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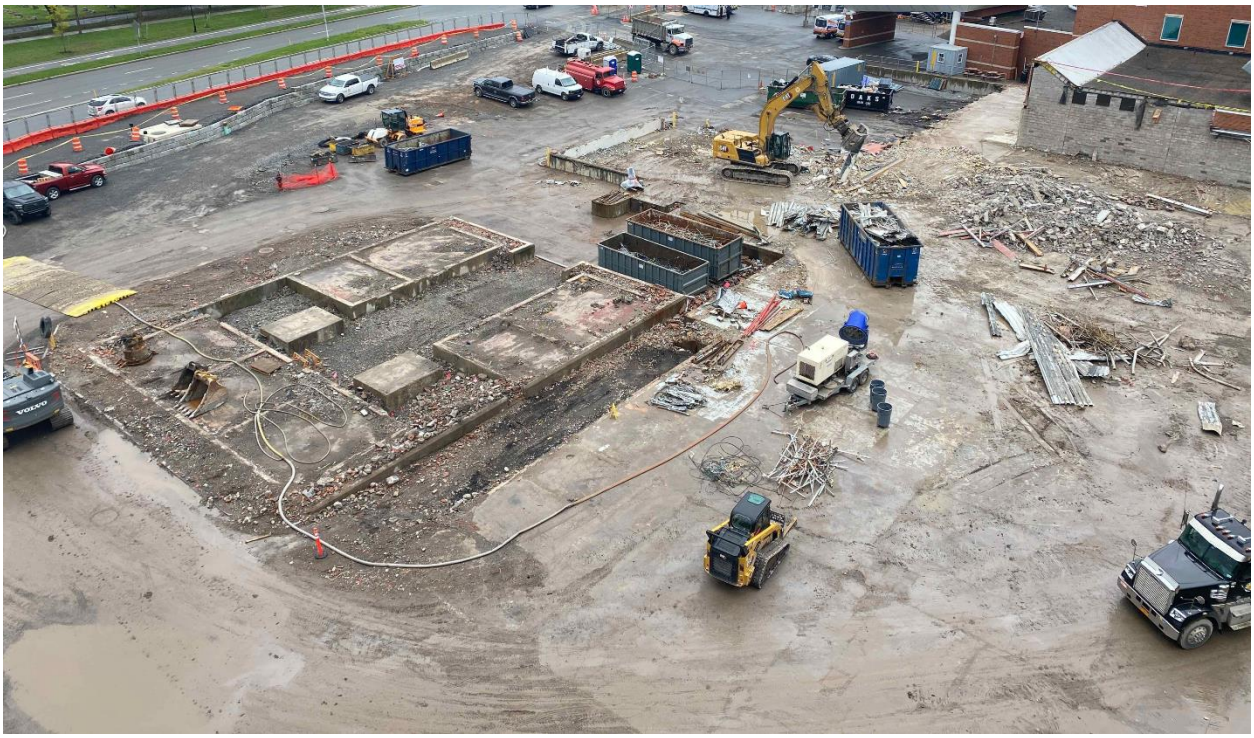
Former Transformer Area Groundwater Dewatering, Treatment, and Discharge Plan

University of Rochester – Strong Hospital Tower Expansion Project

110 Crittenden Boulevard, City of Rochester, Monroe County, New York



Bergmann

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Revised July 27, 2023

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1.0 Introduction

This University of Rochester Medical Center (URMC) Hospital Emergency Department (ED) Expansion Project has prepared this Polychlorinated Biphenyls (PCBs) Contact Water Dewatering, Treatment, and Discharge Plan (Dewatering Plan) as part of the URMC Hospital Emergency Department (ED) Expansion Excavation Work Plan (EWP). The purpose of this Dewatering Plan is to outline the methods and procedures that will be implemented for handling, treatment, and discharge of known PCB-contaminated contact water (PCW) during the PCB Area Soil Remedial Action Project. The Dewatering Plan is intended to provide guidance for the identification, characterization, and management of groundwater generated during soil removal excavation activities.

The purpose of the dewatering system is to draw the elevation of the water table down in the area of excavation to allow for the NYSDEC approved Remedial Action. The remedy for the Former Transformer area is the excavated removal and appropriate disposal of soil with a concentration greater than of one (1) milligram per kilogram of PCBs.

The location of the excavation area is known to contain PCBs from a former transformer substation located onsite. As part of the ED expansion, the transformers were removed. The removal action exposed the soil that was not accessible during a previous remedial action performed in 1996. The excavation of the PCB-contaminated soil began in June 2023 and is anticipated to be completed by the end of August 2023.

The excavation will extend below the groundwater table due to the existing PCB concentration levels at the water table above 1ppm (mg/kg). A dewatering plan has been developed and is detailed in the following sections. The water from the excavation will be treated and discharged to the municipal sanitary sewer in accordance with a Specialty Short Term Discharge Permit, pending review and approval from Monroe County Pure Waters (MCPW). If approval from MCPW is not feasible, containerized water will be taken off-site for proper disposal at an approved facility.

2.0 Method of Dewatering and Treatment

The components of the dewatering and treatment system are summarized below. The components are subject to change based on field conditions. Adjustments to the dewatering equipment, location, the number of dewatering wells, and the rate groundwater is pumped from the excavation may be required to dewater the excavation. All modifications will be reported to the NYSDEC and will be documented in the Dewatering Plan Memorandum and the Final Excavation Report.

The dewatering system will be used to lower the groundwater table from its current elevation of approximately 523 above sea level (ASL) in the former transformer area, to a maximum estimated 519 ft ASL. The former transformer area is 75 feet (ft) long x 62 ft wide. The area of the excavation will be determined by analytical data and field observations maintaining that successful implementation of the PCB-impacted area soil will be excavated to achieve confirmatory levels of $\leq$1 ppm (mg/kg) of PCB concentrations.

- Gorick Construction Co., Inc will be dewatering the former transformer excavation area. Based on resource limitations the excavation will not extend below 16 ft (519 ft ASL). The existing grade elevation is 535 ft ASL.

- Two (2) extraction wells will be installed to a depth of approximately 18 ft below the existing grade to dewater the excavation. The wells will be constructed from galvanized 24-inch diameter slotted well casing. The extraction well locations and construction may change based on the excavation areas.

- The steady-state flow rate from the extraction wells will range from 20 to 40 gallons per minute (gpm). The initial groundwater removal within the excavation will take approximately two (2) days.

- The discharge rate and the volume of water entering the treatment system will be measured using a totalizer and recorded daily. Two (2) totalizers will be used to measure the volume of water entering the treatment system and the discharge rate and volume to the sanitary sewer post treatment. The totalizer readings will be recorded daily, and the records will be available for Bergmann's use as well as included in the Dewatering Plan Memorandum included in the Final Excavation Report.

- Groundwater will be pumped from the excavation and into one (1) of the five (5) on-site water storage frac tanks. Four (4) storage tanks will have the capacity to store up to 21,000 gallons each. An additional storage tank will store up to 18,000 gallons and water will be pumped from the 18,000-gallon tank into the water treatment system using a HH80 model pump. Figure 1 provides an overview of the complete dewatering system.

- The treatment system will include a 5-micron filtering unit, two (2) 2,000-gallon carbon filtration units, and a 1-micro filtration unit.

- The untreated water will be filtered through a 5-micron bag filtration unit. After the initial filtration, the water will be pumped through two (2) granulated carbon units. The final treatment of the groundwater will be a 1-micron bag filtration unit, then pumped into one (1) of the two (2) storage 9,000-gallon storage tanks for treated groundwater.

- The treated water will be stored in two (2) 9,000-gallon storage tanks before the treated water is discharged to the sanitary sewer under a MCPW Specialty Short Term Discharge Permit. Sampling frequency and parameters of the treated water is detailed below. Per the approved Discharge Permit, prior to discharge two (2) consecutive days of sampling for PCBs will be required prior to approved discharge to the sanitary sewer.

- The treated water will pass through an additional totalizer at the discharge point which will also be recorded for Bergmann's use and monitored for the duration of discharge, maintaining the required discharge rate in gallons per minute (gpm).

- The treated waste will be discharged in accordance with the pending approval of a MCPW Specialty Short Term Discharge Permit. Treated water can not be discharged into the sanitary sewer system without supervision by a person of the construction team or Bergmann personnel.

- At the end of the dewatering program, each of the storage tanks will be cleaned and a rinse blank will be collected from each and submitted for analysis of PCBs from the cleaned storage tanks. The analytical results will be compared to the June 1998 Division of Water and Technical and Operational Guidance Series (TOGS) 1.1.1 and subsequent updates class GA standards. The tank will be re-washed if any analyte is detected above referenced criteria.

- A grab groundwater sample was collected from the excavation on June 15, 2023 and submitted for the analysis of SVOCs, PCBs and TAL metals. The results area provided in Appendix A. PCBs were not detected in the groundwater sample. Based on the analytical data, the filtration system bags, the granulated carbon, and hoses are not anticipated to contain concentrations of PCBs above the TSCA criteria for solid waste of 1 ppm and will be disposed of at the Waste Management of New York, LLC High Acres Landfill.

- The Contractor will document all dewatering activities, including but not limited to all the times groundwater was removed from the excavation, dewatering excavation locations, respective volumes of untreated water, storage tank samples and results, facility approval, and signed Bills of Lading if necessary.

Adjustments to the dewatering system, including the location and number of dewatering wells and the rate groundwater is pumped from the excavation may be required. The adjustments may be necessary to dewater the excavation effectively. Dewatering modifications will be reported to the NYSDEC and will be documented in the Dewatering Plan Memorandum as part of the Final Excavation Report.

2.1 ANTICIPATED PUMPING RATES, VOLUME, AND DURATION

Dewatering activities are expected to be temporary and will be dependent on the depth to groundwater and the extent of the excavation to achieve confirmatory soil sample levels of $\leq$ 1 ppm of PCBs. It is anticipated that the dewatering of the excavation will be necessary for approximately thirty (30) days at an 8-hour daily discharge rate, or nine (9) days for a 24-hour discharge rate. Additional excavation and dewatering may be needed to address soil hot spots, pending confirmatory analytical results.

The discharge rate is anticipated to be 10 gpm, consistent with the requirements set forth by the MCPW Specialty Short Term Discharge Permit, Appendix C. The volume of water removed from the excavation depends on the excavation's dimension and cannot be determined prior to the start of work. It is anticipated that five (5) storage tanks should provide the required untreated water storage. However, additional storage tanks can be installed if required.

The layout of the dewatering system is provided on Figure 1 and the equipment cut sheets are provided in Appendix B.

3.0 Discharge Permitting

The treated water will be discharged to the Monroe County Pure Waters Sanitary Sewer System under a Specialty Short Term Discharge Permit, submitted permit included as C. The permit submittal includes contractor or environmental representative, site owner information, description of site work and history of commercial activity, quantities of wastewater to be discharged, method of treatment, expected date of discharge, project duration, sampling frequency and daily max limits of listed substances.

4.0 Sampling Plan

Based on the Monroe County Specialty Short Term Discharge Permit (approved on July 17, 2023 and included as Appendix C):

1. Analytical performance testing of the treatment system with Monroe County approval prior to discharge.

2. Analytical testing once per day for two (2) consecutive days after star up and discharge commences (24-hour discharge).
3. Weekly or every 5 days of active discharge commencing at the end of the two (2) consecutive day testing.

Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health approved method is acceptable. A representative grab sample of treated water shall be analyzed for the following:

- PCBs – action level: must be non-detect with a detection limit of 0.3 ug/L.

Discharge samples will be analyzed by an environmental testing laboratory accredited to perform the required analyses under the New York State of Health NYSDOH Environmental Laboratory Approval Program. Bergmann will be on site to collect the water samples. The frequency of sampling once the initial two (2) consecutive sampling days are completed, will be once weekly for the duration of discharge. This approved permit is attached in Appendix C.

If samples fail for PCBs, the filtration units will be modified or swapped out, and the water will be rerun through the system. If they fail again, then either the filtration system will require additional engineered modification, or the tanks will need to be considered for off-site disposal, to be discussed with the Owner and on-site contractor.

5.0 Reporting

The dewatering activities will be documented in the Excavation Report and the summary of the dewatering activities will be prepared. The scope of the dewatering memorandum will be limited to dewatering activities. The details of the remedial excavation, soil and concrete waste disposal, and analytical results will be summarized in the Excavation Work Plan. The dewatering memorandum will include the following:

- All analytical sampling data in tabular format. Analytical data summary tables will include discharge compliance monitoring and waste characterization (if collected).
- A table of the daily totalizer readings for the pump rate from the excavation and the post treatment groundwater discharge.
- A list of the equipment used for the dewatering and documentation of any deviations from the Dewatering Plan.
- Documentation of daily inspections of the dewatering and treatment system for leaks or damage to equipment or the liner.

6.0 Site Management

A protective layer of gravel and sheeting will be placed under the dewatering equipment to prevent the underlaying surface from being contaminated with PCBs. The sheeting will be inspected daily, and any damage to the sheeting will be repaired within eight (8) hours of the damage report. The dewatering system will also be inspected on a daily basis for any discharges from the dewatering system. Any ponding water (excluding rainwater) will be contained using absorbate materials, and the absorbate material will be containerized, sampled,

and disposed of in an appropriate manner. If liner material comes into contact with water that is in exceedance of 0.3 ug/L of PCBs, the material may require additional sampling and potential disposal at a TSCA approved landfill.

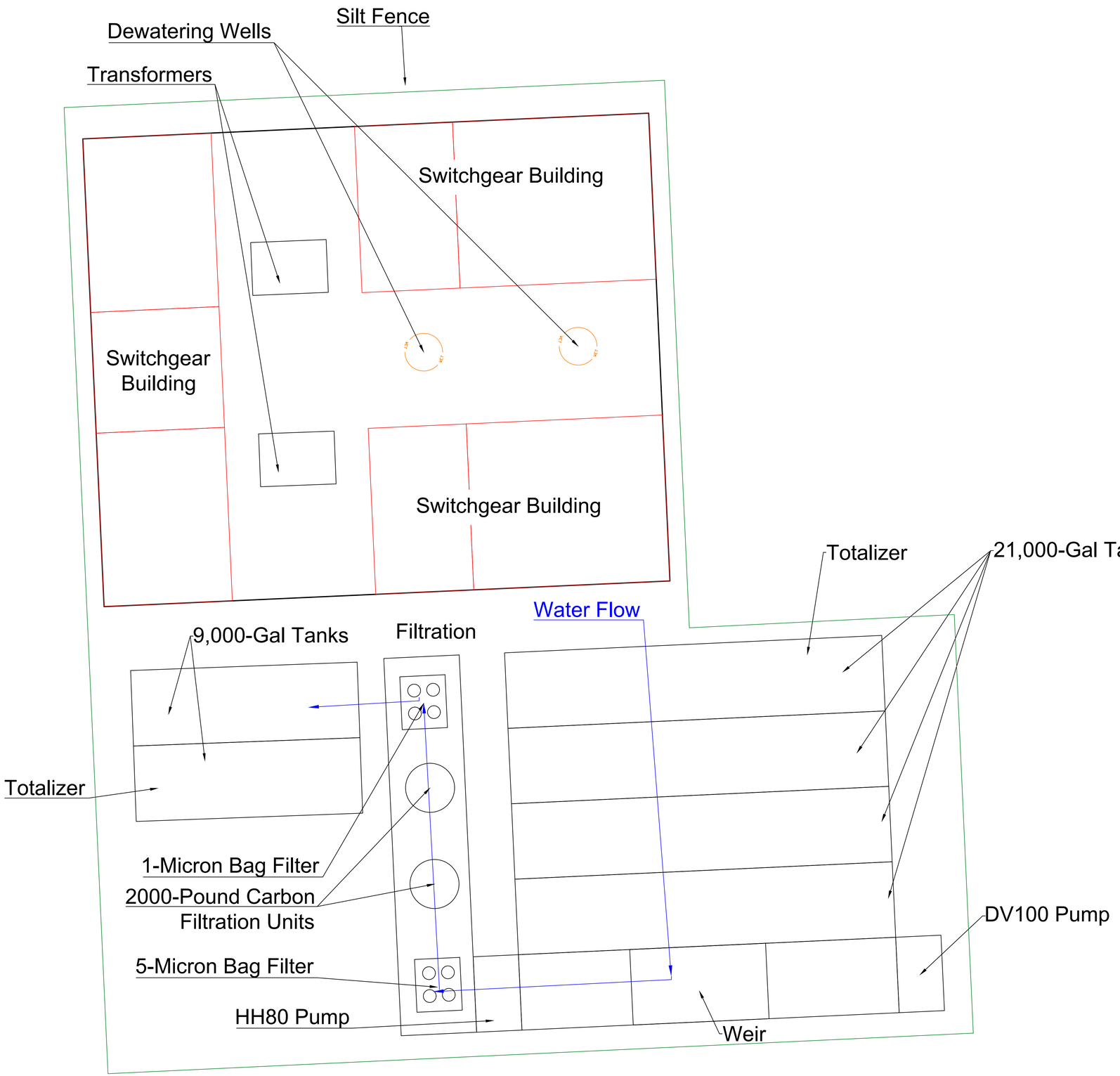
Trucks will be cleaned per the details in the EWP before exiting the site.

7.0 Schedule

The start of dewatering activities will begin following the removal of the coffers, underlying conduit piping, and utility banks. The setup of the dewatering system will begin on July 31, 2023. The duration of the dewatering will depend on the analytical data from the excavation and available personnel to provide frequent and regular inspection and totalizer reading collections for the discharge system. The excavation is estimated to be completed by the end of August. The current estimated project schedule is provided in Appendix D.

FIGURE

ARCH D 24x36



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UNIVERSITY OF ROCHESTER

EMERGENCY EXPANSION

110 CRITTENDEN BLVD
CITY OF ROCHESTER,
MONROE CO, NY

Date Revised	Description

Dewatering Plan Layout

Project Manager	Discipline Lead
Designer	Reviewer
Date Issued	Project Number

Sheet Name

Drawing Number

6/28/2023 2:15 PM

Appendix A

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

Bergmann Associates

For Lab Project ID

232585

Referencing

U of R PCBs #22008624A

Prepared

Wednesday, June 21, 2023

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 232585

Client: **Bergmann Associates**

Project Reference: U of R PCBs #22008624A

Sample Identifier: EBW - 01
Lab Sample ID: 232585-01 **Date Sampled:** 6/15/2023 10:18
Matrix: Water **Date Received** 6/15/2023

Mercury

Analyte	Result	Units	Qualifier	Date Analyzed
Mercury	< 0.000200	mg/L		6/19/2023 14:45

Method Reference(s): EPA 7470A
Preparation Date: 6/19/2023
Data File: Hg230619B

TAL Metals (ICP)

Analyte	Result	Units	Qualifier	Date Analyzed
Aluminum	**0.456**	mg/L		6/21/2023 12:41
Antimony	< 0.0600	mg/L		6/21/2023 12:41
Arsenic	< 0.0100	mg/L		6/21/2023 12:41
Barium	< 0.100	mg/L		6/21/2023 12:41
Beryllium	< 0.00500	mg/L		6/21/2023 12:41
Cadmium	< 0.00500	mg/L		6/21/2023 12:41
Calcium	**14.6**	mg/L		6/21/2023 12:41
Chromium	< 0.0100	mg/L		6/21/2023 12:41
Cobalt	< 0.0500	mg/L		6/21/2023 12:41
Copper	< 0.0200	mg/L		6/21/2023 12:41
Iron	**0.510**	mg/L		6/21/2023 12:41
Lead	< 0.0100	mg/L		6/21/2023 12:41
Magnesium	< 2.50	mg/L		6/21/2023 12:41
Manganese	< 0.0150	mg/L		6/21/2023 12:41
Nickel	< 0.0400	mg/L		6/21/2023 12:41
Potassium	**16.9**	mg/L		6/21/2023 12:41
Selenium	< 0.0200	mg/L		6/21/2023 12:41
Silver	< 0.0100	mg/L		6/21/2023 12:41
Sodium	**70.3**	mg/L		6/21/2023 12:41
Thallium	< 0.0250	mg/L		6/21/2023 12:41
Vanadium	< 0.0250	mg/L		6/21/2023 12:41

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 232585

Client: **Bergmann Associates**

Project Reference: U of R PCBs #22008624A

Sample Identifier:	EBW - 01		
Lab Sample ID:	232585-01	**Date Sampled:** 6/15/2023	10:18
Matrix:	Water	**Date Received** 6/15/2023	

Zinc	< 0.0600	mg/L		6/21/2023 12:41

Method Reference(s): EPA 6010C
EPA 3005A
Preparation Date: 6/19/2023
Data File: 230621A

PCBs

Analyte	Result	Units	Qualifier	Date Analyzed
PCB-1016	< 0.954	ug/L		6/19/2023 11:14
PCB-1221	< 0.954	ug/L		6/19/2023 11:14
PCB-1232	< 0.954	ug/L		6/19/2023 11:14
PCB-1242	< 0.954	ug/L		6/19/2023 11:14
PCB-1248	< 0.954	ug/L		6/19/2023 11:14
PCB-1254	< 0.954	ug/L		6/19/2023 11:14
PCB-1260	< 0.954	ug/L		6/19/2023 11:14
PCB-1262	< 0.954	ug/L		6/19/2023 11:14
PCB-1268	< 0.954	ug/L		6/19/2023 11:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
Tetrachloro-m-xylene	**54.9**	10 - 122		6/19/2023 11:14

Method Reference(s): EPA 8082A
EPA 3510C
Preparation Date: 6/19/2023

Semi-Volatile Organics (Acid/Base Neutrals)

Analyte	Result	Units	Qualifier	Date Analyzed
1,1-Biphenyl	< 9.60	ug/L		6/19/2023 15:44
1,2,4,5-Tetrachlorobenzene	< 9.60	ug/L		6/19/2023 15:44
1,2,4-Trichlorobenzene	< 9.60	ug/L		6/19/2023 15:44
1,2-Dichlorobenzene	< 9.60	ug/L		6/19/2023 15:44
1,3-Dichlorobenzene	< 9.60	ug/L		6/19/2023 15:44
1,4-Dichlorobenzene	< 9.60	ug/L		6/19/2023 15:44
2,2-Oxybis (1-chloropropane)	< 9.60	ug/L		6/19/2023 15:44
2,3,4,6-Tetrachlorophenol	< 9.60	ug/L		6/19/2023 15:44

PARADIGM ENVIRONMENTAL SERVICES, INC.

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Sample Identifier: EBW - 01
Lab Sample ID: 232585-01 **Date Sampled:** 6/15/2023 10:18
Matrix: Water **Date Received** 6/15/2023

2,4,5-Trichlorophenol	< 9.60	ug/L	6/19/2023 15:44
2,4,6-Trichlorophenol	< 19.2	ug/L	6/19/2023 15:44
2,4-Dichlorophenol	< 9.60	ug/L	6/19/2023 15:44
2,4-Dimethylphenol	< 9.60	ug/L	6/19/2023 15:44
2,4-Dinitrophenol	< 19.2	ug/L	6/19/2023 15:44
2,4-Dinitrotoluene	< 9.60	ug/L	6/19/2023 15:44
2,6-Dinitrotoluene	< 9.60	ug/L	6/19/2023 15:44
2-Chloronaphthalene	< 9.60	ug/L	6/19/2023 15:44
2-Chlorophenol	< 9.60	ug/L	6/19/2023 15:44
2-Methylnapthalene	< 9.60	ug/L	6/19/2023 15:44
2-Methylphenol	< 9.60	ug/L	6/19/2023 15:44
2-Nitroaniline	< 19.2	ug/L	6/19/2023 15:44
2-Nitrophenol	< 9.60	ug/L	6/19/2023 15:44
3&4-Methylphenol	< 9.60	ug/L	6/19/2023 15:44
3,3'-Dichlorobenzidine	< 9.60	ug/L	6/19/2023 15:44
3-Nitroaniline	< 19.2	ug/L	6/19/2023 15:44
4,6-Dinitro-2-methylphenol	< 19.2	ug/L	6/19/2023 15:44
4-Bromophenyl phenyl ether	< 9.60	ug/L	6/19/2023 15:44
4-Chloro-3-methylphenol	< 9.60	ug/L	6/19/2023 15:44
4-Chloroaniline	< 9.60	ug/L	6/19/2023 15:44
4-Chlorophenyl phenyl ether	< 9.60	ug/L	6/19/2023 15:44
4-Nitroaniline	< 19.2	ug/L	6/19/2023 15:44
4-Nitrophenol	< 19.2	ug/L	6/19/2023 15:44
Acenaphthene	< 9.60	ug/L	6/19/2023 15:44
Acenaphthylene	< 9.60	ug/L	6/19/2023 15:44
Acetophenone	< 9.60	ug/L	6/19/2023 15:44
Anthracene	< 9.60	ug/L	6/19/2023 15:44
Atrazine	< 24.0	ug/L	6/19/2023 15:44
Benzaldehyde	< 9.60	ug/L	6/19/2023 15:44
Benzo (a) anthracene	< 9.60	ug/L	6/19/2023 15:44

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 232585

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Sample Identifier: EBW - 01
Lab Sample ID: 232585-01 **Date Sampled:** 6/15/2023 10:18
Matrix: Water **Date Received** 6/15/2023

Benzo (a) pyrene	< 9.60	ug/L	6/19/2023 15:44
Benzo (b) fluoranthene	< 9.60	ug/L	6/19/2023 15:44
Benzo (g,h,i) perylene	< 9.60	ug/L	6/19/2023 15:44
Benzo (k) fluoranthene	< 9.60	ug/L	6/19/2023 15:44
Bis (2-chloroethoxy) methane	< 9.60	ug/L	6/19/2023 15:44
Bis (2-chloroethyl) ether	< 9.60	ug/L	6/19/2023 15:44
Bis (2-ethylhexyl) phthalate	< 9.60	ug/L	6/19/2023 15:44
Butylbenzylphthalate	< 9.60	ug/L	6/19/2023 15:44
Caprolactam	< 9.60	ug/L	6/19/2023 15:44
Carbazole	< 9.60	ug/L	6/19/2023 15:44
Chrysene	< 9.60	ug/L	6/19/2023 15:44
Dibenz (a,h) anthracene	< 9.60	ug/L	6/19/2023 15:44
Dibenzofuran	< 9.60	ug/L	6/19/2023 15:44
Diethyl phthalate	< 9.60	ug/L	6/19/2023 15:44
Dimethyl phthalate	< 19.2	ug/L	6/19/2023 15:44
Di-n-butyl phthalate	< 9.60	ug/L	6/19/2023 15:44
Di-n-octylphthalate	< 9.60	ug/L	6/19/2023 15:44
Fluoranthene	< 9.60	ug/L	6/19/2023 15:44
Fluorene	< 9.60	ug/L	6/19/2023 15:44
Hexachlorobenzene	< 9.60	ug/L	6/19/2023 15:44
Hexachlorobutadiene	< 9.60	ug/L	6/19/2023 15:44
Hexachlorocyclopentadiene	< 9.60	ug/L	6/19/2023 15:44
Hexachloroethane	< 9.60	ug/L	6/19/2023 15:44
Indeno (1,2,3-cd) pyrene	< 9.60	ug/L	6/19/2023 15:44
Isophorone	< 9.60	ug/L	6/19/2023 15:44
Naphthalene	< 9.60	ug/L	6/19/2023 15:44
Nitrobenzene	< 9.60	ug/L	6/19/2023 15:44
N-Nitroso-di-n-propylamine	< 9.60	ug/L	6/19/2023 15:44
N-Nitrosodiphenylamine	< 9.60	ug/L	6/19/2023 15:44
Pentachlorophenol	< 19.2	ug/L	6/19/2023 15:44

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 232585

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Sample Identifier: EBW - 01
Lab Sample ID: 232585-01 **Date Sampled:** 6/15/2023 10:18
Matrix: Water **Date Received** 6/15/2023

Phenanthrene	< 9.60	ug/L		6/19/2023 15:44
Phenol	< 9.60	ug/L		6/19/2023 15:44
Pyrene	< 9.60	ug/L		6/19/2023 15:44

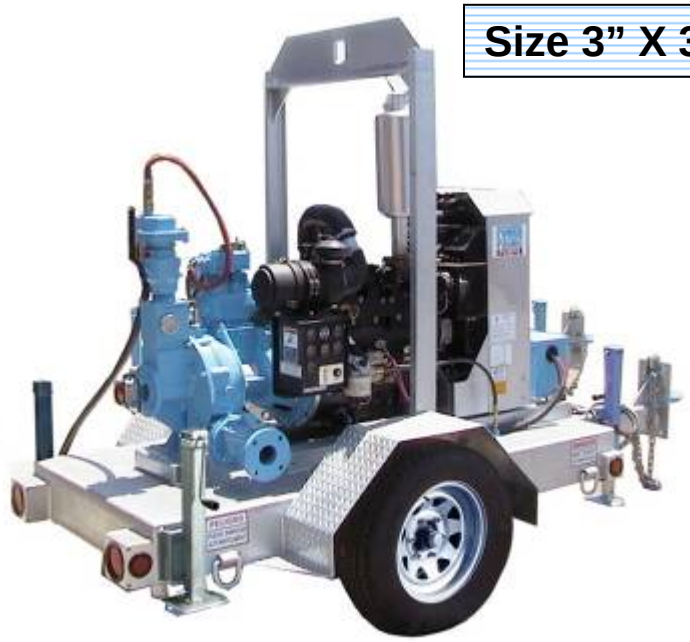
Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
2,4,6-Tribromophenol	**84.9**	49 - 127		6/19/2023 15:44
2-Fluorobiphenyl	**41.7**	10 - 107		6/19/2023 15:44
2-Fluorophenol	**40.2**	10.6 - 109		6/19/2023 15:44
Nitrobenzene-d5	**67.1**	41 - 106		6/19/2023 15:44
Phenol-d5	**26.5**	10 - 109		6/19/2023 15:44
Terphenyl-d14	**73.0**	49.6 - 120		6/19/2023 15:44

Method Reference(s): EPA 8270D
EPA 3510C
Preparation Date: 6/19/2023
Data File: B664891.D

Appendix B

Model HH-80

Size 3” X 3”



Standard Features

- Hot Dip Galvanized Trailers and Skids
  - Radiator Enclosure
  - Battery Box
  - Wheels
- Zinc Plated Jacks
- Emissions Certified Engines
  - Perkins and John Deere
- DOT LED lights
- Electric Brakes with Safety breakaway
- Locking Battery Box

Pump Features

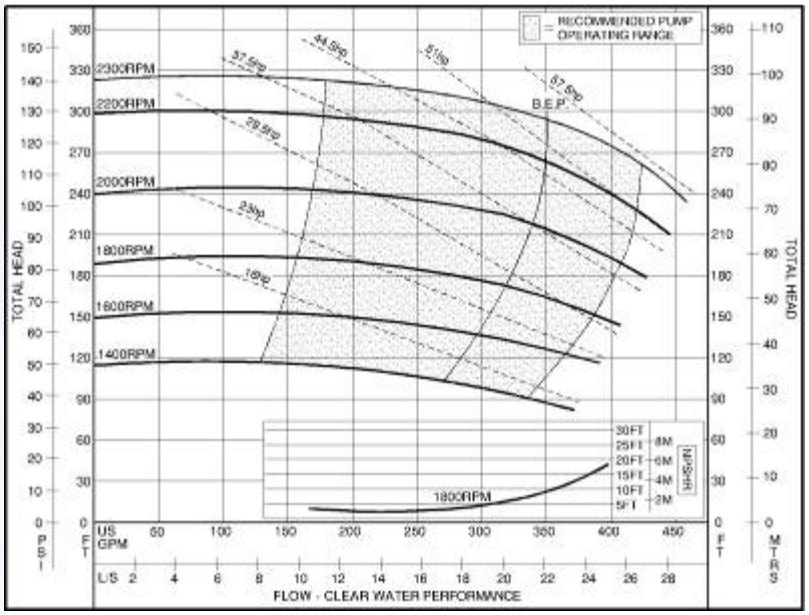
- Solids handling capabilities to 1” diameter maximum
- Continuous self priming
- Runs dry unattended
- Suction lift to 28’ ft.
- Auto-start-capable control panel
- Skid or trailer mounted
- Stainless Steel, CD4MCu and Chrome pump Options

Technical

- SAE-mounted
- 12 volt, electric start with control panel
- Skid- or trailer-mounted with optional lifting bale
- 24-hour minimum capacity fuel tank
- Compressor/Venturi automatic priming system
- Electric drive option available
- Sound attenuated option available

Material Specifications

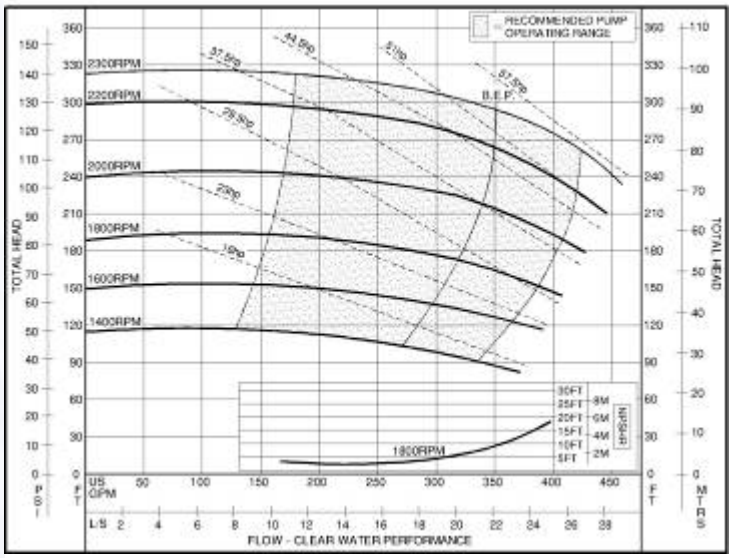
- Standard Build – Ductile Iron volute, 316 Stainless Steel open impeller and replaceable wear plates
- Pump Shaft
  431 Stainless Steel
- Mechanical Seal
  Solid silicon carbide mating faces
  Oil-bath lubrication for dry running
- Suction / discharge flanges ANSI 150# FF.



Rain for Rent
P.O. Box 2248
Bakersfield CA 93303
800-742-7246
661-393-1542
FAX 661-393-1542
www.rainforrent.com
info@rainforrent.com

HH-80 Technical Specifications

Production Curve



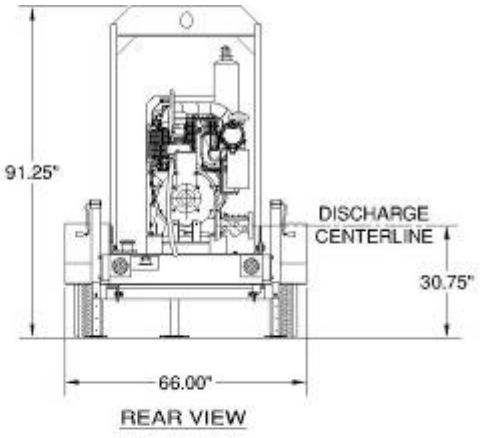
Performance Specs

STANDARD 3 VANE OPEN IMPELLER	
Minimum Operating Speed:	1400 rpm
Maximum Operating Speed:	2300 rpm
Maximum Head:	320 ft.
Maximum Flow:	450 gpm

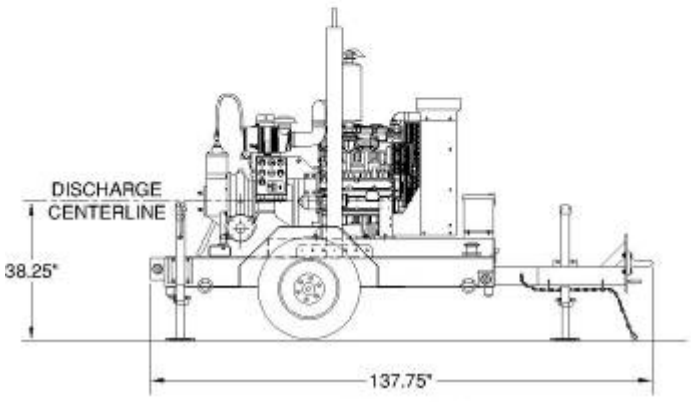
Design Details

Pump Designation:	HH-80
Pump Description:	Centrifugal end suction pump, single stage, volute type, 3 vane fully open impeller
Solid Handling Size:	1 inch (25mm)
Operating Temperature	MIN: -4ºF (-20ºC) MAX: +212ºF (+100ºC)

Dimensions



REAR VIEW



SIDE VIEW

Rain for Rent
P.O. Box 2248
Bakersfield CA 93303
800-742-7246
661-399-9124
FAX 661-393-1542
www.rainforrent.com
info@rainforrent.com

BF 400
Up to 400 GPM

Features

- Manifold connections are 6" 150 lb flanges
- Quadruple bag filter
- Bag filter for high solids holding capacity
- Replaceable bag filters from 100 to 1 micron nominal rating
- No moving parts
- Skid mounted

Technical

- Bag filter chambers connect in parallel
- Units are fitted with bleed valves and pressure gauges
- System can stand alone for sediment removal or be used in combination with filter equipment
- Footprint: 62" long x 36" wide x 61" high
- Dry weight: 1,150 lbs.

Material Specifications

- Chambers constructed of 304 Stainless Steel
- Piping constructed of 304 stainless steel
- Each bag filter chamber holds one (1) 7" x 30" double- stitched filter bag
- Maximum operating pressure: 125psi
- Stainless Steel inlet and outlet manifolds

Available Accessories

- Power Prime Pumps
- Spill Guard Containment berms
- Stainless Steel 304 and Carbon Steel storage tanks in
- Bi-Level, Mixer, Weir and Manifold configurations
- Polyethylene storage tanks
- Cartridge and bag filters
- HDPE pipe and fittings
- Roll off boxes, dewatering bins and vacuum boxes
- Flow meters and pressure reducing/ sustaining valves
- Aluminum Victaulic pipe and fittings
- Suction and discharge hose

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Filter Media Vessels

2,000 lb HP

Overview:

The 2,000lb HP vessels are designed to remove unwanted chemical contaminants from liquid streams and can accommodate a variety of filter media to meet treatment goals. Rated for low and high pressure applications with a flow range of 100 gpm per vessel. For higher desired flow rates vessels are simple to configure in parallel.

Features:

- Lower stainless steel internal design which allows for easy and safe installation without confined space entry into the vessel.
- Inlet/outlet connections at ground level.
- Air vent for complete liquid filling at ground level.
- Inlet and outlet pressure gauges.
- Four-way forklift-able skid with available hold down anchor attachments.
- Lifting lugs for a combined max weight of 13,600 lbs.
- Screened bottom water drain.
- Slurry connections.
- In-house media adsorption rate modeling.
- Hinged round manways.

Specs:

Maximum Flow	100 GPM
Maximum Pressure	75 PSI
Maximum Temp	120°F
Maximum Height	102”
Vessel Diameter	48”
Shipping Weight	2,100 lbs.
Inlet x Outlet	4” Flange
Footprint	48.5” x 84” x 102”

Accessories:

- Full line of filter media
- Suction/discharge hose and fittings
- Spillguards
- Traction Mats
- PipeStax®
- Hose bridges
- Pumps
- Tanks
- Flow meters
- Sand, Bag & Cartridge pre-filtration systems

PUMPS • TANKS • FILTRATION • PIPE • SPILLGUARDS

Liquid Ingenuity®
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Appendix C

INS: 11/1/2023
CK : ~~TBD~~
198951

SPECIALTY SHORT TERM DISCHARGE PERMIT

County of Monroe Pure Waters District No. 8575 ST- Permit No: 436

Fee: $125.00 Effective Date: 7/21/2023 Expiration Date: 12/31/2023

FirmName University of Rochester Medical Center

Address _____

_____

Type of Business or Service Hospital

I. The above-named applicant is permitted to discharge wastes into the Monroe County Pure Waters Sewer system or Tributary thereto as applied for by an application dated 7-7-2023 and verified by the applicant except the Director of Pure Waters requires the following terms and conditions to govern the permitted discharge:

A. _____

B. _____

C. _____

II. The applicant further agrees to:

1. Accept and abide by all provisions of the Sewer Use Law of Monroe County and of all pertinent rules or regulations now in force or shall be adopted in the future.
2. Notify the Director of Pure Waters in writing of any revision to the plant sewer system or any change in industrial wastes discharge to the public sewers as listed in the application. The latter encompasses either (1) an increase or decrease in average daily volume or strength of wastes listed in the application or (2) new wastes that were not listed in the application.
3. Furnish the Director of Pure Waters upon request any additional information related to the installation or use of sewer or drain for which this permit is sought.
4. Operate and maintain any waste pretreatment facilities, as may be required as a condition of the acceptance into the public sewer of the industrial wastes involved, in an efficient manner at all times, and at no expense to the County.
5. Cooperate with the Director of Pure Waters or his representatives in their inspecting, sampling, and study of wastes, or the facilities provided for pretreatment.
6. Notify the Director of Pure Waters immediately of any accident, negligence, breakdown of pretreatment equipment, or other occurrence that occasions discharge to the public sewers of any wastes or process waters not covered by this permit.

Applicant's Name (please print) Evangelos Yannas Phone 585-880-2953

Applicant's Signature Evangelos Yannas Date 7/7/2023

Applicant's Title Director of Special Projects

Emergency Contact _____ Phone _____

Approved by: Michael J. Garland Issued this 17 day of JULY 2023

Michael J. Garland, P.E.
Director of Environmental Services-Pure Waters

COUNTY OF MONROE
SEWER USE PERMIT ENCLOSURE

Bergmann Associates
280 East Broad Street, Suite 200
Rochester, NY 14604

PERMIT NUMBER: ST-436
DISTRICT NUMBER: 8575

SITE LOCATION: University of Rochester Medical Center
110 Crittenden Blvd.
Rochester, NY 14642

TYPE OF BUSINESS: PCB Remediation Project
SAMPLE POINT: Treatment System Outlet

REQUIRED MONITORING

SELF MONITORING FREQUENCY:

1. **Analytical Performance testing** of treatment system with Monroe County approval prior to discharge.
2. **Analytical testing once per day** for two consecutive days after start up and discharge commences (24 hour turnaround).
3. **Weekly or every 5 days of active discharge** commencing at the end of the two consecutive day testing.

SAMPLING PROTOCOL: Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. In the absence of 40 CFR Part 136 testing methodology, a New York State Department of Health approved method is acceptable. A representative grab sample of treated water shall be analyzed for the following:

PCBs *

* ACTION LEVEL: PCBs must be non-detect with a detection limit of 0.3 ug/L .

SPECIAL CONDITIONS:

1. **Discharge location must be approved by Monroe County prior to discharging.**
2. **Discharge rate is not to exceed 10 gpm unless prior authorization has been given by Monroe County.**
3. **Analytical data must be reviewed and approved prior to discharge to sewer.**
4. **Treatment system is to be inspected and approved by Monroe County prior to discharge if treatment is required.**
5. **Total volume of water discharged shall be reported to Monroe County for billing purposes.**

Appendix D

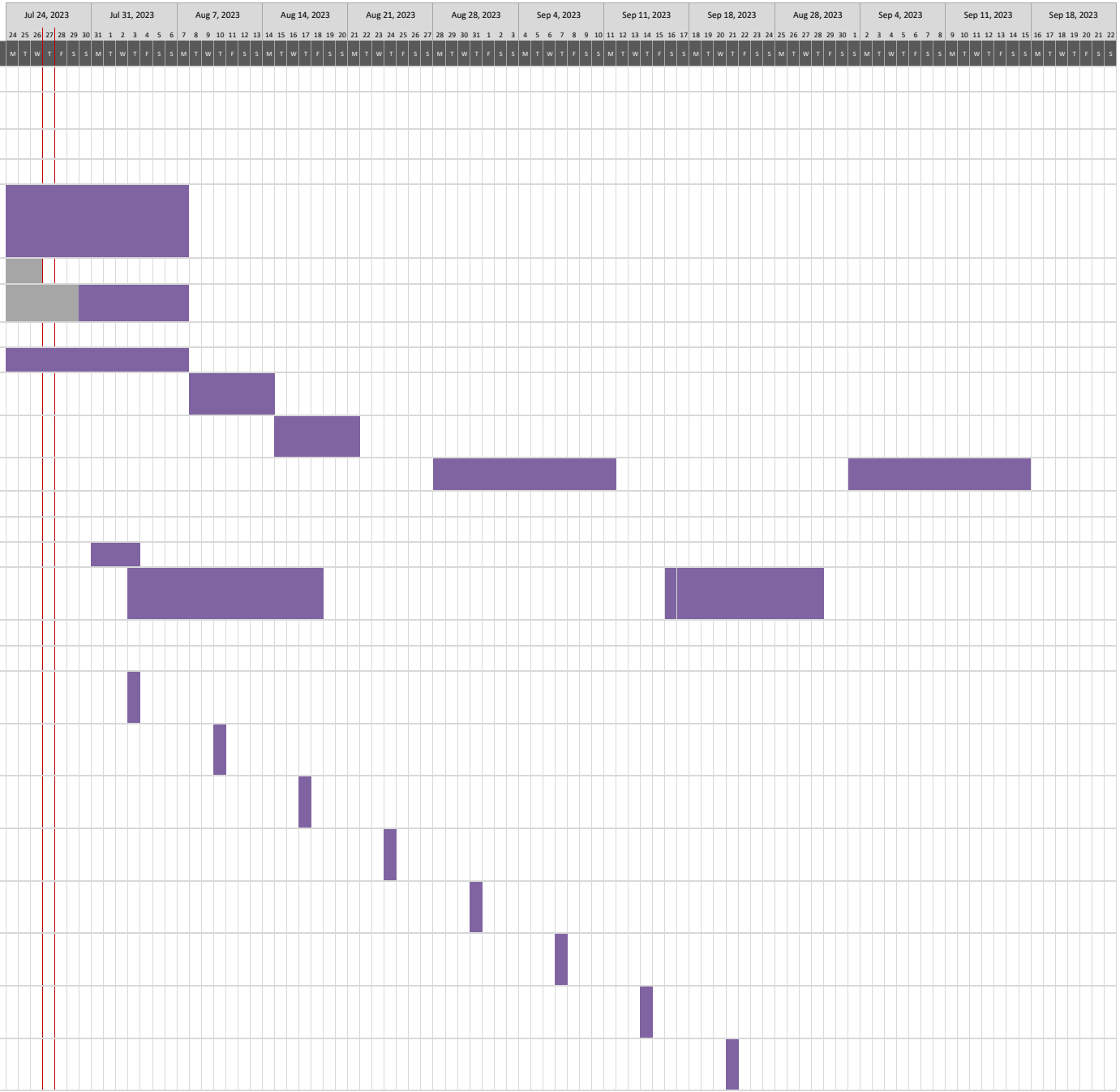
University of Rochester

Strong Hospital ED Expansion PCB Removal Area
Environmental Schedule

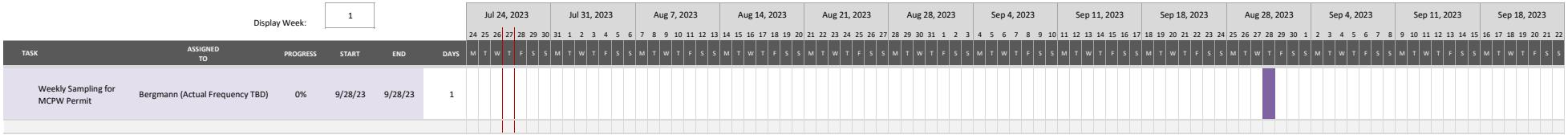
Project Start: Thu, 7/27/2023

Display Week: 1

TASK	ASSIGNED TO	PROGRESS	START	END	DAYS
Phase 1 Coffer Soil Boring Investigation and Subsequent Steps					
Coffer Soil Boring Investigation and Sampling Work Plan	Reviewed and approved by NYSDEC	100%	6/20/23	6/30/23	11
Coffer Soil Boring Investigation Work	Subcontractor/Bergmann	100%	7/5/23	7/10/23	6
SB Investigation Sample Analysis	Subcontracted Lab (Rush TAT)	100%	7/7/23	7/14/23	8
Results to NYSDEC for ~~Reuse or~~ Non-Haz LF Disposal Approval (if applicable) ~~– BUD Application for Reuse On Site~~	NYSDEC Review	0%	7/24/23	8/7/23	15
Result Driven Direction for Coffer Soils	Bergmann/Turner-Pike/GoRick	100%	7/21/23	7/26/23	6
Excavation and Proper Disposal~~/Stockpiling for Reuse of Coffer Soils~~	Bergmann/Turner-Pike/GoRick (END Date TBD Based on Results)	45%	7/24/23	8/7/23	15
Phase 2 Additional Excavations and Subsequent Steps					
Additional Excavation, Utility Bank Removals	Turner-Pike/GoRick	0%	7/24/23	8/7/23	10
Additional Excavation - Hot Spot Removals/Sampling	Turner-Pike/GoRick	0%	8/8/23	8/14/23	7
Post Hot Spot Confirmatory Sampling (Rush TAT)	Subcontracted Lab	0%	8/15/23	8/21/23	
NYSDEC Review of Completion of PCBs	NYSDEC Review	0%	8/28/23	9/11/23	15
Phase 3 Dewatering Plan and Subsequent Steps					
Dewatering Plan	Waiting on NYSDEC Review	85%	6/30/23	7/14/23	15
Implementation of Dewatering Plan (Set ...	Bergmann/Turner-Pike/GoRick	0%	7/31/23	8/3/23	4
Additional Dewatering after hotspot removal and analytical sample result receipt	Bergmann/Turner-Pike/GoRick	0%	8/3/23	8/18/23	16
Phase 4 SPDES and MCPW Permitting					
Submit MCPW Permit	MCPW Review	100%	6/30/23	7/10/23	11
Initial Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	8/3/23	8/3/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	8/10/23	8/10/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	8/17/23	8/17/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	8/24/23	8/24/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	8/31/23	8/31/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	9/7/23	9/7/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	9/14/23	9/14/23	1
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	9/21/23	9/21/23	1



Display Week: 1



TASK	ASSIGNED TO	PROGRESS	START	END	DAYS
Weekly Sampling for MCPW Permit	Bergmann (Actual Frequency TBD)	0%	9/28/23	9/28/23	1