

September 26, 2018

Tel: 508-792-4500  
800-288-8123

[www.bscgroup.com](http://www.bscgroup.com)

Wayland Conservation Commission  
Town of Wayland  
c/o Ms. Linda Hansen  
41 Cochituate Road  
Wayland, Massachusetts 01778

**RE: Wayland High School Athletic Facilities  
Wayland, MA  
Wetlands Notice of Intent  
Second Peer Review**

Dear Conservation Commission Members and Ms. Hansen:

BSC Group, Inc. (BSC) has completed a second peer review of supplemental materials provided in support of the Wetlands Notice of Intent submission for proposed Athletic Facilities at Wayland High School.

#### **BASIS OF CURRENT REVIEW**

For our original peer review, BSC reviewed the following documents:

- ***Notice of Intent, Wayland High School Athletic Facilities, Wayland, MA***, dated July 2018, prepared for Town of Wayland, prepared by Weston and Sampson, including Stormwater Management Report, Site Plans and Attachments for Appendix A through Appendix F.
- ***Requests for Certificate of Compliance Wayland High School Athletic Field (DEP File #: 322-661) and Wayland High School Building Construction (DEP File #: 322-734)***, both dated July 2018, prepared for Town of Wayland, prepared by Weston & Sampson, with attachments.
- ***Response Letter to High School Submission***, presented at Conservation Commission Hearing, prepared by Tom Sciacca
- ***Response to Comments, Wayland High School Athletic Facilities NOI, Wayland, MA*** dated August 16, 2018, prepared by Weston & Sampson, including attachments.
- **Various e-mails**, through August 30, 2018, between Linda Hansen, the Conservation staff, and BSC Group, including attachments.

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For this second peer review, BSC reviewed the following revised site plans, reports and supplemental documents:

- ***Response Letter to BSC Group Notice of Intent Peer Review, Wayland High School Athletic Facilities***, dated the September 10, 2018, prepared by Weston and Sampson.
- ***Improvements to Wayland High School Athletic Fields, Bidding Documents***, dated September 17, 2018, prepared by Weston and Sampson.
- ***Stormwater Report, Conservation Commission, Wayland, Massachusetts, Wayland High School Athletic Facilities Improvements***, dated July 11, 2018, revised September 10, 2018, prepared by Weston and Sampson.
- ***Wayland MA, Synthetic Turf Infill Options Report***, undated, prepared by Weston and Sampson.
- ***Memorandum, Response to comments received concerning Turf Athletic Fields***, dated September 13, 2018, prepared by Weston and Sampson, with attachments.
- ***Various e-mails***, through September 18, 2018, between Linda Hansen, the Conservation staff, and BSC Group, including attachments.

## **PROJECT REVIEW COMMENTS**

BSC offers the Conservation Commission the following comments based on our review of the revised site plans, reports and supplemental information detailed above. To provide consistency with our first peer review comments, the same organization and numbering system is maintained from our August 31 peer review in the following responses. A copy of BSC's original peer review is attached for reference.

### **I. Procedural Items and/or Miscellaneous Comments**

- a. Item addressed in a satisfactory manner.
- b. The Stormwater Report has been revised to include calculations for the 0.5" rainfall, 1" rainfall, 2-year storm event) 10-year, 25-year storm events and 100-year events. These calculations indicate that there is no increase in peak flow rates for these design storm events. Item addressed in a satisfactory manner.
- c. Item addressed in a satisfactory manner.
- d. Item addressed in a satisfactory manner.
- e. Item addressed in a satisfactory manner.
- f. Item addressed in a satisfactory manner.
- g. Item addressed in a satisfactory manner.
- h. Item addressed in a satisfactory manner.



- i. Item addressed in a satisfactory manner.
- j. Item addressed in a satisfactory manner.

## II. Technical Items

- a. The Mean High-Water line has been added to all site plans, and the scale error on Sheet L4.00 has been corrected. Item has been addressed in a satisfactory manner.
- b. The testing results for the leachate sampling was conducted at the existing High School artificial turf have been provided and are attached to ***Memorandum, Response to comments received concerning Turf Athletic Fields***, dated September 13, 2018, by prepared by Weston and Sampson, noted above. Item addressed in a satisfactory manner.
- c. Limit of work line has been shifted to avoid impacts to BVW and 30' No disturbance zone. Item addressed in a satisfactory manner.
- d. Limit of work line has been shifted to avoid impacts to BVW and 30' No disturbance zone. Item addressed in a satisfactory manner.
- e. Item addressed in a satisfactory manner.
- f. Grading has been revised and pipe invert has been added to the Site Plans. Item addressed in a satisfactory manner.
- g. Double grated catch basin has been removed and replaced with a drainage cleanout. Item addressed in a satisfactory manner.
- h. Site Plans, Sheet L6.01, Planting Plan Enlargement – These plans have been revised. Item addressed in a satisfactory manner.
- i. Site Plans, Sheet L5.04, Grading Drainage and Utilities Enlargement Plan and Sheet 7.03 Construction Details, - Detail 8 has been added for the proposed underground infiltration. While the detail provided is for an underground infiltration system, it is not consistent with the design shown on the site plan. It is suggested that the designer review this detail and modify to match design shown on the site plan.
- j. Item addressed in a satisfactory manner.
- k. Item addressed in a satisfactory manner.



### III. Turf Design

- a. The W&S response has indicated that virgin crumb rubber will be specified as the infill material. Our turf designer reviewed the Synthetic Turf Infill Options Report. He noted the coated crumb rubber may be considered as an alternate infill. He also noted that the option report did not include all viable options.
- b. Item addressed in a satisfactory manner.

Should you have any questions regarding our review and provided comments, please do not hesitate to contact me at (617) 896-4471 or [fdipietro@bscgroup.com](mailto:fdipietro@bscgroup.com).

Sincerely  
BSC Group, Inc.

Frank DiPietro, P.E.,  
Sr Project Manager/Engineer

Attachment

August 31, 2018

Wayland Conservation Commission  
Town of Wayland  
c/o Ms. Linda Hansen  
41 Cochituate Road  
Wayland, Massachusetts 01778

33 Waldo Street  
Worcester, MA 01608

Tel: 508-792-4500  
800-288-8123

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**RE: Wayland High School Athletic Facilities  
Wayland, MA  
Wetlands Notice of Intent Peer Review**

Dear Conservation Commission Members and Ms. Hansen:

BSC Group, Inc. (BSC) has completed a peer review of the Wetlands Notice of Intent submission for proposed Athletic Facilities at Wayland High School. This work is being undertaken under BSC's contract dated August 10, 2018, as approved by the Town of Wayland on August 17, 2018.

#### **BASIS OF CURRENT REVIEW**

For this peer review, BSC reviewed the following documents:

- ***Notice of Intent, Wayland High School Athletic Facilities, Wayland, MA***, dated July 2018, prepared for Town of Wayland, prepared by Weston and Sampson, including Stormwater Management Report, Site Plans and Attachments for Appendix A through Appendix F.
- ***Requests for Certificate of Compliance Wayland High School Athletic Field (DEP File #: 322-661) and Wayland High School Building Construction (DEP File #: 322-734)***, both dated July 2018, prepared for Town of Wayland, prepared by Weston & Sampson, with attachments.
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## PROJECT REVIEW COMMENTS

BSC offers the Conservation Commission the following comments based on our review of the project and information detailed above.

### I. Procedural Items and/or Miscellaneous Comments

- a. The cover letter notes two copies of the NOI application have been provided. Wayland Wetlands Bylaw requires 8 copies to be submitted.
- b. Wayland Wetlands Regulations note “The Conservation Commission does not permit an increase in the rate or volume of runoff for frequent storm events (0.5” rainfall, 1” rainfall, 2-year storm event) and generally requires no increase in volume for 10-year, 25-year storm events and generally for 100-year events.” These regulations also require runoff calculations for 1” rainfall, 10-year and 100-year storm events...” No calculations are included within the NOI for 0.5” and 1” storm events.
- c. A generalized construction schedule is provided with the construction end time, Spring 2020, noted. However, no details of this schedule are provided.
- d. It is noted under Alternatives Investigation 1 – Field Surface, Natural Grass Fields: last sentence, “Additionally, native soils may contain elevated levels of various metals, carcinogens, etc.” The NOI also notes the use of synthetic fertilizers will be used to support grass growth.
- e. Site Plans, Sheet L4.01, Layout Plan Enlargement – at the southern corner of the limits of work for the new Football field, the labels for the “Wetlands 30’ NDZ” and “Wetland 100’ Buffer Zone” are reversed. This occurs on all sheets showing this area.
- f. Site Plans, Sheet L2.01, Site Preparation and Demolition Plan Enlargement – the demolition plan clearly indicates that the existing (3) westerly tennis courts are to be removed. The westerly portions of these three courts are within the Zone I Well Head protection district. The NOI narrative indicates that no work will be undertaken within the Zone 1 Wellhead Protection District. The applicant should also demonstrate that no new stormwater discharge to the Zone I Wellhead Protection Area will occur since they are prohibited under the MA Stormwater Guidelines.
- g. The entire site is located in a Zone II Wellhead Protection Area. This is not mentioned or discussed in the NOI or stormwater report. This should be reflected on the WPA form, in the NOI, and Stormwater report/BMPs. The applicant's consultant should address what is being proposed to meet the applicable BMP standards for working in a Zone II Wellhead Protection Area.
- h. Site Plans, Sheet L6.01, Planting Plan Enlargement – The Landscape planting plans show a stippling symbol for Loam & Seed in the Planting Legend.



However, this symbol does not appear on the planting plan itself. The designer should check to see if this symbol should be shown on the planting plan.

- i. Stormwater Report, Checklist for Stormwater Report, LID measures, page 3 – checks “No disturbance to any Wetlands Resource areas.” See Comment d. under Technical Items below.
- j. Stormwater Report Narrative, Standard 2: Peak Rate Attenuation, Table 1 Total Peak Runoff Rate – provides storm depth information in inches for 2-year through 100-year storm. These rates are based upon TP-40 Rainfall data. Actual Rainfall data used in hydrologic calculations appears to be from later studies such as Cornell Rainfall data, e.g. 100-year 24-hour rainfall depth of 8.0 inches was used in the actual calculations. This table should be updated to reflect actual Storm Depth values used in hydrologic calculations.

## **II. Technical Items**

- a. Under Wayland Wetlands Bylaw and Regulations, the edge of Riverfront area is measured from Mean High Water, not the bank. It is our understanding that a delineation of the Mean High Water from the Sudbury River was undertaken at the direction of the Conservation Commission Administrator. This delineation extended much closer to the project area than the Sudbury River bank delineation. The Mean High Water line is noted on Plan L4.00 as stated in the August 16<sup>th</sup> letter. The 200' Riverfront Area should be added to the plans, extending from the MHW line since it appears some of the work may occur within the Riverfront Area. If work does occur within the 200-foot Riverfront Area to the Sudbury River, it should be confirmed the work complies with the Wetlands Protection Act and Riverfront Area performance standards.
- b. Site Plans, Sheet L4.01, Layout Plan Enlargement – two monitoring wells are shown on the site plans near Boring B-2-HS, just north of the existing bleachers, and at the beginning of the existing drainage swale adjacent to the track. What are these Monitoring wells used for and do they need to be protected during the proposed site work and kept for future monitoring?
- c. Site Plans, Sheet L4.01, Layout Plan Enlargement – limits of work are proposed within a BVW – see wetlands flags WF108 through WF113 at the northern corner of the proposed new football field. Please confirm if direct BVW impacts are proposed. If so, mitigation will need be provided at a 1:1 ratio to ensure no net loss. If not, the Designer should review and re-design the limits of work in this area.
- d. Based upon the limit of work shown on Sheet L4.01 of the Site Plans, impacts are proposed within the 30' No Disturbance Zone in the same area as the BVW impacts (see II c above). The Designer should review and redesign. If work is needed in the No Disturbance Zone, a waiver for work in the No





Disturbance Zone will need to be obtained from the Conservation Commission.

- e. The NOI application, site plans and submittal materials do not contain any reference as to who flagged the wetlands, when the delineation was completed, and the description of how the delineation was conducted. The NOI application references an Appendix G – Wetlands Memorandum. However, there was not one included in the NOI. There is no description of the wetlands or the dominant species. This information is required under the Wayland Wetlands Bylaw and Regulations and the Wetlands Protection Act.
- f. Site Plans, Sheet L5.02, Grading, Drainage and Utilities Plan - No information is given for the invert of the 12" diameter drainage pipe, which outlets infiltrated runoff from the underdrainage system beneath the football field. The elevation grade of the football field is at 126.0, and a spot grade elevation of 125.79 is shown at the outer edge of the track surrounding the field. A proposed contour elevation of 125 is shown approximately 5' beyond the 12" pipe outlet. This would indicate that the pipe outlet elevation is above 125.0, which would put the top of the 12" diameter pipe above the ground surface. It is likely the design intent of this pipe is to outlet at a lower elevation. The Designer should review and redesign.
- g. Site Plans, Sheet L5.03, Grading, Drainage, and Utilities Enlargement Plan – There is what appears to be a double grate catch basin located at the edge of the infield behind second base for the proposed softball field. Such structures are typically avoided within active playing areas. It is suggested that the designer review the use of this structure.
- h. Site Plans, Sheet L6.01, Planting Plan Enlargement - The new softball field will result in the removal of several existing spruce trees. These are to be replaced, according to the Tree schedule with 3 Red Maples (RS) and 6 Sweet Gum (LS) trees, having calipers of 3 to 3.5". The 3 Red Maples (AR) are shown on this sheet, along with 4 plants labelled "AC". The Overall Planting Plan, Sheet L6.00, indicates considerably more plantings, a total of 18 trees, including the 3 Red Maples noted above, and separately, the 4 "AC" plants.
- i. Site Plans, Sheet L5.04, Grading Drainage and Utilities Enlargement Plan – indicates an underground infiltration system is proposed to be installed under the new parking lot to adjacent to the relocated tennis courts. However, the detail sheets do not provide any detail information for this system.
- j. Stormwater Report Narrative, Standard 2: Peak Rate Attenuation, Table 1 Total Peak Runoff Rate – the first sentence of this section notes "Since there will be no net change to impervious area the proposed track and turf field at the northwest portion of the High School Site, this area does not require analysis." The Stormwater Report does not provide any calculations to confirm this statement. While this statement may be accurate, as there is a considerable amount of bituminous concrete pavement being removed from the area of the existing tennis courts, additional impervious materials are





being added at other locations in this area. A calculation indicating the net reduction in impervious area would provide the confirmation needed for this statement.

- k. Stormwater Report Narrative, Standard 2: Peak Rate Attenuation, Table 1 Total Peak Runoff Rate – provides storm depth information in inches for 2-year through 100-year storm. These rates are based upon TP-40 Rainfall data. Actual Rainfall data used in hydrologic calculations appears to be from later studies such as Cornell Rainfall data, e.g. 100-year 24-hour rainfall depth of 8.0 inches was used in the actual calculations. This table should be updated to reflect actual Storm Depth values used in hydrologic calculations.

### III. Turf Design

- a. The infill material for the new field is not specified in the NOI or site plans. BSC assumes traditional SBR crumb rubber infill will be used, similar to the material on the existing athletic field. Alternative infill materials are available for consideration such as acrylic coated crumb rubber, sand and Thermo Plastic Elastomer (TPE).
- b. Based on the proposed synthetic turf system design and the size of the crumb rubber granules, it is unlikely that crumb rubber infill will migrate through the synthetic turf, the stone drainage layer under the field, the stormwater drainage system and discharge into the adjacent wetlands. Infill migration could occur through tracking from athletes' shoes or maintenance equipment. However, these activities are not expected to discharge to or occur in or around the wetlands.

We look forward to discussing this project with you further at the public hearings on the project. Please feel free to contact Melissa at (617)-896-4517 or [mkaplan@bscgroup.com](mailto:mkaplan@bscgroup.com) or Frank at (617) 896-4471 or [fdipietro@bscgroup.com](mailto:fdipietro@bscgroup.com) should you have any questions on the information in this report.

Sincerely  
BSC Group, Inc.

Melissa Kaplan  
Sr. Project Manager/Wetlands Scientist

Frank DiPietro, P.E.,  
Sr Project Manager/Senior Associate