

Letter Health Consultation

BLYDENBURGH ROAD LANDFILL SITE

TOWN OF ISLIP, SUFFOLK COUNTY, NEW YORK

EPA FACILITY ID: NYD980506901

**Prepared by
New York State Department of Health**

JUNE 5, 2012

Prepared under a Cooperative Agreement with the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Community Health Investigations
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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LETTER HEALTH CONSULTATION

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NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

May 31, 2012

Ms. Rose Van Guilder
Petitioner
Alliance for Independent Long Island, President
484 Patricia Court
Oakdale, NY 11769

RE: Letter Health Consultation
Blydenburgh Road Landfill Site
Islip (T), Suffolk County
Site #152002

Dear Ms. Van Guilder:

In July of 2008, the Agency for Toxic Substances and Disease Registry (ATSDR) received your petition for a review of the public health assessment at the Blydenburgh Road Landfill (ATSDR, 1996) to evaluate if potential exposures to area residents existed or continued to exist from site-related contamination. The New York State Department of Health (DOH) works in partnership with ATSDR and is providing this response to your petition. This letter health consultation assesses our current understanding of potential exposure pathways to hazardous compounds associated with the landfill. You requested an updated assessment of the 1996 Public Health Assessment (PHA) conclusions, which found that conditions at that time were not expected to harm people's health. Since the time of your request, we have been gathering information and working with the New York State Department of Environmental Conservation (DEC) to collect additional information needed to address all of your concerns.

To evaluate if exposure conditions had changed since the 1996 PHA, additional sampling data were needed. In 1996, all private water supply wells in the area of the plume were believed to be taken out of service and all homes were connected to public water lines. To further assess if any additional private wells were in use, the DOH reviewed the Suffolk County Water Authority's public water supply line locations and correlated addresses from issued water bills. This process allowed the DOH to identify one private well user in the area. The well was sampled to evaluate if the water supply presented an exposure concern. The well did not contain site-related contaminants; however, it was learned that a public water supply line remains unavailable to this residence. **The DOH and ATSDR conclude that drinking or using the groundwater is not expected to harm people's health**, and have recommended periodic monitoring be conducted as the private well remains vulnerable to potential contamination in the future.

Additional groundwater monitoring data was needed for the health agencies to evaluate if current groundwater contamination presented any exposure concerns to the

community. Contaminated groundwater can present an ingestion exposure to people drinking untreated groundwater as well as an inhalation exposure via soil vapor intrusion. Groundwater data from the landfill's operational monitoring program were evaluated. Assessing if groundwater contamination presents a soil vapor intrusion exposure concern is a fairly new exposure pathway that had not been evaluated during the earlier PHA. Current shallow zone groundwater monitoring data was needed for the DOH to evaluate if soil vapor intrusion (SVI) from the groundwater plume presented an exposure concern. Groundwater samples were collected and the data supported either negligible or no contamination at the water table, leading the **DOH and ATSDR to conclude that there is no expected SVI exposure from contaminated groundwater.**

The deeper groundwater data were also reviewed, and the newest data showed contaminants slightly above the drinking water standards at the sentinel well (the well furthest from the site and closest to the public supply wellfield). **The DOH and ATSDR conclude that drinking or using deep groundwater is not expected to harm people's health.** This is because the only known potential use of this groundwater is the Nicholls Road public water supply wellfield, which is located downgradient of the site and has a treatment system available to remove any site-related contamination that might reach it.

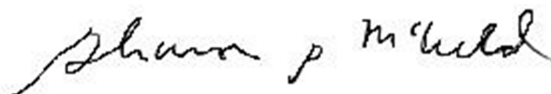
The landfill gas collection (LGC) system, in place before the 1996 PHA was issued, continues to operate although changes to the system operation have occurred. Landfill gases are typically defined as methane, carbon dioxide and hydrogen sulfide. Due to the presence of chlorinated volatile organic compounds (cVOCs) in groundwater and allegedly buried in the former municipal landfill, cVOCs such as tetrachloroethene or vinyl chloride could also be present. The DOH assessed if the modifications (i.e. reduced system operation and end of the gas recovery process) present a current concern for exposures. A review of the landfill's operational monitoring records for methane was conducted to evaluate if migrating landfill gases occur and if these gases present a current health exposure and/or physical hazard concern. Although off-site migration of landfill gases is largely prevented by the landfill gas collection system, methane has been detected periodically beyond the property boundaries. We do not know the extent or frequency of off-site migration, or whether cVOCs are being carried with the methane. **The DOH and ATSDR cannot currently conclude whether off-site migration of landfill gases from the Blydenburgh Road Landfill site could harm people's health.** This is because more information is needed to assess if the 2010 revised operating schedule of the landfill gas collection system adequately prevents off-site migration of landfill gases, including cVOCs. The DEC has informed the responsible party (RP) of the DOH recommendations for soil vapor monitoring points located off-site and installed in accordance with current guidelines, so that cVOC data can be collected appropriately. Based on recent soil vapor data detecting methane in well points beyond the LGC system, the DOH has recommended that the DEC require the RP to conduct a SVI evaluation of the occupied structures adjacent to the landfill.

As the site is fenced and gated, and the hazardous waste landfill was capped with clean fill and is currently vegetated, the DOH and ATSDR conclude that direct contact with impacted soils does not present an exposure pathway.

The attached report will provide you with more details on activities conducted to evaluate if current conditions present an exposure concern for the surrounding community.

The DOH will continue to coordinate with ATSDR, SCDHS and the appropriate environmental agencies in implementing the recommendations in this health consultation. If you have any questions on this health consultation, please call me at (518) 402-7880 or email me at spm03@health.state.ny.us.

Sincerely,



Sharon P. McLelland
Public Health Specialist II
Bureau of Environmental Exposure Investigation

Enclosure:

Important Things To Know About Landfill Gas, DOH April 2010 Fact Sheet

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Re-Assessing Exposure Pathways At The Blydenburgh Road Landfill in 2012

As requested by Ms. Rose VanGuilder, President of the Alliance for Independent Long Island, the New York State Department of Health (DOH), in conjunction with the Agency for Toxic Substances and Disease Registry (ATSDR), re-evaluated the conclusions reached in the 1996 Public Health Assessment (PHA). At that time, exposures to site-related contamination were mitigated and the PHA concluded that conditions at that time were not expected to harm people's health. Ms. VanGuilder wanted to know if today's conditions at the landfill presented any public health exposure concerns. The DOH evaluated the current conditions and presents this re-assessment.

Site Background

The Blydenburgh Road Landfill (also known as the Islip Municipal Sanitary Landfill) site occupies approximately 107 acres in Hauppauge, Suffolk County. The location of the landfill is provided in Figure 1. The landfill began operation as a residential and commercial municipal waste facility in 1927; however, it was not owned and operated by the Town of Islip until 1963. Currently, the landfill is divided into four sections: a closed and capped 52-acre landfill, with lined and unlined sections; a closed and capped 2-acre ash section; a 13-acre operating construction debris landfill (Phase 1); and a 17.5-acre sandy borrow pit, which is to be used as the Phase 2 clean fill (construction debris) landfill. In 1978, between 60 and 70 fifty-five gallon drums of chlorinated solvents were allegedly disposed of in the original 52-acre landfill. The cell that received these drums has not been identified. The oldest portion of the town-managed landfill, in the northernmost section, was not lined. The southern section was lined, and operated from 1982 to 1990. The original northern section was capped in 1987 with a geotextile membrane to prevent rainwater infiltration through the wastes and also to retard migration of gases into the ambient air. A new landfill cell was built on top of this cell, with the membrane serving as a bottom liner for the new cell (Golder Associates, 1996). This section operated from 1989 to December 1990. In accordance with the New York State Environmental Conservation Law (ECL) 27-0704 (the Long Island Landfill Law), the facility stopped receiving municipal solid waste at the end of 1990. It continues to receive construction debris, termed "clean fill" materials.

In 1987, the Town of Islip entered into an Order on Consent with the New York State Department of Environmental Conservation (DEC) to conduct a remedial program to address site-related contamination. In 1989, the site was listed by the United States Environmental Protection Agency (EPA) on the National Priorities List (NPL). In 1992, the DEC signed a Record of Decision (ROD) to address remedial actions associated with groundwater and soil vapor contamination. This area of the landfill was closed and, in 1993, capped. The site is fenced with a lockable gate and gatehouse security, therefore contact with site soils is not likely to occur.

The EPA conducted Five-Year Reviews in 1998, 2003 and 2008 (EPA, 2003, 2008) to assess conditions relative to the ROD requirements. No additional actions beyond continuation of the ROD requirements for pump-and-treat of the groundwater were recommended by the EPA.

DOH and ATSDR completed a Public Health Assessment of this facility in 1996 (ATSDR, 1996). The agencies determined that area residents may have been exposed to site contaminants through air and groundwater pathways in the past. Explosive levels of methane gas were detected in 1979 in the indoor air of basements in two homes within 100 feet (ft) of the landfill's western property boundary. At that time, vinyl chloride was also detected in the indoor air of one of the homes. DOH and ATSDR determined that up to five people residing in these homes had been exposed historically to landfill-related gases, and that this was considered to be a completed pathway of exposure. Another completed exposure pathway to landfill-related site contamination included impacted private wells. Of 50 wells sampled, 19 contained elevated levels of chlorinated volatile organic compounds (cVOCs) above drinking water standards. The Town of Islip mitigated these completed exposure pathways by buying the properties where indoor air was impacted by landfill gases and demolishing the homes, and for the homes with impacted private wells, exposures were mitigated by connecting to the public water system.

The Blydenburgh Road Landfill was one of 38 landfills assessed by the DOH in 1997 (DOH, 2007) to evaluate if there were unusual cancer rates among residents who lived near a landfill. The migration of soil gas toward residents living in close proximity to a landfill boundary was an element used in deciding which landfills should be included in the health study. This study was updated in 2007, and found that the overall population risk for cancers potentially attributable to living near a landfill was very small (DOH, 2007).

Environmental Sampling and Pathways Analysis

Environmental sampling has been conducted on a semi-annual basis as a component of the ROD issued by the DEC in 1992. Sampling data collected since the EPA's last Five Year Review in 2008 was used to assess the current site conditions to evaluate the public health concerns raised. An annual report containing recent and historical groundwater sampling data was submitted to the DEC and EPA in April 2009. This report has been submitted to the public repositories associated with this landfill site and is available for public review. The most recent report provided groundwater sample data results from August 2011 (Dvirka & Bartilucci, 2011) and methane gas monitoring levels from December 2011 (IRRA, 2012).

There are three environmental media at or near the landfill property that may contain site-related contamination: groundwater, soil vapor, and indoor air. Soils are not anticipated to be a contaminated media as landfilled materials remain in place but are capped, and the majority of the landfill base is lined. Site access is also restricted by fencing and security gates. With these barriers in place, soil exposures are not likely and are not considered further. For this discussion, landfill gases (generated within the vadose zone from decomposition of landfilled materials) are distinguished from soil vapors (chemical gases that volatilize off contaminated groundwater or from an impacted underground source). Both the landfill gases and soil vapors can migrate through the air spaces (voids) of unsaturated soil towards areas of lower pressure. Although landfill gases are predominantly methane, hydrogen sulfide and carbon dioxide, other chemical vapors, such as vinyl chloride, may be present in the site's landfill gases due to past chemical disposal in the Blydenburgh Road Landfill. The chemical compounds that may be present in the landfill gases at the site are referred to

as chlorinated volatile organic compounds . These cVOCs can present an inhalation exposure through soil vapor intrusion into buildings, presenting a health concern. Methane, the primary landfill gas from typical landfill decomposition, can migrate through the subsurface and enter structures, presenting a physical hazard concern if explosive levels accumulate.

Groundwater

A plume of contaminated groundwater originates from the landfill. Groundwater is contaminated with cVOCs, including vinyl chloride (VC), tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA) and chlorobenzene, as well as degradation compounds from these chemicals. A remedial system for the contaminated groundwater has been in operation since the 1990s, using groundwater extraction and re-injection wells. Under this system, groundwater is extracted, treated to remove cVOCs and reinjected into the aquifer. Up to six extraction wells and six recharge wells have been operating as part of the State-approved ROD as a remedial response to the elevated groundwater plume associated with the landfill. Two extraction wells, EW-2 and EW-6 (Figure 2), have been taken offline for pumping since 2006, but are included in the sampling program with the other extraction and recharge wells. The Islip Resource Recovery Agency (the responsible party, or RP) has requested that the groundwater recovery system be turned off, with the system in “stand-by mode” for a period of one year to assess for any potential rebound effects. The RP proposes to change the remedial action extraction and treatment to Monitored Natural Attenuation of the groundwater plume.

Groundwater monitoring data indicate the landfill contamination plume extends off-site, migrating towards the south-southeast. Between 2000 and 2002, two irrigation wells were installed to the southeast of the landfill, potentially affecting the groundwater flow direction. The landfill is located at a topographical high elevation for the area, resulting in the site straddling a recharge area, where flow occurs in a primarily vertical direction with eventual discharge to Connetquot River, approximately 2 miles to the southeast.

Based on the most recent groundwater monitoring data collected (August 2011), depth to groundwater ranges from approximately 20 to 143 feet (ft) below ground surface. The water table is located at approximately 40 ft mean sea level (msl). The variable topography due to landfilling results in the wide range of depth to water measurements. The aquifers are divided into three monitored zones:

- Zone 1 includes the water table down to the Smithtown Clay layer (the Upper Glacial aquifer) and ranges from 42 ft above to 75 ft below msl;
- Zone 2 comprises the deeper Upper Glacial and shallow Magothy aquifer and ranges from 83 ft below to 167 ft below msl, and
- Zone 3 which includes the deep Magothy aquifer and ranges from 228 ft below to 368 ft below msl.

The existing extraction wells only address the groundwater plumes at the base of Zone 1 (above the Smithtown Clay) and within Zone 2. The deeper Magothy aquifer, Zone 3, is not within the capture zone of the plume extraction wells.

Volatile organic compounds at levels above groundwater standards continue to be detected in groundwater samples. Figure 2 provides the locations of site wells as clusters, or “sites” (i.e. Site 11 contains Zone 1, 2 and 3 monitoring wells; wells 11G-1, 11G-2 and 11M-1). Post closure groundwater monitoring samples taken from the shallow groundwater interval (Zone 1) have not detected any cVOCs or contained negligible levels. Most shallow wells did not contain any cVOCs in 2009 and 2010 when an extensive resampling of water table wells was conducted (refer to D&B, 2009a,b; 2010). The highest concentration of total cVOCs in a shallow zone well in August 2011 was 10 micrograms per liter ($\mu\text{g/L}$). This well (11G-1) has periodically contained low level cVOCs slightly above the drinking water standard. Off-site Zone 3 deep groundwater monitoring well GM-1D contained the highest concentrations of total cVOCs (68 $\mu\text{g/L}$).

Samples collected in August 2011 also contained elevated inorganic compounds associated with landfilling operations. Manganese, iron, magnesium and sodium have been detected at elevated levels in groundwater in all zones, both on- and off-site.

Private Wells

Historically, groundwater had been used for potable water supply in the neighborhood downgradient of the site. In 1980, 50 private wells were sampled and 18 were found to contain site-related contamination above drinking water standards. Public water supply lines were extended in 1981 to homes where private water supplies were impacted by the groundwater plume. Another downgradient home with an impacted private well was identified in 1991. This home was connected to public water in 1992.

In 2009, the DOH discovered another private well was in use 500 feet southwest of the landfill. This well is believed to draw from the upper aquifer (Zones 1 & 2) where hydraulic control of the plume occurs. The well was tested by Suffolk County Department of Health Services (SCDHS) in August 2009 and site-related contamination was not detected. The home is located on a small segment of Motor Parkway that does not have a public water line available.

Public Water Supply Wells

The area surrounding the landfill and plume boundaries, with the exception of part of Motor Parkway, is now serviced with public water by the Suffolk County Water Authority. The Nicholls Road public water supply wellfield is 6,000 ft downgradient of the site, to the southeast of the landfill.

The groundwater is a sole source aquifer. Groundwater data from the deeper aquifer (lower Glacial and Magothy formations) indicate some site-related volatile organic compound exceedances above NYCRR Part 5 standards for TCE, PCE, cis-1,2-dichloroethene (cisDCE), TCA and VC, which could present a potential exposure to area residents if groundwater is used for potable purposes at the plume depth. However, public water systems are tested regularly for contamination and treated, if necessary, so that distributed water meets drinking water standards. The site-related groundwater contamination plume has not been identified as far south as the wellfield,

so it is not likely that contamination associated with the Blydenburgh Road landfill has impacted these public supply wells.

Soil Vapor Intrusion

Depth to groundwater on the landfill property is typically greater than 100 ft due to the thickness of landfilled materials. Thus, the potential for soil vapor intrusion (movement of soil vapor from the ground into overlying structures) from contaminated groundwater is unlikely for onsite structures. Offsite, the depth to groundwater is shallower and could present a concern for soil vapor intrusion if the shallow groundwater is contaminated. Due to the site's position on a topographic high point, shallow groundwater data from wells around the landfill were evaluated for the potential for soil vapor intrusion to present an exposure to the surrounding community. Recent shallow zone groundwater sampling detected only low levels of VOCs, thus soil vapor intrusion from a shallow groundwater plume is not likely to be an exposure concern.

Landfill Gases

Landfill gases, particularly methane, presented health and safety concerns to area residents in the past. In 1979, the Town of Islip purchased and demolished two homes affected by high levels of methane gas in the basements. Vinyl chloride was also detected in the indoor air in one of these homes. In 1980, an indoor air sample at an adjacent school contained detectable levels of vinyl chloride. Although the indoor air of the school was resampled by the EPA and DOH, and vinyl chloride was not detected, the school subsequently was closed because of community concerns about air quality. The school building was later re-opened as a preschool, which continues to operate today.

The RP installed an active perimeter landfill gas collection system in 1983 to prevent migration of gases off-site. Methane collected from the landfill was used to generate electricity until the gas collection facility burned down on July 4, 1997 (IRRA, 2005). Since then, the perimeter landfill gas collection (LGC) wells have been vented directly to the atmosphere, and the collected gases from the central internal lines are combusted. Methane gas meters are installed in the on-site buildings, but no alarms indicating methane detection in the indoor air have been reported. Following methane detections in gas monitoring wells in late 2009, the DEC requested that the RP return the LGC system to a continuously-operating mode, as had occurred prior to 2001 when the system was reduced to five days per week, 7 hours per day (work week schedule). The agencies were notified by the RP in February 2010 that the eastern section of the LGC system (Line "C") has been operating 24 hours per day since December 28, 2009 (IRRA, 2010a). The western and northern sections of the LGC system (Lines "A" and "B") continue to operate on the reduced workweek schedule (IRRA, 2010b). The LGC system is located on Figure 3.

Landfill gases are monitored off-site at unsaturated zone cluster wells, with screened intervals ranging from 20 to 100 ft below grade. The air inside the wells (the "headspace") is measured for levels of methane, carbon dioxide and oxygen on a monthly basis. Chlorinated volatile organic compounds are also monitored in the headspace of the groundwater monitoring wells on a monthly basis using field screening instruments, and have not been detected. Methane gas levels are monitored using

combustible gas instruments. Refer to Figure 3 for vadose zone gas monitoring wells where methane has been detected. Percent levels of methane have been detected sporadically since the Fall of 2008 in off-site monitoring wells MW-23 (across from the landfill to the east) and MW-13 (across from the landfill to the west). Methane was detected in MW-23 in December 2009 just after the LGC system returned to continuous operation. Methane gases could present a physical hazard from explosion if elevated levels (at or above explosive levels of 5-15%) migrated to occupied structures. Gas monitoring in July 2011 detected methane below 1% in the off-site monitoring wells MW-53 and MW-54 (also located on the western side of the landfill). Methane was not detected in off-site monitoring wells between August and December 2011.

If the LGC system does not continuously create a vacuum (negative pressure) at the site boundary, then landfill gases may be able to migrate off-site. Recent data collected from the off-site landfill gas monitoring well points demonstrated that methane gas migrates beyond the landfill gas collection system periodically. We do not know whether cVOCs are also present in the landfill gas, thus migrating cVOCs in landfill gases (from the landfilled hazardous wastes) present a *potential* exposure pathway to the adjacent community.

Summary of Exposure Pathways

Currently, there are no known completed exposure pathways for site-related contaminants. The landfilled materials have been capped, a LGC system continues to operate and no private potable wells are impacted. On-site structures are equipped with methane meters and alarms. However, several potential pathways of exposure to site contaminants may exist:

1. Off-site migration of landfill gases is largely prevented by the landfill gas collection system; however, methane has been detected periodically beyond the property boundaries. We do not know the extent or frequency of off-site migration, or whether cVOCs are being carried with the landfill gases.
2. One known private well exists to the southwest of the landfill and sample data results in 2009 did not contain site-related contamination. However, it may be vulnerable to contamination in the future.
3. A public water supply wellfield exists downgradient of the site and may be vulnerable to site-related contamination. However, it is not likely that people will be exposed to site-related contamination because monitoring and treatment at the wellhead is currently conducted.

DOH and ATSDR conclude that there is sufficient data to eliminate several exposure pathways from continued evaluation: soil vapor intrusion from contaminated shallow groundwater does not present a current inhalation exposure concern, and direct contact with impacted soils does not present an exposure pathway.

Conclusions

The DOH and ATSDR cannot currently conclude whether off-site migration of landfill gases from the Blydenburgh Road Landfill site could harm people's health. This is because more information is needed to assess if the revised operating schedule of the landfill gas collection system prevents off-site migration of landfill gases, including cVOCs.

The DOH and ATSDR conclude that drinking or using shallow groundwater (Zone 1) is not expected to harm people's health. This is because the only known use of this water is at one private well located near the site that has been tested and not found to contain site-related contamination above drinking water standards.

The DOH and ATSDR conclude that drinking or using contaminated deep groundwater is not expected to harm people's health. This is because the only known potential use of this groundwater is the Nicholls Road public water supply wellfield, which although located downgradient of the site, has a treatment system available to remove any site-related contamination that might reach it. The deeper groundwater zone (Zone 3) is contaminated and a plume is migrating beyond the Zone 1 and Zone 2 hydraulic containment system in place at the facility. Recent data indicate the deepest sentinel well at Site 16 (the most downgradient well cluster associated with the landfill) contains contamination above the drinking water quality standards.

Recommendations

The DOH and ATSDR provide the following recommendations to assess and minimize future exposures:

1. The Town of Islip should operate the landfill gas collection system (Lines A, B and C) continuously, and demonstrate negative pressures at the system perimeter. If the landfill gas collection (LGC) system(s) are not operating and/or negative pressure is not demonstrated at the containment lines, methane and cVOC monitoring at the off-site monitoring points should be implemented periodically during the period of time that the system is off to evaluate the potential for gases to migrate towards occupied structures. Periodic monitoring should begin upon discovery that the LGC system(s) are not operating. Notification should be provided to the agencies if the on-site methane detection systems alarms are activated. Ambient air monitoring should be conducted at the flare points if/when the on-site methane alarms are activated, as well as at the downwind site boundary, per the ROD requirement to collect ambient air samples to determine whether modifications to the LGC system are necessary.
2. Due to the detection of methane in off-site monitoring wells and historic association of vinyl chloride with methane at this site, a soil vapor intrusion (SVI) investigation is warranted at the adjacent residential off-site structures to the west of the landfill to evaluate if a public health exposure concern exists from migrating subsurface gases towards occupied structures off-site.

3. Appropriate soil vapor monitoring points should be installed beyond the LGC system, with gas samples collected and analyzed for methane and cVOCs. The current methane gas monitoring system uses large (4-inch) diameter slotted-screen wells designed for groundwater collection purposes which do not conform to the guidelines established by the DOH for soil vapor investigations. DOH and ATSDR recommend that permanent soil vapor points be located between the wells that have detected percent levels of methane within the past two years and adjacent occupied structures. In addition, a permanent soil vapor point should also be located between the landfill perimeter and the former Whiporwil school (current day care facility). As potentially elevated (i.e. percent levels) methane concentrations may exist and affect the laboratory equipment, the soil vapor points should be initially monitored for methane concentrations so the proper dilution can be conducted for the cVOC analysis.
4. Chlorinated VOCs should be measured at the LGC system discharge points, if the system is not being flared. The ROD requires ambient air to be sampled to determine if the LGC system reduces cVOC emissions while maintaining perimeter subsurface control of explosive gases and if unacceptable levels are found, modification of the flare system is to be implemented.
5. Periodic sampling is recommended for the known private water well in use on Motor Parkway, until a public water line connection is available. Property owners with private water supply wells potentially downgradient of the site who have not had their wells tested should contact the SCDHS for possible sampling to determine if the well water meets drinking water standards. The DOH and ATSDR recommend including all private water wells that are in use downgradient of the groundwater plume into a periodic monitoring program.
6. Anytime there are public water supply lines available, DOH, SCDHS and ATSDR recommend that property owners connect to the public water supply and disconnect their private wells from their household system. As public water systems are routinely monitored for a variety of compounds, connecting to a public water supply ensures that if contamination is present in the groundwater, it is treated prior to consumption. This recommendation is consistent with the standard recommendation offered by the SCDHS when providing private homeowners with data results in areas where public water supply lines are available.

Public Health Action Plan

Actions Pending or Ongoing:

Landfill Gases:

1. The DEC requested that the Town of Islip (the responsible party) return the LGC system to full-time, 24 hour operation to minimize methane migration from the property and to operate the landfill gas collection system continuously. The effectiveness of this action to minimize methane migration is being assessed through semi-annual gas monitoring reports submitted to the DEC.

2. The DEC also requested that permanent soil vapor points be installed between the LGC lines and occupied structures, including the Whiporwil school, and sampled for volatile organic compounds to determine if soil vapor intrusion from migrating landfill gases presents a public health concern to adjacent occupied structures.
3. The DOH has recommended to the DEC that a soil vapor intrusion evaluation be conducted at the adjacent structures to the landfill for both methane and cVOCs.

Groundwater Usage.

4. The DOH will work with the SCDHS and DEC in coordinating additional private potable well water sampling events.
5. The DOH will evaluate the public health implications of the soil vapor, soil vapor intrusion and groundwater sampling results requested in the recommendations presented above.

AGENCY INFORMATION

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References

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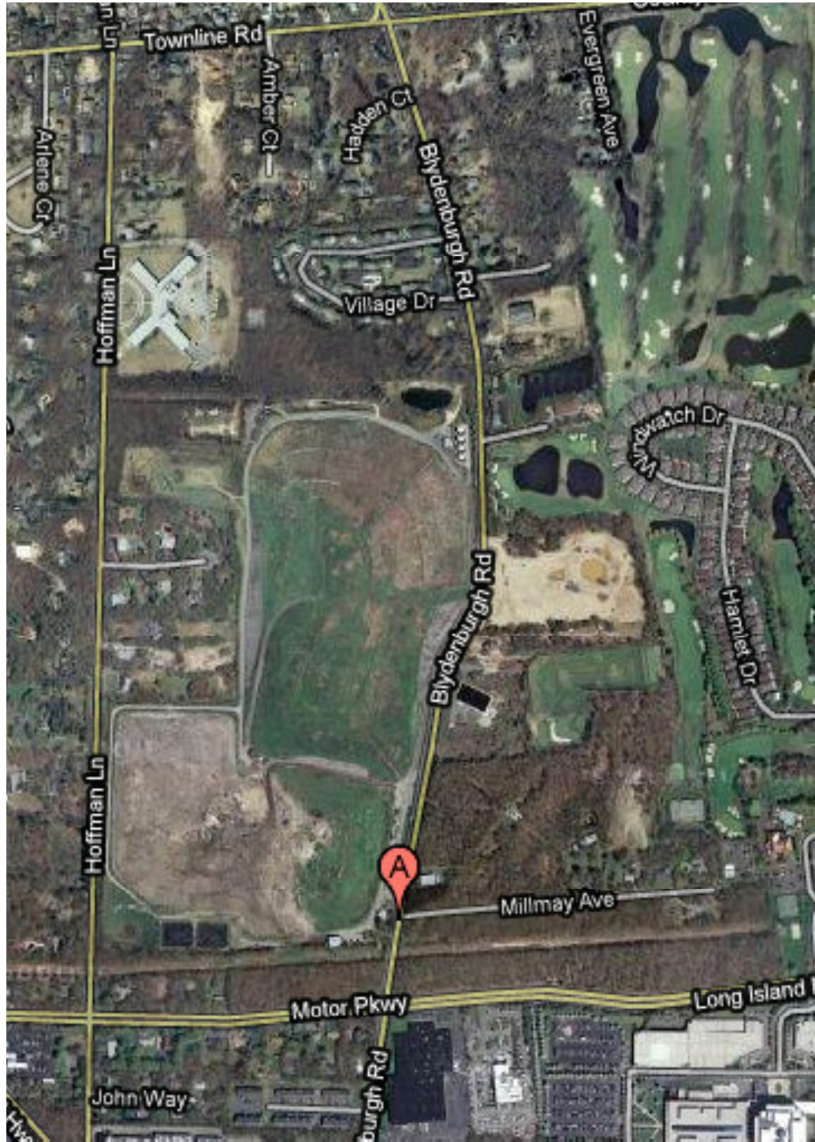


Figure 1 - Site Location

(source: Google maps: Blydenburgh Road, Hauppauge, NY. 2010)

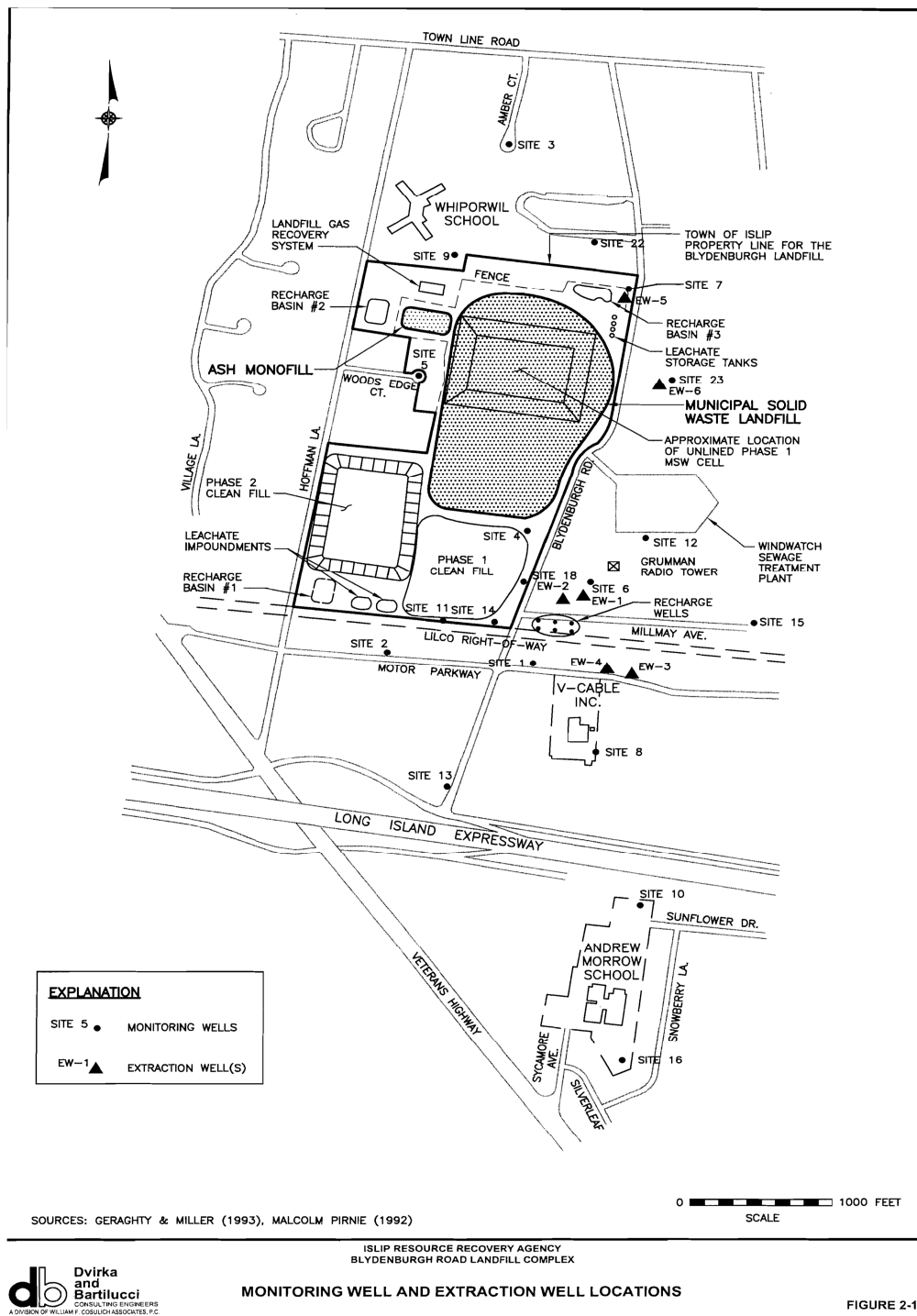


Figure 2 – Groundwater Monitoring and Extraction Well Locations

Figure 3: Landfill Gas Collection Lines & Gas Monitoring Wells



Figure 3 – Landfill Gas Collection System Lines A, B and C and Gas Monitoring Wells

Appendix 1

Conclusion Categories and Hazard Statements

ATSDR has five distinct descriptive conclusion categories that convey the overall public health conclusion about a site or release, or some specific pathway by which the public may encounter site-related contamination. These defined categories help ensure a consistent approach in drawing conclusions across sites and assist the public health agencies in determining the type of follow-up actions that might be warranted. The conclusions are based on the information available to the author(s) at the time they are written.

1. Short-term Exposure, Acute Hazard “ATSDR concludes that...could harm people’s health.”

This category is used for sites where short-term exposures (e.g. < 1 yr) to hazardous substances or conditions could result in adverse health effects that require rapid public health intervention.

2. Long-term Exposure, Chronic Hazard “ATSDR concludes that...could harm people’s health.”

This category is used for sites that pose a public health hazard due to the existence of long-term exposures (e.g. > 1 yr) to hazardous substance or conditions that could result in adverse health effects.

3. Lack of Data or Information “ATSDR cannot currently conclude whether...could harm people’s health.”

This category is used for sites in which data are insufficient with regard to extent of exposure and/or toxicologic properties at estimated exposure levels to support a public health decision.

4. Exposure, No Harm Expected “ATSDR concludes that ... is not expected to harm people’s health.”

This category is used for sites where human exposure to contaminated media may be occurring, may have occurred in the past and/or may occur in the future, but the exposure is not expected to cause any adverse health effects.

5. No Exposure, No Harm Expected “ATSDR concludes that ...will not harm people’s health.”

This category is used for sites that, because of the absence of exposure, are not expected to cause any adverse health effects.

REPORT PREPARATION

This Health Consultation for the Islip Blydenburgh Road Landfill Site was prepared by the New York State Department of Health under a cooperative agreement with the federal Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with the approved agency methods, policies, procedures existing at the date of publication. Editorial review was completed by the cooperative agreement partner. ATSDR has reviewed this document and concurs with its findings based on the information presented.

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