

**BOARD OF WATER & WASTEWATER COMMISSIONER'S  
MEETING AGENDA\***  
**Harwich Water Department, 196 Chatham Road, Harwich MA**  
*Wednesday, December 14, 2022*  
*11:30 a.m.*

*\*As required by Open Meeting Law, you are hereby informed that the Town will be video and audio taping as well as broadcasting this public meeting. In addition, anyone in the audience who plans to video or audio tape this meeting must notify the Chairman prior to the start of the meeting.*

- I. CALL TO ORDER
- II. EXECUTIVE SESSION
- III. PUBLIC COMMENTS / ANNOUNCEMENTS
- IV. CONSENT AGENDA
  - A. Minutes
    - 1. November 30, 2022
- V. ABATEMENTS
- VI. OLD BUSINESS
  - A. Water Restrictions Bylaw
  - B. Well Rehab Update
- VII. NEW BUSINESS
  - A. DEP Sanitary Survey
  - B. Glysophate Study
- VIII. SUPERINTENDENT'S REPORT
- IX. COMMISSIONER'S REPORT
- X. CORRESPONDENCE / ANY OTHER BUSINESS
- XI. NEXT MEETING: TBD
- XII. ADJOURNMENT

*\*Per the Attorney General's Office: The Board of Water Commissioners may hold an open session for topics notreasonably anticipated by the Chair 48 hours in advance of the meeting following "New Business."  
If you are deaf or hard of hearing or are a person with a disability who requires an accommodation, contact the Water Department Office at 508-432-0304 x.0 or by email at [customerservice@harwichwater.com](mailto:customerservice@harwichwater.com).*

Authorized Posting Officer:

Town Posting Date: \_\_\_\_\_

Tracey Alves | Board Secretary

\_\_\_\_\_ | Town Clerk

## CONSENT AGENDA

### A. Minutes

1. November 30, 2022- *Will be added to next meeting agenda*

OLD BUSINESS

A. Water Restrictions Bylaw

§ 300-5 **Violations and penalties.**

Any person or entity that violates this bylaw shall be liable to the Town of Harwich as follows:

- First Offense – written warning
- Second Offense - \$100.00 dollars
- Third and any subsequent offense - \$300.00 dollars

~~in the amount of \$50 for the first violation and \$100 for each subsequent violation.~~ Fines shall be recovered by indictment or on complaint before the District Court or by noncriminal disposition in accordance with MGL c. 40, § 21D. Each separate instance of noncompliance following issuance of any warning or citation pursuant to this section or each day of a continuing violation shall constitute a separate offense.

§ 300-16 **Violations and penalties.**

Any person violating this bylaw shall be liable to the Town ~~in the amount of \$50 for the first violation and \$100 for each subsequent violation, which shall inure to the Town.~~ as follows:

- First Offense – written warning
- Second Offense - \$100.00 dollars
- Third and any subsequent offense - \$300.00 dollars

Fines shall be recovered by indictment or on complaint before the District Court or by noncriminal disposition in accordance with MGL c. 40, § 21D. Each separate instance of noncompliance following issuance of any warning or citation pursuant to this section or each day of a continuing violation shall constitute a separate offense.

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~~Fines shall be recovered by indictment or on complaint before the District Court, or by noncriminal disposition in accordance with MGL c. 40, § 21D. Each day of violation shall constitute a separate offense.~~

§ 300-12 **Restricted water uses.**

A declaration of a state of water supply conservation shall include one or more of the following restrictions, conditions, or requirements limiting the use of water as necessary to protect the water supply. The applicable restrictions, conditions, or requirements shall be included in the public notice required under § **300-13**.

**A.** Odd/even day outdoor watering. Outdoor watering by water users with odd-numbered addresses is restricted to odd-numbered days. Outdoor watering by water users with even-numbered addresses is restricted to even-numbered days.

**B.** Outdoor watering ban. Outdoor watering is prohibited.

**C.** Outdoor watering hours. Outdoor watering is permitted only during daily periods of low demand, to be specified in the declaration of a state of water supply conservation and public notice thereof.

**D.** Filling swimming pools. Filling of swimming pools is prohibited.

**E.** Automatic sprinkler use. The use of automatic sprinkler systems is prohibited.

# NEW BUSINESS

A. DEP Sanitary Survey



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Bethany A. Card  
Secretary

Martin Suuberg  
Commissioner

November 30, 2022

Mr. Daniel Pelletier, Superintendent  
Harwich Water Department  
196 Chatham Road  
Harwich, MA 02645

RE: HARWICH – Public Water Supply  
Harwich Water Department  
PWS ID#: 4126000  
Sanitary Survey

Dear Mr. Pelletier:

Attached please find a sanitary survey report for a field survey performed at the Harwich Water Department on November 1, 2022.

As a result of this inspection, your system was found to have an Adequate Capacity rating.

The signature on this cover letter indicates formal issuance of the attached document. Please contact Bill Schwartz at (508) 946-2818 or [william.schwartz@mass.gov](mailto:william.schwartz@mass.gov) if you have any questions concerning this document.

Sincerely,

Jim McLaughlin, Chief  
Drinking Water Program  
Bureau of Water Resources

WS/encl.

Y:\DWP Archive\SERO\Harwich-4126000-Sanitary Survey-2022-11-30

ec: Dan Pelletier, [dpelletier@harwichwater.com](mailto:dpelletier@harwichwater.com)  
Harwich Board of Health, [health@town.harwich.ma.us](mailto:health@town.harwich.ma.us)

## Public Water System Sanitary Survey

**CITY:** Harwich  
**PWSID:** 4126000  
**PWS NAME:** Harwich Water Department

<b>Survey Date:</b> November 1, 2022	<b>Report Date:</b> November 30, 2022
<b>Surveyor:</b> Bill Schwartz	<b>Affiliation:</b> MassDEP-SERO
<b>Person Interviewed:</b> Dan Pelletier	<b>Title:</b> Superintendent
<b>Person Interviewed:</b>	<b>Title:</b>
<b>Person Interviewed:</b>	<b>Title:</b>

### **PUBLIC WATER SUPPLIERS:**

Attached is a Sanitary Survey Report for the above referenced sanitary survey site visit.

At the end of the report is a Water System Compliance Plan which consists of the following (checked items only):

- Table A - Summary of violations and Notice of Noncompliance (if violations were observed during the survey)
- Table B – Summary of deficiencies and required corrective actions
- Table C – Recommendations
- Water supplier response and certification.

**Within 30 days of receipt of this inspection report, you must complete and submit the response form if your system has TABLE A–Violations and/or TABLE B-Deficiencies. Attach a copy of each completed table listing the date that the corrective action was or will be taken by your system and all other applicable documentation. (310 CMR 22.04(12))**

**SYSTEM DESCRIPTION:**

The Harwich Water Department serves a winter population of 13,354, and summer population of over 40,000. The Harwich water system includes 14 groundwater wells for its raw water sources, 5 treatment plants and 3 water storage tanks. Sodium hypochlorite provides disinfection. The Main Station treats seven wells, Station #2 treats three wells, Station 8/9 treats two wells, and Stations 10 and 11 each treat one well. All chemical pumps are flow-paced by SCADA based on the well pump motors. All chemical pumps have twist-lock plugs. Alarms and interlocks are tested and documented in compliance with the Critical Chemical Control Strategy. Sodium Hypochlorite provides disinfection and potassium hydroxide is used for corrosion control. Additionally, the system has the option of using sodium hydroxide for corrosion control. The Main Station treated water flows to the Bruce Cahoon Greensand Filtration facility for iron removal. Station 10 also further treats the water with a Greensand filtration treatment system for manganese removal.

All facilities were found to be well maintained and in good working order. All required documentation was kept on file and available for review.

**ADMINISTRATION:**

**General System Information**

PWSID	CLASS	SEASON_START	SEASON_END	POP_SERVED_SUM	POP_SERVED_WIN	Last_Annual_Stat
4126000	COM	101	1231	40062	13354	2021

**Facility Address:**

Name	Address	Town	Phone	Email	Comments
HARWICH WATER DEPARTMENT	196 CHATHAM RD	HARWICH	5084320304	DPELLETIER@HARWICHWATER.COM	OFFICE: 508-432-0304 X110; DAN'S CELL IS SHOWN ABOVE

**Mailing Address:**

Name	Mailing Address	Town	State	Zip
HARWICH WATER DEPARTMENT	196 CHATHAM RD	HARWICH	MA	02645

**Contact Information**

PWSID#	First	MI	Last	Work Phone#	Primary Contact?
4126000	DANIEL	R	PELLETIER	7747227963	Y

**Comments:**



**Certified Operator Information:**

PWSID	REG_OBJ_NAME	DESCRIPTION	First	MI	Last	License#	Grade
4126000	HARWICH WATER DEPARTMENT	SECONDARY TREATMENT OPERATOR	DAVID	C	NICHOLSON	27606/27607	3D/2T
4126000	HARWICH WATER DEPARTMENT	SECONDARY DISTRIBUTION OPERATOR	JASON	M	ELDREDGE	25331/25305	3D/1T OIT
4126000	HARWICH WATER DEPARTMENT	PRIMARY TREATMENT OPERATOR	DANA	M	MILAN	27711/27605	2T/3D
4126000	HARWICH WATER DEPARTMENT	PRIMARY DISTRIBUTION OPERATOR	STEVEN	G	HICKS	25255/25272	1T OIT/3D
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	SCOTT	A	CURRIE	23151	2D OIT
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	DANIEL	R	PELLETIER	28750/28751	3T/3D
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	MICHAEL		LEWIS	29371	1D OIT
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	JASON	M	ELDREDGE	25331/25305	3D/1T OIT
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	STEVEN	G	HICKS	25255/25272	1T OIT/3D
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	TIMOTHY	J	PICARD	23352	1D
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	JOSHUA	D	MAJKA	26673	1D
4126000	HARWICH WATER DEPARTMENT	GENERAL OPERATOR	DANA	M	MILAN	27711/27605	2T/3D

PWSID	MaxOfTREATMENT_CLASS	POPULATION SERVED SUM	DISTRIBUTION CLASS
4126000	II-T	40062	III-D

- Does the PWS have a certified operator? (Verify that primary operator listed in WQTS is the correct PWS operator)      Yes       No
- Are operator grades appropriate for system size and/or treatment type?      Yes       No
- Does the system have the correct staffing levels for the system size and grade?      Yes       No
- Is the certified operator or a backup operator available for emergencies?      Yes       No

**Comments:**

**OPERATION AND MAINTENANCE:**

- Is there an adequate spare parts inventory?      Yes       No
- Is there an O & M Manual?      Yes       No
- Is there a preventative maintenance program?      Yes       No
- Are operational records collected appropriately?      Yes       No
- Are records properly maintained and available for review?      Yes       No
- Frequency of master meter readings?      Daily       Monthly       Other  \_\_\_\_\_
- Frequency of distribution meter readings      Twice per year      N/A
- How frequently are meters calibrated?      annually
- **The Department recommends that source meters be calibrated on an annual basis.**
- Are emergency telephone numbers posted?      Yes       No

Is all critical infrastructure locked? Yes  No

Does the PWS have available an emergency response plan prepared in accordance with the provisions of 310 CMR 22.04(13)? Yes  No

Does the PWS conduct annual emergency response training in accordance with the provisions of 310 CMR 22.04(13)? (refer to ASR) Yes  No

Who performs emergency repairs? (Systems without dedicated staff) Dedicated staff and contractors as needed

Are multilingual communities served? If so, list languages required for public communications. N/A

**Comments:**

Emergency Response Plan was recently updated to include ER training and cybersecurity strategies. PWS confirmed checklist was submitted to Boston Office.

**SOURCES:**

PWSID	#Sources	% Ground	%Purch Ground	% SURFACE	%Purch Surface	YEAR	Avg Daily Demand ( MGD)	Max Daily Demand (MG)
4126000	15	100	0	0	0	2021	2.17	6.329
4126000	15	100	0	0	0	2020	2.49	6.584
4126000	15	100	0	0	0	2019	2.00	5.548
4126000	15	100	0	0	0	2018	2.12	5.782
4126000	15	100	0	0	0	2017	1.92	5.972
4126000	15	100	0	0	0	2016	2.33	6.035

**Surface Water Sources:** NONE

**Groundwater Sources:**

**Well Construction Information**

Source ID	Source Name	Location	Source Type	Availability	Well Type	Depth	Pump Setting
4126000-01G	GP WELL 1	196 CHATHAM RD.	SGWNP	ACTIVE	GP	74	0
4126000-02G	GP WELL 2	196 CHATHAM RD.	SGWNP	ACTIVE	GP	66	0
4126000-03G	GP WELL 3	196 CHATHAM RD.	SGWNP	ACTIVE	GP	76	0
4126000-04G	MAIN STATION (3 WELLS)	HARWICH	SGWNP	ABAND	TUB	33	0
4126000-05G	GP WELL 4	CHATHAMRD.	SGWNP	ACTIVE	GP	85	0
4126000-06G	GP WELL 5	85 DEPOT RD.	SGWNP	ACTIVE	GP	55	0
4126000-07G	GP WELL 6	85 DEPOT RD.	SGWNP	ACTIVE	GP	48	0
4126000-08G	GP WELL 7	85 DEPOT RD.	SGWNP	ACTIVE	GP	57	0
4126000-09G	GP WELL 8	PLEASANT BAY RD.	SGWNP	ACTIVE	GP	60	0
4126000-10G	GP WELL 9	PLEASANT BAY RD.	SGWNP	ACTIVE	GP	62.5	0
4126000-11G	STATION 10	NORTH WESTGATE RD	SGWNP	ACTIVE	GP	55	265
4126000-12G	STATION 11	BAY ROAD	SGWNP	ACTIVE	GP	83	0
4126000-13G	MAIN STATION WELL 1	196 CHATHAM RD.	SGWNP	ACTIVE	GD	50.7	0
4126000-14G	MAIN STATION WELL 2	196 CHATHAM RD.	SGWNP	ACTIVE	GD	50	38
4126000-15G	MAIN STATION WELL 3	196 CHATHAM RD.	SGWNP	ACTIVE	GD	42.8	24

**Well Inspection**

DEP No.	Local ID	Well Ht. (in)	Vent Screen	RW Sample Tap	FW Sample Tap	HP & Pump Type	Emergency Power	Pump House	Year-round	Comments
01G	Well #1	12	N/A	Y	Y	Sub	Y	Y	Y	
02G	Well #2	12	Y	Y	Y	Sub	Y	Y	Y	
03G	Well #3	12	Y	Y	Y	Sub	Y	Y	Y	
04G	Main St wells abandoned									
05G	Well #4	10	N/A	Y	Y	Sub	Y	Y	Y	
06G	Well #5	4	N/A	Y	Y	Sub	Y	Y	Y	
07G	Well #6	4	N/A	Y	Y	Sub	Y	Y	Y	
08G	Well #7	4	N/A	Y	Y	Sub	Y	Y	Y	
09G	Well #8	6	Y	Y	Y	Sub	Y	Y	Y	
10G	Well #9	4	Y	Y	Y	Sub	Y	Y	Y	
11G	Station #10	19	Y	Y	Y	Sub	Y	Y	N	
12G	Station #11	12	Y	Y	Y	Sub	Y	Y	Y	
13G	Main Station Well 1	18	Y	Y	Y	Sub	Y	N	Y	
14G	Main Station Well 2	21	Y	Y	Y	Sub	Y	N	Y	
15G	Main Station Well 3	18	Y	Y	Y	Sub	Y	N	Y	

- Are all wells in use approved and recorded in WQTS? Yes  No
- Are all of the wells listed on the sampling schedule? Yes  No
- Are manifolded wells reflected accurately on the schedule? Yes  No  N/A
- \*Is the wellhead damaged in a manner that would make the source susceptible to contamination? Yes  No
- \*Are there unprotected openings in the well cap or casing? Yes  No
- \*Is the wellhead, cap, and/or vent subject to flooding? Yes  No
- Are all wells > 100 ft from the nearest surface water? (NC systems) Yes  No
- Is the quantity of water supply adequate? Yes  No
- Do any sources run dry? Yes  No
- If yes, during which periods and how is it handled?  N/A

**Comments:**

All well houses are well maintained and in excellent condition. Main Station Wells 1, 2 and 3 (13G, 14G and 15G) are located within a few feet of a road that is routinely travelled on by Water Department personnel. It is the inspector's opinion that these well casings/well heads are susceptible to damage and recommend protective bollards be installed.

**Source Protection:**

**SWAP Database Information**

**IProtect Zone I Info**

PWSID	Source ID	Zone I	Zone I Method	Zone I Owned?	WQTS Zone I Contamination Sources	WELLHEAD_PROT_PLAN
4126000	4126000-01G	400	Approved Rate	Y	UTILITY TRANSMISSION LINES, BIKE PATH	Y
4126000	4126000-02G	400	Approved Rate	Y	UTILITY LINES, BIKE PATH	Y
4126000	4126000-03G	400	Approved Rate	Y	UTILITY LINES, BIKE PATH	Y
4126000	4126000-05G	400	Approved Rate	Y		Y
4126000	4126000-06G	400	Approved Rate	Y	UTILITY LINES, BIKE PATH	Y
4126000	4126000-07G	400	Approved Rate	Y	UTILITY LINES< BIKE PATH	Y
4126000	4126000-08G	400	Approved Rate	Y	UTILITY LINES, BIKE PATH	Y
4126000	4126000-09G	400	Approved Rate	Y	UTILITY LINES	Y
4126000	4126000-10G	400	Approved Rate	Y	UTILITY LINES	Y
4126000	4126000-11G	400	Approved Rate	Y		Y
4126000	4126000-12G	400	Approved Rate	Y		Y
4126000	4126000-13G	400	Approved Rate	Y	MAIN STATION--PARKING, ACESSS ROAD, GARAGE	Y
4126000	4126000-14G	400	Approved Rate	Y	MAIN STATION ROAD, OFFICE , OUT BUILDINGS	Y
4126000	4126000-15G	400	Approved Rate	Y		Y

**IProtect Zone II IWPA Info**

PWSID	Source ID	Zone II Number	IWPA	IProtect Approved Rate	Units*	WQTS Approved Rate (MGD)	(gpm)	IProtect Comments
4126000	4126000-01G	97		680	galm	0.979	679.8176	PWS controls zone 1 Zone 1 contains utility lines, bike paths
4126000	4126000-02G	97		280	galm	0.403	279.8432	PWS controls zone 1 Zone 1 contains utility lines, bike paths
4126000	4126000-03G	97		580	galm	0.835	579.824	PWS controls zone 1 Zone 1 contains utility lines, bike paths
4126000	4126000-05G	97		690	galm	0.993	689.5392	PWS controls zone 1 Zone 1 contains utility lines, bike paths
4126000	4126000-06G	98		490	galm	0.705	489.552	PWS controls Zone I Utility transmission line, bike path
4126000	4126000-07G	98		460	galm	0.662	459.6928	
4126000	4126000-08G	98		550	galm	0.792	549.9648	Utility transmission line, bike path PWS owns Zone I.
4126000	4126000-09G	99		500	galm	0.72	499.968	PWS controls Zone I Utility transmission line
4126000	4126000-10G	99		500	galm	0.72	499.968	PWS controls Zone I Utility transmission line
4126000	4126000-11G	29		467	galm	0.67	465.248	PWS controls zone 1 Zone 1 contains building, access road and is mostly forested
4126000	4126000-12G	362		618	galm	0.89	618.016	Zone I includes wooded area and access road. PWS owns the Zone I area.
4126000	4126000-13G	97		900	galm	0	0	PWS controls zone 1 Zone 1 contains main station, parking, street, garage, access road
4126000	4126000-14G	97		900	galm	0	0	PWS controls zone 1 Zone 1 contains main station, road, buildings
4126000	4126000-15G	97		900	galm	0	0	PWS controls zone 1 Zone 1 contains main station, roads and parking

- Is there excessive use of fertilizers or chemicals in Zone I? Yes  No
- Are there any known or potential, sources of pollution observed in the Zone I or IWPA (other than those listed in the SWAP report)? Yes  No
- Is there an awareness of threats and an attempt to minimize them? Yes  No
- Is protection area posted? Yes  No
- Are source water protection measures adequate? Yes  No

**Comments:**

The Water Department utilizes land within the zone 1 of Main Station Wells 1, 2 and 3 (13G, 14G and 15G) to store and keep supplies and equipment directly related to the provision of the public water system; however, it does include construction material/ debris and equipment. This material and equipment is directly related to the use and operations of the PWS; however, it is the Department's opinion that housing this equipment and material within the zone 1 poses a risk to water quality. It is strongly recommended that the PWS relocate these materials outside the zone 1. The PWS may also consider providing a cover/shelter for the construction debris to prevent runoff, reducing the possibility for any ground water contamination. The PWS maintains spill kits on site; it is recommended that these spill kits be inspected annually to ensure the proper containment remains onsite and easily accessible in the event it is needed.

**TREATMENT - GENERAL:**

Active treatment plant information listed within Department records:

Treatment Plant Info				
Treatment Plant ID#	Name	Availability	Plant Capacity (MGD)	Treatment Class
4126000-01T	MAIN STATION	ACTIVE		I-T
4126000-02T	STATION 2	ACTIVE		I-T
4126000-03T	STATION 8/9	ACTIVE		I-T
4126000-04T	STATION 10	ACTIVE		II-T
4126000-05T	STATION 11	ACTIVE		I-T
4126000-06T	BRUCE CAHOON WATER TREATMENT PLANT	ACTIVE	4.46	II-T

Active treatment process information listed within Department records:

Treatment Records					
Treatment Plant ID#	Name	Treatment Objective	Treatment Process	Chemical Addition	Comments
4126000-01T	MAIN STATION	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-01T	MAIN STATION	CORROSION CONTROL	PH ADJUSTMENT	Sodium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-01T	MAIN STATION	DISINFECTION	HYPOCHLORINATION, POST	Sodium Hypochlorite	
4126000-02T	STATION 2	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-02T	STATION 2	CORROSION CONTROL	PH ADJUSTMENT	Sodium Hydroxide	10-22-2008 APPROVE NAOH ALSO

### Treatment Records

Treatment Plant ID#	Name	Treatment Objective	Treatment Process	Chemical Addition	Comments
4126000-02T	STATION 2	DISINFECTION	HYPOCHLORINATION, POST	Sodium Hypochlorite	
4126000-03T	STATION 8/9	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-03T	STATION 8/9	CORROSION CONTROL	PH ADJUSTMENT	Sodium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-04T	STATION 10	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-04T	STATION 10	CORROSION CONTROL	PH ADJUSTMENT	Sodium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-04T	STATION 10	DISINFECTION	HYPOCHLORINATION, POST	Sodium Hypochlorite	
4126000-04T	STATION 10	MANGANESE REMOVAL	FILTRATION, GREENSAND		2 GREENSAND PRESSURE FILTERS ADDED TO EXISTING TREATMENT
4126000-05T	STATION 11	CORROSION CONTROL	PH ADJUSTMENT	Potassium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-05T	STATION 11	CORROSION CONTROL	PH ADJUSTMENT	Sodium Hydroxide	10-22-2008 APPROVE NAOH ALSO
4126000-05T	STATION 11	DISINFECTION	HYPOCHLORINATION, POST	Sodium Hypochlorite	
4126000-06T	BRUCE CAHOON WATER TREATMENT PLANT	IRON REMOVAL	FILTRATION, GREENSAND	Potassium Hydroxide	PRETREATED AT EXIST CC-FILTER PLANT HAS KOH AND NAOH (STANDBY)
4126000-06T	BRUCE CAHOON WATER TREATMENT PLANT	IRON REMOVAL	FILTRATION, GREENSAND	Sodium Hypochlorite	PRETREATED AT EXIST CC-FILTER PLANT HAS KOH AND NAOH (STANDBY)

No Treatment

Treatment listed above is correct

Unapproved treatment installed

**• Unapproved treatment is subject to MassDEP permit requirements**

- If a sediment filter is being utilized how often is the filter replaced? N/A
- For sources without permanent disinfection: Is an emergency chemical injection port available? Yes  No  N/A
- Are there any unprotected bypasses in the treatment process that could result in contamination of finished water? Yes  No  N/A
- Is information from the manufacturer available for reference? Yes  No  N/A
- Is chemical storage, containment, and safety equipment adequate? Yes  No  N/A
- Is equipment properly maintained? Yes  No  N/A
- Are "Critical Chemicals" used? Yes  No  N/A
- If so, is an alarm testing procedure written? Yes  No  N/A
- Also, is wiring adequate (twist-locks, HOA, etc.)? Yes  No  N/A
- Are alarms tested and adequate? Yes  No  N/A

- Are chemical treatment forms submitted monthly as required? Yes  No  N/A
- Are they completed properly? Yes  No  N/A
- Is operator familiar with the treatment system and its operation? Yes  No  N/A
- Is the treatment system providing 4-Log inactivation treatment? Yes  No  N/A
- Has the system experienced a loss of membrane integrity? Yes  No  N/A
- Does the system have a SCADA system? Yes  No  N/A
- If so, can the treatment system/plant be operated manually? If so, the PWS should confirm this is the case. If not, the system should be modified to allow an override to be activated by staff present at the plant. Yes  No  N/A
- Has the PWS completed a cybersecurity risk review? Yes  No  N/A
- Surface Water: Is a continuous turbidimeter used for compliance with the combined filter effluent monitoring requirement? Yes  No  N/A
- If so, please complete a continuous turbidimeter form and submit to the SERO SWTR Program for review. Please check the box if a form has previously been approved.

**Comments:**

PWS maintains the option of using either Sodium Hydroxide or Potassium Hydroxide for corrosion control. During time of inspection PWS was using Potassium Hydroxide. The PWS must notify the Department if the chemical is changed.

**TREATMENT FACILITY INSPECTION:**

Treatment Plant	Plant ID	Wells Treated	Emergency Power	Intrusion Alarm	Safety Equipment	Condition	Emergency Contacts	Chemical Fill	Comments
Main Station	01T	01G 02G 03G 05G 13G 14G 15G	Y	Y	Y	Very good	Y	Y	
Bruce Cahoon WTP	06T	01G 02G 03G 05G 13G 14G 15G	Y	Y	Y	Very good	Y	Y	
Station #2	02T	05G 06G 07G	Y	Y	Y	Very good	Y	Y	
Station 8/9	03T	08G 09G	Y	Y	Y	Very good	Y	Y	
Station 10	04T	11G	Y	Y	Y	Very good	Y	Y	
Station 11	05T	12G	Y	Y	Y	Very good	Y	Y	

**SAMPLING:**

PWSID	NO_BACTERIA_SAMPLES	BACTERIA_SAMPLE_FREQ	NO_WINTER_BACT_SAMPLES	WINTER_BACT_SAMPLE_FREQ
4126000	40	MONTH	15	MONTH

Does the system have an approved Total Coliform Sampling Plan?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Date of Revised Total Coliform Rule Sampling Plan approval:	2/7/2020	
Have changes been made to the system (population, configuration, storage tanks, etc.) such that the coliform sample plan does not comply with 310 CMR 22.05?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Is the system taking the correct number of bacteria samples?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system using appropriate coliform sample sites?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is the system using appropriate source sample sites?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Are raw water sample taps available for all sources?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Special assessment completed during this survey?	N/A <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>

**Comments:**

Stage 2 Disinfection By-Products Rule Compliance:

0.030mg/l free chlorine distribution average in 2022, all CI forms submitted.  
THM (5.4) & HAA5 (0.30) results are very low during 2021 sampling at 4 sites.

Lead & Copper Rule Compliance:

No lead (0.00) or copper (0.16) results above the action levels during 2021 sampling.

Per- and Polyfluoroalkyl Substances (PFAS)

PWS completed Initial Monitoring and results were Non Detect for all locations.

MONTHLY REPORTING FORMS	
FORM	SUBMITTED
Bacteria	Y
Chlorine/Chloramines	Y
Quarterly DBPR Form	Y
C-ADD: NaOCl	Y
C-ADD: KOH	Y
ASR reviewed	Y
CCR reviewed	Y



**STORAGE:**

**Maintenance and Condition**

PWSID#	Storage Tank Name	Storage Type	Tank Material	Capacity (MG)	Last Inspection Date	Last Cleaned Date	Structural Integrity-Condition
4126000	LOTHROP TANK	GROUND LEVEL	CONCRETE	1	December 2021	N/A	Good
4126000	PLEASANT LAKE TANK	ELEVATED	STEEL	1.5	December 2021	N/A	Good
4126000	RTE 39 TANK	ELEVATED	STEEL	1	December 2021	2013	Good

- MassDEP recommends storage tanks be inspected and cleaned every 5 years.

**Protection and Safety**

STORAGE TANK NAME	Proper Overflow Structure	Covered and Locked	Vented/Screened	Sample Tap	High-Low Level Control Alarms	By-pass for Repair-Cleaning	Protected from Flooding (>50 ft) or Runoff	Fenced
LOTHROP TANK	Y	Y	Y	Y	Y	Y	Y	Y
PLEASANT LAKE TANK	Y	Y	Y	Y	Y	Y	Y	Y
RTE 39 TANK	Y	Y	Y	Y	Y	Y	Y	Y

- The storage tanks have nearby injection ports to allow emergency disinfection. Yes  No
- The storage tanks are adequately protected against vandalism. Yes  No
- <sup>(1)</sup>Are there any holes or failures in the tank roof or structure? Yes  No
- <sup>(2)</sup>Have any tanks been identified as subject to flooding or run-off? Yes  No
- <sup>(3)</sup>Are all the tanks protected from unauthorized entry? Yes  No
- <sup>(4)</sup>Is proper screening in place on all overflow pipes and vents? N/A  Yes  No
- Are monthly storage tank inspection reports available for review? N/A  Yes  No
- Are annual rooftop inspections conducted? N/A  Yes  No

**Comments:**

Storage tanks are well maintained, PWS is working towards replacing the Route 39 tank. Sample taps for tanks are located outside subject to weather, PWS should consider relocated sample taps inside where applicable.

**PUMPING STATIONS:**

PWSID	Pump Stn Name	#of Pumps	Location	Avail	Water Type	GPM	Emerg Power?	Motor HP	Motor Type
4126000	STATION #11 PUMP	1	205 PLEASANT BAY RD	ACTIVE	R	618	Y	50	SUBMERS
4126000	GP WELL # 2 PUMP	1	CHATHAM RD	ACTIVE	R	300	Y	30	SUBMERS
4126000	STATION # 10 PUMP	1	139 NORTH WESTGATE RD	ACTIVE	R	0	Y	60	SUBMERS

PWSID	Pump Stn Name	#of Pumps	Location	Avail	Water Type	GPM	Emerg Power?	Motor HP	Motor Type
4126000	GP WELL # 3 PUMP	1	CHATHAM RD.	ACTIVE	R	580	Y	50	SUBMERS
4126000	GP WELL # 7 PUMP	1	HOLMES FOREST	ACTIVE	R	550	Y	75	SUBMERS
4126000	GP WELL # 6 PUMP	1	HOLMES FOREST	ACTIVE	R	500	Y	50	VERTICAL T
4126000	GP WELL 1 PUMP	1	CHATHAM RD.	ACTIVE	R	680	Y	50	SUBMERS
4126000	GP WELL # 5 PUMP	1	HOLMES FOREST	ACTIVE	R	490	Y	60	SUBMERS
4126000	MAIN STATION WELL 1 PUMP	1	CHATHAM RD	ACTIVE	R	300	Y	30	SUBMERS
4126000	GP WELL # 4 PUMP	1	CHATHAM RD.	ACTIVE	R	750	Y	75	VERTICAL T
4126000	MAIN STATION WELL 3 PUMP	1	CHATHAM RD	ACTIVE	R	300	Y	25	SUBMERS
4126000	GP WELL # 8 PUMP	1	BAY RD	ACTIVE	R	550	Y	60	SUBMERS
4126000	MAIN STATION WELL 2 PUMP	1	CHATHAM RD	ACTIVE	R	1000	Y	100	SUBMERS
4126000	LOTHROP AVE PUMP STATION	3	LOTHROP AVENUE	ACTIVE	F	2500	Y	150	HORIZ
4126000	GP WELL # 9 PUMP	1	BAY RD	ACTIVE	R	550	Y	60	SUBMERS
4126000	MAIN STATION WELL 2	1	CHATHAM ROAD	INACT	R	480	Y	35	SUBMERS

- Are all pump stations recorded in WQTS? Yes  No
- Is there flooding or standing water in the pump house? Yes  No
- Does the air/water relief valve discharge have an air gap? Yes  No
- Are there any open floor drains in the facility? Yes  No
- Are pump stations adequately maintained? Yes  No

**Comments:**

All stations are well maintained and in good working order. PWS is working toward changing out Well 7 pump to a vertical turbine.

**DISTRIBUTION/TRANSMISSION:**

- Has the system submitted a distribution map to MassDEP Yes  No
- Are valve locations known or identified? Yes  No
- How many distribution systems are there? 1
- Is adequate pressure being maintained? (20-60 psi) Yes  No
- The distribution system has Aprox. 70 dead ends and are flushed annually/when needed
- List distribution system weaknesses or problems Small water main size
- Date of last leak detection survey: 12/31/21 Percent of system surveyed?: 60%
- Are distribution valves exercised regularly? Yes  Frequency? annually No
- Is there a hydrant maintenance program? Yes  No

Is there an adequate flushing program?

Yes  No

- **The Department recommends that the distribution system be flushed twice a year.**

**Comments:**

PWS has a seasonal flushing program spring and fall.

**CROSS-CONNECTIONS / BACKFLOW PREVENTION:**

PWSID	DEP APPROVED X-CONN PLAN?	X-CONN SURVEY CONDUCTED?
4126000	Y	Y

CROSS-CONNECTION/BACKFLOW PREVENTION			
Year of last system-wide Cross Connection Survey: 2011			
Have all high hazard facilities been:	Identified? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Inspected? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Properly protected? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
<i>[if no to any of the above, flag as a GWR significant deficiency] (Table A 310 CMR 22.22(3)(c))</i>			
Does the PWS maintain the Cross Connection Documentation on the premises in a readily accessible form? If yes, confirm the following: <i>(If no, Table A 310 CMR 22.22(3)(d))</i>	A schedule of all facilities inspected and surveyed: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	A list of all high hazards and date identified: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	Records of all device locations (including all testing of devices): Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	Related correspondence, including notices of violation: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
	List of Surveyors/testers and certificate number: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Does PWS conduct appropriate enforcement action? <i>(If no, Table A NON Table A 310 CMR 22.22(3)(l))</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Is there a cross-connection educational program directed toward residential customers? If yes, how is it administered: <input checked="" type="checkbox"/> CCR; <input type="checkbox"/> separate pamphlets; <input type="checkbox"/> hose-bib vacuum breaker distribution; <input type="checkbox"/> other: _____ <i>(If no, Table A NON Table A 310 CMR 22.22(3)(f))</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Has PWS established a standard practice for controlling the hook-up to a fire hydrant by persons other than a water department employee or a member of the fire department? <i>(If no, Table C – Guidelines 9.10.8)</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Are there Hose Bib vacuum breakers on all threaded faucets in facilities owned by the PWS? <i>(If no, Table A NON Table A 310 CMR 22.22(2)(b))</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>

**Comments:**

Surveys and tests are performed by a contractor. The PWS notes and updates its ongoing Cross Connection Control Program activities each year in its Annual Statistical Report.

**OTHER ISSUES OBSERVED: None**

**PRIOR OUTSTANDING ACTIONS**

**Enforcement Actions - NONE**

**Inspection Actions - NONE**

**Statement of Zone I Compliance**

- Your system is currently in compliance with Zone I requirements for the following well(s): **01G, 02G, 06G, 07G, 08G, 10G, 11G, and 12G**. Please be advised that any modifications to the Zone I or activities within are subject to DEP approval.
- Please note that you lack ownership or control of the required (**400 ft**) Zone I protective radius around the following well(s): **01G, 05G, 13G, 14G, and 15G**. If you plan to modify or expand this source or to replace any wells, you must notify DEP (in accordance with 310 CMR 22.21(3)(b), 310 CMR 22.04(1) and 22.21(10)(a)). At the time of such notification of a proposed modification or expansion, DEP may require you to comply with the Zone I requirement.
- You are hereby notified that the following well(s): **09G** are in non-conformance with the MassDEP's requirement (310 CMR 22.21(1)(b)(5)) that Zone I activities be limited to those directly related to the provision of public water or will have no significant adverse impact on water quality (as specified in Policy 94-03A). To the extent possible, efforts should be made to reduce or eliminate the impacts of non-conforming uses within the Zone I. Pursuant to 310 CMR 22.04(1) and 22.21(a), you must notify the DEP if you plan to modify or expand your source or to replace any wells. At the time of such notification of a proposed modification, expansion, or replacement, DEP may require you to comply with the Zone I requirement that all Zone I activities be limited to those directly related to water supply or will have no significant impact on water quality.

Non-Conforming activities documented within the Zone I: Public Rotary

- GIS Review completed (confirm that wells are appropriately located in GIS, review Zone 1).

MANAGERIAL & FINANCIAL QUESTIONS FOR THE SANITARY SURVEY			
<p><b>1. Does the system actively perform <b>Asset Management</b> which includes the minimum information noted below:</b></p> <p><input checked="" type="checkbox"/> an inventory of their infrastructure  <input checked="" type="checkbox"/> the estimated useful life of their assets</p> <p><input checked="" type="checkbox"/> a schedule and a yearly cost estimate for maintaining their assets and</p> <p><input checked="" type="checkbox"/> a long-term replacement plan (sometimes called <b>Capital Improvement Plan</b>) for their assets with a schedule and estimated costs?  <b>If yes, does the <b>Capital Improvement Plan</b> or other acceptable capital planning document including items such as:</b></p> <p style="padding-left: 20px;"><input checked="" type="checkbox"/> a long-term replacement plan for large equipment purchases or construction projects that will be needed over the next 20 years  <b>If yes, Is it followed?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p style="padding-left: 20px;"><input checked="" type="checkbox"/> analysis and planning for the future operations, development, improvement, and long-term sustainability of the water system  <b>If yes, Is it followed?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><i>(If no, and there are Table A violations of 310CMR 22.00 – Add to other Table A corrective actions  If no and no Table A violations of 310CMR 22.00 – Add to Table B Deficiency - Chapter 11 - Capacity Development and Standard Operation Procedures)</i></p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
<p><b>2. Does the system produce a yearly <b>Annual Budget</b> or other document that includes the minimum information noted below?</b></p> <p><input checked="" type="checkbox"/> personnel                      <input checked="" type="checkbox"/> training (time &amp; resources)                      <input checked="" type="checkbox"/> testing supplies  <input checked="" type="checkbox"/> operating expenses                      <input checked="" type="checkbox"/> contract services                      <input checked="" type="checkbox"/> repairs  <input checked="" type="checkbox"/> a reserve fund to cover capital improvements                      <input checked="" type="checkbox"/> debt service payments  <input checked="" type="checkbox"/> an emergency fund</p> <p><i>(If no, and there are Table A violations of 310CMR 22.00 – Add to other Table A corrective actions  If no and no Table A violations of 310CMR 22.00 – Add to Table B Deficiency - Chapter 11 - Capacity Development and Standard Operation Procedures)</i></p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
<p><b>3. Does the system have a written regular <b>Preventive Maintenance Program</b> plan that includes (as necessary): valve maintenance, hydrant testing, water main flushing, pump repair, storage tank inspection and cleaning, regular master meter calibration, and checking the condition of the source well?</b></p> <p><b>If yes, Is it followed?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><i>(If no, and there are Table A violations of 310CMR 22.00 – Add to other Table A corrective actions  If no and no Table A violations of 310CMR 22.00 – Add to Table B Deficiency -Chapter 11 - Capacity Development and Standard Operation Procedures)</i></p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
<p><b>Optional: Other useful questions</b></p> <p>✓ Does the system have an enterprise fund? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/></p> <p>✓ Are the rates sufficient to cover the true cost of producing and delivering water? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>✓ Are rates adjusted periodically in order to adequately fund the budget? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>✓ Is PWS spending more money than they generate? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>✓ Annual Revenue</p> <p>✓ Annual Expenses</p> <p>✓ Reserve Account Balance</p> <p>✓ Rate of Saving every year</p>			

y/dwpcapacity/2012 FINAL-8-7-12

## SUMMARY OF FINDINGS

### Table A – Violations: None

### Table B – Deficiencies: None

### Table C - Recommendations

MassDEP has made note of items with a recommended course of action, summarized in Table C. It is strongly encouraged to follow the recommended actions in order to improve ability to provide a safe supply of drinking water. Failure to do so could eventually lead to violations of the regulations.

	T/F/M	TABLE C - RECOMMENDATIONS
1.	T/F	Install protective bollards around Main Station Wells 13G, 14G and 15G
2.	T/F/M	Identify a location outside of the Zone 1 of the Main Station Wells to store construction equipment and materials.

### T/F/M = Technical/Financial/Managerial aspects of Capacity

**\*Groundwater Rule Significant Deficiencies:** The EPA, as part of the Groundwater Rule, required states to identify specific Significant Deficiencies that are related to the potential for fecal contamination of the water system. Significant deficiencies, when identified at a PWS that is subject to the Groundwater Rule, are regulated under the treatment technique requirements of the GWR. A PWS has 120 days to correct any significant deficiencies after notification from the state of their existence. If the deficiencies cannot be corrected within 90 days, then the PWS must enter into a MassDEP-approved correction action plan, with intermediate timelines for compliance. Failure to have an approved corrective action plan in place within 120 days or to comply with the timelines contained within the corrective action plan, constitutes a treatment technique violation, as detailed in 310 CMR 22.26(4). If a system fails to correct any identified significant deficiencies, then the PWS will be required to provide an alternate source of water, eliminate the source of contamination, or provide treatment that reliably achieves at least 4-log inactivation of viruses.