

Summary Statement

The Montgomery County (County) Department of Environmental Protection (DEP) has prepared this Fact Sheet to summarize the accepted details and findings of the supplemental Nature and Extent Study (NES) Amendment No. 1 Report and to provide a current status update for on-going site activities at the Gude Landfill (Landfill). The NES Amendment No.1 Report supported the findings of the previously submitted NES Report and provided additional investigations and analyses to further characterize the nature and extent of contamination and potential impacts to public health and the environment in the vicinity of and potentially resulting from the Landfill. Stakeholders were kept apprised of the investigations, analyses and findings of the NES Amendment No.1 Report during the project work.

DEP also prepared and distributed: a Fact Sheet on the NES Report on December 23, 2010 and a Quarterly Landfill Newsletter on June 30, 2011. These documents are available on the Landfill Remediation Webpage, which is further detailed in this Fact Sheet.

Background and Current Status

At the direction of the Maryland Department of the Environment (MDE), DEP prepared and submitted a NES Report to MDE in November 2010. MDE provided comments to the DEP, which were discussed in a meeting in February 2011. Following the meeting, DEP prepared a “MDE Comment and County Response” summary to document specific guidance on the necessary steps to finalize the NES Report. In order to fully address MDE’s comments, DEP completed additional field investigations and analyses under the supplemental NES Amendment No. 1. The NES Amendment No. 1 Report was submitted to MDE on November 21, 2011. The NES Amendment No.1 Report supported the findings of the previously submitted NES Report. MDE approved the collective findings of both above referenced Reports in a letter dated March 13, 2012 (received March 16, 2012 by DEP). Within the approval letter, MDE also stipulated a requirement for DEP to prepare an ACM Work Plan within sixty (60) days of receipt of the letter (by May 15, 2012).

The NES Amendment No.1 Report provided additional investigations and analyses to further characterize the nature and extent of contamination and potential impacts to public health and the environment in the vicinity of and potentially resulting from the Landfill. The results of the NES Amendment No. 1 Report indicated that while there is persistent low level groundwater contamination, occasional surface water detections of contaminants and intermittent landfill gas exceedances from the Landfill site, there are **no risks to public health** for the neighboring residential development of Derwood Station or the recreational users of the Maryland-National Capital Park and Planning Commission (M-NCPPC) trails that are located adjacent to the Landfill site. It should also be noted that the groundwater in the vicinity of the Landfill is not used as a potable water supply. The Derwood Station residential development’s potable water is serviced by the Washington Suburban Sanitary Commission (WSSC), a public water supply system.

NES Amendment No. 1 Summary

A summary of the NES Amendment No.1 field investigations, analyses and Report is provided below:

- ***MDE Guidance to Complete the Nature and Extent Work*** – To address MDE’s comments on the NES Report, DEP performed additional field investigations and analyses for the NES Amendment No.1 Report with the following direction:
 - Further characterize the nature of potential impacts to groundwater resulting from the Landfill and identify any contributing factors to such impacts.
 - Further evaluate and characterize the extent of maximum contaminant level (MCL) exceedances through additional groundwater sampling and analyses in the northwest, northeast, southwest and southeast areas of the Landfill site.
 - Address the source of metals exceedances, particularly chromium in the groundwater sampling data. Determine the effect of turbidity on total metal exceedances.
 - Analyze groundwater samples for the following leachate indicator constituents: pH, alkalinity, hardness, chloride, specific conductance, nitrate, chemical oxygen demand (COD), turbidity, ammonia, sulfate and total dissolved solids.
 - Evaluate seasonal variation trends in the groundwater sampling data.
 - Address the potential impacts of industrial operations along Southlawn Lane on groundwater and surface water quality in the vicinity of the Landfill.
 - Discuss the nature and extent and provide graphical depictions of other constituents including metals that exceed individual groundwater protection standards. Impacts should be presented at the single constituent (i.e., parameter) level where groundwater protection standards are exceeded.
 - Further characterize the extent of potential impacts to groundwater resulting from the Landfill and identify contributing factors to such impacts. The extent of potential impacts should be bounded.
 - Include surface water elevations from bordering streams and include the data in the groundwater contour details. The groundwater contour map should be presented on a topographic map. Discuss aspects of the Landfill’s topography and

the apparent flow direction of surface water bodies along the perimeter Landfill property boundary. Localized (e.g., radial) groundwater flow components of the Landfill site should be provided to close the groundwater contours.

- Address landfill surface hydrology. Specifically the way in which the Landfill's topography and existing stormwater drainage structures minimize standing water (e.g. ponding) and infiltration into the waste mass.
 - Compare landfill gas composition data with groundwater monitoring data to evaluate the potential positive effects of enhanced landfill gas collection on groundwater quality.
- ***Additional Investigative Field Work to Further Define Nature and Extent Work*** – The following investigative field work was performed to further define the nature and extent of potential impacts to groundwater at along the property boundary of the Landfill and to further understand the relationship between groundwater and surface water elevations:
- Sampling of all existing groundwater monitoring wells (MW) and observation wells (OB) to provide a comprehensive data set for analytical testing and evaluation purposes (April 2011 – DEP and September 2011 – EA).
 - Field filtering of groundwater samples collected for metals analysis to evaluate the presence of metals in groundwater samples from the monitoring wells.
 - Installation and sampling (September 2011) of three (3) permanent groundwater monitoring wells, MW-14A, MW-14B and MW-15 in the Derwood Station residential development to further define the extent of groundwater contamination.
 - Installation and sampling (September 2011) of ten (10) temporary groundwater monitoring well (TGW) locations, TGW-1 through TGW-10 near adjacent surface water bodies to further define the extent of groundwater contamination and to evaluate whether adjacent streams are hydraulic barriers that restrict contaminant migration.
 - Stream elevation survey at fifteen (15) stream gauge (SG) locations, SG-1 through SG-15 in conjunction with depth to water measurements within all existing, new permanent and temporary groundwater monitoring wells to more accurately define groundwater contour elevations.
- ***NES Amendment No.1 Findings*** – The findings of the NES Amendment No. 1 Report supported the findings of the NES Report. The accepted findings of the NES Amendment No. 1 Report are summarized below. The complete NES Amendment No. 1 Report is available on the Landfill Remediation Webpage.
- Groundwater – The April and September 2011 groundwater sampling data was consistent with the results reported in the NES Report from July and September 2010. The results indicate that the north-northwestern and south-central boundaries of the Landfill continue to have the higher reported chemical concentrations. The same constituents of concern with concentrations greater than MCLs for drinking water identified in the NES Report were also identified during the NES Report Amendment No. 1 investigations. During the two (2) additional groundwater sampling events (April and September 2011), a total of eleven (11) constituents exceeded MCLs (metals – 1, volatile organic compounds [VOCs] – 9 and leachate indicator parameters – 1). Maps presenting the extent of contamination for each constituent were prepared and presented.
 - Groundwater – No MCL exceedances were reported in groundwater samples collected from the new groundwater monitoring wells in the Derwood Station residential development (MW-14A, MW-14B and MW-15) during the NES Amendment No. 1 sampling event (September 2011). Data collected from the temporary groundwater monitoring wells indicated that the Crabbs Branch and Southlawn Branch streams act as hydraulic barriers to restrict groundwater contaminant migration.
 - Groundwater – Reported concentrations in field-filtered groundwater samples indicated that metals exceedances noted during the NES sampling event (July/August 2010), County semi-annual sampling event (April 2011), and the NES Amendment No. 1 sampling event (September 2011) for total metals were due to high turbidity (i.e., sediment suspended in groundwater).
 - Groundwater – Similar to the findings of the NES Report, water elevation data collected from the groundwater monitoring wells and stream gauge locations indicated an easterly flow direction across the Landfill, with minor north, northeasterly and southeasterly flow components.
 - Landfill Surface Hydrology – The site review supports that the Landfill's topography and existing stormwater drainage structures minimize standing water (e.g., ponding) and infiltration into the waste mass.
 - Landfill Gas Management and Groundwater Quality – An evaluation of constituents found in landfill gas and groundwater identified a correlation of fifteen (15) constituents in both media. Based on the Landfill site's active gas management and collection system, it can be inferred that gas management has provided benefits to groundwater quality by removing the potential for VOC constituents to condense and enter the groundwater.
 - Human Health and Ecological Risk Evaluations – Groundwater analytical results were consistent with historical analytical results, including the NES sampling event (July/August 2010). Therefore, there are no human health concerns for residents' or ecological organisms' exposure to VOCs in groundwater.

- Potential Impacts to Surface Water – Based on the evaluations and findings, the Landfill is not adversely impacting adjacent surface water bodies and no further assessments on potential surface water impacts from or in the vicinity of the Landfill are required at this time.

Community Engagement and Communication

DEP has been (since June 2009) and will continue to meet with members of the Derwood Station residential development, the Gude Landfill Concerned Citizens (GLCC), through regularly scheduled monthly evening meetings. The purpose of the meetings is to provide information regarding the remediation work activities, site operations, reporting requirements to MDE and to respond to local community concerns regarding the Landfill site. These monthly meetings are open to any interested members of the public. Summaries (Meeting Minutes) of DEP and GLCC meetings are included on the Landfill Remediation Webpage, which is further detailed in this Fact Sheet. DEP has also previously prepared and distributed a Community Communications Plan that identifies major remediation project milestones and associated commitments of the County to the Community.

Next Steps and Projected Schedule

DEP has developed a general list of on-going or future work activities (next steps) regarding the remediation investigation at the Landfill site, which are presented below. The projected schedule to initiate and/or complete each activity is also provided.

- Prepare and submit the ACM Work Plan to MDE. [*by May 15, 2012*]
- Obtain MDE approval of the ACM Work Plan. [*August 2012*]
- DEP and GLCC to hold a public meeting to review the NES/NES Amendment No.1 findings. [*September 2012*]
- DEP and GLCC to hold a public meeting to introduce the ACM. [*September 2012*]
- Complete the Land Exchange (Disposition) with M-NCPPC regarding waste encroachment on Park Land. [*September 2012*]
- Complete the Administrative Consent Order with MDE that will document the requirements of the ACM. [*September 2012*]
- DEP to continue working with the GLCC, the Derwood Station residential community, other County Agencies and other stakeholders regarding potential land reuse alternatives at the Landfill. [*on-going*]
- Initiate and complete the work of the ACM. [*September 2012 – June 2013*]
- DEP to hold a public hearing to review the findings of the ACM and associated Report. [*future*]
- Obtain MDE approval of the recommended corrective measure(s). [*future*]
- DEP and all stakeholders to review the integration of selected corrective measures and potential land reuse alternatives. [*future*]
- Initiate design, permitting and implementation of the selected and approved corrective measure(s) and land reuse(s). [*future*]

The Landfill remediation schedule including future land reuse will vary based on the performance of remediation investigations, regulatory review periods, regulatory comments and County responses, procurement processes and coordination with stakeholders.

Technical Support

EA Engineering, Science, and Technology, Inc. (EA) was contracted by DEP through the Northeast Maryland Waste Disposal Authority (NMWDA) to provide technical support during project meetings and to assist with the field investigations, analyses, evaluations and reports associated with the Landfill remediation. EA has been assisting the DEP in this capacity since June 2009.

County Information Sharing Webpage

DEP has established a webpage to share remediation and land reuse project information with the Community. The webpage also has an online forum for residents to post questions regarding the Landfill. The webpage and forum address is provided below:

- <http://www.montgomerycountymd.gov/swstmpl.asp?url=/content/dep/solidwaste/facilities/gude/index.asp>

County Contact Information

DEP contacts for the remediation and land reuse project at the Landfill are provided below. Please contact Steve Lezinski, Engineer III for Landfill monthly meeting dates, times and the location.

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