

Project Name: MS4 Stormwater Management Program  
Work Task: Floatables Field Monitoring

### **Position Description**

Insight Civil is seeking to fill four (4) staff positions to support a seven month floatables (May 2021 – November 2021) field data collection effort as part of the NYCDEP's MS4 Stormwater Management Program. The positions would be full time, paid on an hourly basis, and primarily in the field (minimal desk/chair time).

### **Project Background**

Insight Civil has been invited to join the CDM | HDR team to support the Floatables Field Monitoring program in support of the MS4 Stormwater Management Program with NYC Department of Environmental Protection.

A municipal separate storm sewer system (MS4) is a publicly-owned conveyance or system of conveyances (including but not limited to streets, ditches, catch basins, curbs, gutters, and storm drains) that is designed or used for collecting or conveying stormwater and that discharges to surface waters of the State. Separate storm sewers carry stormwater runoff directly to local waterbodies and serve approximately 30–40% of New York City. As stormwater flows over streets and other impervious surfaces, it sweeps up pollutants such as oils, chemicals, pathogens, and sediments. In separate sewer areas, this pollution is carried by stormwater and discharged directly into local waterways. This can have a negative impact on water quality and recreational uses.

The MS4 Permit requires the City to develop a Stormwater Management Program (SWMP), which includes numerous programs designed to reduce pollution in stormwater. The SWMP Plan describes the ways in which the City will satisfy the requirements of the MS4 Permit by managing stormwater discharges into and from the City's separate storm sewers. Most chapters of the Plan include a description of any relevant existing City programs; new initiatives and/or program enhancements; and measurable goals for future assessment of the program. The SWMP Plan was released to the public on April 4, 2018. The public was invited to submit comments on the SWMP Plan from April 4 through May 15, 2018. DEP also held two stakeholder meetings during the public comment period to provide background on the Plan and to accept verbal comments from meeting attendees. On August 1, 2018, DEP submitted NYC's SWMP Plan to the New York State Department of Environmental Conservation (DEC).

Learn more about the City's MS4 Program in the 2019 SWMP Plan:

<https://www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/ms4/nyc-swmp-plan-full.pdf>

### **Project Description**

The City of New York's (City) Municipal Separate Storm Sewer System (MS4) Permit requires the development of a floatable and settleable trash and debris (herein referred to as "floatables") management program as part of the Stormwater Management Program (SWMP). In particular, the MS4 Permit requires the submission of a work plan "to determine the loading rate of floatable and settleable trash and debris discharged, including land-based sources, from the MS4 to waterbodies listed as impaired for floatables" (New York State Department of Environmental Conservation, 2015). The floatables loading rate will be determined by collecting floatables from manholes linked to 63 candidate catch basins and analyzing floatables collected for a 7 month period. A field monitoring program will occur for 7 months and 9 staff members will travel to sites daily to collect floatables and record data. 63 candidate catch basins include 54 right-of-way sites, three Parks locations, and six arterial highway/DOT (three ramp and 3 highway) locations.

## Work Task Description

Working in partnership with the Prime consultants, CDM Smith and HDR, Inc., Insight Civil staff will be supporting the Floatables Field Monitoring program, which is a critical component of the MS4 SWMP contract with the NYCDEP. The field monitoring program will occur from May to November during the 2021 year. The Floatables Field Monitoring work consists mainly of field data collection and lab analysis, cataloguing and documentation. Specifically, the work will consist of two main work tasks:

- 1 – Daily Field Effort
- 2 – Laboratory Analysis

Prior to performing any field work, all Floatable Monitoring field crew members will become properly trained in all aspects of the field work that they will be performing. This training will include reading the applicable field procedures, EHASP and JHAs associated with each aspect of the field work they will be performing. In addition, certain elements of the field work will also include field training prior to the commencement of routine field monitoring activities. Field crew members will be required to sign an acknowledgement of receiving such training.

On each day involving field work, all crew members will report to a central meeting location, which may be the Central Processing Site (CPS) at Jamaica Wastewater Treatment Plant (JWWTP) or another convenient location chosen by the staff members and Field Program Manager. At this location, each crew member will receive a daily itinerary of the field work to be done, with site locations and other information for that day as prepared by the Field Program Manager or his/her designate. Each crew member shall be familiar with and in possession of a readily available copy of the EHASP containing emergency procedures and a contact list, as well as a cellular phone. Each crew member will be expected to utilize sign-in and sign-out forms on a daily basis.

## Daily Field Effort and Laboratory Analysis

Field teams will be the front lines of data quality and collection for key data on monitoring volumes of floatables throughout the City. Candidates may work in the field or in the lab on a given day. As time allows, the field coordinator will determine when laboratory analysis occurs as it does not need to be performed daily. Laboratory sampling analysis will be consistent with NYC's established floatables monitoring procedure. Staff members to perform laboratory analysis at Jamaica Wastewater Treatment Plant (WWTP) will wear all safety equipment and handle materials as outlined in the EHASP. The staff will follow detailed procedures outlined in the Catch Basin Sample Protocol.

1. Confirm that the number of bags matches the number recorded on site sheets.
2. Weigh the initial contents of the unopened sample bag and record the weight on a laboratory sheet.
3. Empty the contents of the bag onto a sorting table and sort the materials in the bag by material type. Refer to the Catch Basin Sample Protocol for material types.
  - a. When sorting through materials, discard all non-litter material including leaves, sand, grass, etc.
4. Spread the items on the sorting table so that the individual items cover most of the area when laid flat and estimate the overall surface area dimensions. Record the surface area on the laboratory sheet.
5. Record the numbers of each type of material found on the laboratory sheet and determine the distribution of items using a 47-category item type checklist.
6. Measure and record the weight of all items by material category.
7. FLT (sidewalk and street) materials will undergo a separate sampling analysis. Once both SWMP and FLT materials have been processed separately, they will be analyzed together using bulk density bins. Materials of the same category from the manhole, sidewalk, and street will be placed and not packed in a bulk density bin. The bin will be weighed and the weight will be recorded on the laboratory sheet.
8. Enter all measurements recorded on the laboratory sheet onto a database on a laptop and perform QA/QC on the uploaded data.
9. Clean up the lab after all materials have been measured and recorded.