Attachment 1: Narrative, Location Map, and Soils Map
East Street Commercial Plaza

1. **Introduction**
   Fairweather Stormwater Design, LLC are writing on behalf of East Street Commercial Partners, LLC to apply for a State Stormwater Discharge Permit pursuant to General Permit 3-9015 for the above referenced project.

2. **Project Description**
   East Street Commercial Partners, LLC is planning the demolition of its existing retail store located on East Street in Montpelier. The removal of the existing building will allow for the redevelopment and expansion of the site which will include two new free standing buildings and associated parking and infrastructure improvements, which will be accessed by existing public roads.

   The western portion of the development project, labeled Retail "A" on the enclosed plan set, consists of entirely new development, an expansion of the existing developed site. The Retail "A" component of the project, including the parking and building is to be occupied by an auto-vehicle service and collision/repair center, and although vehicle service and repair is to occur in the proposed multi-bay garages, the Retail "A" drainage area has the potential to generate stormwater runoff from a hotspot activity, due to the presence of vehicles in disrepair and other maintenance needs.

   The eastern portion of the project, labeled Commercial "B" on the enclosed plan set, consists of both new and redevelopment, however the redevelopment of less than 1 acre (0.96 acres) is not required to obtain permit coverage, however the contributing area is considered in the design of the stormwater system. Although the future use of Commercial "B" has not yet been identified, it is not expected to be considered a hotspot land use or activity, and will stormwater drainage from Commercial "B" will remain separated from Retail "A" stormwater drainage.

   Site work is plan for early summer 2018. The project, including Retail "A" and Commercial "B", as proposed will create more than 1 acre of new impervious surface following construction. A Stormwater Discharge Permit for this project is required by the Environmental Protection Rules Chapter 18, Subchapter 3, §18-302(a)(1).

3. **Existing Condition**
   Refer to enclosed existing conditions/demolition site plan for the current site conditions. An

existing retail store and related parking will be demolished to make way for new retail and commercial development. The remainder of the site is comprised of open meadow to the west, wetland area to the north, and woods along the north property boundary.

The underlying soils are primarily Melrose fine sandy loam with a smaller portion of Vergennes clay. Melrose soils are classified as Hydrologic Soils Group 'C' soils. Vergennes soils are Hydrologic Soil Group 'D' soils. Soils investigations including test pits and infiltration tests. A portion of the site was determined to have a perched water table, predominantly located in the area of the mapped Vergennes clay soils. Refer to the enclosed soils testing information and the soils management plan which shows the extents of the soils for the site.

The existing meadow to the west, including a portion of the proposed Retail "A" development is designated as state prime agricultural soils. The wetland area to the north, a tributary to the Winooski River, is considered a Class II wetland under the Vermont Wetland Rules, has been mapped, including the required 50 foot buffer, as depicted on the enclosed plan set, and will not be disturbed as a result of the development.

4. Existing Stormwater System

Stormwater runoff from the existing building and paved surfaces flows overland across maintained lawn areas before reaching the receiving water. There is no existing stormwater collection or treatment systems serving the property.

5. Proposed Stormwater System:

The proposed project involves the demolition and removal/redevelopment of existing impervious surfaces (redevelopment of less than 1.0 acre) and the creation of new/expanded impervious surfaces. The proposed stormwater system is separated into three distinct catchments each having an associated discharge point.

i) Description of Impervious Area: The overall project is comprised of three separate drainage catchments. The amount of impervious surface for catchment area 1 is 0.97 acres; for catchment 2 is 0.39 acres; and for catchment 3, in consideration of redeveloped impervious, new impervious, and existing impervious to be removed and converted to lawn, the impervious surface is 3.19 acres. Catchment 3 will have 0.96 acres of redeveloped existing impervious and 0.46 acres of existing impervious converted to lawn.

ii) Receiving Water: Class II Wetland tributary to the Winooski River

iii) Fish Habitat Designation for Receiving Water: The Class II Wetland and Winooski River are classified as cold water fish habitat according to the Vermont Water Quality Standards.

iv) Description of compliance with each of the treatment standards in the 2017 VSMM including the treatment practices or waivers used to meet each of the following standards:

(1) Post-Construction Soil Depth and Quality Standard: The areas that are proposed to be disturbed as part of the project will be restored in accordance with the Post-Construction Soil Depth and Quality Standard. The areas of the site subject to the standard are depicted with hatching on the enclosed plan set (Sheet C-6). The plan sheet also depicts the methods the contractor may use for meeting the standard, including % organic matter and soil depth requirements and verification locations/instructions for the contractor, if necessary, at completion of construction.

(2) Water Quality Treatment Standard (WQ_V):

(a) S/N 001: The Water Quality Treatment Standard is met in discharge point 1 using a wet pond with a stone outlet trench and reforestation of an existing agricultural area. However, although the project will include "passive reforestation" the credit (Tv) provided under the Hydrologic Condition Method is minimal and below the threshold of precision for the Standards Compliance Workbook. It has therefore been left out of the workbook for this reason.

Because the drainage area for Retail "A" included a hot spot activity, stormwater from the area will not be allowed for routing to the unlined/infiltrating bioretention area proposed to the north. This drainage area will utilize a stormwater wet pond, a Tier 3 practice. Tier 2 practices, including lined bioretention and gravel wetlands were considered, however test pits indicated that SHGWT in this location of the site was perched below the Vergennes Clay soils and may compromise a lined practice without additional drainage up gradient to intercept groundwater, rather than designing a gravel wetland that intercepted the water table. Additional drainage was determined to have required daylighting in the regulated wetland buffer or wetland. Therefore, Tier 2 practices were also determined to be infeasible in this location.

Disconnection of rooftop runoff was also considered but determined to be infeasible. Just west of the building and the identified site area, the existing meadow is designated as state prime agricultural soils, and as such is proposed for agricultural conservation as required mitigation for the proposed project footprint. Therefore, stormwater runoff from the building rooftop cannot be disconnected to the west, given the need for the required disconnect area for a relatively large collected rooftop area. Stormwater runoff from the back the building rooftop will be collected in a shallow conveyance swale and routed to the proposed wet pond for treatment.

The enclosed completed STP Selection Tool also provided the required information related to feasibility of Tier 1 and Tier 2 practices, and justification for use of Tier 3 practice within this catchment.

(b) S/N 002: The Water Quality Treatment Standard is met in discharge point 2 using disconnection to filter strips, reforestation, and an unlined dry swale designed for infiltration. However, although the project will include "passive reforestation" the credit (Tv) provided under the Hydrologic Condition Method is minimal and below the threshold of precision for the Standards Compliance Workbook. It has therefore been left out of the workbook for this reason.

(c) S/N 003: The Water Quality Treatment Standard is met is discharge point 3 using a bioretention area designed to infiltrate and disconnection to filter strips.

(3) Groundwater Recharge Standard: The Groundwater Recharge Standard is being met for the entire project using disconnection in discharge points 2 and 3, and the unlined bioretention area designed for infiltration in discharge point 3. No infiltration practices are proposed for groundwater recharge in discharge point 1, which contains a hot spot activity, however as noted, the Groundwater Recharge Standard is still met for the entire project in other discharge points, as allowable in the Vermont Stormwater Management Manual, particularly given there is one receiving water for the project.

(4) Channel Protection Standard (CP_V):
   (a) S/N 001: The Channel Protection Standard is met in discharge point 1 using the extended detention method with a wet pond.
   (b) S/N 002: The Channel Protection Standard is met in discharge point 2 using the hydrologic condition method by using disconnection and a dry swale for Treatment Volume (Tv) credit and the extended detention method for the remaining volume using a dry pond, modeled with CN_{ADJ}.
   (c) S/N 003: The Channel Protection Standard is met in discharge point 3 using the hydrologic condition method using the bioretention area where infiltration provides the requisite Treatment Volume (Tv) credit.

(5) Overbank Flood Protection Standard (Q_{P10}):
   (a) S/N 001: The Overbank Flood Protection Standard is met in discharge point 1 using a wet pond that controls flow at less than the pre-development peak rate.
   (b) S/N 002: The Overbank Flood Protection Standard is met in discharge point 2 using a dry pond that controls flow at less than the pre-development peak rate, in consideration of Tv and CN_{ADJ}.
   (c) S/N 003: The Overbank Flood Protection Standard is met in discharge point 3 using the bioretention area in consideration of Tv and CN_{ADJ}.

(6) Extreme Flood Protection Standard (Q_{P100}):

The Extreme Flood Protection Standard is waived for this project as the total impervious area is less than 10-ac. Safe passage of the 100-yr storm has been demonstrated for structural STPs.

The following items are attached for review:

- **Complete NOI form**
- **Attachment 1: Narrative:** Narrative, Location Map, and Soils Map.
- **Attachment 2: Workbooks:** STP Selection Tool and Standards Compliance Workbook
- **Attachment 3: Worksheets:** STP and waiver worksheets, grouped by discharge point
- **Attachment 4: Modeling:** Runoff modeling and calculations demonstrating compliance with the applicable treatment standards.
- **Attachment 5: Plans:** Pertinent plan sheets with all required information outlined in Part 7 of the Application Requirements for Operational Permits Document.
- **A check** in the amount of $3,327.40 Payable to “State of Vermont”.

Location Map

[Insert project specific location map here. You may download topographic map from the Natural Resource Atlas. Please show the site outline, the location of the discharge point(s) and receiving waters. The scale of the location map should be between 1:20,000 and 1:40,000.]

For purposes of this Design Example, an actual location map has not been included here. Designers shall include a location map here, per the instructions above, or alternatively may provide a location map [inset] as part of the submitted plans.

Soils Map

[Insert project specific soils map here. Soils information can be found at the Web Soil Survey website. Hydrologic Soil Groups— "HSGs" shall be overlaid with site outline. Soils information can also be provided as data layer on an existing or proposed condition plan sheet (if included as a data layer on one of the plan sheets please indicate that here]

Project soils map/soils information has been included by the designer as a map layer on the Proposed Condition Site Plan (Sheet C-2).