

TOWN OF BARNSTABLE

OFFICE OF TOWN ATTORNEY

367 Main Street

Hyannis, Massachusetts 02601-3907

Phone 508-862-4620 Fax 508-862-4724



RUTH J. WEIL, Town Attorney
T. DAVID HOUGHTON, 1st Assistant Town Attorney
CHARLES S. McLAUGHLIN, Jr., Assistant Town Attorney

ruth.weil@town.barnstable.ma.us
david.houghton@town.barnstable.ma.us
charles.mclaughlin@town.barnstable.ma.us

January 21, 2016

By Hand Delivery & Certified Mail/Return

Receipt Requested

Michael Brillhart
Acting County Administrator
Barnstable County
3195 Main Street
Barnstable, MA 02630

**RE: Town of Barnstable Property on Mary Dunn Road
Notice under Massachusetts General Laws Chapter 21E, Section 4A**

Dear Mr. Brillhart:

We represent the Town of Barnstable (the "Town") with respect to contamination of the Hyannis Water System and associated property owned and operated by the Town of Barnstable, Massachusetts. Pursuant to Massachusetts General Laws Chapter 21E, Section 4A(a), this letter notifies Barnstable County (the "County") as the current owner and operator of property located off South Flint Road, Barnstable, Massachusetts ("the County Property") of (a) the basis for the County's liability; (b) the Town response actions; and (c) the Town's proposed allocation of liability to the County for the contamination.

As you and the County Commissioners already know, the recent discovery of hazardous chemical use and release at the County's Fire Training Academy poses significant public health risks which require immediate response by the County. The water supply for a significant population is threatened, including water supplied to the Cape Cod Hospital, the Cape Cod mall and virtually all businesses in the Hyannis area. We strongly urge you to take decisive action to mitigate this risk as soon as possible and to expeditiously commence all necessary remediation under applicable law and regulations.

The Parties' Relationship to the Town Water Supply and the County Property

The County is the owner of the County property and has operated the Barnstable Fire Training Academy at that location since 1959 ("FTA"). The Town owns property located at 629, 656 and 789 Mary Dunn Road, which is adjacent to the County Property ("Town Property"). Four active municipal water supply wells are located on Town Property that were installed in the 1970s and are known as the Mary Dunn Wells. The Mary Dunn wells are four of eleven total

water supply wells which provide drinking water to the Hyannis Water System, operated by DPW's Water Supply Division, which serves some 18,000 residential and commercial customers in Hyannis, Hyannisport and West Hyannisport ("Town Water Supply").

Extensive hydrogeological and site investigations, many pursuant to the Massachusetts Contingency Plan (MCP) 310CMR 40.0000, demonstrate that releases of hazardous materials at the County Property have contaminated the Town Property and Town Water Supply, including the ground water supplying the Mary Dunn Wells. These investigations demonstrate, among other things, that the Mary Dunn Wells are hydrogeologically down-gradient from the County Property.

The Phase II Comprehensive Site Assessment, the Barnstable County Fire Training Academy (SA-4-190), Barnstable, Massachusetts, dated March, 1992 prepared by the Water Resources Office, Cape Cod Commission states that "groundwater from the site [FTA] flows toward public supply wells, MD-3 [Mary Dunn-3] and MD-4 [Mary Dunn-4], but the direction of flow tends toward MD-3, since the site is wholly within the zone of contribution to MD-3 when the wells are pumping simultaneously... the site [is] approximately 1,100 feet directly upgradient of Barnstable Water Company's municipal supply well, MD-3." Steady state groundwater flow modeling, reported in Phase II indicates that contaminants from the site will be captured by public supply wells MD-3 and/or MD-4, depending upon which is pumping.

Additionally, the County conducted MCP response actions between 2006 and 2010 to mitigate perchlorate originating from the FTA that was detected in MD-2. The Immediate Response Action (IRA) was performed to abate a Condition of Substantial Release Migration of perchlorate contaminated groundwater originating from the FTA at concentrations exceeding the MCP GW-1 standard of 0.002 mg/L within the Zone II to public supply wells. The assessment conducted as part of the IRA concluded that groundwater from the FTA also is within the zone of contribution for MD-2.

Response actions included a recovery system of two recovery wells located approximately 800 feet and 1,500 feet down-gradient of the treatment facility and upgradient of MD2. The collected groundwater was pumped to a treatment system located in an existing building on the FTA. The treatment system was comprised of a flow equalization tank, a bag filter to remove particulate iron and two ion-selective resin vessels in sequence. The treated water was discharged to four existing subsurface leaching basins retrofitted with over-flows to four new subsurface leaching basins. ("Status Report - Immediate Response Action (40.0425) and Initial Remedial Monitoring Report (40.0027) for Barnstable County Fire / Rescue Training Academy RTN 04-190 /-04-20021," August 6, 2007.) The treatment used to treat perchlorate remediation is not a recognized method to treat perfluorooctane sulfate (PFOS), the contaminant of current concern, and therefore would not likely have reduced PFOS in the groundwater.

PFOS Contamination at the Town Water Supply

As described below, hazardous material released on the County Property has contaminated the Town Water Supply and Town Property. In 2009, the Silent Spring Institute

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(www.silentspring.org) tested certain Town wells and the distribution system for various contaminants, including PFOS. The May, 2010 Silent Spring report concluded that PFOS contamination was found in the Distribution System (0.110 µg/L) for the Mary Dunn Wells (*Emerging Contaminants in Cape Cod Drinking Water* pp. 29-30). The Distribution System sample associated with the Mary Dunn Wells can be attributed to the FTA since previously conducted response actions clearly demonstrate a hydrogeological connection.

The Silent Spring Report also states that PFOS is a constituent of Aqueous Fire Fighting Foam (AFFF) which at that time was being used at the FTA. PFOS is well documented as a constituent in AFFF. "Through 2001, PFCs were used to manufacture Aqueous Film Forming Foam (AFFF). PFOS-based AFFF is used to extinguish flammable liquid fires (for example, hydrocarbon fueled), such as fires involving gas tankers and oil refineries." ("Emerging Contaminants – Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)," (March 2014, US Environmental Protection Agency (EPA)). PFOS chemicals are no longer manufactured in the United States; however, existing stocks of PFC-based chemicals can still be used (March 2014, EPA).

PFOS is a man-made compound that has been identified by the EPA as an emerging contaminant, which EPA defines as "a chemical or material that is characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards." See *Emerging Contaminants Fact Sheet – PFOS and PFOA*, United States Environmental Protection Agency (March 2014) ("EPA 2014 Fact Sheet").¹ Through 2001, PFOS was used to manufacture AFFF, which is used to extinguish flammable liquid fires. *Id.* at 2. "Firefighting foams capable of aqueous film-formation – AFFF-type foams—all contain fluorosurfactants, which may contain either perfluorinated or polyfluorinated materials. Until the announcement by the 3M Company in May 2000 that the production of PFOS-based fluorosurfactants . . . were being phased out, the most common perfluorochemicals used in fire fighting foams were PFOS and its derivatives. . . ." Fire Fighting Foams with Perfluorochemicals- Environmental Review, June 2013, Jimmy SEOW, Manager of Environmental Response Department of Environmental Conservation, Western Australia. "Aqueous film forming foam (AFFF) was patented as a method for extinguishing liquid hydrocarbon fires . . . [and] the Department of Defense (DoD) issued a military specification MIL-F24385 which includes the requirements for AFFF liquid concentrate fire extinguishing agents consisting of PFOS. AFFF meeting MIL-F-24385 specifications were developed by seven manufacturers . . . for the use in extinguishing fires at military bases, airports, oil refineries and firefighting training facilities throughout the U.S." "Perfluorinated Chemicals (PFCs): Perfluorooctanoic Acid (PFOA) & Perfluorooctane Sulfonate (PFOS) Information Paper," August 2015, Remediation and Reuse Focus Group, Federal Facilities Research Center.

According to the Phase II CSA, 1992, the FTA has been in operation since the 1950's and is one of two fire training locations in Massachusetts used by 2,000 firefighters annually. Activities at the site have included the controlled burning of No. 2 heating oil and other more

¹ Available at http://www2.epa.gov/sites/production/files/2014-04/documents/factsheet_contaminant_pfos_pfoa_march2014.pdf.

volatile hydrocarbon compounds. Fires would be ignited in concrete pits and then extinguished by firefighters using water, CO₂ and foam. Once a fire was extinguished, the excess water and oil was drained through a separate pipe system into a leaching pit in the center of the FTA and discharged to the subsurface. In the early 1980's the leaching pit was replaced with a 10,000 gallon holding tank to prevent further discharge to the subsurface.

In a presentation to the County Commissioners on May 27, 2015, Tom Cambareri, LSP, Director of Watershed Management for the County stated that in 2009 following the Silent Spring report, the FTA ceased using AFFF because they were told it is a source of PFOS and PFOA. However, Mr. Cambareri subsequently reported that he discovered a substance containing PFOS at the County Property on or about October 27, 2015, suggesting that the purported cessation of AFFF has at best not been enforced, and at worst has been routinely disregarded.

Since 2013, the United States Environmental Protection Agency ("EPA"), through the Unregulated Contaminant Monitoring Rule, has required the Hyannis Water System to sample for a series of contaminants deemed potential threats to public health, but do not yet have maximum contaminant levels. *Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems*, 77 Fed. Reg. 26072 (May 2, 2012). The County began sampling groundwater monitoring wells in the vicinity of the FTA in the fall of 2013. Subsequent sampling by the County identified PFOS in soil at the County Property and in groundwater monitoring wells down-gradient of the FTA and Mary Dunn Wells Throughout 2014 and early 2015, additional sampling was conducted to confirm the presence and levels of the PFOS in the Mary Dunn wells. The Mary Dunn wells were sampled in November 2013, May 2014, and January and March 2015. The sampling results for PFOS in May 2014 for MD-2 (0.43 µg/l) and MD-3 (0.21 µg/l); January 2015 for MD-1 (0.33 µg/l) and MD-2 (0.96 µg/l); and March 2015 for MD-1 (0.28 µg/l), and MD-2 (1.6 µg/l) exceed the USEPA Health Advisory guideline of 0.2 µg/l.

Groundwater sampling since 2013 has detected elevated concentrations of PFOS at and downgradient of the FTA. Concentrations of PFOS as high as 220 µg/L (April 2015) were detected in PRW-2 located at the FTA. Concentrations of PFOS in monthly groundwater samples from PRW-4, substantially downgradient of the FTA, between April and November 2015 ranged from 0.760 µg/L to 17 µg/L. Concentrations of PFOS in groundwater samples collected since June 2015 and downgradient of PRW-4 were as high as 0.9 µg/L. All of the wells sampled are upgradient to MD-2 and have the potential to effect the water drawn from MD-2

The County's Liability

Pursuant to M.G.L. Chapter 21E, the County is strictly liable for the PFOS contamination in the Town Water Supply and Town Property. The County is the owner and operator of the County Property which released hazardous materials onto Town Property and into the Town Water Supply. Thus, the County is liable under Section 5(a)(1) as "an owner [and] operator . . . of a site from or at which there is or has been a release or a threat of release of oil or hazardous

material,” and under Section 5(a)(5) as “any person who otherwise caused or is legally responsible for a release or threat of release . . . from a site . . . liable without regard to fault, for damages to real or personal property incurred or suffered as a result of such release or threat of release.”

Moreover, PFOS is clearly a “hazardous material” for purposes of G.L. c. 21E. Chapter 21E defines “hazardous material” as “any material, in whatever form, which . . . constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed.” G.L. c. 21E, § 2. Given that EPA has determined that PFOS is a “potential or real threat to human health and the environment” (see EPA 2014 Fact Sheet), and that EPA’s Office of Water established a provisional health advisory that reflects reasonable, health-based hazard concentrations above which action should be taken to reduce exposure to unregulated contaminants in drinking water of 0.2 (µg/L) for PFOS which has been exceeded in at least once in MD-1, MD-2 and MD-3 there is no question that is a hazardous material under Chapter 21E. Moreover, DEP has conducted a risk assessment and advised the Town that PFOS poses a significant risk.

Town’s Response Actions

Because of the potential threat posed to public health and the environment by virtue of PFOS contamination in the Mary Dunn Wells, and after consultation with the Massachusetts Department of Environmental Protection (“MADEP”), the Town removed Mary Dunn Wells 1 and 2 from service in early May, 2015. Moreover, the Town took proactive steps to evaluate and develop a treatment system to bring the Mary Dunn Wells back into service. The Town determined that treatment of the PFOS in the Mary Dunn Wells with a conventional granular activated carbon adsorptive treatment system was feasible. On May 7, 2015, the DPW obtained emergency authorization from the Barnstable Town Council for the immediate borrowing and expenditure of funds to install and operate carbon adsorptive treatment systems at the Mary Dunn well field. The Town constructed the treatment system and it was activated in July, 2015. The Town spent \$772,497 to design and construct the treatment system, exclusive of consultant costs, legal costs and in-house personnel time, which were extensive (see Table 1 for a breakdown of the \$772,497). An approximate \$ \$21,800 through December 31, 2015 has been spent on outside consultant and attorneys and an additional approximate \$15,000 in in-house attorneys costs. Moreover, the treatment system costs approximately \$298,500 per year to operate and it will require regular expenditures for repair and maintenance.

In addition, due to the contamination caused by the County, the Town was required to secure a backup water supply in the event that the treatment of the Mary Dunn Wells proved unreliable or unsustainable. This included identifying nearby water systems as a potential alternative source of water. During the Spring of 2015, the Town performed an analysis of potential emergency interconnections with the Barnstable Centerville, Osterville and Marstons Mills Fire Districts, and the Town of Yarmouth Water Department, the Town chose to pursue interconnection to the Town of Yarmouth water system as the most reliable, closest, most compatible, and cost effective system for interconnection. The Town has entered into an inter-municipal agreement with Yarmouth to interconnect the Hyannis Water System to the Yarmouth

water system for the 2015 warm-weather. The Town has already paid approximately \$216,000 for the interconnection and will pay Yarmouth other costs, including for water that may be provided.

County's Equitable Share of Liability

The Town had no involvement in the PFOS contamination at the Town Water Supply, and there is no evidence that it caused or contributed to a historical release of PFOS at the Town Water Supply. Because the Town did not contribute to any release of PFOS at the Town Water Supply, the County is liable for all necessary and appropriate response actions with respect to the PFOS contamination at the Town Water Supply. The County is liable for 100% of the costs of response actions related to that contamination and other costs incurred by the Town to respond to the contamination of the Town's water supply. Accordingly, the Town requests that the County:

1. Expediently undertake any and all actions necessary to fully remediate the PFOS contamination on and emanating from the County Property in accordance with MADEP requirements and directives and all other applicable law at the County's sole cost and expense;
2. Reimburse the Town for all its response costs described incurred to date;
3. Agree to reimburse the Town for any response costs it incurs in the future in connection with the PFOS contamination and from the FTA;
4. Reimburse the Town for its costs to ensure the Town's drinking water supply is protected from further PFOS contamination and from the FTA;
5. Defend, indemnify and hold harmless the Town against any claims by any person or governmental entity, including DEP, regarding the PFOS contamination; and
6. Consider this request to be made under the Public Records Law, M.G.L. c. 66, §10 and provide within ten (10) days all documents within its custody, control or possession as follows:
 - a. Documents concerning the presence of PFOS at the County Property and at abutting properties and the use of foam and other materials containing PFOS at the County Property, including but not limited to investigatory and analytic reports, environmental sampling results showing PFOS contamination, treatment and remediation activities and minutes of meetings in which such matters have been discussed;
 - b. All documents concerning PFOS provided to or reviewed by the Barnstable County Fire Rescue Academy Needs Committee, appointed by the Barnstable County Commissioners on April 15, 2015;

- c. The following documents associated with the Immediate Response Action 04-190 and 04-20021 which are not available on the MassDEP website:

IRA Plan filed on November 6, 2006, , and

IRA Completion Report, date filed unknown.

7. Permanently discontinue use of the FTA for fire training purposes and shall limit the use of the FTA solely to administrative and office-type applications only and further prohibit the use or storage of any chemicals, paint, or other products that would, or might, pose a danger to the environment, ground water, or wellheads.

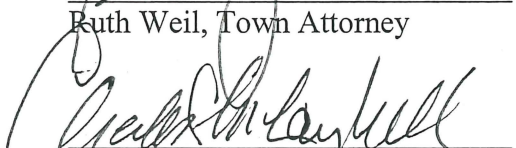
Pursuant to Chapter 21E, Section 4A(a), your written response is due within 45 days of receipt of this demand. If the County fails to respond or fails to agree to pay its equitable share of liability for the contamination of the Town Water Supply and Town Property, it may be liable for the Town's litigation costs and attorneys' fees under Section 4A(d).

In sending this notice under Section 4A, the Town reserves all its other legal rights regarding this contamination. We hope to amicably resolve all the Town's claims against the County without litigation and look forward to hearing from you. However, in light of the serious public health risks associated with this PFOS contamination, we strongly urge the County to take quick action to address this contamination commensurate with the seriousness of this release.

Sincerely,



Ruth Weil, Town Attorney



Charles McLaughlin, Asst. Town Attorney

cc:

Mary Pat Flynn, Board of Regional County Commissioners, Chair
Sheila R. Lyons, Board of Regional County Commissioners, Vice-Chair
Leo G. Cakounes, Board of Regional County Commissioners
Ronald Bergstrom, Assembly of Delegates, Speaker
Deborah McCutcheon, Assembly of Delegates, Deputy Speaker
Thomas Lynch, Town of Barnstable, Town Manager
Mark Ells, Town of Barnstable, Assistant Town Manager
Jessica Rapp Grasseti, Town of Barnstable Town Council, President
Eric R. Steinhilber, Town of Barnstable Town Council, Vice President ✓
Stephen O'Neil, Hyannis Water Board, Chair