



1.5

**TOWNSEND WATER DEPARTMENT**  
540 Main Street West Townsend, Massachusetts 01474

Nathan Mattila, Chairman  
David Vigeant, Superintendent

Todd Melanson, Vice-Chairman  
(978) 597-2212

Michael MacEachern, Clerk  
Email [water@townsendwater.org](mailto:water@townsendwater.org)

**WATER COMMISSIONERS MEETING MINUTES**

**April 12, 2021 – 6:00 P.M.**

**Water Department 540 Main Street, Meeting Room**

**NOTE REGARDING ACCESS AND PARTICIPATION**

Governor Baker declared a State of Emergency to respond to COVID-19 on March 10, 2020 and ordered a suspension of certain provisions of the Open Meeting Law M.G.L. c. 30A, s 20 on March 12, 2020. The Board of Selectmen closed the town offices, including boards and committee meetings consistent with the Governor's March 12th order, to public access to promote social distancing and reduce the spread of COVID-19. The Board of Water Commissioner's meetings will not be open to the public for physical attendance until further notice. The meeting will be available on Zoom.

<https://us02web.zoom.us/j/83351713260?pwd=a3o0M25QNUZVSUdGYTRDVk0zQT09>

**Meeting ID: 83351713260 Password: 086243 Log on Monday April 12, 2021 at 6:00 P.M. to participate.**

**I. PRELIMINARIES:**

- 1.1 NM called the meeting to order at 6:02 P.M.
- 1.2 NM announced that the meeting is being recorded on Zoom.
- 1.3 Roll showed Members Present: Nathan Mattila (NM)-Chairman, Todd Melanson (TM)-Vice Chairman. Michael MacEachern (MM)-Clerk. Citizens Present: David Vigeant (DV)-Water Superintendent, and Brenda Boudreau, Office Manager.
- 1.4 Chairman's additions or deletions. None.
- 1.5 Approve Meeting Minutes of February 1, 2021. **TM motioned to accept the meeting minutes of February 1, 2021. MM seconded TM and NM voted to accept. MM abstained as he was absent for that meeting.**
- 1.6 Review correspondence. None

**II. APPOINTMENTS-VOTES MAY BE TAKEN**

2.1

**III. MEETING BUSINESS-VOTES MAY BE TAKEN:**

- 3.1 Update/Discuss Cross Charge Agreement. DV informed the board that the cross-charge agreement charged the department 8.1% last year and is slated two additional increases over the next two years. After a brief discussion, the board requested DV to set up a joint meeting with the BOS and to ask for the breakdown of charges for the board to review before the meeting.
- 3.2 Discuss/Review Master Plan. DV reported that the Master Plan was received by Tighe & Bond today. TM asked if all the changes that DV requested were updated in the report. DV confirmed that the Master Plan had been updated to his specifications. **TM motioned to accept Tighe & Bond Master Plan for the Townsend Water Department. MM seconded. Unanimous vote.**
- 3.3 Update/Discuss PFAS testing. DV informed the Board that PFAS testing went well but the sample from the Harbor Trace station test above the limit. The operating staff is going to retest. TM recommended gather information about PFAS to add to our web page and to prepare a notice in the event we would need to notify the public. The Board requested to view the plans from DEP.
- 3.4 Review/Discuss Summer Intern Program. DV explained to the Board that he has funded the summer help position. DV intends for the summer staff to paint the hydrants in Timberlee park whereas they have not been painted for quite some time. **DV has budgeted for 40 hours per week at \$15.00 per hour. TM motioned to approve and accept the summer intern program. NM seconded. MM voted Nay. Vote passed 2-1.**

1.5

3.5 Discuss Public Notifications on water complaints. See 5.7

IV. **COMMISSIONERS UPDATES AND REPORTS-VOTES MAY BE TAKEN:**

4.1 None.

V. **SUPERINTENDENT'S UPDATES AND REPORTS-VOTES MAY BE TAKEN:**

5.1 Update/Discuss on Cross St Well. DV told the Board that they took down the beaver dam and the beavers are gone. DV will begin to flush to waste & take samples until they see improvements. When the samples show improvement DV will flush until clear and put back online.

5.2 Update/Discuss Main Street Station. DV reported that before we can drill for wells at the Main Street Station, we will need to hire a professional that will adhere to the turtle mitigation plan. TM asked DV to draw up a plan for review before the next BOWC meeting.

5.3 Update/Discuss Highland Storage Tank. DV notified the Board that his plan to perform the pressure washing and painting the Highland Street tank will save the department approximately \$50,000.00. DV stated that the pressure washing is almost complete, but they will need to wait a few more weeks before they begin painting, as the weather needs to be a bit warmer. DV informed the board that he had taken some photos and would send them to the board the next day. The board suggested posting the photos on the Water Departments FB page for all to see.

5.4 Update/Discuss Water Permit. DV reported that the water departments June 2013 water permit required the department to replace all 2" or larger meters within 1 year and require a leak detection survey system wide, 1" meters within 2 years and 3" and larger meters within 3 years. After replacing numerous meters, the unaccounted-for water dropped from 29% to 16%. TM asked for a revenue sheet for the BOWC to review, showing the increase without raising the water rates.

5.5 Update/Discuss Witches Brook Upgrade. DV reported the grounds have been cleaned up, windows repaired or replaced and electrical will be installed in the garage.

5.6 Update /Discuss Leak Detection. DV reported that a system wide leak detection will be performed by Steve Miles. He was the lowest bidder at \$5,799.00. TM requested that the gates be always locked as he has seen them accessible quite a few times. MM asked if vehicles can be stored at the garage whereas the garage is so close to the well. DV explained that he will have spill trays under the vehicles as a precaution.

5.7 Discuss Public notification. DV stated that the staff is unable to respond to Facebook posts due to signing a social media policy. DV stated the Water Department will post updates on our FB page. DV also reported that the water department will be using the Code Red program offered by the police department for reverse 911 calls in the event of any water related emergencies. TM suggested having templates available to post for main breaks, flushing etc.

VI. **OFFICE ADMINISTRATOR'S UPDATES AND REPORTS-VOTES MAY BE TAKEN:**

6.1 Schedule next BOWC meeting. The Board scheduled the next BOWC meeting for Monday, May 17, 2021 @ 6:00 P.M.

6.2 Review and sign March's Schedule of Bills Receivable report. NM motioned to review and sign reports out of session. TM seconded. Unanimous vote.

**ADJOURNMENT:**

NM adjourned the meeting of the BOWC at 7:24 P.M.

Respectfully submitted,



Brenda Boudreau  
Office Manager  
Townsend Water Department



	to Date		
Meter Change out yr1	112 Meters	ongoing	
Cross St Upgrades	electrical	operational 8 April 2021	
Cross Beavers	Dam Removal	Comp 1 April 2021	
Cross St Testing	8-Apr 2 weeks		22-Apr-21
Leak Detection	26-Apr		30-Apr
Hydrant Flushing	3-May Witches Brook	1 week	
Hydrant Flushing	10-May main St South	1 Week	
Hydrant Flushing	17-May Main St North	1 Week	
No Watering signs	30-Apr Summer	Till 31 sept	
Highland Tank Cleaning	29-Mar Power Wash+		1-May
Highland Tank Foundation	1-May pour pad		15-May
Highland Tank Paint	15-May Paint Tank		15-Jun
Highland Tank Building	1-Jun Build install		7-Jun
Highland Tank Electrical	7-Jun move to build		30-Jun
Highland Tank Scada	7-Jun move to build		30-Jun
Highland Tank Water line	7-Jun move to build		30-Jun
Witches Brook day tanks	Complete		8-Apr
Witches Brook Upgrades	Complete		2-Apr-21
Highland Rd Paving	5-Apr		1-May
Mason Rd Paving	5-Apr		1-May
PFAS Retest	12-Apr waiting on Bottles		17-Apr
April Monthly testing	6-Apr normal		
May Montly testing	4-May Normal		
June Monthly testing	8-Jun Normal		
Apr Tank Clorination	5-Apr		
May Tank Clorination	3-May		
June Tank Clorination	7-Jun		
2nd quarter reading	1-Jun for july		2-Jun
Main St Well Beavers	check weekly		
Main st well con com	passed		23-Mar
Main St Well MESA	14-Mar Submitted	30 day finding	
Main st well Test Drill	19-Apr pend mesa		1-Apr
Main st well Drill full well	Aug-21		
Main st well Build	Oct-21		
Main St Well Water line	Sep-21		
Main st well electrical	Pend finicial		
Main st Well Scada	Pend finicial		
Main st well permit	May-21		
Hydrant Painting	6-Jul Summer intern		31-Aug
Fix leak detection			
Meter Change Out year 2	1-Jul-21 210 meter goal Gal	31 June 2022	
Lawn Mowing	15-May bi weekly		30-Sep
Dig Safes	daily		
Hydrant Change	1-Jul-21 10 Hydrants		30-Jun-22
Main St Well Road Improv	July Stone	Aug	
512 Main Gar	1-Aug New Roof		1-Sep

512 Main Gar

15-Jul new siding

7-Aug



## David Vigeant

3-3

**From:** David Vigeant  
**Sent:** Wednesday, March 31, 2021 1:23 PM  
**To:** Todd Melanson; Jim Kreidler  
**Subject:** PFAS plan of action from test results.

Hey Todd already talked to Paula from DEP.

- 1) DEP is sending out bottles to retest.
- 2) Rechecking Harbor Trace Wells plumbing and review sampling techniques.
- 3) We talked about Cross St Well.
  - A) Beaver Dam is now down the water is now down 18 inches and still going down except full retreat of water from well area and reduction of iron Manganese. (I do smell a little like swamp water right now.)
  - B) Electrical finishes next week hope to run Thursday or Friday and will run to waste all weekend.
- 4) Talked about Main St Well timeline. Test well in April full well in August.
- 5) Talked about Blending till the new Main Street Well is online.
- 6) When and if Cross Street Well goes back online slowing Harbor Trace Well Down so less of an impact in blending.
- 7) When Main St Well goes online Harbor Trace Well will have to stop pumping and we will so a full investigation of Harbor Trace to see what can be done. From rehabbing the well to a treatment plant to abandoning the site.
- 8) Testing the Mason/Horseshoe Rd well field behind the soccer Field for a future well.
- 9) This is the approved Plan of action going forward with agreement from Paula Caron from DEP.

**David W Vigeant**  
**Superintendent**  
**Townsend Water Department**  
**540 Main St**  
**West Townsend Massachusetts 01474**  
**Office Phone 978-597-2212**  
**Cell Phone 978-332-0391**  
**Email DVigeant@townsendwater.org**

---

**From:** Todd Melanson <tmelanson@chelmsfordwater.com>  
**Sent:** Wednesday, March 31, 2021 9:10 AM  
**To:** David Vigeant <dvigeant@townsendwater.org>  
**Subject:** Re: Eurofins report (attached) is ready for David Vigeant

Okay,

Unfortunately, you are going to have to STOP pumping from that well. Find out when it was put in, who put it. And the see if there is a way to see if any teflon was used on the well, pump and housing. But wait for direction from CERO DEP.

Todd

---

**From:** David Vigeant <[dvigeant@townsendwater.org](mailto:dvigeant@townsendwater.org)>

**Sent:** Wednesday, March 31, 2021 6:50 AM

**To:** Todd Melanson <[tmelanson@chelmsfordwater.com](mailto:tmelanson@chelmsfordwater.com)>; Todd Melanson <[tdzilla66@gmail.com](mailto:tdzilla66@gmail.com)>

**Subject:** FW: Eurofins report (attached) is ready for David Vigeant

Hey Todd Harbor Trace not good PFAS.

**David W Vigeant**  
**Superintendent**  
**Townsend Water Department**  
**540 Main St**  
**West Townsend Massachusetts 01474**  
**Office Phone 978-597-2212**  
**Cell Phone 978-332-0391**  
**Email [DVigeant@townsendwater.org](mailto:DVigeant@townsendwater.org)**

**From:** [Nathan.Trowbridge@eurofinsET.com](mailto:Nathan.Trowbridge@eurofinsET.com) <[Nathan.Trowbridge@eurofinsET.com](mailto:Nathan.Trowbridge@eurofinsET.com)>

**Sent:** Tuesday, March 30, 2021 5:08 PM

**To:** David Vigeant <[dvigeant@townsendwater.org](mailto:dvigeant@townsendwater.org)>

**Subject:** Eurofins report (attached) is ready for David Vigeant



Eaton Analytical

**The REPORT for UNIVERSITY-MASS for folder #512633 is ready for *David Vigeant***

Please click on the link below to view your REPORT.

**REP Link:** [512633\\_20210330\\_UNIVERSITY-MASS\\_20210401.pdf](#)

**Email:** [Dvigeant@townsendwater.org](mailto:Dvigeant@townsendwater.org)

**Password:** Please [register](#) first

If you have any questions, please contact your Project Manager listed below.

**Nathan Trowbridge**, Project Manager

110 South Hill Street

South Bend, IN 46617

**Phone:** (574) 233-4777

**Fax:** (574) 233-8207

**Email:** [Nathan.Trowbridge@eurofinsET.com](mailto:Nathan.Trowbridge@eurofinsET.com)



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 1 of 2

3.3

## I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2299000 City / Town: TOWNSEND  
PWS Name: TOWNSEND WATER DEPARTMENT PWS Class: COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
01G	FINISHED: MAIN STREET WELLFIELD	<input type="checkbox"/> (M)ultiple <input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (S)ingle <input checked="" type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
		(1) Reason for Resubmission	(2) Collection Date of Original Sample	
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction		
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

## II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-IN035 Primary Lab Name: Eurofins Eaton Analytical Subcontracted? (Y/N) N  
Analysis Lab Cert. #: Analysis Lab Name:  
If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/17/2021	3/18/2021	1	Primary Lab:	4852575
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	0.80	J	-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	2.0			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	ND			0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorooheptanoic Acid (PFHpA)	0.50	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		2.0	-	20	-	-
UNREGULATED PFAS CONTAMINANTS						
375-73-5	Perfluorobutane sulfonic acid (PFBS)	ND		-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	0.45	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxo-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852575

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	92	
<sup>13</sup> C <sub>2</sub> -PFDA	93	
d <sub>5</sub> -NEtFOSAA	92	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	93	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

Date: 3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---

**Per- and Polyfluoroalkyl Substances (PFAS) Report**

Page 1 of 2

**I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form**

PWS ID #: **2299000** City / Town: **TOWNSEND**  
 PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
<b>RW-01G</b>	<b>RAW WATER: MAIN ST. STATION</b>	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle	<input checked="" type="checkbox"/> (R)aw <input type="checkbox"/> (F)inished	3/10/2021
				<b>K.K.</b>
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission		(2) Collection Date of Original Sample
	<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction			
<b>SAMPLE COMMENTS</b> - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

**II. ANALYTICAL LABORATORY INFORMATION:**

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #: Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/17/2021	3/18/2021	1	Primary Lab:	4852576
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	0.69	J	-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	1.9	J		0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	ND			0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorohexanoic Acid (PFHpA)	0.50	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
<b>PFAS6</b> (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		<b>ND</b>	<b>-</b>	<b>20</b>	<b>-</b>	<b>-</b>
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	Perfluorobutane sulfonic acid (PFBS)	ND		-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	0.43	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NetFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852576

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	94	
<sup>13</sup> C <sub>2</sub> -PFDA	94	
d <sub>5</sub> -NEtFOSAA	95	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	93	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

Date:

3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---





# Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS** Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 1 of 2

## I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **2299000** City / Town: **TOWNSEND**  
PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
<b>RW-05G</b>	<b>WITCHES BROOK WELL #2 - RAW</b>	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle <input checked="" type="checkbox"/> (R)aw <input type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input type="checkbox"/> RS <input type="checkbox"/> SS <input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction	(1) Reason for Resubmission		
		(2) Collection Date of Original Sample		
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

## II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #: Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852578
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	2.8			0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	3.0			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	0.84	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorohexanoic Acid (PFHpA)	0.95	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		5.8	--	20	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	Perfluorobutane sulfonic acid (PFBS)	2.3			0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	1.6	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTTrDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NtFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.

## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852578

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	92	
<sup>13</sup> C <sub>2</sub> -PFDA	97	
d <sub>5</sub> -NETFOSAA	87	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	90	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

Date: 3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---



**Per- and Polyfluoroalkyl Substances (PFAS) Report**

Page 1 of 2

**I. PWS INFORMATION:** Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **2299000** City / Town: **TOWNSEND**

PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
05G	FINISHED: WITCHES BROOK WELL #2	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle	<input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:			
		(1) Reason for Resubmission		(2) Collection Date of Original Sample	
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction			
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank.					

**II. ANALYTICAL LABORATORY INFORMATION:**

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #: Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852579
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	3.2		-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	3.0			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	0.87	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorohexadecanoic Acid (PFHpA)	1.1	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		6.2	--	20	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	Perfluorobutane sulfonic acid (PFBS)	2.5		-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	1.9	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#: 2299000

**Lab Sample ID#:**

Primary Lab:	4852579
--------------	---------

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	109	
<sup>13</sup> C <sub>2</sub> -PFDA	101	
d <sub>5</sub> -NETFOSAA	94	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	100	

Note:  $^{13}\text{C}_3$ -HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

Date: 3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---



# Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS** **Per- and Polyfluoroalkyl Substances (PFAS) Report**

Page 1 of 2

## I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **2299000** City / Town: **TOWNSEND**  
PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
<b>04G</b>	<b>FINISHED: WITCHES BROOK WELL #1</b>	<input type="checkbox"/> (M)ultiple <input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (S)ingle <input checked="" type="checkbox"/> (F)inished	<b>3/10/2021</b>	<b>K.K.</b>
<b>Routine or Special Sample</b>	<b>Original, Resubmitted or Confirmation Report</b>	<b>If Resubmitted Report, list below:</b>		
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	<b>(1) Reason for Resubmission</b>	<b>(2) Collection Date of Original Sample</b>	
<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction				
<b>SAMPLE COMMENTS</b> - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

## II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #:  Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852581
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	1.4	J	-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	2.0			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	0.71	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorohexadecanoic Acid (PFHpA)	0.69	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
<b>PFAS6</b> (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		<b>2.0</b>	<b>-</b>	<b>20</b>	<b>-</b>	<b>-</b>
UNREGULATED PFAS CONTAMINANTS						
375-73-5	Perfluorobutane sulfonic acid (PFBS)	1.9	J	-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	1.6	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTTrDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NtFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852581

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	101	
<sup>13</sup> C <sub>2</sub> -PFDA	98	
d <sub>5</sub> -NETFOSAA	86	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	94	

Note:  $^{13}\text{C}_3$ -HFPO-DA is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LSM/LSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

Date: 3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---





## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 1 of 2

## I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: 2299000 City / Town: TOWNSEND  
PWS Name: TOWNSEND WATER DEPARTMENT PWS Class: COM ☒ NTNC ☐ TNC ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
RW-04G	WITCHES BROOK WELL #1 - RAW	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle <input checked="" type="checkbox"/> (R)aw <input type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission	(2) Collection Date of Original Sample	
<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction				
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

## II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: M-IN035 Primary Lab Name: Eurofins Eaton Analytical Subcontracted? (Y/N) N  
Analysis Lab Cert. #: Analysis Lab Name:  
If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852582
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	1.1	J	-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	2.0			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	0.72	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	ND			0.50	2.0
375-85-9	Perfluorohexadecanoic Acid (PFHpA)	0.80	J		0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	ND			0.50	2.0
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		2.0	--	20	-	-
UNREGULATED PFAS CONTAMINANTS						
375-73-5	Perfluorobutane sulfonic acid (PFBS)	1.9	J	-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	1.5	J		0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTTrDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.

## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852582

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	99	
<sup>13</sup> C <sub>2</sub> -PFDA	102	
d <sub>5</sub> -NEtFOSAA	95	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	94	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSM/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

*I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.*

**Primary Lab Director Signature:**

**Date:** 3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	Review Comments	<input type="checkbox"/> WQTS Data Entered
--	--------------------	---





# Massachusetts Department of Environmental Protection - Drinking Water Program **PFAS** Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 1 of 2

## I. PWS INFORMATION: Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **2299000** City / Town: **TOWNSEND**  
PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information		Date Collected	Collected By
<b>RW-03G</b>	<b>HARBOR TRACE WELL - RAW</b>	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle	<input checked="" type="checkbox"/> (R)aw <input type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:			
<input type="checkbox"/> RS <input type="checkbox"/> SS	<input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	(1) Reason for Resubmission		(2) Collection Date of Original Sample	
		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction			
<b>SAMPLE COMMENTS</b> - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank					

## II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #:  Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852584
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	18		-	0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	20			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	1.5	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	2.7			0.50	2.0
375-85-9	Perfluoroheptanoic Acid (PFHpA)	10			0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	1.5	J		0.50	2.0
<b>PFAS6</b> (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		<b>50.7</b>	<b>--</b>	<b>20</b>	<b>-</b>	<b>-</b>
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	Perfluorobutane sulfonic acid (PFBS)	2.9		-	0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	6.3			0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroicosasulfuro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852584

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	115	
<sup>13</sup> C <sub>2</sub> -PFDA	106	
d <sub>5</sub> -NEtFOSAA	94	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	101	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFSD/LFSDM or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

**Primary Lab Director Signature:**

Date:

3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

<b>MassDEP REVIEW STATUS (Initial &amp; Date)</b>  <input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved	<b>Review Comments</b>	<input type="checkbox"/> WQTS Data Entered
---	------------------------	--

**Per- and Polyfluoroalkyl Substances (PFAS) Report**

Page 1 of 2

**I. PWS INFORMATION:** Please refer to your MassDEP Water Quality Sampling Schedule (WQSS) to help complete this form

PWS ID #: **2299000** City / Town: **TOWNSEND**

PWS Name: **TOWNSEND WATER DEPARTMENT** PWS Class: **COM** ☒ **NTNC** ☐ **TNC** ☐

MassDEP Location (LOC) ID#	MassDEP Location Name	Sample Information	Date Collected	Collected By
03G	FINISHED: HARBOR TRACE GP WELL	<input type="checkbox"/> (M)ultiple <input checked="" type="checkbox"/> (S)ingle <input type="checkbox"/> (R)aw <input checked="" type="checkbox"/> (F)inished	3/10/2021	K.K.
Routine or Special Sample	Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below:		
<input type="checkbox"/> RS <input type="checkbox"/> SS <input type="checkbox"/> Original <input type="checkbox"/> Resubmitted <input type="checkbox"/> Confirmation	<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Correction	(1) Reason for Resubmission (2) Collection Date of Original Sample		
SAMPLE COMMENTS - Such as, if a Manifold/Multiple sample, list the source(s) that were on-line during sample collection or if this is a field reagent blank				

**II. ANALYTICAL LABORATORY INFORMATION:**

Primary Lab Cert. #: **M-IN035** Primary Lab Name: **Eurofins Eaton Analytical** Subcontracted? (Y/N) **N**

Analysis Lab Cert. #:  Analysis Lab Name:

If Analysis Lab is not certified by MassDEP or U.S. EPA, list certification authority:

Lab Method	Date Extracted	Date Analyzed	Dilution Factor	Lab Sample IDs#	
537.1	3/16/2021	3/18/2021	1	Primary Lab:	4852585
				Subcontracted Lab:	

CAS#	REGULATED PFAS CONTAMINANTS	Result <sup>1</sup> ng/L	Result <sup>2</sup> Qualifier	MCL* ng/L	MDL ng/L	MRL ng/L
1763-23-1	Perfluorooctane Sulfonic Acid (PFOS)	17			0.40	2.0
335-67-1	Perfluorooctanoic Acid (PFOA)	18			0.40	2.0
355-46-4	Perfluorohexane Sulfonic Acid (PFHxS)	1.5	J		0.50	2.0
375-95-1	Perfluorononanoic Acid (PFNA)	2.3			0.50	2.0
375-85-9	Perfluorooheptanoic Acid (PFHpA)	8.7			0.40	2.0
335-76-2	Perfluorodecanoic acid (PFDA)	1.2	J		0.50	2.0
PFAS6 (sum of PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA; only include Results at or above the MRL; do not include estimated Results as described by a Result Qualifier in the next column)		46.0	--	20	-	-
	UNREGULATED PFAS CONTAMINANTS					
375-73-5	Perfluorobutane sulfonic acid (PFBS)	2.7			0.40	2.0
307-55-1	Perfluorododecanoic acid (PFDoA)	ND			0.40	2.0
307-24-4	Perfluorohexanoic acid (PFHxA)	5.1			0.40	2.0
376-06-7	Perfluorotetradecanoic acid (PFTA)	ND			0.60	2.0
72629-94-8	Perfluorotridecanoic acid (PFTDA)	ND			0.50	2.0
2058-94-8	Perfluoroundecanoic acid (PFUnA)	ND			0.50	2.0
2991-50-6	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND			0.60	2.0
2355-31-9	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND			0.50	2.0
763051-92-9	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND			0.50	2.0
756426-58-1	9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	ND			0.50	2.0
919005-14-4	4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND			0.61	2.0
13252-13-6	Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND			0.50	2.0

<sup>1</sup> A field reagent blank (FRB) must be analyzed and reported on a separate PFAS form if any PFAS are detected above the MRL.

<sup>2</sup> All qualifiers must be described under Lab Analysis Comments on page 2.



## Per- and Polyfluoroalkyl Substances (PFAS) Report

Page 2 of 2

PWS ID#:

**2299000**

**Lab Sample ID#:**

**Primary Lab:**

4852585

Subcontracted Lab:

[illegible]

Surrogate Name	% Recovery (70 – 130%)	Alternate Surrogate (must document reason for change)
<sup>13</sup> C <sub>2</sub> -PFHxA	98	
<sup>13</sup> C <sub>2</sub> -PFDA	96	
d <sub>5</sub> -NEtFOSAA	87	
<sup>13</sup> C <sub>3</sub> -HFPO-DA	92	

Note:  $^{13}\text{C}_3\text{-HFPO-DA}$  is not required for EPA Method 537 v1.1

In addition to the SUR above you must attach the results of the ongoing QC results as specified by the method for the sample's extraction batch.

☒ Laboratory analytical report with QC attached (check one item below).

☒ All associated QC criteria reported within control limits including Lab Reagent/Method Blank (LRB), Field Reagent Blank (FRB), Surrogate Standards (SUR), Laboratory Fortified Blank (LFB), Matrix Spike/Duplicate (LFMS/LFSMD or FD) and RPD.

☐ All associated sample and/or QC batch criteria not met. See Lab Analysis Comments below and narrative in attached report.

**Lab Analysis Comments:** (include sample/method parameters outside of or affecting QC controls/limits and result qualifiers)

Result Qualifier	Qualifier Description
J	Estimated concentration
Other Analysis Comments:	

\* MCL or proposed MCL

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

**Primary Lab Director Signature:**

Date:

3/30/2021

*If not submitting these results electronically, mail TWO copies of this report to your MassDEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner. Note that during the Massachusetts COVID-19 state of emergency, in addition to submitting by mail reports may be emailed to [program.director-dwp@mass.gov](mailto:program.director-dwp@mass.gov).*

MassDEP REVIEW STATUS (Initial & Date)	Review Comments	<input type="checkbox"/> WQTS Data Entered
<input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved		

3.4

**Job Details:**

**Summer Seasonal Water interns**

**Salary**

\$15 per hour

No Benefits

**Job Type**

Temporary Seasonal

Part-time dependent on schedule of Applicants

**Job Description**

Paint Fire Hydrants to Fire Department Standards

Grounds and Building Maintenance

Assist Water Department Personal and water Quality Testing.

Perform other duties depending on skills of the applicant and needs of the water department.

Typical work days: are 7am to 330pm.

**Minimum Requirements**

Ability to perform daily, repetitive work indoor, and outdoors.

Must be at least 16 years old. Over 18 may need a CORI Check. My need a physical on towns request.

**Preferred, but Not Required:**

Townsend Resident

High School or College Student

Applicant studying, Engineering, Environmental, Water Technologies, Chemistry or any other Drinking Water related Field.

**Contact the water department for additional questions. Mail or Drop off Applications to;**

Townsend Water Department

Summer Intern Program

540 Main St

West Townsend Massachusetts 01474



5.1

## David Vigeant

**From:** David Vigeant  
**Sent:** Tuesday, January 19, 2021 8:52 AM  
**To:** Connors, Susan (DEP)  
**Subject:** RE: Cross St Well, Townsend

Excellent Susan , I will get right on it.

Thank you David

**David W Vigeant**  
**Superintendent**  
**Townsend Water Department**  
**540 Main St**  
**West Townsend Massachusetts 01474**  
**Office Phone 978-597-2212**  
**Cell Phone 978-332-0391**  
**Email DVigeant@townsendwater.org**

---

**From:** Connors, Susan (DEP) <susan.connors@state.ma.us>  
**Sent:** Friday, January 15, 2021 3:48 PM  
**To:** David Vigeant <dvigeant@townsendwater.org>  
**Cc:** Bostwick, Robert (DEP) <robert.bostwick@state.ma.us>; Finch, Amy (DEP) <amy.finch@state.ma.us>  
**Subject:** Cross St Well, Townsend

Hi David,

In order to reactivate the Cross Street Well you will need to sufficiently flush the well to waste and collect samples for total coliform, iron, manganese, and PFAS6 (PFOS, PFOA, PFHxS, PFNA, PFHpA, and PFDA). Results should be submitted on MassDEP lab forms and sent to me. Once we have the data and it is favorable, I could schedule a site visit to test alarms. However historical data from the well shows exceedances of the SMCL for both iron and manganese. What would Townsend's plan be to improve water quality that seemed to start to deteriorate around 2013/2014? MassDEP may not be able to approve reactivation if concentrations are elevated. Because of that your consultant should contact us with a pumping and sampling proposal prior starting the sample collection.

Additionally, there are a few items from past Sanitary Survey reports that should also be addressed. The report issued in 2019 required a day tank for sodium hydroxide to be installed in the Cross Street pump station. That will need to be completed prior to MassDEP issuing activation approval.

The Sanitary Survey report in 2017 identified some issues with the alarms. Below are excerpts from the description and the Table B requirement in that report. Although the Table B requirement was technically completed because Townsend responded that the electrician had been scheduled, please let me know if the hydroxide system for the Cross Street Well has been upgraded to comply with MassDEP's alarm requirements for critical chemicals.

Description:

The Cross Street Pump Station also serves as the fully automated treatment facility (2299000-02T) for corrosion control by chemical injection of 25% NaOH for pH adjustment. The 25% NaOH feed system consists of a 1,400 gallon bulk storage tank with secondary containment, an Iwaki E-series metering pump, a pH analyzer for continuous pH monitoring, and a pH chart recorder. The chemical feed is flow paced, but not electrically

interlocked with the flow meter, the well pump, or the pH analyzer. The pump station is fully alarmed through the SCADA system (alarms are described under *Treatment*), and a high pH alarm is programmed to shut down the well pump, which in turn creates a no flow situation that stops chemical addition. There is a hard-piped shower and eye wash and a float in the containment area to detect a chemical spill. This pump station also has a 30 gallon day tank and an injection quill for emergency disinfection using 12.5% NaOCl, but there is no chemical feed pump installed and NaOCl is not currently stored on site.

There is no back-up generator at the Cross Street Pump Station, but a propane-fueled auxiliary engine can operate the well pump (not the chemical feed pumps) during a power outage. Propane is stored on-site in an underground tank. Because the chemical feed equipment cannot operate during a power outage, the TWD does not generally utilize the Cross Street Pump Station during emergencies.

Table B3

Submit to MassDEP a schedule for installing/programming the required interlocks such that all chemical feed pumps are electrically locked out (de-energized) when the well pump is off, no flow is detected by the flow meter/flow switch, or the pH analyzer is in alarm. (T-10)

Please contact me with any questions.

Thank you,  
Susan

Susan Connors  
MassDEP-CERO  
Drinking Water and Water Management Programs  
8 New Bond Street, Worcester, MA 01606  
Telework Google Voice phone 508.425.4694  
[susan.connors@mass.gov](mailto:susan.connors@mass.gov)

---

**From:** David Vigeant <[dvigeant@townsendwater.org](mailto:dvigeant@townsendwater.org)>  
**Sent:** Tuesday, January 12, 2021 11:42 AM  
**To:** Finch, Amy (DEP) <[amy.finch@mass.gov](mailto:amy.finch@mass.gov)>  
**Subject:** RE: 512 Main St Well Townsend

**CAUTION: This email originated from a sender outside of the Commonwealth of Massachusetts mail system. Do not click on links or open attachments unless you recognize the sender and know the content is safe.**

Hi Amy, You were a great help on 512 Main St. Now I have another question on our Cross St well. The well was shut down in 2015 for high levels of iron and manganese. I would like to restart the well and retest it to see what Tigh and Bond can figure out what we can do with the well. Any guidance would be big help.\

Thank you so much David

**David W Vigeant**  
**Superintendent**  
**Townsend Water Department**  
**540 Main St**  
**West Townsend Massachusetts 01474**





Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

5.4 @

## Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

DEVAL L. PATRICK  
Governor

MAEVE VALLELY BARTLETT  
Secretary

DAVID W. CASH  
Commissioner

June 30, 2014

Townsend Board of Selectmen  
Attn: Andrew Sheehan, Town Administrator  
272 Main St.  
Townsend, MA 01469

RE: City/Town: Townsend  
PWS Name: Townsend Water Department  
PWS ID: 2299000  
Program: Water Management Act  
Action: 5 Year Review Final Permit

Dear Mr. Sheehan:

Please find the attached documents:

- Findings of Fact in Support of the Modified Permit Decision; and
- Final Water Management Act Permit #9P2-2-11-299.01 (Nashua River Basin) issued to the Town of Townsend, Massachusetts.

If you have any questions regarding the Permit, please contact Barbara Kickham at (508) 767-2724 or Susan Connors at (508) 767-2701.

Sincerely,

Marielle Stone  
Deputy Regional Director  
Bureau of Resource Protection

Enclosures

Cc: Duane LeVangie, WMA Manager, MassDEP-DWP-Boston  
Paul Rafuse, Water Department, 540 Main St., West Townsend, MA 01474  
Board of Health, 272 Main St., Townsend, MA 01469  
Martha Morgan, Nashua River Watershed Association (via email)

Y:\DWP Archive\CERO\Townsend-2299000-WMA-Final-2014-06-30



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7850

DEVAL L. PATRICK  
Governor

MAEVE VALLELY BARTLETT  
Secretary

DAVID W. CASH  
Commissioner

### **Findings of Fact in Support of the Modified Permit Decision Water Management Permit # 9P2-2-11-299.01**

The Massachusetts Department of Environmental Protection (MassDEP or the Department) has completed its 5 Year Review of the Town of Townsend's (Townsend) Water Management Act Permit in the Nashua River Basin pursuant to the Water Management Act Regulations (WMA) M.G.L. ch 21G. This compliance review is conducted to insure that the terms of the permit and the goals of the Water Management program are being met. As a result of the review and Townsend's response dated October 21, 2013 to the Order to Complete issued July 22, 2013, MassDEP hereby issues this Water Management Act Permit #9P2-2-11-299.01 (the "Permit") in accordance with the Act. A Draft Permit was issued on April 15, 2014 and no comments on the draft were submitted to MassDEP. MassDEP makes the following Findings of Fact in support of the attached Permit, and includes herewith its reasons for approving the Permit and for conditions of approval imposed, as required by MGL c 21G, §11 and 310 CMR 36.00.

#### **Townsend's Water Withdrawal History**

Townsend is registered for an average annual daily withdrawal volume of 0.76 million gallons per day (MGD). Townsend was originally registered for 0.5 MGD and with the acquisition of the Witches Brook Water Co. in 2007, Townsend's registered withdrawal volume was increased by 0.26 MGD for a total of 0.76 MGD. Townsend has reported annual withdrawals below their registered volume. Townsend's WMA Permit includes the additional withdrawal locations; Well 3-98 and the Harbor Trace Well. The permit for Well 3-98 was issued with an effective date of May 29, 2002, however the well was never constructed due to financial constraints. Townsend received an amended permit on April 21, 2006, which added the Harbor Trace Well as an approved withdrawal point. Townsend's acquisition of the Witches Brook Water Co. included two additional, registered, groundwater sources. No increase in withdrawal capacity is authorized by this Modified Permit Decision. Townsend requested a 5 year review of the WMA permit in order to add the calendar triggered option for implementation of outside water use restrictions.



Under the Permit Extension Act, which was created by Section 173 of Chapter 240 of the Acts of 2010, and amended by Sections 74 and 75 of Chapter 238 of the Acts of 2012 to promote job growth and long-term economic recovery, expiration dates for WMA permits were extended by four years. Therefore, WMA permits for withdrawals in the Nashua River Basin expire on February 28, 2018. Permit review in accordance with the Long-Term Safe Yield shall be no later than the permit renewal for Nashua River basin.

This permit will also enable MassDEP to incorporate the latest scientific information and to consider recommendations (including but not limited to stream flow criteria) from the currently ongoing Executive Office of Energy and Environmental Affairs' Sustainable Water Management Initiative (SWMI), along with United States Geological Survey (USGS) investigative studies, particularly, *Indicators of Streamflow Alteration, Habitat Fragmentation, Impervious Cover, and Water Quality for Massachusetts Stream Basins* (USGS SIR 2009-5272) which can be viewed at <http://pubs.usgs.gov/sir/2009/5272/>; *Preliminary Assessment of Factors Influencing Riverine Fish Communities in Massachusetts* (USGS OFR 2010-1139), and *Factors Influencing Riverine Fish Assemblages in Massachusetts* (USGS SIR 2011-5193), and other pertinent studies or site-specific analyses that become available. Access to water volumes authorized beyond Period Four of this permit is contingent upon all permitted withdrawals in the basin being within the Long-Term Safe Yield, and on MassDEP completing a permit renewal or a permit amendment incorporating the Long-Term Safe Yield determination.

Townsend's permit has been modified in response to a 5-year Review. No additional water has been allocated in this permit, therefore there are no changes to the remaining allocation by permitting under the ISY.

### **Findings of Fact for the Performance Standards in Townsend's Water Management Permit**

MassDEP has determined that there is documented evidence that water withdrawals and an increase in development and impervious area, combined with the out-of-basin export of wastewater, substantially contribute to low flow in the Commonwealth. These low flows impact the ability of rivers and tributaries to adequately serve all of the competing uses described in the Act. To better achieve the balance of competing water uses mandated by the Act, the MassDEP refers to the Water Conservation Standards adopted by the Water Resources Commission.

Specific performance standards are applied to new Water Management permits and to existing permits at the time they are amended, during 5-year permit review, or permit renewal. Consistent with Section 3 of the Act, the performance standards of 65 residential gallons per capita day or less and 10% or less of unaccounted for water, summer limits on withdrawals, and efforts to offset the impacts of increasing withdrawal volumes are based on the Massachusetts Water Conservation Standards approved by the Water Resources Commission in July 2006 and revised in 2012. These standards can be found at:  
<http://www.mass.gov/eea/docs/eea/wrc/water-conservation-standards-rev-june-2012.pdf>

MassDEP believes these standards are reasonable based on studies and data developed throughout the country, the 1996 AWWA Leak Detection and Water Accountability Committee report on water accountability (AWWA Journal; July 1996; pp. 108-111), and the fact that the average



values in 2012 for Massachusetts were 59 RGPCD, and 13% UAW. While these performance standards represent the minimum standards required for compliance with the Permit, MassDEP believes that through the implementation of all the terms and conditions of Water Management permits, municipalities can meet the performance standards for RGPCD and UAW.

Townsend was required to meet the 65 residential gallons per capita day (RGPCD) and 10% unaccounted-for-water (UAW) performance standards beginning in calendar year 2008.

MassDEP will consider any permittee that has been unable to meet the 65 RGPCD or 10% UAW performance standard within 5 years of receiving its permit to be achieving functionally equivalent compliance with the performance standards, if they:

- are complying with the Water Conservation requirements included in the permit,
- have implemented the required limits on nonessential outdoor water use, and
- are making demonstrable efforts to finance, implement and enforce a MassDEP-approved compliance plan.

Mean  
2013

Because circumstances vary, a permittee may present an analysis of the cost effectiveness of implementing certain conservation measures required by MassDEP and offer alternative measures. The analysis must explicitly consider environmental impacts and must produce environmental benefits. MassDEP will allow permittees to:

- Document economic hardship and present an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship;
- Present reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard; and
- Propose specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP Functional Equivalence Plan(s) (See Appendix A & B).

### Findings of Fact for Specific Permit Conditions

In issuing permits, MassDEP looks primarily at site-specific impacts and other issues specific to the system, such as impacts to nearby streams, wetlands, or other water users, justification of long-term demand projections and the capacity of permitted withdrawal points. The conditions are intended to ensure the efficient use of water and to mitigate the potential impact of withdrawals.

The existing permit included a condition that Townsend complete Zone II delineations for all sources. MassDEP records indicate that all of Townsend's sources have approved Zone II delineations. Public Water Systems are required to obtain MassDEP approval of Zone II delineations during the new source approval process and prior to activating any new sources; therefore this condition has been removed as a condition of the permit modification.

The summary of permit conditions, as part of MassDEP's findings of fact, is not intended to, and should not be construed as, modifying any of the Permit conditions. In the event of any ambiguity between the summary and the actual permit conditions, the Permit language shall be controlling.



**Special Condition 1, Maximum Authorized Annual Average Withdrawal Volume**, reflects the registered withdrawal volume of 0.76 MGD through February 28, 2018.

**Special Condition 2, Maximum Authorized Daily Withdrawals From Each Withdrawal Point**, reflects the volume of groundwater withdrawal expressed as a daily rate for each source, according to the approved Zone II rates. The Permit includes the Zone II approved rate of 0.86 MGD for Well 3-98 and 1.0 MGD for Harbor Trace Well.

**Special Condition 3, Wellhead Protection**, requirement have been fulfilled by Townsend. The Groundwater Protection District Bylaw to include the Zone II of the Harbor Trace Well prior to receiving approval to place that well in operation.

**Special Condition 4, Performance Standard for Residential Gallons Per Capita Day Water Use**, discussed previously. Townsend's RGPCD was 66 in 2012 and reported to be 57 in 2013.

**Special Condition 5, Performance Standard for Unaccounted for Water**, discussed previously. Townsend's UAW was 6% in 2012 and reported to be 22.1% in 2013. Since Townsend's UAW increased above 10% as a result of improvements to RGPCD, a UAW Compliance Plan is required.

**Special Condition 6, Seasonal Limits on Nonessential Outdoor Water Use** is based upon Townsend's Residential Gallons per Capita Day (RGPCD) for the preceding year, and will be implemented according to either: 1) calendar triggered restrictions; or 2) streamflow triggered restrictions. The restrictions have been modified from your prior permit based on both technical and policy decisions by the Department. Future permit modifications may include a Drought Trigger and a new Low-Flow statistic that triggers tighter restrictions during unusually dry weather.

**1. Calendar triggered restrictions:** Restrictions shall be implemented from May 1st through September 30th. Many public water suppliers will find this option easier to implement and enforce than the streamflow triggered approach.

**2. Streamflow triggered restrictions:** Restrictions shall be implemented at those times when streamflow falls below designated flow triggers measured at an assigned, web-based, real-time U.S. Geologic Survey (USGS) stream gage from May 1<sup>st</sup> through September 30<sup>th</sup>. At a minimum, restrictions shall commence when streamflow falls below the trigger for three consecutive days. Once implemented, the restrictions shall remain in place until streamflow at the assigned USGS local stream gage meets or exceeds the trigger streamflow for seven consecutive days.

The basis for streamflow triggers is derived from Aquatic Base Flow (ABF) values calculated by the Sustainable Yield Estimator (SYE)<sup>1</sup> for simulated natural flow applied to

<sup>1</sup> Archfield, S.A., Vogel, R.M., Steeves, P.A., Brandt, S.L., Weiskel, P.K., and Garabedian, S.P., 2010, The Massachusetts Sustainable-Yield Estimator: A decision-support tool to assess water availability at ungaged stream locations in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2009-5227, 41 p. plus CD-ROM. See <http://pubs.usgs.gov/sir/2009/5227/>



the assigned local USGS stream gage. The two-tiered trigger values are based on flow levels that are protective of aquatic habitat for fish spawning during the spring bioperiod, designated with the June ABF; and protective flows for fish rearing and growth during the summer bioperiod, designated with the August ABF trigger. Protective flow levels are derived from index gage flow data which represent the least altered stream flows in Massachusetts, and are further described in the Department of Conservation and Recreation (DCR)<sup>2</sup> and USGS Index Reports<sup>3</sup>.

If Townsend selects the streamflow approach, it has been assigned the USGS local stream gage of 01096000 - Squannacook River near West Groton, MA. The June ABF estimated using SYE is 0.97 cfs and the August ABF value is 0.37 cfs. These cfs units translate to your local gage streamflow triggers as 62 cubic feet per second (cfs) for May and June, and 24 cfs for July, August and September.

Should the reliability of flow measurement at the Squannacook River gage be so impaired as to question its accuracy, Permittee may request MassDEP's review and approval to transfer to another gage to trigger restrictions. MassDEP reserves the right to require use of a different gage.

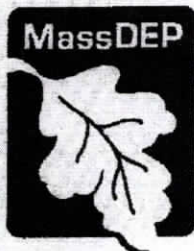
**Special Condition 7, Water Conservation Requirements**, incorporates the Water Conservation Standards for the Commonwealth of Massachusetts reviewed and approved by the Water Resources Commission in 2006 and revised in 2012. Townsend must amend its Bylaws and Regulations to allow water use restrictions consistent with the Permit.

---

<sup>2</sup> Massachusetts Department of Conservation and Recreation (DCR), 2008 Index Streamflows for Massachusetts, May 2008, Prepared by Office of Water Resources for the Massachusetts Water Resources Commission, 45 p., plus CD-ROM.

<sup>3</sup> Armstrong, D.S., Parker, G.W., and Richards, T.A., 2008, Characteristics and classification of least altered streamflows in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2007-5291, 113 p., plus CD-ROM.





Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

56

## Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

DEVAL L. PATRICK  
Governor

MAEVE VALLELY BARTLETT  
Secretary

DAVID W. CASH  
Commissioner

### WATER WITHDRAWAL PERMIT MGL c 21G

This permit is issued pursuant to the Massachusetts Water Management Act (the Act) for the sole purpose of authorizing the withdrawal of a volume of water as stated herein and subject to the following special and general conditions. This permit conveys no right in or to any property beyond the right to withdraw the volume of water for which it is issued.

**PERMIT NUMBER:** 9P2-2-11-299.01

**RIVER BASIN:** Nashua

**PERMITTEE:** Town of Townsend

**ORIGINAL ISSUANCE DATE:** May 29, 2002

**MODIFICATION DATE:** June 30, 2014

**EXPIRATION DATE:** February 28, 2018

**NUMBER OF WITHDRAWAL POINTS:**

Groundwater: 2

**USE:** Public Water Supply

**DAYS OF OPERATION:** 365

**LOCATION(S):**

**Table 1: Withdrawal Point Identification**

Well Name	PWS Source ID Code
Well 3-98	2299000-0AG
Harbor Trace Well	2299000-03G

## SPECIAL CONDITIONS

### 1. Maximum Authorized Annual Average Withdrawal Volume

This permit authorizes the Town of Townsend to withdraw water from the Nashua River Basin at the rate described below (Table 2). The volume reflected by this rate is the 0.76 million gallons per day (MGD) previously authorized to Townsend under WMA Registration #211299.02 and to the former Witches Brook Water Company WMA Registration #211299.01 for withdrawal from the Nashua River Basin. The authorized volume is expressed in millions of gallons, both as an average daily withdrawal rate (MGD), and as a total annual withdrawal volume (million gallons per year or MGY) for each year of the five-year period of the permit term. No additional withdrawal volume is authorized under this permit.

**Table 2: Maximum Authorized Withdrawal Volumes**

5-Year Periods		Total Raw Water Withdrawal Volumes			
		Permit		Permit + Registration	
		Daily Average (MGD)	Total Annual (MGY)	Daily Average (MGD)	Total Annual (MGY)
Period One	3/1/1994 to 2/28/1999	No permit	No permit	0.76	277.4
Period Two	3/1/1999 to 2/29/2004	No permit	No permit	0.76	277.4
Period Three	3/1/2004 to 2/28/2009	0.0	0.0	0.76	277.4
Period Four	3/1/2009 to 2/28/2018	0.0	0.0	0.76	277.4

\* This permit is issued under the Interim Safe Yield methodology adopted by MassDEP on December 14, 2009. Under MGL c21G, §11 MassDEP cannot issue permits when the combined existing, permitted and proposed withdrawal volumes exceed the safe yield of the water source. If MassDEP determines that the Long-Term Safe Yield is less than the Interim Safe Yield calculated for this basin, the volumes authorized in all Water Management permits in this basin shall be reviewed and the permitted volumes adjusted accordingly. MassDEP is currently developing the final Long-Term Safe Yield for the Nashua River Basin. Access to water volumes authorized beyond Period Four of this permit is contingent upon all permitted withdrawals in the basin being within the Long-Term Safe Yield, and on MassDEP completing a permit renewal or a permit amendment incorporating the Long-Term Safe Yield determination.

### 2. Maximum Authorized Daily Withdrawals From Each Withdrawal Point

Withdrawals from individual withdrawal points are not to exceed the approved maximum daily volumes listed below without specific advance written approval from MassDEP (Table 3). The authorized maximum daily volume is the approved rate of each source. In no event shall the combined withdrawals from the individual withdrawal points exceed the withdrawal volumes authorized above in Special Condition 1.



**Table 3: Maximum Daily Withdrawal Volumes**

Well Name	PWS Source ID Code	Maximum Daily Rate (MGD)
Well 3-98	2299000-0AG	0.86
Harbor Trace Well	2299000-03G	1.0

### **3. Wellhead Protection**

Townsend is in compliance with the Groundwater Protection District Bylaw consistent with the requirements of the MassDEP's Wellhead Protection Regulations, 310 CMR 22.21(2). Furthermore, Lunenburg has protected the portion of Townsend's Zone II that is within the Town of Lunenburg through its Wellhead Protection Bylaw and Maps. No further work is required at this time.

### **4. Performance Standard for Residential Gallons Per Capita Day Water Use**

Townsend's Performance Standard for Residential Gallons Per Capita Day (RGPCD) is 65 gallons. Townsend was required to be in compliance with this Performance Standard by December 31, 2008. Townsend shall report its RGPCD water use annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard each year.

Townsend shall report its RGPCD and the calculation used to derive that figure as part of its ASR including, without limitation, the source of the data used to establish the service population and the year in which this data was developed. See Appendix A for additional information on the requirements if the Performance Standard for RGPCD is not met.

### **5. Performance Standard for Unaccounted for Water**

Townsend's Performance Standard for Unaccounted for Water (UAW) is 10% of overall water withdrawal. Townsend was required to be in compliance with this Performance Standard by December 31, 2008. Townsend shall report its UAW annually in its Annual Statistical Report (ASR) and document compliance with this Performance Standard each year.

Townsend shall report its UAW and the calculation used to derive that figure as part of its ASR. UAW is defined as the difference between water pumped or purchased and water that is metered or confidently estimated. UAW shall include, without limitation, water that cannot be accounted for due to meter problems, unauthorized hydrant openings, unavoidable leakage, recoverable leakage, illegal connections, stand pipe overflows, and fire protection where it cannot be confidently estimated. The need for water main flushing and the use of water in construction or meter calibration shall be metered or estimated as appropriate to assist in determining actual demand. Volumes flushed to waste shall be reported on Townsend's ASR.

Townsend's first year to meet this performance standard was 2012, in which UAW was reported as 6%. For 2013, Townsend reported 22.1% UAW. See Appendix B for additional information on requirements if UAW is above 10%.



## **6. Seasonal Limits on Nonessential Outdoor Water Use**

Permittee shall limit nonessential outdoor water use through mandatory restrictions from May 1<sup>st</sup> through September 30<sup>th</sup> as outlined in Table 4 below.

Permittee shall be responsible for tracking streamflows and drought advisories and recording when restrictions are implemented if streamflow triggered restrictions are implemented. See *Accessing Streamflow and Drought Advisory Website Information* in Table 4 for instructions.

Permittee shall document compliance with the summer limits on nonessential outdoor water use annually in its Annual Statistical Report (ASR), and indicate whether it anticipates implementing calendar triggered restrictions or streamflow triggered restrictions during the next year. Nothing in this permit shall prevent Permittee from implementing water use restrictions that are more restrictive than those set forth in this permit.

### **Water Uses Restrictions**

**Nonessential outdoor water uses that are subject to mandatory restrictions include:**

- irrigation of lawns via sprinklers or automatic irrigation systems;
- washing of vehicles, except in a commercial car wash or as necessary for operator safety; and
- washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply surface treatments such as paint, preservatives, stucco, pavement or cement.

**The following uses may be allowed when mandatory restrictions are in place:**

- irrigation to establish a new lawn and new plantings during the months of May and September;
- irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 am to 5 pm; and
- irrigation of lawns, gardens, flowers and ornamental plants by means of a hand-held hose.

**Water uses NOT subject to mandatory restrictions are those required:**

- for health or safety reasons;
- by regulation;
- for the production of food and fiber;
- for the maintenance of livestock; or
- to meet the core functions of a business (for example, irrigation by golf courses as necessary to maintain tees, greens, and limited fairway watering, or irrigation by plant nurseries as necessary to maintain stock).

**To the extent feasible, all summer outdoor water use should take place before 9 am and after 5 pm when evaporation and evapotranspiration rates are lower.**



Notice that restrictions have been put in place shall be filed each year with MassDEP within 14 days of the restriction's effective date. Filing shall be in writing on the Water Use Restrictions Form at <http://www.mass.gov/dep/water/approvals/wmgforms.htm#conserve>.

Notice to customers and MassDEP need not be provided if Permittee has already implemented water use restrictions that conform to the applicable restrictions and those restrictions are still in force.

## 7. Water Conservation Requirements

At a minimum, Townsend shall implement the following conservation measures forthwith and shall be in compliance with these measures on or before February 28, 2017. Compliance with the water conservation requirements shall be reported to MassDEP upon request or by February 28, 2017, unless otherwise noted below.

**Table 5: Minimum Water Conservation Requirements**

### System Water Audits and Leak Detection

- Not done*
1. At a minimum, conduct a full leak detection survey every three years. The first full leak detection survey shall be completed no later than 3 years from the date of last documented leak detection survey.
  2. Perform a leak detection survey of those sections of the distribution system that have not been surveyed within the last year whenever the percentage of unaccounted for water increases by 5% or more (for example an increase from 3% to 8%) over the percentage reported on the ASR for the prior calendar year. Within 60 days of completing the leak detection survey, Permittee shall submit to MassDEP a report detailing the leak detection survey, any leaks uncovered as a result of the survey or otherwise, dates of repair and the estimated water savings as a result of the repairs.
  3. Conduct field surveys for leaks and repair programs in accordance with the *AWWA Manual 36*.
  4. Permittee shall have repair reports available for inspection by MassDEP. Permittee shall establish a schedule for repairing leaks that is at least as stringent as the following:
    - Leaks of 15 gallons per minute or more shall be repaired as soon as possible but not later than one month after leak detection.\*
    - Leaks of less than 15 gallons per minute, but greater than 5 gallons per minute, shall be repaired as soon as possible but not later than two months after leak detection.\*
    - Leaks of 5 gallons per minute or less shall be repaired as soon as possible but not later than six months after leak detection, except that hydrant leaks of one gallon or less per minute shall be repaired as soon as possible.\*
    - Leaks shall be repaired in accordance with the priority schedule including leaks up to the property line, curb stop or service meter, as applicable.
    - Have water use regulations in place that require property owners to expeditiously repair leaks on their property.The following exceptions can be considered:
    - Repair of leakage detected during winter months can be delayed until weather conditions become favorable for conducting repairs;\* and
    - Leaks in freeway, arterial or collector roadways may be coordinated with other scheduled projects being performed on the roadway.\*\*

\*Reference: MWRA regulations 360 CMR 12.09



**Table 5: Minimum Water Conservation Requirements**

**\*\*Mass Highway or local regulations may regulate the timing of tearing up pavement on roads to repair leaks.**

**Metering**

1. Calibrate all source and finished water meters at least annually and report date of calibration on the ASR.
2. Ensure that the system is 100% metered, including all water use at municipal facilities (schools, school athletic fields, etc.).
3. All water distribution system users shall have properly sized service lines and meters that meet AWWA calibration and accuracy performance standards.

**AWWA References:**

AWWA Manual M22 – Sizing Water Service Lines and Meters  
AWWA Manual M6 – Water Meters, or as amended

4. Permittee shall have an ongoing program to inspect individual service meters to ensure that all service meters accurately measure the volume of water used by your customers. The metering program shall include regular meter maintenance, including testing, calibration, repair, replacement and checks for tampering to identify and correct illegal connections.
5. Ensure placement of sufficient funds in the annual water budget to calibrate, repair, or replace meters as necessary.

**Pricing**

1. Implement a water revenue structure that includes the full cost of operating the water supply system in compliance with state and federal requirements. Evaluate revenues every three to five years and adjust rates as needed. Full cost pricing factors all costs - operations, maintenance, capital, and indirect costs (environmental impacts, watershed protection) - into the revenue structure.

**AWWA References for Additional Information on Pricing:**

AWWA Manual 1- Principals of Water Rates, Fees and Charges  
AWWA Manual 29- Fundamentals of Water Utility Financing

2. Permittee reports using an increasing block rate structure and shall continue to do so.

**Residential and Public Sector Conservation**

1. Permittee shall meet the standards set forth in the Federal Energy Policy Act, 1992 and the Massachusetts Plumbing Code.
2. Meter or estimate water used by contractors using fire hydrants for pipe flushing and construction.
3. Municipal buildings
  - Townsend reported in 2005 that all municipally owned public buildings in the service area were retrofitted with water saving devices.

**Industrial and Commercial Water Conservation**

1. Permittee shall review the use records for its industrial, commercial and institutional water users and develop an inventory of the largest water users. Permittee shall develop and implement an outreach program designed to inform and (where appropriate) work with its largest industrial, commercial and institutional water users on ways to reduce their water use. Such outreach plans can include, but are not limited to: information on water audits, meter sizing, water reuse, low-flow plumbing fixtures, mandatory outdoor water use restrictions, suggestions for contacting trade



## **Appendix B – Unaccounted for Water (UAW)**

UAW is defined as the residual resulting from the total amount of water supplied to a distribution system as measured by master meters, minus the sum of all amounts of water measured by consumption meters in the distribution systems, and minus confidently estimated and documented amounts used for certain necessary purposes.

UAW shall include, without limitation: unavoidable leakage, recoverable leakage, meter inaccuracies (unless they fall under the category of source meter calibration which allows for adjustment per results of source meter calibration); errors in estimation of stopped meters, unauthorized hydrant openings, illegal connections, stand pipe overflows, data processing errors; and undocumented fire fighting uses. The need for water main flushing and the use of water in construction or meter calibration shall be metered or estimated as appropriate to assist in determining actual demand. Volumes flushed to waste shall be reported on permittee's ASR.

Uses that can be confidently estimated and documented in writing include: storage tank overflow and drainage; water main flushing and flow testing; fire fighting; bleeding or blow-offs; sewer and storm water system flushing; and cleaning and street cleaning. Any adjustments made as a result of the properly documented source meter calibration shall be provided as required by the ASR. Any adjustment in the calculation of UAW made as a result of confidently estimated uses shall be fully documented as required in the ASR.

### **I. Compliance Plan Requirement**

If the permittee fails to document compliance with the UAW performance standard in its Annual Statistical Report (ASR), then the permittee must file with that ASR an Unaccounted for Water Compliance Plan (UAW Plan) which shall:

- a. meet the requirements set forth below in Section II;
- b. include measures to be implemented to meet the performance standard; and
- c. include the schedule for implementing such measures.

The filing of a UAW Plan shall not constitute a return to compliance, nor shall it affect MassDEP's authority to take action in response to the permittee's failure to meet the performance standard.

If a UAW Plan is required, the permittee must:

- a. submit information and supporting documentation sufficient to demonstrate compliance with its UAW Plan annually at the time it files its ASR; and
- b. continue to implement the UAW Plan until it complies with the performance standard and such compliance is documented in the permittee's ASR for the calendar year in which the standard is met.

### **II. Contents of a UAW Compliance Plan**

A permittee that does not meet the 10% UAW performance standard within 2 years, has the choice to file a UAW Plan containing measures that the permittee believes will be sufficient to bring the system into compliance with the performance standard (Individual UAW Plan) or may



adopt the MassDEP UAW Functional Equivalence Plan that includes mandated Best Management Practices (BMPs).

A permittee that has been unable to meet the 10% UAW performance standard within 5 years must implement the MassDEP UAW Functional Equivalence Plan to be considered functionally equivalent with the performance standard.

At a minimum, all UAW plans must include a detailed:

- description of the actions taken during the prior calendar year to meet the applicable performance standard;
- analysis of the cause of the failure to meet the performance standard;
- description and schedule of the actions that will be taken to meet the performance standard; and
- analysis of how the actions described in c. will address the specific circumstances that resulted in the failure to meet the performance standard.

UAW plans may be amended to revise the actions that will be taken to meet the performance standard.

#### **Individual UAW Compliance Plan**

Individual UAW Plan will document a plan to adopt and implement measures tailored to the specific needs of the water supply system that the permittee believes will be sufficient to bring the system into compliance with the performance standard within three years. Individual UAW compliance plans may include any of the actions set forth in the MassDEP UAW Functional Equivalence Plan compliance plan below.

#### **MassDEP UAW Functional Equivalence Plan**

In order to be considered functionally equivalent with the UAW performance standard, the permittee must adopt and implement the MassDEP UAW Functional Equivalence Plan that, at a minimum, requires all the following measures:

- within one year of filing the MassDEP UAW Functional Equivalence Plan, complete a water audit and leak detection survey of the entire system and submit completed audit and survey to MassDEP;  
within one year of completing the audit and leak detection survey, conduct sufficient repairs to reduce by 75% (by water volume) all leaks detected in the survey;  
within one year of completing such repairs, conduct additional repairs of leaks detected in the survey as may be necessary to reduce permittee's UAW to 10% or the minimum level possible;
- if UAW remains above 10%, repeat the steps outlined in paragraph a.;
- implementation of a program that ensures the inspection and evaluation of all water meters and, as appropriate, the repair, replacement and calibration of water meters in accordance with the following schedule:
  - Large Meters (2" or greater) - within one year of filing the MassDEP UAW Functional Equivalence Plan
  - Medium Meters (1" or greater and less than 2") - within two years of filing the MassDEP UAW Functional Equivalence Plan
  - Small Meters (less than 1") - within three years of filing the MassDEP UAW Functional Equivalence Plan;

95%  
abs 2  
Jan 2021  
90%  
6%



- d. implementation of monthly or quarterly billing within three years of filing the MassDEP UAW Functional Equivalence Plan; and
- e. within one year of filing the MassDEP UAW Functional Equivalence Plan, implementation of a water pricing structure that achieves sufficient revenues to pay the full cost of operating the system including, without limitation, the costs of repairs under paragraph a., the costs of meter repairs, replacements and calibrations under paragraph c., the costs of employees and equipment, and ongoing maintenance and capital costs.

### **Hardship**

A permittee may present an analysis of the cost effectiveness of implementing certain conservation measures included in the MassDEP UAW Functional Equivalence Plan and offer alternative measures. Any analysis must explicitly consider environmental impacts and must produce equal or greater environmental benefits. Suppliers will be able to present:

- a. Reasons why specific measures are not cost effective because the cost would exceed the costs of alternative methods of achieving the appropriate standard;
- b. Alternative specific conservation measures that would result in equal or greater system-wide water savings or equal or greater environmental benefits than the conservation measures included in the MassDEP UAW Functional Equivalence Plan; and
- c. When applicable, an analysis demonstrating that implementation of specific measures will cause or exacerbate significant economic hardship.

**Town of Townsend  
Townsend Water Department**

PO Box 321  
Medford, MA 02155  
978-597-2212

**Remittance Coupon Please Return  
With Payment**

Account Number: 60391

New Charges:	\$1,080.00
Credits:	\$0.00
Past Due:	\$108.00
Interest:	\$5.73
<b>Total Due: 05/05/21</b>	<b>\$1,180.99</b>

04 00 000587 0000118099 050521 00001180994

Account #	Service Location	Parcel Identifier	Billing Date	Due Date	Total Due
[REDACTED]	[REDACTED]	[REDACTED]	4/5/2021	5/5/2021	\$1,180.99

Meter Readings				Usage Summary		New Charge Summary			
Meter	Date	Type	Read	Rate	Total Usage	Charge	Quantity	Amount	Total
[REDACTED]	3/17/2021	ACT	3,050	TWD	3,050	Backflow NEW	3	\$55.00	\$165.00
[REDACTED]	12/1/2020	ACT	0			SPKL6	1	\$735.00	\$735.00
						Water		\$131.76	\$131.76
						WR	1	\$37.50	\$37.50

Tax Payer Message	Rate Information
<p>To view our 2020 Water Quality Report and learn more about your drinking water go to <a href="http://www.townsendma.gov">www.townsendma.gov</a> Select Water Department page. Select 2020 WATER quality Report.</p> <p>Please visit our website <a href="http://Townsendwater.org">Townsendwater.org</a> and like our facebook page TOWNSEND WATER DEPARTMENT for important updates.</p> <p>We will soon be joining the CodeRed program with the police station. Find the link to sign up at <a href="http://townsendpd.org">townsendpd.org</a></p> <p>In case of emergencies, please contact the office at 978-597-2212 Monday-Friday 9-3. For after-hour emergencies, please call 978-597-6214 or 911.</p> <p>Please be sure to include your account number on your check when mailing in your payment to ensure proper posting. Thank you!</p>	<p>\$37.50 Unit charge \$4.32 per 100 cubic feet \$5.36 per 1,000 gallons 748 gallons</p> <p>Water bills are mailed quarterly January, April, July and October</p> <p>Interest will now be accrued daily totaling a rate of 1.5% monthly on all unpaid invoices over 30 days.</p>