

**Scope of work for**  
**Evaluation of NPDES Municipal Stormwater Permittees'**  
**Illicit Discharge Detection and Elimination (IDDE) Incident Data**

Prepared for Ecology and the City of Lakewood  
Prepared by Cardno GS, Inc.  
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This scope of work is for reviewing and evaluating data received by Ecology of IDDE incident tracking under the NPDES Municipal Stormwater permit Phase I section S5C.8 and Phase II section S5.C.3. The data review will focus on the quality and usability of the data submitted by permittees in the 2014 annual reports. The data evaluation will summarize and rank IDDE incidents, locations, frequency, and compliance outcomes, and GIS maps will be created that show the spatial coverage of incidents in watersheds where Status and Trends monitoring is occurring. A report will be prepared of the findings and a presentation of the findings will be given at a workshop in Summer 2015.

**1 Task 1: Review and Compile Data, Create Database**

- 1.1 Review data and create data quality objectives (DQO).
- 1.2 Compare data fields reported by permittees to data fields in Ecology's online Western Washington IDDE Incident Tracking Form and associated (offline) spreadsheet.
- 1.3 Identify inconsistent data types and formats. Develop method to transform inconsistent data to fit within the data fields.
- 1.4 Create an Excel database for the submitted data based on the data fields available.
- 1.5 Compile and import into the database the data submitted as spreadsheet or character-delimited files.
- 1.6 Enter by hand into the database the data submitted in pdf format. Create database form to expedite data entry.

**2 Task 2: Summarize and Evaluate Data, Prepare GIS Maps**

- 2.1 Summarize metadata, including the number and types of data fields available: qualitative, quantitative, geographic, date range, and number and type of data package formats.
- 2.2 Tabulate the range of responses for each quantitative data field.
- 2.3 Assess the completeness of data for each incident.
- 2.4 Determine the number and geographic coverage of respondents, number of incidents reported, types of facilities/properties where incidents occurred, number of follow-up investigations, and compliance outcome of incidents.
- 2.5 Rank the IDDE issues reported in terms of frequency of occurrence, potential severity of impact, and location.
- 2.6 Identify data gaps in permittee data compared to fields from Ecology's online form.

- 2.7 Compare IDDE methods used with type of issue (discharge or connection) and water body affected.
- 2.8 Prepare maps using GIS of ID and IC locations in watersheds where Status and Trends monitoring is occurring. Attribute data will include incident date, type of ID, source of IC, and other data as available and as budget allows.
- 2.9 Identify recommendations for further data analysis and improvements to incident reporting.

**3 Task 3: Write Report of Findings and Present Findings at Workshop**

- 3.1 Summarize results from data evaluation into tables and graphs with an emphasis on summary-level information (e.g. histograms).
- 3.2 Write draft report with data preparation methods, data evaluation findings, maps, and recommendations. Report will include discussion of applicability of findings to the NPDES stormwater management program, to the IDDE Field Screening Manual (King County 2013), and of the potential redundancy with NPDES annual reporting. Submit report to Ecology for review.
- 3.3 Prepare final report based on comments by Ecology on draft report.
- 3.4 Prepare presentation of data evaluation findings for workshop anticipated to occur in June 2015. Attend workshop and give presentation.

**Deliverables and Anticipated Schedule**

<b>Deliverable</b>	<b>Target date</b>
Review and compile data. Create DQOs.	4/24/15
Create database and transform qualitative data. Import data and enter pdf file data.	5/15/15
Summarize and evaluate data. Rank incidents and compare IDDE methods.	6/5/15
Prepare draft GIS maps.	6/19/15
Prepare draft report.	6/26/15
Prepare final maps and report.	7/24/15
Presentation at workshop.	August 2015

**Assumptions:**

- Ecology will arrange for data dump from ERTS and provide data in csv or spreadsheet format.
- Proposed schedule assumes contracting will be completed and work will begin by April 6, 2015.
- No statistical evaluation will be done on the data. Rather data summaries will focus on the frequency and type of data available, data gaps, and effectiveness of the data to address the annual report questions.
- Cardno will prepare and give a presentation at one workshop date TBD. Ecology staff, the SIDIR subcommittee members, or another entity will organize and facilitate workshop.
- Ecology will provide GIS base map images and data using a consistent datum (e.g. NAD83) and shapefiles of Status and Trends program monitoring stations and watersheds.
- Project management activities are not included in this scope. Rather, it is anticipated that this effort will be a task under another project scope, which will include PM activities.

