

Horsley Witten Group

Sustainable Environmental Solutions

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January 3, 2010

Seekonk Conservation Commission
c/o Ms. Bernadette DeBlander, Conservation Agent
Town of Seekonk
100 Peck St.
Seekonk, MA 02771

Re: Peer Review of the Proposed Redevelopment Project—Seekonk Crossings at 145-201 Highland Avenue, Seekonk Massachusetts

Dear Ms. DeBlander:

The Horsley Witten Group, Inc. (HW) is pleased to provide this peer review of the proposed commercial shopping center redevelopment project at Seekonk Crossing at 145 – 201 Highland Avenue in Seekonk, Massachusetts. The Applicant proposes to add approximately 12,220 square feet to the existing Circuit City building, reconfigure the parking lot, incorporate new landscape islands, and install new deep sum catch basins. This site falls within the 200-foot Riverfront boundary and is subject to state and local wetland regulations and the Massachusetts stormwater standards. It should also be noted that the proposed building expansion falls within the 100-year floodplain boundary and the 100-foot wetland buffer, and is, therefore, required to meet provisions for Bordering Lands Subject to Flooding (CMR 310 10.57). In addition, this site drains directly to the Runnins River, Section MA53-01, which is listed as impaired on the 2010 Massachusetts Integrated List of Waters with an approved TMDL for bacteria.

This review is based on requirements in the Town of Seekonk Wetland Regulations, Wetland By-Laws, Zoning, 20B Erosion Control and 20C Stormwater Management By-Laws, Subdivision Rules and Regulations, the Massachusetts Stormwater Management Standards (MASWMS) for redevelopment projects, as well as standard engineering practices. HW is not aware of any special provisions in the Town's wetland or site plan regulations for redevelopment projects.

The site plan review comments provided below are based on our observations made at the site on December 15, 2010, as well as a review of the following materials prepared by Joe Casali Engineering, Inc. and RAB Professional Engineers, Inc.:

Description

Date Prepared

Site Improvements to Seekonk Crossings Plan Set

October 1, 2010

- “Cover Sheet” (Sheet 1 of 11)
- “General Notes” (Sheet 2 of 11)
- “Existing Conditions Plan” (Sheet 3 of 11)
- “Site Preparation Plan” (Sheet 4 of 11)
- “Site Plan” (Sheet 5 of 11)
- “Grading and Drainage Plan” (Sheet 6 of 11)
- “Soil Erosion Plan” (Sheet 7 of 11)
- “Utility Plan” (Sheet 8 of 11)
- “Signing and Stripping Plan” (9 of 11)
- “Landscape Plan” (10 of 11)

“Details” (11 of 11)

Notice of Intent Application, Seekonk Crossings November 2, 2010
“MADEP WPA Form 3 – Notice of Intent”
“Checklist for Stormwater Report”
“Hydrologic Analysis – Seekonk Crossings”

Traffic Impact Study: BJ’s Wholesale Club, Seekonk Crossings` September, 2010
RAB Professional Engineers, Inc.

Based on the materials submitted to date and on observations made at the site, HW offers the following comments:

Stormwater Management:

1. Stormwater Checklist: As per requirement of the Notice of Intent permit application, a completed Stormwater Report Checklist must be submitted. Redevelopment projects must always meet MASWMS Standards 1, 8, 9, and 10 and must meet remaining standards to the maximum extent practicable. The Applicant has submitted this checklist, indicating compliance with Standards 1 and 2; however the checklist for Standards 3, 4, 5, and 10 have not been completed.
 - a. Standard 3 requires the Applicant to show how the redevelopment project will improve existing recharge conditions to the maximum extent practicable. The Applicant does not provide any recharge calculations, but does state that no additional recharge is provided under proposed conditions. The Applicant cites site constraints such as the on-site wastewater system and closed drain lines as limits to recharge potential. HW recommends the Applicant show existing and proposed conditions recharge volumes, the location of the septic leach fields, and soils to better evaluate whether efforts to improve recharge are not practicable.
 - b. Standard 4 addresses water quality in terms of 80% Total Suspended Solids (TSS) removal requirement. Although the Applicant states that water quality will be improved with the proposed deep sumps and hooded catch basins, the Applicant has not provided any TSS removal calculations in the report, nor does the Applicant provide information on the existing level of treatment. HW recommends the Applicant provide documentation on the existing drainage system (i.e., is there any stormwater treatment offered by the existing drainage system) and quantify proposed enhancements. It should be noted that a 25% TSS removal efficiency can be assigned to deep sump catch basins only if used for pretreatment and only if off-line (MASWMS Volume 1, Chapter 1).
 - c. Standard 5 requires Land Uses with Higher Potential Pollutant Loads (LUHPPLs) to meet additional treatment standards. Shopping center parking lots with high-intensity uses (1,000 vehicle trips per day or more) are considered LUHPPLs with the potential to general runoff with high concentrations of oil and grease, and thus the following requirements should be met to the maximum extent practicable (see MASWMS Volume 1, Chapter 1):

- The stormwater treatment train must include an oil grit separator, sand filter, filtering bioretention area, or equivalent pretreatment device to remove oil and grease prior to discharge to an infiltration practice (arguably, if the wet basin intercepts groundwater, then this pretreatment requirement also applies);
- Wet basins at LUHPPLs must be lined and sealed, unless at least 44% of TSS has been removed prior to discharge to practice;
- Wet basins are rated to provide 80% TSS removal only when combined with a sediment forebay; and
- A long-term pollution prevention plan must be included (also in Standard 4).

HW recommends the Applicant provide a long-term pollution prevention plan and documentation on how the proposed redevelopment project addresses treatment requirements to the maximum extent practicable.

- d. Standard 10 is related to the prohibition of illicit discharges and must be met by all redevelopment projects. In the drainage report, the Applicant states that Standard 10 is “not applicable.” HW recommends the Applicant address this standard.
2. Improving Conditions at Redevelopment Sites: Standard 7 of the MASWMS states that proponents of redevelopment projects must (1) make all reasonable efforts to meet applicable standards to the maximum extent practicable; (2) evaluate all possible stormwater management alternatives such as site design techniques and low impact development (LID) practices; (3) implement the highest practicable level of stormwater management if they are not in full compliance of applicable standards; and (4) improve existing site conditions (see MASWMS Volume 1, Chapter 1). The Applicant has indicated that they are improving existing conditions by reducing the overall amount of impervious cover by creating additional landscaped islands and installing additional deep sump/hooded catch basins, but has not quantified the benefits or provided a narrative to indicate an evaluation of LID, retrofit, or site design alternatives for the site. Subsequently, HW cannot conclude that the proposed redevelopment project meets the intended redevelopment requirements of the MASWMS.

HW recommends the Applicant review the redevelopment checklist in MASWMS Volume 2, Chapter 3 that provides numerous options for improving the treatment capacity of existing detention basins as well as LID practice options for parking lots. For example, consider installing bioretention systems (lined or unlined) in the new landscaped islands to improve pollutant removal, reduce the need for catch basin relocation, and “improve” existing conditions. The Applicant should provide the Board with a narrative describing the feasibility or infeasibility of alternatives.

3. Addressing Total Maximum Daily Loads (TMDLs): This site drains to Section MA53-01 of the Runnins River, which runs from Taunton Ave (Rt. 44) south to the Mobile Dam in Seekonk, and is listed as an impaired water body on the Massachusetts Year 2010 Integrated List of Waters for the following:

- Aquatic Macroinvertebrate Bioassessments;
- Mercury in Fish Tissue [12/20/2007 - NEHg TMDL];
- Nutrient/Eutrophication Biological Indicators;
- Oxygen, Dissolved;
- Fecal Coliform;
- Oil and grease; and
- Debris/Floatables/Trash (non-pollutant).

A TMDL for bacteria was established in 2002 by Rhode Island Department of Environmental Management (RI DEM) for the Runnins River. The MASWMS (Volume 2, Chapter 3) states that proponents may be required to install stormwater Best Management Practices (BMPs) consistent with the TMDL. HW recommends the Applicant consider structural and non-structural practices that target bacteria, nutrients, oil and grease, and trash reductions, in addition to the proposed deep sumps and hoods at new catch basin locations.

4. Evaluating Existing Stormwater Conditions: According to the Applicant, there will be no new outfalls on the site. It is our understanding that with the exception of the relocation and replacement of 6 catch basins in the parking lot, the Applicant proposes no changes to the existing drainage infrastructure, including outfalls and detention basin. The HydroCAD analysis shows no change in post-redevelopment rate or volume. We have the following concerns regarding this analysis:
 - a. The Applicant has provided no information regarding the existing detention basin located in the southern portion of the site; therefore, we are unable to fully evaluate the proposed stormwater management system. HW recommends the Applicant assess the condition of the pond's outlet structure and concrete baffle structure, as well as provide information on the existing pond's performance. HW recommend the Applicant provide a record of inspection and maintenance performed in the last five years to document past maintenance activities.
 - b. The HydroCAD analysis does not include the pond. HW recommends that the Applicant model the existing stormwater pond in HydroCAD to ensure an overall assessment of the stormwater management of the site is conducted.
 - c. The Applicant's Site Plans show existing drainage pipes, however there appear to be two drainage lines that end abruptly near the southern-most, one-story building on the eastern portion of the site. HW recommends the Applicant clarify the full extent of the drainage area to the pond, and revise existing and proposed catchment boundaries in the HydroCAD analysis to include the drainage from this and/or any additional off-site areas, as appropriate.
5. Erosion and Sediment Control (ESC) Requirements: The Applicant has provided an extensive Construction Period Pollution Control Plan in Appendix C of the Hydraulic Analysis to meet the erosion control standards outlined in Seekonk By-Law 20(B) and MASWMS Standard 8. HW recommends the Applicant:

- a. Consider alternatives to hay bales and silt fences (e.g., compost socks or wattles) since hay bales alone are not considered an effective ESC practice, nor can haybales and silt fences be effectively staked on pavement, as detailed in the site plans;
- b. Clearly indicate the limits of disturbance on the site plan;
- c. Clearly indicate the limits of regrading/repaving on the site plan;
- d. Provide protection for open channel drainage at southern boundary of parking lot (west of proposed building addition);
- e. Show the location of stabilized construction entrances on the site plan; and
- f. Determine whether inlet protection devices should be placed on Highway 6 during construction.

In addition, Appendix C of the Applicant's Hydrologic Analysis – Construction Period Pollution Prevention Plan, Section 3.1 inadvertently states that all erosion and sedimentation controls conform to the Rhode Island Erosion and Sediment Control handbook. HW recommends the applicant reference the Massachusetts guidelines instead.

6. Long-Term Operation and Maintenance (O&M): The Applicant provides a limited discussion in the Hydraulic Analysis (page 7) of procedures for post-construction O&M procedures per Standard 9 of the MASWMS. This bulleted list appears to be generic and may not necessarily reflect the existing and proposed drainage infrastructure at this specific site. HW recommends the Applicant provide a concise O&M plan similar to the ESC plan in Appendix C of the Hydraulic Analysis.

Site Plan Comments

7. Wastewater Treatment: The Applicant states that there is an on-site waste water treatment system. The waste water treatment system consists of individual septic tanks for each building with a series of lift stations and a low pressure force main conveyed to a large leaching field underneath the parking area in the northeast portion of the site. This large leaching field is not shown on the plans. HW recommends the Applicant show this on the plans to ensure the leaching field is not impacted by any new infrastructure.
8. Parking Lot Design Criteria: The Applicant is in non-compliance with the following Zoning By-Laws based on the redevelopment of 224, 947 sq ft gross floor area:
 - a. Section 10.6.1.3 – The maximum number of parking spaces allowed at this site is 900 spaces. The Applicant is proposing 1,070 parking spaces. This is 170 more parking spaces than allowed under the Towns Zoning By-law.
 - b. Section 10.6.1.5 – Driving aisles with two or more accesses should not exceed 30 ft in width. The aisle in front of the proposed “Staples” and “Big Lots” ranges from 49-37 ft wide.
 - c. Section 10.6.1.18 – The proposed curbing and sidewalk detail on Sheet 11 of the Site

- Plan set may not meet the requirements referenced in Subdivision Rules and Regulations Sections 8.6 and 8.7. These standards require a minimum of 12-in gravel backing for the curb. The Applicant has not indicated what the gravel backing would be for the curbs.
- d. Section 10.6.3.1 – 10 feet minimum perimeter landscaping is required. The Applicant does not provide this on all sides of the site.
 - e. Section 10.6.3.2 – Each double parked row of parking spaces shall be terminated by landscape islands. Double row of parking shall not exceed 20 adjacent spaces or 10 spaces in each row. The Applicant has more than 10 spaces in each row between each landscape island.
 - f. Section 10.6.3.3 – 30 percent of the parking area shall be shaded. The Applicant is only providing 15 percent shade for the parking area, based on their calculations (see Sheet 10 of 11, Landscape Plan).
 - g. Section 10.6.4 – The Applicant has not submitted the required lighting plan showing the location and type of lighting fixtures, as well as a photometric plan conforming to this section. HW recommends the Applicant submit this to the Board for review.

The Applicant has a clear opportunity to improve compliance with parking standards, landscaping requirements, and stormwater requirements via parking lot redesign. Under Zoning By-law Section 10.6.7, the Board is given authority to waive any standards within the Site Plan Review section if any LEED standards or LID techniques are provided. Since this is a redevelopment proposal and the Applicant is not increasing the overall impervious cover on site, we recommend waiving standards if the Applicant can integrate landscape/parking requirements with stormwater management, such as bioretention facilities in landscape islands or pervious pavement for excess parking, or provide some alternative stormwater management approach (i.e., rainwater harvesting or rooftop disconnection).

9. Landscape Planting: The Applicant may wish to consider adding more native plants to the landscape plantings plan, and/or species with broader, mature canopies to help meet shade cover goals. If Ginko trees are to be planted, we recommend specifying use of “male” individuals to avoid nuisance issues related to odor and the dropping of seed/nut materials associated with the “female” plants. The Applicant should also ensure that landscaped islands are sized appropriately to provide adequate space for trees to successfully reach maturity.

In addition, the Landscape Plan (Sheet 10 of 11) indicates loam and seed of an existing, “no parking” area between the proposed building addition and the existing detention pond. The Applicant should clarify whether this hatched area indicates removal of impervious cover, or if this is a simple drafting error.

10. New Construction Within the Floodplain: The Applicant is proposing expansion of the existing building within the 100-yr floodplain and 100-ft wetland buffer. While the proposed redevelopment activity may not add significantly to existing wetland impacts because (1) the

site is already developed; (2) the small grassed area proposed for structural expansion likely functions similarly, hydrologically, to an impervious surface; and (3) no alterations are proposed within the 25-ft buffer, except for the addition of a fence and an extensive trash clean up (Bernadette DeBlander, per. com.); the Applicant should:

- a. Address compensatory flood storage mitigation due to lost storage associated with the new building addition at the proposed "Staples" and requirement of CMR 310 10.57 Bordering Lands Subject to Flooding.
- b. Verify if the site is subject to Town of Seekonk zoning standards of the Wetlands and Floodplain Protection District (Zoning, Section 9.2).

11. Traffic Impact Study: Zoning, Section 10.6.1.20 requires a traffic impact analysis be completed for projects anticipated to generate 100 or more additional peak hour trips. The Applicant has submitted the required traffic study, which has been peer reviewed by Conley Associates, Inc. Findings and recommendations are included in the attached review letter. Additional peer review services and/or attendance at a public hearing by Conley Associates, Inc. can be provided under contract amendment, if necessary.

We appreciate the opportunity to provide comments on the subject site and are available to answer any questions.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Richard A. Claytor, Jr., P.E.
Principal – Engineering and Planning



Thuy Wong, P.E.
Project Engineer

cc: Joe Casali Engineering

Attached: Conley Associates, Inc. Peer Review of Traffic Impact Study (dated 12/29/10)