

# Horsley Witten Group

*Sustainable Environmental Solutions*

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April 4, 2025

Alison Manugian  
Community Development Director  
Town Hall  
62 Arlington Street  
Dracut, MA 01826

Re: 4<sup>th</sup> Peer Review of Bridge Street Landing - Modification  
Application #PB23-08  
Stormwater Management  
5 Arlington Street and 1327 Bridge Street, Dracut, MA

Dear Ms. Manugian:

In accordance with the Planning Board's request, Horsley Witten Group, Inc. (HW) has prepared the following fourth peer review of the modified plans and Stormwater Report prepared by Solli Engineering on behalf of Twin Coast Properties, LLC (Applicant) for the redevelopment of a 1.62-acre commercial property at the intersection of Bridge and Arlington Street. The project includes the demolition of the existing Wendy's structure and the construction of two new separate buildings totaling 4,670 square feet (sf) in lieu of the previously approved 7,315 sf building. The new buildings include a Wendy's restaurant and a separate coffee shop. The Applicant is proposing to install a closed drainage system with a surface infiltration basin to capture, treat, and manage the stormwater runoff from the proposed development. The project site does not appear to be within 100 feet of a resource area.

HW reviewed the original application in 2023 and has reviewed the following additional documents associated with the modified application received in response to our review letter dated March 13, 2025:

- Project Narrative & Stormwater Report, for Bridge Street Landing, prepared by Solli Engineering, dated December 18, 2024, revised April 2, 2025 (187 pages);
- Bridge Street Landing Proposed Commercial Redevelopment, Dracut, Massachusetts, prepared by Solli Engineering, revised through April 2, 2025, which includes:
  - Cover Sheet (April 2, 2025) Sheet 0.00
  - Existing Conditions (05/31/23 - Northeast Survey Consultants)
  - Approval Not Required (04/12/23 - Northeast Survey Consultants)
  - Overall Site Area Map Sheet 2.10
  - Site Layout Plan (March 27, 2025) Sheet 2.11
  - Grading & Drainage Plan (April 2, 2025) Sheet 2.21
  - Stormwater Basin Profile (April 2, 2025) Sheet 2.22
  - Soil Erosion & Sediment Control Plan Sheet 2.31
  - Soil Erosion & Sediment Control Notes & Details Sheet 2.41
  - Site Utility Plan Sheet 2.51
  - Landscape Plan Sheet 2.61
  - Lighting Plan Sheet 2.71

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| ○ Construction Details                  | Sheet 3.01 |
| ○ Construction Details (March 27, 2025) | Sheet 3.02 |
| ○ Construction Details                  | Sheet 3.03 |
| ○ Construction Details (March 5, 2025)  | Sheet 3.04 |
| ○ Construction Details                  | Sheet 3.05 |

**COMPLIANCE WITH MASSACHUSETTS STORMWATER STANDARDS:**

In accordance with the Town of Dracut Stormwater Management Rules and Regulations any land disturbance exceeding 20,000 square feet is required to obtain a Stormwater Management Permit. The stormwater report shall include certification that the proposed stormwater design is in accordance with the criteria established in the Massachusetts Stormwater Management Standards as described in the Massachusetts Stormwater Handbook (MSH), the Massachusetts MS4 General Permit, and additional regulations listed in the Dracut Stormwater Management General Bylaw. The comments below correlate with the 2008 MassDEP Stormwater Standards. Where the more stringent Town regulations are applicable, additional comments are noted.

The following comments correlate to our second review letter dated March 13, 2025. Follow up comments are provided in **bold underlined font** where applicable.

***1. Standard 1: No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.***

- a. The Applicant has modeled the Project Site with two design points (DP) under existing conditions.
  - 1) DP1 is the closed drainage system in Bridge Street. Under existing conditions there are three subcatchment areas directed towards Bridge Street.
    - i. EDA-1A is the existing Wendy's building and parking lot which flows towards an on-site catch basin that is piped to the municipal system in Bridge Street.
    - ii. EDA-1B1 is the house, driveway and surface area that flows towards Bridge Street from the property at 1327 Bridge Street.
    - iii. EDA-1B2 is the roadway runoff from Arlington Street and Bridge Street that is captured in the Bridge Street municipal system.
  - 2) DP2 is the southeast corner of the property at 1327 Bridge Street that 0.29 acres of the Project Area flows towards.

**March 13, 2025: No further action is requested.**

- b. Under proposed conditions the Applicant has delineated the watersheds to DP1 and DP2 similarly:
  - 1) DP1 is the closed drainage system in Bridge Street.
    - i. PDA-1A includes the proposed buildings and parking lot runoff. The runoff is directed into catch basins and piped to an on-site surface infiltration basin. The Applicant has included an emergency overflow that discharges towards Bridge Street from the surface basin during the larger storm events.

- ii. PDA-1B is the sloped area landscaped area that flows towards Bridge Street downgradient of the surface infiltration basin and the roadway runoff from Arlington Street and Bridge Street that is captured in the Bridge Street municipal system.
- 2) Approximately 0.026 acres of the proposed site will continue to discharge towards DP2. This watershed area has been significantly reduced from pre-development conditions.

**March 13, 2025: No further action is requested.**

- c. It does not appear that the Applicant is discharging to a wetland and therefore will not be causing erosion to Waters of the Commonwealth. No further action is requested.

**March 13, 2025: No further action is requested.**

**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. The Applicant has provided the existing and proposed peak flow rates for comparison. HW has reviewed the values and concurs that the proposed design will reduce the peak flows at the two design points.

**Table 11: Design Point Comparison Table**

Peak Flow (cfs)		
Storm Event	Total Drainage Areas	
	EDA-1 / PDA-1	EDA-2 / PDA-2
2-Year	3.55 / 2.16	0.21 / 0.03
10-Year	6.37 / 4.24	0.58 / 0.06
25-Year	8.17 / 5.40	0.85 / 0.09
50-Year	9.52 / 6.01	1.05 / 0.11
100-Year	10.99 / 7.67	1.28 / 0.13

12

**March 13, 2025: No further action is requested.**

- b. The project narrative notes that the proposed increase in impervious area is 18,362 sf. The HydroCAD model provided indicates that the increase of impervious area will be approximately 17,337 sf. HW recommends that the Applicant confirm the proposed increased area and adjust the narrative or the HydroCAD model accordingly. HW notes that the previously approved site plan increased the impervious area by 12,360 sf.

**March 13, 2025: The Applicant has revised the narrative to be consistent with the HydroCAD model. The increase in the impervious area proposed is 17,337 sf. No further action is requested.**

- c. According to Section 7G (15) of the Stormwater Regulations, stormwater basins should be sized to accommodate the 100-year storm event with a minimum of 1 foot of freeboard. The Applicant has included Table 12 in the Stormwater Report that indicates the infiltration basin will manage the 100-year storm with 0.82 feet

of freeboard. HW recommends that the Applicant revisit the design to confirm it complies with the Town of Dracut Stormwater Regulations.

**March 13, 2025: The Applicant has revised the basin design and is providing more than 1.0 foot of freeboard during a 100-year storm event. No further action is requested.**

- d. HW recommends that the Applicant provides a cross section of the proposed infiltration basin that includes the headwall with the 12-inch HDPE outlet pipe, the riprap spillway at elevation 145.50, the riprap level spreader, and the elevations of the various storm events modeled. HW recommends that the Applicant provides an elevation for the level spreader and detail how it will be constructed to maintain a level elevation for 30 feet.

**March 13, 2025: The Applicant has provided a profile of the infiltration basin on Sheet 2.22. The elevations listed do not appear to be accurate. HW recommends that the Applicant review the elevations and revise accordingly. Furthermore, HW recommends that the Applicant add the peak elevations of the various storm events to the profile.**

The Applicant has also added an enlargement of the proposed level spreader on Sheet 2.22. HW notes that a level spreader is typically a hard edge set at a specific elevation. The detail provided indicates a downgradient slope to the south and to the west. HW recommends that the Applicant revisit the measures to reduce velocity.

**April 1, 2025: The Applicant has provided a profile with the requested elevations on Sheet 2.22 as requested. HW notes that the outlet pipe on the Level Spreader Enlargement detail is shown with a slope of 6.0%. The HydroCAD model lists the slope as 0.6% with the flared end section (FES) set at 141.95 instead of 141.05. HW further notes that the spot grades surrounding the level spreader do not appear accurate. There are several spot grades set at 141.05, which suggests that the stormwater will bypass the level spreader. The Applicant may consider raising the spot grades to an elevation higher than the level spreader or consider proposing a riprap apron and confirming that the apron will adequately reduce the flows from the 12 inch culvert.**

**April 4, 2025: The Applicant has adjusted the outfall of the 12-inch HDPE pipe and is proposing a riprap apron as shown on Sheet 2.22, revised as of April 2, 2025. HW finds the Applicant's calculations reasonable. No further action is requested.**

- e. HW notes that the proposed infiltration basin has a bottom elevation set at 143.0 with a top berm elevation of 146.50. The peak elevation during a 100-year storm event is 145.68. The side slopes of the basin are graded at 2:1, which can be difficult to maintain if routine mowing is required. The Applicant has included a detail for an erosion control blanket which will be required on the side slopes. Allowing vegetation to establish will be an important factor in stabilizing the

slopes for the long-term. HW recommends that if approved the basin is constructed at the beginning of the construction process and the side slopes seeded as soon as possible. HW notes that the O&M Plan indicates that the grass areas should be mowed to 3 to 4 inches and the steep slopes should be weed whacked. HW concurs with this directive.

**March 13, 2025: No further action is requested.**

- f. The Applicant has requested a waiver from Section 4.6.1 for Use of Buffer Zones. The Applicant has requested that the stormwater infiltration basin be located within the side buffer area given the site and redevelopment constraints. The top of the proposed infiltration basin is within 10 feet of the southern property line. If the Planning Board agrees to grant this waiver, HW recommends that the Applicant install an impermeable barrier below the 146.50 berm of the basin. The Applicant has included a callout on Sheet 2.21 requiring low permeable materials be installed.

**March 13, 2025: The Applicant has added a note to the profile on Sheet 2.22 requiring impervious material to be installed in 6-inch lifts. HW notes that the detail of the level spreader still references low permeable material compared to impermeable material.**

**April 1, 2025: The Applicant has adjusted the note on Sheet 2.22 to specify impermeable material. No further action is requested.**

3. **Standard 3** requires that the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type.

- a. The Applicant has conducted test pits within the footprint of the infiltration basin. The test pits indicate fill up to approximately 58 inches and then the A and B horizons to 77 inches below the surface grade (bsg). The Applicant has included a note on Sheet 2.21 requiring the contractor to over excavate the infiltration system to remove all existing fill material as well as the sandy loam layers and replace it with clean soil having an exfiltration rate of 2.41 inches per hour (iph). No further action is requested.

**March 13, 2025: No further action is requested.**

- b. The total impervious area of the site is 44,498 sf requiring the Applicant to recharge a volume of 2,225 cubic feet (cf). The Applicant has provided a volume of 3,871 cf below the outlet from the infiltration basin at elevation 144.65, meeting the design criteria. The test pits indicate that the bottom of the basin has greater than 4 feet of separation from groundwater. No further action is requested.

**March 13, 2025: No further action is requested.**

4. **Standard 4** requires that the stormwater system shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) and to treat 1-inch of volume from the impervious area for water quality.

- a. The Applicant is required to provide a water quality volume equal to 1 inch over the total impervious area. It has provided the water quality volume calculations in

the Stormwater Narrative. The total impervious area of the site is 44,498 sf requiring the Applicant to provide a water quality volume of 3,708 cf. The Applicant has provided a volume of 3,871 cf below the outlet from the infiltration basin at elevation 144.65, meeting the design criteria. No further action is requested.

**March 13, 2025: No further action is requested.**

- b. The Applicant has provided deep sump catch basins and one Contech hydrodynamic separator (CDS2015-4G) to provide TSS removal prior to discharging to the infiltration basin. The Index of the Stormwater Report indicates that the TSS Removal Worksheets and the Water Quality Unit sizing were included in Appendix C. The documents reviewed by HW did not have this information. HW recommends that the Applicant provide the TSS worksheets, the water quality sizing calculations, and the third-party documentation for review. HW further notes that the narrative references two water quality units, however it appears that only one is proposed.

**March 13, 2025: The Applicant has provided additional information regarding the water quality unit proposed. HW recommends that the Applicant provide documentation from a third party, separate from the Contech vendor, that confirms that the proposed unit provides 88% TSS removal as listed on the worksheet.**

**April 1, 2025: The Applicant has provided the third-party certification as suggested. HW concurs that the water quality unit selected provides at least 50% TSS removal. The Applicant has adjusted the TSS removal worksheets accordingly. No further action is requested.**

- c. According to Section 7D of the Dracut Stormwater Regulations, new developments must provide 90% TSS removal and 60% Total Phosphorus (TP) removal. Average annual pollutant removal requirements can also be achieved by retaining the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the new development site. HW notes that the Applicant has satisfied the Dracut Stormwater Regulations pollutant removal requirements. No further action is requested.

**March 13, 2025: No further action is requested.**

**5. *Standard 5 relates to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).***

- a. The proposed commercial/restaurant use is not considered a LUHPPL, therefore Standard 5 is not applicable.

**March 13, 2025: No further action is requested.**

**6. *Standard 6 relates 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 project site is not located within or discharging to a critical area therefore Standard 6 is not applicable.

**March 13, 2025: No further action is requested.**

**7. Standard 7** relates to projects considered to be *Redevelopment*.

- a. The proposed project is considered a new development. Therefore, Standard 7 does not apply.

**March 13, 2025: No further action is requested.**

**8. Standard 8** requires a plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction.

- a. The proposed development will be disturbing approximately 1.6 acres of land and therefore it is required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Stormwater Program. HW recommends that the Applicant provides a SWPPP to the Town of Dracut a minimum of 14 days prior to land disturbance.

**March 13, 2025: Suggested condition of approval.**

- b. The Applicant has provided erosion controls plans with notes and details in the plan set. The project will be conducted in phases. The first phase includes the demolition of the existing Wendy's restaurant, and the second phase is the construction of the two new buildings. HW has no objection to the phasing plan.

**March 13, 2025: No further action is requested.**

- c. The Applicant has provided fencing around the infiltration basin to prevent heavy vehicles from compacting the soil. No further action is requested.

**March 13, 2025: No further action is requested.**

**9. Standard 9** requires a long-term operation and maintenance plan (O&M Plan) shall be developed and implemented to ensure that stormwater management systems function as designed.

- a. The Applicant has provided a Long-Term Operation & Maintenance Manual as part of the Stormwater Report. HW recommends that the manual become a standalone document to be reviewed and signed by the property owner prior to land disturbance.

**March 13, 2025: The Applicant has provided a standalone Operation & Maintenance Manual. The Planning Board may choose to require receipt of signed document as a condition of approval.**

**April 1, 2025: Suggested condition of approval.**

- b. HW notes that the O&M Plan references two Contech water quality units. HW recommends that the Applicant revise the document to avoid confusion.

**March 13, 2025: The O&M Manual has been revised as suggested. No further action is requested.**

**10. Standard 10** requires an *Illicit Discharge Compliance Statement* be provided.

- a. The Applicant has provided an Illicit Discharge Compliance Statement signed by the engineer. HW recommends that a similar statement signed by the property owner be provided to the Planning Board prior to the discharge of any stormwater to post-construction best management practices (BMPs).

**March 13, 2025: Suggested condition of approval.**

**11. Closed Drainage System**

- a. The Applicant has provided Storm Sewer Tabulation spreadsheets in the Stormwater Report. HW concurs that the closed drainage system for the project site is adequately sized.

**March 13, 2025: No further action is requested.**

**CONCLUSION**

HW recommends that the Applicant adjust the level spreader design as suggested under comment 2.d. Thank you for the opportunity to provide this review for consideration by the Town of Dracut. Please contact Janet Carter Bernardo at 508-833-6600 or at [jbernardo@horsleywitten.com](mailto:jbernardo@horsleywitten.com) with any questions.

Sincerely,

HORSLEY WITTEN GROUP, INC.



Janet Carter Bernardo, P.E.  
Principal