

2021 Annual Report Question 50a and 51a

50	S5.C.9.c.i	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.9.c.i?
50a	S5.C.9.c.i	Cite field screening methodology used in the Comments field.
51	S5.C.9.c.i(a)	Provide the percentage of MS4 screened in reporting year, per S5.C.9.c.i(a). (Required to screen on average 12% each year)
51a	S5.C.9.c.i(a)	Cite field screening techniques used to determine percent of MS4 screened.
52	S5.C.9.c.i(a)	52. Percentage of total MS4 screened from permit issuance through the end of the reporting year? (S5.C.9.c.i(a))

**S5.C.9 – Page 22**

c. Each Permittee shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the Permittee’s MS4. The program shall include the following components:

- i. Procedures for conducting investigations of the Permittees MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections.

The Permittee shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections may be conducted using the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera Environmental Consultants, Inc., May 2013.); or another method of comparable or improved effectiveness. The Permittee shall document the field screening methodology in the Annual Report.

- (a) Each Permittee shall implement an ongoing field screening program of, on average, 12% of the Permittee’s known MS4 each year. Permittees shall annually track the total percentage of the MS4 screened beginning August 1, 2019.

---

**Specific to Permit requirement S5.C.9.c.i (a), King County Stormwater Services (SWSS)**

Field screening methodology used by King County Stormwater Services (SWS) in 2021 for illicit discharge detection (IDD) is based on guidance contained in the 2020 updated IC/ID field guidance manual issued by the Wash. State Dept. of Ecology using SAM funding from Western Wash. permittees. Additionally, the updated King County Stormwater Services IDDE SAP developed in 2020 informs our IC/IDD approach for many kinds of illicit discharge materials and mechanisms, as information and techniques that the County has acquired through years of experience has informed our IC/IDD approaches. The SAPs developed for King County's three Appendix 2 FC TMDLs also describe our bacteria source screening approaches and are basically also IC/IDD.

A total of 1,059 links (places where stormwater leaves King County's MS4) were inspected in 2021. Out of a total of 8,750 mapped links as of reporting time, this gives the percentage of 12.1% of the MS4 inspected in 2021. Note that due to correcting the entire stormwater geodatabase as more field and office mapping is done, this changes the 2020 and 2019 percentages, respectively, to 12.4% and 14.2%, which are slightly different percentages than what were reported in previous ARs.

King County in **2021** used links (outfalls and discharge points) as discrete locations within the MS4 to inspect for evidence of illicit connections or illicit discharges (IC/ID). Field inspectors follow our Conveyance Screening Program (CSP) protocol when inspecting links, which are frequently pipe outfalls, or pipe inlets or outlets into catch basins. Field inspectors rely on eyeball-nose reconnaissance when following CSP procedures. All links inspected are photographed; all photos and inspection notes are entered into an ArcGIS-based system which is linked to our geodatabase and stormwater map. All non-stormwater flows found during CSP are flagged for eventual re-visiting, to examine using in-situ readings (fluoride measurements in areas served by

fluoridated water systems; and pH, temp, and specific conductance), E. coli in-house testing using Coliscan Easygels, and, if warranted, lab sampling and analysis.

The current cumulative percentage of the MS4 screened is 12.9%. This is derived from 2019's percentage of 14.2%, 2020's percentage of 12.4%, and 2021's percentage of 12.1%, which yields the current cumulative percentage of 12.9%.