

**GUDE LANDFILL REMEDIATION**

**GLCC/DEP MEETING NO. 20**

DATE: December 8, 2011  
TIME: 7:30 PM to 9:00 PM  
LOCATION: Montgomery County Transfer Station

ATTENDANCE:

<u>Name</u>	<u>Organization</u>	<u>Designation</u>
Dave Peterson	Gude Landfill Concerned Citizens (GLCC)	Member
Julia Tillery	Gude Landfill Concerned Citizens (GLCC)	Member
George Wolohojian	Gude Landfill Concerned Citizens (GLCC)	Member
Peter Karasik	Montgomery County Dept. of Env. Protection (DEP)	Section Chief
Steve Lezinski	Montgomery County Dept. of Env. Protection (DEP)	Engineer III
Barb Roeper	EA Engineering, Science, and Technology, Inc.	DEP Consultant

The Meeting Agenda is included as Attachment 1.  
Contact information for attendees is included as Attachment 2.  
Chronology of Closed Action and Follow-up Items is included as Attachment 3.  
Other Attachments are referenced within the text.

MINUTES:

- 1) Steve Lezinski of DEP requested approval of the minutes from GLCC/DEP Meeting No. 19. GLCC approved the minutes.
- 2) Steve Lezinski provided GLCC with a copy of a summary research paper prepared by graduate students at the University of Maryland. The paper's focus considered the potential environmental concerns and reuse options associated with the Gude Landfill. The paper was not reviewed in depth and was provided for informational purposes only.
- 3) Steve Lezinski stated that DEP submitted comments on the pending consent order for the Landfill to the Maryland Department of the Environment (MDE) on 8/16/11. DEP has not received a response from MDE to date.
- 4) DEP submitted the Nature and Extent Study (NES) Amendment No. 1 Report to MDE on 11/21/11. Barb Roeper of EA presented a summary of the field activities, findings and figures/maps in a PowerPoint Presentation (Attachment 4) that were completed to address MDE's comments on the NES Report. The data were generally consistent with the prior data, with seasonal concentration fluctuations noted. At MDE's request, the NES Amendment No. 1 Report included individual maps for each analyte (i.e. contaminant) exceeding Maximum Contaminant Levels (MCL). The maps depict concentrations and visually indicate the inferred extent of contamination at or beyond the Landfill property boundary.

- 5) GLCC requested that a summary map be prepared to overlay all of the analytes with MCL exceedences and their individual inferred extent of contamination. GLCC also requested that a written explanation of the chemical degradation of trichloroethene (TCE) and tetrachloroethene (PCE) be provided prior to the next GLCC meeting. DEP stated this could be accomplished after MDE approval of the NES Amendment No.1 Report.
- 6) Steve Lezinski reported on the status of the exchange of land with M-NCPPC:
  - a) Approved by Montgomery County on 10/13/11.
  - b) Approved by Inter-County Planning Board on 11/16/11.
  - c) Surveying to be completed during winter months.
- 7) An updated remediation and reuse schedule (Attachment 5) was provided by DEP. Steve Lezinski noted that the alternatives evaluated in the Assessment of Corrective Measures (ACM) would be in line with the information provided in the remediation feasibility memorandum. DEP intends to meet with MDE to obtain information on prior sites that may be relevant to, and helpful for, the Landfill. Dave Peterson of GLCC indicated that a report on remediation options was published by the General Accounting Office for Aberdeen Proving Ground (APG), which may be a useful reference for the ACM. Julia Tillery of GLCC stated that GLCC is interested in close involvement in the ACM and reuse process.
- 7) Steve Lezinski stated that communication with the community is a continuous process. DEP presented an updated Community Communication Milestone Schedule (Attachment 6). DEP will provide a fact sheet for NES Amendment No. 1 and a fact sheet for the ACM process following MDE approval of the NES Amendment No.1 Report. Once MDE approves the NES Amendment No. 1 Report, DEP will facilitate a community meeting to summarize the NES and introduce the ACM.
- 8) Steve Lezinski provided an update on Landfill operations:
  - a. Semi-annual groundwater and surface water monitoring completed by the County in September; report to be submitted next week to MDE.
  - b. Landfill gas wells – water blockages of some wells resulted in gas concentration exceedances; pumping of the water effectively cleared the blockages. The wells are regularly checked for water, especially after rain events.
- 9) Steve Lezinski stated that the County’s remediation webpage for the Landfill is scheduled to be updated within the next month. This process will be ongoing during the remediation project.
- 10) The next GLCC meeting is scheduled for January 12, 2012.

**Recently Closed Action and Follow-up Items**

There were no items to report.

**Open Action and Follow-up Items**

These items will be addressed further during the ACM/Reuse evaluation process.

- 16-2 DEP and EA will further evaluate end use options and present these to GLCC in a future monthly meeting.  
Status: Open.
- 17-1 DEP will contact senior County representatives and stakeholders regarding their attendance at a future GLCC/DEP monthly meeting to discuss the County's decision making process for Landfill site reuse, potential County site reuse options and the integration and consideration of the Community's reuse options.  
Status: Open.
- 18-1 Once the Landfill land reuse discussion is documented and agreed upon in a decision memo with the County Executive and/or other stakeholders, DEP will share the final findings of the agreed upon process with GLCC.  
Status: Open

**New Action and Follow-up Items**

- 20-1 DEP and EA will provide a map that combines analytes with MCL exceedences and their individual inferred extent of contamination. DEP stated this could be accomplished after MDE approval of the NES Amendment No.1 Report.  
Status: Open.
- 20-2 DEP and EA will prepare a written explanation of the chemical degradation of TCE and PCE.  
Status: Open.
- 20-3 DEP will prepare a Fact Sheet for the NES Amendment No. 1 after MDE approval of the Report.  
Status: Open.
- 20-4 DEP will prepare a Fact Sheet to summarize the ACM process after MDE approval of the NES Amendment No.1 Report.  
Status: Open.
- 20-5 DEP to coordinate with GLCC to organize a larger community meeting to present the accepted findings of the NES and introduce the ACM process. This will be initiated after MDE approval of the NES Amendment No.1 Report.  
Status: Open.

*The above summation is the writer's interpretation of the items discussed at the meeting. Comments involving differences in understanding of any of the meeting items will be received for a period of thirty (30) days from the date of these meeting minutes. Clarifications will be made, as deemed necessary. If no comments are received within the specified time period, the minutes will remain as written.*

**ATTACHMENT 1**



**Gude Landfill Remediation  
Gude Landfill Concerned Citizens  
Monthly Meeting No. 20**

**Meeting Agenda**

- 1. GLCC/DEP Meeting Minutes (Meeting No. 19)**
  - a. DEP finalized 12/6/11. Request GLCC approval.
- 2. University of Maryland Graduate Students**
  - a. Copy of Student Research Paper provided to GLCC today.
- 3. MDE Consent Order**
  - a. DEP submitted comments and the Draft Consent Order to MDE on 8/16/11.
  - b. DEP has not received comments back from MDE.
- 4. Nature and Extent Study (NES) – Amendment No.1 Summary**
  - a. DEP submitted the NES Amendment No.1 to MDE on 11/21/11.
  - b. See Handout of Power Point Presentation for a Summary.
- 5. Exchange of Land with M-NCPPC**
  - a. M-NCPPC Planning Board (Mont. Co.) approval on 10/13/11.
  - b. M-NCPPC Planning Board (Inter-County) formal resolution approval on 11/16/11.
  - c. Next Step: DEP to Contract a Metes and Bounds Survey of the three (3) land parcels.
- 6. Remediation and Reuse Schedule Update**
  - a. See Handout of Remediation and Reuse Activities.
  - b. Schedule reflects an approximate 9 month increase to account for MDE reviews and approvals of various DEP report submissions.
- 7. Community Communication Plan and Milestone Status Update**
  - a. See Handout of Community Milestones.
  - b. GLCC and DEP need to discuss the schedule of the larger Community meeting for the NES/Amendment No.1 and introduction of the future Assessment of Corrective Measures (ACM). [discuss before or after MDE approval of NES Amendment No.1]
  - c. DEP to prepare a Fact Sheet to summarize the NES/Amendment No.1 and introduce the ACM.
- 8. Current Gude Landfill Operations**
  - a. Groundwater & Surface Water Monitoring
    - Semi-Annual Sampling Report for Sept. 2011 Sampling Event is currently being finalized for submission to MDE.
  - b. Landfill Gas Monitoring
    - Several exceedences in November 2011; no current exceedences.

**Gude Landfill Remediation  
Gude Landfill Concerned Citizens  
Monthly Meeting No. 20**

**Meeting Agenda**

- c. Landfill and Remediation Webpage
  - DEP is working towards a comprehensive update to the webpage.

**9. Next Meeting/Action Items**

- a. Open Action Items
  - 16-2, 17-1 and 18-1.
  
- b. New Actions Items from Meeting

**ATTACHMENT 2**



Date	December 7, 2011	Meeting No. 20
Time	7:30 - 9:00 PM	
Meeting	Gude Landfill Remediation: GLCC/DEP	

Name	Initial if Present	Affiliation	Phone	Email	Address
Stephen Lezinski	STL	DEP	240-777-6590	Steve.Lezinski@montgomerycountymd.gov	16101 Frederick Road Derwood, MD 20855
Peter Karasik	PK	DEP	240-777-6569	Peter.Karasik@montgomerycountymd.gov	16101 Frederick Road Derwood, MD 20855
John Kumm		EA Eng.	410-329-5141	JKumm@eaest.com	15 Loveton Circle Sparks, MD 21152
Dave Peterson	DP	GLCC/DS1 HOA	301-921-6357	Kmpdhp@hotmail.com	7612 Anamosa Way Derwood, MD 20855
Keith Ligon		GLCC	301-340-3358	KLigonfamily@verizon.net	15501 Moravia Court Derwood, MD 20855
Julia Tillery	JT	GLCC	202-329-8740	Julia@tillervoffice.com	15461 Indianola Drive Derwood, MD 20855
Laszlo Harsanyi		GLCC/DS2 HOA	301-840-3822	LaszloH@comcast.net	7228 Titonka Way Derwood, MD 20855
Nick Radonic		GLCC/DSS HOA	301-294-9124	Big.Rad@gmail.com	15408 Indianola Drive Derwood, MD 20855
<b>Other Meeting Attendees</b>					
Barb Looper		EA	410 329 5150	brooper@east.com	15 Loveton Circle Sparks, MD 21152
George Wolohojian	GW	GLCC/DS2 HOA	301-738-7148	gwolohojian@aol.com	15448 Indianola Dr.

**ATTACHMENT 3**



Chronology of Closed Action and Follow-up Items  
as of  
GLCC/DEP Meeting No. 20

- 5-01 DEP and EA to research the existence of a comprehensive database for closed landfill reuse options.  
Status: Closed. EA provided a list of landfill reuse resources, which was attached to the minutes for Meeting No. 7.
- 5-02 GLCC to schedule next Derwood Community Meeting; second quarter 2010.  
Status: Closed. GLCC noted that the Community will continue to be welcome at the monthly meetings, and these will be included in the DEP letter to the HOAs and the residents. Therefore, GLCC does not plan to schedule another community meeting at this time.
- 5-03 DEP to contact MDE regarding the spring and northwest slope surface water sampling, and leachate seep repairs on northwest slope.  
Status: Closed. DEP and MDE met on December 21, 2009 and discussed these issues. The outcome was summarized in Attachment No. 4 of the Meeting No. 7 minutes.
- 5-04 DEP to post the recent aerial survey of the Gude Landfill on the remediation project website.  
Status: Closed. The image has been posted on the website.
- 5-05 DEP to evaluate if Biochemical and Chemical Oxygen Demand (BOD/COD) can be included for analysis purposes in surface water samples.  
Status: Closed. After further discussion, GLCC agreed that BOD sampling would not be conducted, since it would be difficult to discern whether the results were affected by the landfill. DEP agreed to collect samples for COD analysis. The objectives and plan for COD sampling was and agreed to between DEP and GLCC.
- 5-06 DEP to reschedule the dioxin/furan testing of the Gude Landfill gas-to-energy engine.  
Status: Closed. The testing was conducted in early March 2010 but the results have not yet been reported.
- 5-07 EA to provide a list of the chemical analytes that were detected in the Gude Landfill groundwater/surface water sampling that are carcinogens.  
Status: Closed. EA provided a summary of risk and carcinogenic effects for chemical analytes, which is included as Attachment No. 6 to the Meeting No. 7 minutes.
- 6-01 DEP and EA to create a list of open agenda items (i.e., action and follow-up items).  
Status: Closed. This list is included in the meeting minutes and will be carried into subsequent minutes.
- 6-02 DEP and EA to finalize more precise locations of the new monitoring wells. Follow-up work with permitting agencies, utility locators, and adjoining property owners will be conducted.  
Status: Closed. Additional location information finalized.

Chronology of Closed Action and Follow-up Items  
as of  
GLCC/DEP Meeting No. 20

- 6-03 GLCC/DEP/EA to finalize an approach to communicate all aspects of the expanded monitoring well program to the Derwood Community.  
Status: Closed. Initial letters to be sent to the HOAs, with follow-up letters to residents in the immediate area of proposed intrusive activities.
- 7-01 DEP to complete interim measures for leachate redirection at seep locations.  
Status: Closed. Completed May/June 2010.
- 7-02 DEP to finalize and send letter to HOAs regarding the landfill remediation project and proposed groundwater monitoring well locations within the Community.  
Status: Closed. DEP prepared the Community notification letter dated 2-26-10 for distribution to the residents via the HOA presidents.
- 7-03 DEP to obtain dioxin/furan test results for flare and engine.  
Status: Closed. Results provided to GLCC June 2010.
- 8-01 EA will provide DEP with a full version of the Draft Study Plan as a PDF for posting on the website and an abbreviated PDF version for distribution to GLCC members.  
Status: Closed. Received by County on August 6, 2010. County to post on remediation webpage.
- 8-02 GLCC will distribute the DEP Community Letter in a special edition of each of the three HOA newsletters, both by e-mail and standard mail, by the end of March.  
Status: Closed.
- 9-01 DEP and EA will provide a list of milestones and dates to include as a schedule update with minutes from each meeting.  
Status: Closed.
- 9-02 DEP and EA will identify special instructions for residents and the driller to be used during the actual well drilling for inclusion in the individual resident notification letters.  
Status: Closed. Completed June 2010.
- 10-1 EA will prepare a Maryland Toxic Air Pollutant regulation compliance demonstration for dioxin/furan emissions from the flares and engines at Oaks and Gude.  
Status: Closed. DEP will post on the Remediation webpage.
- 10-2 GLCC will meet independently on June 20, 2010 to discuss the process of early integration of end use objectives into the corrective action planning process and will propose a pathway and procedure to DEP at the July 8, 2010 DEP/GLCC meeting.  
Status: Closed. During Meeting No. 11, GLCC provided the County guidance on preferred end uses from the Community for the Gude Landfill site.

Chronology of Closed Action and Follow-up Items  
as of  
GLCC/DEP Meeting No. 20

- 11-1 GLCC requested Bob Hoyt, Director of DEP to attend the next GLCC/DEP monthly meeting on September 15, 2010 to discuss the Request for Expression of Interest (REOI).  
Status: Closed.
- 11-2 GLCC inquired if the County had investigated the potential for a Brownfields Grant for the Remediation/Land Reuse project.  
Status: Closed. Grant funding options were presented to GLCC on 4/14/11.
- 12-1 Using the risk evaluation methodology, EA will back calculate contaminant concentrations that would represent a human risk concern for vapor intrusion from groundwater into indoor air.  
Status: Closed. The calculation was made by EA and included in the analysis and provided to GLCC.
- 13-1 EA will revise the last two sentences in paragraph 5) of the minutes for Meeting No. 12 to clarify the concept.  
Status: Closed. Changes are reflected in Meeting No. 12 Minutes.
- 13-2 EA will prepare and submit to DEP for review a summary of the project status including background, status, and the remaining activities to complete the project. The HOA Presidents will distribute this summary to Derwood Station residents.  
Status: Closed. The Nature and Extent Study Fact Sheet was e-mailed to GLCC/HOA Presidents by Steve Lezinski on 12/23/10 for distribution to the Derwood Station Residential Community.
- 13-3 EA will research the applicability of 40 CFR Part 258 Subpart E and report back to DEP and GLCC.  
Status: Closed. A response was provided via e-mail by Steve Lezinski to GLCC on 11/3/10 – the regulation is not applicable to Gude Landfill.
- 14-1 DEP will address conformance of the current monitoring program to the 2001 County Groundwater Protection Plan.  
Status: Closed. It was determined that the Ground Water Protection Strategy is not an active program within DEP.
- 14-2 DEP will contact the County Attorney and the County Real Estate Office concerning potential property value impacts and seller's obligations.  
Status: Closed. The Office of the County Attorney cannot provide legal advice to members of the Community. If members of the Community desire advice on property value impacts and seller's obligations, they would have to obtain this legal advice from their own legal counsel.
- 15-1 DEP and EA will establish a list of key project milestones for inclusion in the Project Communications Plan.  
Status: Closed. As part of the Project Communications Plan, an updated project schedule and key project milestones were presented to GLCC on 4/14/11.

Chronology of Closed Action and Follow-up Items  
as of  
GLCC/DEP Meeting No. 20

- 15-2 DEP and EA will determine the current regulation for setbacks at new landfills and report this information to GLCC.  
Status: Closed. Applicable setback requirements were determined and presented to GLCC on 4/14/11.
- 15-3 DEP will submit the proposed action plan for further investigation and analysis to satisfy MDE's concerns about the Nature and Extent Study to MDE by March 18, 2011.  
Status: Closed. The work plan of Amendment No. 1 to the Nature and Extent Study was submitted to and accepted by MDE in March 2011.
- 16-1 DEP and EA will evaluate the potential corrective measure of excavation and relocation of waste in greater detail, and present this to GLCC at a future monthly meeting.  
Status: Closed. DEP and EA presented the potential corrective measure of waste excavation and reclamation during the GLCC/DEP Meeting No. 17.
- 17-2 DEP will add a timeline/milestone review section to future meeting agendas.  
Status: Closed. DEP added this item as a standard topic for future agendas.
- 17-3 DEP will create a quarterly newsletter to orient the larger Community and other adjacent property stakeholders on the Landfill. The newsletter will contain an update on the Nature and Extent Study activities that have occurred in the past three months. The newsletter will be provided to GLCC to include in an upcoming HOA newsletter.  
Status: Closed. DEP provided the Quarterly Newsletter to GLCC and the Derwood Station HOA's on June 30, 2011.

**ATTACHMENT 4**





# Gude Landfill Nature and Extent Study Amendment No. 1



*Presented by:*

**Barb Roeper, P.E., PMP**  
**EA Engineering, Science,  
and Technology, Inc.**

**December 8, 2011**

# Background

- MDE requested that DEP perform a Nature and Extent Study (NES)
- NES was completed and a report was submitted to MDE in Nov. 2010
- MDE provided comments to DEP, which were discussed in a Feb. 2011 meeting
- In order address MDE's comments, DEP completed additional field investigations and prepared an Amendment to the NES Report
- NES Amendment No. 1 Report submitted to MDE in Nov. 2011



**Gude Landfill  
Nature and Extent Study Report  
Montgomery County, Maryland**

*Prepared for:*

Department of Environmental Protection  
Division of Solid Waste Services  
Montgomery County, Maryland

*Prepared by:*

EA Engineering, Science, and Technology, Inc.  
15 Loveton Circle  
Sparks, Maryland 21152  
(410) 771-4950

November 2010

EA Project No. 62196.08

# Amendment No. 1 Field Work

- Sampling of all existing groundwater monitoring wells (Apr. 2011)
- Field filtering of groundwater samples collected for metals analysis (Apr. and Sep. 2011)
- Installation and sampling of 3 permanent groundwater monitoring wells in Derwood Station (Sep. 2011)
- Installation and sampling of 10 temporary groundwater monitoring wells (Sep. 2011)
- Elevation survey at 15 stream gauge locations (Aug. 2011)



# Amendment No. 1 Findings

## *Nature and Extent of Potential Impacts to Groundwater*

- Results were consistent with historical data and NES.
- No MCL exceedances were reported in new groundwater monitoring wells in the Derwood Station.
- Highest VOC concentrations in groundwater along the north-northwest and south-central boundaries of the Landfill.
- Field-filtered groundwater samples indicated that metals exceedances for total metals were due to high turbidity (suspended sediment, not groundwater contamination).
- Stream gauge elevations were in agreement with groundwater table elevations from adjacent groundwater monitoring wells, indicating hydraulic connection between groundwater and surface water.
- The Crabbs Branch and Southlawn Branch streams act as hydraulic barriers to contaminant migration.
- Potential sources of impacts to groundwater were evaluated and included on-site and off-site sources.

# Amendment No. 1 Findings Continued

## ***Nature and Extent of Potential Impacts to Groundwater***

- ⦿ Seasonal trends indicate that MCL exceedances are likely to continue fluctuating in groundwater samples from the Landfill monitoring well network.
- ⦿ Groundwater flow direction is easterly across the Landfill, with minor north, northeasterly and southeasterly components.

## ***Landfill Surface Hydrology***

- ⦿ The 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***

- ⦿ Fifteen VOCs were detected in both groundwater and landfill gas.
- ⦿ Landfill gas management at the site provides benefits to groundwater quality by reducing the potential for VOC constituent migration from gas to groundwater.

# Amendment No. 1 Findings Continued

## *Human Health and Ecological Risk Evaluations*

- ⦿ Recent data is consistent with historical results; therefore, no change to risk evaluation conclusions.
- ⦿ There are no human health concerns for residents' exposure to VOCs in groundwater within Derwood Station.

## *Potential Impacts to Surface Water*

- ⦿ The Landfill is not adversely impacting adjacent surface water bodies.
- ⦿ Potential off-site sources of impacts to surface water may include: urban roadways, urban residential development, recreational facilities and heavy industry.

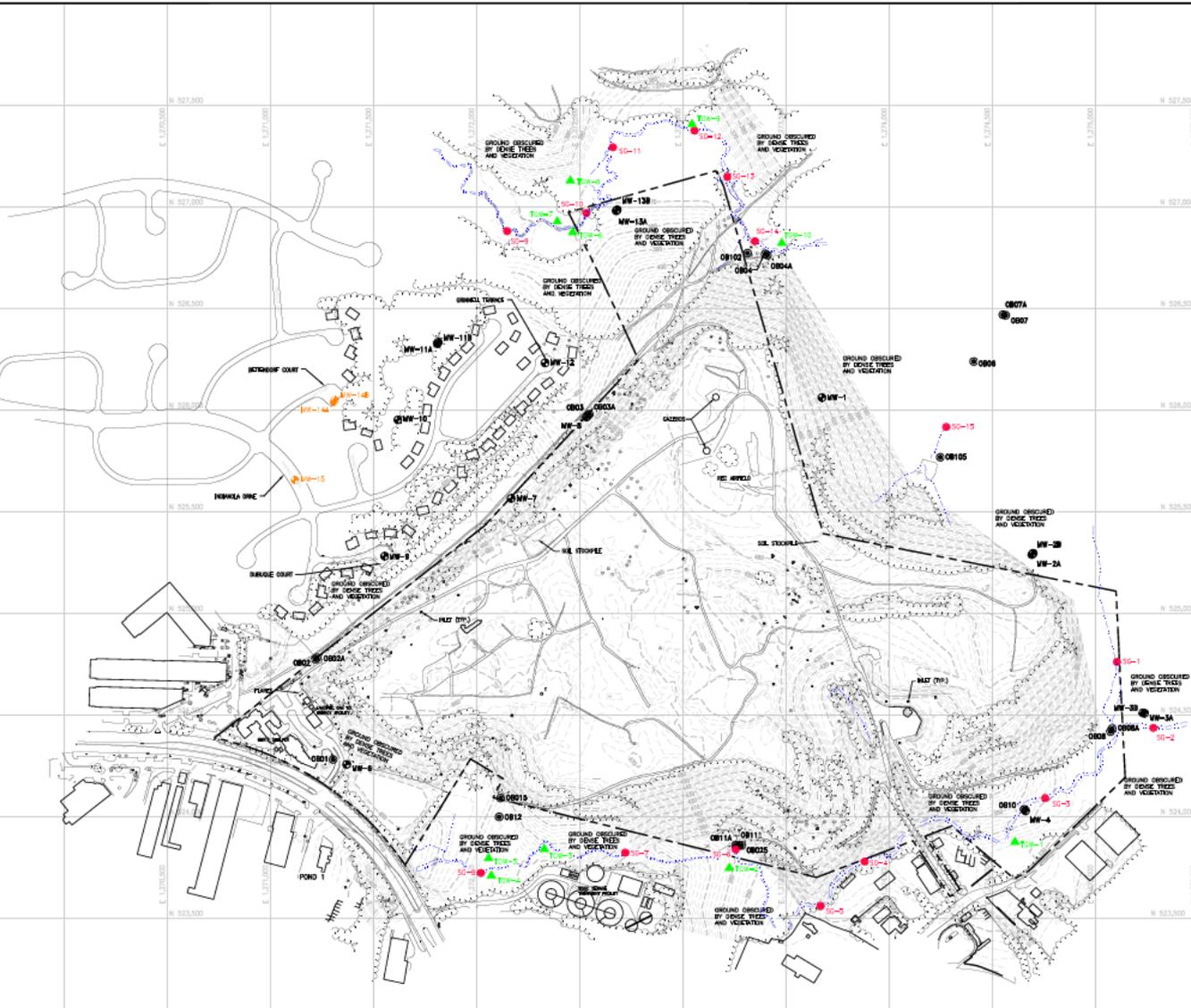
## **NES**

- ⦿ NES findings were supported by Amendment No. 1 investigations.

- NOTES:
1. TOPOGRAPHY COMPILED BY APPLIED MAPPING SOLUTIONS, INC. USING PHOTOGRAMMETRIC METHODS WITH PHOTOGRAPHY DATED 06/24/09 AND SUPPLEMENTED WITH FIELD SURVEY PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., OCTOBER 2009.
  2. SURVEY OF STREAMS TAKEN FROM 2007 PHOTOGRAMMETRY BY AKS GEOSPATIAL, LLC.
  3. HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983/81 (NAD-83/81). COORDINATE SYSTEM IS MARYLAND STATE PLANE, U.S. SURVEY FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88) WITH ELEVATIONS SHOWN IN FEET.
  4. TOPOGRAPHY IS APPROXIMATE IN AREAS NOTED "GROUND OBSCURED BY GROUND TREES AND VEGETATION".
  5. FIELD SURVEY OF MW-16A, MW-14B, & MW-15, TEMPORARY GROUNDWATER MONITORING LOCATIONS, AND STREAM GAUGE LOCATIONS PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., AUGUST 2011.

**LEGEND**

- 10'-FT CONTOUR
- 3'-FT CONTOUR
- PROPERTY BOUNDARY
- STREAM
- SG-X STREAM GAUGE LOCATIONS
- ⊙ OBX EXISTING GROUNDWATER MONITORING WELL (INSTALLED PRIOR TO 2010)
- ⊙ MW-X NEW GROUNDWATER MONITORING WELL (INSTALLED IN 2010)
- ⊙ MW-X NEW GROUNDWATER MONITORING WELL (INSTALLED IN 2011)
- ▲ TGW-X TEMPORARY GROUNDWATER MONITORING LOCATION



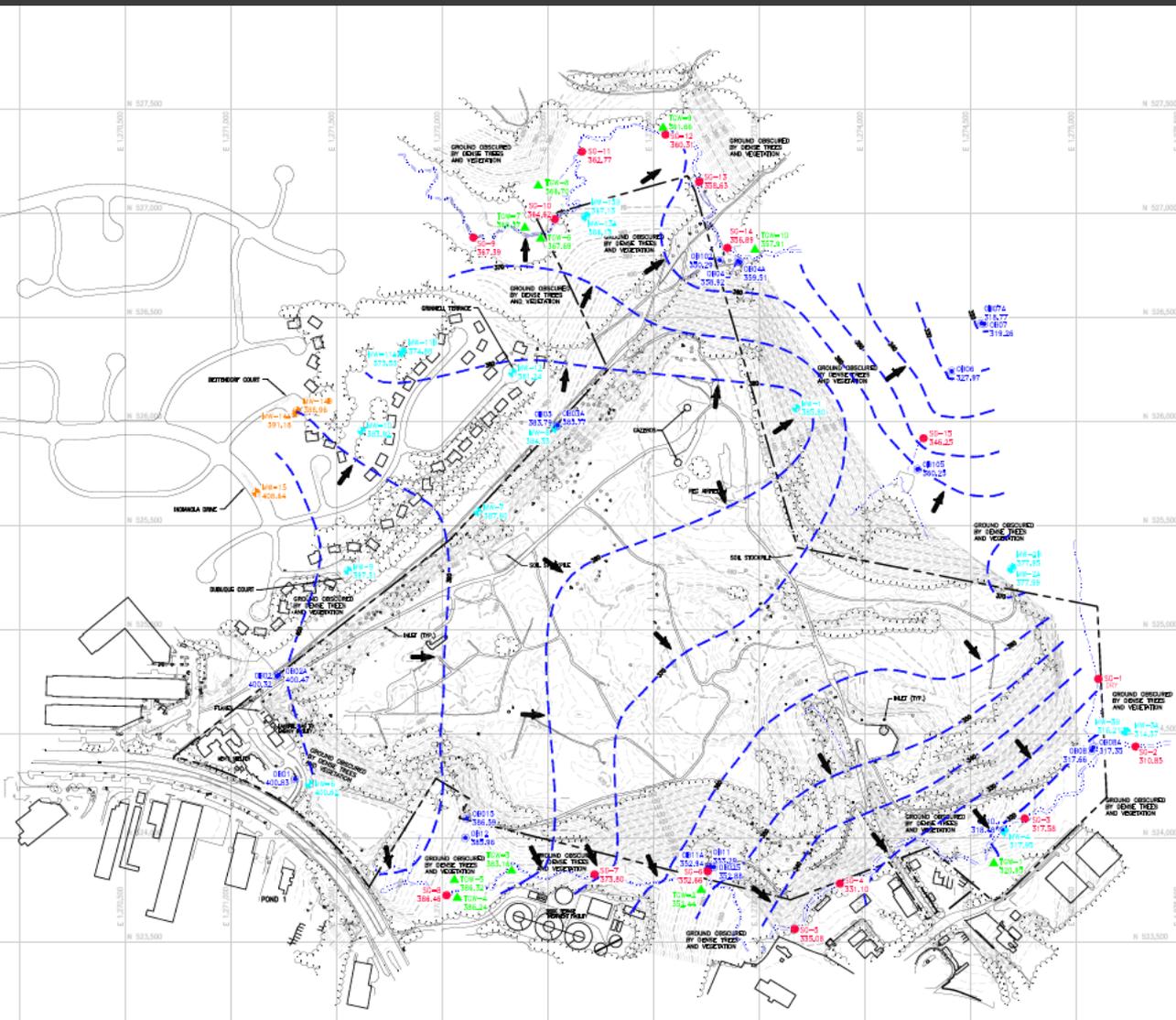
GUDE LANDFILL  
NATURE AND EXTENT STUDY  
AMENDMENT NO. 1  
MONTGOMERY COUNTY, MARYLAND

FIGURE 2-1  
ADDITIONAL GROUNDWATER MONITORING WELL AND STREAM  
GAUGE SURVEY LOCATIONS

DESIGNED BY PL/LJO	DRAWN BY TJP	DATE NOV. 2011	PROJECT NO. 62196.08
CHECKED BY PC	PROJECT MGR. JK	DRAWING NO. -	FIGURE 2-1



- NOTES:**
1. TOPOGRAPHY COMPILED BY APPLIED MAPPING SOLUTIONS, INC. USING PHOTOGRAMMETRIC METHODS WITH PHOTOGRAMMRY DATED 08/24/09 AND SUPPLEMENTED WITH FIELD SURVEY PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., OCTOBER 2009.
  2. SURVEY OF STREAMS OBTAIN FROM 2007 PHOTOGRAMMETRY BY AXIS GEOSPATIAL, LLC.
  3. HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983/91 (NAD-83/91). COORDINATE SYSTEM IS MARYLAND STATE PLANE, U.S. SURVEY FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88) WITH ELEVATIONS SHOWN IN FEET.
  4. TOPOGRAPHY IS APPROXIMATE IN AREAS NOTED "GROUND OBSCURED BY TROPICAL TREES AND VEGETATION".
  5. FIELD SURVEY OF MW-1A, MW-1A1, & MW-15, TEMPORARY GROUNDWATER MONITORING LOCATIONS, AND STREAM GAUGE LOCATIONS PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., AUGUST 2011.
  6. GROUNDWATER ELEVATION DATA FOR 08/10/2 (200.16') NOT USED IN CONTOURING BECAUSE IT IS INCONSISTENT WITH SURROUNDING DATA.



**LEGEND**

- 10-FT CONTOUR
- 2'-FT CONTOUR
- PROPERTY BOUNDARY
- STREAM
- GROUNDWATER CONTOUR INTERNAL (10 FEET)
- SG-X STREAM GAUGE LOCATIONS
- GW-X EXISTING GROUNDWATER MONITORING WELL (INSTALLED PRIOR TO 2010)
- GW-Y NEW GROUNDWATER MONITORING WELL (DRILLED IN 2010)
- GW-Z NEW GROUNDWATER MONITORING WELL (INSTALLED IN 2011)
- ▲ TW-X TEMPORARY GROUNDWATER MONITORING LOCATION
- ▲ 318.40 GROUNDWATER ELEVATION (PT. WEL.)
- ➔ INFERRED GROUNDWATER FLOW



GUDE LANDFILL  
NATURE AND EXTENT STUDY  
AMENDMENT NO. 1  
MONTGOMERY COUNTY, MARYLAND

FIGURE 4-1  
INFERRED GROUNDWATER FLOW MAP  
DATA DATE: AUGUST 30, 2011

DESIGNED BY PL/LJO	DRAWN BY TJP	DATE NOV. 2011	PROJECT NO. 62196.08
CHECKED BY PC	PROJECT MGR. JK	DRAWING NO. -	FIGURE 4-1

MW-13A				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROPROPANE	5	6	6.6	
CE-1,2-DICHLOROETHENE	70	100	96	
METHYLENE CHLORIDE	5	10	10	
TETRACHLOROETHENE	5	26	17	
TRICHLOROETHENE	5	33	23	
VINYL CHLORIDE	2	8	14	

MW-13B				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROPROPANE	5	8	10	
BENZENE	5	8	8	
CE-1,2-DICHLOROETHENE	70	140	3.9	
METHYLENE CHLORIDE	5	11	10	
TETRACHLOROETHENE	5	30	10	
TRICHLOROETHENE	5	30	10	
VINYL CHLORIDE	2	13	10	

OB04A				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
METHYLENE CHLORIDE	5	4	7.7	
TETRACHLOROETHENE	5	2	13	
TRICHLOROETHENE	5	2	17	

TOW-6				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	SEPT. 2011	
VINYL CHLORIDE	2	4		

OB03				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROPROPANE	5	13	4.1	
BENZENE	5	5	10	
CE-1,2-DICHLOROETHENE	70	180	38	
TETRACHLOROETHENE	5	20	10	
TRICHLOROETHENE	5	98	21	
VINYL CHLORIDE	2	23	11	

MW-8				
GENERAL PARAMETERS (mg/L)	MCL	JULY/AUG 2010	APRIL 2011	
NITRATE	10	-	13.85	

OB03A				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROPROPANE	5	10	10	
CE-1,2-DICHLOROETHENE	70	110	10	
TETRACHLOROETHENE	5	15	10	
TRICHLOROETHENE	5	70	10	
VINYL CHLORIDE	2	18	10	

MW-7				
GENERAL PARAMETERS (mg/L)	MCL	JULY/AUG 2010	APRIL 2011	
NITRATE	10	-	14.58	

VOLATILE ORGANIC COMPOUNDS (ug/L)				
MCL	JULY/AUG 2010	APRIL 2011		
1,2-DICHLOROPROPANE	5	2	11	
VINYL CHLORIDE	2	5	10	

OB11A				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROETHENE	0.05	10	1.8	
1,2-DICHLOROPROPANE	5	7	3.7	
BENZENE	5	7	3.5	
CE-1,2-DICHLOROETHENE	70	180	38	
TETRACHLOROETHENE	5	46	14	
TRICHLOROETHENE	5	41	17	
VINYL CHLORIDE	2	15	11	

MW-9				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
TETRACHLOROETHENE	5	14	5	

OB11				
METALS (mg/L)	MCL	JULY/AUG 2010	APRIL 2011	
CHROMIUM, DISSOLVED	0.005	-	0.0108	

VOLATILE ORGANIC COMPOUNDS (ug/L)				
MCL	JULY/AUG 2010	APRIL 2011		
1,1-DICHLOROETHENE	7	10	25	
1,2-DICHLOROPROPANE	5	8	5.1	
BENZENE	5	8	5.2	
CE-1,2-DICHLOROETHENE	70	210	10	
METHYLENE CHLORIDE	5	28	16	
TETRACHLOROETHENE	5	58	28	
TRICHLOROETHENE	5	48	28	
VINYL CHLORIDE	2	13	14	

OB01				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
VINYL CHLORIDE	2	4	10	

OB08A				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
VINYL CHLORIDE	2	3	10	

MW-5				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
VINYL CHLORIDE	2	7	10	

OB08				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
VINYL CHLORIDE	2	3	10	

OB12				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DICHLOROPROPANE	5	7	3.3	
METHYLENE CHLORIDE	5	9	10	
TETRACHLOROETHENE	5	28	12	
TRICHLOROETHENE	5	22	9.4	
VINYL CHLORIDE	2	4	10	

TOW-5				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	SEPT. 2011	
TRICHLOROETHENE	5	8		
VINYL CHLORIDE	2	3		

OB015				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
VINYL CHLORIDE	2	10.2	10	

OB025				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	143	10	
VINYL CHLORIDE	2	10.2	10	

OB10				
VOLATILE ORGANIC COMPOUNDS (ug/L)	MCL	JULY/AUG 2010	APRIL 2011	
TRICHLOROETHENE	5	13.4	10	
VINYL CHLORIDE	2	11.7	10	

- NOTES:
- TOPOGRAPHY COMPILED BY APPLIED MAPPING SOLUTIONS, INC. USING PHOTOGRAMMETRIC METHODS WITH PHOTOGRAPHY DATED 06/24/09 AND SUPERIMPOSED WITH FIELD SURVEY PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., OCTOBER 2008.
  - SURVEY OF STREAMS FROM 2007 PHOTOGRAPHY BY AHS GEOSPATIAL, LLC.
  - HORIZONTAL DATUM IS NORTH AMERICAN DATUM OF 1983/81 (NAD-83/81). COORDINATE SYSTEM IS NAD83 STATE PLANE, U.S. SURVEY FEET. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88) WITH ELEVATIONS SHOWN IN FEET.
  - TOPOGRAPHY IS APPROXIMATE IN AREAS NOTED "GROUND OCCUPIED BY DENSE TREES AND VEGETATION".
  - FIELD SURVEY OF MW-14A, MW-14B, & MW-15, TEMPORARY GROUNDWATER MONITORING LOCATIONS, AND STREAM GAUGE LOCATIONS PERFORMED BY C.C. JOHNSON & MALHOTRA, P.C., AUGUST 2011.
  - VOLATILE ORGANIC COMPOUND DETECTIONS ARE GIVEN IN MICROGRAMS PER LITER (ug/L). A "V" INDICATES THE DETECTION WAS BELOW THE PRACTICAL QUANTIFICATION LIMIT. A "U" INDICATES THE PARAMETER WAS NOT DETECTED. GENERAL PARAMETERS AND METALS ARE GIVEN IN MILLIGRAMS PER LITER (mg/L).
  - ONLY DISSOLVED METAL MCL EXCEEDANCES ARE PRESENTED DUE TO TURBIDITY CONCERNS IN SAMPLES WHICH RESULTED IN ELEVATED TOTAL METALS DETECTIONS.
  - THE FOLLOWING LOCATIONS HAD NO MCL EXCEEDANCES FOR THE APRIL AND SEPTEMBER 2011 SAMPLING EVENTS: TOW-1, TOW-2, TOW-3, TOW-4, TOW-5, TOW-6, TOW-7, TOW-8, TOW-9, TOW-10, MW-18, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, MW-48, MW-49, MW-50, MW-51, MW-52, MW-53, MW-54, MW-55, MW-56, MW-57, MW-58, MW-59, MW-60, MW-61, MW-62, MW-63, MW-64, MW-65, MW-66, MW-67, MW-68, MW-69, MW-70, MW-71, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-85, MW-86, MW-87, MW-88, MW-89, MW-90, MW-91, MW-92, MW-93, MW-94, MW-95, MW-96, MW-97, MW-98, MW-99, MW-100.
  - TEMPORARY GROUNDWATER MONITORING LOCATIONS AND MW-14A, MW-14B AND MW-15 WERE ONLY SAMPLED DURING THE SEPTEMBER 2011 EVENT.

**LEGEND**

- 10-FT CONTOUR
- 2-FT CONTOUR
- PROPERTY BOUNDARY
- STREAM
- STREAM GAUGE LOCATIONS
- GSK - EXISTING GROUNDWATER MONITORING WELL (INSTALLED PRIOR TO 2010)
- GSK-X - NEW GROUNDWATER MONITORING WELL (INSTALLED IN 2010)
- GSK-Y - NEW GROUNDWATER MONITORING WELL (INSTALLED IN 2011)
- ▲ TOW-X - TEMPORARY GROUNDWATER MONITORING LOCATION



GUDE LANDFILL  
NATURE AND EXTENT STUDY  
AMENDMENT NO. 1  
MONTGOMERY COUNTY, MARYLAND

FIGURE 4-2  
MCL EXCEEDANCES MAP

DESIGNED BY PL/LJO	DRAWN BY TJP	DATE NOV. 2011	PROJECT NO. 62196.08
CHECKED BY PC	PROJECT MGR. JK	DRAWING NO. -	FIGURE 4-2

# Questions

# ?

**ATTACHMENT 5**



**Gude Landfill – Remediation and Reuse Schedule**  
**Next Steps in the Remediation Effort**

**MDE Mandatory Remediation Steps**

Next Step	Description	Projected Schedule	Duration	Status
Aerial/Field Survey and Limit of Waste Delineation	Perform a Metes and Bounds Survey of the Landfill Property Boundary and Determine the horizontal extent of waste	May 2009 – Nov. 2010	19 Months	Complete
Nature and Extent Study/Amendment No.1	Delineate and characterize environmental contamination resulting from the Gude Landfill site	Sept. 2009 – Nov. 2011	27 Months	Complete
Land Swap Disposition	Land Swap (17 acres) with M-NCPPC due to waste encroachment on Park Land from the Gude Landfill site	Apr. 2010 – Mar. 2012	24 Months	On-Going
Consent Order	Consent Order between the County and MDE regarding Remediation of the Gude Landfill site	May 2011 – Jul. 2012	15 Months	On-Going
Assessment of Corrective Measures	Assess and evaluate mechanisms to mitigate environmental contamination resulting from the Gude Landfill (submit to MDE)	Apr. 2012 – Mar. 2013	12 Months	Future
Assessment of Land Reuse(s)	Assess and evaluate suitable land reuse(s) to integrate with the proposed corrective measures	Apr. 2012 – Mar. 2013	12 Months	Future
MDE Review	MDE review of the Assessment of Corrective Measures and the Assessment of Land Reuses	Apr. 2013 – Sep. 2013	6 Months	Future
Corrective Measure Preparation	Prepare the planning, design and permitting documents for the MDE approved corrective measures	Oct. 2013 – Dec. 2014	15 Months	Future
Land Reuse Integration	Integrate the suitable land reuse(s) into the planning, design and permitting documents of the MDE approved corrective measures	Oct. 2013 – Dec. 2014	15 Months	Future
Corrective Measure Construction	Construct the MDE approved corrective measures (To occur in multiple phases of work)	Jan. 2015 – TBD (multiple years)	TBD	Future
Land Reuse Construction	Construct the suitable land reuse(s) with the MDE approved corrective measures (To occur in multiple phases of work)	Jan. 2015 – TBD (multiple years)	TBD	Future

**DEP Envisioned Remediation Steps**

Next Step	Description	Projected Schedule	Duration	Status
Monthly Meetings with Community	DEP Monthly Meetings with the Gude Landfill Concerned Citizens (GLCC)	Jun. 2009 – TBD (multiple years)	TBD	On-Going
Focus Group Community Meetings and Public Notification Letters	As required per “Next Step” Milestone	Sept. 2009 – TBD (multiple years)	TBD	On-Going
Focus Group Adjacent Landowner Meetings and Notification Letters	As required per “Next Step” Milestone	Apr. 2010 – TBD (multiple years)	TBD	On-Going
Next Step Meetings with MDE	As required per “Next Step” Milestone	Sept. 2009 – TBD (multiple years)	TBD	On-Going
Next Step Regulatory Mandated Public Notification Meetings	As required per “Next Step” Milestone	Sept. 2009 – TBD (multiple years)	TBD	On-Going
Maintain Remediation and Reuse Webpage	As required per “Next Step” Milestone	Jun. 2009 – TBD (multiple years)	TBD	On-Going

**ATTACHMENT 6**



**Gude Landfill - Remediation and Resuse Project  
Community Communication Milestones**

12/6/11

Milestone No.	Project Milestone	Date Initiated	Action to be Performed	Date Accomplished
	<u>Past:</u>			
1	Organize Monthly Meetings between GLCC and DEP for the Gude Landfill	6/11/09	DEP to organize and host monthly meetings regarding the Gude Landfill with GLCC that are open to the Derwood Station Community.	On-Going
2	Participate in a Community Meeting to discuss the Gude Landfill	9/24/09	DEP and GLCC to brief the Derwood Station Community on current conditions at the Gude Landfill, site contamination, future remediation work and potential site reuse options.	9/24/09
3	Prepare a Public Notification Letter to discuss the Gude Landfill NES and Future GWM Wells	2/26/10	DEP to prepare and distribute a public notification letter regarding the Gude Landfill NES and Future GWM Wells to residents of the Derwood Station Community.	2/26/10
4	Prepare a Public Notification Letter to discuss the Gude Landfill NES and Installation of GWM Wells	6/25/10	DEP to prepare and distribute a public notification letter regarding the Gude Landfill NES and Installation of GWM Wells to residents of the Derwood Station Community that are near the proposed GWM locations.	6/25/10
5	Prepare and submit the Gude Landfill NES for MDE Review and Comment	9/30/09	DEP to prepare a NES for the Gude Landfill to assess the nature and extent of groundwater contamination and submit a Report to MDE for review and comment.	11/19/10
6	Prepare a Fact Sheet to discuss the Gude Landfill NES	12/23/10	DEP to prepare a Fact Sheet to summarize the work, status and findings of the Gude Landfill NES. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community.	12/23/10
7	Initiate Meeting with MDE to discuss Comments on Gude Landfill NES	2/23/11	DEP to initiate a meeting with MDE to discuss MDE comments on the Gude Landfill NES.	2/23/11
8	Formalize MDE Comments and DEP Responses on the Gude Landfill NES/Amendment No.1	3/23/11	DEP to formalize and submit MDE Comments and DEP responses on the Gude Landfill NES/Amendment No.1 to MDE.	3/30/11
9	Complete additional investigations and analyses per MDE Comments on the Gude Landfill NES/Amendment No.1	3/30/11	DEP to complete additional investigations and analyses per MDE comments on the Gude Landfill NES and submit Amendment No.1 to the NES Report for MDE review, comment and approval.	11/21/11
10	Prepare a Community Outreach Newsletter (Quarterly interval) regarding the Gude Landfill	6/30/11	DEP to prepare a Community Outreach Newsletter (Quarterly interval) to summarize on-going site activities at the Gude Landfill. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community. DEP to distribute to adjacent commercial landowners and stakeholders.	6/30/11

**Gude Landfill - Remediation and Resuse Project  
Community Communication Milestones**

12/6/11

Milestone No.	Project Milestone	Date Initated	Action to be Performed	Date Accomplished
	<b><u>Future:</u></b>			
11	Prepare a Fact Sheet to discuss the Findings of the Final Gude Landfill NES/Amendement No.1	Future	DEP to prepare a Fact Sheet to summarize the Final Findings of the Gude Landfill NES/Amendment No.1. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community and DEP to distribute to adjacent commercial landowners and stakeholders.	Future
12	Prepare a Fact Sheet to discuss the Remediation Feasibility Memorandum for the Gude Landfill and introduce the Future ACM	Future	DEP to prepare a Fact Sheet to summarize the Remediation Feasibility Memorandum and introduce the ACM for the Gude Landfill. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community and DEP to distribute to adjacent commercial landowners and stakeholders.	Future
13	Participate in a Community Meeting to discuss the Final Gude Landfill NES/Amendment No.1 and introduce the Future ACM	Future	DEP to brief (and obtain feedback from) the Derwood Station Community on the final findings of the Gude Landfill NES/Amendment No.1 following MDE approval and preparation of the future ACM work plan to assess the potential corrective measures to mitigate groundwater contamination.	Future
14	Prepare a Fact Sheet to discuss the Findings of the Final Gude Landfill ACM	Future	DEP to prepare a Fact Sheet to summarize the Findings of the Final Gude Landfill ACM. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community and DEP to distribute to adjacent commercial landowners and stakeholders.	Future
15	Prepare a Fact Sheet to discuss potential Land Reuses that comply with the Findings of the Final Gude Landfill ACM	Future	DEP to prepare a Fact Sheet to summarize the potential Land Reuses that comply with the Findings of the Final Gude Landfill ACM. GLCC to distribute via the Derwood Station HOA's Newsletters to the Derwood Station Community and DEP to distribute to adjacent commercial landowners and stakeholders.	Future
16	Participate in a Community Meeting to discuss the Findings of the Final Gude Landfill ACM and discuss Land Resue	Future	DEP to brief (and obtain feedback from) the Derwood Station Community on the Findings of the Final Gude Landfill ACM and suitable Land Reuses that comply with ACM requirements at the Gude Landfill. Other County Agencies and Stakeholders will be invited to discuss Land Reuse: M-NCPPC, Office of the County Executive, GLCC, Derwood Station Community, etc.	Future

Notes.

1. GLCC - Gude Landfill Concerned Citizens.
2. DEP - Montgomery County Department of Environmental Protection.
3. MDE - Maryland Department of the Environment.
4. NES - Nature and Extent Study.
5. GWM - Groundwater Monitoring Wells.
6. ACM - Assessment of Corrective Measures.
7. M-NCPPC - Maryland-National Capital Parks and Planning Commission.