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1.0 PURPOSE

- 1.1 The purpose of this procedure is to establish the general requirements for the work process of monitoring and sampling for compliance with the significant industrial user (SIU) pretreatment permits that govern SIU discharges into the Kent County Regional Wastewater Treatment System (KCRWTS).
- 1.2 The purpose of this work process is to specify the process of determining monitoring frequency and sampling methodologies for ensuring that all monitoring results are representative of an SIU's discharge, and all results are reproducible and legally defensible

2.0 SCOPE

This procedure addresses the monitoring and sampling of SIU's to ensure that they are in compliance with their respective permit conditions, specifically with defined limits for their parameters of concern.

3.0 DEFINITIONS

- 3.1 *Monitoring* – the act of surveying or testing a discharge to determine the level of compliance with permit limitations.
- 3.2 *Parameter(s) of Concern* – The chemical or biological parameter(s) included in the SIU permit for which compliance is required.
- 3.3 *Sampling* - the act of obtaining sample(s) for which analyses are performed to ensure permit compliance.
- 3.4 *Significant Industrial User* – an industrial facility that meets the definition incorporated in Chapter 180, Section 5.

4.0 REFERENCES

- 4.1 Kent County Dept. of Public Works EHS-MS Procedures Manual
- 4.2 Enforcement Response Plan (ERP), Appendix A to Kent County Code Chapter 180 – Sanitary Standards
- 4.3 Industrial User Inspection and Sampling Manual for POTW’s, EPA831-B-94-001, April 1994.

5.0 REQUIREMENTS

- 5.1 Monitoring frequency, where samples are taken and analyzed, shall be once per month. Monthly samples shall include: BOD, COD, and pH. The remainder of the parameters shall be sampled following the same frequency as the SIU permit requires.
- 5.2 Sampling methodologies shall be in accordance with EPA 831-B-94-001 and shall address the following:
 - a. All sampling shall follow accepted sample collection, preservation, and analytical procedures.
 - b. All sampling shall be properly documented using a field data log book
 - c. All sampling instruments shall be properly calibrated.
 - d. All samples shall be accompanied by a chain of custody forms (Attachments A and B), and shall follow the sample from collection, through transportation, to delivering to a certified analytical laboratory, with proper signatures, as necessary.
 - e. All analyses shall be conducted by a certified, non-County laboratory, except for pH.

6.0 RESPONSIBILITIES

6.1 *Environmental Program Manager*

- a.) Determine the frequency of sampling for each parameter of concern for all permitted SIU’s.
- b.) Ensure that all samples are properly collected, preserved and correctly analyzed for legally defensible purposes, and the Environmental Technicians are properly trained.

6.2 *Environmental Technicians*

- a.) Conduct monthly and other monitoring of all SIUs and annual inspections using Annual Industrial Inspection Checklist (Attachment C).
- b.) Conduct daily monitoring of SIUs that have received two NOVs for a given parameter within one month
- c.) Track all monitoring data and inform environmental program manager when NOVs are to be issued.

7.0 DOCUMENTS

7.1 *Document Control*

This procedure shall be controlled in accordance with the Kent County Dept. of Public Works Environmental Management System Common Procedures 2-12-P01, Controlling Documents.

8.0 RECORDS

8.1 *Required Records*

The only records required by this procedure are the chains of custody.

9.0 ATTACHMENTS

Attachment A – Chain of Custody Form

Attachment B – Chain of Custody Record for Annual Sampling Event

Attachment C – Annual Industrial Inspection Checklist

10.0 REVISION HISTORY

Revision No.	Effective Date	Responsible Person	Description of Revision
0	11/01/2004	Jim Newton	Initial Issue

ATTACHMENT A – CHAIN OF CUSTODY RECORD FORM

KENT COUNTY ENGINEERING CHAIN OF CUSTODY RECORD

INDUSTRY NAME _____

SAMPLE DESCRIPTION 24 Hour Composite Grab

START DATE _____ FINISH DATE _____

START TIME _____ FINISH TIME _____

START FLOW READING _____

FINISH FLOW READING _____

TOTAL FLOW / GALLONS _____

ANALYSIS / TESTING REQUIRED	BOD	COD	TKN	AMMONIA
	NITRITE	NITRATE	TOTAL PHOSPHORUS	
	CYANIDE	OIL & GREASE	Other _____	

pH GRAB DATE _____ pH GRAB DATE _____ pH GRAB DATE _____

pH GRAB TIME _____ pH GRAB TIME _____ pH GRAB TIME _____

pH _____ pH _____ pH _____

TEMPERATURE _____ TEMPERATURE _____ TEMPERATURE _____

SPLIT SAMPLE Yes No RECEIVED BY _____

COUNTY Delivered By _____

 Date Delivered _____

 Time Delivered _____

 Sample Container _____

 Preservation Method _____

ENVIROCORP Received By _____

 Date Received _____

 Time Received _____

COMMENTS _____

Attachment B – CHAIN OF CUSTODY RECORD FOR ANNUAL SAMPLING EVENT

**KENT COUNTY ENGINEERING
CHAIN OF CUSTODY RECORD FOR ANNUAL SAMPLING EVENTS
(Rev. 9/04)**

FACILITY NAME: _____

COMPOSITE SAMPLE:

START DATE:	START TIME:
FINISH DATE:	FINISH TIME:

COMPOSITE ANALYSIS FOR:

ANALYSIS	PRESERVATIVE	COMMENTS	INITIALS
Pb, Zn, As, Cd, Cr, Cu, Hg, Ni, Ag, Mo, Se	HNO ₃ , pH<2, Ice	(1) Plastic 500 mL	
Base Neutrals/Acid Extractables - Method 625	Ice	(2) 1 Liter Amber Glass	
Phenol	H ₂ SO ₄ , pH<2, Ice	(1) 1 Liter Amber	
Other:			

GRAB SAMPLE:

DATE:	START TIME:	FINISH TIME:
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GRAB ANALYSIS FOR:

ANALYSIS	PRESERVATIVE	COMMENTS	INITIALS
Purgables - Method 624	HCL, pH<2, Ice	(2) 40 ml VOA's	
Cyanide	NAOH, pH<2, Ice	(2) 500 mL Plastic Containers 1 st Grab Date/Time: 2 nd Grab Date/Time:	
Oil & Grease	HCL, pH<2, Ice	(2) Grabs, (1) Glass Jar 1 st Grab Date/Time: 2 nd Grab Date/Time:	
Other:			
Other:			

RELINQUISHED BY:	DATE:	TIME:
RECEIVED BY:	DATE:	TIME:

Attachment C – ANNUAL INDUSTRIAL INSPECTION CHECKLIST

ANNUAL INDUSTRIAL INSPECTION CHECKLIST

A. GENERAL INFORMATION

1. Industry Name_____

2. Address_____

3. Contact Person(s)_____

Title(s) _____

Telephone No. _____

4. General Description of Processes and Products:_____

5. SIC Code_____ 6. Categorical Industry? Yes ___ No ___

7. Date of Last Inspection_____

8. Inspection Date_____ Inspection Time _____

9. Inspector(s)_____

B. SHIFT INFORMATION

	<u>No. of Employees</u>	<u>Hours</u>	<u>Work Days</u>
Shift 1	_____	_____	_____
Shift 2	_____	_____	_____
Shift 3	_____	_____	_____
TOTAL	_____	Year Industry Established _____	

Operating Months: Full Year Other _____

C. ENVIRONMENTAL CONTROL PERMITS

Environmental Permits (NPDES, Hazardous, Air including permit no. issuing agency and expiration date) _____

Industry Name _____

Inspection Date _____

D. PRODUCTION RATES

1. Provide production rates for all processes subject to production based standards (optional if the facility is subject to concentration based standards).

<u>Process</u>	<u>Long Term Daily Average Production Rate</u>	<u>Long Term Daily Average Derived</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Was an attempt made to verify production rates? If so, how?

E. WATER USAGE

1. Water Usage and Discharge Information (indicate whether flows are estimated (E) or measured (M)):

Type of Wastewater Process, Sanitary...	_____	_____	_____	_____
Days/Shifts	_____	_____	_____	_____
Water Usage/gpd	_____	_____	_____	_____
Water Discharged Avg/Max gpd	_____	_____	_____	_____
Batch, Pumped, Continuous Gravity	_____	_____	_____	_____

2. Describe any flow measuring devices (water and wastewater)

3. Explain any inconsistencies in water usage (unexplained water losses, problems with flow measuring devices, etc.)

4. Have there been any changes in processes, wastewater flows, or characteristics at the facility since the last inspection? Yes _____ No _____
Describe _____

5. Are there planned or proposed changes in processes, wastewater flows of characteristics? Yes _____ No _____
Describe _____

Industry Name _____ Inspection Date _____

F. **PLANT LAYOUT**

1. Provide a plant layout diagram with locations of manufacturing process areas, drains, and piping (wastewater), chemical storage areas, discharge points to the sewer and available sampling locations.

Presently on file: Yes ____ No ____ Provided during inspection _____

2. Are appropriate sampling point(s) available? Yes ____ No ____

G. **WASTEWATER DISCHARGES**

- 1. Provide a block flow diagram or manufacturing process and wastewater generated. Identify all regulated, unregulated, and dilution wastewater discharges. Include water used, but not discharged.

Presently on file: Yes ___ No ___ Provided during inspection _____

- 2. Description of Quantity/Disposal

<u>Wastewater Stream</u>	<u>Unit of Time</u>	<u>Method *</u>	<u>Comments</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- 3. Air Pollution Control Equipment (indicate if water related)?

Yes ___ No ___ Describe _____

* Disposal Method

CD - Continuous Discharge to sanitary sewer ND - Not discharged or disposed

BD - Batch discharge to sanitary sewer HH - Hauled as hazardous waste

OD - Other disposal not to sanitary sewer HW - Hauled as nonhazardous waste

H. **PRETREATMENT FACILITY**

1. Pretreatment installed? Yes _____ No _____

2. Provide a schematic of the pretreatment facility (include all units) and describe operations.

Presently on file: Yes ____ No ____ Provided during inspection _____

Industry Name _____

Inspection Date _____

Yes / No / N/A Comments

3. Are treatment systems operational? _____

4. Are systems operated and maintained? _____

5. Are regular maintenance procedures observed? _____

6. Is the operator properly trained? _____

7. Experienced any operational/upset problems? _____

8. Are sludge and solids disposed of? _____

9. Are flow measurement devices calibrated? _____

10. Are pH probes serviced and calibrated? _____

11. Have there been any changes to the pretreatment facility since the last inspection? Yes _____ No _____

Industry Name _____ Inspection Date _____

- 2. Material Safety Sheets received during inspection? Yes ____ No ____
- 3. List any hazardous wastes generated or stored by the facility indicating method of disposal.

<u>Hazardous Waste</u>	<u>Method of Disposal</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- 4. Are Hazardous Waste Manifests available? Yes ____ No ____
If yes, were copies received during inspection? Yes ____ No ____

J. **SELF MONITORING** Yes / No / N/A

- 1. Are adequate sampling and analysis techniques used? _____
- 2. Are samples taken at the proper sampling location? _____
- 3. Are sampling records maintained on site? _____
- 4. Were records reviewed at time of inspection? _____
- 5. Did records include:
 - Name of sampling person? _____
 - Date of sampling event? _____
 - Time of sampling event? _____
 - Sample of collection method? _____
 - Method of sample preservation? _____
 - _____
 - Description of sample location? _____
 - _____
 - _____
 - Sampling devices used? _____
 - Name of person conducting analysis? _____
 - _____
 - _____
 - Date of analysis? _____
 - Time of Analysis? _____
 - Sample analysis method? _____
 - _____
 - _____
- 6. All monitoring results documented and reported to POTW? _____
- 7. Have monitoring procedures changed since time of last inspection?
Yes ____ No ____ Describe _____
- 8. Has the facility had any spills or slug loads since the time of the last inspection?

Yes _____ No _____ Describe _____

9. Did the IU follow procedures outlined in SPCC at the time of spills?

Yes _____ No _____ Describe _____

10. Have there been any changes in the SPCC procedures since the last inspection? Yes _____ No _____ Describe _____

11. General Comments (violations, discrepancies...)
