



HAMPDEN TOWN COUNCIL  
HAMPDEN MUNICIPAL BUILDING  
MINUTES

MONDAY DECEMBER 19<sup>th</sup>, 2016 7:00 P.M.

• **6:30 pm – Finance & Administration Committee Meeting**

*Interim Chair Councilor Wilde called the meeting to order at 7:00.*

*Attending:*

*Councilor Wilde  
Councilor McPike  
Councilor Marble  
Councilor Cormier  
Councilor McAvoy*

*Town Manager Angus Jennings  
Town Clerk Paula Scott  
Matt Reynolds of Drumlin, LLC  
Steve Rabasca of SoilMetrics  
Members of the public*

- A. PLEDGE OF ALLEGIANCE – *Councilor Wilde led the Pledge of Allegiance*
  
- B. CONSENT AGENDA – *Councilor Marble made a motion to approve the consent agenda. Councilor McAvoy seconded the motion. Unanimous vote in favor.*

1. SIGNATURES

2. SECRETARY’S REPORTS

- a. December 5th, 2016 Council Meeting minutes

3. COMMUNICATIONS

- a. Renewal Victualer’s license for Pat’s Pizza
- b. Renewal Victualer’s license for Subway

4. REPORTS

- a. Finance & Administration Minutes – 11/14/2016, 11/21/2016
- b. Infrastructure Committee Minutes –
- c. Planning & Development Minutes – 11/16/2016

**NOTE: The Council will take a 5-minute recess at 8:00 pm.**

## d. Services Committee Minutes – 11/15/2016

C. PUBLIC COMMENTS - *None*

D. POLICY AGENDA

1. NEWS, PRESENTATIONS & AWARDS – None

2. PUBLIC HEARINGS

- a. Consideration of a new Victualer's license application for Coffee Break Café, located at 75 Main Rd. North, owned and operated by Lorraine Wilbur & Lynda Nowell of Frankfort. – *The Public Hearing opened at 7:05 p.m. Hearing no public comment, the Public Hearing closed at 7:05 p.m. Councilor McAvoy made a motion to approve the new Victualer's license for the Coffee Break Café. Councilor Marble seconded the motion. Unanimous vote in favor.*

3. NOMINATIONS – APPOINTMENTS – ELECTIONS –

- a. Re-appointment of Paula Scott as the Registrar of Voters for the Town of Hampden, pursuant to 21 MRSA § 101- *recommended by Manager Jennings – Manager Jennings explained that the appointment of Registrar of Voters must be made by January 1<sup>st</sup> of every odd-numbered year and recommended the re-appointment of Town Clerk as Registrar of Voters. Councilor Marble made a motion to re-appoint Paula Scott as the Registrar of Voters pursuant to 21 MRSA section 101. Councilor McAvoy seconded the motion. Unanimous vote in favor.*
- b. Re-appointment of Benjamin Curtis to the Lura Hoit Pool Board of Trustees – *recommended by Services Committee – Councilor McAvoy made a motion to re-appoint Benjamin Curtis to the Lura Hoit Pool Board of Trustees. Councilor Marble seconded the motion. Unanimous vote in favor.*
- c. Re-appointment of Sam Manhart to the Lura Hoit Pool Board of Trustees – *recommended by Services Committee – Councilor McAvoy made a motion to re-appoint Sam Manhart to the Lura*

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*Hoit Pool Board of Trustees. Councilor Marble seconded the motion. Unanimous vote in favor.*

- d. *Appointment of Pamela Ivey to the Lura Hoit Pool Board of Trustees – recommended by Services Committee – Councilor McAvoy made a motion to appoint Pamela Ivey to the Lura Hoit Pool Board of Trustees. Councilor Marble seconded the motion. Councilor McPike asked if residency was a requirement to which Manager Jennings replied that it was not. Motion was then brought to vote. Unanimous vote in favor.*
- e. *Appointment of Kate Waning to the Lura Hoit Pool Board of Trustees – recommended by Services Committee – Councilor McAvoy made a motion to appoint Kate Waning to the Edythe Dyer Library Board of Trustees. Councilor Marble seconded the motion. Unanimous vote in favor.*
- f. *Appointment of Nicole Aronowitz to the Edythe Dyer Library Board of Trustees – recommended by Services Committee – Councilor McAvoy made a motion to appoint Nicole Aronowitz to the Edythe Dyer Library Board of Trustees. Councilor Marble seconded the motion. Unanimous vote in favor.*
- g. *Appointment of Margaret Frazier to the Edythe Dyer Library Board of Trustees – recommended by Services Committee – Councilor McAvoy made a motion to appoint Margaret Frazier to the Edythe Dyer Library Board of Directors. Councilor Marble seconded the motion. Unanimous vote in favor.*
- h. *Re-appointment of Nancy Fenders to the Recreation Board of Directors – recommended by Services Committee – Councilor McAvoy made a motion to re-appoint Nancy Fenders to the Recreation Board of Directors. Councilor Marble seconded the motion. Councilor Marble prefaced the vote by stating for the public that all nominees went before the Services Committee for review by Councilors and that the Town is fortunate to have such a high level of candidacy. Motion was brought to vote. Unanimous vote in favor.*

4. UNFINISHED BUSINESS – None

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## 5. NEW BUSINESS

- a. Council approval of the annual Bingo and Games of Chance license for calendar year 2017, to be granted to the Whitcomb-Baker VFW Post 4633, located at 41 Canoe Club Rd. – *Councilor McAvoy made a motion to approve the annual Bingo and Games of Chance license for Whitcomb-Baker VFW Post 4633 for 2017. Councilor Marble seconded the motion. Unanimous vote in favor.*
- b. Request for Council referral to Public Hearing the proposed repeal of the Town of Hampden Conservation Ordinance – *referral from Services Committee – Councilor Marble stated that he is voting against this as he feels that even though the committee has not been active for years, the town is growing and he feels like there is still a need for this ordinance. He stated that he feels that once an ordinance is repealed, it is hard to get it back. There were no further comments. Councilor McAvoy made a motion to refer to Public Hearing on January 17<sup>th</sup>, the proposed repeal of the Conservation Ordinance. Councilor McPike seconded the motion. Councilors McAvoy, Cormier, McPike and Wilde voted in favor. Councilor Marble voted in opposition. Motion carries.*
- c. Request for authorization for the expenditure of Voting Machine Reserve funds (01-451-00) in the amount of \$1,959.00 for the purpose of paying for the lease on three tabulators and all components – *referral from Finance Committee – Councilor Marble made a motion to authorize the expenditure of \$1,959 out of the Voting Machine Reserve account for the purpose of paying for the lease on three tabulators. Councilor McAvoy seconded the motion. Unanimous vote in favor.*
- d. Request for authorization for the expenditure of Municipal Building Reserve funds (03-702-00) in the amount not to exceed \$3,295.00 for the purpose of paying for new and replacement lighting at the Town offices – *referral from Finance Committee – Councilor Marble made a motion to authorize the expenditure in an amount not to exceed \$3,295 out of the Municipal Building Reserve funds for the purpose of paying for new and replacement lighting at the town offices, as recommended by DPW Director Currier. Councilor McAvoy seconded the motion. Unanimous vote in favor.*
- e. Council approval and execution of the Certificate of Settlement and the Certificate of Re-Commitment of taxes to transfer custody of the Town of Hampden tax lists from retiring Tax Collector

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Cheryl Johnson to incoming Tax Collector Barbara Geaghan, pursuant Title 36 MRSA § 763 – *Manager Jennings explained that when the taxes are committed in August, that commitment is given to a Tax Collector who is responsible for raising that amount. When a collector leaves in the middle of the year, there has to be a settlement of what has been collected and a re-commitment of anything that is outstanding in both the current and prior years. Anything prior to FY 2015 represents personal property because anything older than that in real estate would have gone to foreclosure by now. Manager Jennings reported that in the Finance Committee, discussion included whether some of the oldest outstanding personal property taxes should be written off, or be issued some sort of abatement which will be reviewed by the Tax Collector. At the conclusion of his statement, he invited Barbara Geaghan to come to the podium and expound on anything he may have missed. Barbara approached the podium and stated that she is always available for questions, but that Manager Jennings had covered everything quite well. Councilor Wilde welcomed her to the Town of Hampden. Councilor Marble inquired as to whether the Council could vote the Settlement as a block of all years; to which the clerk stated that is an acceptable motion. Councilor Marble made a motion to approve and execute the Certificates of Settlement from outgoing Tax Collector Cheryl Johnson, to the incoming Tax Collector Barbara Geaghan as a block from years 2010-2017. Councilor McAvoy seconded the motion. Unanimous for in favor. Councilor McPike made a motion to approve and execute the recommitment of the current tax lists of the Town of Hampden to Barbara Geaghan. Councilor McAvoy seconded the motion. Unanimous vote in favor. Councilor Wilde then offered thanks and appreciation to Cheryl Johnson for having done an extraordinary job for all of these years.*

- f. *Presentation by Matt Reynolds of Drumlin, LLC and Steve Rabasca of SoilMetrics, regarding the review of the Pine Tree Landfill post-closure monitoring and reports – referral from Infrastructure Committee – Matt Reynolds of Drumlin, LLC approached the podium and presented a power point presentation regarding the post closure monitoring of the Pine Tree Landfill. He was joined by Steve Rabasca of SoilMetrics. At the conclusion of the presentation, Steve Rabasca remained and answered questions put forth by the Council as well as members of the public, Bill Lippincott and Doug Poulin. The written report is attached to these minutes as **Exhibit A**. Content of the power point, as well as technical questions and answers are available for viewing online at [www.hampdenmaine.gov](http://www.hampdenmaine.gov).*

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## e. COMMITTEE REPORTS -

*Finance & Administration – Councilor Wilde reported that items voted on tonight were referred and discussed in Finance Committee*

*Infrastructure – Councilor Marble reported that this committee has not met since the last Council meeting, but the next meeting is scheduled for December 27<sup>th</sup>.*

*Planning & Development – Councilor McPike reported that this committee met on December 12<sup>th</sup>. They discussed the water situation for Fiberight/MRC, but the primary goal was to discuss the market study. Manager Jennings added that the focus of the study was to gain a better understanding of the demographics, spending trends and such for Hampden. A meeting with land and building owners has taken place with approximately 30 people in attendance to gain a better understanding of the feel for the direction of the town.*

*Services Committee – Councilor McAvoy reported that all of the committee appointments voted on tonight had previously been discussed and interviewed in committee. The committee also discussed the Conservation Ordinance. The next meeting is January 9<sup>th</sup>, 2017.*

f. MANAGER'S REPORT – *Manager Jennings recapped items presented in his written report, attached to these minutes as **Exhibit B***

## g. COUNCILORS' COMMENTS

*Councilor McPike – No comment*

*Councilor Marble – No comment*

*Councilor Cormier – No comment*

*Councilor McAvoy – Wished everyone a Merry Christmas and a healthy and prosperous New Year. He reminded everyone to shop local and buy American.*

*Councilor Wilde – Also wished everyone a Merry Christmas*

h. ADJOURNMENT – *With no further business to conduct, Councilor McAvoy made a motion to adjourn at 9:00 p.m. Councilor McPike seconded the motion. Unanimous vote in favor.*

*Respectfully Submitted,*



*Paula A. Scott, CCM  
Town Clerk*

# Exhibit A

	<b>Drumlin Environmental, LLC</b> <i>Hydrogeologic and Engineering Consultants</i>	 <b>Soil Metrics, LLC</b>
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## MEMORANDUM

**To:** Angus West & Hampden Town Council  
**From:** Matt Reynolds & Steve Rabasca  
**Date:** November 21, 2016 (*updated from March 15, 2016*)  
**Subject:** Pine Tree Landfill –Post-Closure Monitoring Review & Update

This memorandum has been prepared to provide the Town with an overview of recent monitoring data and associated corrective actions and post-closure conditions at the Pine Tree Landfill (PTL). The review is based on data provided in the 2015 Annual Report, water quality data from 2015, April 2016 and July 2016, and 2015 and 2016 memoranda prepared by Richard Heath of the Maine Department of Environmental Protection (MDEP).

The goal of this memorandum is to update the March 15, 2016 memorandum and provide the Town with a general overview of conditions associated with the landfill since closure in 2010. The March 2016 memo was prepared prior to the issuance of the 2015 Annual Report. However the March 2016 memo did include review of water quality data collected during 2015. This updated memorandum includes review of the 2015 Annual Report as well as April 2016 water quality data

Figure 1-1 from Attachment C of the 2015 Annual Report (prepared by Sevee & Maher Engineers) is attached to this memorandum for reference and shows the configuration of the landfill and location of the monitoring points and other site features. This update does not include detailed graphs and figures, however, we would be glad to prepare these if it would assist the Town and/or address specific questions.

### I. Landfill Closure Status

In accordance with the October 2006 Schedule of Compliance agreed to by the Maine Department of Environmental Protection (MDEP) and the Town of Hampden, PTL completed closure of the landfill in 2010. Since that time, monitoring of water quality, gas, settlement, etc. has continued in accordance with the Environmental Monitoring Plan (EMP) for the site. Landfill gas containing methane has also been collected and used to fuel the Landfill Gas to Energy (GTE) facility constructed in 2007. Additionally, some of the leachate collected by the leachate collection system and groundwater extracted from wells at the perimeter of the landfill is being recirculated into the landfill with the approval of the MDEP.

## II. Corrective Action Summary

Prior to closure, a number of corrective actions were implemented to mitigate impacts from the PTL facility. Corrective actions systems that control and/or mitigate impacts to groundwater and surface water include the following.

- Gas collection systems were installed in the Conventional Landfill and Secure Landfills to collect a portion of the landfill gas generated by decomposition of waste. Both gas collection systems are connected to the GTE plant.
- The Secure landfill liner system functions as a cover for the Conventional Landfill and the cover system for the Secure Landfills was completed in 2010;
- The perimeter drain (PDPS) borders the west, south and east sides of the Conventional Landfill and intercepts some shallow groundwater;
- Six groundwater extraction wells have been installed near the edge of the landfill (shown on Figure 1-1). Wells EW-2R and EW-3R are located adjacent to the southeast corner of the landfill. Wells EW-5R, EW-6R, EW-101 and EW-102 are located adjacent to the northeast corner of the landfill. There is also a perimeter drain (PDPS) located along the perimeter of the Conventional Landfill that intercepts leachate and groundwater. The gallons of leachate and groundwater extracted by these wells and drain during 2013, 2014 and 2015 are summarized below.

Year	Northeast (EW-5R, -6R, -101, -102)	South (EW-2R, -3R)	PDPS	Total (gallons)
2013	2,687,000	1,121,000	3,721,000	7,529,000
2014	1,857,000	506,000	3,802,000	6,165,000
2015	3,112,039	781,344	3,356,269	7,249,652

- PTL began constructing an active gas collection system along the edge of the landfill in 2009 to collect landfill gas (e.g., methane and carbon dioxide) that was migrating away from the landfill. This external landfill gas (LFG) collection system consists of 6 gas collection wells and a passive gas collection trench. The gas extracted from the collection wells (shown in Figure 1-1) during 2013, 2014 and 2015 is summarized below.

Year	PTGW08-1 (MMSCF/Tons)	PTGW08-11 (MMSCF/Tons)	PTGW08-12 (MMSCF/Tons)	PTGW08-13 (MMSCF/Tons)
2013	20.8/218	2.0/17	0.5/2	0.6/4
2014	19.7/220	2.6/22	0.1/0.3	0.4/6
2015	19.2/200	2.5/19	2.1/10	1.7/8

- Notes: 1. MMSCF = Million Standard Cubic Feet. Tons = Tons of Methane Extracted  
 2. Estimate of Tons is Based on Volume Extracted and Percent Methane  
 3. No Gas Was Extracted from PTGW08-3, -9 During 2013 to 2015 Due to Low Gas & Methane

Based on the water quality data collected at the site, these corrective actions appear to be improving the groundwater quality in certain areas around the landfill. Of particular note from the 2015 Annual Report is that increased extraction of landfill gas from wells -12

and -13 in 2015 resulted in a decrease in the dissolved methane concentrations compared to 2014 in downgradient monitoring wells located southwest of the landfill (e.g., MW-03-802A, -802B, -803B).

### III. Water Quality Target Criteria

The MDEP Closure Order identified 5 specific criteria for determining “successful corrective action” at PTL under the MDEP Solid Waste Regulations. These criteria incorporate the state Maximum Exposure Guideline (MEG) values and the federal Maximum Contaminant Level (MCL) and Ambient Water Quality Criteria (AWQC) values.

These criteria are as follows.

- Groundwater Quality on PTL Property:
  - Specific Conductance must be less than 500 umhos/cm
- Groundwater Quality off of PTL Property:
  - Groundwater must be below the applicable MCLs and MEGs;
  - Specific Conductance must be less than 400 umhos/cm
  - Dissolved Methane must be below 700 ug/L
- Surface Water Quality:
  - Surface water quality must existing water quality classification standards

These criteria must be met at the PTL monitoring locations during the 30 year post-closure period in order for the MDEP to determine that corrective actions have been successful. The 30-year post-closure period began in 2010, so it is premature to expect that monitoring locations will meet these criteria currently. However, tracking data against these criteria allows PTL, the MDEP and the Town to judge whether the existing corrective actions will be sufficient to meet these criteria over time, or whether supplemental corrective actions may be necessary in the future.

### IV. Water Quality Overview

In accordance with the Post-Closure Environmental Monitoring Plan, water quality is monitored two or three times each year at a network of sampling locations around PTL. These monitoring points are located in different regions around the landfill and include groundwater monitoring wells, residential wells and surface water, as summarized in Table 1.

An overview of the data is reflected in Table 1 and discussed below.

Discussion of Water Quality Monitoring. As noted in Table 1, the majority of monitoring locations have improved (i.e., a downward trend) since 2008, although the improvements have generally been gradual.

**Table 1**  
**PTL 2014, 2015 & April 2016 Water Quality Monitoring Summary**

Monitoring Pt	2011-2015 Analysis <sup>1</sup> (Frequency/yr)	2016-2020 Analysis <sup>1</sup> (Frequency/yr)	Specific Cond. Range <sup>2</sup> (umhos/cm)	Predominant Trend Since 2008 <sup>3</sup>
<b>South/Southeast</b>				
<b>200*</b>	F, L (3)	F, L (2)	440 - 691	Down
641	F, L (3), M (2)	F, L (2), M (1)	922 - 1,368	Down
<b>MW-906B*</b>	F, L (3), M (2)	F, L (2)	427 - 513	Down
MW02-801A	F, L (3), M (2)	F, L (2), M (1)	2776 - 3530	Down
MW02-801B	F (3)	F (2)	2320 - 3700	None**
MW03-802A	F, L (3), M (2)	F, L (2), M (1)	470 - 837	Down
MW03-802B	F (3), M (1)	F (2), M (1)	1077 - 1323	Up
MW03-803A	F (3), M (1)	F (2), M (1)	1264 - 1343	Up
MW-03-803B	F, L (3), M (2)	F, L (2), M (1)	1157 - 1423	Up
<b>West &amp; North</b>				
MW03-804A	F (3)	F (2)	682 - 854	None***
P-914A	F, L (3)	F, L (2)	683 - 828	Up
P-914B	F (3)	F (2)	589 - 747	None
516B-B	F, L (3)	F, L (2)	981 - 1103	Up
<b>Northeast &amp; East</b>				
MW98-601A	F (2)	F (2)	2270 - 2880	None
MW96-601B	F (2)	F (2)	1176 - 1730	None
<b>MW01-602B*</b>	F (2)	F (2)	259 - 520	Down
MW97-123	F, L (3)	F, L (2)	866 - 1414	None**
509A	F (3)	F (2)	841 - 1144	None
509B	F, L (3), M (2)	F, L (2)	827 - 1120	Up
P-911B	F (3)	F (2)	768 - 959	None
<b>916*</b>	F, L (3), M (2)	F, L (2), M (1)	257 - 616	Down
917	F, L (3), M (2)	F, L (2), M (1)	354 - 1007	Down**
<b>Residential</b>				
<b>DW04-109****</b>	F (3), L (1), M (3)	F (2), L (1), M (2)	215 - 793	
DW-103	F (3), L (1), M (3)	F (2), L (1), M (2)	409 - 482	
DW-111	F (3), L (1), M (3)		Not Accessible	
<b>Surface Water</b>				
SW-A	F, L (3)	F, L (2)	89 - 126	
SW-C	F, L (3)	F, L (2)	66 - 145	
SW-D	F, L (3)	F, L (2)	197 - 788	
SW-E	F, L (3)	F, L (2)	241 - 914	

Notes: 1. Analyses: F=Field Parameters, L=Laboratory Parameters, M= Methane

2. SC Range Reflects Data from 2014, 2015 & April 2016

3. Trend Identification Reflects Statistical Analysis in 2015 Annual Report and Review by Richard Heath of the MDEP, Independent evaluation was not conducted for this review.

4. Wells in **BOLD\*** are close to or below Corrective Action Criteria.

5. \*\* = 2015 Specific Conductance Generally Lower than 2014, Increased Conductance in April 2016

6. \*\*\* = Increase in 2015 Specific Conductance

7. \*\*\*\* = DW08-109 2015 & 4/ 2016 Specific Conductance below Off-Site Criteria: 400 umho/cm

### Comparison to of 2014, 2015 & April 2016 Data to the Target Criteria

- Prior to 2013, all on-site groundwater was above the 500 umhos/cm criteria. However, groundwater at MW-200 was below the 500 umhos/cm target criteria for 5 of the 7 sampling events during 2014, 2015 and April 2016. Groundwater at MW-906B has been below 500 umhos/cm since July 2014 (6 of 7 events). Groundwater at MW01-602B was below 500 umhos/cm for the 6 events in 2014 and 2015 and was 520 umhos/cm in April 2016. Groundwater at MW-916 has been below 500 umhos/cm for 6 of 7 events since 2014.
- Groundwater at off-site well DW09-109 was below the 400 umhos/cm target criteria during the 3 sampling rounds in 2015 and in April 2016.
- Groundwater exceeds several MCL and/or MEG values for arsenic and sodium at off-site monitoring location DW-103. Monitoring locations MW-916 and MW-917 are close to but not on property owned by PTL and the MDEP and PTL have not resolved whether these locations are to be considered on-site or off-site for the purposes of compliance with the post-closure criteria. However, at MW-916 arsenic exceeded the MCL or MEG value in all 2014 and the July and October 2015 sampling events. At MW-917, arsenic exceeded the MCL or MEG at 7 of 7 events. Secondary drinking water criteria of iron and manganese are also exceeded at MW-916 and MW-917.
- Groundwater was below the 700 ug/L methane target criteria for off-site well DW-103 (and also for MW-916 and MW-917) in 2014 and 2015. Methane concentrations have been below the 700 ug/L criteria in DW04-109 since the September 2014 sampling event.
- Surface water meets the applicable classification criteria and AWQC standards.

As noted above, there has been a gradual improving trend in specific conductance and related cations and anions in many of the locations included in the monitoring network at the PTL site. There are several locations where significant improvements have been observed as a result of specific actions.

- Groundwater quality improved significantly at MW01-602B near the northeast corner of the landfill after repairs were made to the leachate collection system in this area in 2008 and 2009.
- Groundwater quality related to migration of landfill gas to the east has improved significantly in several wells east of the landfill (e.g. MW-916, MW-917, DW04-109) since PTL began operation of external gas extraction wells, particularly PTGW08-1, in this area. Prior to 2010, methane concentrations in MW-916 and MW-917 exceeded 5,000 ug/L compared to 2015 when methane concentrations were 140 ug/L or less.

- The overall trend in water quality at well MW97-123 in the northeast corner of the landfill rose from 2008 through 2011. From 2012 through July 2015, the specific conductance in MW97-123 declined from approximately 1700 umhos/cm to a low of 866 umhos/cm in July 2015. In the 2014 Annual Report, Sevee & Maher Engineers suggests that the changes in this well are related to the repair of the leachate collection system in the vicinity of MW01-602 in 2008 and 2009. However, the specific conductance in this well was 1190 and 1382 umhos/cm in October 2015 and April 2016, respectively, suggesting that there may be multiple influences on groundwater quality at this location

There are also several locations noted in Table 1 where the rising trends have been observed. A review of data at these locations is discussed below.

- MW03-802B, -803A, -803B: These monitoring wells are along the south side of the landfill and have generally shown elevated and increasing concentrations of specific conductivity and other parameters since the wells were installed in 2003. During 2012, PTL began operation of 2 gas extraction wells PTGW08-12 and -13 in the vicinity of the 802 and 803 wells. In response to the gas extraction, the methane concentrations in these wells have decreased, particularly in 2015, when an effort was made to extract landfill gas on a more consistent basis (see Section II). However the decrease in methane concentration in these wells has not resulted in a significant decrease in specific conductance, suggesting the potential for leachate migration in this area that is influencing the rising trend in these wells.

Discussion of Arsenic in Groundwater. The 2014 Annual Report identified that the concentration of arsenic exhibited a 3-year increasing trend in 9 of the 12 on-site locations where arsenic is analyzed. The increase was attributed to a combination of factors related to closure (e.g., completing the cover, decreasing recharge to the waste mass, etc.). During 2015, arsenic concentrations continued to increase in 4 wells, decreased in 2 wells and the rest of the wells remained in the same (elevated) range as was measured in 2014.

In response to this trend, the MDEP requested and PTL agreed to conduct a residential well sampling event in 2014 to gather data on the concentration of arsenic off-site wells around the landfill. Twenty-one sampling locations were identified and access was obtained to wells at 14 of these locations. The June 2014 arsenic concentrations were below the detection limit at all off-site wells except DW-103, where the concentration was 0.012 mg/L, slightly above the MCL and MEG concentrations for arsenic of 0.010 mg/L. Arsenic was detected at concentrations below the MCL & MEG at the PTL office well and the well at the Gas to Energy plant.

After reviewing the data, the MDEP concluded that the arsenic sampling program “did not suggest widespread impact of the closed landfill on water quality of the surrounding residential wells included in the investigation”. To provide further confirmation of this initial conclusion, the MDEP requested and PTL agree to include the historically sampled

residential wells in the three rounds of sampling planned for 2015. Wells identified as DW-103 and DW04-109 (east), DW-104 (south) and DW-105 (west) were sampled and analyzed for arsenic in April, July and October 2015. The 2015 data were as follows.

- Arsenic was detected in the 0.014 to 0.019 mg/L range in DW-103, which is above the MCL/MEG value of 0.010 mg/L but within the historical range for this well.
- Arsenic was detected in the 3 sampling events in DW04-109 at concentrations of 0.005 to 0.006 mg/L, which is below the MCL/MEG and below concentrations of 0.036 to 0.042 mg/L detected in 2013 and 2014.
- Arsenic was detected in the 3 sampling events in DW-104 at concentrations of 0.005 to 0.007 mg/L, which is below the MCL/MEG and below concentrations of 0.011 to 0.012 mg/L detected in 2010 and 2011.
- Arsenic was detected in July and October in DW-105 at 0.006 mg/L, which is below the MCL/MEG and below concentrations of 0.011 to 0.015 mg/L detected in 2010 and 2011.

The 2014 and 2015 data from off-site residential wells do not appear to indicate that the landfill is causing elevated arsenic concentrations off-site.

Water Quality Monitoring - 2016 to 2020. In March 2016, Sevee & Maher Engineers (SME) on behalf of PTL sent an e-mail to the MDEP with suggested changes to the ongoing Environmental Monitoring Plan (EMP) for 2016 to 2020. The MDEP provided comments and the 2015 Annual Report included proposed changes to the Environmental Monitoring Plan. Table 1 above includes a comparison of the sampling regime from 2011 to 2015 versus 2016 to 2020. The primary changes are as follows.

- Reducing the sampling from 3 times per year (spring summer and fall) to 2 times per year (spring and fall).
- Reducing the sampling of dissolved methane to one time per year in monitoring wells;
- Eliminating off-site well DW-111 (which has not been accessible during 2014 and 2015 sampling events) unless this well has not been sealed and would not be reused in the future.
- Reducing the number of locations where leachate quality is sampled regularly from 7 to 2 (i.e., PDPS and LCS-3C, which have the largest flows). The remaining leachate flow locations will be each be sampled once during the 5 year period.

## **V. Geotechnical Monitoring**

The geotechnical monitoring program for the landfill is summarized in a report prepared by Dr. Richard Wardwell, PE, who has been involved with the geotechnical monitoring at that site for many years. The observational approach is utilized in the monitoring, based primarily on topographic surveying of the surface and surveying of multiple survey

monuments that were embedded in the surface of the landfill cover system. The primary purposes of the geotechnical monitoring are to assess if the internal waste mass and foundation soils are stable, and to assess if the cover system is performing as-designed.

**Internal and Waste Mass Stability:** The internal and waste mass stability is assessed by an evaluation of the horizontal and vertical deformation of four displacement monuments at the toe of the landfill along the east side. The horizontal and vertical movements measured do not indicate that there are any detrimental large-scale movements occurring that would be indicative of large-scale waste-mass or foundation soil movements. There is a significant amount of scatter in the data, but the overall trends indicate that the foundation soils and waste mass are not undergoing detrimental displacements. There was some settlement measured in three of the four monuments in the last survey date, but there was no unusual horizontal movement associated with this reading. The cause of the settlement is being investigated, but since there was no unusual horizontal movement, these settlement readings were not thought to be related to instabilities. It is also noted that if there were instabilities, the most likely movement would have been heave at these locations, not settle.

**Cover System Monitoring:** The performance of the cover system is also assessed using survey measurements of embedded displacement monitors. Several monuments are installed in each phase of the closure, and horizontal and vertical measurements have been made at least quarterly since those phases were closed. The report includes the plots of horizontal and vertical deformation.

- The horizontal deformation plots for all phases do not indicate any trends that would be indicative of large scale movements that would be detrimental to the cover system integrity. The data are scattered, and some general downslope creep is evident but this is expected given the overall large deformation of the waste mass due to secondary settlement.
- The vertical displacement plots all indicate that the rate settlement is diminishing with time. This is also expected especially since waste loading has stopped and the landfill is now covered. These vertical displacement plots are also used to calculate strain that has likely occurred in the liner. Excessive strain could result in a rupture of the primary geomembrane liner, therefore these periodic assessments of liner strain are important to demonstrate that the movements that are occurring are within those originally predicted during the design phase. The strain calculations are summarized in a table and indicate that the likely strain incurred to date is well within the allowable strain for this type of membrane. The current rate of strain is also extrapolated over the 30-year closure period and those extrapolations are also well within the allowable strain for the liner.

**Topographic and Drainage Swale Surveying:** Topographic surveying of the landfill is also performed on a regular basis. The results of these surveys do not show any unusual features on the topographic surface that would indicate large scale movements. The drainage ditch invert elevations were recently surveyed for baseline elevations. These surveys indicate that overall the drainage swales are draining in a positive direction and

shedding surface and water that has infiltrated through the surficial cover soils. The survey did show some localized low spots, which are highlighted for surveillance and if necessary, remedial repairs in the future to restore positive drainage. The reason for remediating these low spots is that if left to pond water, excessive seepage could enter the drainage layer on top of the liner leading to liner system instabilities (i.e. sloughing of the liner system). The routine inspections are an important maintenance for the system to ensure it is operating effectively, given the large amount of yearly settlement that occurs.

One additional point that was not indicated, is that the overall side slopes of the landfill are becoming flatter. The side slopes were designed originally at a 2.5H:1V slope angle. As the waste mass consolidates, these side slopes have gradually flattened and will continue to flatten. It is estimated that the slopes may be on the order of 2.65 to 2.75H to 1V as of the 2015 survey. The flatter slopes will result in an overall increase in the factor of safety from that calculated after construction, provided the drainage system in the cover system remains functional as-designed.

## **VI. Closing**

Overall, the water quality monitoring data from PTL reflected in the 2014 and 2015 Annual Reports indicate that there has been gradual improvement at many monitoring locations. There are several on-site locations that are close to or meet the corrective action criteria, compared to 2013 when no locations met these criteria. However, groundwater in several wells south and southwest of the landfill has exhibited increasing concentration trends.

Operation of the corrective action systems (groundwater extraction and external gas extraction) should be continued to maintain the improvement and PTL should be encouraged to look for opportunities to improve and enhance the correction action systems to accelerate the rate of improvement in the future.

The geotechnical monitoring at the landfill indicates that the cover system is performing as designed, and that there are no indications of large-scale waste mass of foundation instabilities.

We hope that the information summarized in this memorandum is helpful to the Town. If there are any questions or a more detailed review would be appropriate, please give me a call at your convenience.



**Town of Hampden**  
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TO: Town Council  
 FROM: Angus Jennings, Town Manager  
 DATE: December 19, 2016  
 RE: Town Manager's Report to Town Council meeting

This report is intended to provide brief updates regarding current matters of potential interest that are not otherwise addressed on the Council agenda.

#### Town Office Schedule for Holidays

Christmas will be recognized as a holiday on Monday, December 26, and the Town Offices, Public Works and the Library will be closed that day. Recreation and Pool will be closed on Saturday and Sunday December 24-25. The Transfer Station will close at noon on December 24 and will be closed on December 25. As it is every Monday and Tuesday, the Transfer Station will be closed next Monday and Tuesday.

The Town Offices will be closed this Thursday December 22 from 11:30-1:30 for the annual Christmas Party.

New Year's Day will be recognized as a holiday on Monday, January 2. The Town Offices, Public Works, Library and Recreation Department will be closed that day. The Pool will be open on January 2, but will be closed on January 1 and will close early on December 31. The Transfer Station will be closed on Sunday, January 1 and will be closed on January 2 and 3 as it is every Monday and Tuesday.

#### Health Insurance Rate Increase

Effective January 1, 2017, both the Town and its employees will see increases in health insurance costs. For an employee/spouse/family, withholdings will increase \$5.53 per week. Town cost increases were in line with what was expected and what was budgeted in FY17.

My office recently reviewed the Town's insurance costs relative to what they would have been if we had not changed to the HRA model (using Med-A-Vision) in July 2015. Prior to the current HRA model, Town employees were all enrolled in "Plan C" of the Association options. Based on the cost changes taking effect in a couple of weeks, Plan "C" today would cost the Town \$1023.73 per month or \$12,284.76 annually. The PPO-\$2500 HRA Plan cost the Town \$692.81 per month or \$8,313.72 annually. The difference in fixed cost premiums this coming year is

\$3,971.04 per employee. Our additional costs for the HRA are covered by budgeting about \$50 per month or \$600 a year per person (including dependents) for HRA reimbursements. This model appears to be a win for the Town and a win for the employee.

Tax Collector Cheryl Johnson Retiring / Welcome to Barbara Geaghan

After nearly 17 years serving as the Tax Collector / General Assistance Administrator / Motor Vehicle Agent / Deputy Clerk and a host of other functions, Cheryl Johnson will retire later this week. Speaking as the Town Manager, and on behalf of other Town staff, I will be very sorry to see Cheryl go, and we wish her every happiness!

With Cheryl's retirement, we're pleased to welcome Barbara Geaghan as the new Tax Collector and General Assistance Administrator. Barbara has over twenty years of relevant municipal experience, and will be an asset to our community. I hope you will join me in welcoming Barbara to our staff.