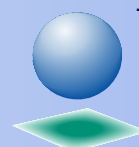


# Woonsocket WWTF Design-Build-Operate Project Monthly Progress Report



August 27, 2014  
Project No. 439646



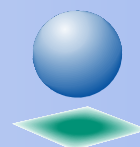
**CH2MHILL**



# Table of Contents

Executive Summary .....	5
Engineering Design & Permitting Summary .....	7
Construction Management Summary .....	11
Operations Summary .....	23
Health & Safety Summary .....	35
QA / QC Summary .....	37
Construction Photos .....	39
Master Schedule - 8 Wk Look Ahead .....	45

August 27, 2015  
Project No. 439646



**CH2MHILL**



# **Design Build Operate Project**

## **DBO Contractor's Monthly Progress Report August 27, 2015**

### **CH2M HILL Engineers, Inc.**

## **Executive Summary**

The City of Woonsocket has awarded the design, permitting, construction, and long-term operations of Woonsocket Wastewater Treatment Facility Improvements to CH2M HILL Engineers, Inc. on June 27<sup>nd</sup>, 2012 with the project Commencement Date (NTP) of June 2<sup>nd</sup>, 2014. CH2M HILL will be designing and constructing the treatment facility while operating and maintaining the facility for 20 years following the NTP of the project.

The monthly reports shall include what has been indicated in Section 5 of the Agreement, particularly 5.11 Monthly Progress Report, of which that content contains the following;

- **Engineering, Design and Permitting Summary**

- Permitting submittals and compliance with Applicable Law
- Design submittals and progress

- **Construction Management Summary**

- Construction progress update
- Change Orders
- Payment Applications

- **Operations Summary**

- O&M Process Control
- Discharge Monitoring Report
- Compliance Monthly Report
- Facility Operating Report
- Pump Station & Motorized Siphon Operating Report

- **Health and Safety Summary**

- Incident Reports

- **QA/QC Summary**

- **Schedule Summary**

- Per Section 5, "5.11 Monthly Progress Report"

- **Construction Progress Photos**

- **Master Schedule – 8 Week Look Ahead**

- Full Schedule Included with Payment Application



# Woonsocket WWTF DBO Project

## DBO Contractor's Monthly Progress Report August 27, 2015

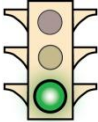
CH2M HILL Engineers, Inc.

## Engineering, Design, and Permitting

Engineering Manager:	Barb Engleson
Resident Engineer:	Katie Chamberlain
Senior Technical Consultant:	Bruce Johnson
Permitting Manager:	Jeff Nield
Design Manager:	Kandi Maestri

### Schedule Progression

#### Schedule

	On Schedule. Engineering, Design, and Permitting activities are currently on schedule.
---	---

### Accomplishments and Current Activities

#### Engineering Management General

Deliverables	<ul style="list-style-type: none"><li>Operations Manual</li></ul>
Monthly Meetings	<ul style="list-style-type: none"><li>Attended meetings</li></ul>
Monthly Reporting and Invoicing	

#### Engineering Services During Construction

Submittals, RFI's, DCN's, & Record Drawings	<ul style="list-style-type: none"><li>3 submittals processed this month; average review time was 10 (10.00) days.</li><li>5 RFI's processed this month; the average review time was 3 (3.25) days.</li><li>Operation and maintenance manual is in RIDEM review.</li></ul>
---	---

#### Permitting Activities

Active Permit Matrix	<ul style="list-style-type: none"><li>Refer to the following page.</li></ul>
Permitting --Meetings	<ul style="list-style-type: none"><li>None</li></ul>

## Quality Control

Quality Management Plan	<ul style="list-style-type: none"><li>• Management review for submittals and RFIs.</li></ul>
-------------------------	--

## Upcoming Activities

### Engineering Management General

Deliverables	<ul style="list-style-type: none"><li>• None required</li></ul>
Monthly Progress Meetings	<ul style="list-style-type: none"><li>• Attend meetings.</li><li>• Coordination with operations staff for equipment procurement, submittals and RFIs</li></ul>

### Engineering Services During Construction

Submittals, RFI's, DCN's, Record Drawings	<ul style="list-style-type: none"><li>• Ongoing submittal review and RFI responses. Update record drawings.</li></ul>
---	---

### Permitting Activities

Active Permit Matrix	<ul style="list-style-type: none"><li>• Refer to the following page.</li></ul>
----------------------	--

## Quality Control

Quality Management Plan	<ul style="list-style-type: none"><li>• Sign-off on punch-list items</li></ul>
-------------------------	--



APPLICABLE GOVERNMENTAL APPROVAL	AGENCY	APPLICATION AND ANNUAL FEES	REQUIRED FOR CONSTRUCTION COMMENCEMENT	STATUS/SCHEDULE
<b>FEDERAL PERMITS</b>				
SPCC	EPA Region 1, RIDEM	NA	No	Revised by CH2M HILL in 2013. Updates to existing SPCC should be completed after new oil storage is installed.
<b>STATE PERMITS</b>				
RIDEM Freshwater Wetlands Program Request for Preliminary Determination	RIDEM OWR Freshwater Wetlands Program	\$300.00	Yes	Submitted on 1/24/14. Agency field visit completed on 2/21/14. Anticipated agency decision issued by March 7, 2014.
RIPDES General Permit for Construction Activity	RIDEM OWR Freshwater Wetlands Program	NA	Yes	Submitted on 1/24/14. Agency field visit completed on 2/21/14. Anticipated agency decision issued by March 7, 2014.
Modular Construction Review	RI State Building Codes Commission	NA	TBD	TBD
Emergency Generator General Permit - Air	RIDEM Office of Air Resources	No fee	No	Submit General Permit Application at least 30 days prior to testing/operation of generator.
Aboveground Storage Tank Registration	RIDEM Office of Emergency Response	NA	No	Submit registration after new supplies are installed. Monthly inspections required.
Multi-Sector General Permit RIPDES Stormwater Associated with Industrial Activities (excluding Construction)	RIDEM Office of Water Resources (RIPDES)	\$400 if a revised SWPPP must be submitted.	No	Update within first year after upgrades to plant.
Asbestos Abatement Plan Approval	RI Department of Health (RIDOH)	\$300	Only related work	Received 1/8/15
<b>LOCAL PERMITS/REVIEWS/APPROVALS</b>				
Building, Electrical, Mechanical & Plumbing Permits	City Building Official (Chris Chianese)	City fee is waived. State levies a fee (EPC x .001) that must be paid.	Yes	Applications scheduled for submission upon completion of Fire Marshal's review/approval on 2/24/14. Anticipated city permit issuance the week of March 3, 2014.
Fire Marshal Approval	Fire Marshall (Capt Mike Morin)	NA	Yes	Application submitted to Fire Marshal on 2/12/2014. Expected approval by 2/24/2014.
City Erosion and Sedimentation Ordinance	City Engineer (Mike Debrosse)	NA	Yes	Submitted on 1/24/14. Review completed and forwarded with comments to Building Official for incorporation into Building Permit.
Fuel (Haz Materials) Storage	Fire Marshall (Capt Mike Morin)	NA	No	Captain Morin directed us to contact his office after new supply tanks are installed.



# Woonsocket WWTF DBO Project

**DBO Contractor's Monthly Progress Report August 27, 2015**

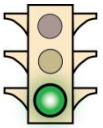
**CH2M HILL Engineers, Inc.**

## Construction Management

Design Build Manager: Robert Pieper  
Construction Manager: Mathew Marsh  
Project Controls/Schedule: Matt Troso

## Schedule Progression

### Schedule

	Mechanical Piping, demolition, electrical works and are the primary activities.
---	---

## Construction Activities

### Change Orders

Change Order Number	Description	Amount	Status
001	Pilot Testing	<\$ 295,995>	Executed
002	AB Process	<\$ 1,344,548>	Executed
003	Repair and Replacement	\$0.00	Executed
004	Escalation Claim	\$ 964,899.00	Executed
005	Hazardous Survey & Abatement	\$ 58,480	Pending Approval
006, 007, 008	Electrical System Mapping and Study Issues	\$356,840.40	Declined
009	Electrical Service Pole	\$21,150.32	Pending Resubmittal

### Potential Change Orders

Request Number	Description	Status

## Payment Applications

Pay App #	Invoice Date	Bill Thru Date	Amount	Receipt Date
001	16-Nov-12	13-Oct-12	\$ 230,065.25	8-Apr-13
002	23-Jan-13	31-Dec-12	\$ 379,650.00	10-May-13
003	9-Apr-13	29-Mar-13	\$ 393,589.77	1-Aug-13
004	13-May-13	26-Apr-13	\$ 119,146.43	1-Aug-13
005	7-Jun-13	31-May-13	\$ 248,414.74	1-Aug-13
006	9-Jul-13	28-Jun-13	\$ 231,663.06	1-Aug-13
007	6-Aug-13	26-Jul-13	\$ 487,199.57	13-Sep-13
008	4-Sep-13	30-Aug-13	\$ 832,264.09	10-Oct-13
009	4-Oct-13	27-Sep-13	\$ 821,213.71	8-Nov-13
010	14-Nov-13	25-Oct-13	\$ 807,215.74	19-Dec-13
011	10-Dec-13	29-Nov-13	\$ 789,941.17	14-Mar-14
012	14-Jan-14	27-Dec-13	\$ 710,559.98	14-Mar-14
013	10-Feb-14	13-Jan-14	\$ 508,790.96	14-Mar-14
014	21-Mar-14	28-Feb-14	\$ 735,934.87	10-Apr-14
015	8-Apr-14	28-Mar-14	\$ 328,420.39	22-May-14
016	13-May-14	25-Apr-14	\$ 463,078.08	7-Jul-14
017	12-Jun-14	30-May-14	\$ 287,336.92	31-Jul-14
018	1-Jul-14	27-Jun-14	\$ 1,170,452.75	31-Jul-14
019	12-Aug-14	25-Jul-14	\$ 366,803.29	11-Sep-14
020	9-Sep-14	29-Aug-14	\$ 1,296,650.54	14-Oct-14
021	7-Oct-14	26-Sep-14	\$ 602,874.93	7-Nov-14
022	31-Oct-14	31-Oct-14	\$ 1,712,768.11	22-Dec-14
023	5-Dec-14	24-Nov-14	\$ 772,854.94	15-Jan-15
024	19-Dec-14	26-Dec-14	\$ 1,571,722.21	17-Feb-15
025	30-Jan-15	30-Jan-15	\$ 2,360,196.31	16-Mar-15
026	27-Feb-15	27-Feb-15	\$ 1,817,233.23	27-Mar-15
027	27-Mar-15	27-Mar-15	\$ 997,919.00	8-May-15
028	8-May-15	24-Apr-15	\$ 1,532,042.83	23-Jun-15
029	5-Jun-15	29-May-15	\$ 519,595.57	20-Jul-15
030	9-Jul-15	26-Jun-15	\$ 1,604,653.01	14-Aug-15
031	7-Aug-15	31-Jul-15	\$ 1,147,501.85	
032				
033				
	TOTAL		\$ 25,847,753.30	

# Project Controls / Schedule

Per Section 5, Paragraph 5.11

**UPDATED PROJECT SCHEDULE REPORT NARRATIVE August 2015**

1.	Progress was taken on the Project Master Schedule, with a Data Date of August 27, 2015
2.	Design Progress: <ul style="list-style-type: none"><li>• Nothing Significant to Report</li></ul>
3.	Deliverable Progress: <ul style="list-style-type: none"><li>• Nothing Significant to Report.</li></ul>
4.	Critical Path Report (Longest Path) Critical construction schedule follows the following path: <ul style="list-style-type: none"><li>• Modifications to Aeration Basins</li><li>• Install Switchgear Equipment</li><li>• Electrical Upgrades and Modifications including SCADA system</li></ul>
5.	Schedule Progress: <ul style="list-style-type: none"><li>• Month of August<ul style="list-style-type: none"><li>▪ Activities Started = 21</li><li>▪ Activities Completed = 15</li></ul></li></ul>
6.	Construction and Mobilization: <ul style="list-style-type: none"><li>• Mobilization<ul style="list-style-type: none"><li>▪ Milton Cat – Check outs with and without power</li><li>▪ Russ Electric – Check outs with and without power</li></ul></li></ul>

7. Construction – During August 2015, the following activities took place:

➤ 06 – Site Electrical

Ductbank

- Pull & Term Site Elec Medium Voltage
- Install New Electrical Pole/Fuses
- Pull & Term Site Elec Low Voltage

Ductbank 17, 18, 41, & 59

- Install Conduit @ DB-17, DB-18, DB-41, & DB-59
- Install bedding & concrete cap @ DB-17, DB-18, DB-41, & DB-59
- Backfill & compact @ DB-17, DB-18, DB-41, & DB-59

Ductbank 44

- Excavate @ DB-44
- Install Conduit @ DB-44
- Install Bedding Material & Concrete Cap @ DB-44
- Backfill & Compact @ DB-44

Ductbank 52 & 53

- Backfill & compact @ DB-52 & DB-53

➤ 10 – Ops/Head works

- Electrical (Conduit Installs) - Headworks
- Branch (Wire Pulls, Boxes to Equip) - OPS
- I&C Branch (Wire Pulls, Boxes to Equip) - OPS
- Lighting - OPS
- I&C - Headworks
- Electrical SWBD
- Install Switchgear Equipment - OPS
- I&C - Odor Control System
- Check Out - Influent Screen System
- Install Vent and Piping for 10 ACU01 @ Control Room
- Install 10EUH01 @ Server Room
- Install Temperature Controls @ Server Room
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - OPS
- Tele/Data - OPS
- Remove Existing Hatch @ Screenings Bldg.
- Repair Concrete at Hatch @ Screenings Bldg.

➤ 20 – Administration Building

- New Electrical Service Connection
- Branch (Wire Pulls, Boxes to Equip) - ADMIN
- Install Switchgear Equipment - ADMIN
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - ADMIN
- Demo & Remove H&V-1 and EF-5 @ Admin Pump Room

- 25 – Chemical Feed
  - Electrical (Conduit Installs) - Chemical Systems
  - Power (Energization) - Chemical System
  - Check Out - Ferric Chloride Pumps
  - I&C - Chemical Systems
  - Check Out - Polymer Feed Pumps
- 29 – South Chemical Building
  - Excavate for Foundation
- 30 – Primary Sludge Pump Station
  - Electrical Equipment - Primary Sludge Lift Station
  - Electrical (Conduit Installs)- Primary Sludge Lift Station
  - Excavate & Install MAU Sona-tube Foundation
- 32 – Primary Effluent Pump Station
  - Backfill & Compact Buried PE Piping/Pump Cans
  - Install AG PE Piping Systems
- 40 – Aeration Basins
  - Install WAS-A Discharge Piping

Aeration Basin A3

  - Install MLR Pump Platform/Handrails @ A-3
  - Install RAS Pump Platforms @ A-3
  - Check Out A-3
  - Install Polymer Piping in Sedimentation Zone @ A-3
  - Electrical Conduit and Wire @ A3
  - Instrumentation Conduit and Wire @ A3
  - Install Handrail & Grating @ A-3

Aeration Basin A2

  - Install Rebar @ Baffle Wall @ Col 7 in A-2
  - Form @ Baffle Wall @ Col 7 in A-2
  - Place Concrete @ Baffle Wall @ Col 7 in A-2
  - Install Plate Settler Sections @ A-2
  - Install Submersible Mixers @ A-2
  - Install Chain & Flight Mechanisms @ A-2
  - Install Diffusers in A-2
- 50 – Return Sludge Pump Station
  - I&C - Return Sludge PS
  - Branch (Wire Pulls, Boxes to Equip) - Return Sludge PS
  - I&C Branch (Wire Pulls, Boxes to Equip) - Return Sludge PS
  - Electrical (Conduit Installs) - Return Sludge PS
  - Electrical Equipment (SWBD)
  - Power (Energization) - Return Sludge PS

- Install New Electrical Gear
- Install Switchgear Equipment - Return Sludge PS
- Lighting - Return Sludge PS
- Install New Electrical Gear
- New Duct Support Structure
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Return Sludge PS
- Demo & Remove H&V-3 in Pump Room
- Install SA Ductwork to Electrical Room
- 55 – Secondary Clarifiers
  - Selection & Award
- 55 – ML Splitter Box
  - Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box
  - I&C Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box
  - Electrical (Conduit Installs) - ML Splitter
  - Install AG ML Piping
- 60 – Effluent Filter Building
  - Electrical (Conduit Installs) - Effluent Filter
  - I&C - Effluent Filter - West
  - I&C - Effluent Filter - East
  - Branch (Wire Pulls, Boxes to Equip) - Effluent Filter
  - Startup West Side Filters
  - Remove Filter Media (East Side)
  - Prep Structural Steel (East Side)
  - Paint Structural Steel (East Side)
- 68 – Chlorination Building
  - Lighting - Chlorination
  - Electrical (Conduit Installs) - Chlorination
  - Power (Energization) - Chlorination
  - Branch (Wire Pulls, Boxes to Equip) - Chlorination
  - Install Switchgear Equipment - Chlorination
  - I&C Branch (Wire Pulls, Boxes to Equip) - Chlorination
  - Install EA Duct and Damper in Elec. Room
  - Install SA & OSA Ductwork in Elec. Room
  - Instrumentation (Fiber Pulls, Termination of Instrumentation) - Chlorination
  - Install Condensate Drain Line in Elec. Room
  - Install 68EHU01 & 02 in Elec. Room
  - Install TW Piping System in Basement
- 70 – Electrical Building
  - Install Switchgear Equipment - Electrical Building



	<ul style="list-style-type: none"> <li>• Repair/rework Electrical Building Slab</li> <li>• Electrical Equip Install</li> <li>• Instrumentation (Fiber Pulls, Termination of Instrumentation) - Electrical Building</li> <li>• Install Temperature Controls</li> <li>• I&amp;C - Electrical Building</li> <li>• Branch (Wire Pulls, Boxes to Equip) - Electrical Building</li> <li>• Lighting - Electrical Building</li> <li>• I&amp;C Branch (Wire Pulls, Boxes to Equip) - Electrical Building</li> <li>➤ <u>71 - Generator</u> <ul style="list-style-type: none"> <li>• Install Generator Electrical - Generator Set</li> <li>• Grounding - Generator Set</li> </ul> </li> </ul>
7.	<p>During September 2015, the following construction activities are planned:</p> <ul style="list-style-type: none"> <li>➤ <u>04 - Yard Pipe</u> <ul style="list-style-type: none"> <li>• Sawcut &amp; Remove Paving for Site Drainage Items</li> </ul> </li> <li>➤ <u>06 - Site Electrical</u> <p>Ductbank</p> <ul style="list-style-type: none"> <li>• Pull &amp; Term Site Elec Low Voltage</li> <li>• Relocate Existing Ductbanks @ Elec. Bldg./Generator</li> </ul> <p>Ductbank 44</p> <ul style="list-style-type: none"> <li>• Excavate @ DB-44</li> <li>• Install Conduit @ DB-44</li> <li>• Install Bedding Material &amp; Concrete Cap @ DB-44</li> <li>• Backfill &amp; Compact @ DB-44</li> </ul> <p>Ductbank 52 &amp; 53</p> <ul style="list-style-type: none"> <li>• Backfill &amp; compact @ DB-52 &amp; DB-53</li> </ul> </li> <li>➤ <u>10 - Ops/Head works</u> <ul style="list-style-type: none"> <li>• Check Out - Influent Pump</li> <li>• Lightning Protection - OPS</li> <li>• Install New 1" Gas Line to HVAC Unit @ Screenings Bldg.</li> <li>• Field Test - Influent Pump</li> <li>• SCADA Testing - Influent Pump</li> <li>• Headworks MCC Mods</li> </ul> </li> </ul>

- Demo Existing Influent Flow Meter
- Install New Influent Flow Meter

➤ 20 – Administration Building

- New Electrical Service Connection
- Branch (Wire Pulls, Boxes to Equip) - ADMIN
- Install Switchgear Equipment - ADMIN
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - ADMIN
- Install Foul Air Ductwork
- Remove and Replace Mist Eliminator
- I&C - Admin
- Mechanical (Terminations at Drive Equip.) - ADMIN
- Tele/Data - ADMIN

➤ 22 – Grit Chambers

- Electrical (Conduit Installs) - Grit Chamber
- Branch (Wire Pulls, Boxes to Equip) - GRIT CHAMBER
- I&C - Grit Chamber
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - GRIT CHAMBER

➤ 25 – Chemical Feed

- Electrical (Conduit Installs) - Chemical Systems
- Power (Energization) - Chemical System
- Check Out - Ferric Chloride Pumps
- I&C - Chemical Systems
- Check Out - Polymer Feed Pumps
- Mechanical (Terminations at Drive Equip.) - Chemical System
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Chemical System
- Tele/Data - Chemical System

➤ 29 – South Chemical Building

- Excavate for Foundation
- Install Drain line to Nearest Manhole
- FRP Sump Slab
- FRP Base Slab
- FRP Containment Walls
- FRP Stairs
- Install Chemical Feed Pumps
- Install Handrail
- Install Sump Mud Valve
- Install Grating @ Sump

- Install Piping in and around Chemical Pumps
- Electrical (Conduit Installs) - S Chemical
- Install Chemical Totes
- Install Emergency Eyewash/Shower
- Re-grade Area Around South Chemical Facility
- Install PVC GLY Piping from Discharge Point to Aeration Tanks
- Branch (Wire Pulls, Boxes to Equip) - S. Chemical

➤ 30 – Primary Sludge Pump Station

- Electrical Equipment - Primary Sludge Lift Station
- Electrical (Conduit Installs)- Primary Sludge Lift Station
- Install Temperature Controls
- Startup Primary Sludge Pump Station HVAC

➤ 32 – Primary Effluent Pump Station

- Install AG PE Piping Systems
- Install New PE Pumps
- Electrical (Conduit Installs) for New Pump
- Branch (Wire Pulls, Boxes to Equip) - Primary Effluent Pump Station

➤ 40 – Aeration Basins

- Install WAS-A Discharge Piping
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Aeration Basin
- Branch (Wire Pulls, Boxes to Equip) - Aeration Basin
- Mechanical (Terminations at Drive Equip.) - Aeration Basin

Aeration Basin A3

- Install MLR Pump Platform/Handrails @ A-3
- Check Out A-3
- Install Polymer Piping in Sedimentation Zone @ A-3
- Electrical Conduit and Wire @ A3
- Instrumentation Conduit and Wire @ A3
- Install Handrail & Grating @ A-3
- Equipment Terminations @ A-3
- MCOPI MLR Pump - A3
- Field Test MLR Pump - A3
- SCADA Test MLR Pump - A3

Aeration Basin A2

- Install Rebar @ Baffle Wall @ Col 7 in A-2
- Form @ Baffle Wall @ Col 7 in A-2
- Place Concrete @ Baffle Wall @ Col 7 in A-2
- Install Plate Settler Sections @ A-2
- Install Chain & Flight Mechanisms @ A-2

- Install Diffusers in A-2
- Install Handrail & Grating @ Sedimentation Zone @ A-2
- Strip Forms @ MLR Closure in A-2
- Install 2" Fiber Reinforced Grout Infill in Sedimentation Zone @ A-2
- Install MLR Pump Platform/Handrails @ A-2
- Install PA Header in A-2 (excluding Area in Sedimentation Zone)
- Install PA Drops to Diffusers in @ A-250 – Return Sludge Pump Station
- Install SA Ductwork to Electrical Room
- Install Temperature Controls @ Electrical Room
- Install SA Duct in Hallway
- Install 50EHU01 & 02 in Electric Room
- Install Temperature Controls in Pump Room
- Insulate SA Ductwork
- Startup & Test New Process Air Blower
- Startup & Test HVAC System @ RAS Building
- 55 – Secondary Clarifiers
  - Bid Evaluations & Selection
- 55 – ML Splitter Box
  - Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box
  - I&C Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box
  - Electrical (Conduit Installs) - ML Splitter
  - Install AG ML Piping
  - Check Out Mixed Liquor Sample Pump - ML Splitter Box
  - Field Test Mixed Liquor Sample Pump - ML Splitter Box
  - I&C - ML Splitter
  - SCADA Test Mixed Liquor Sample Pump - ML Splitter Box
  - Mechanical (Terminations at Drive Equip.) - ML Splitter Box
  - Instrumentation (Fiber Pulls, Termination of Instrumentation) - ML Splitter Box
- 60 – Effluent Filter Building
  - Electrical (Conduit Installs) - Effluent Filter
  - I&C - Effluent Filter - West
  - I&C - Effluent Filter - East
  - Branch (Wire Pulls, Boxes to Equip) - Effluent Filter
  - Startup West Side Filters
  - Remove Filter Media (East Side)
  - Prep Structural Steel (East Side)
  - Paint Structural Steel (East Side)
  - Mechanical (Terminations at Drive Equip.) - Effluent Filter

- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Effluent Filter
- Tele/Data - Effluent Filter

➤ 68 – Chlorination Building

- Lighting - Chlorination
- Electrical (Conduit Installs) - Chlorination
- Power (Energization) - Chlorination
- Branch (Wire Pulls, Boxes to Equip) - Chlorination
- Install Switchgear Equipment - Chlorination
- I&C Branch (Wire Pulls, Boxes to Equip) - Chlorination
- Install EA Duct and Damper in Elec. Room
- Install SA & OSA Ductwork in Elec. Room
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Chlorination
- Install Condensate Drain Line in Elec. Room
- Install 68EHU01 & 02 in Elec. Room
- Install TW Piping System in Basement
- Prep & Paint @ Bisulfite Room
- Tele/Data - Chlorination
- Mechanical (Terminations at Drive Equip.) – Chlorination

➤ 70 – Electrical Building

- Install Switchgear Equipment - Electrical Building
- Repair/rework Electrical Building Slab
- Electrical Equip Install
- Instrumentation (Fiber Pulls, Termination of Instrumentation) - Electrical Building
- Install Temperature Controls
- I&C - Electrical Building
- Branch (Wire Pulls, Boxes to Equip) - Electrical Building
- Lighting - Electrical Building
- I&C Branch (Wire Pulls, Boxes to Equip) - Electrical Building
- Power (Energization) - Electrical Building
- Mechanical (Terminations at Drive Equip.) - Electrical Building

➤ 71 – Generator

- Install Generator Electrical - Generator Set
- Grounding - Generator Set
- Start Up and Test - Switchgear/Generator

➤ Startup & Commissioning

- Electrical Study
- Arch Flash Study



# **Woonsocket WWTF DBO Project**

**DBO Contractor's Monthly Progress Report August 27, 2015**

**CH2M HILL Engineers, Inc.**

## **Operations**

**Facilities Manager:**

**Jim Lauzon**

**Lead Operator:**

**Nick DeGemmis**

## **Monthly Reporting**

---

# WOONSOCKET REGIONAL WASTEWATER COMMISSION

---

MONTHLY FACILITY OPERATING REPORT

JULY 2015





MONTHLY FACILITY OPERATING REPORT - JULY 2015  
WOONSOCKET REGIONAL WASTEWATER COMMISSION

CH2M

PREPARED FOR: Adel Banoub  
City of Woonsocket  
COPY TO: Kevin Dahl

PREPARED BY: James Lauzon  
DATE: August 15, 2015

Enclosed are the monthly operating reports for the Woonsocket Regional Wastewater Facility for the Month of July 2015.

## Safety Summary

There were no injuries that occurred during the month of July. The staff receives safety training on a weekly basis. The team has gone thirty-four (34) months without an OSHA recordable injury.

TABLE 1  
**Woonsocket WWTP Safety Performance and Training – July 2015**  
*Training hours, Incident Summary*

	Month	Year To Date
Safety Training Hours	16.5	16.5
Reportable Incidents	0	0
OSHA Recordable Incidents	0	0

## Compliance and Operations Summary

The facility had a Monthly Total Phosphorus violation in July. These were attributable to several significant temperature swings in the side stream. There was also a daily maximum fecal coliform violation. It was attributable to our inability to clean the chlorine contact tanks without shutting the Synagro facility down in the process. The monthly performance is summarized in Table 2. The Table 3 summarizes the monthly loadings.

TABLE 2  
**Woonsocket WWTP Wastewater Compliance – July 2015**  
*Final Effluent, Parameter, Permit Limits*

Parameter (mg/L)	Monthly Average	Monthly Limit	Daily Maximum	Daily Limit	Percent Removal	
TSS	6	30	16	50	88	
Total N	6.8	10	9.5	--	--	
Total P	2.2	1.0	--	--	--	
CBOD	3	30	6	50	95	
pH (su)	6.7*		7.4	6-9	--	
TRC ug/l	9	56	45	97	--	
Fecal (MPN)	4	200	850	400	--	

\*Minimum

### Operations Activities:

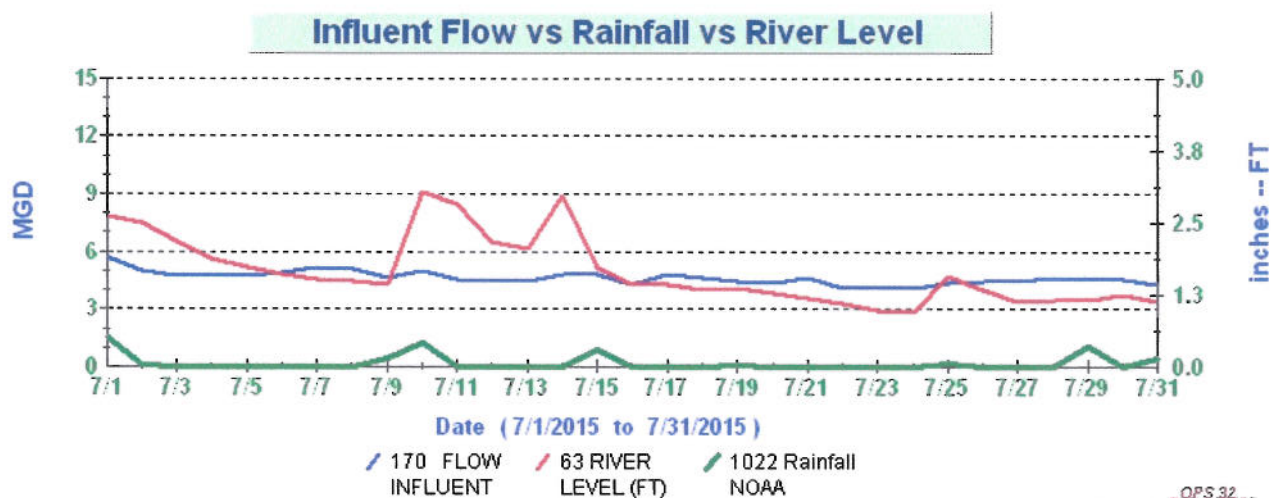
- Coordination with Engineers on upgrade design and operational impacts
- Operators collected numerous samples from Synagro's operations to test for cyanide.
- Assisting with various construction coordination issues.

TABLE 3

**Woonsocket WWTP Wastewater Loadings – July 2015**  
**Influent, Parameter, Design and Actual Average Loadings**

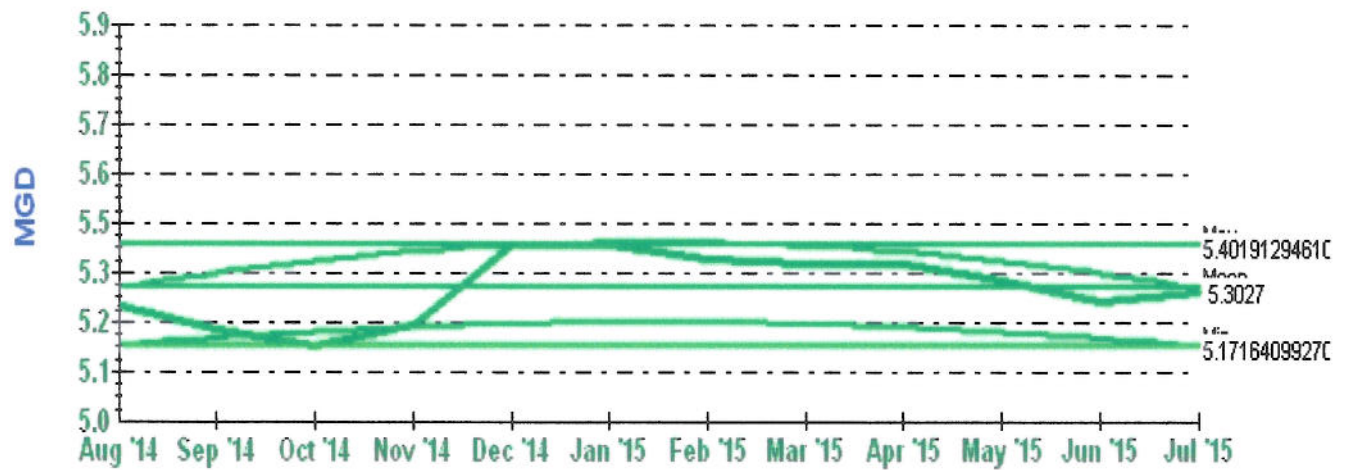
Parameter	Design Capacity	Actual Loadings	Percent of Design Capacity
Flow (MGD)	16	4.6	29%
TSS (lbs/d)	16,013	18,305	114.3%
BOD (lbs/d)	21,350	13,797	64.6%

### Operations Graphs:



OPS 32  
WOONSOCKET  
CH2MHILL Influent Flow vs Rainfall vs River L

### 12 Month Moving Avg Flow (max-min)

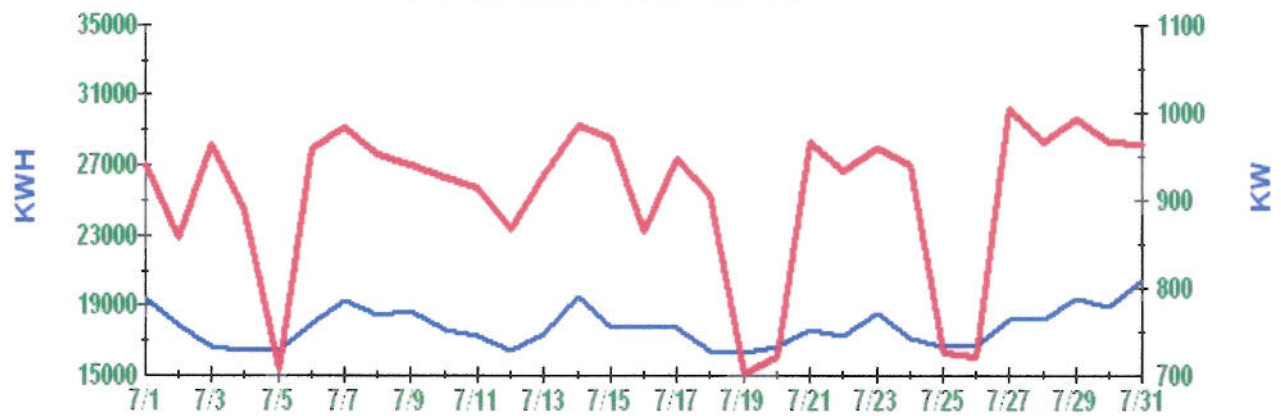


Date (8/1/2014 to 7/31/2015)

1104 Monthly Moving Average Influent FI (Mo Max)

OPS 32  
WOODS CREEK  
CH2MHILL 12 Month Moving Avg Influent Flow

### Daily Electric Meter



Date (7/1/2015 to 7/31/2015)

549 Meter Daily Electric Usage 689 KW Demand

OPS 32  
WOODS CREEK  
CH2MHILL Daily Electric Meter

TABLE 4

**Woonsocket WWTP Solids Handling – July 2015***Volume Removed or Wasted*

Parameter	June 2015	July 2015
Secondary Sludge (to GT) MG	2.75	3.97
Primary Sludge (to SHT) MG	3.18	2.80
Total Gallons Pumped to Synagro MG	5.93	6.77

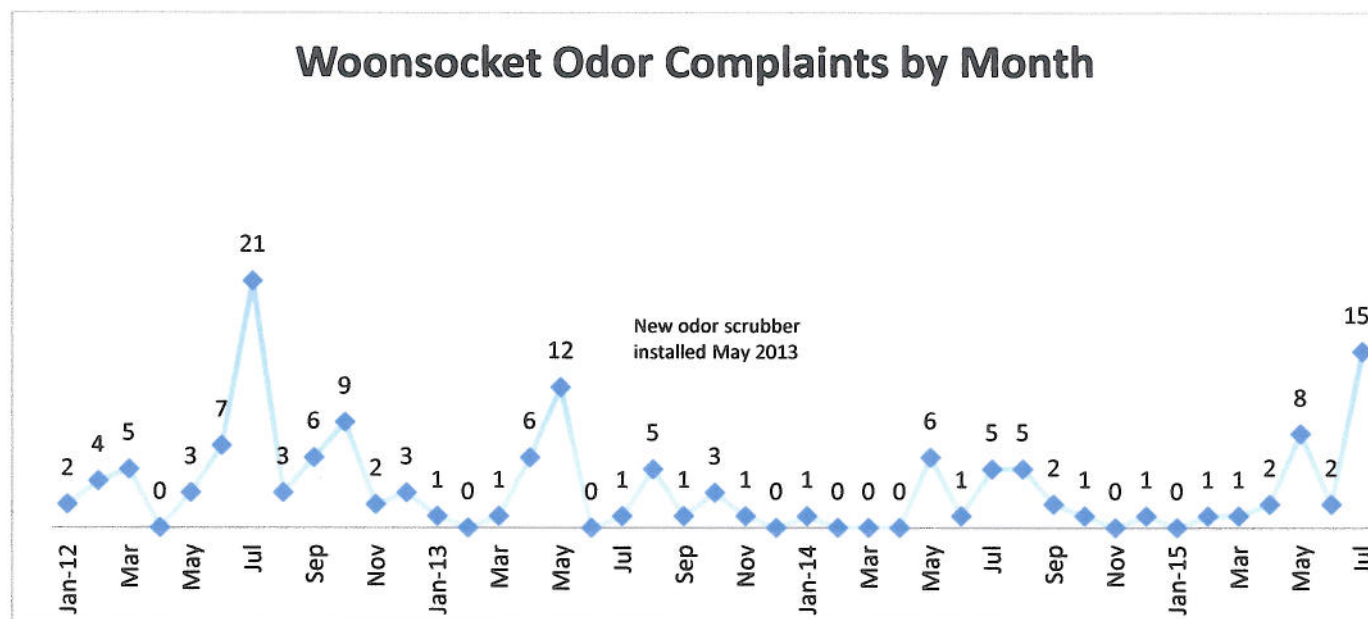
TABLE 5

**Woonsocket WWTP Chemical Management – July 2015***Quantity Used*

Chemical	July 2015
Sodium Hypochlorite (disinfection), gallons	8,203
Sodium Bisulfite (dechlorination), gallons	3,972
Ferric Chloride (P removal), gallons	9,200
Lime (P removal, alkalinity), pounds	18,000
Defoamer (foam removal in effluent), gallons	419

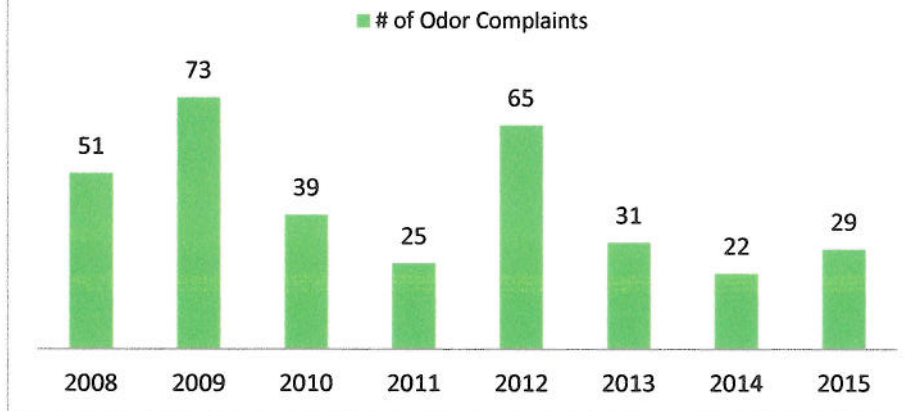
**Odor Summary**

The facility received fifteen odor complaints in July. CH2M HILL meets with the City and Synagro on a weekly basis to coordinate operations and to discuss odor and noise complaints and the related causes, facility upgrade issues and any other issues that arise.





## Woonsocket Odor Complaints by Year



### Maintenance Summary

Table 6 summarizes the completed work orders, labor hours and backlog hours. The maintenance report attachments contain more detail. Table 7 summarizes the repair and replacement activities.

#### Equipment Out of Service:

- Nitrate Recycle Pumps are not being run (only 2 is available)
- All equipment in Aeration Basins 4, 5 and 6 demolished for the upgrade.
- Gravity thickener old scrubber demolished.

TABLE 6

#### Woonsocket WWTP Maintenance Work Orders – July 2015

Work Order Type

Summary	Reg. Emp. Hours	Overtime Emp. Hours	Total Emp. Hours	Total number of completed Work Orders	Backlog work Order Hours	Backlog Priority 1 Work Order	Ending Number of Backlog Work Orders
Totals	218.17	36.6	244.77	199	43.4	5.4	42

#### Maintenance Activities:

- Replaced the inner working parts on all 3 sodium hypochlorite pumps.
- Adjusted the alignment on #3 sand filter traveling bridge.
- Removed a blockage from the WAS line.
- Installed an automatic sprayer system on both primary clarifier scum troughs.
- **Maintenance Activities for upcoming month:**
  - Replace main gate controller
  - Replace motor starter for grit blower #2.
  - Complete annual VFD cleaning PM.

**Contract Year 03 Repair and Replacement Costs (Invoice Dates between 07/01/14-06/30/15) FINAL**

Description	WO (s)	Estimated Cost	Actual Costs	Status	Completion Date	Invoice Number	Invoice Date
Diamond Hill Pumps	WOO-464255	\$ 35,000.00	\$ 29,216.73	Complete	9/15/2014	381004785	9.23.14
Plant water pump	WOO-528901	\$ 11,000.00	\$ 10,613.80	Complete	8/19/2014	381004614	09.22.14
Admin HVAC Repairs	WOO-621761	\$ 11,000.00	\$ 10,620.00	Complete	2/6/2015	381021642	03.09.15
Subtotal			\$ 50,450.53				
CY02 Carryover			\$ 66,350.56				
CY03 Budget			\$ 203,959.90				
Total Budget			\$ 270,310.46				
Cap Remaining			\$ 219,859.93				

**Contract Year 04 Repair and Replacement Costs (Invoice Dates between 07/01/15-06/30/16)**

Description	WO (s)	Estimated Cost	Status	Completed Date	Invoice Number	Invoice Date
RAS HVAC Repairs	WOO-522575	\$ 23,000.00	Completed	5/13/2015		
#4 RAS Pump Rebuild	WOO-692465	\$ 36,300.00	In Progress			
Hypochlorite skid	WOO-749150	\$ 21,264.00	Approved			
Subtotal		\$ 80,564.00				
CY03 Carryover		\$ 219,859.93				
CY04 Budget		\$ 204,843.70				
Total CY 04 Budget		\$ 424,703.63				
Cap Remaining		\$ 344,139.63				

---

## **Personnel Summary**

### **Personnel Activities:**

- Regional support (Operations, Maintenance and Laboratory) on site as needed for support.
- Fully staffed.

## **Community Involvement**

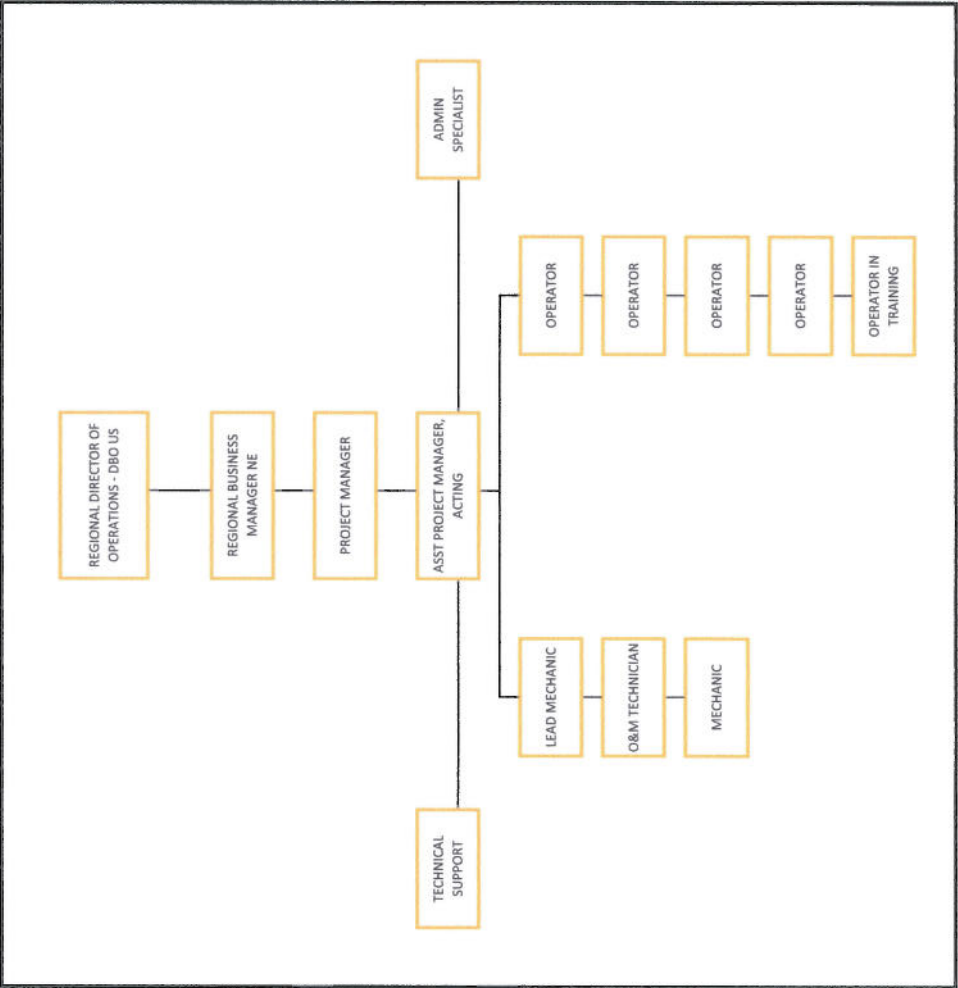
- Administrative support for RiverzEdge.

### **Attachments**

- CH2M HILL Woonsocket Organizational Chart
- July 2015 Personnel Training Report
- July 2015 DMR / MOR
- July 2015 Odor Report
- July 2015 Completed Work Order Report

CERTIFICATIONS/LICENSES

WW STATE CDL OTHER  
CERT CERTIFIED



ADMINISTRATION		REGIONAL DIRECTOR OF OPERATIONS - DBO US		REGIONAL BUSINESS MANAGER - NE		PROJECT MANAGER		ASST PROJECT MGR, ACTING		ADMIN SPECIALIST	
DENNIS BURRELL				KEVIN DAHL	IV	RI, CT		JAMES LAUZON	IV, 7C	RI, MA	
								NICHOLAS DE GEMMIS	III	RI, CT	
								JOYCE SMITH-CORRENTE	I	RI	

MAINTENANCE/ OPERATIONS		LEAD MECHANIC		MECHANIC		O&M TECHNICIAN		OPERATOR		OPERATOR		OPERATOR		OPERATOR- IN-TRAINING	
KYLE ARNOLD	II	RI		TOM SEDERBACK	II	RI		MICHAEL HODDE	II	RI		SHAWN MURPHY	II	RI	
								STEVE GAUVIN	II	RI		WAYNE SANTOS	II	RI	
								ANTHONY ROSE	I	RI		CORY SEDERBACK	I	RI	

TECHNICAL SUPPORT		ADMINISTRATION		INSTRUMENTATION		MAINTENANCE		OPERATIONS		LAB		COMPLIANCE			
DAN STARK	IV	MS		KIM KILPATRICK	IV	AR		CARLOS GONZALEZ	5C	MA		MARIBETH WINTERCORN	IV	WI	
				PAUL HORGAN				MARY ANNE ROUSH				JEFF HEROUX	7C	MA	



Date	Training Type	Safety - Training Type	Training Hours	OSHA/ CH2M Required Training	Cross Dept Training	Location	Training Topic/Description	Arnold, Kyle	Hodde, Michael 6746HODD	Murphy, Shawn 4813MURP	Santos, Wayne 0018SANT	Smith Corrente, Joyce 7720SMIT	Sederback, Thomas 0836SEDE	Lauson, James 6750LAUZ	DeGemmi, Nick 3776DEGE	Sederback, Corey	Rose, Anthony	Gauvin, Steven
7.6.15	2 - Quality		1.00			WWTF WOO - Adm	Workplace Harassment							1.00				
7.17.15	1 - Safety		0.50			WWTF WOO - Adm	Office Safety					0.50						
7.14.15	3 - Technical		5.00			WWTF WOO - Adm	Envision ISI Certification Examination					5.00						
7.22.15	1 - Safety		5.00			Gano St., Providence	1st Aid / CPR / AED							5.00				
7.31.15	1 - Safety		5.00			WWTF WOO - Break Rm	Work Alone Standard	1.00	1.00			1.00	1.00		1.00			
Total			16.50					1.00	1.00	0.00	0.00	6.50	1.00	6.00	1.00	0.00	0.00	0.00



# Woonsocket WWTF DBO Project

## DBO Contractor's Monthly Progress Report August 27, 2015

CH2M HILL Engineers, Inc.

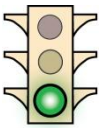
## Health and Safety

Health and Safety Manager:  
Safety Coordinator:

Steve Wehrspann  
Matthew Killam

## Summary

### Schedule

	Project Days Away / Restricted Time Incident Rate (DART)- 0.00
	Project Total Recordable Incident Rate (TRIR) - 0
	Industry Average DART (2014) - 2.0
	Industry Average TRIR (2014) - 3.7
	PJTD Man-hours -60,958 - through August 24, 2015

## Accomplishments and Current Activities

### Health and Safety

Safety Committee	<ul style="list-style-type: none"><li>The Safety Committee meeting was held on July 24<sup>th</sup>.</li></ul>
Mass Monthly Safety Meeting	<ul style="list-style-type: none"><li>Monthly Mass Safety Meeting is scheduled for Aug. 27, 2015, at 12:30 pm outside of the RAS building, northwest side.</li></ul>
Safety Orientation	<ul style="list-style-type: none"><li>A total of 221 employees have been through the site orientation, this includes CH2MHILL Operations staff members.</li></ul>
Excellence in Safety Program Implementation	<ul style="list-style-type: none"><li>The project team and subcontractors continue to implement the program. Housekeeping and general safety have continued to improve in recent months. A Value Based Safety Training for all Subcontractors Foreman and upper management was held on August 4, 2015.</li><li>There was one near miss involving a driver unloading conduit from a delivery truck.</li></ul>
Miscellaneous Safety related Meetings	<ul style="list-style-type: none"><li>A site safety audit was conducted on August 4, 2015. The audit was conducted by Steve Wehrspann.</li></ul>



# Woonsocket WWTF DBO Project

## DBO Contractor's Monthly Progress Report August 27, 2015

CH2M HILL Engineers, Inc.

### QA Summary

QA Manager:

Katie Chamberlain

3<sup>rd</sup> Party Inspector:

3<sup>rd</sup> Party Staff

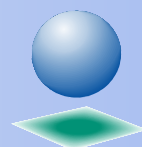
### Quality Assurance

Quality Activities:	<ul style="list-style-type: none"><li>Coordinated the following Inspections:<ul style="list-style-type: none"><li>Special Inspections by 3<sup>rd</sup> Party Inspector:<ul style="list-style-type: none"><li>Facility 32: compaction testing at PEPS around new wetwell (onsite sandy gravel) and compaction testing in area of slab to be poured at PEPS pump can pipe supports (dense grade) – all compaction tests were acceptable.</li></ul></li><li>City Inspections:<ul style="list-style-type: none"><li>None</li></ul></li></ul></li><li>CH2M HILL Engineer Observations:<ul style="list-style-type: none"><li>Facility 10/Ops and 68/Chlorination Bldg: preparing for leak testing of refrigerant piping on ACUs. Clarifications of the specification are being discussed with the engineer. Piping has held at ~500 psi for over two weeks.</li><li>Facility 29/South Chem: observed pour of concrete curb</li><li>Facility 32/PE PS – after doing a final repair of the PEPS wetwell at the southeast corner by filling in the ~3" gap between new wetwell and existing concrete, the wetwell was leak tested over 5-day period; PASSED the liquid tightness test. After passing the test, pipe was connected and backfill continued in the area. Observed backfilling around wetwell and around PE pipe supports. Observed rebar and formwork for slab at PE pipe supports and concrete pour. Observed flange connections of PE piping from pump cans to basins. Observed painting of PE piping.</li><li>Facility 40/Aeration Basins – finishing work in basins continues – primarily concrete finishing work related to honeycombing, holes, cracks, smoothing out fins and removing metals. Leak tested the process air piping running in the channel between basins A2 and A3. Leak tested polymer all piping in basin A3. Leak tested all RAS piping in basin A3. Observed painting of RAS piping.</li></ul></li></ul>
---------------------	---

	<ul style="list-style-type: none"> <li>➤ Facility 60/Filter Building – Observed removing of old media from filter beds 1 and 2 and filling of support media in bed #1 to ensure filled to correct depth. Observed painting of metal framework inside the building.</li> </ul>
<b>Quality Issues:</b>	<ul style="list-style-type: none"> <li>• Addressing Facility 40 Basin A3 punch structural punch list items with Carlin primarily related to finished concrete wall quality</li> </ul>
<b>Non-Conformances :</b>	None issued. All previous NCRs closed.

# Construction Photos

August 27, 2015  
Project No. 439646



**CH2MHILL**



# Construction Photos

Figures 1-3:  
Conduit and Controls at  
Basin A3





# Construction Photos



Figures 4-7:  
Ductbank Progression at  
PE Pump Station



# Construction Photos



Figures 8-13:  
PEPS  
Concrete





# Construction Photos

Figures  
14-16:  
Flow  
Meter  
Manhole





# Construction Photos

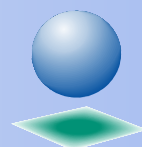


Figures 17-19:  
Switchgear Pre-Commissioning



# **Master Schedule – Look Ahead**

**August 27, 2015**  
**Project No. 439646**



**CH2MHILL**





Woonsocket Construction (Working Schedule)		Woonsocket 60 Day Look Ahead Layout (Com							24-Aug-15 08:14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Activity ID	Activity Name		Original Duration	Remaining Duration	Duration % Complete	Start	Finish	Total Float	2015												2016																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
									Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
05.09660	Backfill & compact @ DB-52 & DB-53		1	0	70%	25-Mar-15 A	19-Aug-15	-29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												





Woonsocket Construction (Working Schedule)			Woonsocket 60 Day Look Ahead Layout (Com							24-Aug-15 08:14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Activity ID	Activity Name		Original Duration	Remaining Duration	Duration % Complete	Start	Finish	Total Float	2015												2016																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
									Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	05.71860	SCADA Testing - Ferric Chloride Pumps	1	1	0%	19-Aug-15	19-Aug-15	63																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

Woonsocket Construction (Working Schedule)			Woonsocket 60 Day Look Ahead Layout (Com						24-Aug-15 08:14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Activity ID	Activity Name	Original Duration	Remaining Duration	Duration % Complete	Start	Finish	Total Float	2015												2016																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
								May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	05.30230	Install Interior Ductwork	2	2	0%	28-Aug-15	31-Aug-15	39																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				





Woonsocket Construction (Working Schedule)			Woonsocket 60 Day Look Ahead Layout (Com						24-Aug-15 08:14																							
Activity ID	Activity Name		Original Duration	Remaining Duration	Duration % Complete	Start	Finish	Total Float	2015												2016											
									r	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
	05.71480	SCADA Test Submersible Mixer - A2	1	1	0%	09-Oct-15	09-Oct-15	16																								
	05.71490	SCADA Test Chain and Flight - A2	1	1	0%	09-Oct-15	09-Oct-15	16																								
	Return Sludge PS		310	74	76.19%	23-Jun-14 A	30-Nov-15	12																								
	No Equipment		310	74	76.19%	23-Jun-14 A	30-Nov-15	12																								
	05.50	Return Sludge PS	301	71	76.47%	23-Jun-14 A	30-Nov-15	12																								
	05.50160	I&C - Return Sludge PS	10	3	72%	02-Feb-15 A	12-Oct-15	-29																								
	05.50161	Branch (Wire Pulls, Boxes to Equip) - Return Sludge PS	40	14	65%	02-Feb-15 A	02-Oct-15	-37																								
	05.50162	I&C Branch (Wire Pulls, Boxes to Equip) - Return Sludge PS	10	3	68%	02-Feb-15 A	08-Oct-15	-29																								
	05.50150	Electrical (Conduit Installs) - Return Sludge PS	60	7	88%	26-Mar-15 A	14-Sep-15	-37																								
	05.50180	Electrical Equipment (SWBD)	20	2	90%	01-Apr-15 A	14-Sep-15	5																								
	05.50155	Power (Energization) - Return Sludge PS	1	0	65%	01-Apr-15 A	05-Oct-15	-37																								
	05.50256	Install New Electrical Gear	20	2	90%	01-Apr-15 A	20-Aug-15	22																								
	05.50156	Install Switchgear Equipment - Return Sludge PS	21	3	88%	03-Apr-15 A	08-Oct-15	-37																								
	05.50154	Lighting - Return Sludge PS	1	0	55%	20-Apr-15 A	05-Oct-15	-37																								
	05.50260	Install New Electrical Gear	15	3	80%	01-Jul-15 A	21-Aug-15	-29																								
	05.50680	Install SA Ductwork to Electrical Room	5	5	10%	03-Aug-15 A	28-Aug-15	57																								
	05.50280	Demo & Remove Existing Control Panel	2	2	0%	19-Aug-15	20-Aug-15	15																								
	05.50350	Relocate Electrical Panels & conduits on Int. Wall	5	5	0%	19-Aug-15	25-Aug-15	13																								
	05.50430	Demo & Remove Electrical Room Exhaust Fan	1	1	0%	19-Aug-15	19-Aug-15	63																								
	05.50470	Install Fire Extinguishers	1	1	0%	19-Aug-15	19-Aug-15	77																								
	05.50610	Install SA & OSA Ductwork in Pump Room	5	5	0%	19-Aug-15	25-Aug-15	59																								
	05.50620	Reconnect HWS & HWR to 50MAU01	2	2	0%	19-Aug-15	20-Aug-15	62																								
	05.50640	Install 50EXF01 on Roof	2	2	0%	19-Aug-15	20-Aug-15	62																								
	05.50760	Demo & Remove Existing Hoffman Blower No. 2	3	3	0%	19-Aug-15	21-Aug-15	16																								
	05.50550	Demo & Remove Blower Control Panel Pad	1	1	0%	21-Aug-15	21-Aug-15	15																								
	05.50710	Install Temperature Controls @ Electrical Room	5	5	0%	21-Aug-15	28-Aug-15	62																								
	05.50630	Install Temperature Controls in Pump Room	5	5	0%	26-Aug-15	01-Sep-15	59																								
	05.50740	Install SA Duct in Hallway	1	1	0%	27-Aug-15	28-Aug-15	62																								
	05.50690	Install 50EHU01 & 02 in Electric Room	2	2	0%	28-Aug-15	01-Sep-15	60																								
	05.50700	Insulate SA Ductwork	5	5	0%	28-Aug-15	04-Sep-15	57																								
	05.50590	Startup & Test New Process Air Blower	5	5	0%	31-Aug-15	04-Sep-15	10																								
	05.50750	Startup & Test HVAC System @ RAS Building	5	5	0%	04-Sep-15	14-Sep-15	57																								
	05.50720	Re-balance HW System	2	2	0%	14-Sep-15	16-Sep-15	57																								
	05.50730	Re-balance H&V-2 System	2	2	0%	16-Sep-15	18-Sep-15	57																								
	05.50157	Mechanical (Terminations at Drive Equip.) - Return Sludge PS	9	9	0%	08-Oct-15	21-Oct-15	-37																								
	ML Splitter Box		176	95	46.08%	28-Apr-15 A	29-Dec-15	-9																								
	No Equipment		176	95	46.08%	28-Apr-15 A	29-Dec-15	-9																								
	05.55	Mixed Liquor Splitter box	170	91	46.53%	28-Apr-15 A	29-Dec-15	-8																								
	05.55123	Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box	3	2	35%	28-Apr-15 A	01-Sep-15	16																								
	05.55124	I&C Branch (Wire Pulls, Boxes to Equip) - ML Splitter Box	2	1	35%	28-Apr-15 A	31-Aug-15	11																								
	05.55120	Electrical (Conduit Installs) - ML Splitter	10	7	35%	28-Apr-15 A	28-Aug-15	11																								
	05.55110	Install AG ML Piping	3	0	90%	04-Aug-15 A	19-Aug-15	-43																								
	05.55150	ML Return Core Hole	1	1	0%	19-Aug-15	19-Aug-15	11																								
	05.71950	MCOPI Mixed Liquor Sample Pump - ML Splitter Box	5	5	0%	19-Aug-15	25-Aug-15	14																								
	05.71960	Check Out Mixed Liquor Sample Pump - ML Splitter Box	15	15	0%	19-Aug-15	08-Sep-15	14																								
	05.71970	Field Test Mixed Liquor Sample Pump - ML Splitter Box	5	5	0%	26-Aug-15	01-Sep-15	14																								
	05.55130	I&C - ML Splitter	5	5	0%	31-Aug-15	08-Sep-15	11																								
Remaining Level of Effort			Actual Work		Critical Remaining Work																											
Actual Level of Effort			Remaining Work		◆		◆																									



