Overview

The Montgomery County (County) Department of Environmental Protection (DEP) recently completed a Nature and Extent Study (Study) to assess the potential environmental and public health impacts associated with low level environmental contamination in the vicinity of and potentially resulting from the Gude Landfill (Landfill). The results of the Study indicated that while there is persistent low level groundwater contamination and occasional surface water detections of contaminants from the Landfill, there are no significant exposure pathways to neighboring residents and consequently, no risks to public health. Note 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. The Nature and Extent Study was recently completed and submitted to the Maryland Department of the Environment (MDE) on November 19, 2010. While DEP is waiting for comments from MDE on the Study as well as their recommendations for remediation, DEP is concurrently working with its consultant to outline a range of remediation alternatives. A decision on the remediation approach is still several months away.

County DEP has been meeting with a local citizen advisory group, the Gude Landfill Concerned Citizens (GLCC), on a monthly basis from June 2009 to Present regarding the Study's field investigations and reporting requirements to the MDE. Within GLCC, the three (3) Homeowner Associations of the Derwood Station residential development (Derwood Station 1, Derwood Station 2 and Derwood Station South) are represented. These monthly meetings are also open to any interested members of the public (please contact Steve Lezinski at Steve.Lezinski@montgomerycountymd.gov for dates, times, and the location). A public meeting with members of the Derwood Station Community was held on September 24, 2009 to present the potential site concerns of the Landfill and an overview of the Study. On June 25, 2010, DEP hand-delivered letters to the Derwood Station residents that were located in the immediate vicinity of the new groundwater monitoring wells, which discussed well installation and construction activities. The new groundwater monitoring wells were installed and sampled as part of the Study. Of the five (5) monitoring wells installed within the Derwood Station residential development, there was only one (1) monitoring well with contaminant detections that exceeded Maximum Contaminant Level (MCL) concentrations for drinking water and that was from the monitoring well (MW-9) located in Dubuque Court.

The Study is included on the Gude Landfill Remediation Webpage at:
<http://www.montgomerycountymd.gov/swstmpl.asp?url=/content/dep/solidwaste/facilities/gude/index.asp>.

DEP has prepared this Fact Sheet as follow-up documentation to the Community meeting and to summarize the details and findings of the Study.

Site Background

The Landfill was used by the County for the disposal of municipal solid waste and incinerator residues between 1964 and 1982. The site, located at 600 East Gude Drive in Rockville, Maryland encompasses approximately one hundred sixty-two (162) acres, of which approximately one hundred (100) acres were used for waste disposal. Since final closure of the Landfill in 1982, the County has conducted voluntary groundwater and surface water monitoring, contracted for the installation and several upgrades to the landfill gas management system, stormwater management and other site maintenance activities. During calendar year 2008, the Landfill water quality data were requested by the GLCC during discussions of a proposal by the County to relocate the existing County Bus Depot on Crabbs Branch Road to the Landfill. In response to GLCC's concerns, MDE reviewed the water quality data and required the DEP to initiate the Study to assess potential environmental and public health impacts from the Landfill. EA Engineering, Science, and Technology, Inc. (EA) was contracted by DEP through the Northeast Maryland Waste Disposal Authority to assist with the field investigations and technical evaluations of the Study.

Aerial and Field Site Survey (2009-2010)

Work initiated prior to the Study included an aerial survey that was performed to obtain topographic elevations of the Landfill surface. A field site survey was performed to provide a meets and bounds survey of the Landfill property boundary and to obtain location and elevation information for existing site features (groundwater monitoring wells, landfill gas extraction and monitoring wells, stormwater management infrastructure, etc.). The final survey site drawings are expected to be completed in December 2010.

Waste Delineation Study (2009-2010)

Work initiated prior to the Study included a waste delineation study that was performed to locate the approximate horizontal extent of waste placement along the property boundary of the Landfill. Mechanical excavation or hand auguring was

performed at 161 test pit locations, which indicated that waste was generally placed within the Landfill property boundary except along the northeastern portion of the Landfill. Along the northeastern property boundary, waste was identified approximately two-hundred (200) to two-hundred-fifty (250) feet onto Maryland-National Capital Park and Planning Commission (M-NCPPC) property. The waste delineation study was completed in January 2010. DEP is pursuing a potential land swap with M-NCPPC, in which the County would exchange approximately seventeen and one-tenth (17.1) acres of waste-free land on Landfill property for approximately sixteen and one-half (16.5) acres of waste-filled land on M-NCPPC property.

Protected Resource Investigations (2009-2010)

As part of the Study, a protected resource investigation was performed to determine the presence and extent of wetlands and waterways with respect to federal and state jurisdictional authority and to assess forest stand conditions and structure. With respect to wetland and waterway delineation: three (3) wetlands, three (3) stream channels and two (2) ponds in the vicinity of the Landfill were identified as potentially jurisdictional features. With respect to forest stand delineation: four (4) forest stands were identified within the area of review, predominantly along the perimeter of the Landfill. The protected resource investigation was completed in March 2010.

Groundwater Monitoring Well Permitting and Installation (March-July 2010)

As part of the Study, permitting for access and installation of on-site and off-site groundwater monitoring wells were coordinated with GLCC, County Department of Permitting Services, MDE and M-NCPPC. Sixteen (16) new groundwater monitoring wells were installed as part of the Study to supplement the existing twenty (20) groundwater monitoring wells. The new groundwater monitoring wells were generally located along the perimeter property boundary of the Landfill and within the Derwood Station residential development on Dubuque Court, Grinnell Terrace and on M-NCPPC property off of Bettendorf Court. The installation of the new groundwater monitoring wells was completed in July 2010.

Subsurface Soil Sampling (July 2010)

As part of the Study, during drilling of the sixteen (16) new groundwater monitoring wells, one (1) subsurface soil sample was taken from each monitoring well for laboratory analysis. Reported concentrations in subsurface soil samples generally did not exceed Maryland Department of the Environment (MDE) residential soil cleanup standards other than for metals, which were consistent with background levels published by MDE (*State of Maryland, Department of the Environment, Cleanup Standards for Soil and Groundwater*, June 2008). Polychlorinated biphenyls (PCB) were reported in concentrations exceeding the residential cleanup standard in one (1) groundwater monitoring well location located inside the southeast Landfill property boundary (MW-4); however, a risk evaluation indicated no human health concerns for contact with subsurface soil at this location and other subsurface soil sampling locations.

Surface Soil Sampling (July 2010)

As part of the Study, eleven (11) surface soil samples were collected along the Derwood Station South property boundary, in the northern portion of the Landfill site, near the Men's Shelter and near the model airplane flying area of the Landfill site. Reported concentrations in surface soil samples generally did not exceed the residential soil cleanup standards other than for metals, which were consistent with background levels published by MDE. The reported concentration of PCB exceeded the residential cleanup standard at one (1) location outside the northeast property boundary of the Landfill (SS-3); however, a risk evaluation indicated no human health concerns for contact with surface soil at this location and other surface soil sampling locations.

Surface Water Sampling (July 2010)

As part of the Study, ten (10) surface water samples were collected from off-site streams around the perimeter of the Landfill site. Reported concentrations in surface water samples generally did not exceed the MDE residential groundwater cleanup standard. The reported concentration of cobalt exceeded the residential cleanup standard at one (1) location outside the northeast property boundary of the Landfill (SW-3); however, a risk evaluation indicated no human health concerns for contact with surface water at this location and other surface water sampling locations.

Groundwater Sampling and Monitoring (July and September 2010)

As part of the Study, groundwater samples were collected for laboratory analyses in July 2010 (EA Analysis) from the twenty (20) existing and sixteen (16) new groundwater monitoring wells. In accordance with the approved MDE Groundwater and Surface Water Monitoring Plan, the County collected groundwater samples from the existing and new groundwater monitoring wells in September 2010 (County Analysis). Groundwater elevation data collected during the two sampling events indicate primarily east and south flow directions, with flow components to the north and northeast. The variable flow components along the Landfill perimeter appear to reflect localized radial groundwater flow, which is

consistent with variability in topography, recharge via surface water, and potential mounding of groundwater within the waste mass created by the former Landfill.

The July and September 2010 groundwater sampling data indicate that the north-northwestern and south-central boundaries of the Landfill continue to have the higher reported chemical concentrations. Although groundwater is not used as a source of potable drinking water in the Derwood Station residential development, MDE required the use of drinking water standards for comparison of reported chemical concentrations in the groundwater samples. The MCLs were established by the U.S. Environmental Protection Agency (EPA). The constituents of concern as identified in the Study with consistent reported concentrations exceeding MCLs are: tetrachloroethene (PCE), trichloroethene (TCE), cis-1.2-dichloroethene, vinyl chloride, benzene, methylene chloride and 1,2-dichloropropane. Most constituents detected, except vinyl chloride, are typically less than the drinking water standards (MCLs) in the southwest, southeast, and northeast portions of the Landfill site. Data from the newly installed groundwater monitoring wells indicate that the impacts reported in the OB03 groundwater monitoring well pair at the northwest property boundary extend north-northeast, not west toward the Derwood Station residential development.

Risk Evaluation (July – September 2010)

Following receipt of the subsurface soil, surface soil, surface water and groundwater analytical data from the laboratory, a risk evaluation for all associated media was performed in accordance with MDE and U.S. EPA guidance to assess potential concerns for human health and ecological receptors. The results of the risk evaluation indicated that reported concentrations in subsurface soil, surface soil and surface water do not present human health or ecological concerns for contact with any of the media. Reported concentrations in groundwater do not present a human health concern, since the groundwater is not used as a potable water supply. Additionally, reported volatile organic compound (VOC) concentrations detected in the groundwater monitoring wells, in the Derwood Station residential development or on Landfill property do not present a human health concern from indoor air (vapor intrusion) inhalation.

Current Status

A Nature and Extent Study Report that summarized all data collected during the Study was submitted to MDE on November 19, 2010. Upon MDE's formal review and response to the Study Report, DEP plans to meet with GLCC and other County agencies to discuss the recommended remediation alternative(s). Additionally, a Remediation Feasibility Memorandum is being prepared to summarize several potential remedial actions including monitored natural attenuation, bioremediation, landfill capping, impermeable barriers, permeable reactive barriers, and selective waste excavation. GLCC and DEP representatives continue to meet on a regular monthly basis to exchange information. These meetings are open to the public. For additional information, the County's point of contact is:

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