PERMIT APPLICATION FOR WASTEWATER DISCHARGE
RENEWAL OF NPDES PERMIT CT0101320
UNIVERSITY OF CONNECTICUT
WATER POLLUTION CONTROL FACILITY

MAY 2011

MMI #1958-48-2

Prepared for:

The University of Connecticut
31 LeDoyt Road
Storrs, Connecticut 06268-3055
(860) 486-9305

Prepared by:

Milone & MacBroom, Inc.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773

MILONE & MACBROOM®

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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Permit Processing Unit
79 Elm Street
Hartford, CT 06106-5127

CPPU USE ONLY
App #:
Doc #:
Check #:

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information:

- ***If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, applicant's name shall be stated ***exactly*** as it is registered with the Secretary of State.*
- *If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

Applicant: **University of Connecticut**

Mailing Address: **31 LeDoyt Road, Box U-3055**

City/Town: **Storrs** State: **CT** Zip Code: **06268-3055**

Business Phone: **860-486-9305** ext.: Fax: **860-486-5477**

Contact Person: **Jason Coite** Phone: ext.

E-Mail: **jason.coite@uconn.edu**

Applicant (check one): ☐ individual ☐ *company ☐ federal gov't ☒ state agency ☐ municipality

*If a company, list company type (e.g., corporation, limited partnership, etc.):

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

Please provide the following information to be used for *billing purposes only*, if different:

Company/Individual Name:

Mailing Address:

City/Town: State: Zip Code:

Contact Person: Phone: ext.

Part II: Project Information

Brief Description of Project: *(Example: Development of a 50 slip marina on Long Island Sound)*
Renewal of existing wastewater discharge permit.

Location (City/Town): **Mansfield**

Other Project Related Permits (*not* included with this form):

Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
	New Source Review	$940.00			1 + 0
	Title V Operating Permits	none			1 + 0
	Title IV	none			1 + 0
	Clean Air Interstate Rule (CAIR)	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	$1300.00			1 + 1
	To Sanitary Sewer (POTW)	$1300.00			1 + 1
Renew	To Surface Water (NPDES)	$1300.00	1	$1,300.00	1 + 2
	INLAND WATER RESOURCES-multiple permits 1 + 6 total copies				
	Dam Construction	none			1 + 2
	Flood Management Certification	none			1 + 1
	Inland 401 Water Quality Certification	none			1 + 5
	Inland Wetlands and Watercourses	none			
	Stream Channel Encroachment Lines	★			
	Water Diversion	★			1 + 5
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
	Certificate of Permission	$375.00			1 + 3
	Coastal 401 Water Quality Certification	none			1 + 3
	Structures and Dredging/Tidal Wetlands	$660.00			1 + 3
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	$200.00			1 + 0
	CGS Section 22a-454 Waste Facilities	★			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	$125.00			1 + 0
	Stewardship	$4000.00			1 + 1
	Solid Waste Facilities	★			1 + 1
	Waste Transportation	★			1 + 0
		Subtotal ➡	1	$1,300.00	
	GENERAL PERMITS and AUTHORIZATIONS	Subtotals Page 3 ➡			
	Enter subtotals from Part IV, pages 3 & 4 & 5 of this form	Subtotals Page 4 ➡			
		Subtotals Page 5 ➡			
		TOTAL ➡	1	$1,300.00	
	☐ Indicate whether municipal discount or state waiver applies.	Less Applicable Discount ➡			
		AMOUNT REMITTED ➡		$9,437.50	

Check # ➡ _____ Check or money order should be made payable to: "Department of Environmental Protection"

★ **See fee schedule on individual application.**

Part IV: General Permit Registrations and Requests for Other Authorizations Application and Fee Information

✓	General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
☐	Limit Potential to Emit from Major Stationary Sources of Air Pollution	$2760.00			1 + 0
☐	Ionizing Radiation Registration	$200.00			1 + 0
☐	Emergency/Temporary Authorization	★★			★★
☐	Other, (please specify):				
	WATER DISCHARGES				
☐	Domestic Sewage	$500.00			1 + 0
☐	Food Processing Wastewater	$500.00			1 + 0
☐	Groundwater Remediation Wastewater to a Sanitary Sewer	$500.00			1 + 0
	Groundwater Remediation Wastewater to a Surface Water				
☐	Registration Only	$625.00			1 + 0
☐	Approval of Registration by DEP	$1250.00			
	Hydrostatic Pressure Testing Wastewater				
☐	Registration Only	$625.00			1 + 0
☐	Approval of Registration by DEP (natural gas pipelines)	$1250.00			
	Miscellaneous Discharges of Sewer Compatible Wastewater				
☐	Flow < 5,000 gpd and fire sprinkler system testwater	$500.00			1 + 1
☐	Flow > 5,000 gpd	$1000.00			
☐	Non-Contact Cooling and Heat Pump Water (Minor)	$625.00			1 + 1
☐	Photographic Processing Wastewater (Minor)	$100.00			1 + 0
☐	Printing & Publishing Wastewater (Minor)	$500.00			1 + 0
	Flow < 40 gpd	$100.00			
☐	Stormwater Associated with Commercial Activities	$500.00			1 + 0
☐	Stormwater Associated with Industrial Activities	$500.00			1 + 0
	Stormwater & Dewatering Wastewaters-Construction Activities				
☐	5 – 10 acres	$625.00			1 + 0
☐	> 10 acres	$1250.00			
☐	Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)	$250.00			1 + 0
☐	Swimming Pool Wastewater - Public Pools and Contractors	$500.00			1 + 0
☐	Tumbling or Cleaning of Parts Wastewater (Minor)	$1000.00			1 + 1
	Vehicle Maintenance Wastewater				
☐	Registration Only	$625.00			1 + 0
☐	Approval of Registration by DEP	$1250.00			
☐	Water Treatment Wastewater	$625.00			1 + 0
☐	Emergency/Temporary Authorization - Discharge to POTW	$1500.00			1 + 0
☐	Emergency/Temporary Authorization - Discharge to Surface Water	$1500.00			1 + 0
☐	Emergency/Temporary Authorization - Discharge to Groundwater	$1500.00			1 + 0
☐	Other, (please specify):				
	Note: Carry subtotals over to Part III, page 2 of this form. Subtotal ➡				

★★ Contact the specific permit program for this information (Contact numbers are provided in the instructions).

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

✓	General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
	AQUIFER PROTECTION PROGRAM				
☐	Registration for Regulated Activities	$625.00			1 + 0
☐	Permit Application to Add a Regulated Activity	$1250.00			1 + 0
☐	Exemption Application from Registration	$1250.00			1 + 0
	INLAND WATER RESOURCES				
☐	Dam Safety Repair and Alteration	$1000.00			1 + 2
☐	Diversion of Water for Consumptive Use: Reauthorization Categories	$1000.00			1 + 2
☐	Diversion of Water for Consumptive Use: Authorization Required	$2500.00			1 + 5
☐	Diversion of Water for Consumptive Use: Filing Only	$1500.00			1 + 4
☐	Habitat Conservation	$1000.00			1 + 2
☐	Lake, Pond and Basin Dredging	$1000.00			1 + 2
☐	Minor Grading	$1000.00			1 + 2
☐	Minor Structures	$1000.00			1 + 2
☐	Utilities and Drainage	$1000.00			1 + 2
☐	Emergency/Temporary Authorization	★★			★★
☐	Other, (please specify):				
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
☐	4/40 Docks	$700.00			1 + 1
☐	Beach Grading	$100.00			1 + 1
☐	Coastal Remedial Activities Required by Order	$700.00			1 + 1
☐	Marina and Mooring Field Reconfiguration	$700.00			1 + 1
☐	Non-harbor Moorings	$100.00			1 + 1
☐	Osprey Platforms and Perch Poles	none			1 + 1
☐	Pump-out Facilities (no fee for Clean Vessel Act grant recipients)	$100.00			1 + 1
☐	Removal of Derelict Structures	$100.00			1 + 1
☐	Residential Flood Hazard Mitigation	$100.00			1 + 1
☐	Swim Floats	$100.00			1 + 1
☐	Emergency/Temporary Authorization	★★			★★
☐	Other, (please specify):				
	Note: Carry subtotals over to Part III, page 2 of this form.	**Subtotal** ➡			

★ **See fee schedule on registration/application.** ★★ **Contact the specific permit program for this information.**

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

✓	General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
	WASTE MANAGEMENT				
☐	Addition of Grass Clippings at Registered Leaf Composting Facilities	$500.00			1 + 0
☐	Asbestos Disposal Authorization	$300.00			1 + 0
	Certain Recycling Facilities				
☐	Drop-site Recycling Facility	$200.00			1 + 0
☐	Limited Processing Recycling Facility	$500.00			1 + 0
☐	Recyclables Transfer Facility	$500.00			1 + 0
☐	Single Item Recycling Facility	$500.00			1 + 0
	Contaminated Soil and/or Staging Management (Staging/Transfer)				
☐	Registration Only	$250.00			1 + 0
☐	Approval of Registration by DEP	$1500.00			1 + 0
☐	Connecticut Solid Waste Demonstration Project	$1000.00			1 + 0
☐	Disassembling Used Electronics	$400.00			1 + 0
☐	Leaf Composting Facility	none			1 + 1
☐	Municipal Transfer Station	$800.00			1 + 1
☐	One Day Collection of Certain Wastes and Household Hazardous Waste	$1000.00			1 + 0
☐	Special Waste Authorization	$660.00			1 + 0
☐	Storage and Distribution of Two (2) Inch Nominal Tire Chip Aggregate	$500.00			1 + 0
☐	Storage and Processing of Asphalt Roofing Shingle Waste and/or Storage and Distribution of Ground Asphalt Aggregate	★			1 + 0
☐	Storage and Processing of Scrap Tires for Beneficial Use	$1000.00			1 + 0
☐	Emergency/Temporary Authorization	★★			★★
☐	Other, (please specify):				
	REMEDIATION				
☐	In Situ Groundwater Remediation: Enhance Aerobic Biodegradation	★			1 + 2
	Note: Carry subtotals over to Part III, page 2 of this form.	Subtotal ➡			

★See fee schedule on registration/application. ★★Contact the specific permit program for this information.

In conformance with the ADA, individuals with disabilities who need information in an alternative format to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3051 or 860-418-5937, or e-mail Marcia Z. Bonitto, ADA Coordinator at Marcia.Bonitto@ct.gov.

Permit Application for Wastewater Discharges

Please complete this form in accordance with section 22a-430 CGS and sections 22a-430-3, 4, 6 and 7 RCSA and the instructions (DEP-PED-INST-100). Print or type unless otherwise noted.

Part I: Application Type

In the table below, check the appropriate box(es) in the left column to identify the categories of discharge sources originating from the site. Identify the application type by placing an "N" for new permit, "R" for a renewal of an existing permit, and "M" for a modification of an existing permit in the box(es) by the corresponding type of receiving water.

√	Categories of Discharge Sources (check all that apply):	Type of Receiving Water	Application Type (N, R, M)	DEP Use Only Facility I.D.	
				Application No.	Permit No.
☐	Manufacturing, Commercial, Mining, or Silvicultural Activities (Process Wastewater)	*Surface Water*			
		POTW			
		Ground Water			
☒	Domestic Sewage Treatment Facilities	*Surface Water*	R		
		POTW			
		Ground Water			
☐	Solid Waste Disposal Areas - Landfills	*Surface Water*			
		POTW			
		Ground Water			
☐	*Land Treatment Non-point Source Systems (On-Site Wastewater Renovation Systems > 5000 gpd)	*Surface Water*			
		POTW			
		Ground Water			
☐	Agricultural Activities	*Surface Water*			
		POTW			
		Ground Water			
☐	Concentrated Aquatic Animal Production Facilities	*Surface Water*			
		POTW			
		Ground Water			
☐	Privately Owned Treatment Works	*Surface Water*			
		POTW			
		Ground Water			
☐	Other (please specify):	*Surface Water*			
		POTW			
		Ground Water			

* Before completing an application for this type of discharge, contact the Subsurface Disposal Section of the Bureau of Materials Management and Compliance Assurance at 860-424-3018 for additional information.

Part I: Application Type (continued)

If this application is for a renewal or modification of an existing permit or includes a discharge previously licensed by a general permit or an emergency or temporary authorization, provide:

1. Facility I.D. number (Formerly known as DEP/WPC number):

   078-005

2. Permit or Authorization Number(s)	Expiration Date:	Category of Discharge Source
CT0101320	11/12/2011	Class IV POTW
	/ /	
	/ /	

Part II: Fee Information

The initial fee of $1300.00 is to be submitted for each permit that you are applying for (i.e. a permit for all surface water discharges, a permit for all POTW discharges, and/or a permit for all ground water discharges). For municipalities the initial fee is $650.00 for each permit. The application will not be processed without the initial fees. An invoice will be sent for the remaining fee amount. See section 22a-430-6 RCSA for the remaining fee amount and for permit modification fees.

Part III: Applicant Information

1. Fill in the name of the applicant(s) as indicated on the *Permit Application Transmittal Form* (DEP-APP-001):

Applicant: **University of Connecticut**

Phone: **860-486-9305** ext. Fax:

Email: **jason.coite@uconn.edu**

Location address, if different than mailing address:

Applicant's interest in property at which the proposed activity is to be located:

☒ site owner ☐ option holder ☐ lessee

☐ easement holder ☐ operator ☐ other (specify):

☐ Check here if there are co-applicants. If so, label and attach additional sheet(s) with the above information for each co-applicant.

2. List primary contact for departmental correspondence and inquiries, if different than the applicant.

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext. Fax:

Contact Person: Title:

Email:

Part III: Applicant Information (continued)

3. List attorney or other representative, if applicable:

Firm Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext. Fax:

Attorney:

Email:

4. Facility Owner, if different than the applicant:

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext. Fax:

Contact Person: Title:]

Location address, if different than mailing address:

5. Facility Operator, if different than the applicant:

Name:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext. Fax:

Contact Person: Title:

Email:

6. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the application or in designing or constructing the activity.

Name: **Milone & MacBroom, Inc.**

Mailing Address: **99 Realty Drive**

City/Town: **Cheshire** State: **CT** Zip Code: **06410**

Business Phone: **203-271-1773** ext. Fax: **203-272-9733**

Contact Person: **David Murphy, P.E.** Title: **Associate**

Email: **davem@miloneandmacbroom.com**

Service Provided: **Preparation of application.**

☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Part IV: Site Information

1. FACILITY NAME AND LOCATION

Name of facility : **Water Pollution Control Facility**

Street Address or Location Description: **Ledoyt Road**

City or Town: Storrs

Latitude and Longitude of the approximate "center of the site" in *degrees, minutes, and seconds*:

Latitude: 41.784 Longitude: -72.28

Method of determination (check one): ☐ GPS ☐ USGS MAP ☒ other

If a USGS Map was used, provide the quadrangle name:

2. INDIAN LANDS: Is or will the facility be located on federally recognized Indian lands? ☐ Yes ☒ No

3. COASTAL BOUNDARY: Is the activity which is the subject of this application located within the coastal boundary as delineated on DEP approved coastal boundary maps? ☐ Yes ☒ No

If yes, and this application is for a new authorization, you must submit a *Coastal Consistency Review Form* (DEP-APP-004) with your application as Attachment G.

Information on the coastal boundary is available at the local town hall or on the "Coastal Boundary Map" available at DEP Maps and Publications (860-424-3555).

4. ENDANGERED OR THREATENED SPECIES: Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? ☒ Yes ☐ No Date of Map: **December, 2010**

If yes, complete and submit a *Connecticut Natural Diversity Data Base* (CT NDDB) *Review Request Form* (DEP-APP-007) to the address specified on the form. **Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the applicant. DEP strongly recommends that applicants complete this process before submitting the subject application.**

When submitting this application form, include copies of any correspondence to and from the NDDB, including copies of the completed *CT NDDB Review Request Form*, as Attachment H.

For more information visit the DEP website at www.ct.gov/dep/endangeredspecies (Review/Data Requests) or call the NDDB at 860-424-3011.

5. AQUIFER PROTECTION AREAS: Is the site located within a town required to establish Aquifer Protection Areas, as defined in section 22a-354a through 354bb of the General Statutes (CGS)?

☒ Yes ☐ No

If yes, is the site within an area identified on a Level A or Level B map? ☐ Yes ☒ No

To view the applicable list of towns and maps visit the DEP website at www.ct.gov/dep/aquiferprotection
To speak with someone about the Aquifer Protection Areas, call 860-424-3020.

6. CONSERVATION OR PRESERVATION RESTRICTION: Is the property subject to a conservation or preservation restriction? ☐ Yes ☒ No

If Yes, proof of written notice of this application to the holder of such restriction or a letter from the holder of such restriction verifying that this application is in compliance with the terms of the restriction, must be submitted as Attachment H1.

7. Does this application include any stormwater discharges to a Medium Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☒ No

Part IV: Site Information (continued)

8. Is the project site located within a public water supply watershed? ☐ Yes ☒ No

If Yes, has a copy of this completed application been submitted to the CT Department of Public Health, Drinking Water Section? ☐ Yes ☐ No

Part V: Facility or Activity Information

1. For the facility or activity generating the discharge, provide a list of principal raw materials utilized, products produced or services provided, if applicable.

   Principal Raw Materials: Domestic raw wastewater

   Products Produced: Wastewater sludge and grit

   Services Provided: Treatment of domestic wastewater

2. SIC Codes: Primary: 8030

   Note: For domestic sewage treatment facilities the SIC code is 4952.

3. Identify wastes or wastewaters not included in this application or previously licensed by another permit or general permit. For domestic sewage treatment plants, include grit, screenings and sludge at a minimum.

Type	Quantity (mass per unit time)	Method of disposal (incineration, waste hauler, etc.)
Washed Grit	**3 cubic feet per wk**	Used onsite if compliant w/ RSRs, otherwise hauled to MSW landfill.
Sludge	**103 dry tons/year**	**Waste hauler, NETCO**
Pool Wastewater	**Average <6,000 gpd**	**To WPCF per GP Reg.**
Vehicle Maintenance	**<2,000 gpd**	**To WPCF per GP Reg.**

Part V: Facility or Activity Information (continued)

4. Inventory of toxic and hazardous substances and oil or petroleum liquids (please see instructions)

☐ Check here if additional sheets are necessary. If so, please reproduce this sheet and attach copies to this sheet.

Name of toxic or hazardous substance or oil	Use of toxic or hazardous substance and maximum quantity used per day	If stored on-site, indicate maximum quantity of stored substance	TRI pollutant yes or no
Heating Oil #2	Heating and/or power max 40 gpd	<5,000 gallons	No
Sodium hypochlorite	Disinfection 100 gpd	<2,500 gallons	No
Sodium bisulfate	Dechlorination 50 gpd	<1,000 gallons	No
Sodium hydroxide	Odor control 0.2 gpd	<55 gallons	No
Sodium hydroxide	pH/alkalinity adjustment	<55 gallons	No

Part V: Facility or Activity Information (continued)

5. For outstanding requirements or compliance schedules which are related to the discharges that are the subject of this application, provide the following:

Identification of Requirement (federal, state or local)	Brief Description of Project and Status	Final Compliance Date (Indicate whether required or projected)
None		

Part VI: Supporting Documents

Be sure to read the instructions (DEP-PED-INST-100) to determine whether the attachments listed are applicable to your specific activity. Please check the attachments submitted as verification that *all applicable* attachments have been submitted with this permit application form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on the *Permit Application Transmittal Form*. Unless otherwise specified, all attachments must be completed by all applicants.

☒ Attachment A: *Executive Summary* (DEP-PED-APP-101)

☐ Attachment B: *Applicant Background Information* (DEP-PED-APP-008); if applicable

☒ Attachment C: *Applicant Compliance Information* (DEP-APP-002); if applicable

☒ Attachment D: A USGS Quadrangle Map indicating the exact location of the facility or site and *Latitude and Longitude Form* (DEP-APP-003). (*Not* required for applications to discharge from Landfills)

☒ Attachment E: *For Renewal of an Existing Permit and Other Discharges Previously Licensed by DEP*, (DEP-PED-APP-102) *(Not* required for applications to discharge from Land Treatment Non-point Source Systems)

☐ Attachment E1: *Certification Regarding Submittal of Previously Approved Documents*, (DEP-PED-APP-102A); if applicable

☒ Attachment F: Site Plans and Floor Plans (*Not* required for applications to discharge from Landfills or Land Treatment Non-point Source Systems. Domestic Sewage Treatment Facilities need only include a site plan, floor plans are *not* required)

☐ Attachment G: *Coastal Consistency Review Form* (DEP-APP-004); if applicable

Part VI: Supporting Documents (continued)

☒ Attachment H: *CT NDDB Review Request Form* (DEP-APP-007) and additional documentation, if applicable.

☐ Attachment H1: Conservation or Preservation Restriction Information, if applicable.

Pollution Prevention Plans: Attachments I – L
(*Not* required for applications to discharge from Land Treatment Non-point Source Systems)

☒ Attachment I: Operation and Maintenance for Collection and Treatment Systems: *General Description, Plan Checklist and Certification* (DEP-PED-APP-103)

☐ Attachment J: Solvent Management Plan; if applicable with *Plan Checklist and Certification* (DEP-PED-APP-104)

☐ Attachment K: *Spill Prevention and Control Plan Checklist and Certification* (DEP-PED-APP-105) For applications to discharge process wastewaters, the Spill Prevention and Control Plan must be submitted also. (*Not* required for applications to discharge from Domestic Sewage Treatment Facilities)

☐ Attachment L: Resource Conservation Strategies (DEP-PED-APP-106) (*Not* required for applications to discharge from Domestic Sewage Treatment Facilities)

☒ Attachment M: Line Drawing and Process Flow Diagram, if applicable. (*Not* required for applications to discharge from Land Treatment Non-point Source Systems. Domestic Sewage Treatment Facilities need only include a process flow diagram; a line drawing is *not* required.)

☐ Attachment N: Description and Plans and Specifications of Collection, Treatment and Disposal Systems (*Not* required for applications to discharge from Land Treatment Non-point Source Systems, Landfills to groundwater or Domestic Sewage Treatment Facilities)

☒ Attachment O: *Discharge Information* (DEP-PED-APP-107) *(Not* required for applications to discharge from Land Treatment Non-point Source Systems, Landfills, Agricultural Activities, and Concentrated Aquatic Animal Production Facilities)

☒ Attachment P: *Domestic Sewage Treatment Facilities* (DEP-PED-APP-108) (*Not* required for applications to discharge from subsurface systems)

☐ Attachment Q: *Discharges of Domestic Sewage Through On-Site Wastewater Renovation Systems* Submit an engineering report as specified in the instructions (DEP-PED-INST-100). For community systems see also Attachment U.

☐ Attachment R: *Checklist for Solid Waste Disposal Areas* (DEP-PED-WEED-APP-110) Complete the checklist, including *Leachate Parameters and Appendix I and II of Part 258* (DEP-PED-APP-110A).

☐ Attachment S: For applications to discharge from agricultural activities, submit a farm waste management plan as specified in the instructions (DEP-PED-INST-100). For applications to discharge from *Concentrated Animal Feeding Operations*, complete the form (DEP-PED-APP-111).

☐ Attachment T: *Concentrated Aquatic Animal Production Facilities* (DEP-PED-APP-112)

Part VI: Supporting Documents (continued)

☐ Attachment U: For applications to discharge from a community sewerage system not owned by a municipality, submit a signed letter from the Water Pollution Control Authority or responsible authority of the municipality in which the system exists or will be located, as specified in the instructions (DEP-PED-INST-100). See form letter.

☐ Attachment V: *Privately Owned Treatment Facilities* (DEP-PED-APP-113)

Part VII: Application Certification

The applicant(s) *and* the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless *all* required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

I certify that I will comply with all notice requirements as listed in section 22a-6g of the General Statutes."

Signature of Applicant	Date
Richard Miller Name of Applicant (print or type)	**Director Environmental Policy** Title (if applicable)
Signature of Preparer (if different than above)	Date
David Murphy, P.E. Name of Preparer (print or type)	**Associate** Title (if applicable)

☐ Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. You must include signatures of any person preparing any report or parts thereof required in this application (i.e., professional engineers, surveyors, soil scientists, consultants, etc.)

Note: Please submit the Permit Application Transmittal Form, Application Form, Fee, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Please remember to publish notice of the permit application immediately after submitting your completed application to DEP. Send a copy of the notice to the chief elected official of the municipality in which the regulated activity is proposed, and provide DEP with the "Certification of Notice Form (DEP-APP-005A)" and an affidavit of publication from the newspaper.

Attachment A: Executive Summary

Applicant Name: University of Connecticut
(as indicated on the *Permit Application Transmittal Form*)

Location of Facility or Activity:
Facility: 31 Ledoyt Road, Storrs, CT / Activity: Below Eagleville Pond Dam and the Route 275/South Eaglevill Road Bridge

Contact Person: Jason Coite Phone: 860-486-9305

For renewals or modifications of an existing permit, provide the Facility I.D. No.:
078-005

In the table below list *each* discharge that is the subject of this application. For renewals of existing permits, label each discharge by the same discharge serial number stated in the previous permit and provide the existing permit number. For new permits, label each discharge to a surface water consecutively starting with serial number 101; for discharges to a POTW label each discharge consecutively starting with 201; and for discharges to ground water label each discharge consecutively starting with 301.

Discharge Serial Number/ Permit Number	Maximum Flow (gallons per day)	Category of Discharge Source	Name of discharge location (Name of POTW; Name of surface water; For groundwater, name of surface watershed area)	Geographical description of location of discharge point (e.g., 20 feet north from Bear Bridge)
CT0101320	**3.0 mgd**	Domestic Sewage	Willimantic River	75 feet S. of Eagleville Pond Dam

Attachment A: Executive Summary (continued)

Provide a brief general description of the nature of the business or activity and of each existing or proposed activity or process generating each discharge. For new discharges, provide a timeline for initiation of the discharges as well as a brief summary of the environmental impact of the proposed discharges.

☒ Check here if additional sheets are necessary, please label and attach them to this sheet.

See attached pages ES-1 through ES-4

Provide a table of contents of the application which includes the *Permit Application Transmittal Form*, the permit application form, and a list of titles of all plans, drawings, reports, studies, or other supporting documentation which are attached as part of the application, along with the corresponding attachment label and the number of pages (i.e., Executive Summary - Attachment A - 4 pages).

Refer to beginning of permit application

Attachment A
Executive Summary

The University of Connecticut owns and operates a collection and treatment system for sanitary domestic wastewater that is generated on and off campus. The operation of the wastewater collection and treatment system is managed by the Facilities Operations Department at the University. The wastewater system includes a Water Pollution Control Facility (WPCF) or wastewater treatment plant, collection system pump stations, and collection system piping. The sewer service area includes the Main Campus, the Depot Campus and the adjacent Department of Corrections Facility, and some non-university owned properties surrounding campus (residential properties, apartment complexes, commercial properties, Town of Mansfield owned properties). The WPCF is located on Ledoyt Road in the northwest corner of campus. The facilities are located on a parcel of land approximately 5.5 acres in size.

The WPCF was most recently upgraded in 1995 to provide additional capacity, increasing treatment capacity from 2.0 to 3.0 million gallons per day (mgd) and a peak flow capacity of 7.2 mgd. The WPCF is permitted to discharge an average of 3.0 mgd. From 2004 though 2006, the average daily flow to the WPCF was 1.21 mgd, or about 41% of it design capacity for average flow. More recently, the average daily discharge has been between 0.62 mgd and 1.53 mgd for the August 2010 and April 2010 quarters, respectively. The maximum daily flow for 2009 and 2010 has ranged from 1.11 mgd (for the quarter ending July 2009) to 4.35 mgd (for the quarter ending April 2010). The high daily flows are the result of a precipitation event.

Liquid treatment processes at the WPCF include screens and an aerated grit chamber at the headworks, two carrousel oxidation ditches, two clarifier tanks, and a chlorine disinfection system. The current operation of the oxidation ditches allows for conventional activated sludge aeration, as well as nitrification and denitrification. Wastewater is chlorinated seasonally with sodium hypochlorite. Treated wastewater is dechlorinated with sodium bisulfite prior to discharge. Treated wastewater is discharged to the Willimantic River just downstream of the Eagleville Pond Dam.

The existing NPDES permit was issued on November 12, 2006 and expires on November 12, 2011. The permit was issued to the University of Connecticut and was for a maximum discharge to the Willimantic River of 3.0 mgd from the WPCF. The permit specifies effluent limitations and monitoring requirements including a Monthly Operating Report and Nutrient Analysis Report. The permit requires monitoring at a number of locations. These are summarized in Table 1. Specific parameters to be monitored on a daily, monthly and instantaneous basis are summarized in Tables A-E of Attachment 1 of the NPDES permit.

TABLE 1
Existing NPDES Permit Monitoring Locations

Location	Wastewater Description	Monitoring Location Description
1	Sanitary Sewage	Final Effluent
T	Sanitary Sewage	Final Effluent after dechlorination
N	Activated Sludge	Each Aeration Unit
G	Sanitary Sewage	Influent
S	Dewatered Sludge	Dewatered Sludge

In addition to monitoring of the chemical composition of the effluent, samples are required of the effluent after dechlorination for acute aquatic toxicity testing and for chronic aquatic toxicity during July, August, or September of each year. Samples from the Willimantic River collected upstream of the area influenced by the discharge are used as control and dilution water in the chronic toxicity tests.

Subsequent to the prior NPDES permit renewal, the WPCF has undergone two modifications to its processes. Chronologically, the first process modification was a change to the headworks facility. The modification included the installation of a Huber Technology (Huber) grit washer and the replacement of the coarse bar rack and the mechanical bar screen with a Huber step screen, grinder, and wash press. The goal was to produce a higher quality effluent through an improvement in solids removal and a higher quality grit containing less organics and water. This process modification was requested in early March of 2008 approved by DEP shortly thereafter. The amount of washed grit produced has been significantly minimized to several cubic feet per week.

The second process modification was a complete upgrade of the SCADA system from the original system that was installed in 1996 when the facility was built. The complete replacement and upgrade was conducted to ensure uninterrupted monitoring and data acquisition of the facility's functions and lift stations. The radio transmitters originally installed at the lift stations were replaced by a wired remote network. The Facilities Work Order Control and the Central Utility Plant (CUP) were both equipped with alarm stations to ensure that a trained engineer or technician has the ability to respond to a WPCF alarm whenever required. These changes were requested at the beginning of March 2008 and approved by DEP shortly thereafter.

A third process modification will be the installation of rotary screw presses (two, for redundancy) which has already been approved but has not yet been installed. The presses will replace the function of the gravity belt thickener that treats waste activated sludge from the secondary clarifiers. At the same time, the rotary screw presses will require the transition from dry polymer to liquid polymer. The SCADA system will also be modified to include run signals and alarms from the sludge processing equipment, which allows the operator to start, stop, and monitor the run status of the WAS pumps, polymer feed equipment and other connected equipment.

The University plans to utilize food compost from its dining facilities during the summer months (when sewage generation is low) to sustain the microorganisms necessary for proper WPCF functioning. Quantities to be used will vary depending on the sewer system inflows occurring on any given day, but

will not exceed ten cubic feet per day. This permit application hereby requests this modification.

Beginning in 2011, the University will construct a separate water treatment facility to provide tertiary treatment to effluent from the WPCF. The "Reclaimed Water Facility" (RWF) will produce a high-quality reclaimed water for use in non-potable applications such as heating and cooling. The RWF will be located on 1.6-acre tract of University-owned property west of the WPCF. This area is separated from the WPCF by a right-of-way belonging to Connecticut Light and Power. The DEP has already approved construction and operation of the RWF via an approval letter dated December 16, 2010 and signed by Mr. Paul Stacey of the Planning & Standards Division in the Bureau of Water Protection and Land Reuse.

The proposed RWF will consist of the following components: influent chamber, microfiltration (MF) units, UV disinfection units, finished product storage, distribution pumps and piping, CUP improvements (reverse osmosis and cooling tower system improvements), and a chemical feed system. Modifications to the existing treatment processes at the CUP may be completed so that they may operate more optimally with the reclaimed water supply. Specifically, once the CUP changes to reclaimed water, the existing pre-treatment processes will be upgraded in order to continue to provide suitable quality product water to the boilers; a flush system will be added to the existing reverse osmosis facilities by adding a pump in the existing condensate storage tank area along with connecting piping and an automated flush supply valve at the train; and anti-scaling agents may be added to the influent.

The cycling of wastewater from the WPCF to the RWF, from the RWF to the CUP, and from the CUP back to the WPCF presents a potential for increasing levels of total dissolved solids (TDS), and solutes in general, in the recycled water. As TDS and other solutes in the WPCF effluent increase, the potential exists for effluent limits to be approached or exceeded in the discharge to the river. In addition, increasing solutes can adversely impact the system components that require high-quality water, such as the boilers and the cooling towers.

The University's consultant for the RWF design services conducted a mass balance modeling analysis to evaluate the potential for increasing levels of compounds in the recycling water stream. Notable conclusions of the mass balance modeling exercise are that overall WPCF function should not be impaired by elevated concentrations of TDS, and aquatic toxicity criteria should not be exceeded under all the modeled scenarios. Although mitigation is therefore not needed to address WPCF operation or aquatic toxicity, it will likely be necessary at certain times of the year to improve water quality at the CUP and ensure that effluent standards at the river outfall are not exceeded. Partial use of potable water at the CUP will likely be necessary when sanitary sewer inflows to the WPCF are lowest (thus limiting "fresh" wastewater availability for creating reclaimed water) while evaporative losses from cooling are highest.

The subject permit application request re-issuance of a NPDES permit for the discharge of wastewater from the University's WPCF. In addition to the domestic sewage sources within the system, there are five categories of non-domestic wastewater sources that are *included* in this permit application. These source types include: 1) boiler blowdown, 2) food processing wastewater, 3) water treatment

wastewater, 4) non-contact cooling water, and 5) "miscellaneous wastewaters." Note that the General Permit for miscellaneous wastewaters applies to wastewater resulting from any of the following processes or activities: air compressor condensate, air compressor blowdown, building maintenance wastewater, contact cooling and heating wastewater, cutting and grinding wastewater, fire sprinkler system testwater, non-destruct testing rinsewater, and other undesignated wastewaters.

There are more than one location for each type of non-domestic wastewater source at the University. For example, boilers are located in many campus buildings. The lone food processing source of wastewater is the Dairy Bar facility that processes ice cream, cheese and yogurt.

Two categories of University wastewaters covered by a General Permit registration will continue to be covered in this manner; these are the swimming pool and vehicle maintenance wastewaters. The MF backwash and the reverse osmosis backwash from the CUP are also covered by General Permit registrations (in these cases, under the water treatment wastewater category). The MF backwash and the reverse osmosis backwash registrations will not be renewed, with the expectation that these particular wastewater flows will be authorized as part of this requested NPDES permit.

Photographic processing wastewaters are not discharged to the sewer system, as they are stored in containers and brought off the University for disposal, and therefore do not require General Permit coverage. Laboratory wastewaters that are directed to the sanitary sewer system are not eligible for coverage under a specific General Permit, although the "miscellaneous" category is typically available for such discharges. These wastewaters are being addressed through a laboratory drain disposal best management practices document with the expectation that laboratory wastewaters will be authorized as part of the requested NPDES permit.

Attachment B
Applicant Background Information

The University of Connecticut is a State Agency, and is not a Corporation, a Limited Liability Company, a Limited Partnership, a General Partnership, a Voluntary Association, or an Individual. As such, the Applicant Background Information form does not apply and has been omitted from this application.

Applicant Compliance Information

DEP ONLY
App. No. _____
Co./Ind. No. _____

Applicant Name: **University of Connecticut**
(as indicated on the *Permit Application Transmittal Form*)

If you answer *yes* to any of the questions below, you must complete the Table of Enforcement Actions on the reverse side of this sheet as directed in the instructions for your permit application.

A. During the five years immediately preceding submission of this application, has the applicant been convicted in any jurisdiction of a criminal violation of any environmental law?

☐ Yes ☒ No

B. During the five years immediately preceding submission of this application, has a civil penalty been imposed upon the applicant in any state, including Connecticut, or federal judicial proceeding for any violation of an environmental law?

☐ Yes ☒ No

C. During the five years immediately preceding submission of this application, has a civil penalty exceeding five thousand dollars been imposed on the applicant in any state, including Connecticut, or federal administrative proceeding for any violation of an environmental law?

☐ Yes ☒ No

D. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal court issued any order or entered any judgement to the applicant concerning a violation of any environmental law?

☐ Yes ☒ No

E. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal administrative agency issued any order to the applicant concerning a violation of any environmental law?

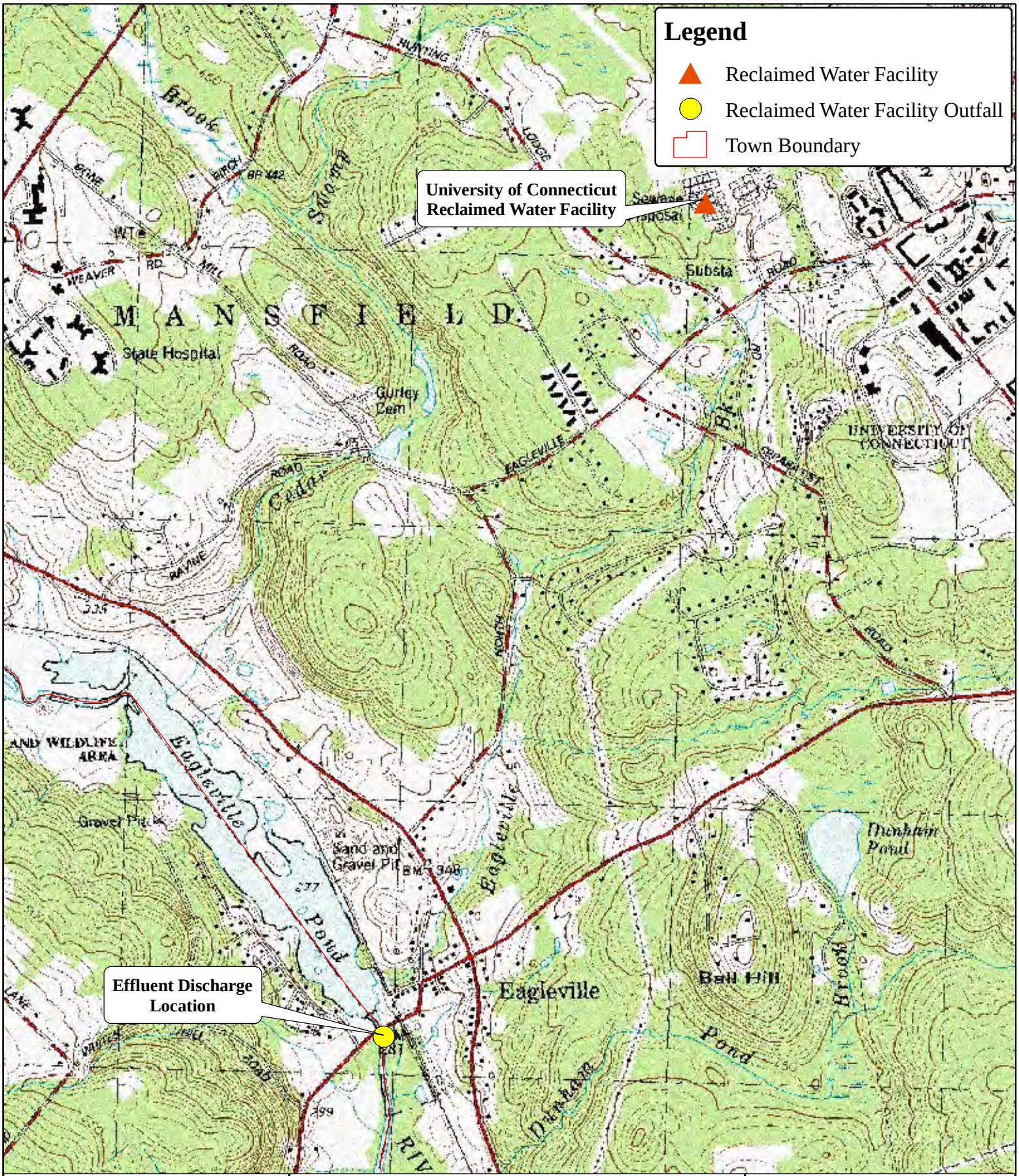
☐ Yes ☒ No

Table of Enforcement Actions*

(1) Type of Action	(2a) Date Commenced	(2b) Date Terminated	(3) Jurisdiction	(4) Case/Docket/ Order No.	(5) Description of Violation
Consent Order	**6/19/03**	**Open**	**CTDEP Bureau of Waste Management**	**Order No. WSWDS03015**	Imposed a civil penalty for failure to obtain approval for the disruption of a closed solid waste disposal area at the Storrs Campus
Consent Order	**6/26/98**	**Open**	**CTDEP Bureau of Waste Management**	**Order No. SRD-101**	Operation of solid waste disposal facilities without a permit for leachate discharge to groundwater (Landfill Closure Project)

☐ Check the box if additional sheets are attached. Copies of this form may be duplicated for additional space.

* Past five years only – unless open



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Location of Facility & Outfall on USGS Quad #40 (Coventry)

LOCATION:
Mansfield, CT

MMI#: 1958-48-2

MXD: P:\Attachment_D.mxd

SOURCE: CT DEP, USGS

N

Permitting for the Discharge of Municipal Wastewater from Treatment Facility

Map By: SMG

Date: May 2011

Scale: 1" = 1,500'

SHEET:
Attachment D

Latitude and Longitude

Applicant Name: **University of Connecticut**
(as indicated on the *Permit Application Transmittal Form*)

Method of latitude and longitude determination (check one):

☐ Global Positioning System (GPS) ☒ USGS Map ☐ Other (please specify)

In the table below, label each point for which latitude and longitude were measured, being consistent with identification numbers assigned throughout the application (e.g., 100, 101, etc.). For renewals or modifications of existing permits, please provide the existing permit number. Also provide: a brief description of the point (e.g., monitoring well, pipe outlet, air stack, etc.); latitude and longitude in degrees, minutes and seconds (e.g., 41E 16' 29"); and the name of the USGS quadrangle map(s) the points described are located on.

ID Number	Permit Number	Description	Latitude	Longitude	Quad Map Name	For DEP Use Only: GIS ID
DSN001-1	**CT0101320**	**Center of WWTF Site**	**N41°48'40"**	**W72°15'50"**	**Coventry**	
DSN001-1	**CT0101320**	**Outfall at the Willimantic River**	**N41°47'4"**	**W72°16'55"**	**Coventry**	

Attachment E: For Renewal of an Existing Permit and Other Discharges Previously Licensed by the Department of Environmental Protection

Applicant Name: University of Connecticut
(as indicated on the *Permit Application Transmittal Form*)

1. Complete the following table with a summary of discharge quality data from the previous two years. To complete the table for renewals, refer to your existing permit; for other discharges previously licensed by DEP, refer to your previous authorization or permit. See instructions (DEP-PED-INST-100) for further guidance on how to fill in this table. Reproduce this sheet for each discharge serial number. Use the same discharge serial numbers as indicated on your previous permit and provide the existing permit number. Reproduce and complete this form for each permit that you are proposing to renew.

Summary of Discharge Analyses

Discharge Serial Number: DSN001-1

Permit Number: CT0101320

Name of Permit Parameter	Average Concentration	Maximum Concentration	Number of Analyses	Number of Exceedances	CV (NPDES only)
Bio. Oxygen Demand-5 (Oct. 1-June 30)	3.50 mg/L	15.0	234	0	31.38%
Bio. Oxygen Demand-5 (Jul. 1-Sep. 30)	3.14 mg/L	9.0	78	0	21.96%
Chlorine Total Residual (Apr. 1-Oct. 31)	0.00 mg/L	0.07	1,212	1	59.67%
Copper, Total	0.07 kg/d	0.54	104	0	61.32%
Cyanide (amenable)	0.04 kg/d	0.47	104	1	28.29%
Fec. Colif. 4/1-10/31 (Geo. Mean <200)	13.00 cu per 100ml	34.00 cu per 100ml	186	0	85.12%
Fec. Colif. 4/1-10/31 (Geo. Mean <400)	58.43 cu per 100ml	130.00 cu / 100ml	186	0	74.33%
Flow, Average Daily	0.99 mgd	4.35 mgd	730	2	25.46%
Nitrogen, Ammonia (total as N) 11/1-5/31	0.62 mg/L	21.00	60	0	203.99%
Nitrogen, Ammonia (total as N) 6/1-10/31	0.32 mg/L	2.00	44	0	83.53%
Nitrogen, Total	7.94 mg/L	20.51	24	0	55.86%
pH	6.71-7.31 S.U.	7.60	730	0	3.98%
Phosphate, Ortho	2.12 mg/L	5.10	24	0	60.22%
Phosphorus, Total	2.25 mg/L	5.90	24	0	60.60%
Solids, Total Suspended	3.17 mg/L	18.00	312	0	65.84%

Attachment E: For Renewal of an Existing Permit and Other Discharges Previously Licensed by the Department of Environmental Protection

Applicant Name: University of Connecticut
(as indicated on the *Permit Application Transmittal Form*)

1. Complete the following table with a summary of discharge quality data from the previous two years. To complete the table for renewals, refer to your existing permit; for other discharges previously licensed by DEP, refer to your previous authorization or permit. See instructions (DEP-PED-INST-100) for further guidance on how to fill in this table. Reproduce this sheet for each discharge serial number. Use the same discharge serial numbers as indicated on your previous permit and provide the existing permit number. Reproduce and complete this form for each permit that you are proposing to renew.

Summary of Discharge Analyses

Discharge Serial Number: DSN0001-1

Permit Number: CT0101320

Name of Permit Parameter	Average Concentration	Maximum Concentration	Number of Analyses	Number of Exceedances	CV (NPDES only)
Zinc	0.23 kg/d	2.80	104	45	102.85%
Alkalinity	63.25 mg/L	155	24	N/A	45.89%
Lead	0.005 kg/d	0.0289	104	N/A	43.37%
Nitrate	6.33 mg/L	23.00	24	N/A	65.34%
Nitrite	0.017 mg/L	0.49	24	N/A	115.39%
Nitrogen, Total Kjeldahl	1.80 mg/L	24.00	24	N/A	62.18%
Oxygen, Dissolved	6.483 mg/L	9.70	730	N/A	8.02%
Solids, Settleable	0.10 ml/L	0.10	730	N/A	0.00%
Temperature	65.48 deg. F	75.00 deg. F	730	N/A	8.37%
Turbidity	1.45 NTU	11.30	730	N/A	58.87%

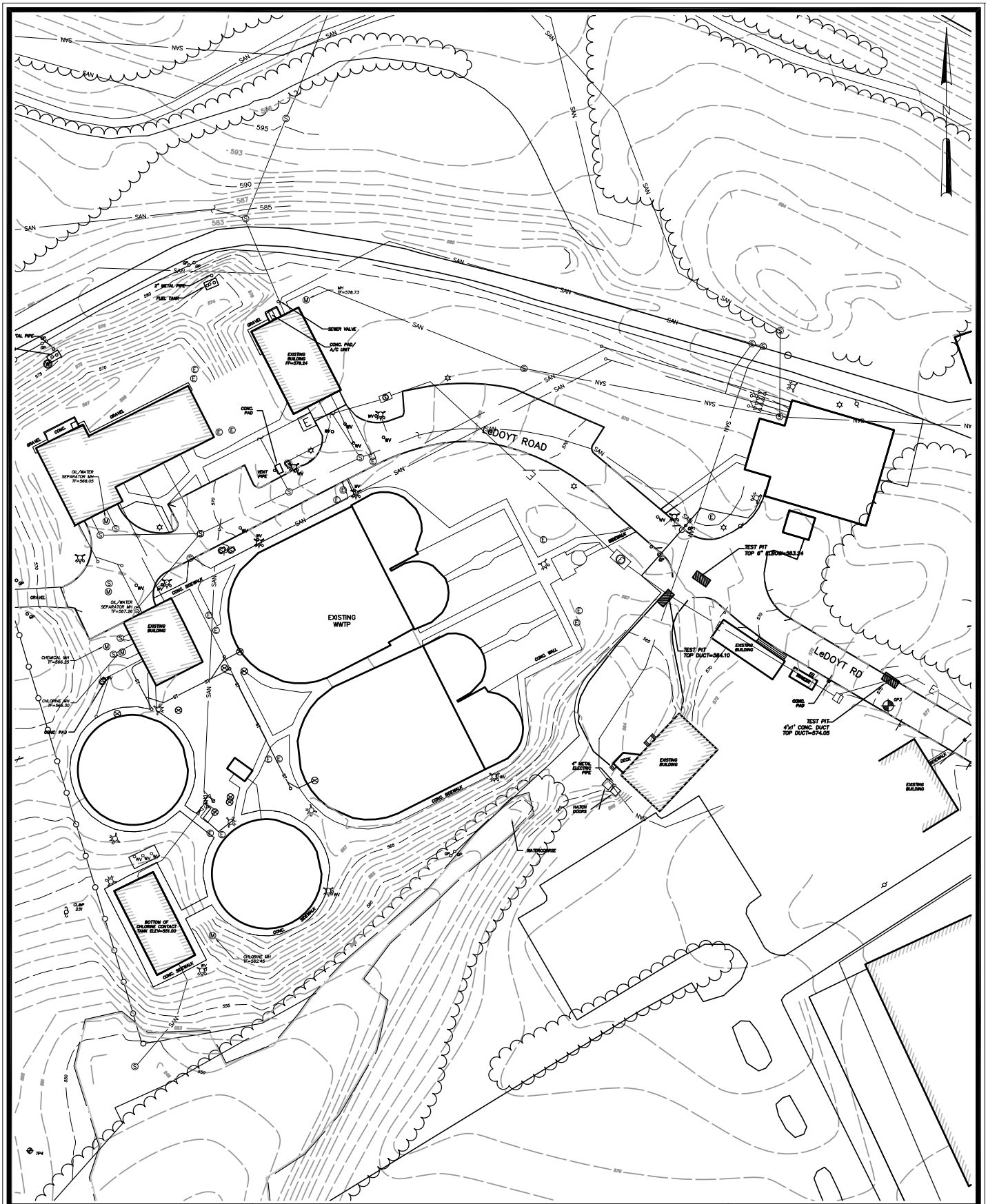
2. Provide a brief narrative describing any changes in the processes or activities generating or treating the discharge(s) which are proposed and/or have occurred since the date of the last permit application. For example, such information should include the addition, substitution, or elimination of processes, modifications of treatment systems or chemicals added to treat the discharge, pollution prevention measures; and any other changes which may affect the quality or quantity of the discharge(s).

   Discharge DSN001 consists primarily of domestic sewage generated within the University of Connecticut's sanitary sewer system, which includes the University and a limited number of surrounding municipal and private buildings. In addition to the domestic sewage sources within the system, there are five categories of non-domestic sources which are included in this permit application. These source types include: 1) boiler blowdown, 2) food processing wastewater, 3) water treatment wastewater, 4) non-contact cooling water, and 5) miscellaneous wastewaters. Swimming pool wastewaters and vehicle maintenance wastewaters are covered by separate General Permit registrations. With respect to treatment process modifications, two have been implemented since the last permit was issued and one is pending. Refer to Attachment A for a description.

3. If in the table in question 1, you indicated that any permit parameter was exceeded, and any exceedances were by more than twice the permit limit or occurred more than three times, describe the steps taken to correct the problem.

   Exceedances of flow are being addressed through continuing efforts to combat infiltration and inflow associated with the sanitary sewer system. The single exceedances of cyanide and residual chlorine are believed to be outliers and are not indicative of problems in the treatment processes.

   Zinc exceeded its average and maximum concretration limitations on several occasions. Zinc has a variety of likely and suspected sources in the University including cosmetic products, pharmaceuitcal products, paints, laboratories, and the potable water distribution system. Concentrations of zinc were detected in the non-domestic wastewaters evaluated for this permit application: dairy bar wastewater, floor wash waters, air compressor blowdown, non-contact cooling water, and boiler blowdown. The University plans to develop an education and outreach program to discourage its service area population from disposing of cosmetic and pharmaceutical products in the sanitary wastewater system, as these are the suspected highest contributors that can not be directly controlled. The laboratory drain disposal best management practices manual will help control laboratory sources of zinc. For the wastewaters that can be directly controlled, the University plans to focus efforts on the dairy bar, air compressors, and floor wash waters.



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SITE PLAN - EXISTING WATER POLLUTION CONTROL FACILITY

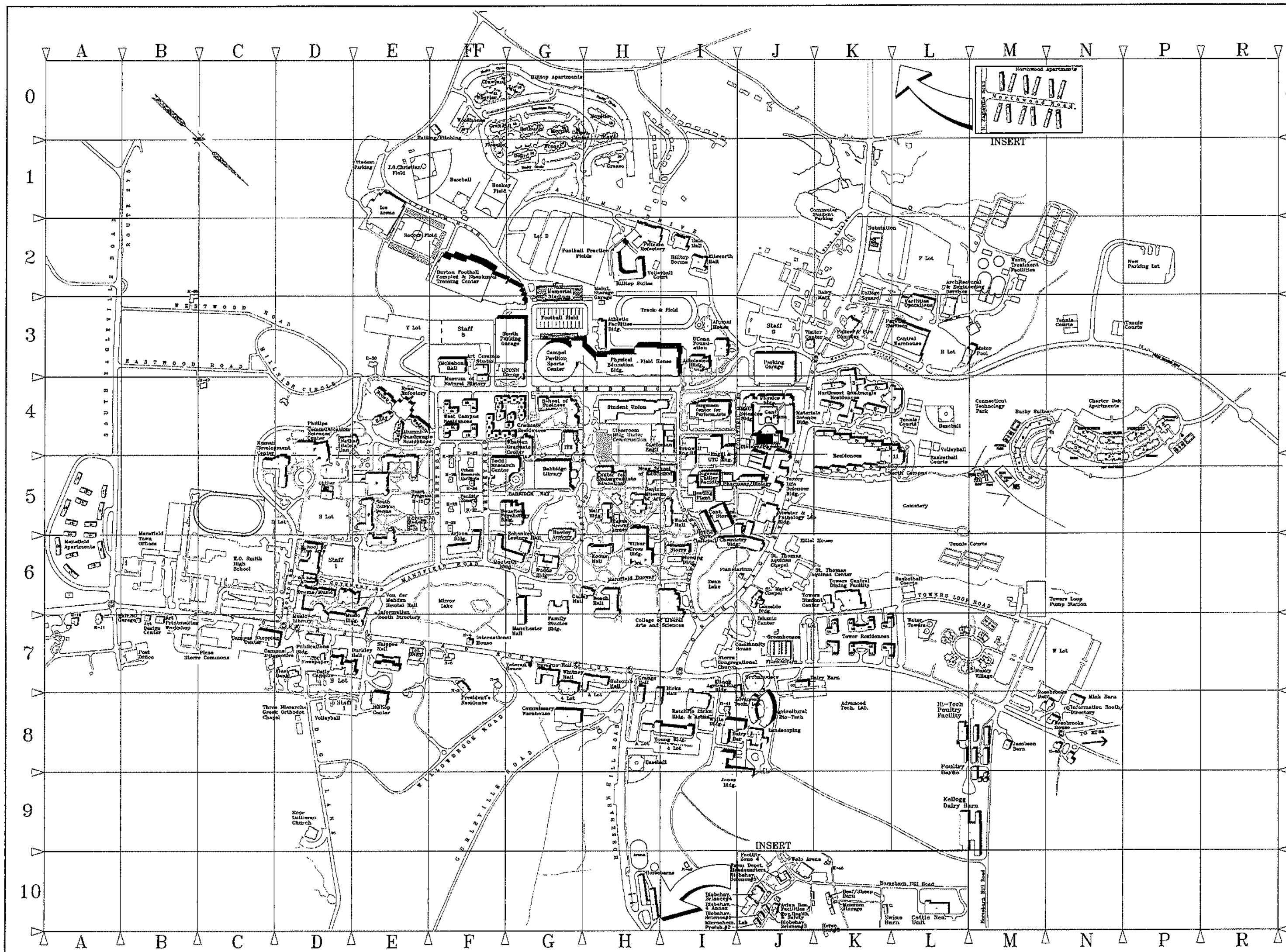
LOCATION:
UNIVERSITY OF CONNECTICUT
STORRS, CONNECTICUT

MMI #: 1958-48
DWG: Existing.dwg
BY: BAM

NPDES PERMIT RENEWAL

DATE: **5-16-11**
SCALE: **1"=100'**

SHEET: **Att. F**



Campus Directory

University of Connecticut
Storrs, Connecticut

PARKING PERMIT REQUIRED

Visitor Parking Information	486-4930	INFORMATION 486-2695
Admissions	486-3137	
Personnel Office	486-3033	EMERGENCY 9 1 1
Athletic Ticket Information	486-2724	POLICE 486-4800
Jorgensen Auditorium Box Office	486-4226	
Nutmeg Playhouse Information	486-3069	

Schools & Colleges

Agriculture and Natural Resources, College of W.B. Young Building	I-8
Business, School of School of Business Building	G-4
Education /NEAG/, School of Gentry Building	I-5
Engineering, School of Castleman Building	I-4
Fine Arts, School of Fine Arts Building	D-6
Graduate, School of Whetton Graduate Center	G-4
Liberal Arts and Sciences, College of CLAS Building	I-6
Nursing, School of Storrs Building	I-6
Pharmacy, School of Pharmacy/Biology Building	H-4
Ratcliffe Hicks School of Agriculture W.B. Young Building	I-8

Buildings

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Advance Technology Lab.	J-8
Agricultural Engineering Laboratory	J-7
Ag-Bio Tech Building	J-8
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2 Belden	
3 Eddy	
4 Brock	
5 Ryan	
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Architectural and Engineering Services	L-3
Arjona Building	F-6
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Athletic Facilities Building &	H-3
Athletic Maint. Storage Garage	H-3
Athletic Offices	F-5
Avian Research Facilities (insert)	J-10
Babbidge Library, Homer G.	G-5
Baseball Field	F-1
Beach Hall	H-6
Beef and Sheep Barn (insert)	K-10
Benton Museum of Art, William	H-5
Biobehavioral Sciences Complex (insert)	J-10
Biobehavioral Science, Pref 1	
Biobehavioral Science, Pref 3	
Biobehavioral Science, Pref 4 (orig)	
Biobehavioral Science 4 Annex	
Biology/Physics	J-4
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Buckley Hall	D-7
Budds Building	G-6
Burton Football Complex & Shenkman Training Center	F-2
Castleman Building (Engr.I)	J-4
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E Rhode Island	
F Massachusetts	
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St. Thomas Aquinas Church & Student Ctr (Roman Catholic)	J-6
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Facility Zone 4 Building (insert)	J-10
Farm Dept. Headquarters (insert)	J-10
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Floriculture Building	J-7
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Gampel Pavilion	G-3
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A Ashford / J Jewitt City	
B Branford / K Killingly	
C Colchester / L Lyme	
D Derby / M Milford	
E Enfield / N Norwalk	
F Farmington / P Preston	
G Guilford / Q Quinebaug	
H Hebron / R Ridgefield	
Grange Hall	H-8
Greenhouses	J-7
Gulley Hall	H-6
Hale Hall	I-2
Hall Building	H-5
Hawley Armory	G-5
Heart Program	E-5
Heating Plant	I-5
Hicks Hall	I-8
HILLTOP APARTMENTS:	G-0
10 Ella Grasso	
11 Harriett Beecher Stowe	
12 Antonia Novello	
13 Mildred French	
14 Mary Ritter Beard	
15 Susette La Flesche	
16 Prudence Crandall	
17 Mary McLeod Bethune	
18 Alice Patterson Merritt	
19 Chieng-Shiung Wu	
20 Maude Knapp Wheeler	
21 Sarah Buck Crawford	
22 Chase Going Woodhouse	
30 Community Center	
Hilltop Suite	H-2
Holcomb Hall	H-7
Horsebarns	K-10
Horsebarn Hill Arena	J-10
Horticulture Storage	F-3
Human Development Center	D-5
HUSKY VILLAGE:	M-7
Building A	
Building B	
Building C	
Building D	
Building E	
Building F	
Building G (Director's House)	
Ice Arena	K-1
Infirmary / UConn Health Service	I-5
Information Technology Engineering	G-4
International House	F-7
Jacobson Barn	M-8
Jones Building	I-8
Jorgensen Center for Performing Arts	I-4
Kellogg Dairy Barn	M-9
Koons Hall	H-6
Lakeside Apartments	J-6
Library, Homer G. Babbidge	G-5
Manchester Hall	G-6
MANSFIELD APARTMENTS:	A-6
Mansfield Town Offices	B-6
Materials Science Building	J-4
Math Science Building	J-4
McMahon Hall, Brian	F-3
Memorial Stadium	G-2
Microchemistry Lab Pref 2	J-10
Mink Barn	N-8
Monteith Building	G-6
Motor Pool	M-3
Museum of Art, Wm. Benton	H-5
Museum Storage	K-10
Music Building	D-7
Music Library	D-6
Nafe Katter Theatre	D-6
Nathan Hale Inn	D-4
NEAG School of Education	I-5
NORTH CAMPUS RESIDENCES:	K-5
1 Hartford / 7 Middlesex	
2 New Haven / 8 Tolland	
3 New London / 9 Hurley	
4 Fairfield / 10 Baldwin	
5 Windham / 11 McConaughy	
6 Litchfield	
NORTHWEST QUADRANGE RESIDENCES:	K-4
1 Hanks / 5 Terry	
2 Goodyear / 6 Rogers	
3 Russell / 7 Dining Hall	
4 Batterson	
NORTHWOOD APARTMENTS (insert)	M-0
Nursing Building	I-6
Parking Garage	J-3
Pathology Lab Building	J-5
Pharmacy / Biology Building	J-5
Physical Education Building	H-3
Physics Building	J-4
Planetarium	J-6
Post Office	B-7
Poultry Barns	L-8
President's Residence	F-7
Psychology Building	G-5
Psychology Research Annex	H-5
Publications Building	D-7
Public Safety Complex	K-3
Puerto Rican Latin-Am. Cult. Center	H-5
Putnam Refectory	H-3
Ratcliff Hicks Building	I-8
Rosebrooks Barn	N-8
Rosebrooks House	N-8
Ryan Refectory	E-4
Schenker Lecture Hall	G-6
Shippee Hall	E-7
E.O.Smith High School	C-6
Soccer Field	E-2
South Campus	E-6
Sprague Hall	G-7
School of Fine Arts	D-6
Storrs Congregational Church	I-7
Storrs Hall	I-6
Student Union	H-4
Swine Barn	K-10
Tennis Courts	F-2
Torrey Life Sciences Building	J-5
Towers Central Dining Facility	K-6
TOWER RESIDENCES:	K-7
1A Webster / 4A Keller	
1B Sherman / 4B Fenwick	
2A Jefferson / 4C Wade	
2B Colt / 4D Hamilton	
3A Trumbull / 5A Vinton	
3B Sousa / 5B Beecher	
3C Lafayette / 6A Allen	
3D Morgan / 6B Kingston	
Towers Student Center	K-6
Uconn Foundation	I-3
Undergraduate Student Government	E-5
Urban Research Institute	F-5
Veteran's House	G-7
Visitor Center	J-3
Von der Mehden Recital Hall	D-6
Ware Building	I-5
Warming Hut	E-1
Wastewater Treatment Facility	M-2
WEST CAMPUS RESIDENCES:	F-4
1A Alsop / 3A Shakespear	
1B Alsop / 3B Troy	
2A Hollister / 4A Chandler	
2B Hollister / 4B Lancaster	
Whetten Graduate Center	G-4
White Building	I-6
Whitney Hall	G-7
Wilbur Cross Building	H-6
Williams Health Services	I-5
Wood Hall	I-5
Young Building, W.B.	I-8

Departments

Academic Affairs, Provost & ExVP for, Gulley Hall	H-6
Accounting, School of Business	G-4
Admissions, Admission Building/Tasker	I-3
African-American Cultural Center, Student Union Building	H-4
Agricultural & Resource Economics, Young Bldg	I-8
Agricultural Engineering, Agricultural Engineering/Ellnck Building	J-7
Agricultural Experiment Station, Adv. Tech. Lab.	J-8
Allied Health Sciences, Koons Hall	H-6
Animal Genetics, Pathobiology Building	J-5
Animal Science, White Building	I-6
Anthropology, Beach Hall	H-6
Art & Art History, Fine Arts Building	D-6
Asian-American Cultural Center, Student Union	H-4
Athletics, Gampel Pavilion Sports Center	H-3
Biobehavioral Sciences, Biobehavioral Science Building #4	J-10
Biological Sciences, Torrey Life Sciences Bldg	J-5
Biotechnology / Bioservices Center, Biology/Physics Building	J-4
Bursar, Office of The Wilbur Cross Building	H-6
Business School, Bus. International Programs, School of Business	G-4
Capital Project & Contract Administration Arch. & Eng. Services Building	L-3
Career Services, CUE Building	H-5
Center Recycling & Storage, Ware Building	I-5
Chemical Engineering, Engineering II	
Chemistry, Chemistry Building	J-6
Civil Engineering, Castleman Building	I-4
Commencement Office, Gulley Hall	H-6
Communication Sciences, Phillips Comm. Sciences Center	D-4
Computer Science & Engeenlering, ITE Building	G-4
Conservation & Biodiversity, Center for, Torrey Life Sciences Building	J-5
Continuing Studies, Merlin Bishop Center	E-8
Controller, Office of, Budds Building	G-6
Cooperative Extension Centers, Young Building	I-8
Culture, Health & Human Development Center, Young Building	I-8
Curriculum and Instruction, Gentry Building	H-5
Development Research, Foundation Building	I-3
Disabilities, Center for Students with, Wilbur Cross Building	H-6
Diversity and Equity, Office of, Wood Hall Building	I-5
Dramatic Arts, Drama/Music Building	D-6
Ecology & Evolutionary Biology, Torrey Life Sciences Building	J-5
Economics, Monteith Building	G-6
Educational Leadership, Gentry Building	I-5
Engineering, Castleman Building	I-4
English, CLAS Building	I-6
Environmental Health and Safety, EH&S Modular	J-10
Extension, Young Building	I-8
Facilities Operations, Facilities Operations Bldg	L-3
Finance, School of Business	G-4
Finance and Administration, Gulley Hall	H-6
Financial Aid, Wilbur Cross Building	H-6
Food Services, Wilbur Cross Building	H-6
Geography, CLAS Building	I-6
Geosciences, Center for Integrative, Beach Hall	H-6
Gifted Education and Talent, Admissions Building/Tasker	I-3
History, Wood Hall	I-5
Human Development & Family Studies, Family Studies Building	G-6
Human Rights Institute, Dodd Research Center	F-5
Information Technology, Math Science Building	J-4
Instructional and Classroom Design, CUE Building	H-5
International Affairs, Ryan Building	E-4
International Services and Programs, Student Union	H-4
Jorgensen Center for The Performing Arts, Jorgensen Building	I-4
Journalism, Arjona Building	F-6
Judaic Studies & Contemorary Jewish Life, Dodd Research Center	F-5
Kinesiology /Sport & Leisure/, Gampel Pavilion	G-3
Library, Homer Babbidge, Babbidge Library	G-5
Linguistics, Arjona Building	F-6
Management, School of Business	G-4
Marketing, School of Business	G-4
Materials Science Building, IMS Building	J-4
Mathematics, Math Sciences Building	J-4
Mechanical Engineering, UTC Building	I-4
Military Science, Hall Building	H-5
Modern and Classical Languages, Arjona Building	F-6
Music, Music Building	D-6
National Student Exchange, CUE Building	H-5
Natural Resources Management & Engineering, Young Building	I-8
Nutritional Sciences, Jones Building	I-8
Operations, Associate Vice President for	H-6
Parking & Transportation Services, Central Warehouse	L-3
Pathobiology, Pathobiology Lab Building	J-5
Pharmaceutical Sciences, Pharmacy/Biology Bldg	H-4
Philosophy, Manchester Hall	G-6
Physical Therapy, Koons Hall	H-6
Physiology and Neurobiology, Torrey Life Sciences Building	J-5
Physics, Physics Building	J-4
Plant Science, Young Building	I-8
Political Science, Monteith Building	G-6
President, Office of The, Gulley Hall	H-6
Psychology, Psychology Building	G-5
Public Safety and Police, Public Safety Complex	K-3
Puerto Rican/Latin American Cultural Center Student Union	H-4
Registrar, Office of The, Wilbur Cross Building	H-6
Research Foundation, Whetten Graduate Center	G-4
Residential Life, Wilbur Cross Building	H-6
Sociology, Manchester Hall	G-6
Statistics, CLAS Building	I-6
Student Activities and Union Programs, Student Union Building	H-4
Student Affairs (Dean of Students), Wilbur Cross Building	H-6
Student Health Services, Williams Health Services Building	I-5
Student Health Services, Williams Health Services Building	
Study Abroad Programs, CUE Building	H-5
Undergraduate Student Government Student Union Building	H-4
Visitors Center, Lodewick Visitors Building	J-3
Women's Center, Student Union Building	H-4

Revised as of January

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FRANKLIN WILDLIFE
391 ROUTE 32
N FRANKLIN CT 06254
860-642-7239

April 6, 2011

Mr. Shawn Goulet
Milone and MacBroom, Inc.
99 Realty Drive
Cheshire, CT 06410

re: UCONN Municipal Wastewater Discharge permit renewal

Dear Mr. Goulet:

Your request was forwarded to me on 4/5/2011 from the Department of Environmental Protection's (DEP) Natural Diversity Data Base (NDDB). They have records of a state species of special concern, (Wood Turtle (*Glyptemys insculpta*) in the vicinity of this project.

Wood turtles require riparian habitats bordered by floodplain, woodland or meadows. Their summer habitat includes pastures, old fields, woodlands, powerline cuts and railroad beds bordering or adjacent to streams and rivers. This species is dormant from November 1 to April 1 and has been negatively impacted by the loss of suitable habitat.

The Wildlife Division has not been provided with details or a timetable of the work to be done. If this is a relicensing of an existing practice, there should be no impacts on this species – and it should have been indicated on the application. If new work will be conducted in this species' habitat the Wildlife Division recommends that a herpetologist familiar with the habitat requirements of the Wood turtle conduct surveys during the active season (April-October). A report summarizing the results of such surveys should include habitat descriptions, reptile species list and a statement/resume giving the herpetologist' qualifications. The DEP does not maintain a list of herpetologists in the state. A DEP Wildlife Division permit may be required by the herpetologist to conduct survey work, you should ask if your herpetologist has one. The results of this investigation can be forwarded to the Wildlife Division and, after evaluation, recommendations for additional surveys, if any, will be made.

Standard protocols for protection of wetlands should be followed and maintained during the course of the project. Additionally, all silt fencing should be removed after soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted. Please be advised that the Wildlife Division has not made a field inspection of the project nor have we seen detailed timetables for work to be done. Consultation with the Wildlife Division should not be substituted for site-specific surveys that may be required for environmental assessments. The time of year when this work will take place will affect this species if they are present on the site when the work is scheduled. Please be advised that should state permits be required or should state involvement occur in some other fashion, specific restrictions or conditions relating to the species discussed above may apply. In this situation, additional evaluation of the proposal by the DEP Wildlife Division should be requested. If the proposed project has not been initiated within 12 months of this review, contact the NDDB for an updated review. If you have any additional questions, please feel free to contact me at Julie.Victoria@ct.gov, please reference the NDDB # at the bottom of this letter when you e-mail. Thank you for the opportunity to comment.

Sincerely,

Julie Victoria, Wildlife Biologist

cc: NDDB 201101745

Request for Natural Diversity Data Base (NDDB) State Listed Species Review

All requesters must completely fill out Parts I - VII of this form and submit Attachments A and B, or the request will be rejected as incomplete.
There are no fees associated with NDDB Reviews.

DEP USE ONLY
Request No. _____
Hardcopy _____ **Electronic files** _____

Part I: Preliminary Screening

Before submitting this request, you must review the Natural Diversity Data Base "State and Federal Listed Species and Significant Natural Communities Maps" found on the DEP website. Follow the instructions on the map or in this form's instruction document. These maps are updated twice a year, usually in June and December.

Does your site, including all affected areas, meet the screening criteria according to the instructions:

☒ Yes ☐ No

Enter the date of the map reviewed for pre-screening: **December, 2010**

Part II: Requester Information

***If the requester is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the company name shall be stated **exactly** as it is registered with the Secretary of State.*

If the requester is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Requester Company Name*: **Milone & MacBroom, Inc.**

Name: **Shawn Goulet**

Address: **99 Realty Drive**

City/Town: **Cheshire** State: **CT** Zip Code: **06410**

Business Phone: **203-271-1773** ext. **281** Fax: **203-272-9733**

Requester can best be described as:

☒ Business Entity ☐ Federal Agency ☐ Municipal govt. ☐ State agency ☐ Individual

☐ Tribe ☐ Other (specify):

Acting as (Affiliation), pick one:

☐ Property owner ☐ Consultant ☒ Engineer ☐ Facility owner ☐ Applicant

☐ Biologist ☐ Pesticide Applicator ☐ Other representative (specify):

2. **List Primary Contact to receive Natural Diversity Data Base correspondence and inquiries, if different from requester.**

Company:

Contact Person: Title:

Mailing Address:

City/Town: State: Zip Code:

Business Phone: ext. Fax:

Email:

Part II: Requester Information (continued)

Affiliation of primary contact, check one: ☐ Property owner ☒ Consultant ☐ Engineer

☐ Facility owner ☐ Applicant ☐ Biologist ☐ Pesticide Applicator

☐ Other representative (specify):

3. Project Type:

Choose Project Type: Stormwater/waste/water discharge , If other describe: _____

Part III: Site Information

This request can only be completed for one site. A separate request must be filed for each additional site.

1. Site Location

Site Name or Project Name: **University of Connecticut Municipal Wastewater Discharge Permit Renewal**

Town(s): **Mansfield**

Street Address or Location Description:
University of Connecticut's municipal wastewater discharge outfall to the south of the Eagleville Pond dam and the Route 275/Stonehouse Road bridge.

Size in acres, or site dimensions: **Typical discharge pipe**

Latitude and longitude of the center of the site in decimal degrees (e.g., 41.23456 -71.68574):

Latitude: **41.78439** Longitude: **-72.28064**

Method of coordinate determination (check one):

☐ GPS ☒ Photo interpolation using CTECO map viewer ☐ Other (specify):

2a. Describe the current land use and land cover of the site.

The outfall pipe for the University of Connecticut's municipal wastewater discharge is located in the Willimantic River at the border between Coventry and Mansfield, just to the south of Eagleville Pond Dam and the Stonehouse Road/Route 275 bridge. On either adjacent bank, there is parking and public access to the river. The area is lightly residentially developed.

b. Check all that apply and enter the size in acres or % of area in the space after each checked category.

☐ Industrial/Commercial _____ ☐ Residential _____ ☐ Forest _____

☐ Wetland _____ ☐ Field/grassland _____ ☐ Agricultural _____

☒ Water _____ ☐ Utility Right-of-way _____

☐ Transportation Right-of-way _____ ☐ Other (specify): _____

Part IV: Project Information

1. Is the subject activity limited to the maintenance, repair, or improvement of an existing structure within the existing footprint? ☐ Yes ☒ No If yes, explain.

Part IV: Project Information (continued)

2. Give a detailed description of the activity which is the subject of this request and describe the methods and equipment that will be used.

   MMI is prepairing a Municipal Wastewater Discharge Permit renewal for the University of Connecticut. The outfall which the wastewater discharges from is located in the Willimantic River downstream of the Eaglevill Pond Dam and the Route 275/Stonehouse Road bridge. As part of the permit application, a Natural Diversity Database Review is included as Attachment H.

3. Provide a contact for questions about the project details if different from Part II primary contact.

   Name:

   Phone:

   Email:

Part V: Request Type and Associated Application Type

Check *one* box from either Group 1 *or* Group 2, indicating the appropriate category for this request.

Group 1. If you check one of these boxes, fill out Parts I – VII of this form and submit the required attachments A and B.

- ☐ Preliminary screening was negative but an NDDB review is still requested
- ☐ Request regards a municipally regulated or unregulated activity (no state permit/certificate needed)
- ☐ Request regards a preliminary site assessment or project feasibility study
- ☐ Request relates to land acquisition or protection
- ☒ Request is associated with a *renewal* of an existing permit, with no modifications

Group 2. If you check one of these boxes, fill out Parts I – VII of this form and submit required attachments A, B, *and* C.

- ☐ Request is associated with a *new* state or federal permit application
- ☐ Request is associated with modification of an existing permit
- ☐ Request is associated with a permit enforcement action
- ☐ Request regards site management or planning, requiring detailed species recommendations
- ☐ Request regards a state funded project, state agency activity, or CEPA request

If you are filing this request as part of a state or federal permit application enter the application information below.

Permitting Agency and Application Name:
DEP and TBD

State DEP Application Number, if known: _____

State DEP Enforcement Action Number, if known: _____

State DEP Permit Analyst/Engineer, if known: _____

Is this request related to a previously submitted NDDB request? ☐ Yes ☒ No

Enter the previous NDDB Request Number(s), if known: _____

Part VI: Supporting Documents

Please check each attachment submitted as verification that *all* applicable attachments have been supplied with this request form. Label each attachment as indicated in this part (e.g., Attachment A, etc.) and be sure to include the requester's name, site name and the date. **Please note that Attachments A and B are required for all requesters.** Attachment C (DEP-APP-007C) is supplied at the end of this form.

☒ Attachment A:	**Overview Map:** an 8 1/2" X 11" print/copy of the relevant portion of a USGS Topographic Quadrangle Map clearly indicating the exact location of the site.
☒ Attachment B:	**Detailed Site Map:** fine scaled map showing site boundary details on aerial imagery with relevant landmarks labeled. (Site boundaries in GIS [ESRI ArcView shapefile, in NAD83, State Plane, feet] format can be substituted for detailed maps, see instruction document)
☐ Attachment C:	**Supplemental Information, Group 2 requirement (attached, DEP-APP-007C)** ☐ Section i: Supplemental Site Information and supporting documents ☐ Section ii: Supplemental Project Information and supporting documents

Part VII: Requester Certification

The requester *and* the individual(s) responsible for actually preparing the request must sign this part. A request will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief."

Signature of Requester	**3/14/11** Date
Shawn Goulet Name of Requester (print or type)	**Environmental Scientist (MMI)** Title (if applicable)
Signature of Preparer (if different than above)	Date
Name of Preparer (print or type)	Title (if applicable)

Note: Please submit the completed Request Form and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Or email request to: **dep.nddbrequest@ct.gov**

Attachment C: Supplemental Information, Group 2 requirement

Section i: Supplemental Site Information

1. Existing Conditions

Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted and labeled on the site plan that must be submitted. Photographs of current site conditions may be helpful to reviewers.

☐ **Site Photographs (optional) attached**

☐ **Site Plan/sketch of existing conditions attached**

2. Biological Surveys

Has a biologist visited the site and conducted a biological survey to determine the presence of any endangered, threatened or special concern species ☐ Yes ☐ No

If yes, complete the following questions and submit any reports of biological surveys, documentation of the biologist's qualifications, and any NDDB survey forms.

Biologist(s) name:

Habitat and/or species targeted by survey:

Dates when surveys were conducted:

☐ **Reports of biological surveys attached**

☐ **Documentation of biologist's qualifications attached**

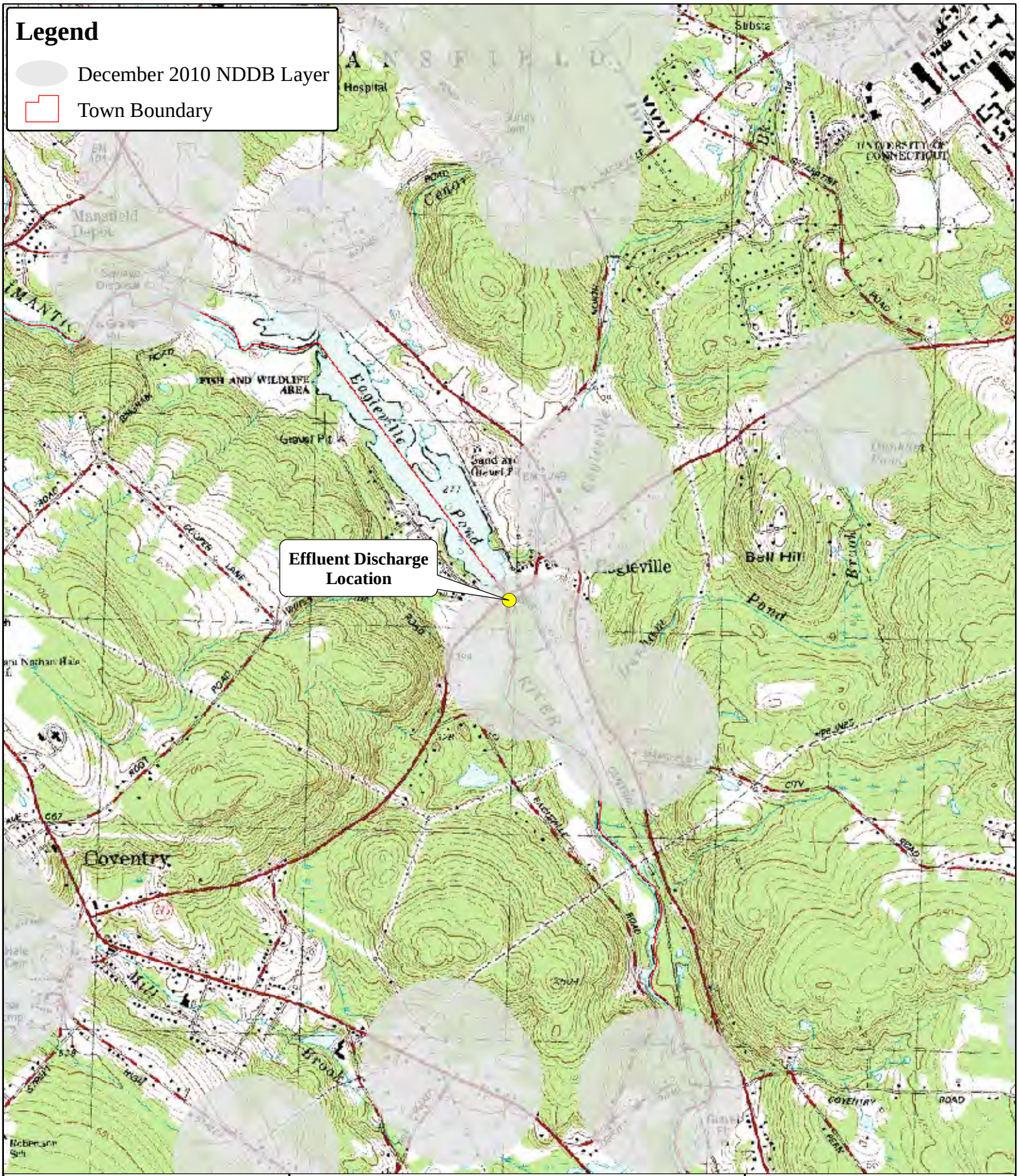
☐ **NDDB Survey forms for any listed species observations attached**

Section ii: Supplemental Project Information

1. Provide a schedule for all phases of the project including the year, the month and/or season that the proposed activity will be initiated and the duration of the activity.

2. Describe and quantify the proposed changes to existing conditions and describe any on-site or off-site impacts. In addition, provide an annotated site plan detailing the areas of impact and proposed changes to existing conditions.

☐ **Annotated Site Plan attached**



Engineering, Landscape Architecture and Environmental Science

MILONE & MACBROOM®

99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax: (203) 272-9733
www.miloneandmacbroom.com

Overview Map

LOCATION: Mansfield, CT

MMI#: 1958-48-2

MXD: P:\Overview_Map.mxd

SOURCE: CT DEP, USGS

N

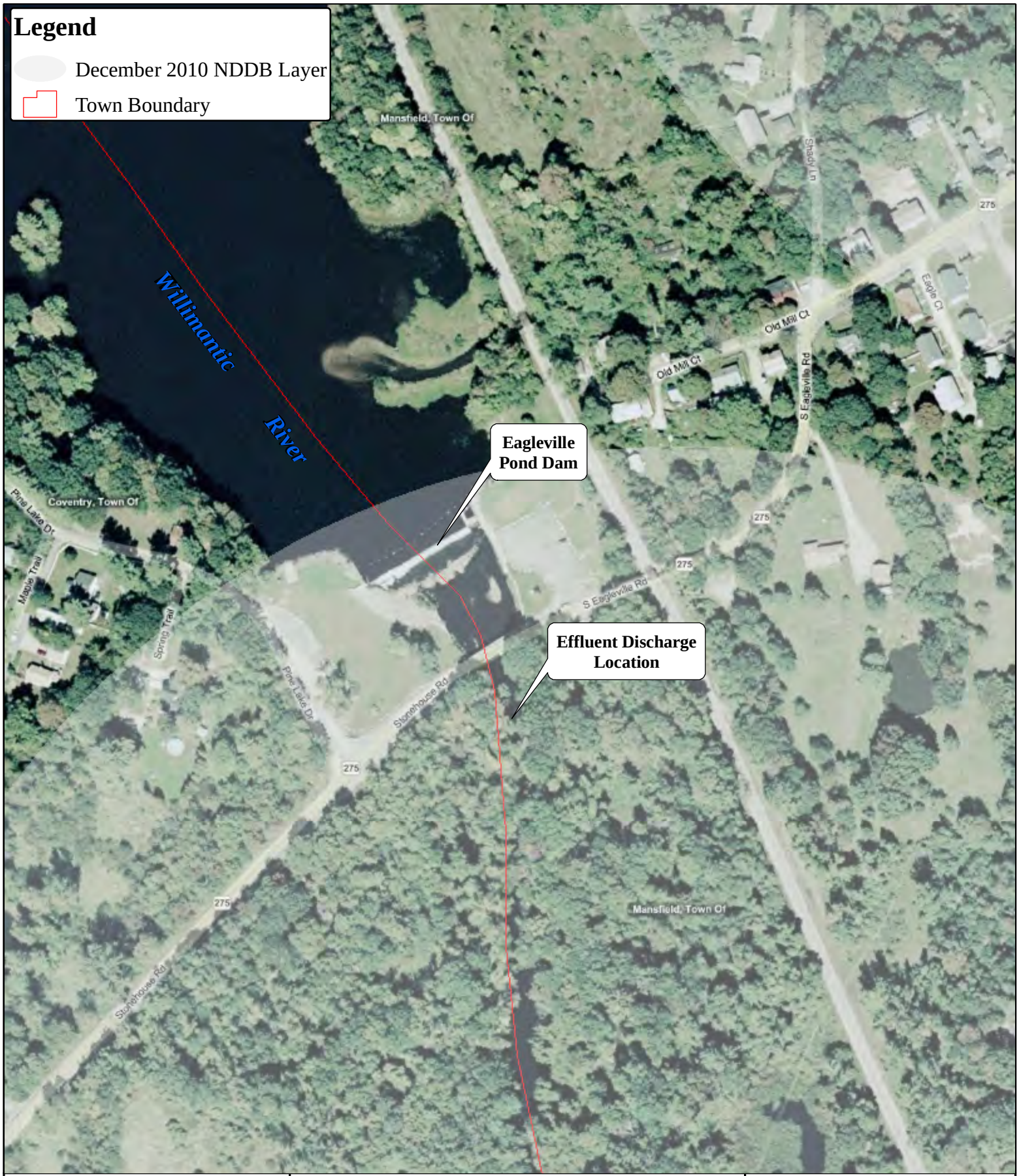
Permitting for the Discharge of Municipal Wastewater from Treatment Facility

Map By: SMG

Date: March 2011

Scale: 1" = 2,000'

SHEET: Attachment A



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www.miloneandmacbroom.com

Detailed Site Map

LOCATION: Mansfield, CT

MMI#: 1958-48-2
MXD: P:\Site_Map.mxd
SOURCE: CT DEP

N

Permitting for the Discharge of Municipal Wastewater from Treatment Facility

Map By: SMG
Date: March 2011
Scale: 1" = 200'

SHEET: Figure X

Attachment I: Operation and Maintenance of the Collection and Treatment Systems General Description, Plan Checklist and Certification

Reproduce and complete this entire form for each permit that you are applying for.

Type of receiving water (check one): ☒ Surface Water ☐ POTW ☐ Ground Water

Part A: General Description

Please provide a general description of the methods and provisions for the operation and maintenance of the collection and treatment systems, specifically addressing Plan Elements No. 1, 6, and 9 outlined in Part B: Plan Checklist. Be sure to label this description by identifying it as "Attachment I - Part A" and attach the description to this Plan Checklist.

Part B: Plan Checklist

Review the following plan elements to ensure that each element is included and adequately addressed in your Operation and Maintenance Plan. A copy of this plan must be maintained on-site at all times. Certify that the plan is adequate with respect to each element by inserting your initials in the space provided. For elements which are determined to be not applicable to the collection and treatment systems, please indicate "N/A" next to the element and provide a brief explanation.

Plan Elements	Initial/Not Applicable
1. A detailed description of all wastewater treatment equipment on site including: a. A description of treatment unit sizes, their operating capacities, retention times, manufacturers and models. b. A functional description of each treatment system and subsystem including a discussion of how each item functions and variables that might affect performance.	
2. A detailed description of collection and treatment system operation, start-up, shut-down and power outage procedures, including the positions of all switches, valves, instrument settings and precautions. For batch systems, include operating instructions describing testing procedures to be performed for each batch, when different treatments are to be used and instructions for operating the different types of treatments.	
3. A list of instrument calibration and alarm testing frequencies. This should include but not be limited to the frequency that the pH meters and alarms, flow meters, and level alarms are tested or calibrated.	
4. An inventory of all spare parts and equipment kept at the facility for the wastewater treatment system.	
5. A list of all treatment chemicals, quantities stored at the facility and dosage rates.	

Part B: Plan Checklist (continued)

Plan Elements	Initial/Not Applicable
6. A maintenance plan for the collection and treatment system, both preventive and corrective, with proposed daily, weekly, monthly, semi-annual and annual inspections and procedures.	
7. The number of full or part time waste water treatment system operators needed to properly run the system and a detailed description of any training the operators have had in the proper operation of the treatment system. For domestic sewage treatment facilities, the plan must include documentation of operator certification as required by RCSA Sections 22a-416-1 through 22a-416-10.	
8. A description of the log(s) to be kept near the treatment system, or readily accessible, for operational monitoring and inspections. All entries must show time, date and be initialed. These log books must be bound, pre-numbered and contain the following information, as applicable: a. for batch treatment systems: (1) number of gallons of each batch discharged (2) treatment chemicals added to each batch (3) the results of any chemical analysis done on each batch (4) what the wastewater of each batch consisted of (what processes contributed to the batch) (5) the pH of each batch at time of discharge (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) any observations the operator may have noticed about the discharge (clarity, foam, etc.)	

Part B: Plan Checklist (continued

Plan Elements	Initial/Not Applicable
8. b. for flow through systems: (1) total daily/shift flow (2) treatment chemical dosage rates (3) daily/shift treatment chemical tank levels (4) the results of any chemical analysis performed on the discharge (5) the range of pH during the day/shift (6) when meters and probes were calibrated and/or replaced (7) any maintenance performed on the system (8) the reason for any upsets that may have occurred (9) any observations the operator may have noticed about the discharge (clarity, foam, etc.)	
9. A description of any security measures to prevent vandalism of the collection and treatment systems.	
10. A flow diagram of the treatment system generating the discharge. The diagram must show all incoming waste streams, treatment units and their sizes, treatment chemical additions, all pumps and valves, electrical equipment (pH sensors and controllers, high level sensors and alarms, etc.) and connections between electrical units. Average, maximum, and design flow rates of incoming waste streams between treatment units and from discharge points and pumps must be indicated.	

Applicant Certification of an Operation and Maintenance Plan Checklist

Applicant Name:
(as indicated on the *Permit Application Transmittal Form*)

Application Number (if known):

Facility I.D. Number (renewals only):

Permit Number (renewals only):

I have personally examined and am familiar with the information contained in the Operation and Maintenance Plan required for this application, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for preparing the Operation and Maintenance Plan, such plan contains all applicable information listed in the Operation and Maintenance Plan Checklist. I further certify that I will submit this plan to the Department of Environmental Protection (DEP) upon request.

_____ / /
Applicant Signature Date

In the space below, please provide the names of the persons who prepared the Operation and Maintenance Plan and a brief description of the qualifications of each preparer, (i.e., professional certifications, education background, related work experience, etc.).

Earth Tech, Inc. prepared the facilities operations and maintenance manual in 1995.

Attachment I
Part A – General Description

The University of Connecticut retained Earth Tech in 1995 to develop a detailed operations and maintenance manual as part of the engineering services associated with the design and construction of the WPCF upgrade to provide additional capacity. The document is consistent with the EPA's recommended format. The operations and maintenance manual describes all treatment units and identifies their sizes, capacities, retention times, manufacturers, and model numbers. The manual describes the functions, normal operational procedures, and variables that may affect operation. The University's operations and maintenance of the WPCF and sanitary sewer system were more recently described in Section 3.4 of the Water and Wastewater Master Plan (June 2007).

Earth Tech's operations and maintenance manual describes a preventive and corrective maintenance plan for the treatment systems as of the date of the improvements in 1995. As noted elsewhere in this permit application, a complete replacement and upgrade of the SCADA system occurred several years ago to ensure uninterrupted monitoring and data acquisition of the facility's functions and lift stations. The radio transmitters originally installed at the lift stations were replaced by a wired remote network. The Facilities Work Order Control and the Central Utility Plant (CUP) were both equipped with alarm stations to ensure that a trained engineer or technician has the ability to respond to a WPCF alarm whenever required. In connection with the replacement of the SCADA system, the University reduced WPCF staffing from nine to seven individuals. A copy of the four-page memorandum recommending the staffing reduction is attached following this page.

The operations and maintenance manual will continue to be amended as the University completes additional process modifications. For example, after the recent installation of the Huber grit washer and the replacement of the coarse bar rack and the mechanical bar screen with a Huber step screen, grinder, and wash press, the appropriate operational information was appended to the operations and maintenance manual. Similar adjustments to the manual will be made subsequent to the installation of the two rotary screw presses that will replace the function of the gravity belt thickener. In turn, this upcoming modification will require adjustments to the SCADA system to include run signals and alarms from the sludge processing equipment. Future adjustments to the operations and maintenance manual may be necessary after completion of the Reclaimed Water Facility.

Security of the WPCF is accomplished by a perimeter fence that is locked outside of normal business hours. An alarm system monitors the facilities and alerts campus police and operations personnel during any emergency situation.

William A Idarola III
Wastewater Operations
Weston & Sampson Services- WSS
Phone (781) 953-4337

October 28, 2010

Mr Tim Tussing
Manager- Facilities (Water/Sewer)
UConn Facility Operations

Re: **Peer review of operations & staffing at the UConn WWTF (permit #CT0101320): Operations staffing recommendations and progress report per Scope of Services (dated June 30, 2010)**

Dear Tim,

In review of the letter you received from Phil Smith of CT DEP and operations of your wastewater treatment system, I provide the following recommendation(s):

Increase overall staffing level from 6 to 7 with the following configuration:

- 1- Chief Operator (CT Class IV)- functioning as Superintendent
- 1- Shift Operator (CT Class III)- functioning as a Lead/Senior Operator
- 1- Process Control Operator (CT Class III)- functioning as a Lab Director
- 4- Operators (minimum CT Class I) - UConn job title various but function essentially the same.

This recommendation that is being provided is based on my extensive knowledge and experience in the operation, maintenance, and management of wastewater treatment systems in CT over the past 15+ years.

Detailed below are the following provided in support of my recommendation:

- A summary of the items specified per our Scope of Services as pertains to your wastewater treatment facility (items 1 thru 6).
- A summary of my experience related to staffing issues at CT wastewater treatment systems.

1- Review of the letter received from Phil Smith (DEP) regarding the existing Operation & Maintenance (O&M) Manual:

Mr. Smith's letter was reviewed along with the referenced sections in the latest O&M manual (specifically sections 13-1 thru 13-12). The manual does identify that the staffing level requirement is nine persons for this facility as Mr. Smith has stated. If the current staffing level of six persons is to be maintained, UConn will need to submit a request for reduction of staffing levels and provide justification for such a request. This request will need to be approved by CT DEP.

*Note- This O&M manual was issued in 1995 and compliance with the staffing level in this document does not consider compliance with the current CT DEP Operator Regulations (CGS Section 22a-416-1 thru 10, effective June 2000). Compliance with these regulations will also be required.

2- Review the current O&M manual as referenced in the letter from Phil Smith (CT DEP):

The current O&M manual has been reviewed in reference to Phil Smith's letter (Sections 13-1 thru 13-12). This section of the manual provides a brief introduction stating that the staffing level is nine persons followed by five job descriptions. These job descriptions are for the following positions:

- Superintendent/Chief Operator- requires a CT Class IV wastewater operators certification
- Operator- requires a CT Class II wastewater operators certification
- Laboratory Technician- no CT wastewater operations certification class specified
- Mechanic- no CT wastewater operations certification class specified
- Maintainer- no CT wastewater operations certification class specified

The O&M manual does not specify the number of personnel at each position. Additionally, similar to as stated in the note in 1 (above) these positions and job descriptions do not account for compliance the current CT DEP Operator Regulations. Specifically:

- Shift Operator- current regulations require a Shift Operator for this facility. This operator serves essentially the same function as the Chief Operator and requires a minimum CT Class III wastewater operator's certification. This position is not included or referenced in any of the job descriptions provided.
- Operator certification- All persons employed at a wastewater treatment facility are required to obtain a minimum CT Class I wastewater operators certification within 24 months of beginning employment at a CT wastewater treatment facility. This requirement is not included as part of the job descriptions provided.

3- Tour the wastewater treatment plant and pump stations:

I toured the wastewater treatment plant with Tim Tussing on August 5, 2010. During the course of the tour I was shown all of the equipment used for operation of the facility & discussed most of the operations and maintenance tasks necessary for this facilities operation. Observations as follows:

- Plant was producing a good quality Effluent at the time of the tour
- All plant equipment appeared operable and in good working order
- No significant maintenance shortfalls were evident
- No evidence was evident of any significant deterioration, leaks, or spills
- Plant grounds and buildings were well maintained
- Facility laboratory was clean, well maintained, and appropriately stocked.
- Plant records appeared to be complete and adequately organized

Additional observation and discussion did show that staffing levels were lower than usual due to various circumstances evidenced by the availability of only the chief operator and Mr. Tussing at the time of the tour. The remainder of the personnel were involved with other treatment plant or collection system matters or not present at the facilities at that time.

4- Review the record keeping procedures currently utilized:

As discussed in 3 (above), plant records appeared to be complete and adequately organized. Mr. Tussing showed me the centralized SCADA monitoring system which was staffed continuously by UConn personnel. This system was well organized and capable of tracking/monitoring most of the systems associated with the wastewater treatment plant and collection system- overall capabilities of this system was impressive.

Specific details regarding usage of database management systems for plant data was not discussed at length but further investigation into what is currently in use and a comparison to what is currently available should be further investigated.

5- Assess the current staffing by reviewing staff, operations, plant performance and preventative maintenance records:

Current staffing level was discussed at length with Mr. Tussing and additional documents have been reviewed. The following is a summary of these discussions and reviews:

- Current staff level is six persons (Chief Operator, Laboratory Technician, and four operators (various titles))
- One of these positions is open and is in the process of being filled with an operator possessing a CT Class III wastewater operators certification. Applications have been received and interviews are in the process of being scheduled.
- One of these positions is not currently available due to a long term health issue with the currently assigned operator (i.e position is not vacated)
- Mr. Tussing has stated that the current staff levels have not impaired the wastewater treatment facilities ability to meet its permit limits.
- Review of the UConn Water & Wastewater Master Plan (June 2007) which was prepared by Milone & MacBroom with Tighe & Bond confirms the current staffing level of six persons are adequately managing/maintaining this facility.

6- Contact Phil Smith and Craig Motasky of CT DEP to schedule a preliminary meeting regarding the current issues and how to resolve them:

We will need to discuss the details necessary to prepare for, schedule, and attend this meeting. Based on work and review that has been done thus far, I believe we are at this point.

I have had brief contact with Mr. Smith to discuss his expectations from UConn in resolving the issue brought forth in his letter. His expectation is as he stated, to staff the wastewater treatment plant with nine persons as specified in the O&M manual or to request and justify a reduction in staffing.

Based on my review of your facility, discussion with Mr. Tussing, and my experience with working with CT DEP on these types of issues, I believe a reduction from the nine persons specified in the O&M manual can be justified and approved by CT DEP.

Related experience as pertains to operations staffing at CT wastewater treatment systems

As discussed in my recommendation, I have extensive knowledge and experience in the operation, maintenance, and management of wastewater treatment systems in CT. Listed below are examples of staffing levels at some existing facilities and reductions in staff or staffing hours that I have been able to negotiate successfully with CT DEP:

- New London WWTF (CT Class IV- 10 MGD): staffing level (2005) of seven persons (Chief Operator, two operators, two mechanics, one process lab technician, one laborer). This facility lacked a CT Class IV wastewater operator in 2003. I successfully negotiated with CT DEP to allow a CT Class IV operator to act as Chief Operator part-time (15 hours per week) until the CT Class III operator at the facility became qualified to take his exam.
- Branford WWTF (CT Class IV facility)- Facility was under an NOV for not having a CT Class IV Chief Operator. Facility had secured an operator part-time for 24 hours per week. Successfully negotiated with CT DEP to allow a CT Class IV operator to serve as Chief Operator for 15 hours per week.
- Small wastewater facilities (certain Class II WWTF's)- Negotiated and received conditional approval to operate two facilities on the same property utilizing a 25% reduction in required site attendance hours for each facility.

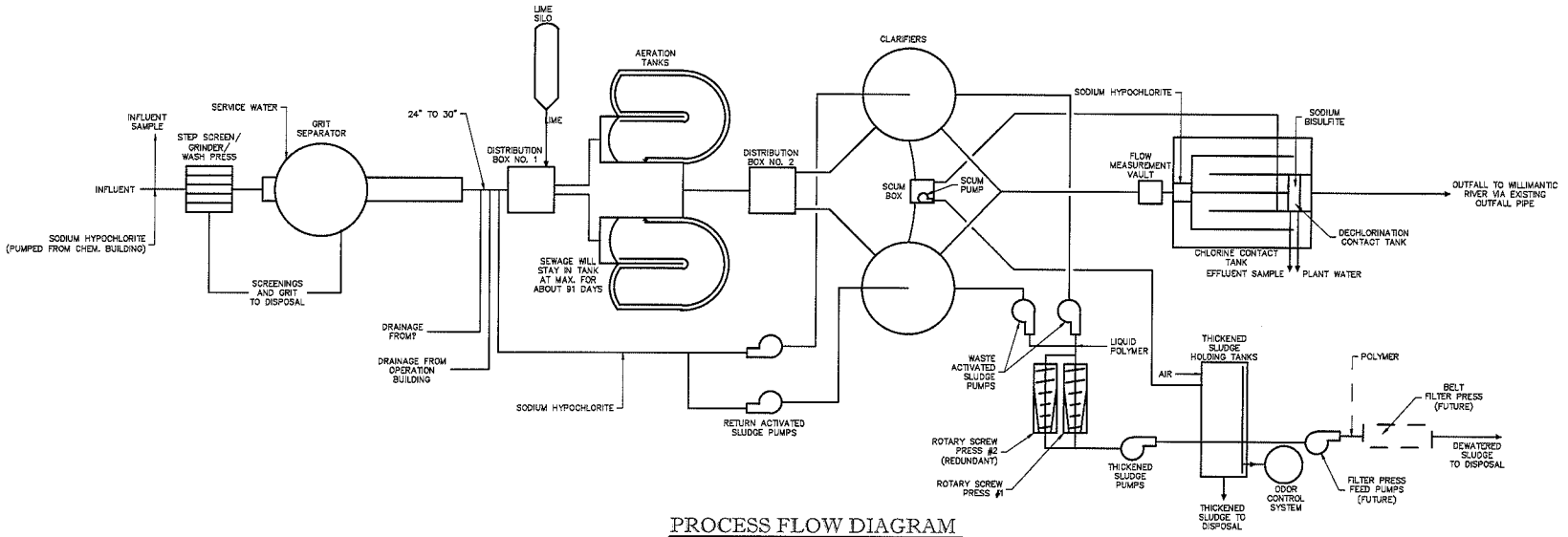
- Small wastewater facilities (Class III- Zenon MBR WWTF's)- Successfully negotiated and received written approval for an operations schedule with a greater than 50% reduction in required site attendance hours.

The examples above are only some of the many projects I have worked with CT DEP on over the past sixteen years. This experience, my knowledge of the CT DEP regulations, and my background in engineering has provided me with the necessary tools to assist UConn in a successful negotiation of your current staffing issue.

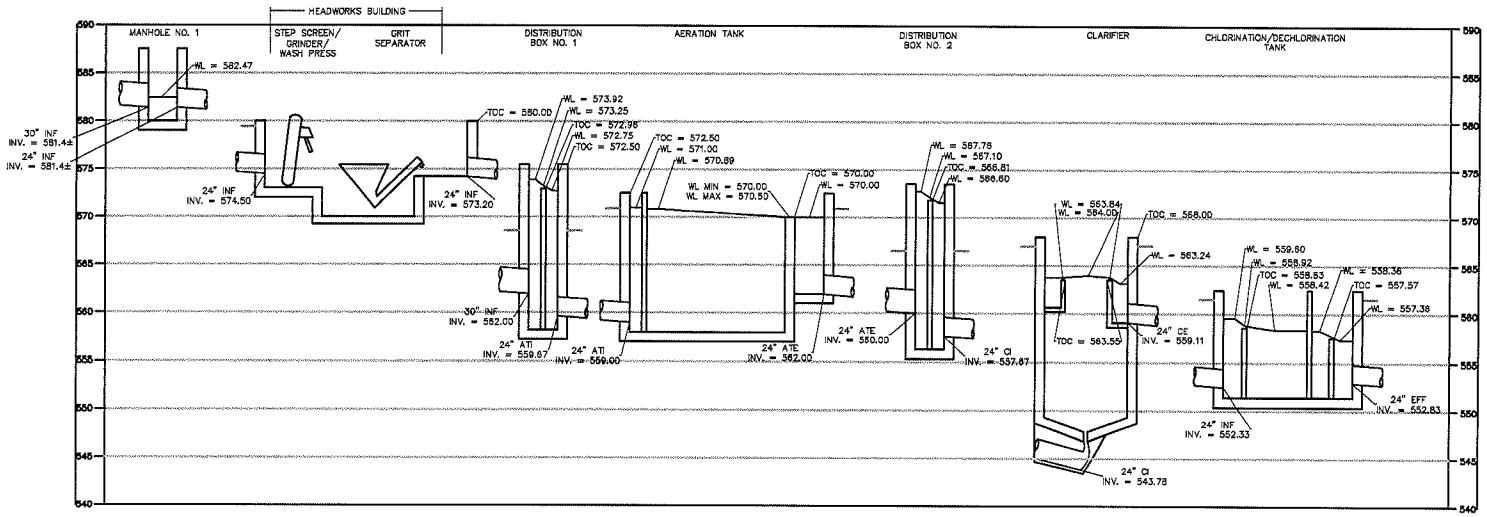
Please contact me upon your review of this document so that we can schedule to meet and discuss the next steps.

Sincerely,

William A Idarola III
Wastewater Operations
Weston & Sampson Services-WSS



PROCESS FLOW DIAGRAM



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PROCESS FLOW DIAGRAM AND HYDRAULIC PROFILE

LOCATION
UNIVERSITY OF CONNECTICUT
STORRS, CONNECTICUT

DESIGNED	---
DRAWN	**DRM**
CHECKED	**DM**

WASTEWATER TREATMENT FACILITY ATTACHMENT M

DATE	**APRIL 2011**
SCALE	**N/A**
PROJ. NO.	**1958-48**

SHEET **1**

Attachment O: Discharge Information

(must be completed and submitted for each discharge)

Applicant Name: **University of Connecticut**
(as indicated on the *Permit Application Transmittal Form*)

Existing Permit Number (if applicable): **CT0101320**

Complete this attachment for *each* discharge and label each discharge consecutively starting with serial number 101 for discharges to a surface water, 201 for discharges to a POTW, and 301 for discharges to ground water. Attachment O is *not* required for applications to: discharge from land treatment non-point source discharge systems (including septic tank leachfield systems); discharge from landfills; discharge from agricultural activities or concentrated animal feeding operations; or discharge from concentrated aquatic animal production facilities.

Part A: General Discharge Information

Discharge Serial Number: 001-1

1. For discharges to a surface water only:
   a. The discharge enters the surface water (check one):
      ☒ directly
      ☐ through a municipal storm sewer
      ☐ through other drainage systems (e.g., swale) Please specify below:

   b. Name of surface water body the discharge first enters: **Willimantic River**
   c. Surface water classification of the above listed water body:
      Present: **B** Future: **B**

2. For discharges to a POTW only:
   a. The discharge enters the POTW (check one):
      ☐ directly hauled
      ☐ through a sanitary sewer or a combined sewer
   b. Name of POTW the discharge first enters:
   c. Facility I.D. or location address of POTW:
   d. Does the discharge contain a substance, which, in the absence of a wastewater discharge permit, would be a hazardous waste under 40 CFR Part 261? ☐ Yes ☐ No

3. For discharges to ground water only:
   a. Groundwater classification of the site:
      Present: Future:
   b. Name of surface water body in watershed area:
      Surface water classification of the above listed water body:
      Present: Future:

Part A: General Discharge Information (continued)

Discharge Serial Number: 001-1

4. Average Daily Flow (gpd): **994,000** Maximum Daily Flow (gpd): **4,350,000 (Last 2 yrs.)**

   Design Flow (gpd): **3,000,000**

   Date discharge began or will begin: **1950**

5. Is the discharge continuous? ☒ Yes ☐ No
   If yes, indicate:

   Average number of hours per day of the discharge: **24**

   Maximum number of hours per day of the discharge: **24**

6. For other than a continuous discharge (e.g., batch, intermittent, or seasonal discharges), indicate:

   Average number of hours per event of the discharge:

   Maximum number of hours per event of the discharge:

   The duration and frequency of the discharge:

7. Description of each specific activity or each process generating the discharge and identification of all types of waste generated by each process.

   See attached pages.

8. For domestic sewage treatment plants, list the location of all discharges including any plant bypasses, pumping station bypasses, and collection system overflows and bypasses. Indicate clearly if any such bypasses and/or overflows are part of a separate or a combined sewage collection system.

   Treated effluent is discharged through outfall Serial No. 001 to the Willimantic River. There are no other bypasses or overflows.

☒ Check here if additional sheets are necessary, please label and attach them to this sheet.

Part A: General Discharge Information (continued)

9. Process and/or Treatment Substances **Discharge Serial Number: 001-1**

Name of substances used in generating the wastewater	List of toxic or hazardous substances contained in process and/or treatment substance	List any available aquatic toxicity test results for process and/or treatment substance
Sodium Hypochlorite	Sodium Hypochlorite	See Table 5
Sodium Bisulfate	Sodium Bisulfate	See Table 5
Anionic Polymer	Anionic Polymer	Seet Table 5
Sodium Nitrate	Sodium Nitrate	See Table 5
Sodium Hydroxide solution	Sodium Hydroxide	See Table 5
Sodium Bicarbonate	Sodium Bicarbonate	See Table 5

Part A: General Discharge Information (continued)

Effluent Limitations and Conditions
(Questions 10 & 11 need not be completed by domestic sewage treatment facilities, including POTWs)

Discharge Serial Number: 001-1

10a. Is this discharge described by any discharge categories listed in Appendix A, "Primary Industry Categories" of RCSA Sections 22a-430-3 and 4?

☐ Yes ☐ No

10b. Are there any treatment requirements established in RCSA Section 22a-430-4(s)?

☐ Yes ☐ No

11a. Is there an effluent limitation, standard, guideline, or categorical pretreatment standard established for this type of discharge in 40 CFR Parts 400-471 or elsewhere pursuant to 301, 306, 307, 318, 405 of the Clean Water Act?

☐ Yes ☐ No

If you answered yes to question 10a, or 10b, or 11a, please complete the following table by providing the name of the discharge category and the specific citation to the regulation, if applicable, that establishes the limitation or condition.

Name of discharge category and appropriate citation from state and/or federal regulations.	**Effluent limitation or condition: yes or no**	**Name of subpart and appropriate subpart citation**
Example: Iron and Steel Manufacturing; 40 CFR Part 420, Section 22a-430-4(s) RCSA	yes	Acid Pickling; 40 CFR Part 420: subpart I

Part A: General Discharge Information (continued)

Effluent Limitations and Conditions (continued) **Discharge Serial Number**: **001-1**

11b. Are any of the effluent limitations applicable to the discharge expressed in terms of production?

☐ Yes ☐ No

If yes, complete the following table. For existing discharge, list an actual measurement of your average or maximum level of daily production. For new discharges, list an average or maximum projected daily production. (Indicate in the table whether the production figures given are average or maximum level.) Express the production in the terms and units used in the applicable discharge limitation. Attach additional sheets if necessary.

Name of Category and Subpart	Name and Quantity of Product per Day with Units of Measure	Description of Process	No. of Cycles through Process
***Example*:** **Iron and Steel Manufacturing; Hydrochloric Acid Pickling**	**27,000 lbs of Stainless steel strips (average)**	**Stainless steel strips are passed through solder flux baths in #1 Tinner**	**2**

Attachment O: Discharge Information (continued)

Part B: Discharge Analysis

All applicants must complete Part B, Tables 1 through 4 for each discharge. Be sure to review the instructions; specifically, "Testing Requirements for All Discharge Categories", Schedule A in the instructions under Attachment O before completing this part. In addition, please note that for existing discharges previously licensed by DEP, identify the substances that were monitored in the existing permit by placing "PP" in the " Daily Composite or Grab Sample Results" column by the substance. For such substances, you need not repeat the analytical results in Tables 1 through 4, as long as such results are provided in Attachment E of the application.

Please indicate whether the discharge analysis was based on (check one):

☐ Projection ☒ Actual wastewater ☐ Wastewater from other similar discharge

All applicants must provide analysis results in column 1 for *all* the substances listed in Table 1 and other information needed to complete columns 2 and 3, for each discharge except the following: For discharges of non-contact cooling water, heat pump wastewaters and blowdown from heating and cooling equipment, provide analysis results for substances numbered in Table 1 as 3, 5, 6, and 11 through 16 only.

Table 1

Date Sampled: 1/13/05 or PP **Discharge Serial Number: 001-1**

GENERAL	1 Daily Composite or Grab Sample* Results	2 Number of Analyses	3 EPA** Method
1. Biochemical Oxygen Demand (5Day)	**PP**	**312**	
2. Chemical Oxygen Demand	**22 mg/L**	**1**	**SM5220 D**
3. Oil and Grease, Total*	**ND <1.4 mg/L**	**1**	**EPA 1664**
4. Oil and Grease, Hydrocarbon Fraction*	**ND <1.4 mg/L**	**1**	**Mod E1664**
5. Total Suspended Solids	**PP**	**312**	
6. Ammonia (as Nitrogen)	**PP**	**104**	
7. Phosphorus (Total)	**PP**	**24**	
8. Nitrate	**PP**	**24**	
9. Nitrite	**PP**	**24**	
10. Total Kjeldahl Nitrogen	**PP**	**24**	
11. Total Residual Chlorine*	**PP**	**1,212**	
12. Temperature (Winter and Summer)*	**PP**	**730**	
13. pH (minimum and maximum)*	**PP**	**730**	
14. Copper, Total	**PP**	**104**	
15. Lead, Total	**PP**	**104**	
16. Zinc, Total	**PP**	**104**	

* Check the instructions under this part for the required method of sample collection.

** For surface water discharges only, check the instructions for *required* EPA methods of analyses.

Part B: Discharge Analysis (continued)

All applicants must complete Table 2 for each discharge by placing an "X" in column 1, if applicable *and* by placing an “X” in column 2 or 3. If column 1 or 2 is marked for any substance, you *must* provide analysis results in column 4 for that substance and other information needed to complete columns 5 and 6 for that substance.

Table 2

Date Sampled: 1/13/05 or PP **Discharge Serial Number: 001-1**

TOXIC METALS, CYANIDES, PHENOLS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
1. Antimony, Total		**X**		**0.0072 mg/L**	**9**	
2. Arsenic, Total		**X**		**0.0037 mg/L**	**9**	
3. Beryllium, Total		**X**		**0.001 mg/L**	**9**	
4. Cadmium, Total		**X**		**0.00037 mg/L**	**9**	
5. Chromium, Total		**X**		**0.001 mg/L**	**9**	
6. Chromium,		**X**		**0.01**	**9**	
7. Mercury, Total		**X**		**0.0002**	**9**	
8. Nickel, Total		**X**		**0.0013**	**9**	
9. Selenium, Total		**X**		**0.0029**	**9**	
10. Silver, Total		**X**		**0.001**	**9**	
11. Thallium, Total		**X**		**0.002**	**9**	
12. Cyanide, Total*		**X**		**0.0104 mg/L**	**9**	
13. Cyanide,	**X**	**X**		**PP**	**104**	
14. Phenols, Total*		**X**		**0.015 mg/L**	**9**	

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

VOLATILES*	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
1. Acrolein			X			
2. Acrylonitrile			X			
3. Benzene			X			
4. Bromoform			X			
5. Carbon Tetrachloride			X			
6. Chlorobenzene			X			
7. Chlorodibromomethane			X			
8. Chloroethane			X			
9. 2-Chloroethylvinyl Ether			X			
10. Chloroform			X			
11. Dichlorobromomethane			X			
12. 1, 1-Dichloroethane			X			
13. 1, 2-Dichloroethane			X			
14. 1, 1-Dichloroethylene			X			
15. 1, 2-Dichloropropane			X			
16. 1, 3-Dichloropropylene			X			
17. Ethylbenzene			X			
18. Methylbromide			X			
19. Methylchloride			X			
20. Methylene Chloride			X			
21. 1, 1, 2, 2,-Tetrachloroethane			X			
22. Tetrachloroethylene			X			
23. Toluene			X			
24. 1, 2-Trans-Dichloroethylene			X			

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

VOLATILES*	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
25. 1, 1, 1-Trichloroethane			X			
26. 1, 1, 2- Trichloroethane			X			
27. Trichloroethylene			X			
28. Vinyl Chloride			X			
GC/MS FRACTION ACID COMPOUNDS						
1. 2-Chlorophenol			X			
2. 2, 4-Dichlorophenol			X			
3. 2, 4-Dimethylphenol			X			
4. 4, 6-Dinitro-O-Cresol			X			
5. 2, 4-Dinitrophenol			X			
6. 2-Nitrophenol			X			
7. 4-Nitrophenol			X			
8. P-Chloro-M-Cresol			X			
9. Pentachlorophenol			X			
10. Phenol			X			
11. 2, 4, 6- Trichlorophenol			X			
BASE NEUTRAL COMPOUNDS						
1. Acenaphthene			X			
2. Acenaphthylene			X			
3. Anthracene			X			
4. Benzidine			X			
5. Benzo(a)anthracene			X			
6. Benzo(a)pyrene			X			
7. 3, 4-Benzo-fluoranthene			X			

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

BASE NEUTRAL COMPOUNDS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
8. Benzo(ghi)perylene			X			
9. Benzo(k) fluoranthene			X			
10. Bis(2-Chloroethoxy) Methane			X			
11. Bis(2-Chloroethyl) Ether			X			
12. Bis(2-Chloroisopropyl) Ether			X			
13. Bis(2-Ethylhexyl) Phthalate			X			
14. 4-Bromophenylphenyl Ether			X			
15. Butylbenzyl Phthalate			X			
16. 2-Chloronaphthalene			X			
17. 4-Cholorophenylphenyl Ether			X			
18. Chrysene			X			
19. Dibenzo(a, H)anthracene			X			
20. 1, 2-Dichlorobenzene			X			
21. 1, 3-Dichlorobenzene			X			
22. 1, 4-Dichlorobenzene			X			
23. 3, 3-Dichlorobenzidine			X			
24. Diethyl phthalate			X			
25. Dimethyl phthalate			X			
26. Di-n-butyl phthalate			X			
27. 2, 4-Dinitrotoluene			X			
28. 2, 6-Dinitrotoluene			X			
29. Di-n-octyl phthalate			X			
30. 1, 2-Diphenylhydrazine (as Azobenzene)			X			
31. Fluoranthene			X			

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

BASE NEUTRAL COMPOUNDS	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
32. Fluorene			X			
33. Hexachlorobenzene			X			
34. Hexachlorobutadiene			X			
35. Hexachlorocyclopentadiene			X			
36. Hexachloroethane			X			
37. Indeno(1,2,3-cd) Pyrene			X			
38. Isophorone			X			
39. Naphthalene			X			
40. Nitrobenzene			X			
41. N-nitroso dimethylamine			X			
42. N-Nitrosodi-n-Propylamine			X			
43. N-Nitrosodiphenylamine			X			
44. Phenanthrene			X			
45. Pyrene			X			
46. 1, 24-Trichlorobenzene			X			
PESTICIDES						
1. Aldrin			X			
2. Alpha - BHC			X			
3. Beta - BHC			X			
4. Gamma-BHC			X			
5. Delta-BHC			X			
6. Chlordane			X			
7. 4, 4-DDT			X			
8. 4, 4-DDE			X			

Part B: Discharge Analysis (continued)

Table 2 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

PESTICIDES	1 Analysis Required by Schedule A - see Instructions	2 Known or Suspected Present	3 Believed Absent	4 Daily Composite or Grab Sample Results*	5 Number of Analyses	6 EPA** Method
9. 4, 4-DDD			X			
10. Dieldrin			X			
11. Alpha-Endosulfan			X			
12. Beta-Endosulfan			X			
13. Endosulfan Sulfate			X			
14. Endrin			X			
15. Endrin Aldehyde			X			
16. Heptachlor			X			
17. Heptachlor Epoxide			X			
18. PCB-1242			X			
19. PCB-1254			X			
20. PCB-1221			X			
21. PCB-1232			X			
22. PCB-1248			X			
23. PCB-1260			X			
24. PCB-1016			X			
25. Toxaphene			X			

Part B: Discharge Analysis (continued)

All applicants must complete Table 3 for each discharge by placing an "X" in either column 1 or 2. If column 1 is marked for any substance, you *must* provide analysis results for that substance in column 3 and other information needed to complete columns 4 and 5 for that substance.

Table 3

Date Sampled: 1/13/05 or Calculated **Discharge Serial Number: 001-1**

OTHER SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
1. Bromide		X			
2. Color	X		15 cu	1	SM2120
3. Fecal Coliform*	X		PP	186	
4. Fluoride		X			
5. Nitrogen, Total Organic	X		1.10 mg/L	Calculated	
6. Radioactivity		X			
a. Alpha, Total		X			
b. Beta, Total		X			
c. Radium, Total		X			
d. Radium, 226 Total		X			
7. Sulfate	X		22 mg/L	1	300.0
8. Sulfide*		X			
9. Sulfite		X			
10. Surfactants	X		0.06 mg/L	1	5540C
11. Aluminum, Total	X		0.09 mg/L	1	202.2
12. Barium, Total	X		0.007 mg/L	1	208.2
13. Boron, Total		X			
14. Cobalt, Total		X			
15. Iron, Total	X		0.139 mg/L	1	6010
16. Magnesium, Total	X		4.61 mg/L	1	200.7

Part B: Discharge Analysis (continued)

Table 3 (continued)

Date Sampled: 1/13/05 **Discharge Serial Number: 001-1**

OTHER SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
17. Molybdenum, Total		X			
18. Manganese, Total	X		0.016 mg/L	1	243.2
19. Tin, Total		X			
20. Titanium, Total	X		0.01 mg/L	1	200.7
OTHER TOXIC AND HAZARDOUS SUBSTANCES					
1. Asbestos		X			
2. Acetaldehyde		X			
3. Allyl alcohol		X			
4. Allyl chloride		X			
5. Amyl acetate		X			
6. Aniline		X			
7. Benzonitrile		X			
8. Benzyl chloride		X			
9. Butyl acetate		X			
10. Butylamine		X			
11. Captan		X			
12. Carbaryl		X			
13. Carbofuran		X			
14. Carbon disulfide		X			
15. Chlorpyrifos		X			
16. Coumaphos		X			
17. Cresol		X			
18. Crotonaldehyde		X			
19. Cyclohexane		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
20. 2,4-Dichlorophenoxy (acetic acid)		X			
21. Diazinon		X			
22. Dicamba		X			
23. Dichlobenil		X			
24. Dichlone		X			
25. 2,2-Dichloro-propionic acid		X			
26. Dichlorvos		X			
27. Diethyl amine		X			
28. Dimethyl amine		X			
29. Dinitrobenzene		X			
30. Diquat		X			
31. Disulfoton		X			
32. Diuron		X			
33. Epichlorohydrin		X			
34. Ethanolamine		X			
35. Ethion		X			
36. Ethylene diamine		X			
37. Ethylene dibromide		X			
38. Formaldehyde		X			
39. Furfural		X			
40. Guthion		X			
41. Isoprene		X			
42. Isopropanolamine		X			
43. Kelthane		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
44. Kepone		X			
45. Malathion		X			
46. Mercaptodimethur		X			
47. Methoxychlor		X			
48. Methyl mercaptan		X			
49. Methyl methacrylate		X			
50. Methyl parathion		X			
51. Mevinphos		X			
52. Mexacarbate		X			
53. Monoethyl amine		X			
54. Monomethyl amine		X			
55. Naled		X			
56. Napthenic acid		X			
57. Nitrotoluene		X			
58. Parathion		X			
59. Phenolsulfanate		X			
60. Phosgene		X			
61. Propargite		X			
62. Propylene oxide		X			
63. Pyrethrins		X			
64. Quinoline		X			
65. Resorcinol		X			
66. Strontium		X			
67. Strychnine		X			

Part B: Discharge Analysis (continued)

Table 3 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

OTHER TOXIC AND HAZARDOUS SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Number of Analyses	5 EPA** Method
68. Styrene		X			
69. 2, 4, 5-T (2, 4, 5-Trichlorophenoxy acetic acid)		X			
70. TDE (Tetrachloro-diphenylethane)		X			
71. 2, 4, 5-TP[2-(2, 4,5-Trichlorophenoxy) propanoic acid]		X			
72. Trichlorofan		X			
73. Triethylamine		X			
74. Trimethylamine		X			
75. Uranium		X			
76. Vanadium		X			
77. Vinyl acetate		X			
78. Xylene		X			
79. Xylenol		X			
80. Zirconium		X			

Part B: Discharge Analysis (continued)

All applicants must complete Table 4 for each discharge, by placing an "X" in either column 1 or 2 for the substances numbered 1-6. If column 1 is marked for any substance, you *must* provide analysis results for that substance and any other information needed to complete columns 3 through 5 for that substance.

Table 4

Date Sampled: **Discharge Serial Number: 001-1**

SUBSTANCES	1 Known or Suspected Present	2 Believed Absent	3 Daily Composite or Grab Sample Results*	4 Daily Number of Analyses	5 EPA** Method
1. 2, 4,5-trichlorophenoxy acetic acid (2, 4, 5,-T)		X			
2. 2-(2, 4, 5-trichlorophenoxy) propanoic acid (Silvex, 2, 4, 5,-TP)		X			
3. 2-(2, 4 ,5-trichlorophenoxy) ethyl, 2, 2-dichloropropionate (Erbon)		X			
4. 0, 0-dimethyl-0-(2, 4, 5-trichlorophenyl) phosphorothioate (Ronnel)		X			
5. 2, 4, 5-trichlorophenol (TCP)		X			
6. hexachlorophene (HCP)		X			

In addition, *if*:

1) your facility uses or manufactures one of the substances listed above as items 1-6 or knows or has reason to believe or can reasonably ascertain that one of those substances may be present in the discharge; or

2) your facility has a discharge resulting from a process regulated under 40 CFR Part 430 - Pulp, Paper, and Paperboard Point Source Category; or

3) you know or have reason to believe or can reasonably ascertain that 2,3,7,8 - Tetrachlorodibenzo-p-dioxin (TCDD) may be present in the discharge;

you must also provide the analysis results for the dioxin and furan substances numbered 7 through 27, on the following page, using "EPA Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS".

Part B: Discharge Analysis (continued)

Table 4 (continued)

Date Sampled: **Discharge Serial Number: 001-1**

SUBSTANCES	1 Daily Composite Sample Results*	2 Number of Analyses	3 EPA** Method
7. 2,3,7,8-TCDD (Tetrachlorodibenzo-p-dioxin)			
8. Total - TCDD			
9. 2,3,7,8-TCDF (Tetrachlorodibenzofuran)			
10. Total - TCDF			
11. 1,2,3,7,8-PeCDD (Pentachlorodibenzo-p-dioxin)			
12. Total - PeCDD			
13. 1,2,3,7,8-PeCDF (Pentachlorodibenzofuran)			
14. 2,3,4,7,8-PeCDF			
15. Total - PeCDF			
16. 1,2,3,4,7,8-HxCDD (Hexachlorodibenzo-p-dioxin)			
17. 1,2,3,6,7,8-HxCDD			
18. 1,2,3,7,8,9-HxCDD			
19. Total - HxCDD			
20. 1,2,3,6,7,8-HxCDF (Hexachlorodibenzofuran)			
21. 1,2,3,7,8,9-HxCDF			
22. Total - HxCDF			
23. 1,2,3,4,6,7,8-HpCDF (Heptachlorodibenzofuran)			
24. 1,2,3,4,7,8,9-HpCDF			
25. Total - HpCDF			
26. OCDD (Optachlorodibenzo-p-dioxin)			
27. OCDF (Hexachlorodibenzofuran)			

Part B: Discharge Analysis (continued)

If you know or have reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on any water receiving the discharge within the last three years, or for discharges previously licensed by DEP, since the issuance of such license, complete Table 5. Reproduce and complete Table 5 for each permit that you are applying for. (see Instructions)

Table 5: Biological Toxicity Testing Data **Existing Permit Number: CT0101320**

Discharge Serial #	Date	Test Method	Species 1	Results	Comparison to Limit	Species 2	Results	Comparison to Limit
001-1	1/2009	C	DP	98%	P	PP	100%	P
001-1	4/2009	C	DP	100%	P	PP	100%	P
001-1	7/2009	C	DP	96%	P	PP	100%	P
001-1	11/2009	C	DP	100%	P	PP	100%	P
001-1	1/2010	C	DP	100%	P	PP	100%	P
001-1	4/2010	C	DP	100%	P	PP	100%	P
001-1	7/2010	C	DP	98%	P	PP	100%	P
001-1	10/2010	C	DP	100%	P	PP	94%	P

Part B: Discharge Analysis (continued)

Table 6: Discharge Toxicity Evaluation **All Discharges**

1. Except as provided below, all applicants for permits to discharge to a surface waterbody (i.e., for new and existing discharges) must perform a Discharge Toxicity Evaluation (DTE) in accordance with Section 22a-430-4(c)(21)(B) RCSA and submit the results of the DTE as Attachment O, Table 6.

2. Exceptions: A DTE need not be performed or submitted with this application *if*:

   a. this application for a permit is to discharge sewage from a POTW; or

   b. a DTE covering all discharges to surface waters at the site has been previously approved by DEP; or

   c. the applicant has been specifically exempted from submission of a DTE for the discharge(s), in writing by DEP, in accordance with Section 22a-430-4(c)(21)(C), prior to submittal of this application. (see instructions)

3. For discharges to a POTW, a DTE may be required depending on the nature of the discharge. In this case, you will be notified by DEP after submitting your application.

If any of the analyses reported in Tables 1 through 6 of this application were performed by a contract laboratory or consulting firm, list the name, address and telephone number of the laboratory or firm and the type of analyses performed.

Table 7: Contract Laboratory Identification **All Discharges**

Name	Address	Telephone (Area Code & No.)	Substances Analyzed (List)
Phoenix Environmental Labs	**587 E Middle Tpke; Manchester, CT**	**860-645-1102**	**All Wastewater Analytical**
New England Bioassay	**77 Batson Drive; Manchester, CT**	**860-643-9560**	**Aquatic Toxicity**

University of Connecticut
Non-Domestic Wastewater Evaluation

MAY 2011

MMI #1958-48-2

Photograph: Microsoft Bing ™

Prepared by:

MILONE & MACBROOM, INC.
99 Realty Drive
Cheshire, CT 06410
(203) 271-1773
www.miloneandmacbroom.com

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TABLES

FIGURE

1.0 INTRODUCTION

1.1 Introduction

A basic understanding of the University of Connecticut's wastewater system is an essential step to developing a comprehensive permit application. Non-domestic wastewater sources within the University's sanitary sewer system are typically classified into nine categories: boiler blowdown, swimming pool wastewater, food processing wastewater, water treatment wastewater, non-contact cooling water, vehicle service wastewater, laboratory wastewater, photographic wastewater, and miscellaneous wastewaters.

General permits are available from the Connecticut Department of Environmental Protection (DEP) to provide coverage for each of the above categories with the exception of laboratory wastewaters. The general permit for "miscellaneous wastewaters" applies to wastewater resulting from any of the following processes or activities: air compressor condensate, air compressor blowdown, building maintenance wastewater, contact cooling and heating wastewater, cutting and grinding wastewater, fire sprinkler system testwater, non-destruct testing rinsewater, and other undesignated wastewaters.

University wastewaters covered by a general permit registration will continue to be covered in this manner, including swimming pool and vehicle maintenance wastewaters. Photographic processing wastewaters are not discharged to the sewer system, as they are stored in containers and brought off the University for disposal, and therefore do not require general permit coverage. Laboratory wastewaters are not eligible for coverage under a general permit and are being addressed through a laboratory drain disposal best management practices document.

The remaining five categories of wastewaters were targeted for a detailed evaluation. Boilers, water treatment wastewater, non-contact cooling water, and miscellaneous wastewater sources are distributed throughout campus. There are more than one location for each type of contributing non-domestic wastewater source. The lone food processing (manufacturing) source of wastewater is the dairy bar facility. All other food served within the system is processed outside of the system and prepared, distributed, and consumed within the system.

1.2 Background

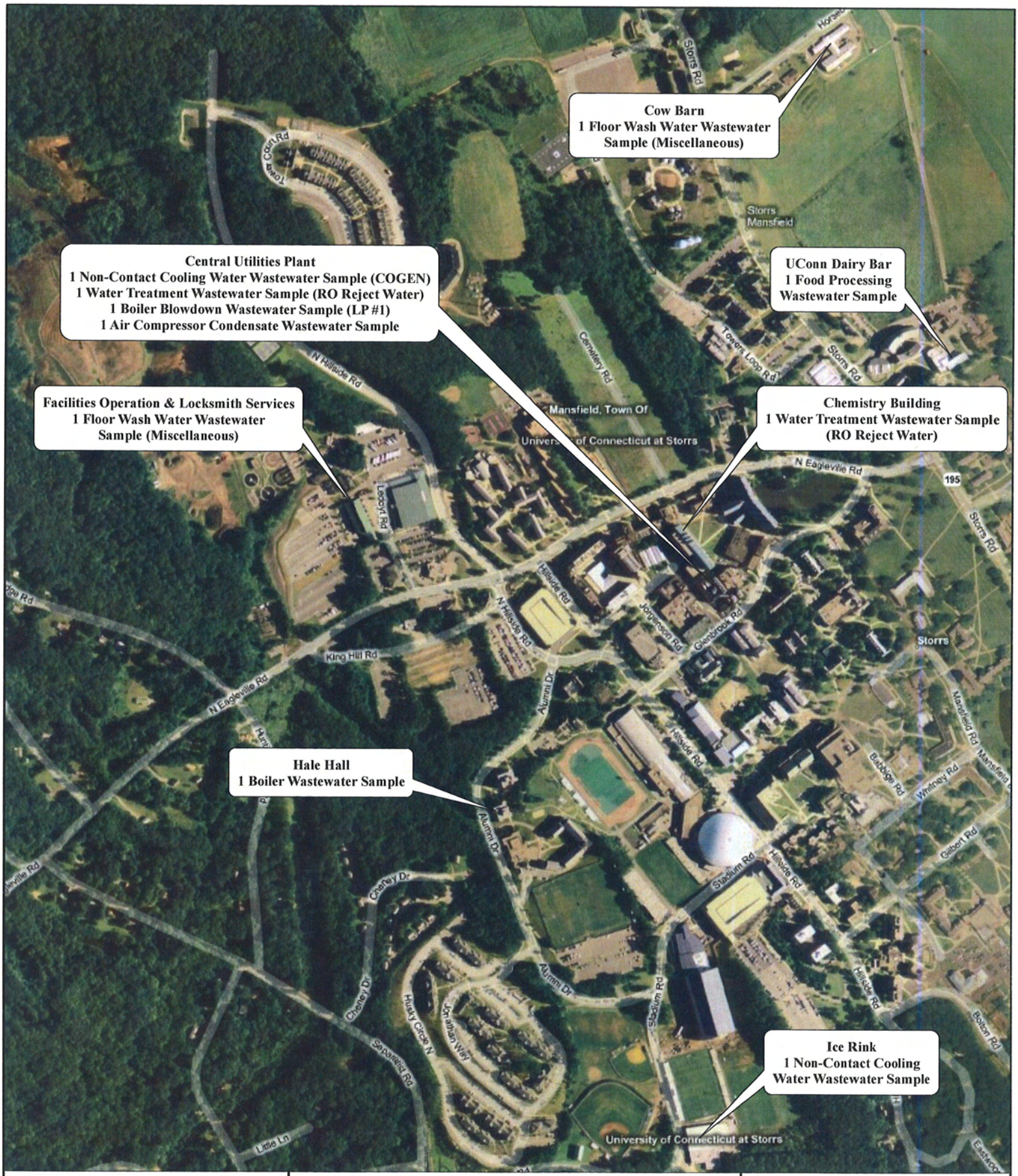
The University's Water Pollution Control Facility (WPCF) was most recently upgraded in 1995. The WPCF currently operates under NPDES Permit CT0101320 which allows the system to discharge an average daily flow of up to 3.0 million gallons per day (mgd). Over the past two years, according to Discharge Monitoring Report (DMR) records, the highest flow during DMR months occurred in April of 2010 with a flow of 4.351 mgd. However, maximum flows through the plant were less than 2 mgd for all other DMR

monitoring months over the past two years. Additionally, average flows never equaled or exceeded 1.60 mgd during DMR monitoring months.

Since the WPCF is operating under a "Municipal NPDES Permit," the Connecticut DEP has brought to the Facility's attention that DEP staff would like to gain an understanding of the chemical constituents within contributing sources that would fall outside of the "municipal" wastewater group. As a result, the University retained Milone & MacBroom, Inc. (MMI) to obtain samples from locations within the system representative of the different groups of non-domestic wastewater. The targeted non-domestic wastewater groups within the WPCF system include: boiler blowdown sources, the food processing source, water treatment sources, non-contact cooling water sources, and miscellaneous sources. Samples were analyzed for those components listed among the required analytes for general permit registrations or for known or suspected present components.

1.3 Purpose

This evaluation will educate both regulatory agencies and University employees about the WPCF system's non-domestic wastewater sources. An understanding of the scope and level of chemical concentrations within the entering wastewater streams will prove valuable for both parties moving forward to the permit renewal process. Figure 1-1 shows the locations on campus included in the 2011 sampling.



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Sample Locations Map

LOCATION: Mansfield, CT

MMI#: 1958-48-2
MXD: P:\Sample_locs.mxd
SOURCE: Microsoft Virtual Earth

N

Permitting for the Discharge of Municipal Wastewater from Treatment Facility

Map By: SMG
Date: April 2011
Scale: 1" = 750'

SHEET: Figure 1-1

2.0 NON-DOMESTIC WASTEWATER SOURCES

2.1 Introduction

As previously mentioned, non-domestic wastewater sources of interest within the WPCF system are classified into five categories. The five categories are: boiler blowdown wastewater, food processing wastewater, water treatment wastewater, non-contact cooling water wastewater, and miscellaneous wastewater. There are approximately 30 boiler blowdown wastewater sources, one food processing source, approximately ten water treatment wastewater sources, approximately 13 non-contact cooling water sources, and numerous miscellaneous wastewater sources within the system. Wherever possible, representative samples were taken at example locations.

Sampling was conducted on March 30, 2011 and April 7, 2011. Two boiler, two water treatment, two non-contact cooling water, two floor washwater, one food processing and one air compressor condensate location were sampled over the course of the two days. Sample locations were as follows:

Boiler Blowdown:	Central Utility Plant Boiler Hale Dormitory Boiler	
Food Processing:	Dairy Bar	
Water Treatment:	Central Utility Plant Reverse Osmosis Chemistry Building Reverse Osmosis	
Non-Contact Cooling:	Central Utility Plant Cooling Towers Ice Rink Cooling Tower Basin	
Miscellaneous:	Floor Wash:	Cow Barn Facilities Building
	Air Compressor:	Central Utility Plant

A list of the sample locations, parameters included in the DEP general permits, parameters included in recent sampling, and results can be found in Table 2-1 on the next page.

2.2 Boiler Blowdown Wastewater

Boiler blowdown wastewater automatically enters the WPCF wastewater stream unless the individual boiler units are placed on manual mode by an operator. This is not typically the case as the boiler wastewater blowdown is usually added to the system whenever blowdown water is produced.

Table 2-1. Non-Domestic Wastewater Sampling

Category	Locations	Parameters Analyzed	General Permit Requirements
Boilers	(2) Hale & CUP	CT 15 Metals**, VOCs (EPA 8260 Method), Oil & Grease, Total Dissolved Solids, PH	Copper, lead, pH
Food Processing	(1) Dairy Bar Only	CT 15 Metals**, Oil & Grease, Total Dissolved Solids, Total Suspended Solids, Ortho-Phosphate, Total Phosphorus, BOD-5, pH	BOD5, pH, total oil and grease, total suspended solids and any substances listed in Appendix B which are expected to be in the discharge (none).
Water Treatment	(2) CUP Reverse Osmosis Reject Wastewater & Chemistry Building Reverse Osmosis Reject Wastewater	CT 15 Metals**, VOCS (EPA 8260 Method), Total Dissolved Solids, Total Fe & Total Mn, Total Suspended Solids, Total Settleable Solids, Total Residual Chlorine	Total Settleable Solids, Total Suspended Solids, Total Residual Chlorine, Total Aluminum, Total Copper, Total Manganese, Total Zinc, Total Iron, Total Volatile Organics*
Non-Contact Cooling Water	(2) CUP Wastewater & Ice Rink Wastewater	CT 15 Metals**, VOCs (EPA 8260 Method), Total Dissolved Solids, pH	pH
Miscellaneous			
Air Compressor Condensate	(1) CUP Building	CT 15 Metals**, Oil & Grease, Total Dissolved Solids, Total Suspended Solids	Total Chromium, Total Copper, Total Lead, Total Zinc, Oil & Grease, Hydrocarbon Fraction (EPA Method 1664), Total Suspended Solids, Total Volatile Organics (EPA Methods 601 & 602), PH
Floor Wash Water	(2) Facilities Operations and Locksmith Services Building & Cow Barn Building	CT 15 Metals**, Oil & Grease, Total Dissolved Solids, Total Suspended Solids, Ortho-Phosphate, Total Phosphorus, BOD-5 (Cow Barn Only)	Total Chromium, Total Copper, Total Lead, Total Zinc, Oil & Grease, Hydrocarbon Fraction (EPA Method 1664), Total Suspended Solids, Total Volatile Organics (EPA Methods 601 & 602), PH

*Testing for total volatile organics shall be required for only those discharges for which there is reason to suspect their presence,
** Includes Antimony, Barium, Cadmium, Copper, Mercury, Selenium, Thallium, Arsenic, Beryllium, Chromium, Lead, Nickel, Silver, Varadium, and Zinc.

Monitoring parameters included in the DEP general permit for boiler blowdown wastewater are copper, lead, pH, and known added chemicals. Included in the sampling analyses of both boiler blowdown wastewater sources were the Connecticut 15 metals, VOCs, oil and grease, and total dissolved solids. Representative boiler blowdown samples were taken at the Central Utility Plant (CUP) and Hale Residence Hall. The CUP boilers together contribute 7,500 gallons per day (gpd) to the sanitary system, whereas all the others contribute approximately 10 gpm in total. A summary of sample locations, parameters included in the DEP general permit requirements, parameters included in the sampling, and results is found in Table 2-1. A discussion of boiler blowdown wastewater sampling results is found in Section 3.2.

2.3 Food Processing Wastewater

Food processing enters the WPCF wastewater stream on a scheduled basis according to the Dairy Bar's supply and demand for ice cream and sometimes cheese and yogurt. As of April 2011, cheese and/or yogurt were not due to be produced for at least three months. It is safe to assume that, at the Dairy Bar's current production rate, cheese and yogurt are only produced during one week every quarter of the year.

According to the food processing wastewater discharge general permit, discharges of food processing wastewater shall be analyzed for BOD5, pH, total oil and grease, total suspended solids and any substances listed in Appendix B of the permit which are expected to be in the discharge (includes a list of metals, BNA's, phenols, PAHs, pesticides, phthalate esters, and chlorinated herbicides).

A food processing wastewater sample was obtained by an MMI field representative on April 7, 2011 at the Dairy Bar during the clean-up process following ice cream production. The amount of wastewater contributing to the WPCF stream fluctuates depending on the type of ice cream, cheese, or yogurt that is produced. Wastewater volume during production is believed less than 2,000 gpd when in production. A summary of sample locations, parameters included in the DEP general permit requirements, parameters included in the sampling, and results are found in Table 2-1 are discussed in Section 3.3.

2.4 Water Treatment Wastewater

Water treatment wastewater enters the WPCF wastewater stream on a continuous basis and is produced by several locations on campus. Water treatment wastewater volume entering into the WPCF system is approximately 122,000 gpd, with most of that amount from the CUP. The two representative samples that were taken were at the CUP building from the Reverse Osmosis Reject water and at the Chemistry building from the Reverse Osmosis Chemistry reject water.

Within the general permit for water treatment wastewater, required monitoring

parameters are aquatic toxicity, total copper, total lead, total nickel, total zinc, total aluminum, and volatile organics. For the non-domestic wastewater sampling, VOCs, the CT 15 metals, total dissolved solids, total iron, total manganese, total suspended solids, and total settleable solids were included in analysis. A summary of sample locations, parameters included in the DEP general permit requirements, parameters included in the sampling, and results are found in Table 2-1 and are further described in Section 3.4.

2.5 Non-Contact Cooling Water Wastewater

Non-contact cooling water enters the WPCF wastewater stream on a continuous basis and is produced by cooling tower locations on campus. Non-contact cooling water volume entering into the WPCF system is approximately 7,800 gpd. The two representative samples that were obtained during sampling were taken at the CUP's cogeneration facility (combined heat and power) and at the Ice Rink.

Within the general permit for non-contact cooling water wastewater, required monitoring parameters include total recoverable copper, total recoverable lead, pH, total residual chlorine, temperature, total recoverable zinc, salinity, appearance, hardness, and acute aquatic toxicity. For the non-contact cooling water wastewater sampling, volatile organic compounds, the CT 15 metals, and total dissolved solids were included in analyses. A summary of sample locations, parameters included in the DEP general permit requirements, parameters included in the sampling, and results are found in Table 2-1 and are further described in Section 3.5.

2.6 Miscellaneous Wastewater

Miscellaneous wastewater sources are grouped by DEP. Within the WPCF wastewater system, floor wash water and air compressor condensate wastewater are two examples of this wastewater. Both wastewater sources were included in the 2011 sampling. While air compressor condensate is continuous and is released to the system as it is produced (often sparse and in minor volumes), the remaining sources including floor wash water, fire sprinkler system testwater, and building maintenance wastewater are typically released occasionally in small volumes. The three representative samples that were taken during the sampling were the facilities building and cow barn building floor wash wastewater, and air compressor condensate from the CUP.

The miscellaneous wastewater sampling of the CUP air compressor condensate included the analysis of the CT 15 metals, oil and grease, total dissolved solids, and total suspended solids parameters. Both the facilities building and cow barn floor wash water analyses included those parameters listed under air compressor condensate analysis and ortho-phosphate and total phosphorus. BOD5 was also included in analysis for the cow barn floor wash water sample. A summary of sample locations, parameters included in the DEP general permit requirements, parameters included in the sampling, and results are found in Table 2-1 and are further described in Section 3.6.

3.0 SAMPLING RESULTS

All samples collected were sent for analysis to Complete Environmental Testing, Inc. (CET) of Stratford, Connecticut.

3.1 Boiler Blowdown Wastewater Results

Two boiler blowdown samples were obtained by MMI on March 30, 2011. Samples were taken from the Low Pressure #1 (LP #1) boiler blowdown stream at the CUP and from the Hale Residence Hall boiler blowdown stream. Samples at both locations were then analyzed by CET for the Connecticut 15 metals (CT 15), Volatile Organic Compounds (VOCs), Oil & Grease by Hydrocarbon Fraction, and Total Dissolved Solids (TDS). pH and total residual chlorine readings were taken in the field at the LP #1 CUP location only. The boiler blowdown stream from the Hale Residence Hall location was too hot for the field equipment to obtain a measurement.

Analysis results were reviewed in comparison to the limitations found in the "General Permit for the Discharge of Minor Boiler Blowdown Wastewater." Results for both sample locations were either "None Dectected" (ND) or below the specified limitations for all parameters except copper (described in the next paragraph). TDS was measured at 790 mg/L and 1,100 mg/L in blowdown from the LP #1 and Hale boilers, respectively. Lead was detected at 0.019 mg/L and 0.31 mg/L, respectively; and zinc was detected at 0.041 mg/L and 0.22 mg/L, respectively. In all cases, the Hale boiler had higher levels of detected compounds.

The same was true for copper. The Hale Residence Hall blowdown stream had a copper concentration of 5.8 mg/L, which exceeds the limit of 1.0 mg/L in the General Permit. The LP #1 boiler blowdown had a concentration of 0.044 mg/L, lower than the limit.

The TDS and metals found in boiler blowdown are likely derived from a combination of the following: (1) a concentration of the same constituents in the potable water supply as water loss occurs through evaporation; and (2) leaching from the boilers and associated heating systems. The TDS and metals are diluted at the WPCF but remain in the effluent.

3.2 Food Processing Wastewater Results

The lone food processing facility in the University's wastewater system, the UConn Dairy Bar, was sampled on April 7, 2011 at the end of an ice cream manufacturing session. Chocolate and peanut butter ice cream was reportedly manufactured. Samples collected at the Dairy Bar were analyzed by CET for the CT 15, Oil & Grease by Hydrocarbon Fraction, TDS, TSS, Ortho-phosphate, Total Phosphate, and BOD-5. pH and total residual chlorine readings were obtained in the field.

Analysis results were reviewed in comparison to the limitations found in the "General Permit for the Discharge of Food Processing Wastewater." Aside from the zinc and copper analyses, all other parameters either listed as being required in the General Permit or known or suspected in the Dairy Bar's wastewater stream were either below the detection limit or did not exceed maximum levels.

The zinc concentration in the sample obtained exceeded the General Permit limitation of 1.0 mg/L with a concentration of 5.5 mg/L, while the copper concentration exceeded the limitation of 1.0 mg/L with a concentration of 1.7 mg/L. Other detected constituents included total phosphorus at 1,800 mg/L, orthophosphorus at 322 mg/L, BOD-5 at 180,000 mg/L, total oil and grease at 9,700 mg/L, TDS at 120,000 mg/L, TSS at 74,000 mg/L, selenium at 0.14 mg/L, chromium at 0.19 mg/L, arsenic at 0.28 mg/L, and barium at 0.47 mg/L.

The high BOD, phosphorus, TDS, and TSS are all byproducts of the dairy processing. Milk fats are responsible for the "oil and grease" detection. The BOD is fully treated in the WPCF whereas the TSS is handled via clarifying. The metals are believed to be a product of the cleaning of the equipment used for making ice cream. These metals are diluted at the WPCF but remain in the effluent.

3.3 Water Treatment Wastewater Results

Sample "Water Treatment 1" represents the CUP Reverse osmosis reject water and sample "Water Treatment 2" represents the Chemistry Department's reverse osmosis reject water. Metals, total settleable solids, and total suspended solids were not detected in the samples. Note that maximum concentrations are not listed for these analytes in the chemical limitations table in the General Permit for the discharge of water treatment wastewater.

TDS was 520 mg/L in the CUP sample and 360 mg/L in the Chemistry sample. TDS is not a listed parameters in the "chemical limitations" table in the General Permit. Three disinfection byproducts (chloroform, bromodichloromethane, and dibromochloromethane) were detected in the samples. These VOCs are believed to be passed through from the potable water used in the reverse osmosis processes. Table 3-1 below lists the disinfection byproducts detected over the last 12 months.

Table 3-1
Disinfection Byproducts Comparison

	Bromodichloromethane	Chloroform	Dibromochloromethane
Potable Water System			
4/28/10	1.00 µg/L	ND	0.93 µg/L
7/27/10	2.20 µg/L	2.00 µg/L	2.30 µg/L
7/28/10	ND	ND	ND
12/7/10	ND	ND	ND
3/8/11	1.00 µg/L	0.85 µg/L	1.00 µg/L
WTW (RO Reject)			
CUP	1.50 µg/L	2.40 µg/L	1.30 µg/L
Chemistry Bldg.	2.30 µg/L	9.70 µg/L	0.58 µg/L

The concentrations detected in the two samples are listed in the last two rows of the table. Note that a buildup of disinfection byproducts appears to be occurring during the reverse osmosis process. However, the maximum concentration for VOCs is 1.0 mg/L according to the chemical limitations table in the General Permit, such that this maximum was not exceeded by the low levels of disinfection byproducts detected. Disinfection byproducts are biodegraded in the sewage treatment process and are not believed present in the discharge from the WPCF.

3.4 Non-Contact Cooling Water Wastewater Results

Two non-contact cooling water wastewater example samples were obtained by MMI on March 30, 2011. Samples were taken from the CUP COGEN wastewater stream and from the Ice Rink cooling water collection tub. Samples at both locations were then analyzed by CET for the CT 15, VOCs, and TDS. The pH and total residual chlorine readings were taken in the field at both locations.

Analysis results were reviewed in comparison to the limitations found in the "General Permit for the Discharge of Minor Boiler Blowdown Wastewater." No parameters that are required by the General Permit were exceeded for either sample location. TDS was measured at 1,100 mg/L and 230 mg/L in blowdown from the CUP and ice rink cooling water, respectively. Zinc was detected at 0.12 mg/L and 0.079 mg/L, respectively. In all cases, the CUP cooling water had higher levels of detected compounds than the ice rink cooling water. In addition, water from the CUP contained barium at 0.08 mg/L and copper at 0.061 mg/L.

The TDS and metals found in cooling water are likely derived from a combination of the following: (1) a concentration of the same constituents in the potable water supply as water loss occurs through minor evaporation; and (2) leaching from the cooling systems. The TDS and metals are diluted at the WPCF but remain in the effluent.

3.5 Miscellaneous Wastewater Results

Three miscellaneous wastewater samples were obtained by MMI on April 7, 2011. Samples were taken from the CUP Compressor Condensate wastewater, the floor wash water from the Facilities Operation & Locksmith Services building, and the floor wash water from the Cow Barn building. Samples at all locations were then analyzed by CET for CT 15, VOCs, and TDS. Phosphorus was also analyzed for the two floor wash samples, and BOD was analyzed for the barn floor wash sample. pH and total residual chlorine readings were taken in the field at all three locations.

Analysis results were reviewed in comparison to the limitations found in the "General Permit for Miscellaneous Discharges of Sewer Compatible (MISC) Wastewater." Of the parameters that were included in analysis and those that are included in the General Permit, the zinc concentration limitation of 2.0 mg/L was the lone exceedence in the CUP air compressor condensate and Cow Barn wastewater. Concentrations of zinc were 3.0 mg/L in each of these two wastewater samples, although it was lower (1.0 mg/L) in the water drawn from the Facilities building.

In addition, total phosphorus was detected at 2.4 mg/L and BOD was 330 mg/L in the barn floor wash water; and oil and grease was 5.5 mg/L in the Facilities floor wash water. TDS was 5,300 mg/L, 280 mg/L, and 5,300 mg/L in the air compressor wastewater, Facilities floor wash water, and barn floor wash water, respectively. TSS was 82 mg/L, 99 mg/L, and 370 mg/L in the air compressor wastewater, Facilities floor wash water, and barn floor wash water, respectively.

Arsenic was 0.0049 mg/L in the air compressor wastewater and 0.0044 mg/L in the barn floor wash water; barium was 0.051 mg/L in the Facilities floor wash water; and copper was 0.096 mg/L, 0.22 mg/L, and 0.11 mg/L in the air compressor wastewater, Facilities floor wash water, and barn floor wash water, respectively. Lead was detected at 0.03 mg/L in the Facilities floor wash water.

The TDS and metals found in air compressor wastewater are likely derived from a combination of the following: (1) a concentration of the same constituents in the potable water supply as water loss occurs through minor evaporation; and (2) leaching from the air compressor systems. The TDS and metals detected in the air compressor wastewater and floor wash waters are diluted at the WPCF but remain in the effluent. The BOD from the Cow barn floor wash water is fully treated in the WPCF.

4.0 ANALYSIS

A basic mass balance analysis was conducted to evaluate the concentrations of TDS, copper, lead, and zinc from non-domestic wastewaters to the effluent produced by the WPCF. These four parameters were selected for analysis because (1) they were the most common detections and (2) they are not broken down in the WPCF treatment processes. A few of the other metals detected, such as arsenic, were not evaluated because they were only detected in a few of the non-domestic wastewaters. TSS, BOD, phosphorus, and VOCs (the potable water disinfection byproducts) were not included in the mass balance analysis because these undergo changes in the treatment processes.

The mass balance analysis was conducted by weighting the measured or assumed level of TDS, copper, lead, and zinc for each source by the daily flow of each source. The sums were then calculated. For non-detections of a metal such as lead or copper, the assumed concentration was half of the detection limit rather than zero. This prevented an over-influence of zero values in the calculations.

The calculated concentrations of TDS, copper, lead, and zinc were 2,193 mg/L, 0.046 mg/L, 0.007 mg/L, and 0.121 mg/L, respectively for a total non-domestic wastewater flow of 147,153 gpd. Note that the calculated lead concentration is below the detection limit, indicating it is not a concern in non-domestic wastewater.

The weighted average TDS concentration of 2,193 mg/L was heavily influenced by the dairy bar, CUP reverse osmosis, boiler blowdown, floor wash, and air compressor wastewaters. Note that the TDS in the CUP cooling tower wastewater is lower (at 1,100 mg/L), indicating that it helps dilute overall TDS in the non-domestic wastewater.

The weighted average copper concentration of 0.046 mg/L was heavily influenced by the dairy bar, boiler blowdown, and the CUP reverse osmosis wastewaters. The weighted average zinc concentration of 0.121 mg/L was heavily influenced by the dairy bar, air compressor, and floor wash wastewaters.

The NPDES permit specifies limits for copper and zinc (total of each, in kg/day) but not for TDS and lead. Results of the discharge monitoring reports (DMRs) were compared to the limits and the non-domestic wastewater concentrations calculated above. Median values were figured and are presented in the table because the averages are skewed by occasional outliers. Note that the median copper and zinc concentrations from the DMRs were converted from units kg/d to mg/L based on the average flows for each of the 12 DMRs.

Table 4-1
Copper and Zinc Comparisons

Type	Copper	Zinc
NPDES Permit Limit (kg/d) – monthly	0.518 kg/d	0.047 kg/d
NPDES Permit Limit (kg/d) – daily	1.116 kg/d	0.136 kg/d
Median from DMRs (kg/d)	0.072 kg/d	0.177 kg/d
Median from DMRs (mg/L)	*0.019 mg/L*	*0.044 mg/L*
Non-Domestic Wastewater (mg/L)	*0.046 mg/L*	*0.121 mg/L*

With reference to the last two rows of the table, note that the copper and zinc concentrations in non-domestic wastewater exceed the copper and zinc concentrations in the effluent. This indicates that the domestic wastewater collected by the University's sewer system is largely responsible for diluting the wastewater in the WPCF and ultimately in the effluent.

Of the two metals, only zinc has exceeded its NPDES permit limit. Although the non-domestic wastewaters are an important component of zinc in the sanitary sewer system, the fact remains that any zinc in the domestic and laboratory fractions of the sanitary sewer system also contribute to the zinc levels. If the concentrations of zinc in the domestic and laboratory fractions were lower, then those wastewaters would facilitate a higher degree of dilution and the concentration in the effluent would be lower.

5.0 CONCLUSION

The sample locations described herein were selected by the University as examples of typical and "worse case" sources of non-domestic wastewater that are within the wastewater system. Included in the analyses were the five different non-domestic source-types. Four of the five types are: boilers, water treatment wastewater, non-contact cooling water, and miscellaneous wastewater sources which are distributed throughout campus. With regard to these four types, there are more than one location within the system. The lone food processing (manufacturing) source of wastewater is the dairy bar facility. All other food served within the system is processed outside of the system and prepared, distributed, and consumed within the system.

The analyses results from the two sampling events suggest that the University would be in compliance with most of the General Permit parameter concentration limits, if these non-domestic sources of wastewater were covered by General Permit registrations. However, it appears that continued inclusion in the NPDES permit is the most appropriate means of addressing most of these sources, as zinc and copper limits are exceeded in some of the non-domestic wastewaters. Given that zinc is also exceeded at the point of effluent relative to its limit in the current NPDES permit, the University may wish to explore means of controlling the movement of zinc into the sanitary sewer system.

University of Connecticut
Guidelines for Drain Disposal of Chemicals

MAY 2011

MMI #1958-48

Photograph: University of Connecticut

Prepared by:

MILONE & MACBROOM, INC.
99 Realty Drive
Cheshire, CT 06410
(203) 271-1773
www.miloneandmacbroom.com

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1.0 INTRODUCTION

1.1 Introduction

Disposal of chemicals into the sanitary sewer is regulated by federal and state laws and regulations. These laws and regulations prohibit any drain disposal of hazardous wastes and limit the allowable wastewater concentration of a number of specific substances. The University Of Connecticut is committed to protection of the local community and the environment through strict compliance with these laws and regulations. Discharge of hazardous chemical wastes into the campus sanitary sewer system is prohibited by campus policy.

The range of substances that can be considered hazardous waste is enormous. Indeed, almost any substance is a hazardous waste if it is disposed of in large quantities or in high concentrations. Federal and state laws permit laboratories to drain dispose small amounts of some chemicals in quantities that do not pose a hazard to human health or the environment.

The following guidelines for drain disposal of chemicals at the University are based on state law, University regulations and permits, and on procedures set forth in the National Research Council (NRC) publication "Prudent Practices for Disposal of Chemicals from Laboratories," National Academy Press, Washington D.C., 1995 (Reference 1). Drain disposal is permitted by campus policy only within the guidelines set forth in this document. Drain disposal is permitted by campus policy only within the guidelines set forth in this document.

Disposal of radioactive materials into the sanitary sewer is also regulated by federal and state laws and regulations. These limit both the total amount and the concentration of radioactive materials that may be disposed to the drain. Additionally, solubility limits are also specified. The University is committed to protection of the local community and the environment through strict compliance with these laws and regulations.

1.2 Purpose

This document will educate both regulatory agencies and University employees about the Best Management Practices (BMPs) for appropriate drain disposal of chemicals on campus. Much of this document and its rules and guidelines will be enforced by the University's Department of Environmental Health and Safety (EH&S). The vision and mission statement of EH&S are:

- "To promote and maintain a safe and healthful environment by ensuring the highest level of environmental health and safety services for faculty, staff,

students, and visitors at the University of Connecticut."

- "To provide comprehensive environmental health and safety services for the University community by developing and administering effective policies and procedures that prevent personal injuries and maintain regulatory compliance in the areas of biological, chemical, occupational, and radiation safety, thereby supporting the University's mission of teaching, research, and public service."

EH&S will provide the following chemical waste compliance services:

- Management of University hazardous waste storage area.
- Collection of chemical waste from laboratories.
- General compliance assistance.
- Work space consultations.

Numerous departments may manage and utilize laboratories or similar facilities. These include the following:

- Pathobiology
- Biology:
  - Biological Sciences
  - Ecology & Evolutionary Biology
  - Molecular & Cell Biology
  - Structural Biology & Biophysics
- Chemistry
- Pharmacy
- Animal Science
- Physics
- Floriculture
- Allied Health Sciences
- Natural Resources & the Environment
- Nutritional Sciences
- Pathobiology & Veterinary Science
- Plant Science (Soil Nutrient Analysis Lab)
- Environmental Science
- Geoscience
- Engineering:
  - Biomedical
  - Chemical
  - Environmental
  - Biodiesel Lab
- Psychology
- Physiology & Neurobiology
- IMS (Material Science)
- Center for Environmental Sciences & Engineering
- Asphalt Lab – Depot Campus

- ❑ Art (Paints)
- ❑ Fuel Cell Lab
- ❑ Health Services (not really laboratories)

This drain disposal document shall apply to the above departments.

2.0 OVERVIEW OF DRAIN DISPOSAL

2.1 Introduction

Hazardous chemical waste storage and disposal is regulated by the U.S. Environmental Protection Agency (EPA). In Connecticut, the Department of Environmental Protection (DEP) regulates chemical waste management activities. All University chemical wastes are subject to inspection and enforcement actions by the EPA or the DEP.

Within individual work areas and laboratories, authorization for specific operations, delineation of appropriate safety procedures and instruction about these procedures is the responsibility of the Principal Investigators and/or supervisors. This includes appropriate chemical waste disposal practices and proper action for incidental spills. It is the responsibility of each UCONN employee to ensure that chemical waste generated from their activities is disposed of properly. Some materials may be safely disposed of into the sewers while others cannot due to potential damage to human health and the environment.

2.2 Potential Problems in Drains and Campus Sewers

Chemicals are prohibited from disposal to laboratory drains because they can:

- create hazards of fire, explosion, or local air pollution or stench,
- react with other chemicals to form hazardous gases,
- corrode lab and building plumbing,
- leak out of old pipes as liquid to pollute campus grounds,
- escape from sewer pipes as air pollutants, and/or
- expose plumbers to contact or inhalation hazards.

Campus drains are generally interconnected; substances that go down one sink drain may well come up as a vapor in another. Sinks are usually communal property, and there is a very real hazard of chemicals from two sources contacting one another; the sulfide poured into one drain may contact the acid poured into another with unpleasant consequences for all in the building. Furthermore, much of the campus plumbing infrastructure is aged and may not be resistant to chemicals placed into the drains.

2.3 Radioactive Materials

The University is committed to minimizing the volume of radioactive waste generated. Utilizing the waste minimization practices presented below and complying with the waste procedures will keep volumes and costs at their minimum. If disposed to drains, radioactive materials could "settle out" or concentrate in the sewer lines. This is avoided by prohibiting the disposal of materials that can re-concentrate in the system. Radioactive materials may only be disposed in accordance with the guidelines for such disposal.

2.4 Materials for "Normal Trash"

EH&S discourages the practice of discarded unused chemicals in the 'normal trash' regardless of the toxicity of the material. Even simple sugars, talc and other benign material can cause alarm simply by their appearance in a trash container. EH&S will collect non-hazardous wastes along with hazardous waste. Refer to www.ehs.uconn.edu for Chemical Waste Management Manual.

3.0 CHARACTERISTICS OF HAZARDOUS WASTES

3.1 Introduction

Hazardous wastes are prohibited from discharge. Chemical wastes are hazardous if they are *corrosive, reactive, ignitable, or moderately or highly toxic.*

3.2 Drain Disposal of Mixed Wastes (Radioactive Wastes That are a Chemical Hazard)

Waste that contains both a radioactive constituent and a chemical of which either is prohibited from drain disposal is called a "mixed waste." Disposal of mixed waste into the campus sewer system is prohibited. Exceptions to this policy may be granted by case-by-case action of the campus EH&S. Production of mixed waste is to be avoided or minimized. When mixed waste is generated, store it in a safe and protected location. Contact the University's Radiation Safety Officer (860.486.3613) for disposal of mixed waste.

3.3 Drain Disposal of Biohazardous Wastes

Disposal of infectious or biohazardous waste into the campus sewer system is generally prohibited. Refer to University's Biological Waste Management Program at www.ehs.uconn.edu. Research involving generation of biohardous waste is reviewed on an individual basis.

4.0 GENERAL RULES FOR SANITARY DRAIN DISPOSAL

4.1 General Rules for Sanitary Drain Disposal of Non-Radioactive Materials

The following general rules apply to drain disposal of chemicals to sanitary sewers at the University of Connecticut. Disposal of chemicals is limited to occasional disposal of small amounts of chemicals, as detailed in the guidelines below. No large scale or continuous disposal (>1 liter per day) of any chemical is permitted without previously demonstrating that the activity is compliant with the conditions of the CT DEP General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater (Miscellaneous General Permit). The University Office of Environmental Policy can be contacted prior to initiating any large scale or continuous discharges for guidance on demonstrating compliance with the Miscellaneous General Permit.

1. Only water-soluble substances may be disposed of in sinks, toilets, and floor drains. Solutions should be flushed down the drain with an appropriate amount of water. A compound is considered water-soluble if it dissolves to the extent of at least 3%. In general, a soluble substance that contains a substance that is not soluble should not be poured down the drain. However, if the water-insoluble material comprises less than about 2% of the mixture, drain disposal is usually acceptable because the small quantity of water-insoluble material will be well dispersed in the aqueous effluent. Residual animal or vegetable fats and oils generated as a result of normal cleaning activities are an exception to the solubility rule. However, significant amounts of these oils and fats (approximately more than a pint) can cause clogging in interior drains and so should be collected and disposed of appropriately.

2. Corrosive solutions with pH ranges (2.0<pH<5.5) and (12.0<pH<12.5) must be neutralized before sink/drain disposal. Corrosive solutions with pH ranges less than 2.0 or greater than 12.5 at the conclusion of the lab process must be managed as hazardous waste, as they meet the definition described above in Section 3.1.

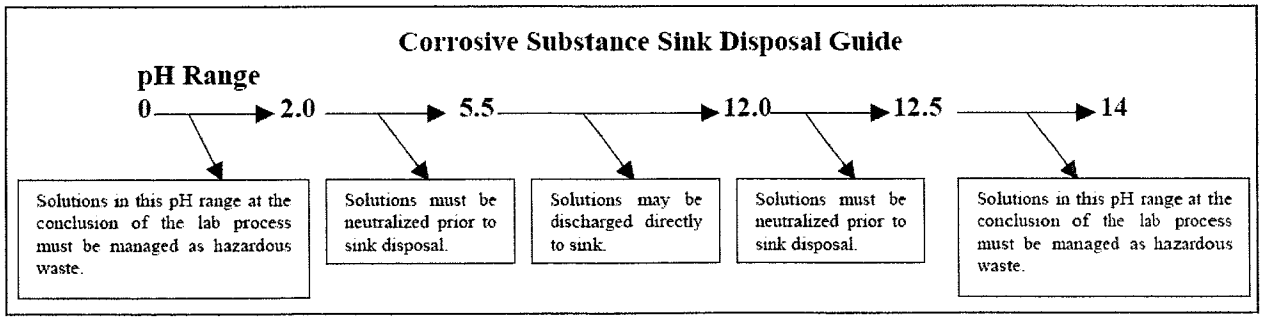


Figure 4-1

3. Highly toxic, malodorous, or lachrymatory (that is, those that cause strong eye irritation) chemicals shall not be disposed of down the drain.

4. Solutions that are flammable (flash point less than 140F) or explosive at the time of disposal must not be disposed into a sink or drain. The sink or drain disposal of flammables/explosives (based on nature and quantity) can create an unsafe condition for lab and/or facilities maintenance personnel especially during periods of "low flow" conditions (e.g. after normal working hours). Examples of these substances include: acetone, gasoline, methyl ethyl ketone, ketones, aldehydes, peroxides, ethers, xylene, toluene, or alcohols.

5. Unless EH&S has provided prior written approval, unwanted or waste chemicals and products must not be poured down the drain, treated or diluted as a means of disposal. These materials must be picked up by EH&S personnel.

4.2 General Rules for Sanitary Drain Disposal of Radioactive Materials

The following general rules apply to drain disposal of radioactive materials to sanitary sewers at the University. Disposal of radioactive materials is limited to occasional disposal of small amounts as detailed in the user-specific permit that both authorizes the work and may permit sewer disposal of radioactive materials. In addition to meeting the requirements placed on the disposal of radioactive materials to the sewer, the materials must also meet the requirements for disposal of the associated chemicals. The first requirement is to assure that any chemicals associated with the radioactive materials would be allowed to be disposed to the sanitary sewer. If a material cannot be drain disposed based on the chemical nature of the material, it can only be disposed of by specific written preapproval. EH&S should be contacted so that specific pre-approval can be sought and approved or rejected.

1. Just as with chemicals, only water-soluble substances may be disposed of in approved sinks.

2. Solutions must be flushed down the drain with an appropriate amount of water.

3. Radioactive material to be released must qualify as being "readily soluble" in water. EH&S will provide guidance to assure that wastes are "readily soluble."

4. Authorization must be obtained by EH&S prior to disposal.

5.0 SPECIFIC RULES FOR DRAIN DISPOSAL

Solutions containing any amounts of Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Copper, Nickel, Osmium and Zinc shall not be discarded into the sanitary sewer system without previously demonstrating that the activity is compliant with the conditions of the CT DEP General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater.

According to the University's Chemical Waste Management Manual, the following solutions are the allowable discharges to laboratory sinks. Discharges are limited to one liter per day of concentrations less than or equal to one molar:

- ❑ Inorganic solutions with pH between 5.5 and 12.0
- ❑ Soaps and detergents (Non-Corrosive)
- ❑ Mercury-free Bleach, WescodyneTM , Cidex OPATM, Quatricide®, and Cetylcide II solutions
- ❑ Used scintillation fluid designated for drain disposal by the University's Radiation Safety Officer
- ❑ Non-contaminated growth media
- ❑ Purified biological materials such as amino acids and proteins in aqueous buffer solutions
- ❑ Sugars and sugar alcohols (polyols) such as glycerol, xylitol and sorbitol.
- ❑ Buffer solutions
- ❑ Spent photographic developer (NON FIXER)
- ❑ Inorganic salts for which both the cations and anions are listed in the Table 5-1

Table 5-1
Limited Discharge Inorganic Salt Cations and Anions

CATIONS	ANIONS
Aluminum, Al^{3+}	Borate, BO_3^{3-}, $B_4O_7^{2-}$
Ammonium, NH_4^+	Bromide, Br^-
Calcium, Ca^{2+}	Carbonate, CO_3^{2-}
Cesium, Cs^+	Chloride, Cl^-
Iron, Fe^+	Bicarbonate, HCO_3^-
Lithium, Li^+	Bisulfate, HSO_4^-, Bisulfite, HSO_3^-
Magnesium, Mg^{2+}	Fluoride, F^-
Manganese, Mn^{2+}, Mn^{3+}, Mn^{4+}, Mn^{7+}	Hydroxide, OH^-
Potassium, K^+	Iodide, I^-
Sodium, Na^+	Nitrate, NO_3^-, Nitrite, NO_2^-
Strontium, Sr^{2+}	Oxide, O^{2-}
Tin, Sn^{2+}	Phosphate, PO_4^{3+}
Titanium, Ti^{3+}, Ti^{4+}	Sulfate, SO_4^{2-}, Sulfite, SO_3^{2-}
Zirconium, Zr^{2+}	Thiosulfate, $S_2O_3^{2-}$

6.0 ACCIDENTAL SPILL PREVENTION AND EMERGENCY NOTIFICATION

6.1 Accidental Discharge Procedure

Accidental discharges of chemicals on campus may have reporting requirements and a corresponding procedure that must be adhered to. It is the responsibility of the person causing any accidental discharge to notify the University's WPCF Superintendent at 486-4235 if prohibited chemicals or solutions containing prohibited chemicals are accidentally poured or spilled down the drain via sink, plumbed equipment or floor drains in large quantity.

Faculty, staff and students should be made aware of their roles and responsibilities for accidental discharge by in-house training and or posting in a central communication area. Notification should include:

- ❑ Building and room number
- ❑ Detailed description what went down the drain, for example:
  - o Names of chemical(s)
  - o Concentration and percent in solution
  - o Volume lost
- ❑ Any corrective actions taken
- ❑ If there were any injuries and if medical attention is needed.
- ❑ Who first observed the spill and the approximate time it occurred.
- ❑ Details about any emergency response.

6.2 Drain Disposable Chemicals

Due to the diverse nature of laboratory, shop, construction, and facility operations that use, store, and handle chemicals, general BMPs should be used in all respective areas. General BMPs for spill prevention applicable to all chemical use, handling, and storage operations are presented below.

- ❑ The University prohibits open container use of chemicals near sinks and floor drains
- ❑ Where open container use of chemicals near sinks and floor drains is unavoidable, sinks and drains may be capped or plugged during chemical use
- ❑ Chemicals should be stored in tubs, cabinets, bermed or diked areas, or in other secondary containment
- ❑ Storing excess quantities of chemicals should be avoided by ordering only what is needed and disposing of unwanted or expired chemicals through EH&S
- ❑ Storage cabinets and shelves should be secured to prevent tipping or falling
- ❑ Spill containment and clean-up materials should be kept nearby
- ❑ Good housekeeping practices should be followed; sinks should never be used to store chemicals

REFERENCES

Annual Book of ASTM Standards. Volume 11.01, "Water (I)." American Society for Testing and Materials, Easton,MD, 1989.

CRC Handbook of Chemistry and Physics. CRC Press, Inc., Boca Raton, FL, 65th ed, 1984.

Lange's Handbook of Chemistry. McGraw-Hill, Inc., New York, NY, 13th ed, 1985.

Snoeyink, Vernon L. and David Jenkins, Water Chemistry. John Wiley & Sons, Inc., New York, NY, 1980.

Standard Methods for the Examination of Water and Wastewater. American Public Health Association, Washington, DC, 17th ed, 1989.

Prudent Practices for Disposal of Chemicals from Laboratories, National Academy Press, Washington D.C., 1995.

Attachment P: Domestic Sewage Treatment Facilities (excluding subsurface systems)

Applicant Name: University of Connecticut
(as indicated on the *Permit Application Transmittal Form*)

Treatment Facility Information

Facility Name (if different than applicant):

University of Connecticut WWTF

Provide a brief description of the treatment and collection systems:

Wastewater is treated via the Huber step screen before being pH adjusted and sent to one of two aeration tanks to remove suspended solids and BOD. The wastewater is then sent to a clarifier. After, the clarifier water is disinfected and dechlorinated before being discharged to the Willimantic River. Sludge is dewatered and pumped to a holding tank prior to the off-site disposal.

Sewage Sludge Information

For discharges previously authorized by DEP, provide the average mass (dry tons) of sludge generated by the facility annually:
18.4 tons/year

For all applications, estimate the mass (dry tons) of sludge expected to be generated by the facility during the next five years:
125 tons (25 tons/year)

Provide a brief description of existing sludge disposal/utilization practices at the facility (including ash disposal if appropriate):
Sludge is pumped from holding tanks to tanker trucks for disposal off-site.

Provide a brief description of the proposed measures to be taken to dispose of sludge in the event the existing sludge disposal/utilization practice becomes unavailable due to unforeseen circumstances:
1. Hauler has multiple disposal facilities.
2. The WWTF has storage capabilities for weeks.

Septage

1. Does the facility accept septage? ☐ Yes ☒ No
   a. If yes, does the facility have a septage receiving facility? ☐ Yes ☐ No
      (1) If yes, is the septage receiving facility located within the wastewater treatment plant site?
      ☐ Yes ☐ No
      (2) If no, explain how septage is accepted at the facility:

2. Is access to the septage discharge point restricted or otherwise monitored? ☐ Yes ☐ No

The following analyses must have been performed on a grab sample of sludge within one year preceding the date this application is submitted and the results of such analyses must be submitted with this application as part of Attachment P.

Sludge Analysis

1. For POTWs with a design flow of equal to or greater than 1 MGD, attach the results of a Priority Pollutants Scan. The Priority Pollutant Scan shall include the following:

   Volatiles, Semi-Volatiles, Pesticides, PCBs and the following Heavy Metals:

Arsenic	(As)	Mercury(Hg)	
Beryllium	(Be)	Molybdenum	(Mo)
Cadmium	(Cd)	Nickel	(Ni)
Chromium, Total	(Cr)	Selenium	(Se)
Copper	(Cu)	Zinc	(Zn)
Lead	(Pb)		

2. For POTWs with a design flow of less than 1 MGD, attach the results of a heavy metals analysis on a dry weight basis. This analysis shall include the following heavy metals:

Copper	(Cu)	Lead	(Pb)
Cadmium	(Cd)	Nickel	(Ni)
Chromium	(Cr)	Zinc	(Zn)

   The percent (%) solids of the sample should also be submitted.

Attachment P (continued): Domestic Sewage Treatment Facilities (excluding subsurface systems)

Summary Sheet of Industrial and Commercial Non-Hazardous Waste Hauled to Water Pollution Control Facilities

Please complete this form by providing the information requested for the previous five years.

POTW Name:

Name of Person Completing Form:

Date: / /

Name of Facility Generating Waste	Location Address of Generating Facility	Nature of Waste	Volume and Frequency of Waste Received

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

February 09, 2009

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:	RU	01/22/09	8:30
Location Code:	UCONNWW	Received by:	LB	01/23/09	17:00
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	P913782-1				

Laboratory Data

SDG I.D.: GAR30680
Phoenix I.D.: AR30680

Client ID: UCSLDGJAN

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 3.4	3.4	mg/Kg	01/26/09		EK	6010/200.7	
Beryllium	< 1.7	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Cadmium	< 1.7	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Chromium	12.6	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Copper	671	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Mercury	< 0.10	0.10	mg/kg	01/26/09		RS	SW-7471	
Nickel	25.8	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Lead	61.6	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Zinc	487	1.7	mg/Kg	01/26/09		EK	6010/200.7	
Total Solids @ 104C	6.16	0.10	%	01/26/09		VR/KDB	E160.3	
Fixed Solids @ 500C	18.9	0.1	%	01/26/09		VR/KDB	E160.4	
Ammonia as Nitrogen	2100	500	mg/Kg	01/27/09		WHM	E350.1	
Nitrite as N	< 1.6	1.6	mg/kg	01/24/09		B/E	9056	1
Nitrate as N	54	8.1	mg/kg	01/24/09		B/E	9056	
Organic Nitrogen	37000	2500	mg/Kg	01/27/09		WHM	E350.1/350.2	
pH - Sludge	6.75	0.10	PH	01/23/09	23:00	CD	4500-H B/9045	
Nitrogen Tot Kjeldahl	39000	2500	mg/Kg	01/27/09		WHM	E351.1	1
Total Nitrogen	39000	0.05	mg/Kg	01/27/09		WHM	S4500NH3/300.0	
Volatile Solids @ 500C	81.1	0.0019	%	01/26/09		VR/KDB	S209D/E160.4	
Mercury Digestion	Completed			01/26/09		E	SW7471	
Sludge Ext. for PCB	Completed			01/26/09		M	SW3550	
Total Metals Digest	Completed			01/23/09		AG/T	SW846 - 3050	
Polychlorinated Biphenyls								
PCB-1016	ND	390	ug/Kg	01/28/09		MH	SW 8082	
PCB-1221	ND	390	ug/Kg	01/28/09		MH	SW 8082	
PCB-1232	ND	390	ug/Kg	01/28/09		MH	SW 8082	
PCB-1242	ND	390	ug/Kg	01/28/09		MH	SW 8082	
PCB-1248	ND	390	ug/Kg	01/28/09		MH	SW 8082	
PCB-1254	ND	390	ug/Kg	01/28/09		MH	SW 8082	

Client ID: UCSLDGJAN

Phoenix I.D.: AR30680

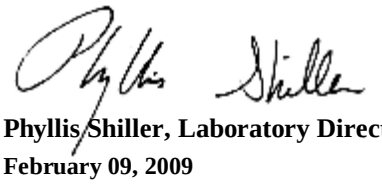
Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1260	ND	390	ug/Kg	01/28/09		MH	SW 8082
PCB-1262	ND	390	ug/Kg	01/28/09		MH	SW 8082
PCB-1268	ND	390	ug/Kg	01/28/09		MH	SW 8082
QA/QC Surrogates							
% DCBP	65		%	01/28/09		MH	SW 8082
% TCMX	68		%	01/28/09		MH	SW 8082

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level



Phyllis Shiller, Laboratory Director

February 09, 2009

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

April 23, 2009

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:	GT	04/13/09	10:00
Location Code:	UCONNWW	Received by:	LDF	04/14/09	11:10
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	P.913782-1				

Laboratory Data

SDG I.D.: GAR57330
Phoenix I.D.: AR57330

Client ID: UC SLUDGE APR 13

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 2.9	2.9	mg/Kg	04/15/09		EK	6010/200.7	
Beryllium	< 1.4	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Cadmium	< 1.4	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Chromium	20.6	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Copper	588	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Mercury	0.53	0.20	mg/kg	04/15/09		R/P	SW-7471	
Nickel	39.3	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Lead	77.6	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Zinc	645	1.4	mg/Kg	04/15/09		EK	6010/200.7	
Total Solids @ 104C	6.84	0.10	%	04/16/09		V/KD/CL	E160.3	
Fixed Solids @ 500C	13.0	0.1	%	04/16/09		V/KD/CL	E160.4	
Ammonia as Nitrogen	3900	1000	mg/Kg	04/17/09		WHM	E350.1	
Nitrite as N	< 1.5	1.5	mg/kg	04/14/09		B/E	9056	1
Nitrate as N	110	7.3	mg/kg	04/14/09		B/E	9056	
Organic Nitrogen	100000	5000	mg/Kg	04/17/09		WHM	E350.1/350.2	
pH - Sludge	6.36	0.10	PH	04/14/09	23:00	CD	4500-H B/9045	
Nitrogen Tot Kjeldahl	110000	5000	mg/Kg	04/17/09		WHM	E351.1	1
Total Nitrogen	110000	0.05	mg/Kg	04/22/09		WHM	S4500NH3/300.0	
Volatile Solids @ 500C	87.0	0.0025	%	04/16/09		V/KD/CL	S209D/E160.4	
Mercury Digestion	Completed			04/15/09		E	SW7471	
Sludge Ext. for PCB	Completed			04/15/09		M/D	SW3550	
Total Metals Digest	Completed			04/14/09		AG/T	SW846 - 3050	
Polychlorinated Biphenyls								
PCB-1016	ND	350	ug/Kg	04/16/09		MH	SW 8082	
PCB-1221	ND	350	ug/Kg	04/16/09		MH	SW 8082	
PCB-1232	ND	350	ug/Kg	04/16/09		MH	SW 8082	
PCB-1242	ND	350	ug/Kg	04/16/09		MH	SW 8082	
PCB-1248	ND	350	ug/Kg	04/16/09		MH	SW 8082	
PCB-1254	ND	350	ug/Kg	04/16/09		MH	SW 8082	

Client ID: UC SLUDGE APR 13 Phoenix I.D.: AR57330

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1260	ND	350	ug/Kg	04/16/09		MH	SW 8082
PCB-1262	ND	350	ug/Kg	04/16/09		MH	SW 8082
PCB-1268	ND	350	ug/Kg	04/16/09		MH	SW 8082
QA/QC Surrogates							
% DCBP	63		%	04/16/09		MH	SW 8082
% TCMX	55		%	04/16/09		MH	SW 8082

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
April 23, 2009

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 04, 2009

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:	DC	07/27/09	0:00
Location Code:	UCONNWW	Received by:	LB	07/28/09	14:15
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GAR98306
Phoenix ID: AR98306

Project ID:

Client ID: UCSLUDGE JULY

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 5.6	5.6	mg/Kg	07/31/09		EK	6010/200.7	
Beryllium	< 2.8	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Cadmium	< 2.8	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Chromium	12.2	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Copper	631	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Mercury	< 0.10	0.10	mg/kg	07/29/09		RS	SW-7471	
Nickel	22.9	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Lead	47.1	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Zinc	484	2.8	mg/Kg	07/31/09		EK	6010/200.7	
Total Solids @ 104C	4.21	0.10	%	07/29/09		KDB	E160.3	
Fixed Solids @ 500C	17.7	0.1	%	07/29/09		KDB	E160.4	
Ammonia as Nitrogen	24000	1200	mg/Kg	07/30/09		WHM	E350.1	
Nitrite as N	< 2.4	2.4	mg/kg	07/28/09		B/E/G	9056	1
Nitrate as N	20	12	mg/kg	07/28/09		B/E/G	9056	
Organic Nitrogen	70000	6000	mg/Kg	07/30/09		WHM	E350.1/350.2	
pH - Sludge	7.21	0.10	PH	07/28/09	23:18	CD	4500-H B/9045	
Nitrogen Tot Kjeldahl	94000	6000	mg/Kg	07/30/09		WHM	E351.1	1
Total Nitrogen	94000	0.05	mg/Kg	07/30/09		WHM	S4500NH3/300.0	
Volatile Solids @ 500C	82.3	0.0020	%	07/29/09		KDB	S209D/E160.4	
Mercury Digestion	Completed			07/29/09		E	SW7471	
Sludge Ext. for PCB	Completed			07/30/09		M/D	SW3550	
Total Metals Digest	Completed			07/28/09		AG/C	SW846 - 3050	
Polychlorinated Biphenyls								
PCB-1016	ND	580	ug/Kg	07/31/09		MH	SW 8082	
PCB-1221	ND	580	ug/Kg	07/31/09		MH	SW 8082	
PCB-1232	ND	580	ug/Kg	07/31/09		MH	SW 8082	
PCB-1242	ND	580	ug/Kg	07/31/09		MH	SW 8082	
PCB-1248	ND	580	ug/Kg	07/31/09		MH	SW 8082	

Project ID:

Phoenix I.D.: AR98306

Client ID: UCSLUDGE JULY

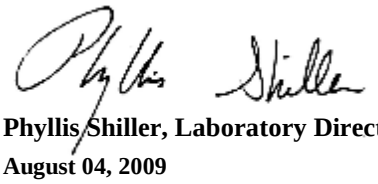
Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1254	ND	580	ug/Kg	07/31/09		MH	SW 8082
PCB-1260	ND	580	ug/Kg	07/31/09		MH	SW 8082
PCB-1262	ND	580	ug/Kg	07/31/09		MH	SW 8082
PCB-1268	ND	580	ug/Kg	07/31/09		MH	SW 8082
QA/QC Surrogates							
% DCBP	96		%	07/31/09		MH	SW 8082
% TCMX	79		%	07/31/09		MH	SW 8082

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level



Phyllis Shiller, Laboratory Director

August 04, 2009

Premier
Laboratory, Inc

61 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
860-774-6814 860-774-6814
800-932-1150

ANALYTICAL DATA REPORT

prepared for:

University of Connecticut
Superintendent, WWTP
25 LeDoyt Road U-3252
Storrs, CT 06269-3252
Attn: Kenneth G Pelzar

Report Number: E911150
Revision 2
Project: WWTP

Received Date: 11/03/2009
Report Date: 11/10/2009
Revision Date: 11/11/2009

Premier Laboratory, Inc
Authorized Signature

Certified and Compliant with:
CT (PH-0465), EPA (CT00008), MA (M-CT008), ME (CT0050), NH (2020), NJ (CT007), NY (11549), PA (68-04413), RI (LAO00300), UCMR2 (CT00008), VT (VT11549)

101-0000000258210

Premier
Laboratory, Inc

51 Louisa Viens Drive
Dayville, CT 06241
Fax: 860-774-2689
860-774-6814 860-774-6814
800-932-1150

Report No: E911150
Client: University of Connecticut
Project: WWTP

CASE NARRATIVE / METHOD CONFORMANCE SUMMARY

Premier Laboratory, Inc received one sample from University of Connecticut on 11/03/2009. The sample was analyzed for the following list of analyses:

PCB's by 8082 in GW/SW
8082[3500]
Solids: Total Percent (%)
CLPOLM01
Trace RCRA (8) Heavy Metals in Solids
6010B[3000], 7471[7471]
Solids: Total Fixed (TFS) by 160.4
160.4
Solids: Total Volatile (TVS) by 160.4
160.4

Non-Conformances:

Work Order:

None

Sample:

None

Analysis:

None

Premier Laboratory, Inc
Analytical Data Report

Report No: E911150
Date Received: 11/03/2009 16:30

Customer: University of Connecticut
Project: WWTP

Parameter	Result	DL	Units	Completed	By	Dilution
(1) #2 Wastewater Sludge						
Date Collected: 11/03/2009 14:00 **Matrix: Other**						
Solids, Total Fixed (TFS) by 160.4	23		%	11/06/2009 16:42	AO	
Solids, Total Percent (%)	4.8		%	11/04/2009 15:08	ARE	
Solids, Total Volatile (TVS) by 160.4	77		%	11/06/2009 16:43	AO	
Trace Metals by 6010B						
Arsenic	ND	5.3	mg/kg	11/10/2009 08:07	KK	
Barium	230	2.1	mg/kg	11/10/2009 08:07	KK	
Beryllium	1.6	1.1	mg/kg	11/10/2009 08:07	KK	
Cadmium	3.3	2.1	mg/kg	11/10/2009 08:07	KK	
Chromium	8.9	2.1	mg/kg	11/10/2009 08:07	KK	
Copper	590	2.1	mg/kg	11/10/2009 08:07	KK	
Lead	87	2.1	mg/kg	11/10/2009 08:07	KK	
Nickel	18	2.1	mg/kg	11/10/2009 08:07	KK	
Selenium	ND	5.3	mg/kg	11/10/2009 08:07	KK	
Silver	5.2	2.1	mg/kg	11/10/2009 09:13	KK	
Zinc	590	2.1	mg/kg	11/10/2009 08:07	KK	
Mercury by SW-846 7471 in SW	0.038	0.020	mg/kg	11/09/2009 13:07	NJB	

Premier Laboratory, Inc
Analytical Data Report

Report No: E911150
Sample No: 1
Sample Description: #2 Wastewater Sludge

Customer: University of Connecticut
Project: WWTP

Date Collected: 11/03/2009 14:00
Date Received: 11/03/2009 16:30
Date Extracted: 11/06/2009 10:45 By: VO
Date Analyzed: 11/09/2009 11:20 By: MRB
Preparation Method: 3500
Analytical Method: 8082

Matrix: Other
Percent Moisture: 95
Sample Weight/Volume: 10.01
Dilution Factor: 1
Extract Volume: 2
Lab Data File: 4110906.D
QC Batch#: 73518

CAS No.	Parameter	Result	DL	Units
12674-11-2	Aroclor 1016	ND	40	ug/kg
11104-28-2	Aroclor 1221	ND	40	ug/kg
11141-16-5	Aroclor 1232	ND	40	ug/kg
53469-21-9	Aroclor 1242	ND	40	ug/kg
12672-29-6	Aroclor 1248	ND	40	ug/kg
11097-69-1	Aroclor 1254	ND	40	ug/kg
11096-82-5	Aroclor 1260	ND	40	ug/kg

Sample QC

Surrogate	Recovery	QC Limits
Tetrachloro-m-xylene	68%	10%-156%
Decachlorobiphenyl	63%	10%-130%

Premier Laboratory, Inc.
CHAIN OF CUSTODY

www.PremierLaboratory.com

SHADED AREAS FOR LAB USE ONLY

Lab WO# E911150

Project Manager Chk

COPY OF REPORT TO

CUSTOMER: UCONN WWTP

ADDRESS: 25 LEDOYT RD, FACILITIES OPS./WPC UNIT 3252, STORRS, CT 06269-3252

ATTENTION: KEN PELZAR

E-MAIL: KENNETH.PELZAR@UCONN.EDU

PHONE: 860-486-4235 FAX: 860-486-6269

BILLING INFORMATION

BILL TO: UCONN -

ADDRESS: 25 LEDOYT RD U-3252 FACILITIES OPS/WPC, STORRS, CT 06269

ATTENTION: KATHY STENDER

TELEPHONE:

PURCHASE ORDER#:

PROJECT INFORMATION

PROJECT: SLUDGE METALS FROM WWTP

PROJECT LOCATION: STORRS STATE: CT

PROJECT MANAGER: KEN PELZAR

IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:

E-MAIL: KENNETH.PELZAR@UCONN.EDU

TELEPHONE: 860-486-4235

FAX: 860-486-6269

SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE	SAMPLE TYPE: GRAB	SAMPLE MATRIX	# OF BOTTLES	ANALYSIS: TOTAL SOLIDS %	FIXED SOLIDS %	VOLATILE SOLIDS %	PCBS	8 RCRA METALS*	PRESERVATIVES: H2SO4	HCL	HNO3	NAOH	NON-PRES	MeOH
#2 WASTEWATER SLUDGE	11-3-09	001980		✓	SLUDGE	2	✓	✓	✓	✓	✓					X	

CUSTODY TRANSFER

		DATE	TIME
SAMPLER:	[illegible signature]	11-3-09	2:00
RECEIVED:			
RELINQUISHED:	[illegible signature]	11-3-09	2:00
RECEIVED:	[illegible signature] PL-AmherST	11-3-2009	14:16
RELINQUISHED:	[illegible signature]	11-3-2009	16:30
RECEIVED:	[illegible signature]	11/3/09	16:30

TURNAROUND (INDICATE IN CALENDAR DAYS): ____ FAX ____ HARD COPY ____ E-MAIL

EXPEDITED SERVICE MAY BE SUBJECT TO SURCHARGE

COMMENTS *RCRA METALS As, Be Cd, Cr(tot), Pb, Hg, Ni, Zn

Re: Special Waste Price Proposal - Table 2 list

CONDITION UPON RECEIPT: (Check One) ☒ Cooled ☐ Ambient ~7.0 °C Upon Receipt at Lab

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

PAGE 1 of 1

#30

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

January 20, 2010

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:		01/05/10	10:00
Location Code:	UCONNWW	Received by:	SW	01/05/10	15:30
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GAS64478
Phoenix ID: AS64478

Project ID:

Client ID: UC SLUDGE JAN

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 8.6	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Beryllium	< 8.6	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Cadmium	< 8.6	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Chromium	10.1	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Copper	534	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Mercury	0.47	0.22	mg/kg	01/06/10		PS	SW-7471	
Nickel	16.6	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Lead	65.7	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Zinc	510	8.6	mg/Kg	01/14/10		EK	6010/200.7	
Total Solids @ 104C	4.22	0.10	%	01/06/10		CL/KDB	E160.3	
Fixed Solids @ 500C	25.7	0.1	%	01/06/10		CL/KDB	E160.4	
Ammonia as Nitrogen	8100	47	mg/Kg	01/14/10		WHM	E350.1	
Nitrite as N	< 2.4	2.4	mg/kg	01/06/10		B/E	9056	1
Nitrate as N	19	12	mg/kg	01/06/10		B/E	9056	
Organic Nitrogen	44000	4700	mg/Kg	01/14/10		WHM	E350.1/350.2	
pH - Sludge	6.33	0.10	PH	01/06/10	0:00	EW/LK	4500-H B/9045	
Total Nitrogen	52000	0.05	mg/Kg	01/14/10		WHM	S4500NH3/300.0	
Volatile Solids @ 500C	74.3	0.10	%	01/06/10		CL/KDB	S209D/E160.4	
Mercury Digestion	Completed			01/06/10		E	SW7471	
Sludge Ext. for PCB	Completed			01/06/09		M/D	SW3550	
Total Metals Digest	Completed			01/06/10		C	SW846 - 3050	
Polychlorinated Biphenyls								
PCB-1016	ND	790	ug/Kg	01/08/10		MH	SW 8082	
PCB-1221	ND	790	ug/Kg	01/08/10		MH	SW 8082	
PCB-1232	ND	790	ug/Kg	01/08/10		MH	SW 8082	
PCB-1242	ND	790	ug/Kg	01/08/10		MH	SW 8082	
PCB-1248	ND	790	ug/Kg	01/08/10		MH	SW 8082	
PCB-1254	ND	790	ug/Kg	01/08/10		MH	SW 8082	

Project ID:

Phoenix I.D.: AS64478

Client ID: UC SLUDGE JAN

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1260	ND	790	ug/Kg	01/08/10		MH	SW 8082
PCB-1262	ND	790	ug/Kg	01/08/10		MH	SW 8082
PCB-1268	ND	790	ug/Kg	01/08/10		MH	SW 8082
QA/QC Surrogates							
% DCBP	75		%	01/08/10		MH	SW 8082
% TCMX	58		%	01/08/10		MH	SW 8082

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director

January 21, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

January 21, 2010

QA/QC Data

SDG I.D.: GAS64478

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 144857, QC Sample No: AS61724 (AS64478)								
Mercury	BDL	3.20	103	102	1.0	100	83.5	18.0
QA/QC Batch 144905, QC Sample No: AS64798 (AS64478)								
ICP Metals - Soil								
Arsenic	BDL	NC	97.4	99.7	2.3	87.9	85.8	2.4
Beryllium	BDL	NC	98.4	99.7	1.3	95.4	96.4	1.0
Cadmium	BDL	NC	95.5	94.8	0.7	94.2	93.3	1.0
Chromium	BDL	43.2	96.2	98.4	2.3	98.5	95.7	2.9
Copper	BDL	7.50	96.3	96.5	0.2	104	102	1.9
Lead	BDL	NC	93.7	98.0	4.5	92.9	90.1	3.1
Nickel	BDL	2.70	96.3	95.9	0.4	97.2	95.7	1.6
Zinc	BDL	0.60	101	98.5	2.5	87.7	88.4	0.8

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
January 21, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

January 21, 2010

QA/QC Data

SDG I.D.: GAS64478

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 144855, QC Sample No: AS64093 (AS64478)								
Total Solids	BDL	10.5	100					
QA/QC Batch 144829, QC Sample No: AS64480 (AS64478)								
Ammonia as Nitrogen	BDL		99.7			115		
QA/QC Batch 144829, QC Sample No: AS64480 (AS64478)								
Nitrogen Tot Kjeldahl	0.16		96.5			86.5		
QA/QC Batch 144846, QC Sample No: AS64547 (AS64478)								
pH		1.30	99.0					

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
January 21, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

January 21, 2010

QA/QC Data

SDG I.D.: GAS64478

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 144922, QC Sample No: AS64353 (AS64478)							
Polychlorinated Biphenyls							
PCB-1016	ND	75			75	84	11.3
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	86			64	64	0.0
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	86	67			73	65	11.6
% TCMX (Surrogate Rec)	66	65			>130	127	NC

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
January 21, 2010

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6° Pg of

Data Delivery:
☐ Fax #: _____
☐ Email: _____

Customer: UConn WPC
Address: Storrs, CT
Project:
Report to: George Tryon
Invoice to:
Project P.O:
Phone #: 860-486-0708
Fax #: 860-486-8107

Client Sample - Information - Identification

Sampler's Signature R. [illegible] 1-5-10 Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Analysis Request: Sludge Analysis	Air bag	4 glass jars	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] As is [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
104498	UC Sludge JAN	sludge	1-5	10:00 Am	X			2									

Relinquished by:	Accepted by:	Date:	Time:
R. [illegible]	[illegible]	1-5-10	2:45
[illegible]	[illegible]	1-5-10	15:30

Comments, Special Requirements or Regulations:

See UConn Required test for sludge Analysis on file for WPC.

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: _____

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other _____

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

PHOENIX
Environmental Laboratories, Inc.

Tuesday, April 13, 2010

Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Project ID:
Sample ID#s: AS90395

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Analysis Report

April 13, 2010

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:		04/07/10	10:00
Location Code:	UCONNWW	Received by:	LB	04/07/10	14:59
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GAS90395
Phoenix ID: AS90395

Project ID:

Client ID: UCONN SLUDGE

Parameter	Result	RL	Units	Date	Time	By	Reference	
Arsenic	< 7.0	7.0	mg/Kg	04/09/10		EK	6010/200.7	
Beryllium	< 3.5	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Cadmium	< 3.5	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Chromium	22.2	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Copper	894	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Mercury	0.80	0.15	mg/kg	04/09/10		RS	SW-7471	
Nickel	30.1	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Lead	74.0	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Zinc	712	3.5	mg/Kg	04/09/10		EK	6010/200.7	
Percent Solid	2.64	1	%				E160.3	
Total Solids @ 104C	2.64	0.10	%	04/08/10		KDB	E160.3	
Fixed Solids @ 500C	12.6	0.1	%	04/08/10		KDB	E160.4	
Ammonia as Nitrogen	17000	1500	mg/Kg	04/12/10		WHM	E350.1	
Nitrite as N	4.3	3.8	mg/kg	04/08/10		B/E	9056	1
Nitrate as N	62	19	mg/kg	04/08/10		B/E	9056	
Organic Nitrogen	110000	7300	mg/Kg	04/12/10		WHM	E350.1/350.2	
pH - Sludge	6.70	0.10	PH	04/08/10	2:10	EW/LK	4500-H B/9045	
Total Nitrogen	127000	0.05	mg/Kg	04/12/10		WHM	S4500NH3/300.0	
Volatile Solids @ 500C	87.4	0.10	%	04/08/10		KDB	S209D/E160.4	
Mercury Digestion	Completed			04/09/10		K	SW7471	
Sludge Ext. for PCB	Completed			04/09/10		M/D	SW3550	
Total Metals Digest	Completed			04/07/10		C/AG	SW846 - 3050	
Polychlorinated Biphenyls								
PCB-1016	ND	930	ug/Kg	04/12/10		MH	SW 8082	
PCB-1221	ND	930	ug/Kg	04/12/10		MH	SW 8082	
PCB-1232	ND	930	ug/Kg	04/12/10		MH	SW 8082	
PCB-1242	ND	930	ug/Kg	04/12/10		MH	SW 8082	
PCB-1248	ND	930	ug/Kg	04/12/10		MH	SW 8082	

Project ID:

Phoenix I.D.: AS90395

Client ID: UCONN SLUDGE

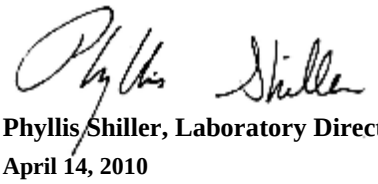
Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1254	ND	930	ug/Kg	04/12/10		MH	SW 8082
PCB-1260	ND	930	ug/Kg	04/12/10		MH	SW 8082
PCB-1262	ND	930	ug/Kg	04/12/10		MH	SW 8082
PCB-1268	ND	930	ug/Kg	04/12/10		MH	SW 8082
QA/QC Surrogates							
% DCBP	96		%	04/12/10		MH	SW 8082
% TCMX	67		%	04/12/10		MH	SW 8082

1 = This parameter is not certified by NY NELAC for this matrix. NY NELAC does not offer certification for all parameters.

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level



Phyllis Shiller, Laboratory Director

April 14, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

April 14, 2010

QA/QC Data

SDG I.D.: GAS90395

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 150644, QC Sample No: AS89607 (AS90395)								
Mercury	BDL	NC	103	101	2.0	105	102	2.9
QA/QC Batch 150471, QC Sample No: AS89929 (AS90395)								
ICP Metals - Soil								
Arsenic	BDL	3.80	99.5	94.8	4.8	90.8	95.2	4.7
Beryllium	BDL	NC	104	102	1.9	96.8	101	4.2
Cadmium	BDL	NC	102	99.9	2.1	94.3	98.9	4.8
Chromium	BDL	17.0	102	101	1.0	95.1	101	6.0
Copper	BDL	1.30	109	105	3.7	105	111	5.6
Lead	BDL	1.60	105	102	2.9	96.2	101	4.9
Nickel	BDL	7.10	100	98.8	1.2	93.6	98.4	5.0
Zinc	BDL	0.90	100	98.8	1.2	97.8	104	6.1

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
April 14, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

April 14, 2010

QA/QC Data

SDG I.D.: GAS90395

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 150520, QC Sample No: AS89953 (AS90395)								
Total Solids	BDL	3.27	100					
QA/QC Batch 150544, QC Sample No: AS90271 (AS90395)								
pH - Soil		0.90	101					
QA/QC Batch 150683, QC Sample No: AS90312 (AS90395)								
Bromide	BDL		97.5			98.3		
QA/QC Batch 150684, QC Sample No: AS90312 (AS90395)								
Chloride	BDL	NC	98.6			99.2		
QA/QC Batch 150685, QC Sample No: AS90312 (AS90395)								
Nitrite as Nitrogen	BDL		101			99.3		
QA/QC Batch 150687, QC Sample No: AS90312 (AS90395)								
Sulfate	BDL		98.9			97.7		
QA/QC Batch 150657, QC Sample No: AS90397 (AS90395)								
Ammonia as Nitrogen	BDL		98.6			90.0		
QA/QC Batch 150657, QC Sample No: AS90397 (AS90395)								
Nitrogen Tot Kjeldahl	BDL		107			108		

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
April 14, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

April 14, 2010

QA/QC Data

SDG I.D.: GAS90395

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 150366, QC Sample No: AS89475 (AS90395)							
Polychlorinated Biphenyls							
PCB-1016	ND	83	84	1.2	81	87	7.1
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	74	76	2.7	86	93	7.8
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	111	90	90	0.0	99	91	8.4
% TCMX (Surrogate Rec)	88	74	70	5.6	76	74	2.7

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
April 14, 2010

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6.0 C Pg of

Data Delivery:
☐ Fax #: _____
☐ Email: _____

Customer: UCONN
Address: _____
Project: _____
Report to: _____
Invoice to: _____
Project P.O: _____
Phone #: _____
Fax #: _____

Client Sample - Information - Identification

Sampler's Signature _____ Date 4-7-10

Matrix Code:
DW=drinking water **WW**=wastewater **S**=soil/solid **O**=other
GW=groundwater **SL**=sludge **A**=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	SEE ATTACHED... Quarterly Sludge Analysis	Soil VOA [ ] Methanol [ ]	GL Soil container [ ] S. Bisulfate [ ]	GL Soil container [ ] oz	40 ml VOA Vial [ ] As is [ ]	GL Amber 1000ml [ ] As is [ ]	PL As is [ ]	PL H2SO4 [ ]	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle	H2O	HCl	500ml [ ]	250ml [ ]	1000ml	1500ml	H2SO4
90395	UCONN Sludge	SL	4-7-10	1000	X												2					

Relinquished by:	Accepted by:	Date:	Time:
		4-7-10	11:40
	Barb Boyda	4-7-10	14:59

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: CT.

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other _____

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

TABLE E

Discharge Serial Number: 001-1	Monitoring Location: S		
Wastewater Description: **Dewatered Sludge**			
Monitoring Location Description: **Dewatered Sludge**			
PARAMETER	**INSTANTANEOUS MONITORING**		**REPORTING FORM**
	Units	**Grab Sample Freq.**	
Arsenic, Total	mg/kg	Quarterly	DMR
Beryllium, Total	mg/kg	Quarterly	DMR
Cadmium, Total	mg/kg	Quarterly	DMR
Chromium, Total	mg/kg	Quarterly	DMR
Copper, Total	mg/kg	Quarterly	DMR
Lead, Total	mg/kg	Quarterly	DMR
Mercury, Total	mg/kg	Quarterly	DMR
Nickel, Total	mg/kg	Quarterly	DMR
Nitrogen, Ammonia *	mg/kg	Quarterly	DMR*
Nitrogen, Nitrate (total as N) *	mg/kg	Quarterly	DMR*
Nitrogen, Organic *	mg/kg	Quarterly	DMR*
Nitrogen, Nitrite (total as N) *	mg/kg	Quarterly	DMR*
Nitrogen, Total *	mg/kg	Quarterly	DMR*
pH *	S.U.	Quarterly	DMR*
Polychlorinated Biphenyls	mg/kg	Quarterly	DMR
Solids, Fixed	%	Quarterly	DMR
Solids, Total	%	Quarterly	DMR
Solids, Volatile	%	Quarterly	DMR
Zinc, Total	mg/kg	Quarterly	DMR

(*) required for composting or land application only

Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.

PHOENIX
Environmental Laboratories, Inc.

Wednesday, August 11, 2010

Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Project ID:
Sample ID#s: AZ23712

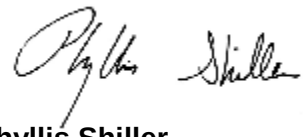
This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,



Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

August 11, 2010

FOR: Attn: Mr. George Tryon
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:		07/14/10	7:30
Location Code:	UCONNWW	Received by:	SW	07/14/10	15:20
Rush Request:	RUSH24	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GAZ23711
Phoenix ID: AZ23712

Project ID:

Client ID: SLUDGE

Parameter	Result	RL	Units	Date	Time	By	Reference
Aluminum	5500	0.85	mg/Kg	07/15/10		LK	6010/200.7
Arsenic	< 2.8	2.8	mg/Kg	07/15/10		LK	6010/200.7
Beryllium	< 1.4	1.4	mg/Kg	07/15/10		LK	6010/200.7
Cadmium	1.6	1.4	mg/Kg	07/15/10		LK	6010/200.7
Chromium	26.0	1.4	mg/Kg	07/15/10		LK	6010/200.7
Copper	963	14	mg/Kg	07/16/10		LK	6010/200.7
Mercury	5.27	0.10	mg/kg	07/15/10		RS	SW-7471
Nickel	34.2	1.4	mg/Kg	07/15/10		LK	6010/200.7
Lead	163	1.4	mg/Kg	07/15/10		LK	6010/200.7
Zinc	818	14	mg/Kg	07/16/10		LK	6010/200.7
Percent Solid	7.27	1	%				E160.3
Total Solids @ 104C	7.27	0.1	%	07/16/10		CL/KDB	E160.3
Fixed Solids @ 500C	20.9	0.1	%	07/16/10		CL/KDB	E160.4
Ammonia as Nitrogen	2000	460	mg/Kg	07/20/10		WHM	E350.1
Nitrite as N	< 0.10	0.10	mg/kg	07/15/10		B/E	9056
Nitrate as N	5.4	0.50	mg/kg	07/15/10		B/E	9056
Organic Nitrogen	73000	2300	mg/Kg	07/20/10		WHM	E350.1/350.2
pH - Sludge	7.06	0.10	PH	07/15/10	1:35	EW/EG	4500-H B/9045
Total Nitrogen	75000	0.05	mg/Kg	07/20/10		WHM	S4500NH3/300.0
Volatile Solids @ 500C	79.1	0.1	%	07/16/10		CL/KDB	S2540E/E160.4
Mercury Digestion	Completed			07/15/10		K	SW7471
Sludge Ext. for PCB	Completed			07/14/10		C/D/K	SW3550
Total Metals Digest	Completed			07/14/10		C/AG	SW846 - 3050
Polychlorinated Biphenyls							
PCB-1016	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1221	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1232	ND	340	ug/Kg	07/16/10		KCA	SW 8082

Project ID:
Client ID: SLUDGE

Phoenix I.D.: AZ23712

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1242	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1248	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1254	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1260	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1262	ND	340	ug/Kg	07/16/10		KCA	SW 8082
PCB-1268	ND	340	ug/Kg	07/16/10		KCA	SW 8082
QA/QC Surrogates							
% DCBP	98		%	07/16/10		KCA	SW 8082
% TCMX	80		%	07/16/10		KCA	SW 8082

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
August 12, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

August 12, 2010

QA/QC Data

SDG I.D.: GAZ23711

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	
QA/QC Batch 155962, QC Sample No: AZ18037 (AZ23711)									
Selenium	BDL		106	107	0.9	99.9	99.7	0.2	
QA/QC Batch 156839, QC Sample No: AZ21630 (AZ23711)									
Thallium	BDL		107	109	1.9	113	112	0.9	
QA/QC Batch 156928, QC Sample No: AZ23047 (AZ23712)									
ICP Metals - Soil									
Aluminum	BDL	0.20	105			NC	NC	NC	
Antimony	BDL	NC	114			84.2	85.7	1.8	
Arsenic	BDL	11.9	97.8			93.6	95.9	2.4	
Beryllium	BDL	NC	100			93.5	96.0	2.6	
Cadmium	BDL	NC	104			94.7	97.7	3.1	
Chromium	BDL	2.30	108			102	104	1.9	
Copper	BDL	15.4	102			104	108	3.8	
Lead	BDL	9.60	98.7			97.0	99.7	2.7	
Nickel	BDL	1.30	104			97.0	100	3.0	
Silver	BDL	NC	96.5			97.8	99.7	1.9	
Zinc	BDL	5.40	100			92.5	96.2	3.9	
QA/QC Batch 157077, QC Sample No: AZ23403 (AZ23712)									
Mercury	BDL	NC	98.5	100	1.5	86.2	84.2	2.3	
QA/QC Batch 156936, QC Sample No: AZ23444 (AZ23711)									
Lead (Furnace)	BDL		105	104	1.0	103	102	1.0	
QA/QC Batch 157057, QC Sample No: AZ23817 (AZ23711)									
ICP Metals - Aqueous									
Aluminum	BDL	NC	106	105	0.9	122	129	5.6	3
Antimony	BDL	NC	103	102	1.0	110	108	1.8	
Arsenic	BDL	NC	101	101	0.0	108	107	0.9	
Beryllium	BDL	NC	108	107	0.9	111	108	2.7	
Cadmium	BDL	NC	107	106	0.9	108	106	1.9	
Chromium	BDL	NC	107	107	0.0	110	108	1.8	
Copper	BDL	NC	107	106	0.9	117	115	1.7	
Lead	BDL	NC	105	105	0.0	110	108	1.8	
Nickel	BDL	NC	106	105	0.9	109	106	2.8	
Silver	BDL	NC	106	106	0.0	117	114	2.6	
Zinc	BDL	4.90	104	103	1.0	110	107	2.8	
QA/QC Batch 157079, QC Sample No: AZ23935 (AZ23711)									
Mercury	BDL		100	98.0	2.0	97.5	94.7	2.9	

3 = This parameter is outside laboratory ms/msd specified limits.

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NY # 11301

QA/QC Report

August 12, 2010

QA/QC Data

SDG I.D.: GAZ23711

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 157278, QC Sample No: AZ22530 (AZ23711)								
Cyanide Amenable	BDL	0	108					
QA/QC Batch 157277, QC Sample No: AZ23233 (AZ23711)								
Total Cyanide	BDL	NC	108			107		
QA/QC Batch 157196, QC Sample No: AZ23442 (AZ23711)								
Phenolics	BDL	NC	94.9			94.5		
QA/QC Batch 157179, QC Sample No: AZ23620 (AZ23712)								
Ammonia as Nitrogen	BDL		102			113		
QA/QC Batch 157179, QC Sample No: AZ23620 (AZ23712)								
Nitrogen Tot Kjeldahl	BDL		107			103		
QA/QC Batch 157121, QC Sample No: AZ23647 (AZ23711)								
Total Suspended Solids	BDL	0	96.0					
QA/QC Batch 157054, QC Sample No: AZ23658 (AZ23711)								
Chromium, Hexavalent	BDL	NC	102			104		
QA/QC Batch 157066, QC Sample No: AZ23703 (AZ23711)								
Nitrate-N	BDL	NC	98.8			118		
QA/QC Batch 157065, QC Sample No: AZ23703 (AZ23711)								
Nitrite as Nitrogen	BDL		96.8			102		
QA/QC Batch 157067, QC Sample No: AZ23703 (AZ23711)								
Ortho-Phosphate as Phosphorus	BDL		109			98.9		
QA/QC Batch 157184, QC Sample No: AZ23711 (AZ23711)								
Ammonia as Nitrogen	BDL		98.5			110		
QA/QC Batch 157180, QC Sample No: AZ23712 (AZ23712)								
Total Solids	BDL	0	100					
QA/QC Batch 157102, QC Sample No: AZ23724 (AZ23712)								
Chloride	BDL		93.0			95.1		
QA/QC Batch 157104, QC Sample No: AZ23724 (AZ23712)								
Nitrate as Nitrogen	BDL	0	99.3			96.5		
QA/QC Batch 157103, QC Sample No: AZ23724 (AZ23712)								
Nitrite as Nitrogen	BDL		104			99.3		
QA/QC Batch 157105, QC Sample No: AZ23724 (AZ23712)								
Sulfate	BDL		101			101		
QA/QC Batch 157060, QC Sample No: AZ23784 (AZ23711)								
B.O.D./5 day	BDL	NC	98.2			117		
QA/QC Batch 157099, QC Sample No: AZ23844 (AZ23712)								
pH - Soil		1.70	99.0					

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NY # 11301

QA/QC Report

August 12, 2010

QA/QC Data

SDG I.D.: GAZ23711

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 156503, QC Sample No: AZ20406 (AZ23712)							
Polychlorinated Biphenyls							
PCB-1016	ND	81	82	1.2	98	112	13.3
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	77	77	0.0	108	117	8.0
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	60	56	57	1.8	56	59	5.2
% TCMX (Surrogate Rec)	51	49	49	0.0	48	52	8.0

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
August 12, 2010

PHOENIX *Environmental Laboratories, Inc.*
587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

CHAIN OF CUSTODY RECORD

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: UCONN - WPCF
Address: Storrs, CT

Project:
Report to: Ken Pelzar
Invoice to:

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature: R. [signature] Date: 7-14-10

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Acute Toxicity	METALS + ALL ANALYTES FROM LAST QUARTER TABLE "E" ATTACHMENT		10 L cube	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [X] H2SO4	PL As is [ ] 250ml [ ] 500ml [X] 1000ml	PL H2SO4 [ ] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
23711	UCONN Tox. July 14	WW	7-13 To 7-14	7:00 AM To 7:00 AM	X	↓	↓	1					1	1	1	1	1	
23712	1/4 Sludge Annle	sludge	7-14	7:30		X	X											

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	7-14-10	1520 Hrs

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: ______

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other ______

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

TABLE E

Discharge Serial Number: 001-1	Monitoring Location: S		
Wastewater Description: Dewatered Sludge			
Monitoring Location Description: Dewatered Sludge			
PARAMETER	INSTANTANEOUS MONITORING		REPORTING FORM
	Units	Grab Sample Freq.	
Arsenic, Total	mg/kg	Quarterly	DMR
Beryllium, Total	mg/kg	Quarterly	DMR
Cadmium, Total	mg/kg	Quarterly	DMR
Chromium, Total	mg/kg	Quarterly	DMR
Copper, Total	mg/kg	Quarterly	DMR
Lead, Total	mg/kg	Quarterly	DMR
Mercury, Total	mg/kg	Quarterly	DMR
Nickel, Total	mg/kg	Quarterly	DMR
Nitrogen, Ammonia *	mg/kg	Quarterly	DMR*
Nitrogen, Nitrate (total as N) *	mg/kg	Quarterly	DMR*
Nitrogen, Organic *	mg/kg	Quarterly	DMR*
Nitrogen, Nitrite (total as N) *	mg/kg	Quarterly	DMR*
Nitrogen, Total *	mg/kg	Quarterly	DMR*
pH *	S.U.	Quarterly	DMR*
Polychlorinated Biphenyls	mg/kg	Quarterly	DMR
Solids, Fixed	%	Quarterly	DMR
Solids, Total	%	Quarterly	DMR
Solids, Volatile	%	Quarterly	DMR
Zinc, Total	mg/kg	Quarterly	DMR

(*) required for composting or land application only
Testing for inorganic pollutants shall follow "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 as updated and/or revised.

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6°C Pg of

Data Delivery:
- [ ] Fax #:
- [ ] Email:

Customer: UCONN
Address:

Project:
Report to:
Invoice to:

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature [signature] Date 4-7-10

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	SEE ATTACHED. QUARTERLY SLUDGE PACK SLS	Soil VOA ( ) Methanol ( ) S. Bisulfate ( ) H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial ( ) As is ( ) HCl	GL Amber 1000ml (✓) As is ( ) H2SO4	PL As is ( ) 250ml ( ) 500ml ( ) 1000ml	PL H2SO4 ( ) 250ml ( ) 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
90395	UCONN Sludge	SL	4-7-10	1000	X					2					

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	4-7-10	11:40
[signature]	Rose Bryda	4-7-10	14:59

Comments, Special Requirements or Regulations:

Turnaround:
- [ ] 1 Day*
- [ ] 2 Days*
- [ ] 3 Days*
- [ ] Standard
- [ ] Other

* SURCHARGE APPLIES

CT/RI
- [ ] RCP Cert.
- [ ] GW Protect.
- [ ] GA Mobility
- [ ] GB Mobility
- [ ] SW Protect.
- [ ] Res. Vol.
- [ ] Ind. Vol.
- [ ] Res. Criteria
- [ ] Other

MA
- [ ] MCP Cert.
- [ ] GW-1
- [ ] GW-2
- [ ] GW-3
- [ ] S-1
- [ ] S-2
- [ ] S-3
- [ ] MWRA eSMART
- [ ] Other

Data Format
- [ ] Excel
- [ ] PDF
- [ ] GIS/Key
- [ ] EQuIS
- [ ] Other

Data Package
- [ ] ASP-A
- [ ] NJ Reduced Deliv. *
- [ ] NJ Hazsite EDD
- [ ] Phoenix Std Report
- [ ] Other

State where samples were collected: CT

NEW ENGLAND BIOASSAY, INC.

21 July 2010

Ms. Bobbi Aloisa
Phoenix Environmental Laboratories
587 East Middle Turnpike; P.O. Box 370
Manchester, CT 06040

RE: SCREENING ACUTE TOXICITY TEST RESULTS FOR THE UCONN WPCF (COLLECTION DATE: 14 JULY 2010)

Dear Ms. Aloisa:

Attached are the results from one set of screening acute toxicity tests performed with freshwater daphnids, *Daphnia pulex*, and fathead minnows, *Pimephales promelas*. Screening acute toxicity tests using undiluted wastewater (i.e., 100% sample) were conducted with an effluent sample collected on 14 July 2010 from the UCONN WPCF and delivered to the bioassay laboratory by a Phoenix courier on 15 July at 0825 h. Test results are summarized below.

Sample Dates	Test Dates	Test Species	% Survival in 100% effluent	
			24 h	48 h
07/14/10	07/15-16/10	*D. pulex*	0%	---*
(0700 h)	07/15-16/10	*P. promelas*	0%	---*

*NOTE: Since all daphnids and fathead minnows exposed to the 100% effluent concentration were dead at the 24-h observation, the daphnid and fish tests were terminated after 24 h.

Survival of *D. pulex* and fathead minnows in the laboratory-water controls was 100% and 97%, respectively, at test completion. If you have any questions, please call (860- 643-9560) or email (jcooney@nebio.com).

Sincerely,

John D. Cooney, Ph.D.
President/Laboratory Director

STATE OF CONNECTICUT ** DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Water Management: Aquatic Toxicity Monitoring Report – Part 1

Facility Name: UCONN WPCF NPDES ID: CT0101320 DSN-001-1
Receiving Water: Willimantic River Waterbody ID: 3100

Sample Collection Date(s): 07/14/10

Sample Collection Time: FROM: 0700 h (AM/PM) TO: (AM/PM)

TOXICITY TEST SUMMARY (PASS/FAIL)

CONTROL SAMPLE RESULTS (% SURVIVAL)

TEST SPECIES	REPLICATE 1	REPLICATE 2	REPLICATE 3
Daphnia pulex	100%	100%	100%
Pimephales promelas	90%	100%	100%

If less than 90% survival is recorded for one or more replicate controls, the test is invalid and an additional effluent sample must be collected and the test procedure repeated. The results for all samples must be submitted to the DEP.

EFFLUENT SAMPLE RESULTS (MEAN % SURVIVAL)

TEST SPECIES	100% Effluent
Daphnia pulex	0%
Pimephales promelas	0%

For Official Use Only

If the mean percent survival for either or both species is less than 90%, the effluent is determined toxic and an additional effluent sample must be collected and the test procedure repeated. The results for all samples must be submitted to the DEP.

STATEMENT OF ACKNOWLEDGEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Official:_____ Title:_____

Signature:_____ Date:_____

AQUATIC TOXICITY MONITORING REPORT (ATMR) – PART 2

Facility Name: UCONN WPCF NPDES ID: CT0101320 DSN-001-1

Dilution Water: Soft Reconstituted Fresh Water (SRCF) Hardness: 50 ± 5 mg/L

Sample Collected On: 07/14/10 (date) Received On: 07/15/10 (date)

Test Species: *Daphnia pulex* Source: New England Bioassay, Inc. Age: ≤ 24 h

Test Duration: 48 hours Beginning: 1350 h (am/pm) On: 07/15/10 (date)

Ending: 1325 h (am/pm) On: 07/16/10 (date)

Effluent Dilution (%) / Hour	Number of Organisms Surviving			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (SU)		
	00	24*	48	00	24	48	00	24	48	00	24	48
100% A	10	0		8.0	9.0		19	19		7.5	7.8	
100% B	10	0			8.9			19			7.8	
100% C	10	0			8.9			19			7.8	
100% D	10	0			9.0			19			7.8	
100% E	10	0			9.1			19			7.8	
CONTROL 1	10	10		8.6	8.9		19	19		7.4	7.4	
CONTROL 2	10	10			8.8			19			7.4	
CONTROL 3	10	10			8.8			19			7.4	

MEAN SAMPLE SURVIVAL (%)	CONTROL SURVIVAL (%)	#1	#2	#3
[(A+B+C+D+E) /5] X 10 = 0%		100%	100%	100%

REFERENCE TOXICANT RESULTS

SPECIES	DATE	REFERENCE TOXICANT	SOURCE	LC_{50}
Daphnia pulex	07/01-03/10	Copper Nitrate: Lot #06-1121-070	ACROS/NEB	2.34 µg/L

COMMENTS

Note: At test initiation (0 h) and 24 h, dissolved oxygen, temperature, and pH were measured in separate chemistry replicates (without daphnids); at test completion (or when complete mortality occurred within a replicate) dissolved oxygen, temperature, and pH were measured directly from replicates with the test organisms.

***NOTE: Since all daphnids exposed to the 100% effluent concentration were dead at the 24-h observation, the daphnid test was terminated.**

STATEMENT OF ACKNOWLEDGEMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the testing protocol described in EPA 600/4-90/027F, EPA-821-R-02-012, and Sections 22a-430-3 and 22a-430-4 of the Regulations of Connecticut State Agencies except as noted above. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Laboratory Official: John D. Cooney, Ph.D. Title: Laboratory Director

New England Bioassay, Inc.

Signature: John D. Cooney Date: 7-21-10

AQUATIC TOXICITY MONITORING REPORT (ATMR) -- PART 2

Facility Name: UCONN WPCF NPDES ID: CT0101320 DSN-001-1

Dilution Water: Soft Reconstituted Fresh Water (SRCF) Hardness: 50 ± 5 mg/L

Sample Collected On: 04/08-09/10 (date) Received On: 04/09/10 (date)

Test Species: *Pimephales promelas* Source: New England Bioassay, Inc. Age: 13 days

Test Duration: 48 hours Beginning: 1415 h (am/pm) On: 04/09/10 (date)

Ending: 1343 h (am/pm) On: 04/11/10 (date)

Effluent Dilution (%) / Hour	Number of Organisms Surviving			Dissolved Oxygen (mg/L)			Temperature (°C)			pH (SU)		
	00	24*	48	00	24	48	00	24	48	00	24	48
100% A	10	0		8.0	8.4		19	19		7.5	7.4	
100% B	10	0		8.0	8.6		19	19		7.5	7.4	
100% C	10	0		8.0	8.7		19	19		7.5	7.5	
100% D	10	0		8.0	8.7		19	19		7.5	7.5	
100% E	10	0		8.0	8.8		19	19		7.5	7.5	
CONTROL 1	10	9		8.6	8.0		19	19		7.4	7.4	
CONTROL 2	10	10		8.6	7.9		19	19		7.4	7.4	
CONTROL 3	10	10		8.6	8.0		19	19		7.4	7.4	

MEAN SAMPLE SURVIVAL (%)	CONTROL SURVIVAL (%)	#1	#2	#3
[(A+B+C+D+E) /5] X 10 = 0%		90%	100%	100%

REFERENCE TOXICANT RESULTS

SPECIES	DATE	REFERENCE TOXICANT	SOURCE	LC_{50}
Pimephales promelas	07/07-09/10	Copper Nitrate: Lot #06-1121-071	ACROS.NEB	65.4 µg/L

COMMENTS

***NOTE: Since all fish exposed to the 100% effluent concentration were dead at the 24-h observation, the fish test was terminated.**

STATEMENT OF ACKNOWLEDGEMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the testing protocol described in EPA 600/4-90/027F, EPA-821-R-02-012, and Sections 22a-430-3 and 22a-430-4 of the Regulations of Connecticut State Agencies except as noted above. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Laboratory Official: John D. Cooney, Ph.D. Title: Laboratory Director

New England Bioassay, Inc.

Signature: John D. Cooney Date: 4-21-10

SUPPLEMENTAL CHEMISTRY (PART 2S)

Facility Name: UCONN WPCF NPDES ID: CT0101320 DSN-001-1

Receiving Water: Willimantic River Waterbody ID: 3100

Sample Collection Date(s): FROM: 07/14/10 TO: _____

Sample Collection Time(s): FROM: 0700 h (AM/PM) TO: _____ (AM/PM)

Effluent Sample At Arrival

Parameter	Effluent Sample
Date: 07/15/10 Hours	0825 h
Temperature (°C)	5.8
pH (SU)	7.4
Conductivity (µmhos/cm)	524
Alkalinity (mg/L as $CaCO_3$)	80
Hardness (mg/L as $CaCO_3$)	62
TRC (mg/L) - Amperometric	< 0.05*

- *Positive Interference for TRC using the DPD method (0.43 mg/L)
- *Amperometric method was non-detectable for TRC (< 0.05 mg/L)

100% Test Sample

Parameter	*Daphnia pulex*		*Pimephales promelas*	
Hours	Initial (00)	Final (24)	Initial (00)	Final (24)
Conductivity (µmhos/cm)	533	540	533	542
Alkalinity (mg/L as $CaCO_3$)	80	80	80	80
Hardness (mg/L as $CaCO_3$)	62	64	62	64
TRC (mg/L) - Amperometric	< 0.05	< 0.05	< 0.05	< 0.05

0% Test Sample (SRCF Control Water)

Parameter	*Daphnia pulex*		*Pimephales promelas*	
Hours	Initial (00)	Final (24)	Initial (00)	Final (24)
Conductivity (µmhos/cm)	172	186	172	184
Alkalinity (mg/L as $CaCO_3$)	30	30	30	30
Hardness (mg/L as $CaCO_3$)	45	46	45	46
TRC (mg/L) – DPD Method	< 0.02	< 0.02	< 0.02	< 0.02

Laboratory Name/
Official: John D. Cooney, Ph.D. Title: Laboratory Director
NEW ENGLAND BIOASSAY, INC.

Signature: _____ Date: 7-21-10

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp Pg of

Data Delivery:
☐ Fax #:
☐ Email:

Customer: NEB
Address: Manchester

Project:
Report to:
Invoice to:

Project P.O:
Phone #:
Fax #:

Client Sample - Information - Identification

Sampler's Signature Date

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request

Acute Toxicity
Cube

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H20	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
	A23711 (Conn)	WW	7/14	700	X						!			
	NEB Acct # 830-1970													

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	7/15/10	0630
[signature]	[signature]	7/15/10	0595

Comments, Special Requirements or Regulations:
5.8°C upon receipt

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other
* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected:

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other

STATE OF CONNECTICUT ** DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Water Management: Aquatic Toxicity Monitoring Report - PART 3

NPDES Permit:	CT0101320	Exp:	11/12/2011	Phone¹:	(860) 486-4235
Facility:	UCONN WPCF	Contact:	Timothy J. Day	Phone²:	
Address:	LeDoyt Road	Town:	Storrs	Zip:	06268-3038

STATEMENT OF ACKNOWLEDGEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Official: _____ Title: _____

Signature: _____ Date: _____

Sample Date: _____ Sample Days' Flow: _____ JAN APR (JUL) OCT (Circle one)

REPEAT MONTH: _____

FREQUENCY	MONLOC	UNITS	PARAMETER	MINIMUM LEVEL	RESULT
Each Test	001 T	mg/L	BOD, 5 DAY		<4.0
Each Test	001 T	mg/L	SUSPENDED SOLIDS, TOTAL		<5.0
Each Test	001 T	mg/L	AMMONIA, Total		1.8
Each Test	001 T	mg/L	NITRITE, as N		0.01
Each Test	001 T	mg/L	NITRATE, as N		0.27
Each Test	001 T	mg/L	CYANIDE, Total	0.010 mg/L	<0.01
Each Test	001 T	mg/L	CYANIDE, Amenable		<0.01
Each Test	001 T	mg/L	BERYLLIUM, Total	0.001 mg/L	<0.001
Each Test	001 T	mg/L	ARSENIC, Total	0.005 mg/L	<0.004
Each Test	001 T	mg/L	CADMIUM, Total	0.0005 mg/L	<0.0002
Each Test	001 T	mg/L	CHROMIUM, Hexavalent	0.010 mg/L	<0.01

Aquatic Toxicity Monitoring Report - PART 3

FREQUENCY	MONLOC	UNITS	PARAMETER	MINIMUM LEVEL	RESULT
Each Test	001 T	mg/L	CHROMIUM, Total	0.005 mg/L	<0.001
Each Test	001 T	mg/L	COPPER, Total	0.005 mg/L	0.002
Each Test	001 T	mg/L	LEAD, Total	0.005 mg/L	0.002
Each Test	001 T	mg/L	THALLIUM, Total	0.010 mg/L	<0.002
Each Test	001 T	mg/L	NICKEL, Total	0.005 mg/L	0.001
Each Test	001 T	mg/L	SILVER, Total	0.002 mg/L	<0.001
Each Test	001 T	mg/L	ZINC, Total	0.020 mg/L	0.020
Each Test	001 T	mg/L	ANTIMONY, Total	0.010 mg/L	<0.005
Each Test	001 T	mg/L	SELENIUM, Total	0.005 mg/L	<0.002
Each Test	001 T	mg/L	PHENOLS		<0.015
Each Test	001 T	mg/L	MERCURY, Total	0.0002 mg/L	<0.0002

Testing Laboratory: Pro Sun Environmental Lab Signature: [signature] Date: 7-22-10

FOR OFFICIAL USE ONLY:

AQUATIC TOXICITY: ***Daphnia pulex*** — *TGA3D*

AQUATIC TOXICITY: ***Pimephales promelas*** — *TGA6C*

UCONN WPCF

PHOENIX
Environmental Laboratories, Inc.

Friday, October 15, 2010

Attn: Mr. Kenneth Pelzar
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Project ID:

Sample ID#s: AZ62600

This laboratory is in compliance with the QA/QC procedures outlined in EPA 600/4-79-019, Handbook for Analytical Quality in Water and Waste Water, March 1979, SW846 QA/QC and NELAC requirements of procedures used.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #MA-CT-007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 15, 2010

FOR: Attn: Mr. Kenneth Pelzar
University of Connecticut
Facilities Operations
25 LeDoyt Road Unit 3252
Storrs, CT 06269

Sample Information		Custody Information		Date	Time
Matrix:	SLUDGE	Collected by:		10/06/10	7:00
Location Code:	UCONNWW	Received by:	LB	10/06/10	16:33
Rush Request:		Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GAZ62600
Phoenix ID: AZ62600

Project ID:

Client ID: UC SLUDGE OCT.

Parameter	Result	RL	Units	Date	Time	By	Reference
Arsenic	< 3.5	3.5	mg/Kg	10/07/10		EK	6010/200.7
Beryllium	< 1.7	1.7	mg/Kg	10/07/10		EK	6010/200.7
Cadmium	< 1.7	1.7	mg/Kg	10/07/10		EK	6010/200.7
Chromium	13.9	1.7	mg/Kg	10/07/10		EK	6010/200.7
Copper	641	1.7	mg/Kg	10/07/10		EK	6010/200.7
Mercury	1.78	0.10	mg/kg	10/07/10		RS	SW-7471
Nickel	19.9	1.7	mg/Kg	10/07/10		EK	6010/200.7
Lead	85.4	1.7	mg/Kg	10/07/10		EK	6010/200.7
Zinc	576	1.7	mg/Kg	10/07/10		EK	6010/200.7
Percent Solid	5.97	1	%				E160.3
Total Solids @ 104C	5.97	0.1	%	10/08/10		KDB/CL	E160.3
Fixed Solids @ 500C	17.0	0.1	%	10/08/10		KDB/CL	E160.4
Ammonia as Nitrogen	8000	1000	mg/Kg	10/15/10		WHM	E350.1
Nitrite as N	< 1.7	1.7	mg/kg	10/07/10		B/E	9056
Nitrate as N	29	8.4	mg/kg	10/07/10		B/E	9056
Organic Nitrogen	58000	5000	mg/Kg	10/15/10		WHM	E350.1/350.2
pH - Sludge	6.84	0.10	PH	10/07/10	2:00	EW/LK	4500-H B/9045
Total Nitrogen	66000	0.05	mg/Kg	10/15/10		WHM	S4500NH3/300.0
Volatile Solids @ 500C	83.0	0.1	%	10/08/10		KDB/CL	S2540E/E160.4
Mercury Digestion	Completed			10/07/10		X	SW7471
Extraction for PCB	Completed			10/07/10		QQ/K	SW3540C
Total Metals Digest	Completed			10/06/10		F/AG	SW846 - 3050
Polychlorinated Biphenyls							
PCB-1016	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1221	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1232	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1242	ND	540	ug/Kg	10/08/10		MH	SW 8082

Project ID:

Phoenix I.D.: AZ62600

Client ID: UC SLUDGE OCT.

Parameter	Result	RL	Units	Date	Time	By	Reference
PCB-1248	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1254	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1260	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1262	ND	540	ug/Kg	10/08/10		MH	SW 8082
PCB-1268	ND	540	ug/Kg	10/08/10		MH	SW 8082
QA/QC Surrogates							
% DCBP	50		%	10/08/10		MH	SW 8082
% TCMX	56		%	10/08/10		MH	SW 8082

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director

October 18, 2010

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

October 18, 2010

QA/QC Data

SDG I.D.: GAZ62600

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 162817, QC Sample No: AZ62317 (AZ62600)								
Mercury	BDL	NC	100	95.6	4.5	101	92.2	9.1
QA/QC Batch 162795, QC Sample No: AZ62428 (AZ62600)								
ICP Metals - Soil								
Arsenic	BDL	NC	94.9	93.7	1.3	79.6	82.6	3.7
Beryllium	BDL	NC	97.0	97.4	0.4	88.7	90.5	2.0
Cadmium	BDL	NC	95.5	96.4	0.9	85.7	86.9	1.4
Chromium	BDL	33.2	99.4	103	3.6	90.8	93.1	2.5
Copper	BDL	3.40	104	105	1.0	93.5	99.5	6.2
Lead	BDL	4.80	97.5	99.0	1.5	87.6	89.6	2.3
Nickel	BDL	24.2	98.0	99.8	1.8	88.6	90.4	2.0
Zinc	BDL	1.90	94.8	96.6	1.9	83.9	85.0	1.3

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

October 18, 2010

QA/QC Data

SDG I.D.: GAZ62600

Parameter	Blank	Dup RPD	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 162826, QC Sample No: AZ62487 (AZ62600)								
pH - Soil		0.10	99.0					
QA/QC Batch 163381, QC Sample No: AZ62602 (AZ62600)								
Ammonia as Nitrogen	BDL		101			110		
QA/QC Batch 163381, QC Sample No: AZ62602 (AZ62600)								
Nitrogen Tot Kjeldahl	BDL		105			105		

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

October 18, 2010

QA/QC Data

SDG I.D.: GAZ62600

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD
QA/QC Batch 162877, QC Sample No: AZ63024 (AZ62600)							
Polychlorinated Biphenyls							
PCB-1016	ND	86	92	6.7	113	101	11.2
PCB-1221	ND						
PCB-1232	ND						
PCB-1242	ND						
PCB-1248	ND						
PCB-1254	ND						
PCB-1260	ND	78	89	13.2	124	115	7.5
PCB-1262	ND						
PCB-1268	ND						
% DCBP (Surrogate Rec)	83	86	83	3.6	122	115	5.9
% TCMX (Surrogate Rec)	70	79	74	6.5	80	75	6.5

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
October 18, 2010

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: service@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 6 Pg ___ of ___

Data Delivery:
☐ Fax #: ________
☐ Email: ________

Customer: Clown WPCF
Address: Stfrs, CT

Project: ________
Report to: Ken Pelton
Invoice to: ________

Project P.O: ________
Phone #: ________
Fax #: ________

Client Sample - Information - Identification

Sampler's Signature: R. [signature] Date: 10-6-10

Matrix Code:
DW=drinking water WW=wastewater S=soil/solid O=other
GW=groundwater SL=sludge A=air

Analysis Request: Sludge Analysis; 6 TIS JTK; Soil VOA [ ] Methanol [ ] S. Bisulfate [ ] H2O; GL Soil container ( ) oz; GL Soil container ( ) oz; 40 ml VOA Vial [ ] As is [ ] HCl; GL Amber 1000ml [ ] As is [ ] H2SO4; PL As is [ ] 250ml [ ] 500ml [ ] 1000ml; PL H2SO4 [ ] 250ml [ ] 500ml; PL HNO3 250ml; PL NaOH 250ml; Bacteria Bottle

Phoenix Sample #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Sludge Analysis
62460	WC sludge OCt	sludge	10-6-10	7:00 AM	X

Relinquished by:	Accepted by:	Date:	Time:
R. [signature]	[signature]	10/6/10	14:00
[signature]	Lisa Park	10/6/10	16:03

Comments, Special Requirements or Regulations:
Fee Clown Reduced fruit
For sludge analysis at
C TE for WPCF

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other

* SURCHARGE APPLIES

CT/RI
☐ RCP Cert.
☐ GW Protect.
☐ GA Mobility
☐ GB Mobility
☐ SW Protect.
☐ Res. Vol.
☐ Ind. Vol.
☐ Res. Criteria
☐ Other

MA
☐ MCP Cert.
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: ________

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other ________

Data Package
☐ ASP-A
☐ NJ Reduced Deliv. *
☐ NJ Hazsite EDD
☐ Phoenix Std Report
☐ Other