The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Robert R. Scott, Commissioner

EMAIL ONLY

March 14, 2018

Christopher S. Angier
Senior Environmental Project Manager
Saint-Gobain Performance Plastics
14 McCaffrey Street
Hoosick Falls, NY 12090

Subject: **Merrimack** – Saint-Gobain Performance Plastics, 701 Daniel Webster Highway
DES Site #**199712055**, Project #36430

Stormwater and Surface Water Investigation Summary Report, prepared by Golder Associates, dated January 30, 2018

Dear Mr. Angier:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced submittal prepared on behalf of Saint-Gobain Performance Plastics (Saint-Gobain) by Golder Associates, Inc. (Golder) for Saint-Gobain's facility at 701 Daniel Webster Highway in Merrimack ("facility"). The report documents SGPP's extensive evaluation of the integrity of the facility stormwater utility system, and evaluation of water quality impacts associated with dry weather and wet weather flow through the system and the adjacent surface water bodies related to releases of per- and polyfluorinated alkyl substances (PFAS) at the facility. In summary:

- The study confirmed the presence of PFAS in dry weather flow at the stormwater outfall, as well as in surface water samples from Dumping Brook and the Merrimack River during dry weather conditions. The most significant surface water quality impacts during dry weather flow were observed at Dumpling Brook near the confluence of the brook and the Merrimack River. The study concluded that the source of dry weather flow in the stormwater system is likely attributed to groundwater infiltration to the stormwater system, and that mitigation measures appear warranted.

- Sampling of wet weather flow (i.e., stormwater) shows PFAS impacts at concentrations greater than those detected in dry weather flow, with a slightly different composition of PFAS analytes. Sampling of surface water quality in the Merrimack River during a storm event also indicated PFAS impacts. The report concludes that additional assessment of the potential source of impacts to wet weather flow and surface water is warranted.

Please see the following summary of comments related to the submittal and SGPP's proposed response, based on discussions between NHDES, SGPP, and Golder during a telephone call on February 13, 2018, and during meetings at NHDES on January 18 and February 22, 2018.

1. Further details and clarifications to the report are needed. **Please address the following comments in a technical addendum to the report, and submit to NHDES via upload to the NHDES OneStop system no later than March 30, 2018.**

   - NHDES briefly reviewed portions of the roof drain camera survey video, and there were images that appeared to look different than the photograph of accumulated material provided for Roof Drain #6. As such, please update Appendix D to summarize and document the results of the camera survey of the roof drain system. Please update Figures 2, 4, and/or 7 (at a minimum) to depict the roof drain locations and piping system that includes the connection to manhole DMH-7. Additionally, please show on Figure 7 the results of the camera survey of the roof drain system (e.g., documentation of areas with accumulated solids and debris). Please include a description of the maintenance activities that collect, remove, and dispose of the char and other solids from the roof.

   - Please document whether the manholes and catchbasins have solid, intact bases and note the construction material, or whether the structures have open bases that allow infiltration.

   - The report states that sediment and debris removed from the system was containerized for disposal by Clean Harbors. Please provide characterization and profile data for the wastes generated by cleaning the system, as well as disposal documentation.

   - Please clarify whether stormwater can exfiltrate from the subsurface stormwater system. Please describe what concerns, if any, there are with the holes, voids, and/or penetrations in the system related to mobilization of facility-related contamination.

   - We understand that the wastewater conveyance system was mapped and its integrity evaluated with a camera survey. To aid in evaluation of the potential for releases to the environment from the wastewater system, and the potential for cross-connections or overflow between the wastewater and stormwater systems, please provide the survey, a summary of key findings from the camera survey, and elevation survey data (including, but not limited to invert and rim elevations, pipe diameters and materials, and structure materials and construction information). Please incorporate the Town of Merrimack sewer locations on the adjacent property to the east of the facility. If requested by SGPP, this submittal can be provided under separate cover. The report states that no cross connections between the stormwater conveyance system and the wastewater sewer were observed during the camera survey; please confirm whether there are or have been other indications of any cross connections or overflow between the wastewater and storm sewer systems.

   - The report documents the lateral locations of the surface water samples. Please provide a vertical reference for the samples (e.g., collected at the surface, collected six inches below the surface, etc.). Also, please update the figure(s) to show the location of the “two roadway/parking lot drains that flow into Dumpling Brook…” presented in the text.

- For the PFAS analytes, please add the Chemical Abstract Service (CAS) Nos. to the summary table. Please confirm whether the PFAS laboratory reported sulfonic acids or sulfonates (e.g., for PFOS), and clarify in the text and tables as appropriate. Please also incorporate the results of the stormwater sampling completed by NHDES on July 20, 2017 for perfluoro-2-propoxypropanoaic acid (HFPO-DA/"GenX") and dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA).

- The report discusses general PFAS findings, with a focus on perfluorooctanoic acid (PFOA) impacts. An evaluation of perfluorooctane sulfonic acid (PFOS) impacts through text and figures is also required, given that the USEPA Lifetime Health Advisory (LHA) and NHDES Ambient Groundwater Quality Standard (AGQS) include both PFOA and PFOS.

- Please clarify the flow measurements in manhole MH-29 versus those measured at the outfall during the dry weather sampling events.

- Please provide photographs of each sampling location, if available.

- Please confirm if the USEPA NPDES Multi-Sector General Permit (MSGP) permit reference is correct. Have there been or are there any deviations, repairs, and/or corrective actions taken during the past reporting year? Please provide copy of the last annual report with any Discharge Monitoring Reports (DMR) prepared for 2017.

2. NHDES appreciates SGPP's initiative to design a work scope to address data gaps identified during the initial investigation, and to evaluate potential sources of impacts to stormwater, dry weather flow, and surface water quality. As presented by SGPP, **please provide a Work Plan to NHDES via upload to the NHDES OneStop system no later than March 30, 2018. The Work Plan should encompass the scope discussed with NHDES, including, but not limited to, the following:**

   - The stormwater report introduced a preliminary conceptual site model (CSM) for the source of impacts to dry weather flow (potential groundwater infiltration). The preamble to the Work Plan should include a preliminary CSM that also discusses potential source(s) of PFAS-related impacts to stormwater and surface water, similar to the presentation provided to NHDES on February 22, 2018. Please also include a discussion of:

     - Why long chain perfluorocarboxylic acids (PFCAs) and perfluoroalkane sulfonamido substances were observed in the dry weather flow but not in facility groundwater, and what PFAS are detected in wet weather but not in dry weather flows;

     - Why elevated concentrations are found in the upstream Dumpling Brook sample, and why concentrations at the downgradient Dumpling Brook sampling location were the highest observed in surface water sampled during this effort;

- Whether a relationship, if any, was observed between the ions detected in the stormwater samples with presence in groundwater, wastewater, and raw materials;

- The potential source of precursor compounds that could form PFOA and PFOS (as well as any other perfluoroalkyl acids [PFAAs]), with a discussion of relevant fate and transport;

- What the potential source(s) may be for the solids and debris in the stormwater system (e.g., the black and white materials in the roof drains, the "encrustation/deposits of a hardened, light colored material" between MH-7 and CB-9, and the fine sediments not described as sand or gravel in the conveyance piping), and whether these materials are observed elsewhere at the facility (e.g., on rooftops, on the lawn, in sediment traps or catchbasin inserts, associated with process materials).

- The Work Plan tasks should include, but not be limited to:

  - Mapping of all facility utilities, including an evaluation of: (i) the lateral connection near DI-20 (possiby into the Hydro-test building); (ii) the inlet to MH-32 (possibly from the former water tank/fire builidng); (iii) the existence of DI-6; and (iv) possible former connections into the patched hole in the vertical section of the roof drain in the New Manufacturing Building. Please plan to documet any repairs or system modifications to eliminate any non-stormwater sources from the stormwater system.

  - Reinstalling the rain gauge, installing and surveying permanent staff gauge elevations, and measuring dry and wet weather flow rates.

  - Collecting surface water samples from near shore locations and the in channel location of the Merrimack River near the outfall, as well as the same locations in Dumpling Brook sampled during the initial investigation. Please consider completing a dye test to evaluate the presence and location of a mixing zone of the stormwater discharge into the River, and collecting surface water samples from the midpoint and downstream limits of the mixing zone as part of this effort. The evaluation could be used to support the conclusion in the stormwater report indicates that PFAS "concentrations attenuate rapidly with distance into the Merrimack River."

  - Collecting three sets of wet and dry weather sampling data from each of the sampling locations so that the wet and dry weather sampling results can be compared at each sampling locaiton. At a minimum, wet weather sampling should be completed during the first flush of a measurable storm event. Please provide pphotographs and a figure documenting all sampling locations.

  - Documenting uses observed in publically accessible areas of Dumpling Brook and the Merrimack River that are evaluated during this study.

- Collecting sediment sample(s) from in publically accessible areas of Dumpling Brook and the Merrimack River, consistent with previous dicussions with NHDES. Please note that at this time, additional media samples are not required; however, in the future, evaluation of impacts to other media (e.g., fish tissue) may be required, as discussed with NHDES.

- Collecting a surface water sample from the small, unnamed brook north of the facility that discharges to the Merrimack River.

- Analyzing each sample for at least the same list of compounds included in the initial evaluation. Please expand the PFAS list to include the full suite of PFAS compounds available from the analytical laboratory, including long chain PFAAs, HPFO-DA/GenX, and other polyfluorinated compounds. If metals or other analytes have been detected in other facility media samples (e.g., char from the roof stacks, dispersions, wastewater, groundwater), please also include those analytes in this scope of work. The laboratory should report the PFAAs as sulfonic acids and not sulfonates as applicable, and provide CAS Numbers on the laboratory reports for all PFAS data. Please be sure that pH data is collected at the time of sampling for all sampling locations, regardless of sampling conditions.

- Providing a final report that summarizes the findings of the study, and includes a detailed analysis of the data collected, supported by figures and graphics to illustrate conditions. The report should also summarize the recommendations for improvements to the facility's stormwater Best Management Practices (BMPs) that will be implemented as a result of this effort to reduce PFAS impacs to wet weather flow.

3. NHDES understands that SGPP is evaluating options to mitigate dry weather flow and eliminate non-stormwater discharges (e.g., contaminated groundwater, connection from the HydroTest building) to the storm sewer system, and that SGPP plans to implement select activities in the 2018 construction season, such as plugging, abandoning, and/or decommissioning portions of the system, and repairing and/or replacing some components (e.g., lengths of piping, or installing bases in manholes or catchbasins if solid sumps are not found). NHDES also acknowledges that the findings of some of the work proposed in the Work Plan due on March 30, 2018 may also inform the mitigation approach.

   At least three days prior to implementation of these tasks, NHDES requests that SGPP notify NHDES of the schedule so that NHDES may observe the work. Documentation of the work completed should be provided to NHDES. NHDES expect that SGPP will appropriately manage any wastes that may be generated from any cleaning or removal of material in the system (e.g., "encrustation/deposits of a hardened, light colored material" between MH-7 and CB-9). Please provide waste disposal documentation, including waste characterization data, to NHDES.

NHDES appreciates the work completed to date by SGPP related to stormwater and surface water quality, and we look forward to receipt of the submittals requested herein. Should you have questions or wish to further discuss these comments, please contact Lea Anne Atwell (LeaAnne.Atwell@des.nh.gov) or Kate Emma Schlosser (KateEmma.Schlosser@des.nh.gov) at NHDES' Waste Management Division.

Sincerely,

Waste Management Division

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