

**TOWN OF WAYLAND
NOTICE OF MEETING**

Clifford Lewis, Chair
Mike Wegerbauer, Vice Chair

Sherre Greenbaum
Michael Lowery
Bob Goldsmith

Posted in accordance with the provisions of the Open Meeting Law
www.mass.gov/ago/openmeeting

NAME OF BOARD:	BOARD OF PUBLIC WORKS
DATE OF MEETING:	JULY 13, 2021
TIME OF MEETING:	7:00 PM
PLACE OF MEETING:	TOWN BUILDING (HYBRID - Council on Aging) 41 Cochituate Road, Wayland, MA 01778

AGENDA

Note: Items may not be discussed in the order listed or at the specific time estimated. Times are approximate.

This meeting of the Wayland Board of Public Works will be held in person at the location provided on this notice. Members of the public are welcome to attend this in-person meeting. Please note that while an option for remote attendance and/or participation is being provided as a courtesy to the public, the meeting will not be suspended or terminated if technology problems interrupt the virtual broadcast, unless otherwise required by law. Members of the public with particular interest in any specific item on this agenda should make plans for in-person vs. virtual attendance accordingly. In compliance with the revised Open Meeting Law requirements, we will live stream the meeting via Zoom as well as WayCam. The Zoom meeting can be entered using the following link:

<https://zoom.us/j/98442984645?pwd=ajNsUXJoZzdBMVJRMmloV1A3ZHErUT09> PW: 438508

In addition to being live streamed, WayCam will record the meeting and this recording will be made available to the public as soon after the meeting as is practicable.

To make a public comment via Zoom, perform a virtual "hand raise". The meeting moderator will contact you via a chat message to acknowledge your request and will inform the chair of your request to comment. Instructions for performing a virtual "hand raise" can be found at <https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-In-a-webinar>

Everyone in attendance should adhere the MA Department of Public Health's May 29 Mask Advisory that advises all unvaccinated residents to continue to wear masks in indoor settings and if attendees cannot socially distance: <https://www.mass.gov/info-details/covid-19-mask-requirements#effective-may-29:-updated-mask-requirements>

- 7:00 Meeting Information, Remote Roll Call & Announcements
- 7:05 Public Comment
- 7:10 Irrigation Application
- 7:20 Water Rates Presentation – Paul Brinkman
- 7:30 Water Rates Discussion
- 7:50 Kleinfelder Study Presentation and Recommendation – Bob Goldsmith
- 7:55 Kleinfelder Study Discussion
- 8:00 BoPW Rules and Regulation Compliance and Reporting Presentation – Sherre Greenbaum
- 8:10 BoPW Rules and Regulation Compliance and Reporting Discussion

- 8:15 PFAS Update and Milestones Presentation – Mike Wegerbauer
- 8:20 PFAS Update and Milestones Discussion
- 8:30 Director’s Operational Report
- 8:40 May Financials
- 8:45 Board Members’ Reports, Concerns and Updates
- 8:55 Topics Not Reasonably Anticipated by the Chair 48 Hours Prior to Posting, if any
- 9:00 Review and Approve Minutes of the 6/08/2021 Meeting (Martin) and 6/14/2021 (Lewis)
- 9:05 Future Meeting Dates
- 9:10 Adjourn

NOTE: Per changes to the Open Meeting Law, notice of any meeting of a public body shall include “A listing of topics that the chair reasonably anticipates will be discussed at the meeting”. AG’s Office guidelines state that the list of topics shall have sufficient specificity to reasonably advise the public of the issue to be discussed. Please list those topics on the above agenda

BoPW Meeting 7/13/2021

Meeting Information, Remote Roll Call, & Announcements

BoPW Meeting 7/13/2021

Public Comment

BoPW Meeting 7/13/2021

Irrigation Application



**DEPARTMENT OF PUBLIC WORKS
TOWN OF WAYLAND**

*Entrusted To
Manage The
Public
Infrastructure*

Thomas M. Holder
Director

Joseph Doucette
Superintendent

Don Millette
Superintendent

Paul Brinkman
Engineer

**Application & Agreement for the Installation of an Underground Irrigation System as
Governed by Town Bylaw Chapter 191**

Please complete and sign all sections of this application and review the attached Bylaw and guidance documents concerning Irrigation Systems.

Location: 72 Sedge meadow Rd., Wayland, MA
Proposed Irrigation System Size (Square Feet) 10,504

Owner: Bart Newland
Address: 72 Sedge meadow Rd
Phone & email: 508-308-4328 / bart@bartnewland.com

Irrigation Installer: Gary Fialkowski
Address: PO Box 60615, Newtonville, MA 02460
Phone & email: 617-969-2335 / info@gfialkowski.com

Irrigation Application Checklist

All of the following items must be checked prior to permit submittal

☒ Plumbing Permit attached
• Plumbing Permit # 120200191 ✓

☒ Device Design Data Sheet completed for Backflow Device Installation ✓

Irrigation Plan Requirements

☒ "CAD" style Irrigation plan overlaid on the Parcel Plan (must be to scale, see attached) ✓

☒ Calculated Irrigation area shown on the Irrigation Plan ✓

☒ Location of the entire Septic System Identified on Plan ✓

☒ Irrigation System is not within 25' of any component of Septic System ✓

☒ Vegetated Wetlands shown on Plan (if any) ✓

☒ Irrigation System is not within 50' of vegetated wetlands ✓

☒ Location of Town Right of Way shown on Plan ✓

HIGHWAY - WATER - PARKS - CEMETERIES - TRANSFER STATION - ENGINEERING

DPW FACILITY | 66 RIVER ROAD | WAYLAND MASSACHUSETTS 01778 | TEL 508 358-3672

No portion of the irrigation system is installed within the Town Right of Way

✓

Backflow preventer location and specifications identified on Plan

✓

Rain Gauge location and specifications identified on Plan

✓

I/we understand and agree that the Town of Wayland does not guarantee to furnish constant water pressure or uninterrupted service, and that the Town reserves the right to restrict the use of water during dry seasons or under any emergency condition. Also, I/we understand that the Backflow Prevention Device associated with this Irrigation System must be tested annually by the Water Division or Water Division's Backflow Testing Contractor. The Backflow Device Test Fee will be billed to the owner of the Irrigation System.

Owner Signature:

B. Newland

Date:

6/27/21

Installer Signature:

Ben Falkowsky

Date:

6/29/21

Irrigation Installer must contact the Water Division for Inspection and Initial Backflow test prior to final approval of system.

FOR INTERNAL USE ONLY
Approval Process

Completed Application Packet submitted to DPW Office for Review.

Tom J. [Signature] 78-21
(Signature and Date)

For Applications under 5,000 sq. ft., DPW Director Approval is required.

(Signature and date)

For Applications over 5,000 sq. ft., DPW Board Approval is required.

(Signature and Date)

Inspection of the installed Irrigation System.

(Signature and Date)

HIGHWAY - WATER - PARKS - CEMETERIES - TRANSFER STATION - ENGINEERING

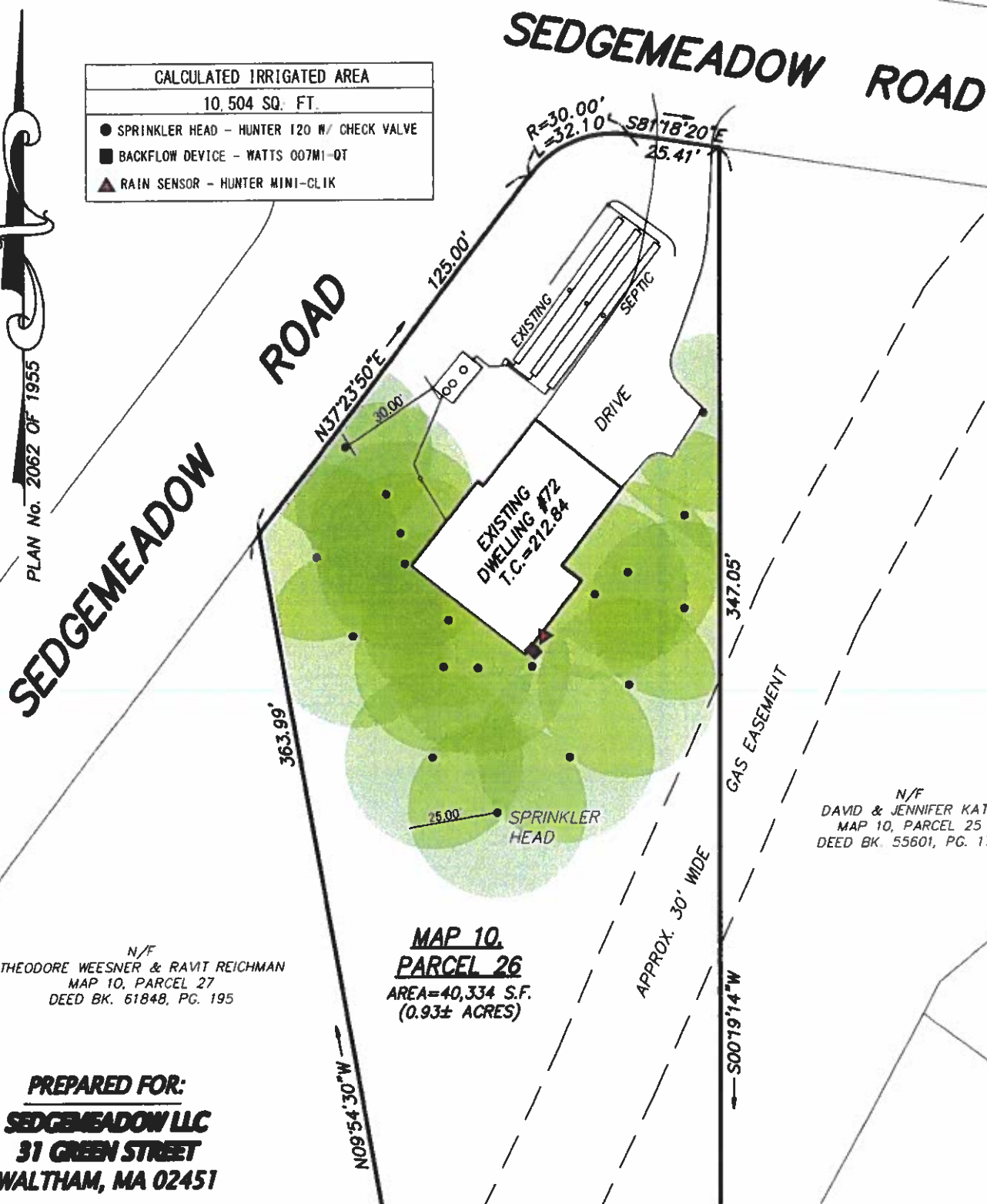
DPW FACILITY | 66 RIVER ROAD | WAYLAND, MASSACHUSETTS 01778 | TEL 508-358-3672





PLAN No. 2062 OF 1955

CALCULATED IRRIGATED AREA	
10,504 SQ. FT.	
●	SPRINKLER HEAD - HUNTER 120 W/ CHECK VALVE
■	BACKFLOW DEVICE - WATTS 007M1-0T
▲	RAIN SENSOR - HUNTER MINI-CLIK



**MAP 10,
PARCEL 26**
AREA=40,334 S.F.
(0.93± ACRES)

PREPARED FOR:
SEDGEMEADOW LLC
31 GREEN STREET
WALTHAM, MA 02451

DATE: JUNE 28, 2021 SCALE: 1"=40'

IRRIGATION AS-BUILT PLAN
72 SEDGEMEADOW ROAD
WAYLAND, MA

**SULLIVAN, CONNORS
& ASSOCIATES**
LAND SURVEYING AND CIVIL ENGINEERING
121 BOSTON POST RD. SUDBURY, MA. 01776

23 22x8

20201771

\$226-



MASSACHUSETTS UNIFORM APPLICATION FOR A PERMIT TO PERFORM PLUMBING WORK

CITY WaylandMA. DATE 9-22-20PERMIT # P20200191JOBSITE ADDRESS 72 Sedge Meadow RDOWNER'S NAME Concept Builders

OWNER ADDRESS _____

TEL _____

FAX _____

P

TYPE OR
PRINT
CLEARLY

OCCUPANCY TYPE:

COMMERCIAL ☐EDUCATIONAL ☐RESIDENTIAL ☒NEW: ☐RENOVATION: ☐REPLACEMENT: ☐PLANS SUBMITTED: YES ☒ NO ☐

CK #1636718300

FIXTURES	FLOOR	BSMT	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BATHTUB				3												
CROSS CONNECTION DEVICE		2														
DEDICATED SPECIAL WASTE SYS																
DEDICATED GAS/OIL/SAND SYS																
DEDICATED GREASE SYS																
DEDICATED GRAY WATER SYS																
DEDICATED WATER RECYCLE SYS																
DRINKING FOUNTAIN																
DISHWASHER			1													
FOOD DISPOSER																
FLOOR / AREA DRAIN																
INTERCEPTOR (INTERIOR)		1														
KITCHEN SINK																
LAVATORY		1	1	4												
ROOF DRAIN																
SHOWER STALL		1		1												
SERVICE / MOP SINK																
TOILET		1	1	3												
URINAL																
WASHING MACHINE CONNECTION				1												
WATER HEATER ALL TYPES		1														
WATER PIPING																
OTHER <u>Ice Maker</u>			1													

INSPECTIONS

ROUGH DATE _____

INSPECTOR _____

FINAL DATE 6/15/21INSPECTOR SAB

OK

INSURANCE COVERAGE:

I have a current liability insurance policy or its substantial equivalent which, meets the requirements of MGL Ch. 142. Yes ☒ No ☐

IF YOU CHECKED YES, PLEASE INDICATE THE TYPE OF COVERAGE BY CHECKING THE APPROPRIATE BOX BELOW

LIABILITY INSURANCE POLICY ☒OTHER TYPE OF INDEMNITY ☐BOND ☐OWNER'S INSURANCE WAIVER: I am aware that the licensee does not have the insurance coverage required by Chapter 142 of the Massachusetts General Laws, and that my signature on this permit application waves this requirement.CHECK ONE BOX ONLY: OWNER ☒ AGENT ☐

Signature of Owner or Owner's Agent _____

I hereby certify that all of the details and information I have submitted (or entered) regarding this application are true and accurate to the best of my knowledge and that all plumbing work and installations performed under the permit issued for this application will be in compliance with all pertinent provision of the Massachusetts State Plumbing Code and Chapter 142 of the General Laws.

PLUMBER NAME Paul Leahy SRSIGNATURE [Signature]LIC # 13479MP ☒JP ☐CORPORATION ☒# 3257PARTNERSHIP ☐LLC ☒COMPANY NAME Leahy Plumbing & Heating, Inc ADDRESS 900 Auburn St Unit 1CITY WhitmanSTATE MAZIP 02382EMAIL Paul@leahyplumbing.comTEL 781-447-4522CELL 508-509-4389FAX 781-447-4533

DASement DATA "11" Den ground

RIP OK 9/13/21

20201772 \$74.1



MASSACHUSETTS UNIFORM APPLICATION FOR A PERMIT TO PERFORM GAS FITTING WORK

G
TYPE OR
PRINT
CLEARLY

CITY: Wayland MA DATE: 9-22-20 PERMIT # G20200163

JOB SITE ADDRESS: 72 Sedgemeadow RD OWNER'S NAME: Concept Builders

OWNER ADDRESS: _____ TEL: _____ FAX: _____

OCCUPANCY TYPE: COMMERCIAL ☐ EDUCATIONAL ☐ RESIDENTIAL ☒

NEW ☒ RENOVATION: ☐ REPLACEMENT: ☐ PLANS SUBMITTED: YES ☒ NO ☐

APPLIANCES	FLOOR→	Basmt	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BOILER		1														
BOOSTER																
CONVERSION BURNER																
COOK STOVE			1													
DIRECT VENT HEATER																
DRYER																
FIREPLACE			1													
FRYOLATOR																
FURNACE																
GENERATOR																
GRILLE																
INFRARED HEATER																
LABORATORY COCK																
MAKEUP AIR UNIT																
OVEN																
POOL HEATER																
ROOM / SPACE HEATER																
ROOF TOP UNIT																
TEST																
UNIT HEATER																
UNVENTED ROOM HEATER																
WATER HEATER																

INSPECTIONS

ROUGH DATE: _____ INSPECTOR: _____
FINAL DATE: 6/5/2 INSPECTOR: SPB OK

INSURANCE COVERAGE

I have a current liability insurance policy or its substantial equivalent which meets the requirements of MGL Ch. 142 YES ☒ NO ☐

If you have checked YES, please indicate the type of coverage by checking the appropriate box below.

LIABILITY INSURANCE POLICY ☒ OTHER TYPE INDEMNITY ☐ BOND ☐

OWNER'S INSURANCE WAIVER: I am aware that the licensee does not have the insurance coverage required by Chapter 142 of the Massachusetts General Laws, and that my signature on this permit application walves this requirement.

SIGNATURE OF OWNER OR AGENT _____ CHECK ONE ONLY: OWNER ☒ AGENT ☐

I hereby certify that all of the details and information I have submitted (or entered) regarding this application are true and accurate to the best of my knowledge and that all plumbing work and installations performed under the permit issued for this application will be in compliance with all pertinent provision of the Massachusetts State Plumbing Code and Chapter 142 of the General Laws.

PLUMBER/GASFITTER NAME: Paul Leany LICENSE # 13479 SIGNATURE: [Signature]

COMPANY NAME: Leany Plumbing & Heating, Inc ADDRESS: 900 Auburn St Unit 1

CITY: Wintman STATE: MA ZIP: 02382 FAX: 781-447-4533

TEL: 781-447-4522 CELL: 508-509-4309 EMAIL: Paul@leanyplumbing.com

MASTER ☒ JOURNEYMAN ☐ LP INSTALLER ☐ CORPORATION ☒ # 3257 PARTNERSHIP ☐ # _____ LLC ☐ # _____

1/13/21 R/G-OK NO APPLIANCES - GAS-FAS-



**TOWN OF WAYLAND
DEPARTMENT of PUBLIC WORKS
WATER DIVISION**

**66 RIVER ROAD
WAYLAND, MASSACHUSETTS 01778**

BACKFLOW DEVICE DESIGN DATA AND PLUMBING PLAN

MUST BE SUBMITTED PRIOR TO INSTALLATION

SUBMIT COMPLETED FORM TO:

**TOWN OF WAYLAND – DEPARTMENT OF PUBLIC WORKS
WATER DIVISION
66 RIVER ROAD
WAYLAND, MA 01778**

PROPERTY OWNER INFORMATION:

Owner Bart Newland
72 Sedgemoor Rd.
Street Address
Wayland MA 01778
City State Zip Code

FACILITY INFORMATION:

Facility Name _____
Street Address _____
City State Zip Code
Contact Person E-mail Phone Number

Is this Facility: ☐ New or ☐ Existing (check one)

Describe the type of business or activities carried out at this facility: _____

DEVICE DATA:

See septic as-built

Exact Device Location	800M	1"	Cold
Watts			
Make	Model	Size	Hot or Cold Water Unit

Type of Gate Valve

☐ RPBP ☐ DCVA ☒ PVB By-pass Arrangement ☐ Yes ☒ No

From what type of contamination is the water supply protected?

CROSS CONNECTION PLAN SUBMITTAL REQUIREMENTS:

1. Completed Device Design Data Sheet
2. Schematic or blueprint of plumbing system (at least 8 1/2" x 11") detailing:
 - a. Location of upstream & downstream shut off valves
 - b. Make, model, size and alignment of device
 - c. Location of potable / non-potable water lines
 - d. System, source, or equipment fed downstream of device, complete with information on the secondary system (operating pressure, chemical treatment, ect)
 - e. Add devices must be installed in accordance with 310 CMR 22.22

This Design Data Sheet is only for approval of a backflow device installation. All other permits must be acquired by the respective town offices.

Jeff Capello / Concept Building, Inc.

Submitted By

31 Green St., Waltham, MA 02451

Address

07/08/2021

Date

info@conceptbuildinginc.com

E-mail

781-703-5970

Phone / Fax Numbers

P20200191

Plumbing Permit #

BoPW Meeting 7/13/2021

Water Rates

Presentation and Discussion



BoPW Meeting 7/13/2021

Kleinfelder Study

Presentation and Recommendations

Discussion

BoPW Meeting 7/13/2021

**BoPW Rules and Regulation Compliance
and Reporting**

Presentation and Discussion

BoPW Meeting 7/13/2021

PFAS Update and Milestones

Presentation and Discussion

BoPW Meeting 7/13/2021

Director's Operational Report



DPW Director's Report
July 13, 2021

Director's Project Update
(Director to Provide Update at Meeting)

- AMI Project – Update
- Sedgemoor Road Water Main – Update

Engineering Division

Town Engineer:

- Bridge project coordination. Old Sudbury Road bidding support.
- Preparation for rate setting - water and wastewater.
- River's Edge sewer system connection design coordination.
- WWMDC support for O&M Agreement.
- Alta at River's Edge project management-construction details.

GIS Coordinator:

- MS4 Outfalls Data/Drainage research, field checks and data entry into GIS
- Sidewalks/Trails in the Dudley Point area-Field Check & Data Attribute entry into GIS
- Re-Precinct Map for Town Clerk
- 2021 Parcels Review for Assessor database. Documented proof of findings, using Deed-referenced Book/Page from Registry of Deeds.
- MS4 Conservation Inspection Form
- Maps & Plans for Planning Department

Town Surveyor:

1. Stonebridge Road Bridge project assistance
2. Mark out various playfields around town
3. Plan-Storage Management
4. Assist residents/engineers/surveyors with plans and locating bounds
5. Locate trees for DPW

Water Division

Treatment:

- Performed monthly calibrations on all chemical pumps (stations and plant)
- Performed monthly Treatment Plant and Station Maintenance.
- Calibrated and performed maintenance on Ozone and Chlorine Analyzers
- Routine Monthly Water Sampling
- Monthly PFAS sampling completed
- Baldwin Pond Wells 1 & 2 were cleaned and rehabilitated. Both wells are now pumping at the designed capacity.
- Tank cleaning at Baldwin Pond Plant completed.
- Performed preventative maintenance on suction floats in all 3 Backwash Tanks while they were drained

- Membrane replacement completed on Skid 1 in Plant
- Skid 2 taken offline due to multiple membrane failures.
- Bid opening for Skid 2 membrane replacement 7/6/21.

Distribution:

- Completed daily work orders and dig safes
- Distribution staff have been mostly assisting with PFAS and Treatment related activities

Highway & Park Division

- Finished Road Reconstruction, Millbrook Road, Michael Road, Nob Hill Road, and Brackett Road
- Preparation for Road Reconstruction, Alden Road, Hobbs Road, Cabot Road, and Brewster Road
- Finished grounds maintenance at High School for Graduation ceremonies
- Assist Water Division with water service break and treatment plant maintenance
- 8 Burial internments
- 6 Catch basin repairs
- Repair water leak Lakeview Cemetery
- Refurbish/Repair Loker Green Sign
- 7 Call-ins due to fallen trees
- Assist Water division with preparation of area for treatment trailer

Transfer Station

- Sticker sales underway, currently 841 sold
- Wood/Brush pile has been removed
- Give and Take area re-opened

BoPW Meeting 7/13/2021

May Financials

TOWN OF WAYLAND DEPARTMENT OF PUBLIC WORKS

FY21-YEAR TO DATE OPERATING BUDGET SUMMARY AS OF 5/31/2021

Program percentage - 92%	BUDGET	YEAR-TO-DATE	ENCUMBRANCES	BUDGET	YTD	% used with	FY2020	FY2019	FY2018	FY2017	FY2016
			BALANCE	BALANCE	% used	encumb.					
HIGHWAY											
SALARIES	\$ 1,032,100.00	\$ 841,093.58	\$	\$ 191,006.42	81.49%	81.5%	\$ 953,712.00	\$1,007,074.82	\$993,042.81	\$939,665.56	\$851,281.48
SERVICE EXPENSES	\$ 511,300.00	\$ 244,360.45	\$ 158,652.73	\$ 108,286.82	47.79%	78.8%	\$ 281,619.00	\$54,528.85	\$462,611.14	\$228,709.27	\$254,814.72
GOODS EXPENSES	\$ 151,500.00	\$ 55,703.67	\$ 17,066.28	\$ 78,730.05	36.77%	48.0%	\$ 111,302.00	\$140,839.50	\$92,252.51	\$81,463.56	\$73,263.51
FY21 TOTAL	\$ 1,694,900.00	\$ 1,141,157.70	\$ 175,719.01	\$ 378,023.29	67.33%	77.7%	\$ 1,346,633.00	\$1,662,443.17	\$1,547,906.46	\$1,249,838.39	\$1,179,359.71
HIGHWAY-SNOW											
OVERTIME	\$ 175,000.00	\$ 149,832.06	\$	\$ 25,167.94	85.62%	85.6%	\$ 126,464.00	\$168,415.59	\$207,581.41	\$176,405.70	\$96,602.26
SERVICE & GOODS EXPENSES	\$ 325,000.00	\$ 334,276.44	\$ 21,524.26	\$ (30,800.70)	102.85%	109.5%	\$ 282,535.00	\$390,402.70	\$572,549.00	\$585,000.00	\$331,104.92
FY21 TOTAL	\$ 500,000.00	\$ 484,108.50	\$ 21,524.26	\$ (5,632.76)	96.82%	101.1%	\$ 408,999.00	\$558,818.29	\$730,130.41	\$761,405.70	\$427,707.18
TRANSFER STATION											
SALARIES	\$ 186,150.00	\$ 155,789.03	\$	\$ 30,360.97	83.69%	83.7%	\$ 168,570.00	\$148,402.75	\$446,161.95	\$406,701.63	\$361,603.29
SERVICE & GOODS EXPENSES	\$ 262,600.00	\$ 170,268.35	\$ 137,748.04	\$ (45,416.39)	64.84%	117.3%	\$ 234,095.00	\$221,385.31	\$	\$	\$
FY21 TOTAL	\$ 448,750.00	\$ 326,057.38	\$ 137,748.04	\$ (15,055.42)	72.66%	103.4%	\$ 402,665.00	\$369,788.06	\$289,831.58	\$359,072.54	\$409,071.43
TRANSFER STATION REVENUE		\$ 346,752.26									
REV/EXP BALANCE +/-		\$ 20,694.88									
LANDFILL EXPENSES	\$ 50,000.00	\$ 12,260.80	\$ 3,592.00	\$ 34,147.20	24.52%	31.7%	\$ 32,071.00	\$56,060.00	\$53,150.20	\$42,231.64	\$23,316.56
PARK											
SALARIES	\$ 703,100.00	\$ 600,935.92	\$	\$ 102,164.08	85.47%	85.5%	\$ 640,390.00	\$605,531.90	\$564,038.91	\$550,555.51	\$497,669.11
SERVICE EXPENSES	\$ 217,800.00	\$ 123,740.50	\$ 53,594.67	\$ 40,464.83	56.81%	81.4%	\$ 153,630.00	\$214,808.97	\$211,203.07	\$187,726.09	\$216,729.22
GOODS EXPENSES	\$ 132,000.00	\$ 56,961.61	\$ 39,625.17	\$ 67,626.31	43.15%	73.2%	\$ 97,955.00	\$104,521.77	\$122,535.91	\$114,327.03	\$107,032.63
FY21 TOTAL	\$ 1,052,900.00	\$ 781,638.03	\$ 93,219.84	\$ 178,042.13	74.24%	83.1%	\$ 891,975.00	\$924,862.64	\$897,777.89	\$852,608.63	\$821,430.96
ENGINEERING											
SALARIES	\$ 283,970.00	\$ 260,879.56	\$	\$ 23,090.44	91.87%	91.9%	\$ 261,048.00	\$335,292.76	\$134,075.19	\$169,040.76	\$165,319.10
SERVICE & GOODS EXPENSES	\$ 49,420.00	\$ 17,782.90	\$ 4,734.34	\$ 26,902.76	35.98%	45.6%	\$ 14,391.00	\$18,793.70	\$25,169.99	\$1,634.49	\$2,030.19
FY21 TOTAL	\$ 333,390.00	\$ 278,662.46	\$ 4,734.34	\$ 49,993.20	83.58%	85.0%	\$ 275,439.00	\$354,086.46	\$159,245.18	\$170,675.25	\$167,349.29
WATER											
SALARIES	\$ 811,600.00	\$ 663,517.65	\$	\$ 148,082.35	81.75%	81.8%	\$ 743,291.00	\$744,874.30	\$675,988.22	\$624,068.06	\$675,805.03
SERVICES & GOODS EXPENSES	\$ 1,495,967.00	\$ 703,063.10	\$ 604,171.36	\$ 188,732.54	47.00%	87.4%	\$ 940,037.00	\$1,052,873.72	\$1,834,032.00	\$1,756,287.00	\$1,732,749.00
DEBT SERVICE	\$ 1,313,018.00	\$ 1,310,533.38	\$	\$ 2,484.62	99.81%	99.8%	\$ 1,231,860.00	\$1,622,498.49	\$1,322,861.00	\$1,093,106.00	\$1,064,627.00
INDIRECTS	\$ 362,472.00	\$	\$	\$ 366,169.00							
FY21 TOTAL	\$ 3,983,057.00	\$ 2,677,114.13	\$ 604,171.36	\$ 701,771.51	67.21%	82.4%	\$ 2,915,188.00	\$3,420,246.51	\$3,832,881.22	\$3,473,461.06	\$3,473,181.03
Revenue	\$ 3,983,864.00	\$ 3,535,176.82	\$	\$ 448,687.18	88.74%	88.7%	\$ 3,721,520.00	\$3,660,407.39	\$3,724,958.74	\$3,825,827.51	\$3,684,596.80
Fund Balance start FY21					0.00%						
REV/EXP BALANCE +/-	\$ 1,484,862.00	\$ 858,062.69									
TOTAL DPW FUNDING FOR FY21	\$ 8,012,997.00	\$ 5,688,738.20	\$ 1,037,116.85	\$ 1,287,141.95	70.99%	81.10%	\$ 5,831,900.00	\$6,731,426.84	\$6,727,642.33	\$6,105,655.87	\$ 5,664,637.55



BoPW Meeting 7/13/2021

**Board Members' Reports, Concerns and
Updates**

BoPW Meeting 7/13/2021

**Topics Not Reasonably Anticipated by
the Chair 48 Hours Prior to Posting, if
any**

BoPW Meeting 7/13/2021

**Review and Approve Minutes of
the 6/08/2021 Meeting
the 6/14/2021 Meeting**

WAYLAND BOARD OF PUBLIC WORKS

Posted in accordance with the provisions of the Open Meeting Law
www.mass.gov/ago/openmeeting

Town Building
41 Cochituate Road
Wayland, MA 01778
June 8, 2021

MEETING MINUTES

Present: M. Wegerbauer (Chair), C. Lewis (Vice Chair), S. Greenbaum, M. Lowery, B. Goldsmith

DPW Staff in Attendance: Tom Holder (DPW Director), Joe Doucette (DPW Superintendent), Paul Brinkman (Town Engineer)

Planning Board (5:45PM – 6:20PM): Ira Montague, Daniel Hill, Jennifer Steel, Kevin Murphy, Larry Kiernan, Anette Lewis

Other Attendees: Sarkis Sarkisian (Town Planner), William Joseph (Arborist), Jason Adams (Host Technology)

Meeting opened at 5:02 PM.

Meeting Information, Remote Roll Call, & Announcements

Wegerbauer called the meeting to order and explained that this meeting was being held in compliance with the revised Open Meeting Law requirements. The meeting would be live streamed on WayCAM, with all BoPW members participating by teleconference. To make a public comment via Zoom, perform a virtual “hand raise”. The meeting moderator will contact you via a chat message to acknowledge your request and will inform the chair of your request to comment. Instructions for performing a virtual “hand raise” can be found at <https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-In-a-webinar>

Wegerbauer did a roll call of all those who were attending remotely, and reviewed the agenda.

Holder announced that Paul Brinkman, the Town Engineer will be moving to a new position in Pepperell. Friday will be his last day in the office. A transition plan has been agreed whereby Brinkman will provide limited support on a number of initiatives that he is currently working on.

The 2021 “Summer Sizzler” will take place tomorrow at the DPW. This is a gathering to recognize staff and also to thank Brinkman. All are welcome at the DPW Building at noon.

Public Comment

Richard Turner called to thank the DPW, Joe Doucette, and Parks staff Scott Perry, John Brinkman and Mike Wilson, for their excellent work preparing Lakeview Cemetery for

Memorial Day. Also he thanked the DPW for the wonderful work they had done paving Nob Hill Road and Brackett Road.

Lowery reported that the Town Administrator had received a comment from a member of the public regarding private wells. It was pointed out that all of Wayland use the same aquifers and it is unfair that some claim to have private wells using the same aquifer water without restriction whilst the rest of the town are under a water restriction. Water should be managed as a shared community resource and, whether via private well or the Town water supply, all should operate under the same restrictions. It was commented that to do this by-laws would have to be passed.

Water Abatement – Discussion and Possible Vote

Luke Shardlow, the homeowner, was present via Zoom. He reported that he had received a bill for water usage of \$1,665.28 and water usage was 14,300 cubic feet. This was larger than usual and following investigation he had found an irrigation leak and had it repaired.

According to Board guidelines, the maximum abatement possible would be 20% of the difference between usage and average usage over the last three similar periods (winter/summer) which would amount to an abatement of \$89.26 waiving interest and fees. The homeowner requested more than 20%. Lowery asked if there was an irrigation permit on file but there wasn't. Lowery pointed out that according to Board guidelines no abatement should be granted in the absence of an irrigation permit.

Following discussion Lowery made a motion to abate usage from 14,300 cubic feet to 12,574 cubic feet waiving interest and fees; abating the bill by \$89.26 subject to a valid permit application being obtained. Greenbaum 2nd.

Wegerbauer invited discussion which resulted in Cliff amending the motion to an abatement totaling \$500 not waiving interest and fees and subject to obtaining a permit. Goldsmith 2nd and following discussion a roll call on the amendment was taken.

Lewis aye, Lowery nay, Goldsmith aye, Wegerbauer aye, Greenbaum nay.
Amendment passed (3-2-0).

Wegerbauer invited a vote on the initial motion as amended. Greenbaum seconded as amended. A roll call vote was taken.

Lewis aye, Goldsmith aye, Lowery nay, Greenbaum nay, Wegerbauer aye.
Motion as amended passed (3-2-0).

Lewis reminded the homeowner that only one abatement is awarded per household.

Items Included in the Packet for Discussion
- Water Abatement documentation

BoPW Chair & Vice Chair – Discussion and Possible Vote

Lewis offered to volunteer as Chair. Lowery made a motion that the Board elect Lewis as Chair and Wegerbauer as vice chair for the next year. Goldsmith 2nd and following a discussion a roll call was taken.

Lowery aye, Greenbaum aye, Goldsmith aye, Lewis abstain, Wegerbauer abstain.
Motion passed (3-0-2).

Holder will inform the Town Clerk.

Public Hearing: Tree Hearing – Shade Trees

Wegerbauer invited Doucette to review the list of shade trees. Doucette explained that tree #1924 was erroneously listed as “No Action” whereas it should have indicated “Recommended Removal”. Paul Strehle, zoomed in asking about 3 trees on his property on Sears Road. He wants these trees to be removed even though they are listed as “No Action”. They are pine trees whose branches often fall, one destroyed the mail box, another brought down a live Eversource wire, etc. He argued that their removal was a safety matter. He is happy to replace with trees acceptable to the Town. The Arborist explained that they were in good health. Strehle offered to pay for removal and to put together a planting plan with Doucette who would look into the Eversource “30 under 30” tree replacement plan. It was agreed that these three trees are to be deferred to the next hearing, the homeowner is to pay for removal and a planting plan will be developed for approval by the DPW.

Following further discussion of the recommendations, Lewis made a BoPW motion to accept the recommendations except for revisiting trees #1910, #1911 and #1912 so as to prepare a removal and replanting plan with the homeowner for consideration at a future Tree Hearing. He also clarified that #1924 is for recommended removal. The DPW will follow up with tree planting after removal of #1917 and #1924. Lowery 2nd.

Further discussion ensued and then a roll call vote was taken.

Lewis aye, Lowery aye, Goldsmith aye, Greenbaum aye, Wegerbauer aye.
Motion passed (5-0-0).

Items Included in the Packet for Discussion

- Tree Hearing Spring Summary table and supporting documentation

Public Hearing: Joint Meeting with BoPW and Planning Board for Tree Hearing – Scenic Trees

The Planning Board joined the BoPW and were called to order.

Montague here, Hill here, Steel here, Murphy here, Lewis here, Kiernan here.

Wegerbauer thanked the Planning Board and the Town Planner Sarkis Sarkisian, for joining the BoPW for this portion of the meeting to consider Scenic trees. The Tree Hearing for Scenic Trees was being held jointly. He invited Doucette to share his screen and take everyone through

the list of trees. Wegerbauer invited objections to the recommendations on the list. Discussion ensued.

At this point Public Comment was received from some residents. Andy Oppenheim spoke about shade tree #1654 which had been voted for removal. Carol Plumb had been trying to join the meeting for the Shade Tree discussion regarding tree #1799; which had already been voted on to be removed. The Arborist confirmed that #1799 was a small dead ash tree. Mevan Samaratunga spoke about dead trees hazarding the house at 23 Claypit Road.

Lewis made a BoPW motion to accept all the recommendations except for making trees #1782 through #1787 conditional on replanting as agreed by DPW with the homeowner. Goldsmith 2nd and a roll call vote was taken.

Lewis aye, Goldsmith aye, Lowery aye, Greenbaum aye, Wegerbauer aye.
Motion passed (5-0-0).

Steel made a motion on behalf of the Planning Board to remove all the scenic trees listed and that trees #1782 through #1787 was conditional on replanting as agreed by DPW with the homeowner. Murphy 2nd and a roll call vote was taken.

Montague aye, Murphy aye, Steel aye, Hill aye, Kiernan aye, Motion passed (5-0-0).

Wegerbauer thanked the Arborist William Joseph for his input. Joseph, Sarkisian and the Planning Board left at 6:45 pm.

Items Included in the Packet for Discussion

- Tree Hearing Spring Summary table and supporting documentation.

PFAS Remediation

- Pad/Site prep Status

Holder reported that emergency certification had been received. All materials had been purchased and delivered. The DPW are working with the Building Department to obtain a permit to start the work.

- Grant Application Status

The Town is eligible for a \$150,000 grant. The application deadline is July 8, 2021. Currently the application is in preparation and expenses are being compiled.

- Water Filling Station(s) – Discussion and Possible Vote

There will be 1 or 2 proposed stations in Wayland. The Public Safety Building and Fire Station 2 locations in Cochituate are being considered. The supplier will be Bluedrop LLC. The rented equipment will be installed within the building with the water station itself outside which will be accessible 24/7. Residents will bring their own reusable containers. Not sure what the demand will be as yet. The Water Filling Stations will continue until the Town can provide water satisfying drinking water regulations; what happens after that has not been decided. The Stations

can be winterized. The Board felt that one station would be sufficient for a period of time not to exceed three months. This would be funded by the Water Division. Water Division funds will be used to achieve the Department of Environmental Standards. Should the Town want to lower PFAS levels further then this would become a Town issue.

Holder was asked about the rebate program. He shared that so far 500 applications for the rebate have been received from water account holders. Discussions are ongoing with regard to non-account residents.

- Permit & Bid Status

The permit application was submitted on Thursday May 27th and Mass DEP has confirmed that it has been received. Mass DEP has approved the short term corrective action plan as well as a long term extension until January 2022. Holder has reached out about the status of the permit but no news as yet.

2 bid proposals have been received and will be discussed at the PFAS working group as to who will be chosen. Cost comparisons are being performed. The delivery dates for both bids are similar. The 300 gallons per minute option is currently being considered.

- Sourcing/Monitoring Wells Update

The Weston and Sampson sourcing plan has been prepared. The Board of Public Works has been invited to attend the Board of Health meeting on June 14th to participate in a presentation on the PFAS MCL of 20 PPT as established by MassDEP. The guest speaker is Mark Smith, Director Office of Research and Standards at MassDEP.

Water Rates – Discussion

- Confirm Water Rate Hearing Date

Brinkman shared the revised spreadsheet explaining that some small changes had been made to the version seen at the last Board meeting. Discussion ensued, including the possibility of drilling new wells. The data will be discussed again at the Board meeting in July before the Water Rate Hearing scheduled for late July.

Director's Operational Report

- Wireless Meter Reading Project – Update

Holder shared that the tower lease for space on the antenna is with the Board of Selectmen for signing. A meeting is arranged with MUNIS on Tuesday June 15th to consider software aspects of the project and the invitation for bids for the installation of meters is close to its final form. This will be advertised soon.

- Sedgemoor Road Water Main/Repaving Plan - Update

Holder shared that the Sedgemoor water main replacement would take place this construction season and that the bid documents will be on the town webpage shortly.

Items Included in the Packet for Discussion

April Financials

Holder reviewed the April Financial Statement and following discussion it was agreed that Transfer Station costs were to be an agenda item at the July meeting.

Items Included in the Packet for Discussion
- Summary of Financials for YTD April 30th

Board Members' Reports, Concerns and Updates

Lowery reported on the taking down of a previous BoPW meeting by WayCAM. He has received a report from them and he asked that this matter be on the agenda of a future meeting. The Board will consider what actions should be taken.

Lowery is concerned that Board Members do not have sufficient access to GIS information. The Board will consider what actions are required to make the information available.

Lowery pointed out that the parking lot at the back of the Cochituate fields was in terrible condition. He asked who was responsible for maintaining this area. Doucette didn't know but he thought the space was used for parking by residents who live across the street. Lowery recommended that the DPW consult with the Recreation Department.

Lowery raised a concern about draft governance guidelines in the recent Board of Selectmen's Packet. He was not aware that elected boards had been asked to comment on the draft.

Lowery shared that a vendor had expressed an interest in placing solar panels on the landfill. Greenbaum said she remembered that there had been interest in doing this a number of years ago when solar panels were placed in various locations at Town property, such as at the Middle School and the DPW building. However there had been concern about penetration of the cap and vegetation issues.

Topics Not Reasonably Anticipated by the Chair 48 Hours Prior to Posting, if any

None.

Review and Approve the Minutes of the 5/4/2021, the 5/10/2021 and the 5/15/2021 Meetings

Lowery made a motion to approve the minutes of the 5/4/2021 as amended. Wegerbauer 2nd and a roll call vote was taken.

Wegerbauer aye, Goldsmith aye, Lowery aye, Lewis aye, Greenbaum abstain.
Motion passed (4-0-1).

Lowery made a motion to approve the minutes of the 5/10/2021 as amended.
Goldsmith 2nd, and a roll call vote was taken.

Wegerbauer aye, Goldsmith aye, Lewis aye, Lowery aye. Greenbaum abstain

Motion passed (4-0-1).

Lowery made a motion to approve the minutes of the 5/15/2021 as amended. Goldsmith 2nd and a roll call vote was taken.

Wegerbauer aye, Goldsmith aye, Lowery aye, Lewis aye, Greenbaum abstain. Motion passed (4-0-1).

Items Included in the Packet for Discussion

- 5/4/2021, 5/10/2021, 5/15/2021 Draft BOPW Meeting Minutes

Set Future Meeting Dates

Wegerbauer suggested July 13, 2021 as the next meeting date since it is the second Tuesday of the month. He also reminded the Board that we were invited to attend the Board of Health meeting on Monday June 14th for a PFAS presentation and discussion.

Holder suggested that the Water Rate Hearing could be scheduled for July 20, 2021.

Lewis said that he would like two meetings a month going forward and it was agreed that Holder and Lewis would meet separately to discuss this.

Lowery pointed out that in person meetings can occur as of June 15, 2021. Holder explained that a memorandum had been sent out by the Town Administrator explaining that Boards can meet in person as of June 15th. As long as there is a quorum present, other Board Members could attend remotely. Public would attend remotely. The meeting could take place at the Town Building in either the Large Hearing room, Council on Aging, or School Committee Room, and a Board could pick one of three time slots Monday to Thursday. Lowery asked about using the DPW Building at 66 River Road and Lewis said he would speak with the Town Administrator about allowing this.

Lewis wanted the Board to have sufficient time to do a thorough analysis of the Town's water rates and consider what other towns were doing. Holder explained that the first round of water bills for fiscal year 2022 are due to go out at the end of July. It was agreed by the Board that there wasn't time to do a thorough review this year but Wegerbauer suggested a thorough review could be done for next year. Goldsmith said that he would send Lewis the report showing rates in other towns for his review.

Adjourn

Goldsmith made a motion to thank Wegerbauer for his work as Chair of the Board. Lowery 2nd and a roll call vote was taken.

Lewis aye, Lowery aye, Goldsmith aye, Greenbaum aye, Wegerbauer abstain. Motion passed (5-0-0).

Lewis made a motion to adjourn. Lowery 2nd, and a roll call vote was taken.

Wegerbauer aye, Goldsmith aye, Lowery aye, Lewis aye. Greenbaum aye.

Motion passed (5-0-0).

Meeting adjourned at 8:57PM.

Respectfully submitted,
Anita Martin
Business Manager

WAYLAND BOARD OF PUBIC WORKS

Posted in accordance with the Provisions of the Open Meeting law
www.mass.gov/ago/openmeeting

Zoom Meeting in Conjunction with the Wayland Board of Health
Wayland, MA 01778
June 14, 2021

MEETING MINUTES

Present: M. Wegerbauer (Chair), C. Lewis (Vice Chair), S Greenbaum, M. Lowery.

Board of Health, Health Department and a number of other Town officials were also in attendance.

Meeting Information. Roll Call & Announcements. Public Comment

Lewis, called the BoPW meeting to order at 5:30 and explained that this meeting was being held in compliance with the Open Meeting Law and in conjunction with the Board of Health.

Mark Smith, Director of the Office of Research and Standards for the MassDEP made a presentation on PFAS.

At the conclusion of the presentation, Wegerbauer had a question regarding the MassDEP setting the limit of PFAS at 20ppt and that that limit was based on a rather arbitrary allocation of 20% of a person's total PFAS intake was allowable in drinking water. Smith, at Mass DEP did acknowledge that the 20% was rather arbitrary but was based on the fact that PFAS exposure was not limited to drinking water.

Wegerbauer also had a question on the floor wax in the drain and in the High School Waste Water plant. He noted that about four years ago a significant amount of floor wax was poured down the drain in the Wayland High School. This wax was sufficient to cause significant damage to the sewage treatment plant. Wegerbauer's question was if that wax could be identified as a potential source of the PFAS in the water.

Mr. Smith was not able to add any credence to the argument identifying the floor wax as a potential contributor as some waxes he said might contain PFAS compounds and some do not.

At the conclusion of the presentation and the public questions, Wegerbauer moved to adjourn the BoPW meeting. Lowery seconded the motion and it was passed unanimously at one hour 22 minutes.



MassDEP PFAS Drinking Water Standards

Town of Wayland

June 14, 2021

C. Mark Smith, Ph.D., M.S.

Director

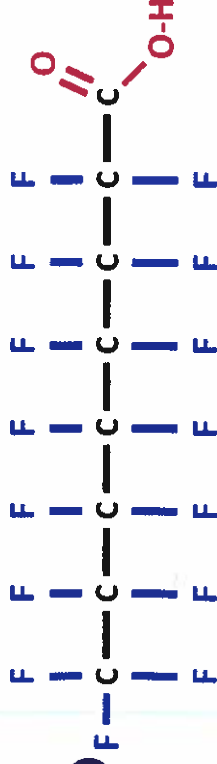
Office of Research and Standards

Massachusetts Department of Environmental Protection

c.mark.smith@mass.gov ; 617-645-6773



What Are PFAS?



Poly- and perfluoroalkyl Substances

A family of thousand of compounds with varying structure
(e.g, carbon chain length)

- **Extremely stable** – Heat & Stain Resistant, Water repellent
- **“Forever chemicals”** - Very persistent, do not biodegrade
- **Water Soluble**
- **Some are very toxic**
 - Slowly excreted from the body – half lives of years (1-8+ for longer-chain)
 - Developmental risks to fetus/infants
 - Endocrine disruption, effects on immune system
 - Possibly cancers (kidney, teste, pancreas, liver)



Common Uses of PFAS Since the 1950s

- Textile treatments: stain resistance/
water repellency
- Paper coatings: grease resistant
- “Waxes”: some floor, car, ski
- “Waterproof” down
- Manufacturing
- Aqueous Film-Forming Foam (AFFF)



Most Americans are exposed to some levels of PFAS through use of consumer products

What Are Exposures of Concern for PFAS?

Sensitive groups

- *Pregnant women, nursing mothers and infants*
 - *Immunocompromised*
-

Water uses that pose (relatively) less concern include:

- Water use by someone not considered in a “sensitive group”
- Non-residential water use – *restaurants, workplace*
- Water use for other purposes – *bathing, washing vegetables*

Ways people may reduce potential exposure:

- Drink and cook with bottled water
- Use a home water treatment system (NSF certification not yet available)



WHAT IS MASSDEP DOING ABOUT PFAS?

Developed Drinking
Water and Cleanup
Standards

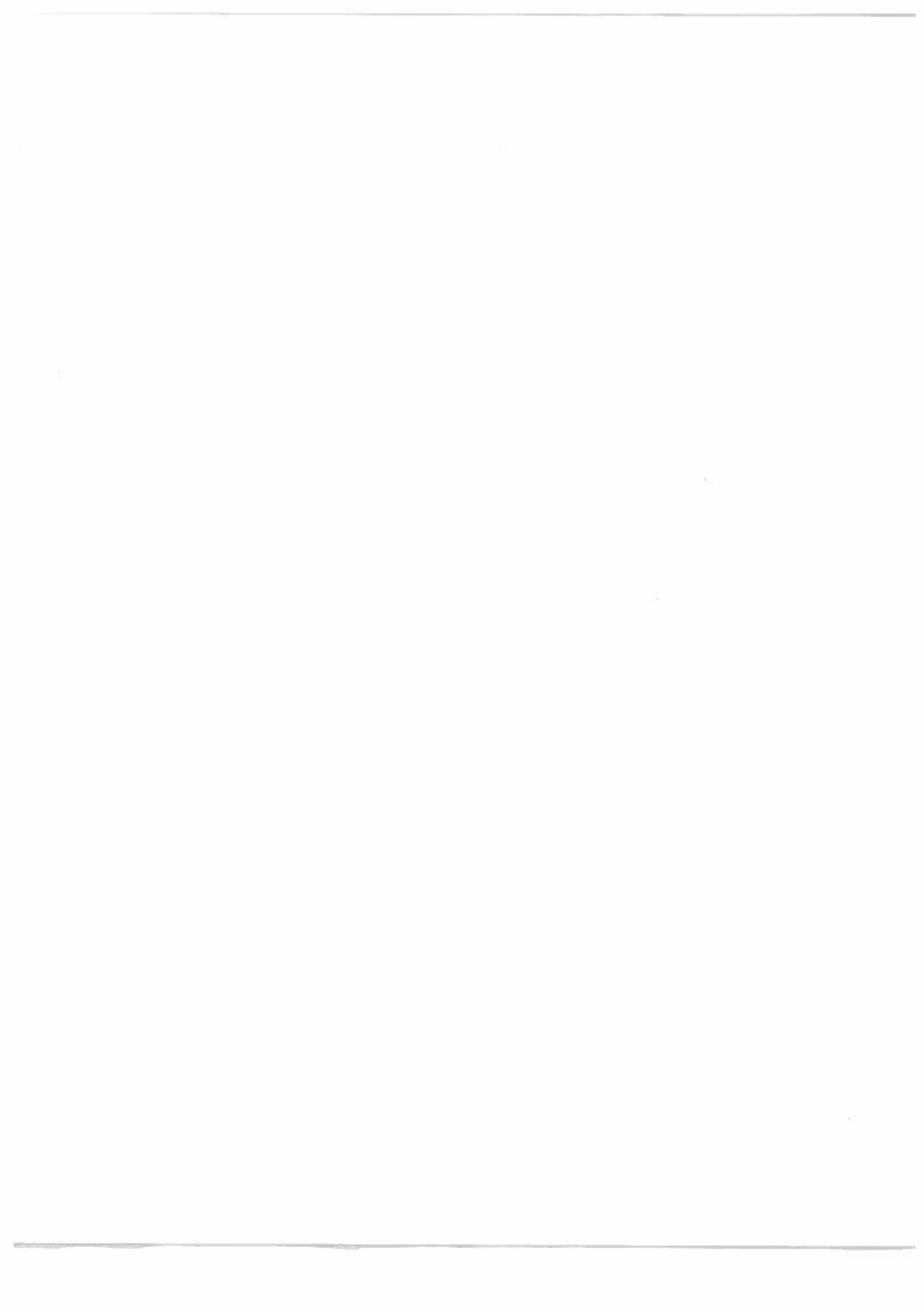
Technical Assistance,
Education, Outreach,
Coordination,
Learning, Training

Firefighting Foam
Take-Back Program

Working to Identify
Sources & Releases
to the Environment

Sampling & Analyses
for Public Water
Systems and Private
Wells







BASIS OF MASSDEP DRINKING WATER VALUES FOR SIX PFAS



MassDEP Approach

- Addressed as a subclass
- Basis of selection?
 - Considered EPA Method 537.1 analytes (14) – Drinking water data available
 - Focused on longer-chain PFAS
 - More toxic and persistent in human body
 - Subclass with very similar chemical structures
 - +/- 2 carbons from PFOS/PFOA
 - Same functional groups
 - PFOA and PFOS as surrogates: best studied
 - 7 compounds in subgroup: PFNA; PFHxS; PFHpA; PFHxA; PFDA; PFOS; PFOA
 - PFHxA (C6) much less toxic/shorter half life
 - Final subclass includes the remaining 6 compounds

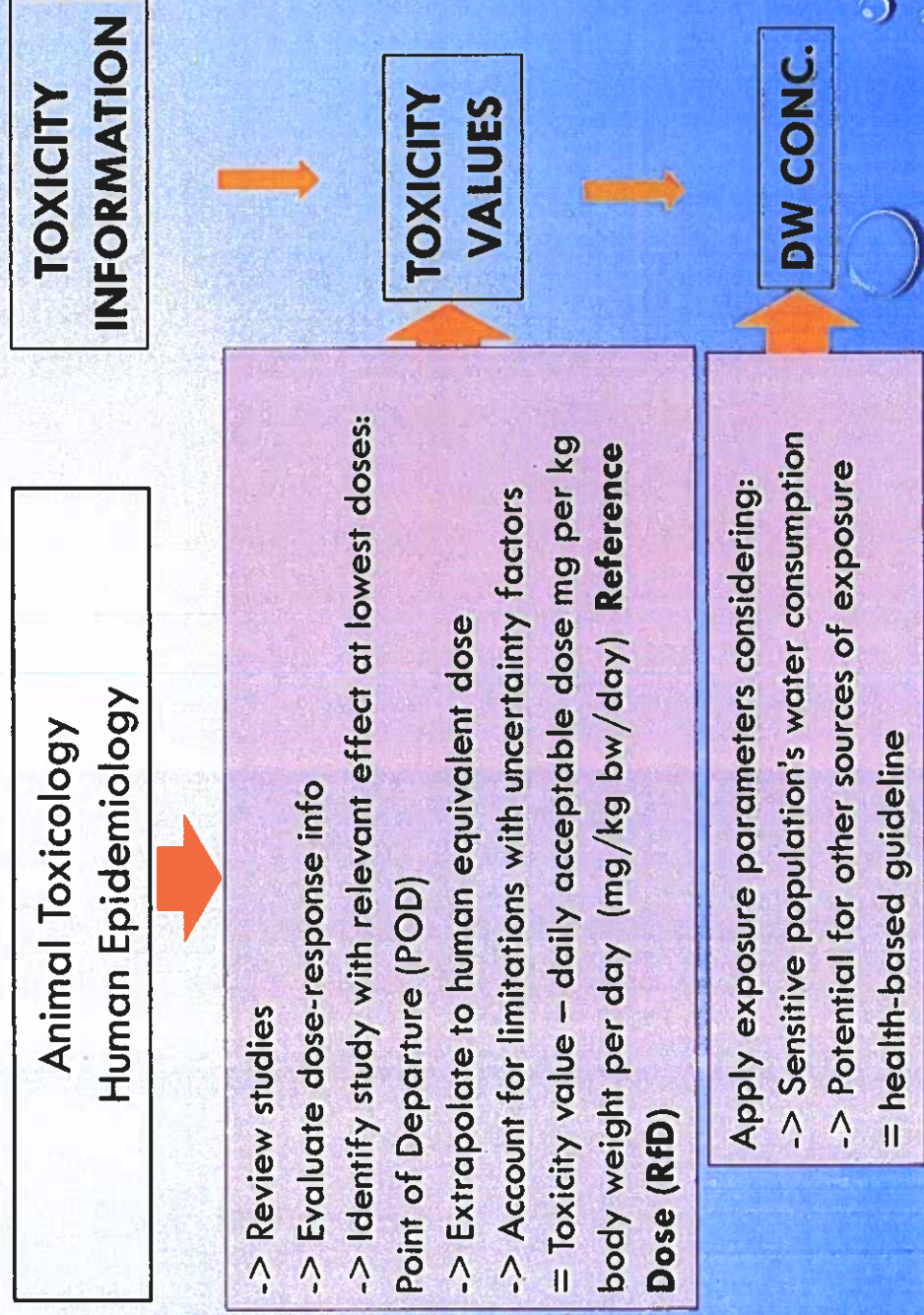


FINAL SUBCLASS OF LONGER CHAIN PFAS REGULATED BY MASSDEP

# Carbons	EPA Method 537 Analytes	
4	PFBS	Perfluorobutanesulfonic acid
6	PFHxA	Perfluorohexanoic acid
6	PFHxS	Perfluorohexanesulfonic acid
7	PFHpA	Perfluoroheptanoic acid
8	PFOA	Perfluorooctanoic acid
8	PFOS	Perfluorooctanesulfonic acid
9	PFNA	Perfluorononanoic acid
10	PFDA	Perfluorodecanoic acid
11	NMeFOSAA	2-(N-Methylperfluorooctanesulfonamido)acetic acid
11	PFUnA	Perfluoroundecanoic acid
12	NEtFOSAA	2-(N-Ethylperfluorooctanesulfonamido)acetic acid
12	PFDoA	Perfluorododecanoic acid
13	PFTTrDA	Perfluorotridecanoic acid
14	PFTA	Perfluorotetradecanoic acid



BASIS OF DRINKING WATER VALUES



DERIVATION OF MA PFAS STANDARDS FOR DRINKING WATER

- MOST ELEMENTS CONSISTENT WITH USEPA

PFOA/PFOS DRINKING WATER HEALTH ADVISORIES

- THESE INCLUDE:

- EXPOSURE PARAMETERS – NURSING MOTHER
- RELATIVE SOURCE CONTRIBUTION FACTOR – 20%
 - ACCOUNTS FOR OTHER EXPOSURES
- SUMMING CONCENTRATIONS ACROSS CATEGORY



MASSDEP TOOK MORE HEALTH PROTECTIVE APPROACH VS. USEPA

- REVISED RFD FOR PFOA AND PFOS
 - LOWER (MORE TOXIC) VS. EPA VALUE
- ADDED FOUR ADDITIONAL CLOSELY RELATED PFAS
 - PFOA/PFOS USED AS SURROGATES BASED ON SIMILARITIES IN CHEMICAL STRUCTURES; HALF LIVES; AND EFFECTS
 - ALSO INFORMED BY RELATIVE POTENCY ASSESSMENT
- REVIEWED AND ENDORSED BY MASSDEP HEALTH EFFECTS ADVISORY COMMITTEE



WHY DID MASSDEP REVISE THE REFERENCE DOSE?

- ATSDR DRAFT TOXICITY VALUES LOWER
- EFFECTS IN MULTIPLE ANIMAL STUDIES AT LOWER EXPOSURE LEVELS THAN USED IN EPA'S ASSESSMENT
 - THYROID; LIVER; DEVELOPMENTAL (MAMMARY GLAND, LIVER, SKELETAL); IMMUNOTOXICITY
- TAKEN TOGETHER THESE RAISED COMPELLING CONCERNS
- HOWEVER, BECAUSE THE INDIVIDUAL STUDIES HAVE LIMITATIONS, ALTERNATIVE SINGLE STUDY TOXICITY DATA NOT USED AS POD



UPDATED REFERENCE DOSE

- TO ACCOUNT FOR MORE SENSITIVE EFFECTS A DATABASE UF (UF_D) WAS APPLIED
 - ESTABLISHED APPROACH
 - USED BY ATSDR AND SEVERAL OTHER STATES IN PFAS ASSESSMENTS
- UF_D OF 10^{1/2} SELECTED
 - COMPARISONS OF SERUM LEVELS AT ALTERNATIVE PODS: 2 TO 5-FOLD LOWER
- REVISED RFD = 5×10^{-6} MG/KG-DAY (VS. EPA PFOA AND PFOS RFD OF 2×10^{-5})





WHAT ABOUT THE OTHERS IN THE SUBCLASS?

- MUCH LESS DATA
- LOOK TO SIMILAR SURROGATE CHEMICALS WITH MORE EXTENSIVE TOXICITY DATA: IN THIS CASE PFOA AND PFOS
- “SIMILARITY” BASED ON
 - CHEMICAL STRUCTURES
 - TOXICITY PROFILES
 - HALF-LIVES
- COMPARATIVE POTENCY EVALUATION – WHERE DATA ALLOWS



SUBCLASS CHARACTERISTICS

- SHARE SIMILAR TOXICITY PROFILES
 - LIVER
 - THYROID
 - DEVELOPMENT
 - IMMUNE SYSTEM
- CAUSE ADVERSE EFFECTS AT SIMILAR DOSES
 - OVERLAPPING SERUM CONCENTRATION AND HUMAN EQUIVALENT DOSE RANGES AT ADVERSE EFFECT LEVELS
 - MASSDEP COMPARATIVE POTENCY ASSESSMENT OF NATIONAL TOXICOLOGY PROGRAM (NTP) STUDY DATA





NTP PFAS TOXICITY STUDY

- NATIONAL TOXICOLOGY PROGRAM (NTP) (2018)
 - 28-DAY TOX STUDIES FOR 7 PFAS; DATA ON MULTIPLE ENDPTS
 - BEST AVAILABLE COMPARATIVE POTENCY STUDY

# Carbons	Sulfonates	Carboxylates
4	PFBS	
6	PFHxS	PFHxA
8	PFOS	PFOA
9		PFNA
10		PFDA

PFHpA was not included in NTP study





POTENCY COMPARISONS BASED ON NTP 28-DAY STUDY

- **RELATIVE POTENCIES COMPARED FOR MOST SENSITIVE BENCHMARK RESPONSES**
 - FREE THYROXINE CONCENTRATION
 - RELATIVE LIVER WEIGHT
- **DOSES ASSOCIATED WITH BENCHMARKS CALCULATED**
 - FOR BOTH RESPONSES USING TWO MEASURES OF DOSE
 - BASED ON MULTIPLE DOSE RESPONSE MODELS AVERAGED USING BAYESIAN BENCHMARK DOSE (BBMD) APPROACH



Bayesian Benchmark Dose BBMD (Shao and Shapiro 2018)
<https://benchmarkdose.org/>

POTENCIES RELATIVE TO PFOA

NTP (2018) 28-day male rat bioassay data

End Point	Free T4		Relative Liver Wt		Free T4		Relative Liver Wt	
	Serum (mg/L)		HED (mg/kg-day) ^a					
BMR	20%	5%	20%	5%	20%	5%	20%	5%
PFOA	1	1	1	1	1	1	1	1
PFOS	3	1	4	1	4	1	4	1
PFNA	3	0.9	2	0.6	2	0.6	2	0.6
PFHxS	0.5	0.2	0.8	0.2	0.8	0.2	0.8	0.2
PFDA	1	2	2	2	2	2	2	2

- All RPs within factor of five (5)
- Most within factor of two (2)



CONCLUSIONS: RP EVALUATION NTP STUDY

- ALL FIVE LONGER-CHAIN PFAS CAUSED DOSE-DEPENDENT EFFECTS IN THE LIVER AND THYROID
- POTENCIES MOSTLY WITHIN 1 TO 2-FOLD OF PFOA, ALL WITHIN 5-FOLD AND OVERLAP ACROSS ENDPOINTS AND DOSE METRICS
 - **SUPPORTS SIMILARITY OF POTENCIES**
- REVISED RFD FOR PFOS AND PFOA APPLIED TO SUBCLASS





OVERALL CONCLUSIONS

- The MMCL of 20 ppt (ng/L) is applicable to each PFAS individually and the sum of 6 PFAS
- The MMCL is health-based and protective of the most sensitive population
- The regulations require that, every 3 years MassDEP, perform a review for relevant developments in the science, assessment and regulation of PFAS in drinking water
 - Revisions and possible consideration of additional PFAS is possible
- MA's standards in line with those of other states



Comparison of Drinking Water Values for PFAS (ppt)

as of Jan. 2020	PFOS	PFOA	PFNA	PFHxS	PFHpA	PFDA
USEPA Health Advisory	70		NA	NA	NA	NA
	Sum of two					
MA MCL GW standard	70 (2018 ORSG) → 20 (MCL; MCP GW standard)					
	Sum of five → Sum of six (adds PFDA)					
VT MCL			20 Sum of five			NA
CT Action levels			70 Sum of five			NA
WI Recommended GW standard	20					
ATSDR draft ATSDR toxicity values and EPA exposure parameters	7	11	10	70	NA	NA
NY MCL	10	10	NA	NA	NA	NA
NJ MCL	13	14	13	NA	NA	NA
CA Notification levels (Response levels)	6.5 (40)	5.1 (10)	NA	NA	NA	NA
MI MCL	16	8	6	51	NA	PFNA value recommended
MN guidelines	15	35	NA	47	NA	NA
NH MCL	15	12	11	18	NA	NA
Most other states (EPA value by default)	70		NA	NA	NA	NA



ACKNOWLEDGEMENTS

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

- OFFICE OF RESEARCH AND STANDARDS

DR. SANDRA BAIRD

DR. TSEDASH ZEWDIE

- DRINKING WATER PROGRAM





More Information...

Just Google... MassDEP PFAS

Google

MassDEP PFAS

All

News

Images

Shopping

Maps

More

Settings

Tools

About 5,850 results (0.35 seconds)

Per- and Polyfluoroalkyl Substances (PFAS) | Mass.gov
<https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-...>
Scientists and regulators are still working to study and better understand the health risks posed by exposures to PFAS, and MassDEP is following developments...

What are PFAS and why are ... Development of a PFAS ... PFAS and Waste Sites
You've visited this page 3 times Last visit 4/16/19

Development of a PFAS Drinking Water Standard (MCL)
<https://www.mass.gov/lists/development-of-a-pfas-drinking-water-stand-...>
PFAS Petition for rulemaking to establish a treatment technique drinking water ... Information on MassDEP efforts to establish a drinking water standard for Per- ...
You've visited this page 3 times Last visit 4/15/19

Drinking Water Contaminants Information for the Public | Mass...

MassDEP

ONLINE

youtube.com/MassDEP

flickr.com/MassDEP

Mass.Gov/DEP

@MassDEP

The image displays several chemical structures of Per- and Polyfluoroalkyl Substances (PFAS). On the left, there is a complex, branched perfluorinated molecule with multiple carboxylic acid groups. In the center, a long, linear polymer chain is shown, consisting of repeating units of perfluorinated ether linkages. To the right of the polymer, there are several smaller molecules, including a perfluorinated carboxylic acid, a perfluorinated sulfonate, and a perfluorinated alcohol. The structures are rendered in a 3D-like perspective, with carbon atoms in grey, fluorine atoms in yellow, and oxygen atoms in red.



BoPW Meeting 7/13/2021

Future Meeting Dates

BoPW Meeting 7/13/2021

Adjourn

