fee could also be used to enhance off-site stormwater infiltration and aquifer recharge.⁴ Both the Senior Campus Community and Legacy Place projects have committed in the MEPA process to participating in this program. The proponent should report on its discussions with DWWD and commit to participation in the water conservation fee program in the DEIR.

- **ONSITE WASTEWATER TREATMENT:** The DEIR should thoroughly evaluate the feasibility of using onsite wastewater treatment options and local discharge. CRWA strongly supports the use of an on-site wastewater treatment plant (WWTP) if feasible. Local discharge of treated wastewater would play a major role in balancing the water budget and recharging groundwater stores. This in turn will increase baseflow to the Neponset and its tributaries, which already suffer low flows in the summer months.⁵ In both communities, local demand is outstripping local supply, and impacts to ground and surface waters are increasing. This is exacerbated by the sewer and storm drainage systems.

If connection with the MWRA sanitary sewer system is the preferred alternative, the options for fully mitigating the impacts from such a connection should be evaluated including water supply losses, inflow and infiltration water losses, and construction impacts. Options for both Phase I and the full build out should be presented. Water supply calculations for the project will be affected by this decision, including the reuse of treated wastewater for:

- groundwater recharge / Neponset River base flow,

³ For instance, there is an opportunity for large water savings in restaurants. The project is slated to have 1750 restaurant seats. EENF at Table 3-3.

⁴ DEP's WMA Policy requires offsets for increases above a baseline water use. DEP has also required in WMA permits in the Ipswich basin that if towns exceed their permitted withdrawal volumes they must institute water banking programs requiring for every gallon of new demand that two gallons either be saved or kept in basin through measures such as I/I removal or stormwater recharge.

⁵ The EENF states at p. 80 that a 1986 study reports the Neponset River to be a "gaining river" in the project area. We question this, as it is a 20-year old study and recent data show the lack of flow in the Neponset.

- cooling water for machinery/ equipment, and
 - landscape irrigation.
- **GROUNDWATER RECHARGE AREAS:** The methods of infiltration for groundwater “recharge areas,” depicted in Figure 5-36, are unclear in the EENF. Will surface water from rooftops be injected into the soil subsurface at a particular depth, or will natural percolation be the primary hydrologic function of the recharge areas? The DEIR should include:
 - Calculations for how recharge areas are sized proportionately to the rooftops’ water they are infiltrating
 - Details for typical roof recharge areas including the types of materials, such as porous pavers, tree wells, and engineered soils that will be located in the street corridors and public plazas where it is indicated recharge is to take place.

In addition, there are opportunities to recharge stormwater draining from other impervious surfaces including roadways, parking lots, sidewalks, and plazas with appropriate pre-treatment to insure that groundwater quality will not be compromised. We suggest the proponent consider designs that direct the “first flush” of stormwater to bioretention or detention areas. This would greatly reduce the volume of stormwater runoff to be conveyed via catch basin and pipe systems on site, and could potentially be part of eliminating direct stormwater discharges from the project area to the Neponset River altogether, as discussed further below.

- **STORMWATER MANAGEMENT:** The project is proposed to increase groundwater recharge by 50% for the site by recharging rooftop runoff. We think the developer can and should do better. Opportunities to infiltrate much more stormwater onsite than planned should be investigated. **It may even be possible to eliminate the use of stormwater pipes altogether** (or use pipes only for emergency overflow), thus greatly reducing impacts to the Neponset River. As proposed in the EENF, the network of ditches, catch basins and pipes to which the runoff will be directed, ultimately via 60” and 72” culverts, will be to the Neponset through “four major points of discharge” (EENF Section 2.7, p.28). These are not insignificant flows. As much as “50% of the well water infiltrates from the Neponset” and as the Neponset is a medium stressed basin, direct stormwater discharges via outfall pipes-- even at the average required 80% TSS removal-- may be harmful to both humans and ecosystems. Without maximizing stormwater infiltration, bacteria, nutrients, heavy metals, and the remaining 20% TSS are all water quality concerns.

New pipe infrastructure should be avoided to the greatest extent possible. If it is determined through thorough analysis that the existing pipe systems must be used, the proponent should avoid new pipe networks wherever possible. In the development scenario in the EENF, the proponent proposes to “treat” or “pre-treat” the portion of the runoff to be conveyed through these stormwater pipes to existing outfalls along the Neponset River. The proposed pre-pipe treatment

BMPs to be used are not clear in the EENF and should be thoroughly discussed in the DEIR.

According to the EENF and Figure 5-36, beyond the roof water recharge areas, several other BMPs for stormwater management are to be used on site, including detention basins, swales, and a wetland enhancement area. We offer these comments:

- Landscape Vegetated Treatments. In addition to detention ponds and swales, the proponent should also consider the use of bioretention areas (rain gardens), tree wells (“tree pits”), and constructed wetlands to collect stormwater and reduce peak flows while also offering water quality benefits.
- Wetland Enhancement Areas. CRWA questions the validity of establishing wetland enhancement areas *for the purpose of stormwater management* within the buffer zones of existing wetland resources (Figure 2-11). The wetland enhancements should be part of the wetland mitigation drawings rather than the stormwater infrastructure (Figure 5-36). The use of constructed wetlands is promising for stormwater management; however, constructed stormwater wetlands should be built *in addition* to the required mitigation wetlands, not in place of them.
- Green Roofs. With 4.58 million square feet of buildings, this project site offers an ideal setting for green roofs on all new buildings. Green roofs, especially light-weight “extensive green roof” systems are well-suited to flat and low-slope rooftops. They have been shown to absorb up to 50% of rainfall, (*see Casey Trees website, Washington D.C.*) allowing time for evaporation and reducing the peak flows during rain events. By vastly decreasing the contribution of roof runoff to total stormwater volumes, the proposed groundwater recharge areas will be able to accept runoff from other areas of the site, such as streets and plazas. Green roofs also offer insulation for buildings, reducing internal heating and cooling needs and the urban heat island effect.
- Pervious/Porous Materials. The DEIR should specify sites, from plazas, to sidewalks, to parking areas where porous and pervious materials will be used.

Based on site geology, the opportunity to use the site to treat/infiltrate the surface runoff from uphill neighborhoods to the west (*i.e.* that which is topographically connected to the proposed development (Figure 5-37)) should be analyzed and discussed in the DEIR.

Making grading and drainage improvements to the existing ditches onsite is also hydrologically preferable to replacing open ditch drainage with pipe systems.

While the EENF gives mention to the term “Low Impact Development,” the concept should be expanded for the DEIR in order to maximize the use of “Green Streets” and intersections throughout the project. Roadway treatment of stormwater without pipes and catch basins, but in open swales, infiltration trenches within rights-of-way.

The DEIR should specify a commitment to landscape vegetation with low irrigation needs, native plants, “no mow” grasses / “eco-turf.” A complete maintenance plan, including cutting and removal of plant material once per year and removing cut materials to a composting facility to remove nutrients from the system, should be included.

For erosion control during construction- *straw* should be used, not *hay*, which contains seeds. Lastly, the operations and maintenance regime should specify that grass clippings should be removed from mown swales to reduce nutrient inputs.

Please feel free to call me or Stephanie Hurley, who can answer specific stormwater issues, if you have any questions at 781-788-0007. We look forward to reviewing this project as it moves forward.

Sincerely,

Margaret Van Deusen
Deputy Director and General Counsel

cc: Westwood Planning Board
Westwood Conservation Commission
Dedham Westwood Water District