Prepared By: EA Engineering, Science, and Technology, Inc.

Final Prepared: 5/23/12

GUDE LANDFILL REMEDIATION

GLCC/DEP MEETING NO. 21

DATE: April 12, 2012

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
Keith Ligon	Gude Landfill Concerned Citizens (GLCC)	Member
Laszlo Harsanyi	Gude Landfill Concerned Citizens (GLCC)	Member
Nick Radonic	Gude Landfill Concerned Citizens (GLCC)	Member
George Wolohojian	Gude Landfill Concerned Citizens (GLCC)	Member
Jessica 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
Mark Gutberlet	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. 20. GLCC approved the minutes.
- 2) Steve Lezinski introduced Mark Gutberlet of EA as the Project Manager for the Assessment of Corrective Measures (ACM). Mark is replacing John Kumm as Project Manager for the next phase of work because of his specific involvement and experience with ACMs at other landfills in Maryland. Mark has maintained an on-going role in the projects at the Gude Landfill since the initiation of the Phase 0 Aerial/Field Survey and Limit of Waste Delineation work in 2009.
- Steve Lezinski provided an update regarding the exchange of the land between the County and the Maryland-National Capital Park and Planning Commission (M-NCPPC). DEP and M-NCPPC approved the preliminary field stakeout for the land parcels to be exchanged. EA's surveying subcontractor, CCJM, will begin placing final monuments during the week of April 16, 2012. GLCC inquired if the property exchange would affect the County's responsibility for the Gude Landfill remediation. Steve Lezinski stated that it would not as site remediation is under the regulatory authority of the Maryland Department of the Environment (MDE).

- 4) Steve Lezinski stated that MDE approved the Nature and Extent Study (NES) Amendment No. 1 Report via letter on March 13, 2012 (and was received by DEP on March 16, 2012). DEP will prepare a fact sheet summarizing the NES Amendment No. 1, which will be included in the next Derwood Station Residential Development Newsletter. GLCC stated the newsletter will be published in mid to late May 2012.
- Mark Gutberlet provided an overview of the tetrachloroethene (PCE) degradation chain, which is provided as Attachment 4. Trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC) are referred to as "daughter products" of PCE. PCE is a solvent that is often found in degreasers and paint strippers, which is commonly used in dry cleaning operations. It is a common constituent of landfill leachate and has been detected in the groundwater in the vicinity of the Gude Landfill. Most subsurface environments promote degradation of PCE into its daughter compounds, and eventually into ethene, water, carbon dioxide, and chloride which are non-toxic. George Wolohojian of GLCC asked if there was a typical degradation timeline for PCE. Steve Lezinski responded that each landfill and the surrounding subsurface conditions are unique so a degradation timeline for PCE would vary from location to location. Mark responded that the degradation timeline is a potential topic that may be evaluated during the ACM. Steve Lezinski also noted that some remedial approaches considered during the ACM may include measures to promote the degradation of PCE and its daughter products so degradation occurs more quickly than current conditions (i.e. Bioremediation).
- Mark Gutberlet presented the Overall Maximum Contaminant Level (MCL) Compliance Extent Map (for groundwater), which is included as Attachment 5. The Map presents the locations of the MCL exceedances found at or beyond the Landfill property boundary (designated as the red solid line). The map also presents the "inferred extent of potential MCL exceedances," (designed as the black dashed line). The portion of the Landfill property boundary that is in compliance with regulated groundwater constituent levels is presented by a black solid line. Keith Ligon of GLCC inquired if the "inferred extent of potential MCL exceedances" also meant the maximum limit/extent of potential MCL exceedances. Mark G. concurred with that description.
- 7) Steve Lezinski provided information about the ACM phase of the project. With MDE's acceptance of the NES Amendment No. 1 (see Item 4), MDE requested submission of an ACM Work Plan by May 15, 2012. Laszlo Harsanyi of GLCC inquired if the County had funding in place for the ACM. Steve confirmed that the County does have the funding. DEP will provide a fact sheet describing the ACM process for inclusion in the May Derwood Station Residential Development Newsletter.
- Mark Gutberlet reviewed an example table of contents for an ACM report from another landfill in Maryland. The table of contents is not included as an Attachment to the Meeting Minutes since it is not specifically related to the Gude Landfill and may cause confusion once the Gude Landfill ACM is initiated.
- 9) The meeting attendees discussed the potential timing and content of the next community meeting. After discussion, Keith Ligon of GLCC agreed to check the public school calendar and suggest some dates for the meeting. The dates will be toward the end of August 2012

before school starts with the idea that most people will not be on vacation then and school activities will not have started yet. After dates are suggested, DEP will check staff availability for the dates. All parties agreed to hold the meeting at Candlewood Elementary School, pending availability. Keith L. also made suggestions for discussion at the meeting, including:

- Address the question: What is the public health risk, if any?
- Discuss any public health concerns for walking on the path to the northwest of the landfill.
- 10) Steve Lezinski stated that DEP received a Draft-Final version of the Consent Order from MDE on March 14, 2012 and DEP has been reviewing the document and preparing comments to send back to MDE. Keith Ligon stated that GLCC provided comments to DEP and discussed them with Bob Hoyt, DEP Director. Keith asked if GLCC comments will be incorporated into the Consent Order. Peter Karasik of DEP noted that GLCC comments are being considered, but they may not be appropriate to incorporate into the consent order. Peter also described what the Consent Order is and its purpose. The Consent Order is intended to serve as an administrative document that establishes an agreement between the County and MDE about how the Gude Landfill ACM work will proceed in very general terms, the schedule for its implementation and completion, and potential penalties if the terms are not met on schedule.
- 11) Steve Lezinski noted that DEP continues to update the Gude Landfill Remediation Webpage with new information for public access.
- 12) Steve Lezinski provided an update on Gude Landfill operations:
 - a) Semi-annual groundwater and surface water monitoring was completed by the County in March 2012; the report is typically provided to MDE in June, and will be posted to the Remediation Webpage.
 - b) Based on the most recent sampling, there are no exceedances of landfill gas in the gas monitoring wells; the report will be sent to MDE by the end of April 2012.

Recently Closed Action and Follow-up Items

- 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: Closed. DEP and EA presented the information at GLCC/DEP Meeting No. 21.
- 20-2 DEP and EA will prepare a written explanation of the chemical degradation of TCE and PCE. Status: Closed. DEP and EA presented the information at GLCC/DEP Meeting No. 21.

Open Action and Follow-up Items

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

- 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.

 <u>Status:</u> Open.
- 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.
- 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.

 <u>Status:</u> Open.
- 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. GLCC/DEP to review dates for the larger community meeting. DEP to confirm dates with appropriate staff and consultants. GLCC/DEP to develop the agenda for the larger community meeting (see action item 20-5). GLCC suggested the following major topics: 1) review of the overall purpose and process for the project, 2) a status update on recent activities, 3) explain the next steps, and 4) discuss landfill re-use options. Status: Open.

New Action and Follow-up Items

There were no items to report. See additions to 20-5.

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.

Gude Landfill Remediation Gude Landfill Concerned Citizens Monthly Meeting No. 21

Meeting Agenda

1. Meeting Sign-In Sheet

a. Please sign-in.

2. GLCC/DEP Meeting Minutes (Meeting No. 20)

a. DEP to request acceptance.

3. EA Management Transition

- a. John Kumm to Mark Gutberlet.
- b. Mr. Gutberlet's professional experience is more focused towards the Assessment of Corrective Measures (ACM).

4. Land Exchange – Maryland-National Capital Park and Planning Commission (M-NCPPC)

- a. DEP & M-NCPPC reviewed the preliminary field stakeout for each of the three (3) land parcels on 3/29/12. The field stakeout was acceptable.
- b. EA subcontractor (CCJM) to proceed with final survey.

5. Nature and Extent Study (NES) Amendment No.1

- a. Maryland Department of the Environment (MDE) approved the NES Amendment No.1 via letter on 3/13/12 (received 3/16/12).
- b. DEP to prepare a Fact Sheet to summarize the NES Amendment No.1.
 - For inclusion in the Derwood Station Newsletter (May 2012).
- c. EA to review PCE and TCE chemical degradation summaries (Action Item 20-2).
- d. EA to review Overall Maximum Contaminant Level (MCL) Compliance Extent Map with inferred extent of contamination (Action Item 20-1).
 - ➤ Red-lined property boundary indicates area of MCL exceedence in groundwater.
 - ➤ Black-lined property boundary indicates compliance with groundwater constituent levels.

6. ACM

- a. DEP to prepare ACM Work Plan for MDE within 60-days (submit by 5/15/12).
- b. DEP to prepare a Fact Sheet to introduce the ACM process.
 - For inclusion in the Derwood Station Newsletter (May 2012).
- c. EA to review example ACM Table of Contents.

7. Community Meeting

- a. DEP and GLCC to discuss the schedule of the larger Community meeting.
 - To summarize the NES and the introduce ACM.

Gude Landfill Remediation Gude Landfill Concerned Citizens Monthly Meeting No. 21

Meeting Agenda

8. Draft Consent Order

- a. DEP received a Draft Final version of the Consent Order from MDE (3/14/12).
- b. DEP is currently addressing internal comments.

9. Landfill and Remediation Webpage

a. DEP continues to update with new information for public access.

10. Current Gude Landfill Operations

- a. Groundwater & Surface Water Monitoring
 - ▶ DEP completed the Spring 2012 Semi-Annual Sampling Event in March 2012.
 - ➤ DEP awaiting laboratory data to begin the analysis and Report preparation.
- b. Landfill Gas Monitoring
 - ➤ No current exceedences. All monitoring wells are in compliance.

11. Next Meeting/Action Items

- a. Open Action Items
 - ➤ 16-2, 17-1 and 18-1. For review during ACM and Land Reuse process.
 - ➤ 20-3 and 20-4. NES Amendment No.1 and ACM Fact Sheets to be prepared for inclusion in the Derwood Station Newsletter (May 2012).
 - ➤ 20-5. DEP and GLCC to confirm potential dates for Community meeting.
- b. Action Items to Close
 - ➤ 20-1. EA presented the Overall MCL Compliance Map with inferred extent of contamination.
 - ➤ 20-2. EA presented the chemical degradation write-ups for PCE and TCE.
- c. New Actions Items from Meeting

Date	Date April 12, 2012	Meeting No. 21
Time	Time 7:30 -9:00 PM	
Meeting	Meeting Gude Landfill Remediation: GLCC/DEP	

Name	Initial if Present	Affiliation	Phone	Email	Address
Stephen Lezinski	272		2590	Steve.Lezinski@montgomerycountymd.gov	16101 Frederick Road Derwood, MD 20855
Peter Karasik	PRK	DEP	240-777-6569	Peter.Karasik@montgomerycountymd.gov	16101 Frederick Road Derwood, MD 20855
Mark Gutberlet	MAD	EA Eng.	410-329-5135	mgutberlet@eaest.com	15 Loveton Circle Sparks, MD 21152
Dave Peterson	1017	GLCC/DS1 HOA	301-921-6357	Kmpdhp@hotmail.com	7612 Anamosa Way Derwood, MD 20855
Keith Ligon	282	פוככ	301-340-3358	KLigonfamilv@verizon.net	15501 Moravia Court Derwood, MD 20855
Julia Tillery		פוככ	202-329-8740	Julia@tilleryoffice.com	15461 Indianola Drive Derwood, MD 20855
Laszlo Harsanyi	Lessel H.	GLCC/DS2 HOA	301-840-3822	LaszloH@comcast.net	7228 Titonka Way Derwood, MD 20855
Nick Radonic	77	GLCC/DSS HOA	301-294-9124	Big.Rad@gmail.com	15408 Indianola Drive Derwood, MD 20855
George Wolohojian	Line	GLCC/DSS HOA	301-738-7148	gwolohojian@aol.com	15448 Indianola Drive Derwood, MD 20855
Jessica Wolohopan	5kw	G2CC/1855 HOA	301-738-7148	JWolohojan agmair. Com	10
Other Meeting Attendees					

- 5-01 DEP and EA to research the existence of a comprehensive database for closed landfill reuse options.
 - <u>Status:</u> 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.
- 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.

 <u>Status:</u> 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).

 <u>Status:</u> 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.

- 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.

 <u>Status:</u> 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.

 <u>Status:</u> 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.

 <u>Status:</u> 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.

 <u>Status:</u> 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.

 <u>Status:</u> 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.

- 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.
 <u>Status</u>: 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.
- 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.

 <u>Status</u>: 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.
 <u>Status</u>: 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.
- 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.

- 15-2 DEP and EA will determine the current regulation for setbacks at new landfills and report this information to GLCC.
 - <u>Status</u>: Closed. Applicable setback requirements were determined and presented to GLCC on 4/14/11.
- 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.
- 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.
- 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: Closed. DEP and EA presented the information at GLCC/DEP Meeting No. 21.
- 20-2 DEP and EA will prepare a written explanation of the chemical degradation of TCE and PCE.

Status: Closed. DEP and EA presented the information at GLCC/DEP Meeting No. 21.

Prepared By: EA Engineering, Science, and Technology, Inc.

Prepared: 4/12/2012

GUDE LANDFILL REMEDIATION

GLCC/DEP ACTION ITEM 20-2

Tetrachloroethene (PCE) and trichloroethene (TCE) are chlorinated solvents, which degrade naturally to other compounds in groundwater. The natural degradation of these chlorinated volatile organic compounds (CVOCs) (termed reductive dechlorination), can be detected by decreases in the parent compound concentrations, PCE and TCE, and the detection or increase in concentrations of their degradation products, dichloroethene (DCE) and vinyl chloride (VC). Naturally occurring subsurface microorganisms are capable of biodegrading CVOCs such as PCE and TCE to non-chlorinated, environmentally acceptable end products. If the soil and groundwater conditions support reductive dechlorination, PCE and TCE will biodegrade naturally to ethene, carbon dioxide, water and chloride.

$$C_2Cl_4 \rightarrow C_2HCl_3 \rightarrow C_2H_2Cl_2 \rightarrow C_2H_3Cl \rightarrow C_2H_4 + CO_2 + Water + Chloride$$

(PCE) (TCE) (DCE) (VC) (ethene)

As reductive dechlorination progresses, high concentrations exhibited on the left side of the pathway gradually decrease as concentrations of compounds to the middle and right are produced. The process continues over time until PCE eventually breaks down to ethene, water and chloride.