



June 10, 2025

Mr. Chuck Tirone, Conservation Administrator
Town of Reading
16 Lowell Street
Reading, MA 01867-2683

Re: Stormwater Peer Review
Primrose School Child Day Care Facility
885 Main Street, Reading, MA
MassDEP #270-0796

Dear Mr. Tirone

The Horsley Witten Group, Inc. (HW) is pleased to provide the Reading Conservation Commission with this letter summarizing our initial peer review of the stormwater management for the proposed Primrose School Child Day Care Facility at 885 Main Street in Reading, Massachusetts. We understand that Primrose Schools Franchising Company (Applicant) has submitted a Stormwater Permit application for a childcare facility on a 1.93-acre parcel. The Applicant is proposing to demolish the existing building and construct a two-story 14,058-square foot childcare facility, with associated playground, pavement, landscaping, and utilities. The Applicant has proposed the following erosion control measures; siltation fencing, preservation of vegetated areas and permanent seeding, riprap scour holes, inlet protection, and stabilized slopes. The stormwater runoff from the parking lot and building will be managed by deep sump catch basins and subsurface infiltration chambers. A Bordering Vegetated Wetland (BVW) is in the northeast corner of the site as shown on the Existing Conditions Plan. The project site is not within a critical area.

The following documents and plans were received by HW for review:

- Stormwater Permit Application, 885 Main Street, Reading, MA, prepared by Stonefield Engineering & Design, LLC, dated March 7, 2025 (6 pages);
- Stormwater Management Report, Primrose School Franchising Company, prepared by Stonefield Engineering & Design, LLC, revised May 16, 2025 (95 pages);
- Stormwater Operations & Management Plan, Primrose School Franchising Company, prepared by Stonefield Engineering & Design, LLC, revised May 16, 2025 (77 pages);
- Geotechnical Report, Primrose School of Andover, prepared by Whitestone Associates, Inc., dated March 14, 2025 (16 pages); and
- Land Development Plans for Primrose Schools, Franchising Company Proposed Childcare Facility, prepared by Stonefield Engineering & Design LLC, revised through May 6, 2025 (18 sheets) which includes:
 - Cover Sheet C-1
 - Existing Conditions Plan C-2

○ Demolition and Tree Removal Plan	C-3
○ Site Plan	C-4
○ Grading Plan	C-5
○ Stormwater Management	C-6
○ Utility Plan	C-7
○ Lighting Plan	C-8
○ Soil Erosion & Sediment Control Plan	C-9
○ Landscaping Plan	C-10
○ Landscaping Details	C-11
○ Construction Details	C-12
○ Construction Details	C-13
○ Construction Details	C-14
○ Construction Details	C-15
○ Construction Details	C-16
○ Construction Details	C-17
○ Construction Details	C-18

Stormwater Review

Section 7.9.4.1 Regulated Activities: *Any activity that results in disturbance of one (1) or more acres of land and any land-disturbing activity that is part of a Common Plan of Development or Sale that will ultimately result in the disturbance of one (1) or more acres of land, shall be subject to the requirements of Section 7.9. No person shall undertake any such activity unless it is authorized by a stormwater permit issued by the CPDC, or exempt pursuant to Section 7.9.4.2.*

Section 7.9.3.3 Projects within Conservation Commission Jurisdiction: *the Conservation Commission shall serve as the permitting authority for the stormwater permit required by Section 7.9.4.1...*

Section 7.9.7.1 Design Standards: *The stormwater management measures ... shall be designed to meet the Standards of the Massachusetts Stormwater Management Standards...*

HW has reviewed the documents listed above and has the following comments concerning the stormwater management design in accordance with the Massachusetts Stormwater Handbook (MSH) dated February 2008, and the Town of Reading Stormwater Management and Erosion Control Regulations amended December 6, 2021 (Stormwater Regulations).

Below are comments relating to the standards as presented in the MSH. Where the more stringent requirements of the Reading Stormwater Regulations are applicable, those comments are included.

1. *Standard 1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly or cause erosion in wetlands or waters of the Commonwealth.*
 - a. The Applicant has analyzed the pre-development stormwater runoff for the site. Under existing conditions, the Applicant has indicated that the entire site, EX-1, flows towards the north using the BVW as the study point. However, the Applicant has not included the topography on the north and south sides of the parcel, specifically at 811 and 891 Main Street and 58 Francis Drive. There appears to be two low points on either side of the driveway below elevation 106. It is not clear how these low points are connected to the BVW. HW recommends that the Applicant provides additional topography on the adjacent lots to support the watershed divide illustrated. Furthermore, HW recommends that the Applicant add a study point to the three adjacent properties to confirm that under

proposed conditions the peak runoff will be reduced.

- b. The Applicant has also analyzed the post-development stormwater runoff for the site. Under proposed conditions, the Applicant has evaluated two catchment areas, P-1A and P-1B. The proposed rooftop and driveway increase the area of impervious cover. Runoff from most of the proposed impervious area within catchment area P-1B is directed to the subsurface infiltration system, Pond B-1. As noted above, HW recommends that the Applicant add a study point to the three adjacent properties to confirm that under proposed conditions the peak runoff will be reduced.
 - c. As illustrated on the Stormwater Management Plan, Sheet C-6, two stone lined scour holes are proposed at the 35-foot No Build Zone. HW recommends that the Applicant provides the sizing calculations for the scour holes to demonstrate that no erosion will occur at the outfalls.
 - d. On the Existing Conditions Plan, Sheet C-2, information regarding the wetlands is indicated under "General Note #7." However, HW was not able to locate this note in the plan set. HW recommends that the Applicant clarify the reference to General Note #7.
 - e. HW notes that on the MassDEP website a technical comment was provided recommending that "*All resource areas and/or their buffer areas should be shown on the plan. Wetland resource area with certified Vernal pool appears to be located adjacent to the property.*" HW recommends that the Applicant address DEP's comment.
2. *Standard 2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*
- a. In accordance with Section 4.1.3.1 of the Reading Stormwater Regulations, the Applicant shall use the precipitation data provided in the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 volume 10. However, the Applicant has used the precipitation data from the NRCC D rainfall data which differs from the NOAA Atlas 14 rainfall data. HW recommends that the Applicant adjust the rainfall depths per the table below.

Storm Event	NOAA Atlas 14	NRCC D
2-year 24-hour	3.31 inches	3.09 inches
10-year 24-hour	5.22 inches	4.65 inches
25-year 24-hour	6.41 inches	5.87 inches
100-year 24-hour	8.24 inches	8.36 inches

- b. The Applicant has provided a Proposed Drainage Area Map. The drainage area and proposed low points are not clear. HW recommends that the Applicant include the proposed contours and proposed stormwater structures on the Proposed Drainage Area Map.
- c. HW recommends that the Applicant clarify the proposed areas modeled as Turf.
- d. The Applicant has provided a Geotechnical Report prepared by Whitestone Associates, Inc. Four test pits were conducted around the site; infiltration testing was conducted in three of the test pits with the most restrictive rate measured at 6.3 inches per hour (iph). In accordance with the MSH the exfiltration rate used should be 50% of the onsite

testing. The Applicant has used an infiltration rate of 3.15 iph for the proposed subsurface infiltration system, which appears reasonable. The Geotechnical Report also notes that groundwater was encountered 10 feet below the surface at approximately elevation 99.0. The bottom of the chamber system is set at elevation 105.0, therefore the Applicant is providing the required 4 feet of separation.

- e. The Geotechnical Report also notes that existing fill was found in two of the test pits. HW recommends that the Applicant call out to remove any fill, topsoil, and subsoil encountered during construction beneath the chamber system. If necessary, clean fill with an infiltration rate of at least 3.15 iph shall be installed beneath the system.
3. *Standard 3 requires that the annual recharge from post-development shall approximate annual recharge from pre-development conditions.*
 - a. HW concurs that the Applicant has provided adequate recharge within the proposed subsurface infiltration system in accordance with Volume 3, Chapter 1, page 15 of the MSH.
 - b. HW notes that the infiltration rate for the site is considered rapid infiltration. Per the MSH Volume 1, Chapter 1, page 8 at least 44% of the total suspended solids (TSS) must be removed prior to discharging to an infiltration structure within an area of rapid infiltration. HW recommends that the Applicant confirm it is providing 44% TSS removal prior to discharging into the subsurface chamber system.
 4. *Standard 4 requires that the stormwater system be designed to remove 80% Total Suspended Solids (TSS) and to treat 1-inch of volume from the impervious area for water quality. The Town of Reading requires stormwater management systems to remove TSS at a rate of 90% and total Phosphorus at a rate of 60% for new projects and 80% and 50%, respectively for redevelopment projects.*
 - a. Per the Town Stormwater Regulations Section 4.1.3.4, stormwater systems should be designed to remove 90% of total suspended solids and 60% of total phosphorus. The Applicant has not provided sufficient TSS or TP removal calculations for this project. 9% street cleaning is not an acceptable rate per Volume 2, Chapter 1, page 9 of the MSH.
 - b. HW recommends that the Applicant submit third party documentation to verify the TSS removal provided by the isolator row.
 5. *Standard 5 is related to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).*
 - a. HW notes that a day care facility is not considered a land use of higher potential pollutant load. Therefore, Standard 5 is not applicable. No further action is requested.
 6. *Standard 6 is related to projects with stormwater discharging into a critical area, a Zone II, or an Interim Wellhead Protection Area of a public water supply.*
 - a. The proposed development is not discharging near or into a critical area, Zone II, or an IWPA area; therefore Standard 6 is not applicable. No further action is requested.
 7. *Standard 7 is related to projects considered Redevelopment.*
 - a. The project at 885 Main St. is considered a new development, and therefore, Standard 7 is not applicable. No further action is requested.
 8. *Standard 8 requires a plan to control construction related impacts including erosion, sedimentation, or other pollutant sources.*

- a. The proposed project will be disturbing greater than one acre of land. A SWPPP is required by EPA for land disturbance of greater than 1 acre. The SWPPP should include source control and pollution prevention measures, stormwater practices to address erosion and sedimentation, stabilization measures, and procedures for operating and maintaining the proposed stormwater practices. The plan should also identify the parties responsible for implementing the plan. The Conservation Commission may consider requiring receipt of a final signed SWPPP a minimum of 14 days prior to land disturbance as a Special Condition.
 - b. The Applicant has provided a Soil Erosion and Sediment Control Plan (SESC), Drawing C-9, that includes an erosion control barrier. In the Stormwater Management Plan, the Applicant notes that compost socks would be used for erosion control, however the compost socks are not clearly marked on the plans. HW recommends that the Applicant indicate compost sock with the silt fence along the limit of work closest to the 25-foot "no disturb zone" on the SESC.
 - c. In the SESC, the Applicant indicates a proposed soil stockpile about 25-feet from the limit of work. HW recommends that the Applicant move the soil stockpile outside the 100-foot buffer zone.
9. *Standard 9 requires a Long-Term Operation and Maintenance (O & M) Plan to be provided.*
- a. The Applicant has provided a stand-alone Long Term Stormwater Operation and Maintenance (O & M) Plan. The O&M plan includes parties responsible and their roles, descriptions of various stormwater practices, guidance for how to go about maintenance, and the frequency of maintenance. The plan provides expected annual costs and guidance for inspection & logs of preventative and corrective measures. The Applicant also provided a sketch to illustrate where the practices are located on the site, so the property owner understands what to expect. A landscape plan along with a landscape maintenance schedule was provided as well. The Conservation Commission may choose to require receipt of the O&M Plan signed by the property owner prior to land disturbance.
10. *Standard 10 requires an Illicit Discharge Compliance Statement be provided.*
- a. The Applicant has not provided a signed Illicit Discharge Compliance Statement. HW recommends that the Applicant provides an Illicit Discharge Compliance Statement signed by the property owner.

Conclusions

HW recommends that the Reading Conservation Commission requires the Applicant to provide a written response to address these comments as part of the permitting process. Please contact Janet Bernardo at 508-833-6600 or at jbernarado@horsleywitten.com if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Janet Carter Bernardo, P.E.
Principal