

Attachment A
Topographic Survey

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THE TOPOGRAPHICAL SURVEY SHOWN HEREON ARE AN INTERPRETATION OF PHOTOGRAMMETRY AND FIELD RUN SURVEYS COMPLETED ON JAN. 30, 2019, THE UNDERSIGNED WAS IN RESPONSIBLE CHARGE OF THE PREPARATION OF THIS MAP AND THE SURVEYING WORK REFLECTED IN IT. THIS MAP WAS DEVELOPED IN COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN COMAR REGULATIONS 09.13.06.



ERIC V COOPER DATE: 4-11-2019
 PROFESSIONAL LAND SURVEYOR
 MD.#21311 (expiration date JUNE 25, 2020)

MAP LEGEND	
○ TREE	⊕ ELECT POLE
◌ WOODS	* LIGHT POLE
Ⓜ MANHOLE	- GUY WIRE
□ INLET	⊕ HYDRANT
○ POND	○ MISC FEATURE
== FENCE	● BOLLARD
— GAS LINE	- TRAFFIC SIGN
■ HAND BOX	— GUARDRAIL
- LFG PIPING	□ TRANSFORMER

WM WALLACE MONTGOMERY
 ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
 10150 York Road, Suite 200
 Hunt Valley, Maryland 21030
 410.494.9093 Tel / 410.667.0925 Fax
 www.WallaceMontgomery.com A Limited Liability Partnership

TOPOGRAPHIC SURVEY GUDE LANDFILL	
 1" = 150'	
4th Election District	Montgomery County, MD
Sheet 1 of 1	Project No. 218007.0001
Drawn By: DBM	Checked By: EVC
Scale 1"=150'	Date January 30, 2019

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Attachment B

Utility Locating Report

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EA Engineering, Science, and Technology, Inc., PBC
Attn: Mark Gutberlet
225 Schilling Circle, Suite 400
Hunt Valley, Maryland 21031

November 21, 2018

Re: Report of Findings – Gude Landfill

Dear Mr. Gutberlet,

Master Locators, Inc. (ML) is pleased to provide this report regarding the geophysical investigation performed at 600 East Gude Drive in Rockville, MD. The scope of work included scanning for and marking out utilities/unknowns within approximately 30 acres of the Gude Landfill property. Approximate scope of work boundaries are included in *Attachment 1: Report Figures, Site Photos* at the end of this report.

METHODOLOGY

Underground utility data is considered Quality Level B (QLB) as defined in ASCE 38-02: Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data and is intended to show the approximate horizontal locations of existing underground utilities as marked by ML during a geophysical investigation performed within the scope of work boundaries.

ML utilized Electromagnetic (EM) and Ground Penetrating Radar (GPR) technology to perform the subsurface investigation with the following equipment.

- RD 8000 Digital Locator manufactured by Radiodetection
- A6 Tracer manufactured by Aquatronics (Spit-Box)
- Noggin SmartCart with 250MHz GPR antenna manufactured by Sensors and Software
- Carlson GPS unit

EM scanning was performed to trace all conductive utilities which were visually evident within or adjacent to the scan area. This included both active and inactive methods of locating with the RD 8000 Digital Locator. Active and inductive scans were performed on various frequencies ranging from 8 kHz to 200 kHz. Passive scans were performed on a 60 Hz frequency in a ten (10)-foot by ten (10)-foot grid over the accessible portions of the scan area.

Inductive EM scans were conducted using an A6 Tracer (Split-Box) at a frequency of 118 kHz and collected in a ten (10)-foot by ten (10)-foot grid over the accessible portions of the scan area. The A6 Tracer scans were performed to identify any potential metallic targets within the scan areas.

GPR scans were performed with a 250 MHz antenna. GPR data was collected in a five (5)-foot by five (5)-foot grid over the accessible portions of the scan area. During the scanning process, the GPR operator continuously monitored the imaging results displayed for indications of any anomalies associated with utilities or unknown targets. Any anomalies which were detected were investigated further to identify the target as a potential utility or unknown target.

The horizontal locations of utilities, utility structures, unknowns and site features (fence line, etc.) were collected using the Carlson GPS unit and included on the CAD mapping provided with this report.



RESULTS

Attachment 2: Utility Mapping contains the approximate locations of utilities and unknowns observed during the geophysical investigation. The geophysical investigation was performed within two (2) areas on landfill property. Area 1, measures approximately 28.3 acres and includes a gas utility right of way along the northwest perimeter of the landfill (gas line material unknown), the gazebo area near the model plane airport and current facility buildings all northeast of East Gude Drive. Area 2, measures approximately 1.1 acres and includes the roadway that led up the former incinerator known as Incinerator Lane.

Please note the following on the attached utility mapping:

- Utilities were marked in the field using the standard American Public Works Association (APWA) color code. Gas lines on *Attachment 2: Utility Mapping* are depicted in purple instead of yellow for better visibility when printed.
See Figures 2 and 3 for examples in Attachment 1: Report Figures, Site Photos.
- Utility types marked out and mapped for Areas 1 & 2 include: communications; electric; gas; landfill gas, sanitary sewer; storm drainage; water and unknowns.
- To differentiate between natural gas lines and landfill gas lines, each has a dedicated line type on the attached mapping. -G-, *underground gas lines* are natural gas lines. -LFG-, *underground landfill gas lines* are associated with the landfill gas extraction lines within the landfill property boundary.
- When a feature is observed during grid scans using either GPR or EM and cannot be traced to an above ground structure it is labeled as an unknown.
- When utilities are depicted with a dash only line type (no letter identifier), field staff dotted this path in the field as the suspected path/continuation of the line based upon field observations.
See Sheets 3 and 7 for examples of this.
- Features that have an “last locatable point” symbol (X) may continue, but due to possible site or equipment limitations, access issues, and/or unfavorable subsurface conditions this can’t be determined.
- Those utilities that end with a “line continues” symbol (~) either intersect with the scope of work boundaries or possibly continue through an area that was inaccessible to field staff.
- The bolded lines depicted along the northern perimeter of the landfill in Area 1 were marked out by a representative from Williams as part of the one-call design ticket that was placed. Three (3) gas lines and one (1) electric line were marked by Williams using grade stakes. No other utility companies/representatives marked out utilities in response to the one-call design ticket placed.
- ML utility locators grid scanned the area containing the utilities marked out by Williams to determine if any other utilities were in this section of the scope of work. No other utilities were observed in this section using the methods described in this report. ML GPS technicians collected the horizontal locations of the grade stakes planted by the representative from Williams.
- Heavy vegetation prevented access to some sections of the scope of work.
See Sheets 2, 3 and 4 for examples of this.
See Figure 4 in Attachment 1: Report Figures, Site Photos for an example area.

MAP SHEET SUMMARY

Sheet

No. Description

- 1 **Key Sheet**
Project site (landfill and surrounding areas), Areas 1 & 2 scope of work boundaries, approximate landfill property line and remaining sheet locations.
- 2 **Southwest corner of Area 1, north of East Gude Drive**
Three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket), multiple utilities associated with site buildings including: communications; electric; natural gas; sanitary sewer; storm drainage; and water.
- 3 **Section northeast of Sheet 2**
Continuation of three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket), multiple utilities associated with site buildings including: electric; landfill gas, storm drainage; and water.
- 4 **Section southeast of Sheet 2, northeast of East Gude Drive**
Multiple utilities associated with site buildings on including: electric; natural gas; sanitary sewer; storm drainage; water and an unknown. Dense vegetation prevented the continuous detection of some utilities on this sheet.
- 5 **Section southeast of Sheet 4, northeast of East Gude Drive**
Suspected sanitary sewer line within scope of work boundary; dense vegetation prevented investigation in this area.
- 6 **Section northeast of Sheet 3**
Continuation of three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket), storm drainage and one (1) landfill gas line (mark out was limited for this line, both ends of the line have the last locatable point symbol).
- 7 **Section northeast of Sheet 6**
Continuation of three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket), continuation of storm drainage, and landfill gas lines. A portion of the landfill gas line is marked as “suspected location” (dashed line type without LFG) to where an above ground pipe structure was observed in the field.
- 8 **Section northeast of Sheet 7**
Continuation of three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket), two (2) storm drainage lines running below landfill roadways and water lines associated with water fountains. “X” indicates last locatable point, ML field staff did not observe a feature or signal beyond the location of “X” but the lines may continue.
- 9 **Section northeast of Sheet 8**
Continuation of three (3) natural gas lines and one (1) electric line marked out by Williams (one-call design ticket). These utility lines continue beyond scope of work.
- 10 **North side of Area 2, Incinerator Road**
Storm drainage lines, an unknown and approximate location of an observed stream running below the road. Base map contains a surface structure not observed during the field investigation. ML suspects that the structure is either buried or possibly mis-mapped; feature may be storm drainage manhole nearby mapped by ML.
- 11 **South side of Area 2, Incinerator Road**
Multiple utilities observed, features may be associated with existing or previous structures surrounding the scope of work and include electric, natural gas, storm drainage and unknowns. Unknowns may be associated with abandoned utilities.

CONCLUSIONS

Utilities observed and marked in the field were identified either by direct connection to utility structure at the surface or traced to a termination point at utility structure. Unknowns were marked out during the collection of grid scans within the scope of work. The unknowns were not identified because they could not be traced to a utility surface structure.

ML recommends non-destructive vacuum excavation to expose these utilities at their last locatable point to determine where they terminate and possible investigation of the unknowns to further attempt to identify their utility type and termination point.

As utility locations are approximate, if precise locations and depths of utilities are needed, ML can employ vacuum excavation to determine this information on the utilities depicted in the attached mapping.

Please reach out to us with any questions regarding the contents of this report.

Sincerely,



Crystal Gardener
Project Manager/Geologist

ATTACHMENTS

Attachment 1: Report Figures, Site Photos

Attachment 2: Utility Mapping

Attachment 1: Report Figures, Site Photos

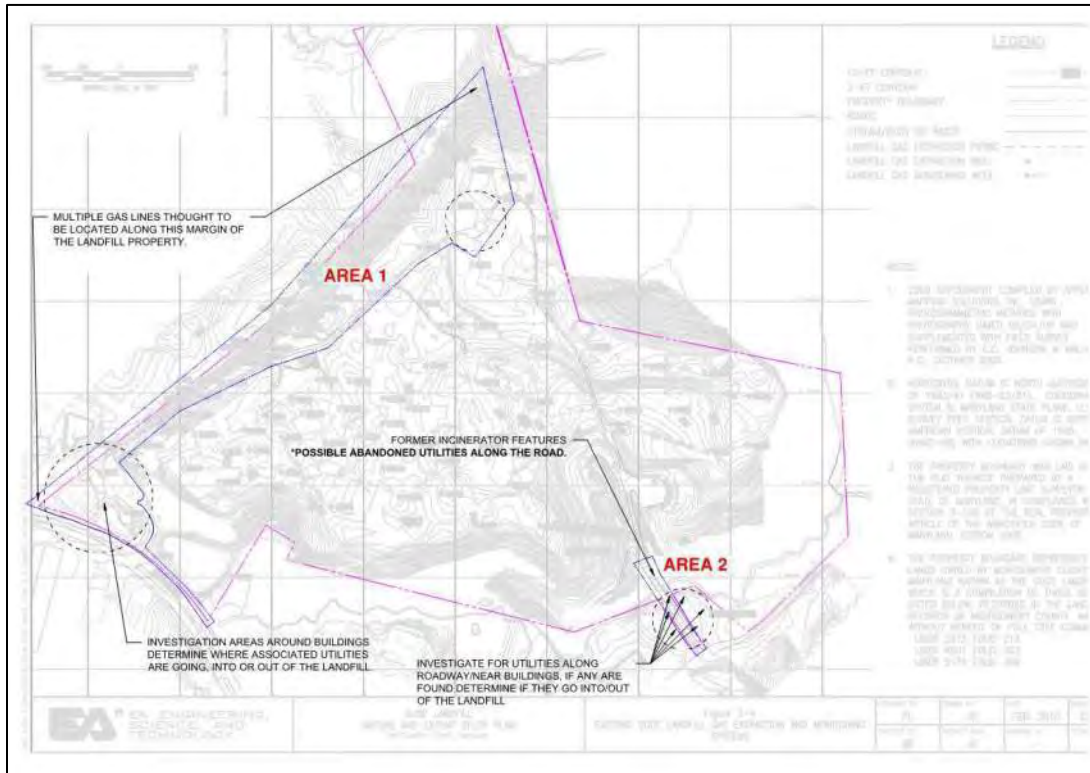


Figure 1: Scope of work includes areas bound by the blue outlines, Area 1 and Area 2.

Client Provided Information: 100 foot ROW easement includes Williams Gas/Trans-continental Natural Gas Pipelines (near landfill side). 25-50 foot ROW easement contains Columbia Gas Pipeline and Fiber Optic Line (near community side).



Figure 2: Example of field mark out, picture depicts a section in Area 1 (near homeless shelter) where two (2) electric lines cross over a water and storm drainage lines.

Attachment 1: Report Figures, Site Photos



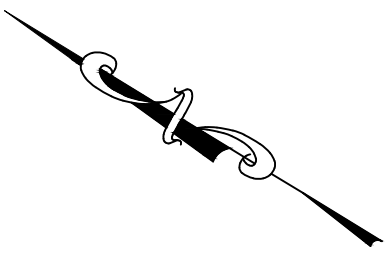
Figure 3: Example of field mark out, picture depicts a congested section in Area 1 (near homeless shelter) where three (3) electric, two (2) communication and one (1) water line converge.

Attachment 1: Report Figures, Site Photos



Figure 4: Section of Area 1 on Sheet 2 where the communication, electric and storm drainage intersect the area of heavy vegetation called out on the utility mapping.

Attachment 2: Utility Mapping



NOTES:

1. UNLESS OTHERWISE NOTED UNDERGROUND UTILITY DATA IS CONSIDERED QUALITY LEVEL B (QLB) AS DEFINED IN ASCE 38-02: STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA AND IS INTENDED TO SHOW THE APPROXIMATE HORIZONTAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS MARKED BY MASTER LOCATORS DURING A GEOPHYSICAL INVESTIGATION PERFORMED WITHIN THE SCOPE OF WORK.
2. POSITIONAL DATA WAS COLLECTED WITH A GPS SYSTEM. COORDINATES ARE IN THE MARYLAND STATE PLANE ZONE WITH NAD83 HORIZONTAL DATUM. GPS INFORMATION WAS OVERLAIN UPON AN EXISTING CAD FILE "GudeLF2015_ver2010-151118".
3. AS THE BASE FILE FOR THIS PROJECT WAS NOT GEO-REFERENCED, MASTER LOCATORS SURVEYED IN FEATURES PRESENT BOTH IN THE FIELD AND ON THE BASE MAP IN ORDER TO OVERLAY THE APPROXIMATE UTILITY LOCATIONS. MASTER LOCATORS IS NOT RESPONSIBLE FOR THE VALIDITY OR POSITIONS OF STRUCTURES PRESENT IN THE CLIENT-PROVIDED BASE MAP.
4. ALL UTILITY LOCATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. THIS PLAN SHOULD NOT BE USED FOR CONSTRUCTION OR DESIGN PURPOSES AND MASTER LOCATORS IS NOT RESPONSIBLE FOR DAMAGE TO UTILITIES RESULTING FROM ANY CONSTRUCTION WORK BASED ON THESE PLAN.
5. NO BOUNDARY OR PROPERTY SURVEY WORK WAS CONDUCTED IN THE DEVELOPMENT OF THIS PLAN.
6. BOLDED UTILITY LINES WERE MARKED OUT BY OTHERS VIA ONE CALL TICKET.

UTILITIES LEGEND

- E U/G ELECTRIC LINE
 - - - E-S U/G SUSPECTED ELECTRIC LINE
 - C U/G COMMUNICATION LINE
 - SD U/G STORM DRAIN LINE
 - W U/G WATER LINE
 - G U/G GAS LINE
 - - - LFG U/G LANDFILL GAS LINE
 - - - LFG-S U/G SUSPECTED LANDFILL GAS LINE
 - SS U/G SANITARY LINE
 - - - UNK UNKNOWN LINE
 - - - - - FENCE LINE
 - - - - - APPROXIMATE SCOPE OF WORK
 - - - - - CLIENT-PROVIDED PROPERTY BOUNDARY
-
- - MANHOLE (MH)
 - - STORM INLET/CATCH BASIN (CB)
 - ⊗ - LIGHT STANDARD/SITE LIGHT (SL)
 - ⊕ - UTILITY POLE
 - ⊞ - JUNCTION BOX/PULL BOX
 - ⊕ - FIRE HYDRANT (FH)
 - ⊗ - LAST LOCATABLE POINT
 - LINE CONTINUES
 - CLEANOUT
 - ⊕ GAS VALVE
 - ⊕ WATER VALVE
 - ⊞ TRANSFORMER
 - ⊕ MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



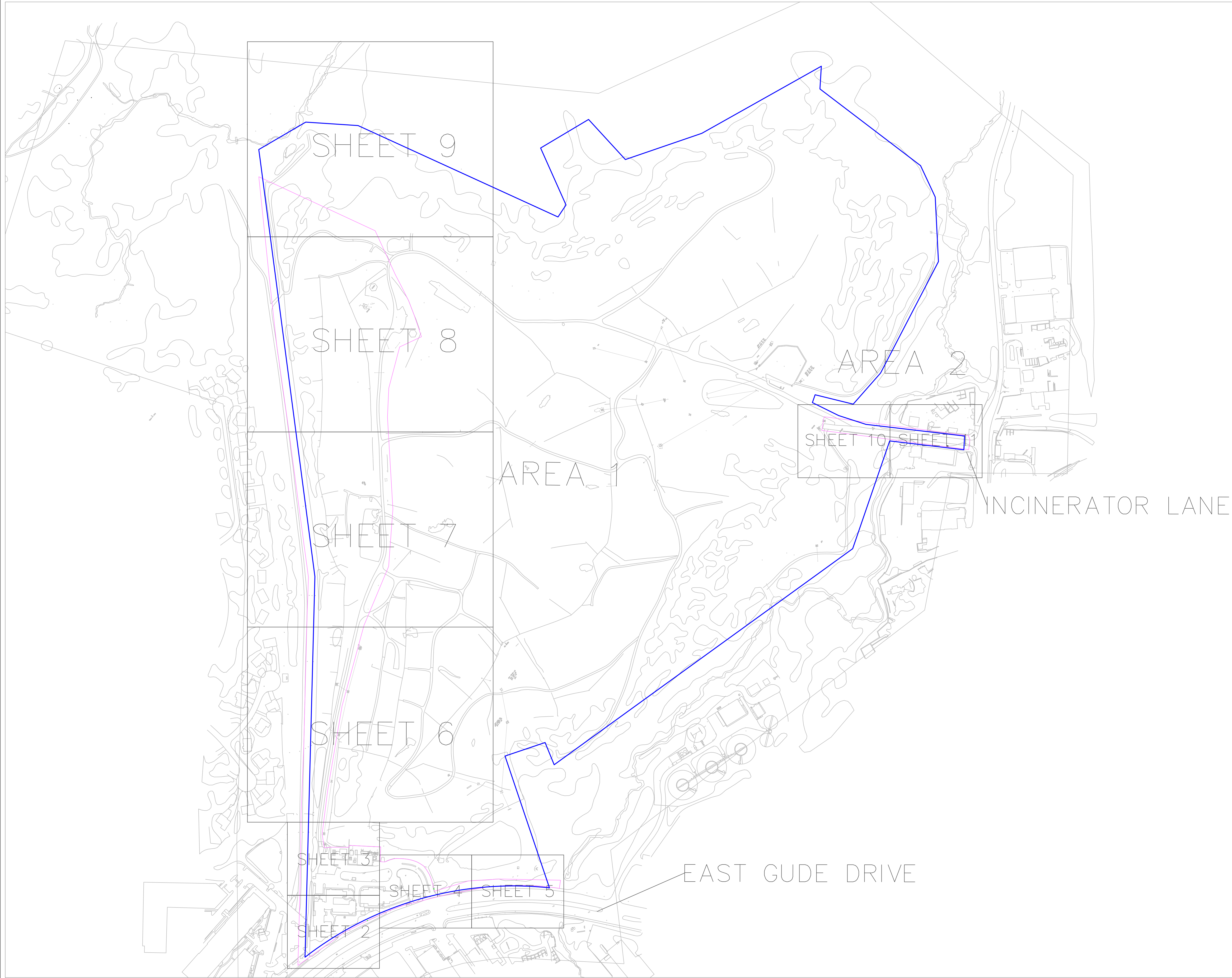
master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT: **EA Engineering**

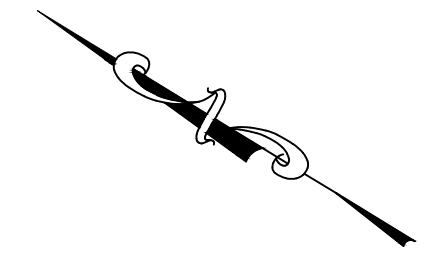
SITE: **Gude Landfill** 600 East Gude Drive
 Rockville, MD

**UNDERGROUND UTILITY PLAN
 KEY SHEET**

SIZE	D	SCALE:	1"=200'	SHEET	1 OF 11	REV	6
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TO SHEET 3



NOTES:

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REVISIONS



master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT:

EA Engineering

SITE:

Gude Landfill 600 East Gude Drive
 Rockville, MD

UNDERGROUND UTILITY PLAN
 SW CORNER AREA 1, NORTH OF
 EAST GUDE DRIVE

SIZE	D	SCALE:	1"=15'	SHEET	2 OF 11	REV	6
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DENSE VEGETATION,
 UNABLE TO COLLECT GPS DATA

EAST GUDE DRIVE

EAST GUDE DRIVE

TO SHEET 4

TO SHEET 6

METHANE GAS STRUCTURES OBSERVED AT SURFACE
 SUSPECT NON-METALLIC LINES PRESENT BELOW SURFACE
 COULD NOT SCAN AREA WITH GPR DUE TO ROUGH TERRAIN
 ROUTE OF SUB-GRADE METHANE LINES UNKNOWN

ELECTRIC CONDUITS

METHANE LINES GOES SUBGRADE

END OF PIPE

TO SHEET 2

TO SHEET 4

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CLIENT:

EA Engineering

SITE:

Gude Landfill 600 East Gude Drive
 Rockville, MD

UNDERGROUND UTILITY PLAN
 NE OF SHEET 2

SIZE	D	SCALE:	1"=15'	SHEET	3 OF 11	REV	6
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5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



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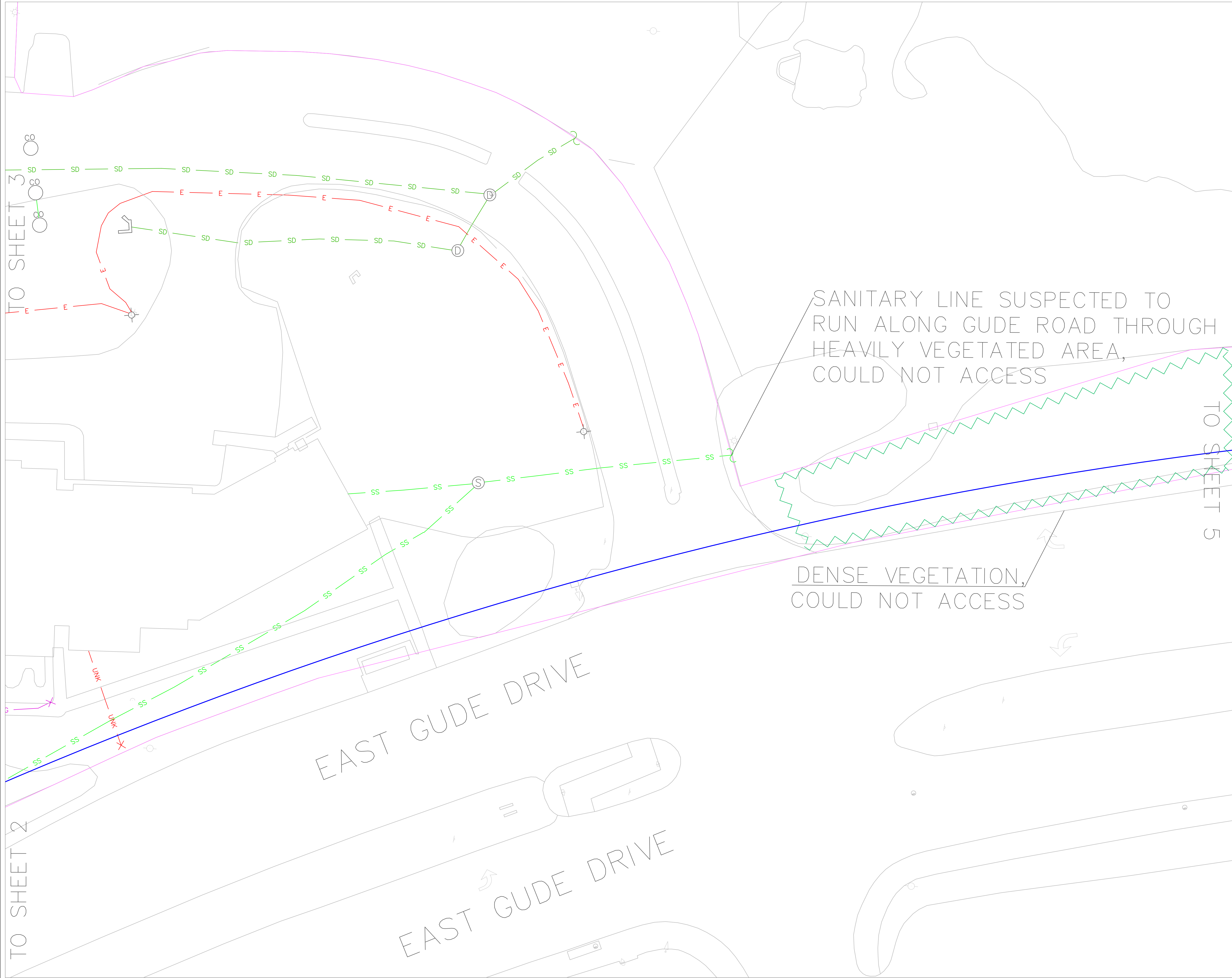
EA Engineering

SITE:

Gude Landfill 600 East Gude Drive
 Rockville, MD

UNDERGROUND UTILITY PLAN
 SE OF SHEET 2 NE OF
 EAST GUDE DRIVE

SIZE	D	SCALE:	1"=15'	SHEET	4 OF 11	REV	6
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TO SHEET 3

TO SHEET 2

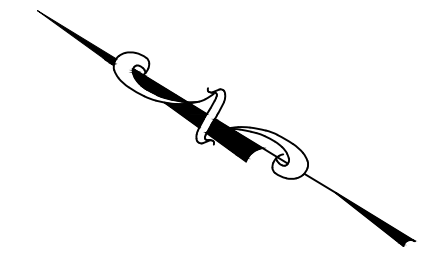
TO SHEET 5

SANITARY LINE SUSPECTED TO RUN ALONG GUDE ROAD THROUGH HEAVILY VEGETATED AREA, COULD NOT ACCESS

DENSE VEGETATION, COULD NOT ACCESS

EAST GUDE DRIVE

EAST GUDE DRIVE



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- BOLDED UTILITY LINES WERE MARKED OUT BY OTHERS VIA ONE CALL TICKET.

UTILITIES LEGEND

- E** U/G ELECTRIC LINE
- E-S** U/G SUSPECTED ELECTRIC LINE
- C** U/G COMMUNICATION LINE
- SD** U/G STORM DRAIN LINE
- W** U/G WATER LINE
- G** U/G GAS LINE
- LFG** U/G LANDFILL GAS LINE
- LFG-S** U/G SUSPECTED LANDFILL GAS LINE
- SS** U/G SANITARY LINE
- UNK** UNKNOWN LINE
- - - - - FENCE LINE
- - - - - APPROXIMATE SCOPE OF WORK
- - - - - CLIENT-PROVIDED PROPERTY BOUNDARY
- - MANHOLE (MH)
- - STORM INLET/CATCH BASIN (CB)
- ⊗ - LIGHT STANDARD/SITE LIGHT (SL)
- ⊕ - UTILITY POLE
- - JUNCTION BOX/PULL BOX
- ⊕ - FIRE HYDRANT (FH)
- ⊗ - LAST LOCATABLE POINT
- - - - - LINE CONTINUES
- - CLEANOUT
- ⊕ - GAS VALVE
- ⊕ - WATER VALVE
- ⊕ - TRANSFORMER
- ⊕ - MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/03/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators

675 Concord Road
Glen Mills, PA 19342
Phone: 610-358-0172

CLIENT:

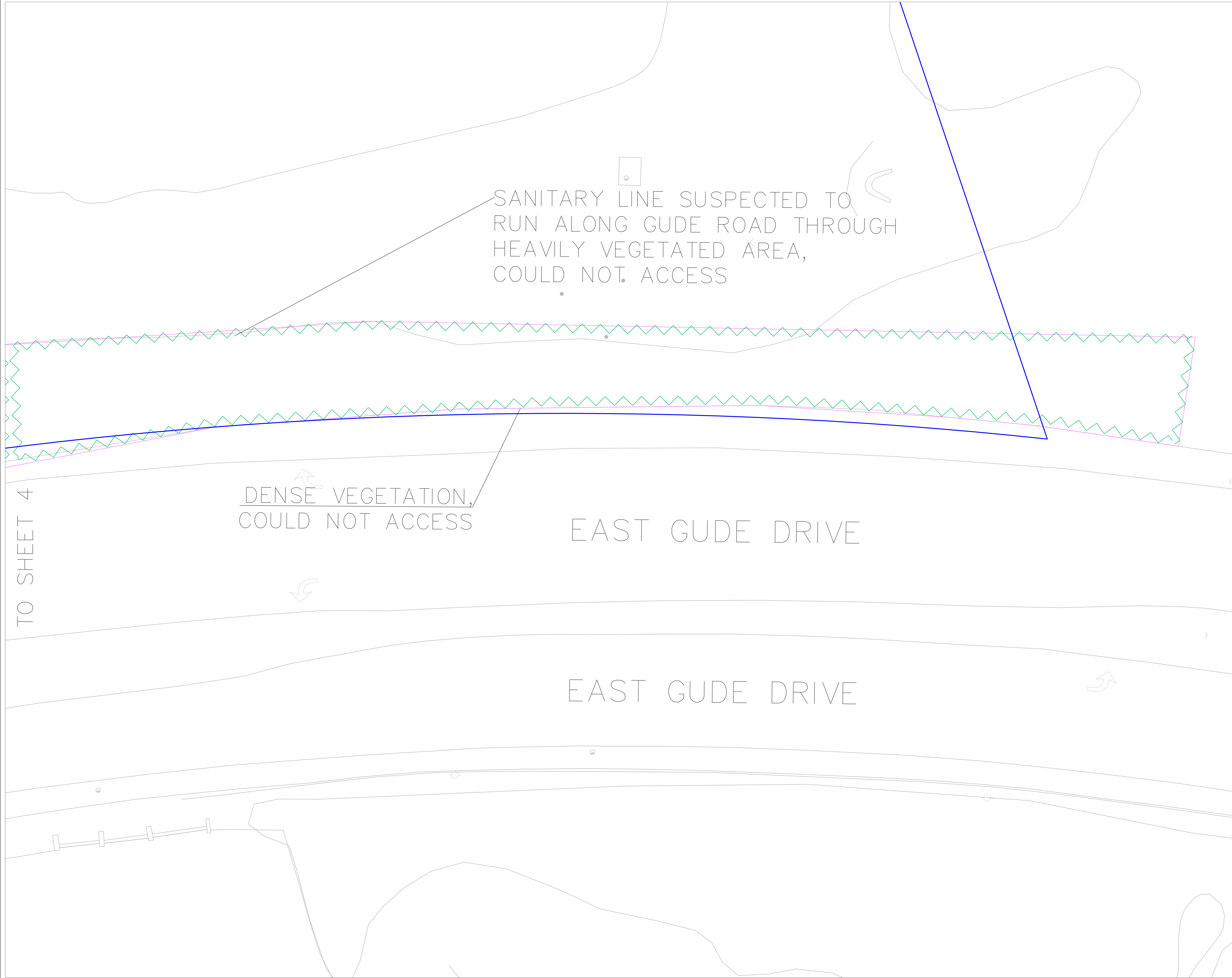
EA Engineering

SITE:

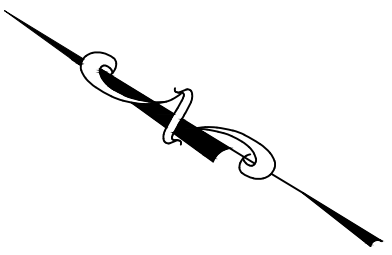
Gude Landfill 600 East Gude Drive
Rockville, MD

UNDERGROUND UTILITY PLAN
SE OF SHEET 4, NE OF
EAST GUDE DRIVE

SIZE	D	SCALE:	1"=15'	SHEET	5 OF 11	REV	6
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TO SHEET 4



NOTES:

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UTILITIES LEGEND

- E** U/G ELECTRIC LINE
 - E-S** U/G SUSPECTED ELECTRIC LINE
 - C** U/G COMMUNICATION LINE
 - SD** U/G STORM DRAIN LINE
 - W** U/G WATER LINE
 - G** U/G GAS LINE
 - LFG** U/G LANDFILL GAS LINE
 - LFG-S** U/G SUSPECTED LANDFILL GAS LINE
 - SS** U/G SANITARY LINE
 - UNK** UNKNOWN LINE
 - FENCE LINE
 - APPROXIMATE SCOPE OF WORK
 - CLIENT-PROVIDED PROPERTY BOUNDARY
- - MANHOLE (MH)
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 - ⊗ - LIGHT STANDARD/SITE LIGHT (SL)
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 - ⊞ - JUNCTION BOX/PULL BOX
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 - ⊗ - LAST LOCATABLE POINT
 - LINE CONTINUES
 - - CLEANOUT
 - ⊗ - GAS VALVE
 - ⊗ - WATER VALVE
 - ⊞ - TRANSFORMER
 - ⊗ - MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT:

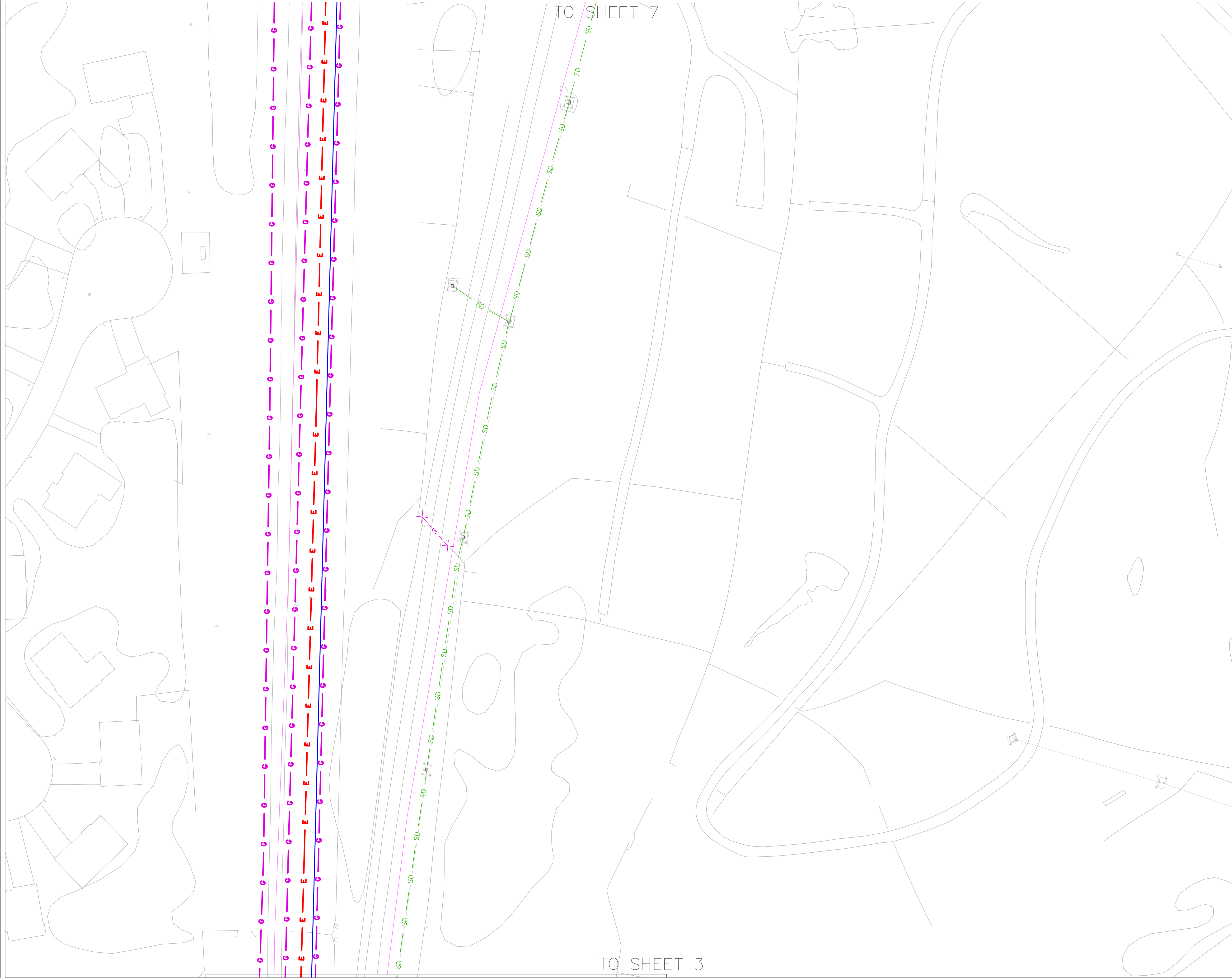
EA Engineering

SITE:

Gude Landfill 600 East Gude Drive
 Rockville, MD

UNDERGROUND UTILITY PLAN
NE OF SHEET 3

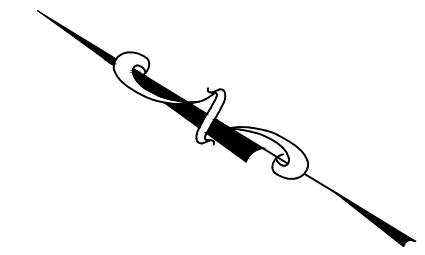
SIZE	D	SCALE:	1"=40'	SHEET	6 OF 11	REV	6
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TO SHEET 7

TO SHEET 3

TO SHEET 8



NOTES:

1. UNLESS OTHERWISE NOTED UNDERGROUND UTILITY DATA IS CONSIDERED QUALITY LEVEL B (QLB) AS DEFINED IN ASCE 38-02: STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA AND IS INTENDED TO SHOW THE APPROXIMATE HORIZONTAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS MARKED BY MASTER LOCATORS DURING A GEOPHYSICAL INVESTIGATION PERFORMED WITHIN THE SCOPE OF WORK.
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- **E** U/G ELECTRIC LINE
 - - - **E-S** U/G SUSPECTED ELECTRIC LINE
 - **C** U/G COMMUNICATION LINE
 - **SD** U/G STORM DRAIN LINE
 - **W** U/G WATER LINE
 - **G** U/G GAS LINE
 - **LFG** U/G LANDFILL GAS LINE
 - - - **LFG-S** U/G SUSPECTED LANDFILL GAS LINE
 - **SS** U/G SANITARY LINE
 - **UNK** UNKNOWN LINE
 - - - FENCE LINE
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 - CLIENT-PROVIDED PROPERTY BOUNDARY
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 - LINE CONTINUES
 - CLEANOUT
 - ⊕ GAS VALVE
 - ⊕ WATER VALVE
 - ⊕ TRANSFORMER
 - ⊕ MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/03/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators

675 Concord Road
Glen Mills, PA 19342
Phone: 610-358-0172

CLIENT:

EA Engineering

SITE:

Gude Landfill 600 East Gude Drive
Rockville, MD

**UNDERGROUND UTILITY PLAN
NE OF SHEET 6**

SIZE	D	SCALE:	1"=40'	SHEET	7 OF 11	REV	6
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TO SHEET 6

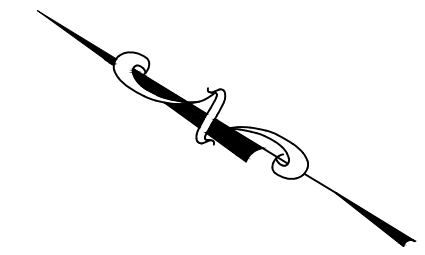
STORM CULVERTS RUN UNDER ROAD

GAS LINES CONTINUE ABOVEGROUND AFTER THESE POINTS



TO SHEET 9

TO SHEET 7



NOTES:

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1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators

675 Concord Road
Glen Mills, PA 19342
Phone: 610-358-0172

CLIENT:

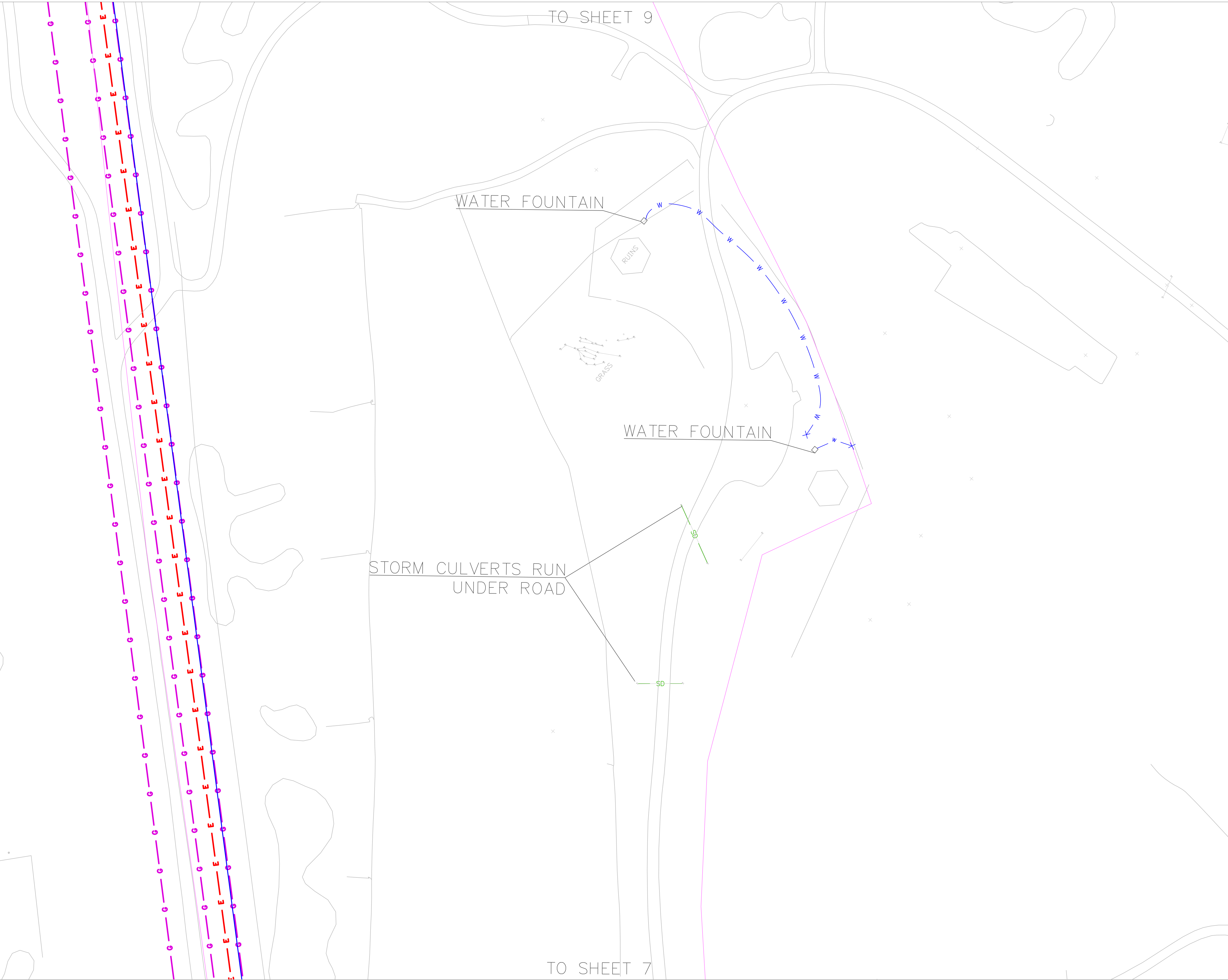
EA Engineering

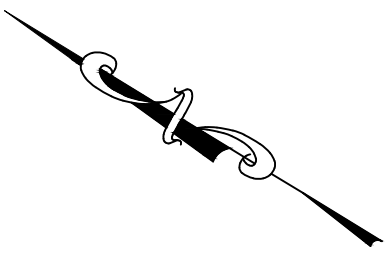
SITE:

Gude Landfill 600 East Gude Drive
Rockville, MD

**UNDERGROUND UTILITY PLAN
NE OF SHEET 7**

SIZE	D	SCALE:	1"=40'	SHEET	8 OF 11	REV	6
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NOTES:

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 - WATER VALVE
 - TRANSFORMER
 - MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
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6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT:
EA Engineering

SITE:
Gude Landfill 600 East Gude Drive
 Rockville, MD

**UNDERGROUND UTILITY PLAN
 NE OF SHEET 8**

SIZE	D	SCALE:	1"=40'	SHEET	9 OF 11	REV	6
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TO SHEET 8



NOTES:

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 - ⊞ - TRANSFORMER
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1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



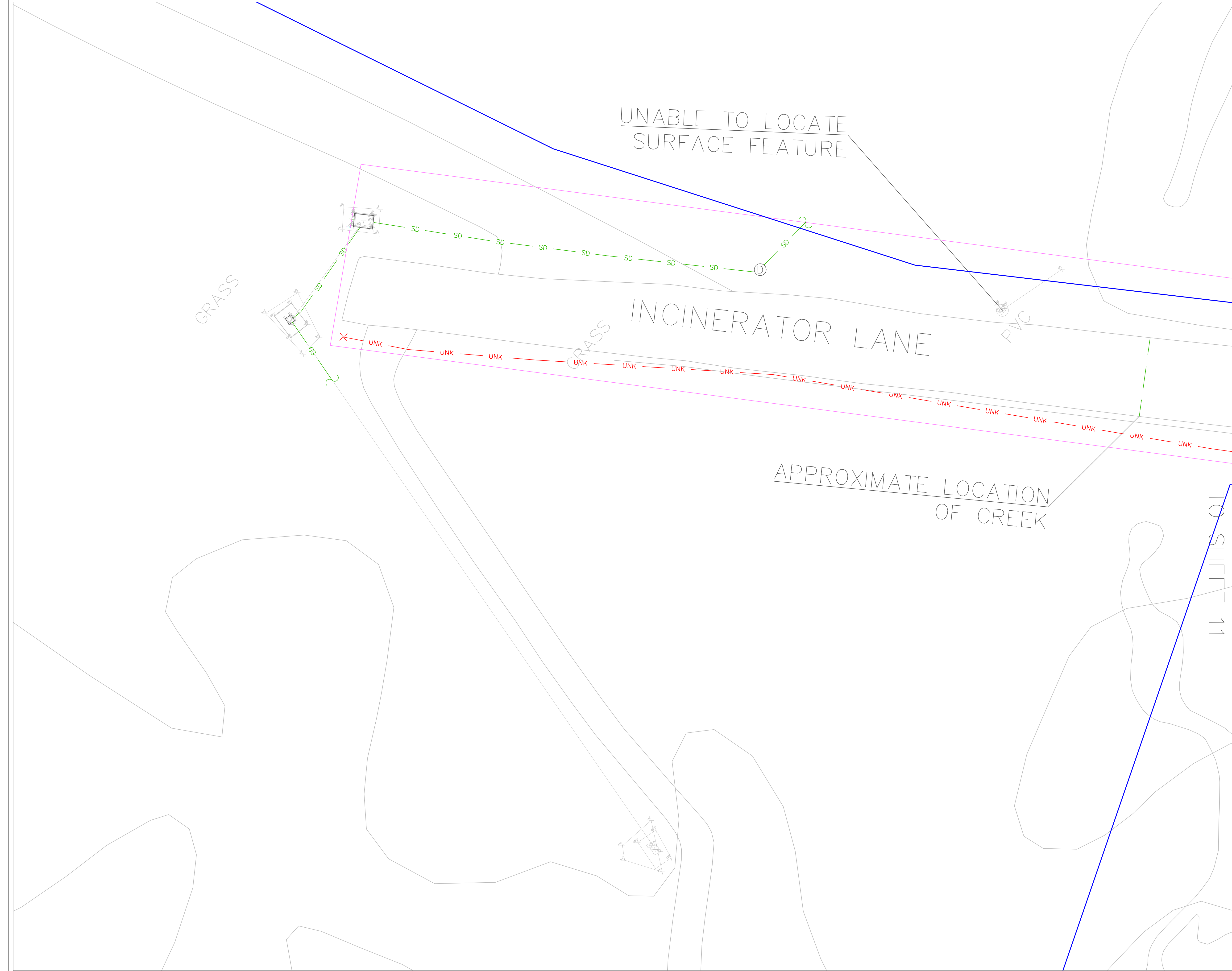
master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT:
EA Engineering

SITE:
Gude Landfill 600 East Gude Drive
 Rockville, MD

**UNDERGROUND UTILITY PLAN
 NORTH SIDE OF AREA 2
 INCINERATOR ROAD**

SIZE	D	SCALE:	1"=15'	SHEET	10 OF 11	REV	6
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NOTES:

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 - - - UNK UNKNOWN LINE
 - * * * * * FENCE LINE
 - - - - - APPROXIMATE SCOPE OF WORK
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 - ⊕ - WATER VALVE
 - ⊕ - TRANSFORMER
 - ⊕ - MONITOR WELL

1	6/8/18	UTILITY MAPPING	IH	CY
2	6/20/18	REVISION 1	IH	CY
3	9/11/18	CLIENT NOTES ADDRESSED	IH	CY
4	10/10/18	CLIENT NOTES ADDRESSED	IH	CY
5	11/05/18	CLIENT NOTES ADDRESSED	IH	CY
6	11/21/18	CLIENT NOTES ADDRESSED	IH	CY

REVISIONS



master locators
 675 Concord Road
 Glen Mills, PA 19342
 Phone: 610-358-0172

CLIENT:

EA Engineering

SITE:

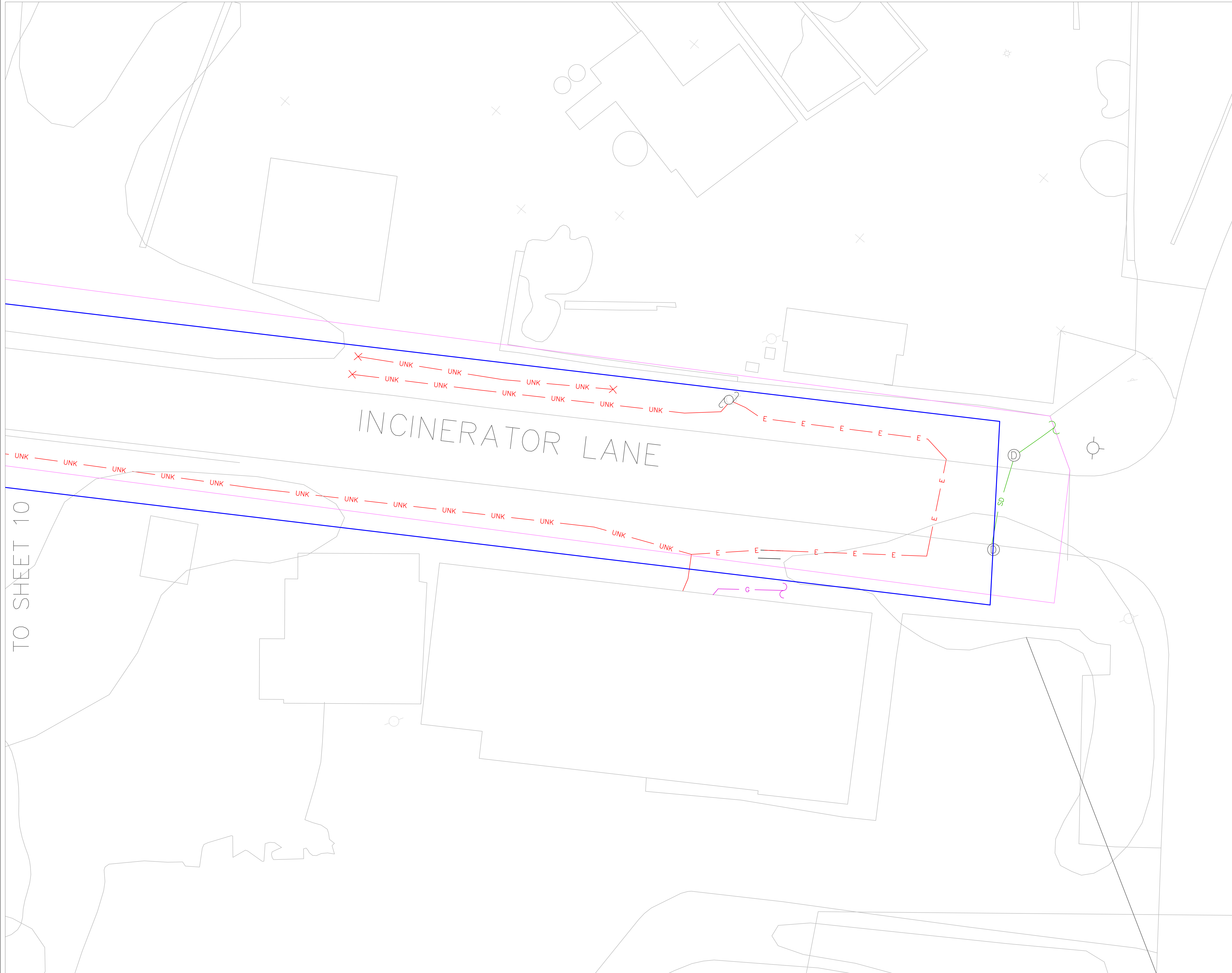
Gude Landfill 600 East Gude Drive
 Rockville, MD

UNDERGROUND UTILITY PLAN
 SOUTH SIDE OF AREA 2
 INCINERATOR ROAD

SIZE	D	SCALE:	1"=15'	SHEET	11 OF 11	REV	6
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TO SHEET 10

INCINERATOR LANE



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Attachment C

Geotechnical Evaluation

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September 10, 2018

Mr. Mark Gutberlet, PE
Project Manager
EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle, Suite 400
Rockville, MD 20850

**RE: Geotechnical Evaluation
Gude Landfill
Rockville, Maryland
RBB Project No. 16943-0**

Dear Mr. Gutberlet:

The Robert B. Balter Company is pleased to submit this geotechnical evaluation report for the subject project. The purpose was to assess the existing soil cap condition and provide recommendation regarding soil reuse.

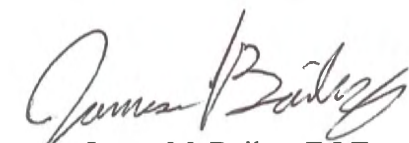
Project information provided to us by various parties helped form the basis for our recommendations. If any of the project information discussed in this report differs from the actual proposed construction, we should be contacted to re-evaluate the recommendations provided herein and provide revisions if necessary.

We have appreciated this opportunity to be of service. If you have any questions regarding this report, or if we can assist you in any way, please do not hesitate to call our office.

Sincerely,

THE ROBERT B. BALTER COMPANY

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 23261, Expiration Date: 06/25/2020


James M. Bailey, E.I.T.
Geotechnical Engineer


Joseph F. Whittle Jr., P.E.
Chief Engineer

9/10/2018

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1.0 INTRODUCTION

1.1 *General*

The proposed project will consist of a new toupee cap for the Gude Landfill, as well as an analysis of the stability of the site as it pertains to future developments, such as potential access roads, parking areas, and new facilities.

1.2 *Authorization*

The geotechnical evaluation was authorized by EA, based on our September 28, 2017 *Revised Proposal for Geotechnical Evaluation*.

1.3 *Scope*

The scope of the geotechnical evaluation included the following: site reconnaissance, subsurface sampling and testing, geotechnical laboratory testing, engineering evaluation and report preparation.

1.4 *Summary of Recommendations*

Cap Fill Soil Reuse	The existing site cap fill soils are expected to be suitable for reuse. However, laboratory testing indicated that site soils are presently in excess of the optimum moisture content and may require drying before placement. We would expect the moisture content of the existing fill soils to change over time.
Topsoil	The current site topsoil was only encountered sporadically, with most plant covering growing in the fill soils rather than a distinct topsoil stratum. It is unlikely to be cost-effective to salvage for reuse as topsoil

2.0 PROJECT DESCRIPTION

2.1 *Site Conditions*

The project is located at 600 East Gude Drive, Rockville, Maryland. The site is bordered to the northwest by Gude Trail, followed by a residential development, to the northeast by a heavily forested area, to the southeast by a mixed commercial/retail development, and to the southwest by East Gude Drive followed by mixed commercial/retail development. The site is currently occupied by the closed Gude MSW Landfill including a gas energy production facility and is currently being used as a radio-controlled (RC) model airplane recreational area. A **Vicinity Map** is shown on **Plate 1**, attached.



2.2 *Project Information*

The proposed project will consist of the reconstruction of the landfill cap. The purpose of this investigation was to determine the depth of the existing cap and to determine the potential for reuse of the existing cap soils.

2.3 *Site Geology*

According to the National Geologic Map Database provided by USGS, the subject site is underlain by the Wissahickon Formation. This formation is known to consist of Muscovite-chlorite-albite schist, muscovite-chlorite schist, chloritoid schist, and quartzite; intensely folded and cleaved.

3.0 EVALUATION PROGRAM

3.1 *Subsurface Explorations*

The subsurface exploration program for this study included a total of 128 new Test Pits, labeled TP-200 to TP-335, with the exclusions of TP-296, TP-297, TP-300, TP-306, TP-313, TP-316 and TP-328. These test locations were not performed due to time constraints. The locations for the test pits were selected by EA and located in the field by Balter using standard taping procedures and are assumed accurate to within 10 – 15 feet. Additionally, longitude and latitude coordinates were recorded by cell phone GPS for each test pit location and are assumed accurate to within 10 to 15 feet. Prior to the start of the test pit operations, the test pits were cleared for utilities by Miss Utility. The attached **Plate 2, Boring Location Plan**, indicates the approximate as-dug locations of the test pits.

The test were advanced to depths ranging from 1.5 feet to 8 feet below the existing ground surface using a Case 580 N backhoe. During the test operations, bulk samples of representative soils from the upper regions of the soils were recovered for laboratory evaluation. Following completion, the test pit locations were backfilled with landfill garbage at the bottom and soils on top lightly compacted with the backhoe bucket. After backfill, all test pits were strawed and seeded.

All test pits were screened for oxygen levels and combustible gases as per the site Health and Safety Plan.

The subsurface data obtained from the recent explorations are presented in log form in **Appendix A**.

The depths at which water was observed in the test were recorded upon completion. The method of classification used in preparing the strata descriptions is based on our interpretation of the Unified Soils Classification System (USCS).



Test pit logs show the estimated general soil classifications and the assumed boundaries between soil types. The actual boundaries in the field could vary significantly from those assumed for the logs. *It is noted that the subsurface data shown on the figures are an integral portion of this report. Separation of the figures from the remainder of the report may lead to misinterpretation of the data by others.*

3.2 Laboratory Testing Program

Selected samples were subjected to laboratory analyses to estimate their classifications according to the Unified Soils Classification System. This testing included moisture content determination, sieve gradation analyses, and Atterberg limits determinations. The bulk samples were subjected to evaluation of their compaction properties by AASHTO T-180 (Modified Proctor).

The results of our laboratory testing are presented in Appendix B and are summarized in **Table 1** of Section 4.2 Subsurface Materials.

4.0 SUBSURFACE CONDITIONS

4.1 General

This section provides a description of the estimated subsurface conditions encountered at the borings at the time of drilling. Significant variations may occur outside specific test locations.

4.2 Subsurface Materials

4.2.1 Surficial Materials

Topsoil - Topsoil was only encountered in borings TP-201, TP-202, TP-203, TP-254, TP-255, TP-256, TP-257, TP-258, TP-259, and TP-263 to depths ranging between 1 inch and 4.0 inches. The term “topsoil,” as used in this report refers to surface soils having an apparently significant organic content, based only on visual estimates in the field. It does not imply that the subject materials meet the requirements or specifications for topsoil set by any particular organization or agency. Plant growth was present across the landfill, however the growth appears to be within the fill soils rather than within a distinct topsoil layer.

4.2.2 Existing Cap Fill Soils

Fill soils associated with the existing landfill cap were found to generally consist of Sand and Silt mixtures (SM, ML) and Sand and Clay mixtures (SC), and Clays (CL) with significant amounts of gravel and significant amounts of cobbles and boulders encountered in some borings. Some borings encountered crushed stone (CR-6) layers within the soil cap. Existing cap fill soils extended to depths ranging between 1.5 feet and 8 feet. Test pits TP-279, TP-293, and TP-298 terminated in the existing cap soils (i.e. they were not fully penetrated). The existing cap fill depths for each test pit are presented on the following page in Table 1.



Table 1 – Existing Cap Fill Soil Depths

Test Pit	Cap Thickness (ft)	Test Pit	Cap Thickness (ft)	Test Pit	Cap Thickness (ft)
TP-200	NA	TP-243	1.3	TP-286	3.0
TP-201	NA	TP-244	1.0	TP-287	6.5
TP-202	NA	TP-245	1.3	TP-288	2.3
TP-203	NA	TP-246	3.8	TP-289	4.3
TP-204	2.0	TP-247	3.3	TP-290	2.7
TP-205	5.0	TP-248	1.5	TP-291	3.5
TP-206	2.0	TP-249	3.0	TP-292	1.5
TP-207	2.0	TP-250	1.8	TP-293	NP
TP-208	5.0	TP-251	1.0	TP-294	4.0
TP-209	0.9	TP-252	1.5	TP-295	5.0
TP-210	2.5	TP-253	5.5	TP-298	NP
TP-211	1.7	TP-254	3.9	TP-299	2.0
TP-212	1.7	TP-255	3.3	TP-301	5.8
TP-213	2.3	TP-256	4.8	TP-302	2.0
TP-214	3.0	TP-257	1.9	TP-303	4.3
TP-215	5.3	TP-258	4.0	TP-304	1.8
TP-216	2.3	TP-259	6.0	TP-305	3.3
TP-217	4.0	TP-260	4.0	TP-307	3.5
TP-218	4.0	TP-261	6.0	TP-308	3.5
TP-219	4.3	TP-262	2.0	TP-309	3.0
TP-220	3.0	TP-263	6.0	TP-310	1.0
TP-221	1.3	TP-264	3.0	TP-311	1.6
TP-222	1.5	TP-265	3.0	TP-312	3.5
TP-223	0.9	TP-266	2.3	TP-314	3.5
TP-224	2.3	TP-267	2.0	TP-315	1.3
TP-225	0.3	TP-268	3.0	TP-317	3.2
TP-226	1.5	TP-269	2.5	TP-318	2.5
TP-227	2.0	TP-270	3.0	TP-319	1.5
TP-228	3.5	TP-271	2.0	TP-320	3.9
TP-229	5.3	TP-272	3.5	TP-321	1.5
TP-230	2.7	TP-273	6.5	TP-322	2.3
TP-231	5.0	TP-274	4.0	TP-323	4.0
TP-232	3.0	TP-275	3.5	TP-324	2.2
TP-233	2.2	TP-276	3.0	TP-325	2.5
TP-234	3.3	TP-277	1.8	TP-326	3.0
TP-235	2.0	TP-278	2.8	TP-327	3.3
TP-236	2.7	TP-279	NP	TP-329	2.3
TP-237	3.5	TP-280	5.5	TP-330	6.0
TP-238	1.7	TP-281	3.5	TP-331	3.5
TP-239	3.8	TP-282	4.0	TP-332	3.5
TP-240	2.3	TP-283	5.5	TP-333	2.0
TP-241	3.0	TP-284	3.8	TP-334	5.5
TP-242	3.0	TP-285	3.5	TP-335	2.3

Notes: NA = Cap penetrated but no trash encountered; NP = Cap not penetrated



4.2.3 Landfill Trash

Landfill Trash was encountered beneath the existing cap soils in all locations with the exception of test pits TP-200, TP-201, TP-202, TP-203, TP-279, TP-293, and TP-298. The landfill trash generally consisted of various types of debris intermixed with varying amounts of soils. The depth to trash for each test pit are presented on the following page in Table 1.

4.2.4 Residual Soils

Residual soils were encountered beneath the existing cap fill soils in Test Pits TP-200 through TP-203. These soils generally consisted of clay and sand mixtures (USCS: CL) with varying amounts of gravel and extended to the depth of termination where encountered. No landfill trash was encountered in these test pits.

4.2.5 Environmental Screenings

No Combustible Gas or Oxygen readings exceeding the requirements in the Health and Safety Plan were noted during the investigation. All oxygen readings were noted as 20.9% with the exception of test pits performed during a period of precipitation in which slightly lower oxygen levels were noted. It is possible that the precipitation was the cause of the lower level of oxygen. The results of the screening for oxygen and LELs are presented below.

Table 2 – Environmental Monitoring Results

Test Pit	O ₂ (%)	LEL (%)	Test Pit	O ₂ (%)	LEL (%)	Test Pit	O ₂ (%)	LEL (%)
TP-200	20.9	0	TP-243	20.3	0	TP-286	20.9	0
TP-201	20.9	0	TP-244	20.6	0	TP-287	20.9	0
TP-202	20.9	0	TP-245	20.9	0	TP-288	20.9	0
TP-203	20.9	0	TP-246	20.9	0	TP-289	20.9	0
TP-204	20.9	0	TP-247	20.9	0	TP-290	20.9	0
TP-205	20.9	0	TP-248	20.9	0	TP-291	20.9	0
TP-206	20.9	0	TP-249	20.9	0	TP-292	20.9	0
TP-207	20.9	0	TP-250	20.6	0	TP-293	20.9	0
TP-208	20.9	0	TP-251	20.9	0	TP-294	20.9	0
TP-209	20.9	0	TP-252	20.9	0	TP-295	20.9	0
TP-210	20.9	0	TP-253	20.9	0	TP-298	20.9	0
TP-211	20.9	0	TP-254	20.9	0	TP-299	20.9	0
TP-212	20.9	0	TP-255	20.9	0	TP-301	20.9	0

Notes: O₂ = Oxygen; LEL = Lower Explosive limit



Table 2 – Environmental Monitoring Results (cont.)

TP-213	20.9	0	TP-256	20.9	0	TP-302	20.9	0
TP-214	20.9	0	TP-257	20.9	0	TP-303	20.9	0
TP-215	20.9	0	TP-258	20.9	0	TP-304	20.9	0
TP-216	20.9	0	TP-259	20.9	0	TP-305	20.9	0
TP-217	20.9	0	TP-260	20.9	0	TP-307	20.9	0
TP-218	20.9	0	TP-261	20.9	0	TP-308	20.9	0
TP-219	20.9	0	TP-262	20.9	0	TP-309	20.9	0
TP-220	20.9	0	TP-263	20.9	0	TP-310	20.9	0
TP-221	20.9	0	TP-264	20.9	0	TP-311	20.9	0
TP-222	20.9	0	TP-265	20.9	0	TP-312	20.9	0
TP-223	20.9	0	TP-266	20.9	0	TP-314	20.9	0
TP-224	20.9	0	TP-267	20.9	0	TP-315	20.9	0
TP-225	20.9	0	TP-268	20.9	0	TP-317	20.9	0
TP-226	20.9	0	TP-269	20.9	0	TP-318	20.9	0
TP-227	20.9	0	TP-270	20.9	0	TP-319	20.9	0
TP-228	20.9	0	TP-271	20.9	0	TP-320	20.9	0
TP-229	20.9	0	TP-272	20.9	0	TP-321	20.9	0
TP-230	20.9	0	TP-273	20.9	0	TP-322	20.9	0
TP-231	20.9	0	TP-274	20.9	0	TP-323	20.9	0
TP-232	20.9	0	TP-275	20.9	0	TP-324	20.9	0
TP-233	20.9	0	TP-276	20.9	0	TP-325	20.9	0
TP-234	20.6	0	TP-277	20.9	0	TP-326	20.9	0
TP-235	20.6	0	TP-278	20.9	0	TP-327	20.9	0
TP-236	20.6	0	TP-279	20.9	0	TP-329	20.9	0
TP-237	20.9	0	TP-280	20.9	0	TP-330	20.9	0
TP-238	20.9	0	TP-281	20.9	0	TP-331	20.9	0
TP-239	20.9	0	TP-282	20.9	0	TP-332	20.9	0
TP-240	20.9	0	TP-283	20.9	0	TP-333	20.9	0
TP-241	20.4	0	TP-284	20.9	0	TP-334	20.9	0
TP-242	20.3	0	TP-285	20.9	0	TP-335	20.9	0

Notes: O₂ = Oxygen; LEL = Lower Explosive limit

4.2.7 Ground Water Conditions

Static groundwater was not observed in any of the test pits. Subsurface water levels will fluctuate with changes in rainfall and runoff, construction and development activities, and other causes. Future groundwater levels across the site should be expected to vary from those noted during the recent exploration program.



4.2.8 Laboratory Test Results

The completed laboratory index tests performed on samples of the existing cap fill soils are summarized on the following Table 1 - Laboratory Test Results. The laboratory results are presented in graphic form in **Appendix B**.

Table 3 – Laboratory Test Results

Boring	Sample Depth (ft)	USCS Class.	In-Place Moisture (%)	Atterberg Limits			- #200 Sieve (%)	Modified Proctor ⁽¹⁾	
				LL	PL	PI		MDD (pcf)	OMC (%)
TP-208	0.0 - 2.0	SM	27.6	36	26	10	48	118.7	13.3
TP-215	0.0 - 2.0	ML	29.8	36	25	11	62	115.0	14.4
TP-228	0.0 - 2.0	ML	26.3	40	27	13	71	112.9	15.5
TP-231	0.0 - 2.0	ML	28.9	34	24	10	62	118.2	13.6
TP-241	0.0 - 2.0	ML	29.7	38	31	7	52	121.7	9.0
TP-253	0.0 - 2.0	SM	24.1	35	29	6	41	119.4	12.4
TP-258	0.0 - 2.0	ML	26.0	37	26	11	60	115.8	13.8
TP-259	0.0 - 2.0	ML	31.0	49	37	12	54	108.4	17.8
TP-263	0.0 - 2.0	SM	31.0	36	30	6	41	117.6	10.5
TP-273	0.0 - 2.0	SM	24.3	30	24	6	49	121.7	12.0

Notes: ⁽¹⁾ Modified Proctor performed in accordance with AASHTO T-180; MDD = Maximum Dry Density, OMC = Optimum Moisture Content

5.0 EVALUATION AND RECOMMENDATIONS

5.1 Topsoil Reuse

Generally, topsoil was encountered sporadically, with most plant covering growing directly in the existing fill soils with no distinct topsoil stratum. As such, the existing topsoil is not expected to be suitable for reuse as topsoil, since it is likely not cost effective to collect. However, it could be mixed with the existing cap fill soils for reuse with them.

5.2 Cap Fill Soil Reuse

The site soils are suitable for reuse as controlled compacted fills. It should be noted that the fill materials may contain minor amounts of trash debris however these are not expected to affect the reusability of the soils. Fill placed at any location requiring stable support or minimal settlement shall be constructed as controlled compacted fill. Compacted fill should be placed in relatively horizontal 8-inch loose lifts. Each lift should be uniformly and evenly bladed and mixed during spreading to ensure uniformity of the material in each layer. Each layer should be compacted to a minimum of 95 percent of the Modified Proctor maximum dry density as determined by AASHTO T-180. The moisture content of the materials shall be maintained such that the required degree of compaction can be obtained.



If fills are to be placed on slopes, the original ground should be deeply scarified, or where slopes are steeper than 5 horizontal to 1 vertical, the slope should be stepped or benched, when considered necessary by the Geotechnical Engineer, in order that the placement of fill may be accomplished in horizontal lifts.

5.3 Compaction Moisture Contents

It was noted that the measured natural moisture contents were both higher than the optimum moisture values for most efficient compaction. As a result, drying of excessively wet soils by special manipulation (aerating, discing, etc.) will be required in order to achieve the specified degree of compaction. However it should also be noted that the investigation took place during a period of particularly active precipitation, and the moisture contents obtained may not be indicative of more typical site conditions.

Wet weather could exacerbate the potential compaction difficulties. Cement or lime modification, or mixing with drier or more granular soils, or other methods, could also be used to improve wet or unstable soils at the time of compaction. If earthwork operations are performed during the winter months, the contractor must not work with frozen soils.

5.4 Weather Conditions

Weather (rainfall and freezing) has a huge influence on site earthwork, foundations, and concrete placement. Average monthly weather data reported by the nearest National Oceanic and Atmospheric Administration (NOAA) station, located within Baltimore, provide an insight to the local temperature and precipitation conditions.

Table 4 –Baltimore City NOAA station

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
Precipitation ¹ (in.)	2.84	2.32	3.56	2.99	3.89	3.43	3.85	3.74	3.98	3.16	3.02	3.03	39.81
Below Freezing Days	25	21	14	3	*	0	0	0	0	2	11	21	97

Source: National Oceanic and Atmospheric Administration, minimum 30-year reporting period

¹Adjusted precipitation to reflect rainfall only (excludes frozen precipitation- pellets, sleet and hail).

*Not reported

According to NOAA, the typical monthly precipitation for the reporting station averages from 2.32 inches in February to 3.98 inches in September. The number of days experiencing freezing temperatures varied from 2 days in October to 25 days in January.



6.0 GEOTECHNICAL OBSERVATION AND TESTING

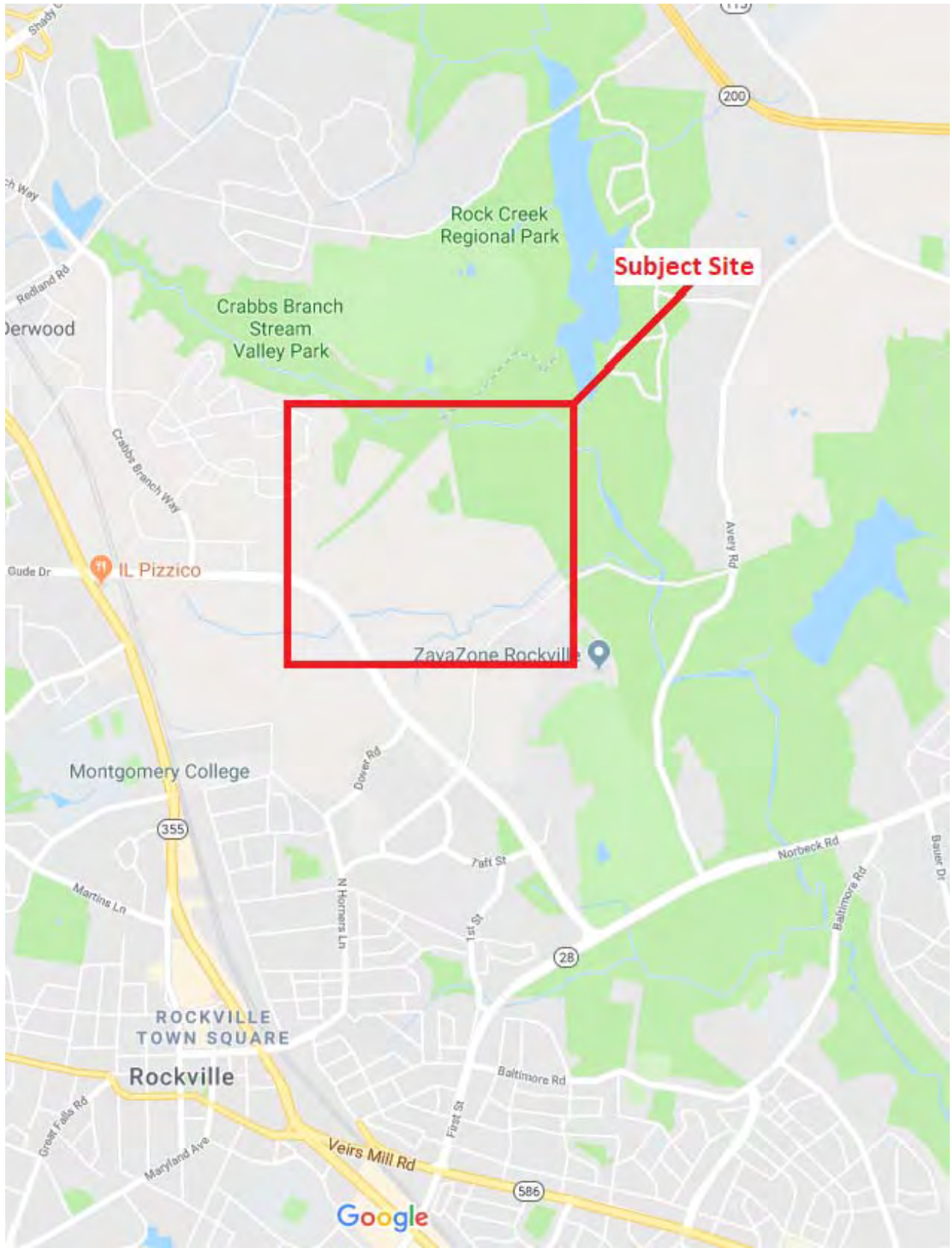
As variations in soil conditions can be expected to some degree on any project, it is strongly recommended that The Robert B. Balter Company, as project geotechnical engineer, provide full time, on-site observation and testing of all soil related aspects of construction. This is to assure compliance with design concepts and recommendations, and to verify that the subsurface conditions are consistent with those anticipated prior to construction.

7.0 GENERAL COMMENTS

The evaluations and recommendations contained in this report were based upon the finite data obtained from the borings which are presented within this report. Although we have described typical variations which may affect the project, there is the possibility that significant unanticipated conditions may be present outside the specific boring locations. The nature and extent of differing subsurface conditions, as well as their impact on the proposed construction, will most likely not be evident until the time of construction. If significant differences are discovered in the field during construction, it may be necessary for us to re-evaluate and revise the contents of this report.

Also, this report specifically excludes exploration, sampling, testing, evaluation and recommendations relating to the presence of hazardous materials or other environmental concerns which could affect future development of the site. The Robert B. Balter Company performs such services and would be pleased to provide a proposal to address your needs.





**Gude Landfill
Rockville, MD**

THE ROBERT B. BALTER COMPANY®
Geotechnical and Geo-environmental Engineers

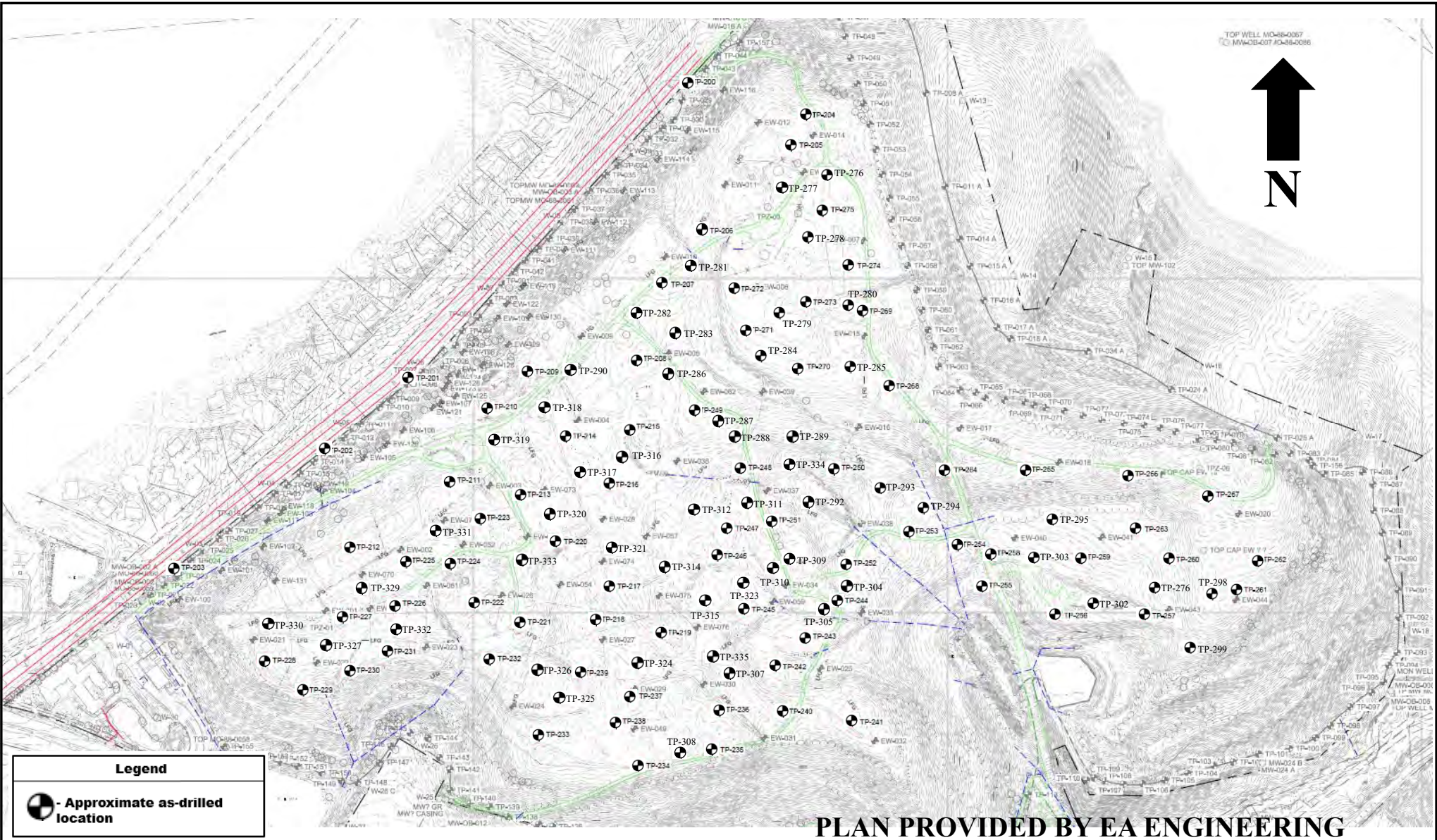
Site Vicinity Map

**Project No.
16943-0**

Scale: None

Date: Sept. 2018

PLATE 1



TOP WELL MW-06-0067
 MW-03-007 ID-88-2086



Legend

- Approximate as-drilled location

PLAN PROVIDED BY EA ENGINEERING

<p>THE ROBERT B. BALTER COMPANY Geotechnical and Geo-environmental Engineers</p>	<p>Gude Landfill Rockville, MD</p>	<p>DRAFT BORING LOCATION PLAN</p>		<p>Project No. 16943-0</p>
		<p>Date: August 2018</p>		<p>Plate 2</p>

APPENDIX A
TEST PIT LOGS



THE ROBERT B. BALTER COMPANY
IDENTIFICATION OF SOIL SAMPLES

Soils are described in the boring logs according to the following criteria with the principal constituents written in capital letters. Other constituents are preceded by descriptive terminology that is used to denote the percentage of weight of each component. Soil descriptions are determined visually except where laboratory classification test data are available. Classifications are based on The Robert B. Balter Company's interpretation of ASTM D 2487-00.

COARSE GRAINED SOIL > 50% Retained on No. 200 Sieve	GRAVEL	0 to 5% Fines	Well Graded		GW	GRAVEL
			Poorly Graded		GP	GRAVEL
		6 to 12% Fines	Silty Fines	Well Graded	GW-GM	GRAVEL with Silt
				Poorly Graded	GP-GM	GRAVEL with Silt
			Clayey Fines	Well Graded	GW-GC	GRAVEL with Clay
				Poorly Graded	GP-GC	GRAVEL with Clay
		13 to 50% Fines	Silty Fines		GM	Silty GRAVEL
			Silty Clay Fines		GC-GM	Silty, Clayey GRAVEL
			Clayey Fines		GC	Clayey GRAVEL
	SAND	0 to 5% Fines	Well Graded		SW	SAND
			Poorly Graded		SP	SAND
		6 to 12% Fines	Silty Fines	Well Graded	SW-SM	SAND with Silt
				Poorly Graded	SP-SM	SAND with Silt
			Clayey Fines	Well Graded	SW-SC	SAND with Clay
				Poorly Graded	SP-SC	SAND with Clay
		13 to 50% Fines	Silty Fines		SM	Silty SAND
Silty, Clayey Fines			SC-SM	Silty, Clayey SAND		
Clayey Fines			SC	Clayey SAND		
FINE GRAINED SOIL ≤ 50% Passing No. 200 Sieve	SILT & CLAY (ILL <50)	Low Plastic Fines, PI<4	Plots below "A" line	ML	SILT	
		Low Plastic Fines, 4≤PI≤7	Plots on or above "A" line	CL-ML	Silty CLAY	
		Plastic Fines, PI>7	Plots on or above "A" line	CL	Lean CLAY	
		Significant Organics, PI<4	Plots below "A" line	OL	Organic SILT	
		Significant Organics, PI≥4	Plots on or above "A" line	OL	Organic CLAY	
	SILT & CLAY (LL ≥50)	Elastic Fines	Plots below "A" line	MH	Elastic SILT	
		Plastic Fines	Plots on or above "A" line	CH	Fat CLAY	
		Significant Organics	Plots below "A" line	OH	Organic SILT	
		Significant Organics	Plots on or above "A" line	OH	Organic CLAY	
HIGHLY ORGANIC SOIL		Dark, highly organic, decomposed vegetative tissue		PT	PEAT	

ADDITIONAL TERMINOLOGY:

Descriptive Components

Descriptive Terms	Proportions
Trace	1 - 5%
Little (Sand, Gravel)	6 - 14%
With (Sand, Gravel)	15 - 30%
With (Silt, Clay)	6 - 12%
Adjective Form (Sandy, Gravelly)	31 - 50%
Adjective Form (Silty, Clayey)	13 - 50%

Density or Consistency

SAND and GRAVEL		SILT and CLAY	
N-Value	Density	N-Value	Consistency
0-4	Very Loose	0-1	Very Soft
5-10	Loose	2-4	Soft
11-30	Medium Dense	5-8	Medium Stiff
31-50	Dense	9-15	Stiff
> 50	Very Dense	16-30	Very Stiff
		> 30	Hard

Fill materials are placed by man, and may be identified by unnatural artifacts, unnatural mixed grain sizes or layering, or trustworthy documentation of fill placement.

Possible Fill materials are difficult to distinguish from natural soils, exhibiting minor distinctions.

Decomposed Rock consists of residual soil with SPT N-values between 50 blows per foot and blows per 4 inches (50/4").

Highly Weathered Rock consists of residual soil with SPT N-values between 50/3" and 50/1".



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PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES _____

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
			SM		Moist, Light Brown, Silty SAND (Fill)
2.5					
			CL		Moist, Reddish Brown, Sandy CLAY
5.0					
7.5					
		Trash Not Encountered			
					Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES _____

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
					Topsoil
			CL		Moist, Reddish Brown, Sandy CLAY (Fill)
					Moist, Reddish Brown, Sandy CLAY
2.5					
			CL		
5.0					
		Trash Not Encountered			
7.5					
					Bottom of test pit at 8.0 feet
8.0					



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DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES _____

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
0.1					Topsoil
			CL		Moist, Light Brown, Sandy CLAY (Fill)
1.8					Moist, Red Brown, Sandy CLAY (Fill)
2.5					
5.0			CL		
7.5					
8.0		Trash Not Encountered			Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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EXCAVATION CONTRACTOR The Robert B. Balter Company

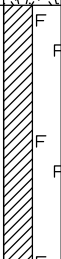

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES _____

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
0.1					Topsoil
			CL		Moist, Reddish Brown, Sandy CLAY (Fill)
2.0					Moist, Reddish Brown, Sandy CLAY
2.5					
5.0			CL		
7.5					
8.0		Trash Not Encountered			Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.11148 Long: -77.13783

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
4.5				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.11118 Long: -77.13796

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				Trash
5.5				Bottom of test pit at 5.5 feet

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DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11053 Long: -77.13894

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet



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DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company



EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11008 Long: -77.13921

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 2.5 feet



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DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10939 Long: -77.13972

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			SM		Moist, Light Brown, Silty SAND
5.0					Trash
6.0					Bottom of test pit at 6.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10926 Long: -77.14083

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 1.5 feet



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DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10896 Long: -77.14148

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10841 Long: -77.14166

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.3 feet



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DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10788 Long: -77.14278

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				Bottom of test pit at 2.5 feet



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DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10826 Long: -77.1409

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.2 feet



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DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10877 Long: -77.14042

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.5 feet
3.5				



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EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10899 Long: -77.13973

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			ML		Moist, Light Brown, Sandy SILT
5.0					Trash
6.5					Bottom of test pit at 6.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10851 Long: -77.13996

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.5 feet



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DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10756 Long: -77.13993

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
4.7				Bottom of test pit at 4.7 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10719 Long: -77.14022

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
5.0				Bottom of test pit at 5.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10721 Long: -77.1394

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.3				Trash
5.0				Bottom of test pit at 5.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10789 Long: -77.14055

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.0				Trash
3.3				Bottom of test pit at 3.3 feet



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DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10726 Long: -77.14095

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 1.7 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-222

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10736 Long: -77.14129

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.0 feet



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TEST PIT TP-223

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10799 Long: -77.14142

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10762 Long: -77.14197

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 2.7 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10778 Long: -77.14199

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 1.7 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10732 Long: -77.14234

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.1 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company



EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10709 Long: -77.14275

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 2.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.1069 Long: -77.14385

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			ML		Moist, Light Brown, Sandy SILT
					Trash
					Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10657 Long: -77.1433

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
5.3				Trash
5.7				Bottom of test pit at 5.7 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

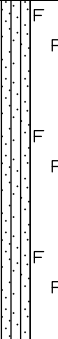
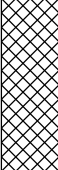
EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10674 Long: -77.14291

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10682 Long: -77.14237

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			ML		Moist, Light Brown, Silty SAND
5.0					Trash
5.5					Bottom of test pit at 5.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10691 Long: -77.1414

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.0				Trash
3.3				Bottom of test pit at 3.3 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10613 Long: -77.14079

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10595 Long: -77.13967

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.3				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10613 Long: -77.13878

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 2.7 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10645 Long: -77.13873

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10652 Long: -77.1396

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.0				Bottom of test pit at 4.1 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/18/18 **COMPLETED** 7/18/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10627 Long: -77.13977

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 2.7 feet



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/18/18 COMPLETED 7/18/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10656 Long: -77.14034

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/18/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.8				Trash
5.0				Bottom of test pit at 5.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: N/A Long: N/A

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10637 Long: -77.13711

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			ML		Moist, Light Brown, Sandy SILT
					Trash
					Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD _____

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.1065 Long: -77.13825

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10665 Long: -77.13783

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.3 feet



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TEST PIT TP-244

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10739 Long: -77.13747

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 1.4 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10734 Long: -77.13841

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 3.3 feet



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10779 Long: -77.13878

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.8				Trash
5.0				
5.2				
6.2				Bottom of test pit at 6.2 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10806 Long: -77.13856

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
				3.3
				3.5 Trash
				Bottom of test pit at 3.6 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10856 Long: -77.1384

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10801 Long: -77.13895

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.5 feet
3.5				



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10853 Long: -77.13708

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
			1.8	
			2.0	Trash
				Bottom of test pit at 2.0 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10802 Long: -77.13806

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 3.0 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10769 Long: -77.13729

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 2.0 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10805 Long: -77.1365

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			SM		Moist, Light Brown, Silty SAND
5.0					
5.5					Trash
7.5					
10.0					

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

Bottom of test pit at 10.0 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company




EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.107852 Long: -77.13603

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
0.3				Topsoil
2.5		SM		Moist, Reddish Brown, Silty SAND with Gravel (Fill)
3.9				Trash
4.3				Bottom of test pit at 4.3 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.107514 Long: -77.135773

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
				Topsoil
				Moist, Brown, Silty SAND with Gravel And Boulders
2.5		SM		
				Bottom of test pit at 3.3 feet
				Trash

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.107207 Long: -77.135056

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
0.3				Topsoil
2.5		SM		Moist, Brown, Silty SAND with Gravel
4.8				Trash
6.5				Bottom of test pit at 6.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10724 Long: -77.134086

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		0.1 Topsoil Dry, Brown, Silty SAND with Gravel
2.5				1.9 Trash
				3.0 Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.107704 Long: -77.135629

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					Topsoil
0.5					Moist, Brown, Sandy SILT
2.5			ML		
4.0					Trash
4.5					Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.107749 Long: -77.134712

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
0.3					Topsoil
2.5			ML		Moist, Brown, Sandy SILT
5.0					
6.0					Trash
6.9					Bottom of test pit at 6.8 feet



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PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10566 Long: -77.13373

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Brown, Silty SAND
4.0				Trash
4.5				Bottom of test pit at 4.6 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10746 Long: -77.133188

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
6.0				Trash
6.5				Bottom of test pit at 6.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.107675 Long: -77.133093

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.8 feet



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/16/18 COMPLETED 7/16/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.107969 Long: -77.134034

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
0.5					Topsoil
2.5			SM		Moist, Brown, Silty SAND
5.0					
6.0					Trash
7.5					
10.0					

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

Bottom of test pit at 10.0 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.108534 Long: -77.136183

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Brown, Silty SAND with Boulders
2.5				
				Trash
5.0				
				Bottom of test pit at 5.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.108515 Long: -77.135298

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Reddish Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.7 feet
3.7				

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-266

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.108506 Long: -77.134112

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.2 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/16/18 **COMPLETED** 7/16/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.108229 Long: -77.13338

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/16/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10909 Long: -77.13675

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.5 feet
3.5				



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TEST PIT TP-269

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10985 Long: -77.13716

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10939 Long: -77.1377

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.0				Trash
3.5				Bottom of test pit at 3.5 feet



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TEST PIT TP-271

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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10966 Long: -77.13839

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				2.0
				2.3 Trash
				Bottom of test pit at 2.3 feet



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TEST PIT TP-272

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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/17/18 COMPLETED 7/17/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10686 Long: -77.1832

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
1.0		GM		Moist, Gray, Silty GRAVEL
1.5				Moist, Light Brown, Silty SAND
2.5		SM		
3.5				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10993 Long: -77.13773

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	TESTS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5			CL		Moist, Reddish Brown, Sandy CLAY
5.0					Trash
6.5					
7.0					Bottom of test pit at 7.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11031 Long: -77.13718

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/17/18 **COMPLETED** 7/17/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11088 Long: -77.13745

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/17/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11103 Long: -77.13744

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.8 feet
3.8				

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11097 Long: -77.13793

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		GM		Crushed Stone
			0.9	
		SM		Moist, Light Brown, Silty SAND
			1.8	
				Trash
2.5			2.7	
				Bottom of test pit at 2.7 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11052 Long: -77.13746

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 3.7 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10976 Long: -77.13802

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5					
5.0			SM		
7.5					
		Trash Not Encountered			
					Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10993 Long: -77.1375

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
				Asphalt Debris
				Moist, Light Brown, Silty SAND with variable amounts of garbage
2.5		SM		
				Trash
5.0				
				Bottom of test pit at 6.5 feet
6.5				

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.11028 Long: -77.1391

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.8				Bottom of test pit at 4.8 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10991 Long: -77.13948

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				Trash
				Bottom of test pit at 5.3 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10964 Long: -77.13941

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
5.5				Trash
7.0				Bottom of test pit at 7.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10951 Long: -77.13799

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.8				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10952 Long: -77.13738

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.7				Bottom of test pit at 4.7 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10932 Long: -77.13918

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.7 feet
3.7				

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.1089 Long: -77.13878

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
6.5				Trash
7.5				Bottom of test pit at 7.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10865 Long: -77.13855

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10885 Long: -77.13804

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.3				Trash
5.0				
6.5				Bottom of test pit at 6.5 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10935 Long: -77.14033

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10877 Long: -77.13928

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
5.0				Bottom of test pit at 5.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10834 Long: -77.13774

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.1085 Long: -77.13673

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5					
5.0			SM		
7.5					
8.0		Trash Not Encountered			Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/19/18 COMPLETED 7/19/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10817 Long: -77.13632

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.1081 Long: -77.13471

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				Trash
6.0				Bottom of test pit at 6.0 feet



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PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/20/18 COMPLETED 7/20/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.1073 Long: -77.13336

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	REMARKS	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0					
2.5					
5.0			SM		
7.5					
8.0		Trash Not Encountered			Bottom of test pit at 8.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10701 Long: -77.13348

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 2.7 feet



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10739 Long: -77.13395

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
5.8				Trash
7.0				Bottom of test pit at 7.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10737 Long: -77.13473

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10767 Long: -77.13531

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.3				Trash
5.0				Bottom of test pit at 5.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10749 Long: -77.13753

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/20/18 COMPLETED 7/20/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.1074 Long: -77.13733

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.3				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10668 Long: -77.13871

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/20/18 COMPLETED 7/20/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10613 Long: -77.13903

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Bottom of test pit at 1.8 feet
				Trash

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10789 Long: -77.13805

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
3.0				
				Bottom of test pit at 3.8 feet
3.8				



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10764 Long: -77.13807

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 4.1 feet
4.1				

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10814 Long: -77.13841

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10807 Long: -77.13892

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-314

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: N/A Long: N/A

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-315

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10742 Long: -77.139

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				
				Bottom of test pit at 3.3 feet



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TEST PIT TP-317

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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/20/18 COMPLETED 7/20/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10847 Long: -77.14028

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-318

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company



EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10904 Long: -77.14062

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.8 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10879 Long: -77.14117

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
				Trash
2.5				Bottom of test pit at 2.5 feet



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TEST PIT TP-320

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10809 Long: -77.14083

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.9				Trash
4.9				Bottom of test pit at 4.8 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-321

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10799 Long: -77.14

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.2 feet



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TEST PIT TP-322

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10762 Long: -77.14041

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10753 Long: -77.1384

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
4.0				Trash
5.0				
5.2				Bottom of test pit at 5.2 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10692 Long: -77.13959

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.1064 Long: -77.14037

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
4.0				Bottom of test pit at 4.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD

DATE STARTED 7/20/18 COMPLETED 7/20/18 GROUND ELEVATION _____ TEST PIT SIZE _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey CHECKED BY K. Crist

NOTES Lat: 39.10673 Long: -77.14073

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				
				Trash
				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10714 Long: -77.14309

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
				Trash
				Bottom of test pit at 4.2 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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TEST PIT TP-329

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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10752 Long: -77.14253

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10728 Long: -77.14366

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
6.0				Trash
7.0				Bottom of test pit at 7.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10803 Long: -77.14175

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.2				Bottom of test pit at 4.2 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10711 Long: -77.1423

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
3.5				Trash
4.5				Bottom of test pit at 4.5 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10778 Long: -77.1409

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.3 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/19/18 **COMPLETED** 7/19/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10849 Long: -77.13795

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/19/18		0 ∇			NE	

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
2.5		SM		Moist, Light Brown, Silty SAND
5.0				
5.5				Trash
6.0				Bottom of test pit at 6.0 feet



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CLIENT EA Engineering, Inc. **PROJECT NAME** Gude Landfill

PROJECT LOCATION Montgomery County, Maryland **PROJECT NUMBER** 16943-0 MD

DATE STARTED 7/20/18 **COMPLETED** 7/20/18 **GROUND ELEVATION** _____ **TEST PIT SIZE** _____

EXCAVATION CONTRACTOR The Robert B. Balter Company

EXCAVATION METHOD Case 580N Backhoe

LOGGED BY J. Bailey **CHECKED BY** K. Crist

NOTES Lat: 39.10695 Long: -77.13868

WATER LEVELS

DATE	TIME	ELAPSED HOURS	CASING DEPTH (ft)	HOLE DEPTH (ft)	WATER DEPTH (ft)	WATER ELEV (ft)
7/20/18		0 ∇			NE	

DEPTH (ft)	SAMPLE TYPE NUMBER	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION
0.0				
		SM		Moist, Light Brown, Silty SAND
2.5				Trash
				Bottom of test pit at 3.0 feet

GENERAL BH / TP / WELL 16943-0 GUDE LANDFILL.GPJ ROBERT B BALTER.GDT 9/5/18

APPENDIX B

LABORATORY TEST RESULTS





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SUMMARY OF LABORATORY RESULTS

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CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/31/2018

Borehole	Depth	Sample Number	Liquid Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	AASHTO Classification	ASTM Classification	Water Content (%)	Max Dry Density (pcf)	Optimum Moisture (%)	CBR Value
TP-208	0.0' - 2.0'	BULK	36	10	37.5	48	A-4	SM	27.6	118.7	13.3	
TP-215	0.0' - 2.0'	BULK	36	11	25	62	A-6	ML	29.8	115.0	14.4	
TP-228	0.0' - 2.0'	BULK	40	13	12.5	71	A-6	ML	26.3	112.9	15.5	
TP-231	0.0' - 2.0'	BULK	34	10	19	62	A-4	ML	28.9	118.2	13.6	
TP-241	0.0' - 2.0'	BULK	38	7	12.5	52	A-4	ML	29.7	121.7	9.0	
TP-253	0.0' - 2.0'	BULK	35	6	37.5	41	A-4	SM	24.1	119.4	12.4	
TP-258	0.0' - 2.0'	BULK	37	11	37.5	60	A-6	ML	26.0	115.8	13.8	
TP-259	0.0' - 2.0'	BULK	49	12	37.5	54	A-7-5	ML	31.0	108.4	17.8	
TP-263	0.0' - 2.0'	BULK	36	6	25	41	A-4	SM	31.0	117.6	10.5	
TP-273	0.0' - 2.0'	BULK	30	6	25	49	A-4	SM	24.3	121.7	12.0	

LAB SUMMARY MODIFIED ASTM AASHTO 16943-0 GUDE LANDFILL GPJ MTA REDLINE.GDT 8/6/18



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GRAIN SIZE DISTRIBUTION

TEST METHOD ASTM D422

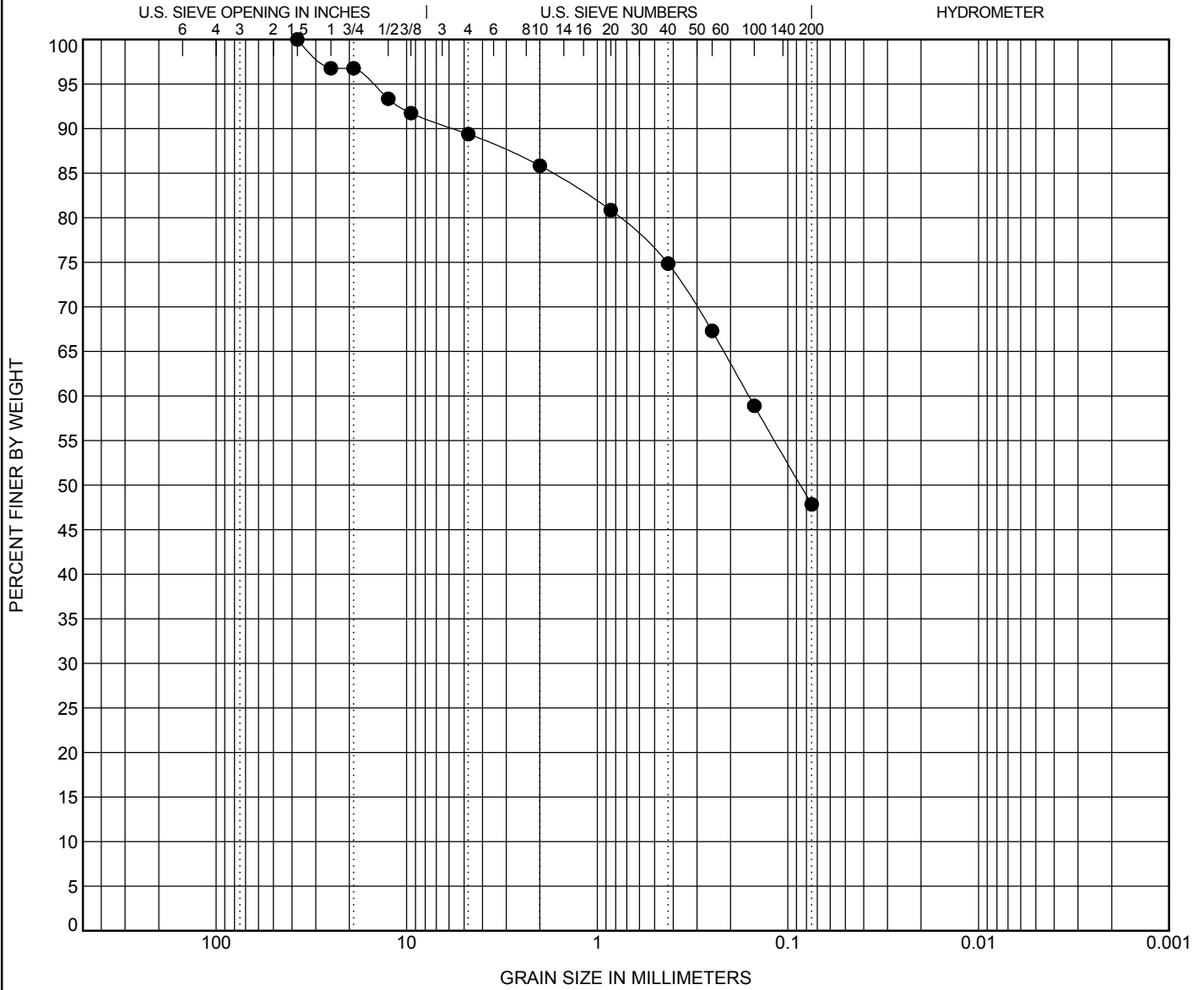
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/31/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-208, BULK	Darek Yellowish Brown SILTY SAND(SM) {A-4, GI=2}					36	26	10		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-208, BULK	37.5	0.16			10.6	41.5	47.8	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18

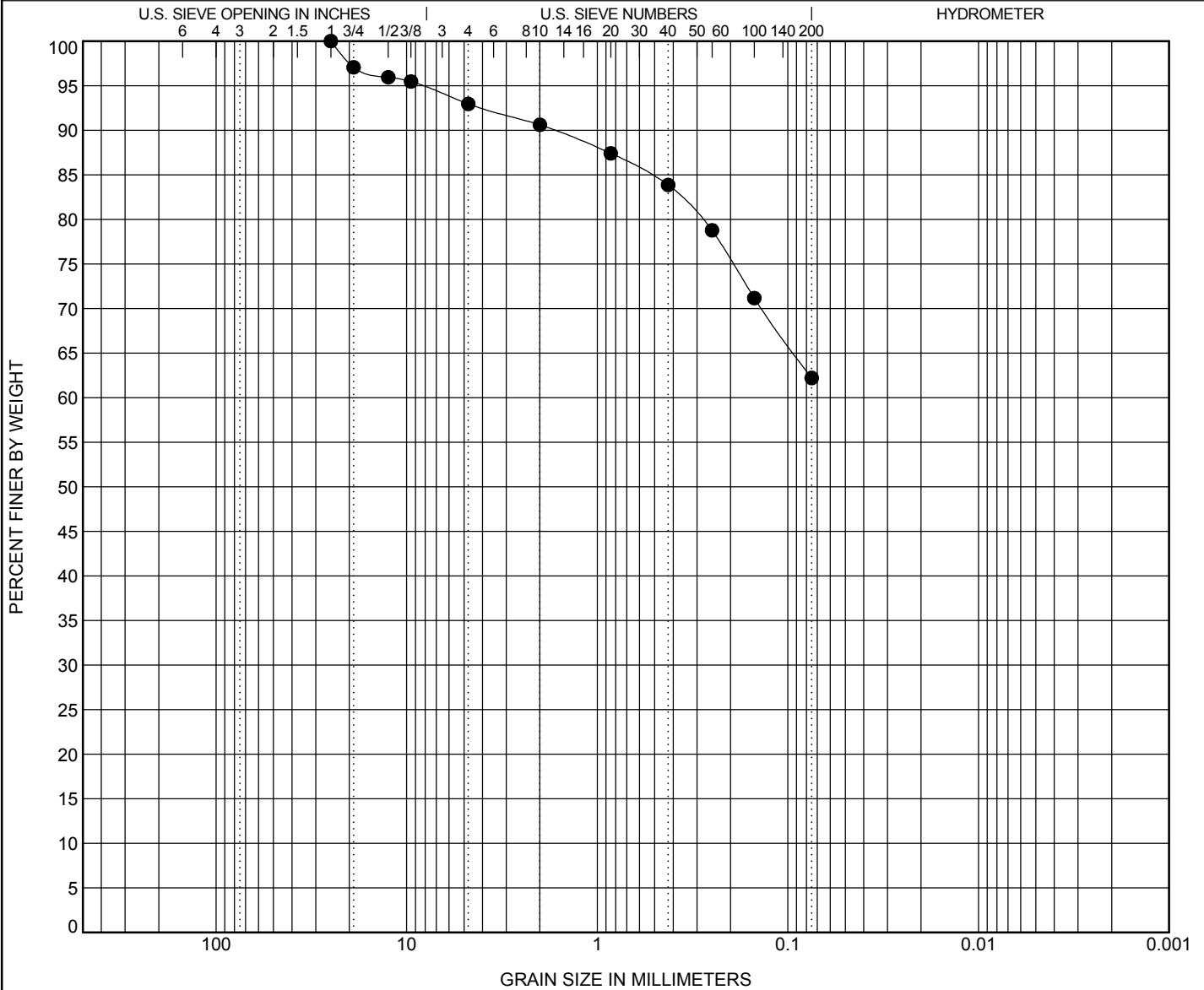


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CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill
 PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD DATE TESTED 7/31/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-215, BULK	Reddish Brown SANDY SILT (ML) {A-6, GI=5}					36	25	11		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-215, BULK	25				7.1	30.7	62.2	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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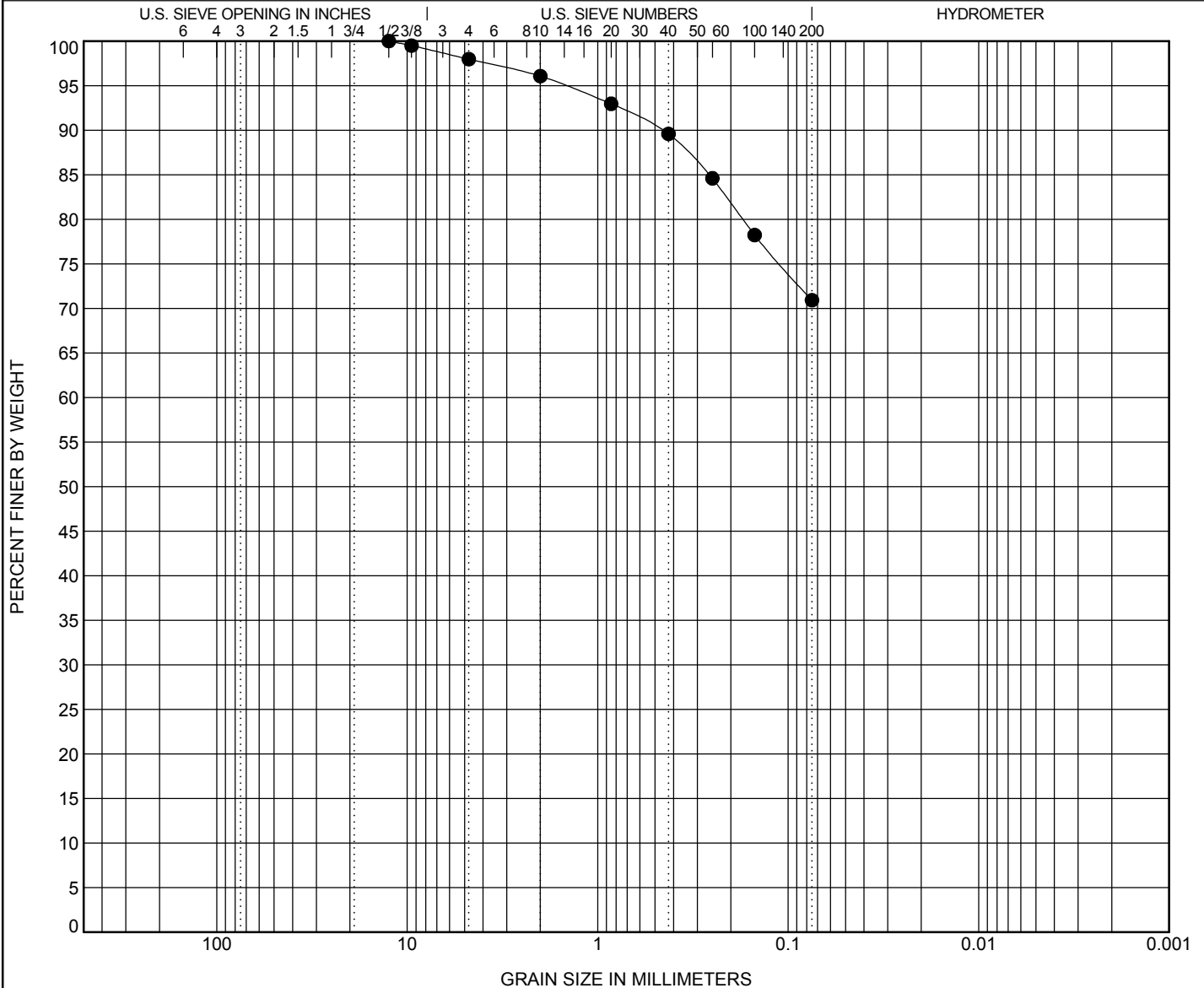
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-228, BULK	Yellowish Red SILT with SAND(ML) {A-6, GI=9}					40	27	13		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-228, BULK	12.5				2.0	27.0	70.9	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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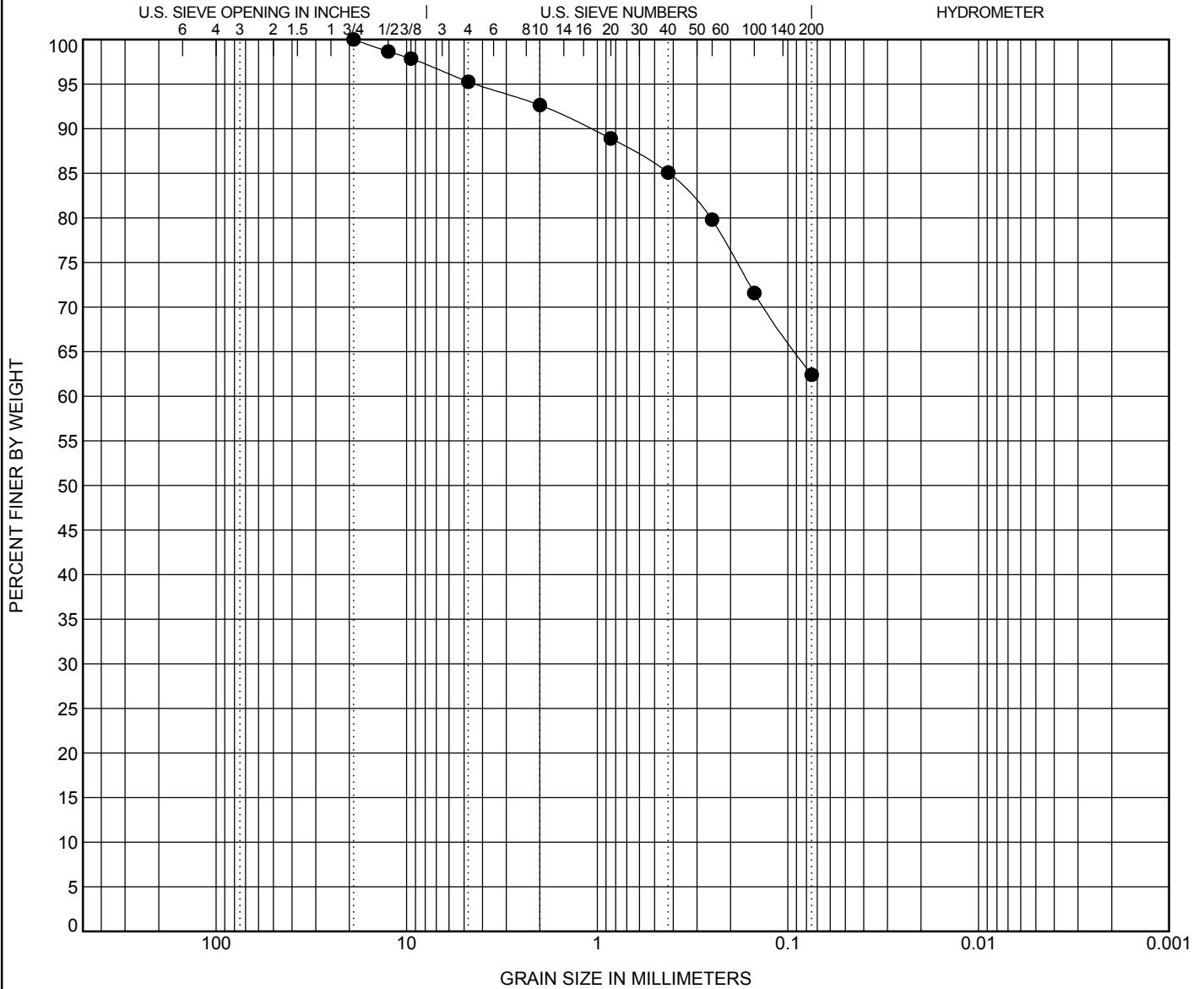
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-231, BULK	Yellowish Red SANDY SILT (ML) {A-4, GI=5}					34	24	10		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-231, BULK	19				4.7	32.9	62.4	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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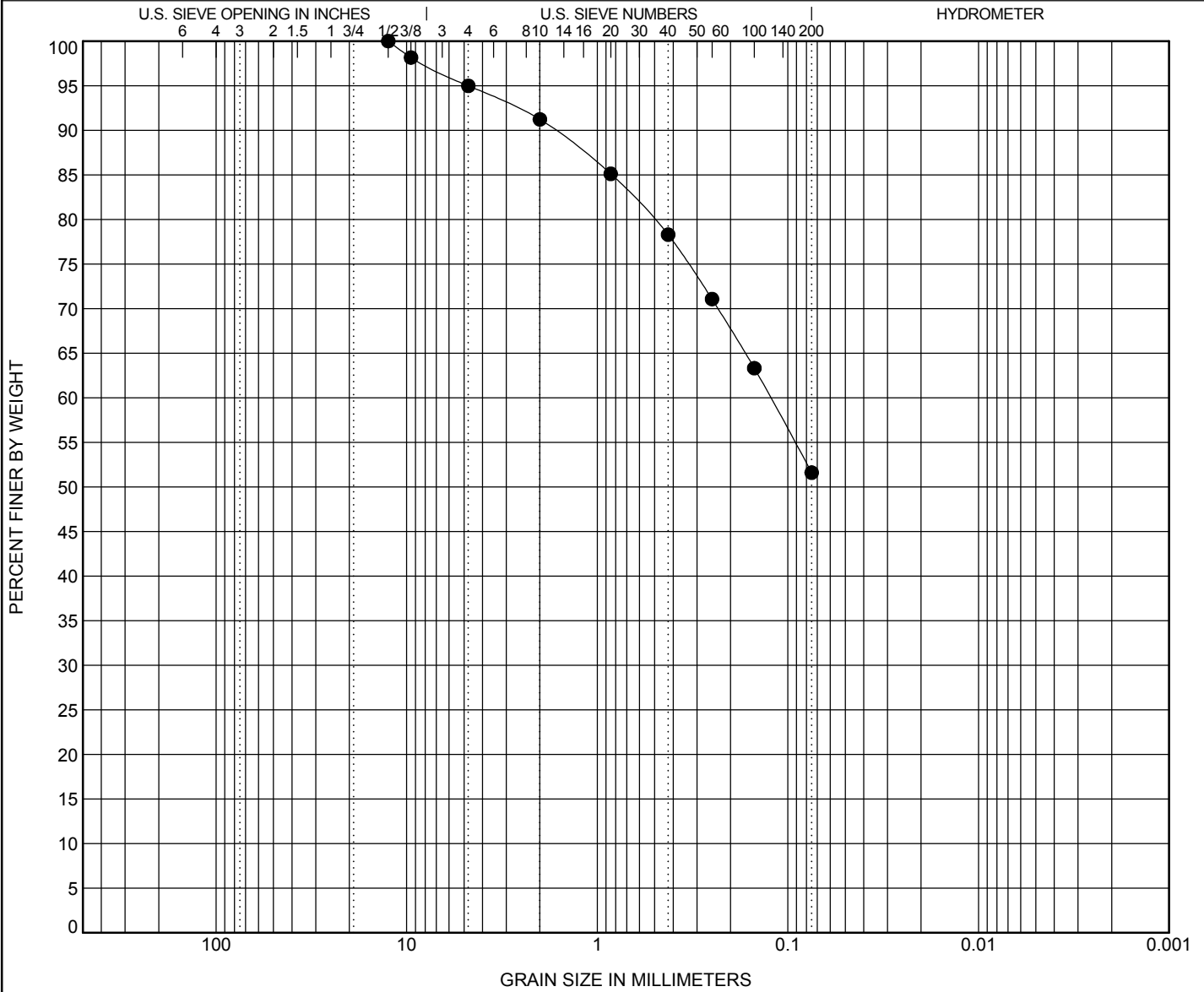
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-241, BULK	Yellowish Red SANDY SILT (ML) {A-4, GI=2}					38	31	7		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-241, BULK	12.5	0.123			5.0	43.4	51.6	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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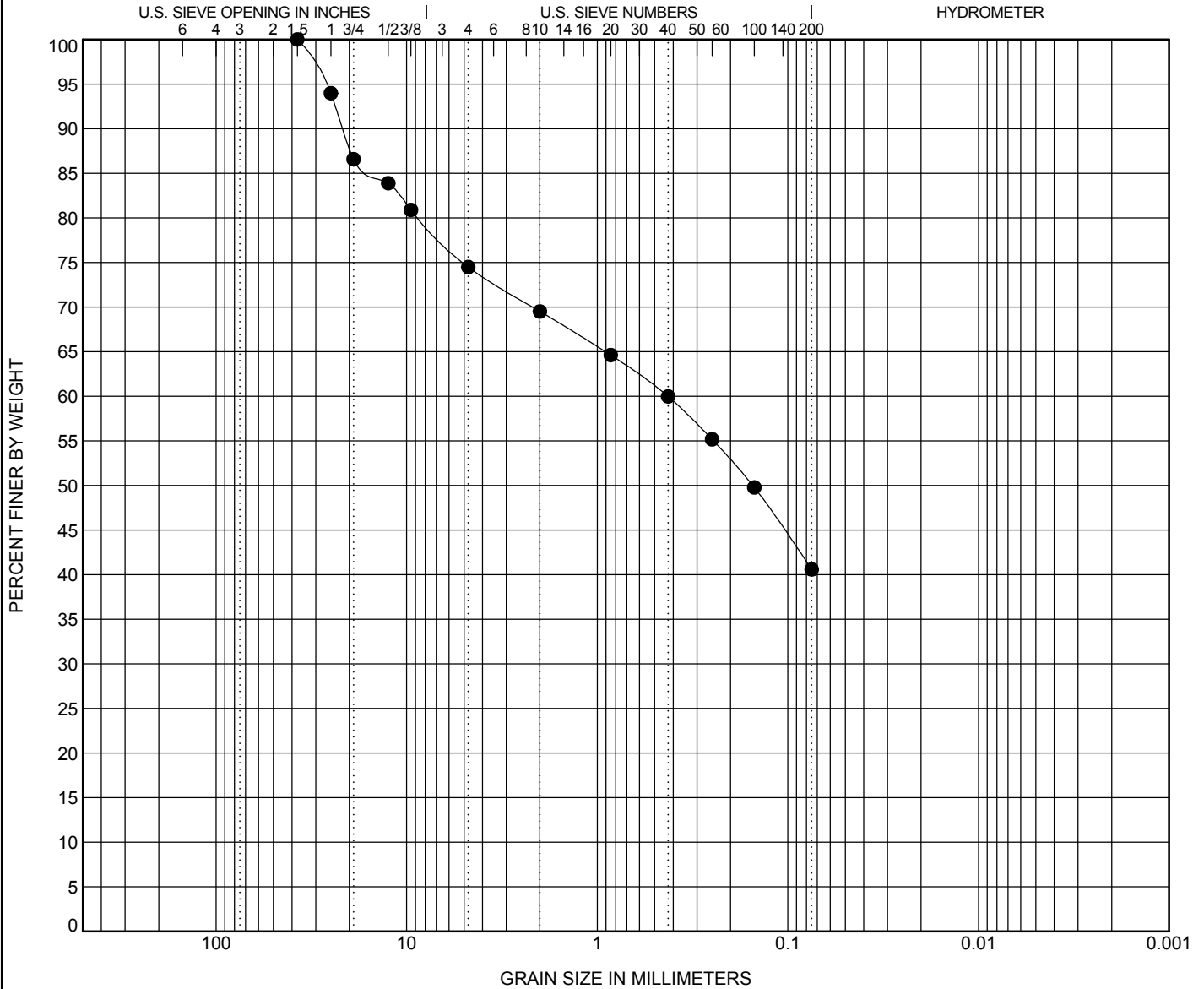
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/27/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-253, BULK	Brown SILTY SAND with GRAVEL(SM) {A-4, GI=0}					35	29	6		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-253, BULK	37.5	0.427			25.5	33.9	40.6	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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TEST METHOD ASTM D422

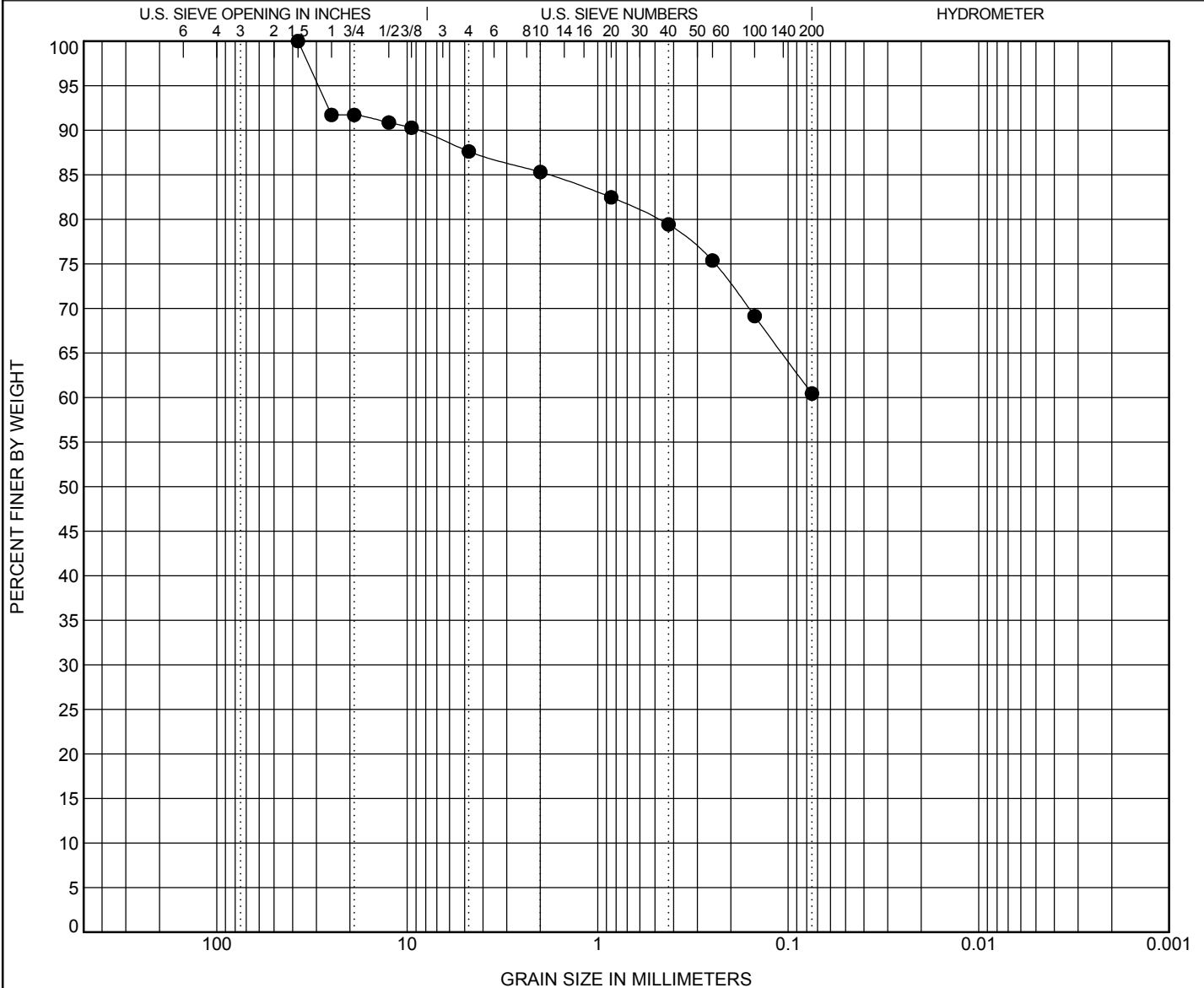
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/30/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-258, BULK	Reddish Brown SANDY SILT (ML) {A-6, GI=5}					37	26	11		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-258, BULK	37.5				12.4	27.2	60.4	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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TEST METHOD ASTM D422

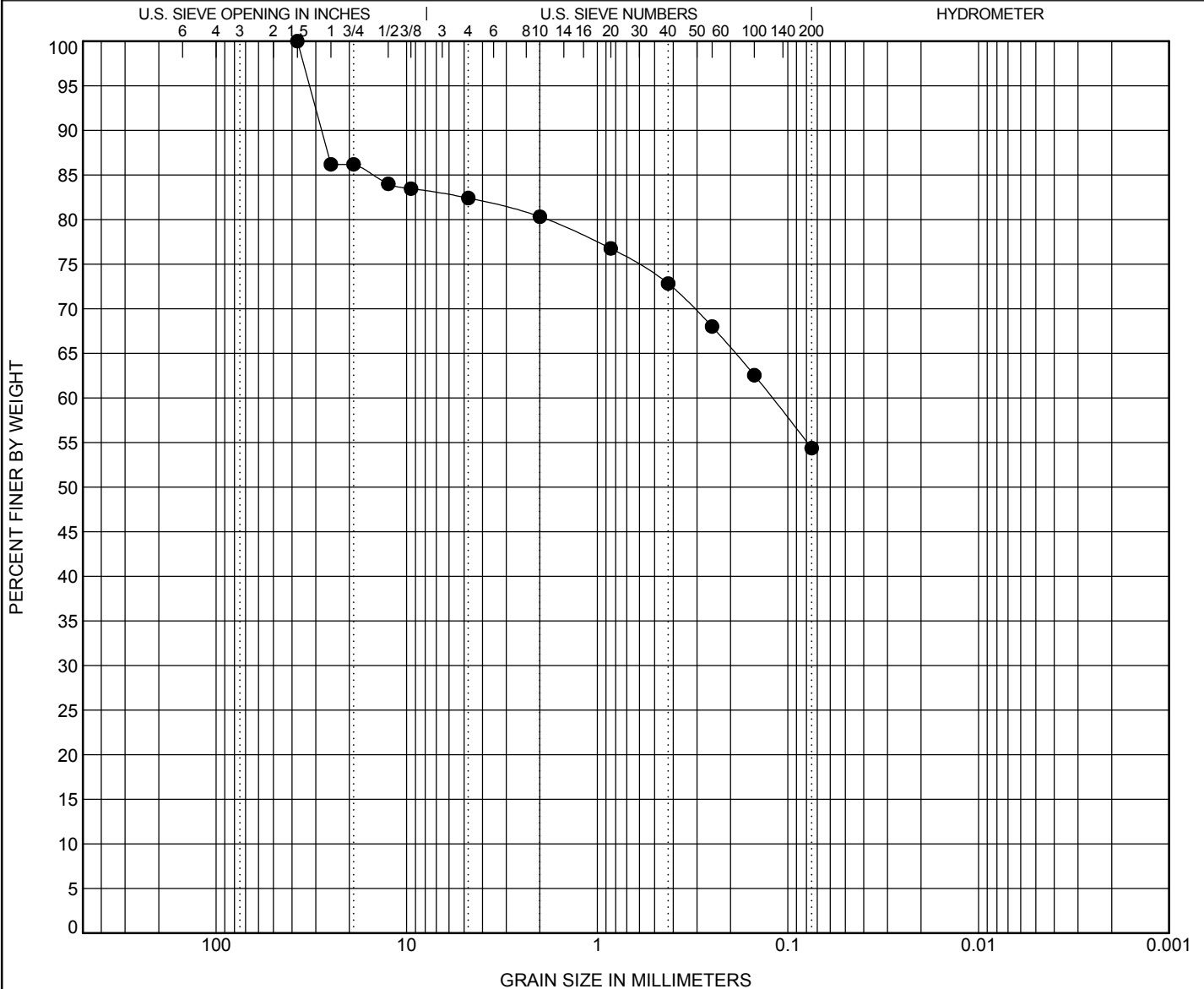
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/28/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-259, BULK	Brown SANDY SILT with GRAVEL(ML) {A-7-5, GI=5}					49	37	12		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-259, BULK	37.5	0.121			17.6	28.0	54.4	

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TEST METHOD ASTM D422

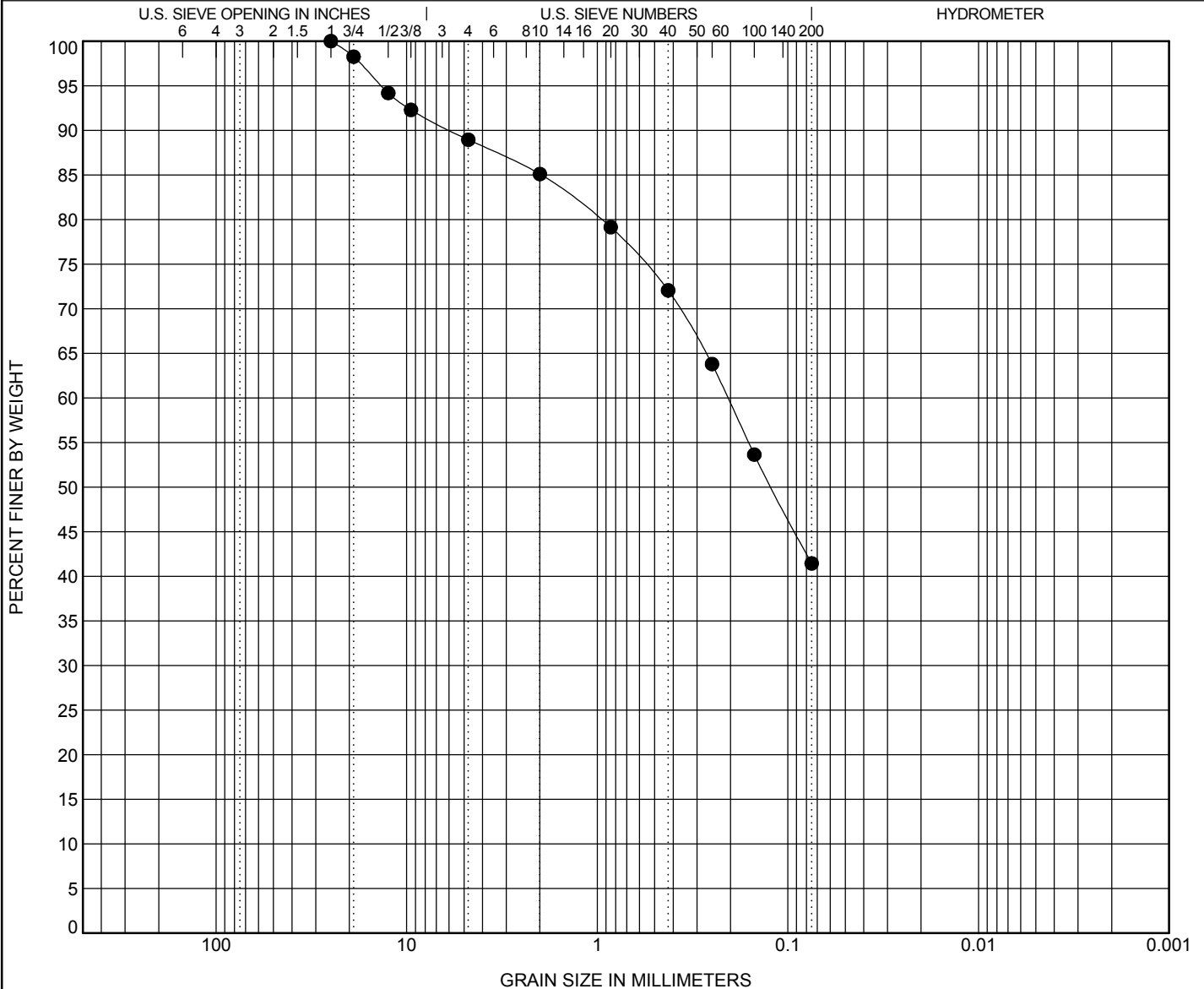
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/30/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-263, BULK	Brown SILTY SAND(SM) {A-4, GI=0}					36	30	6		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-263, BULK	25	0.207			11.1	47.5	41.4	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18

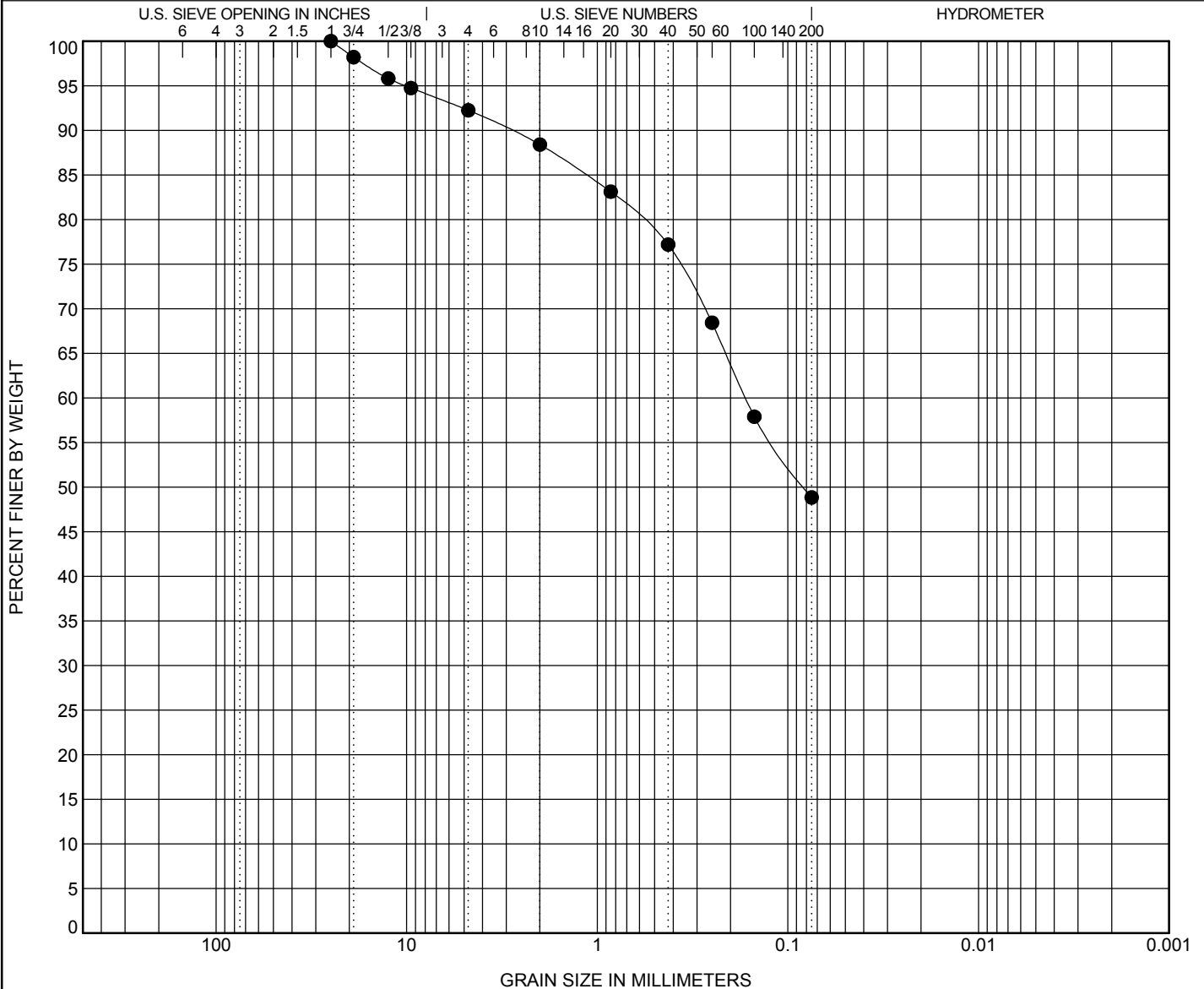


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GRAIN SIZE DISTRIBUTION

TEST METHOD ASTM D422

CLIENT EA Engineering, Inc. PROJECT NAME Gude Landfill
 PROJECT LOCATION Montgomery County, Maryland PROJECT NUMBER 16943-0 MD DATE TESTED 7/27/2018



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Classification					LL	PL	PI	Cc	Cu
● TP-273, BULK	Red SILTY SAND(SM) {A-4, GI=1}					30	24	6		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● TP-273, BULK	25	0.166			7.8	43.4	48.8	

COPY OF GRAIN SIZE ASTM AND AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



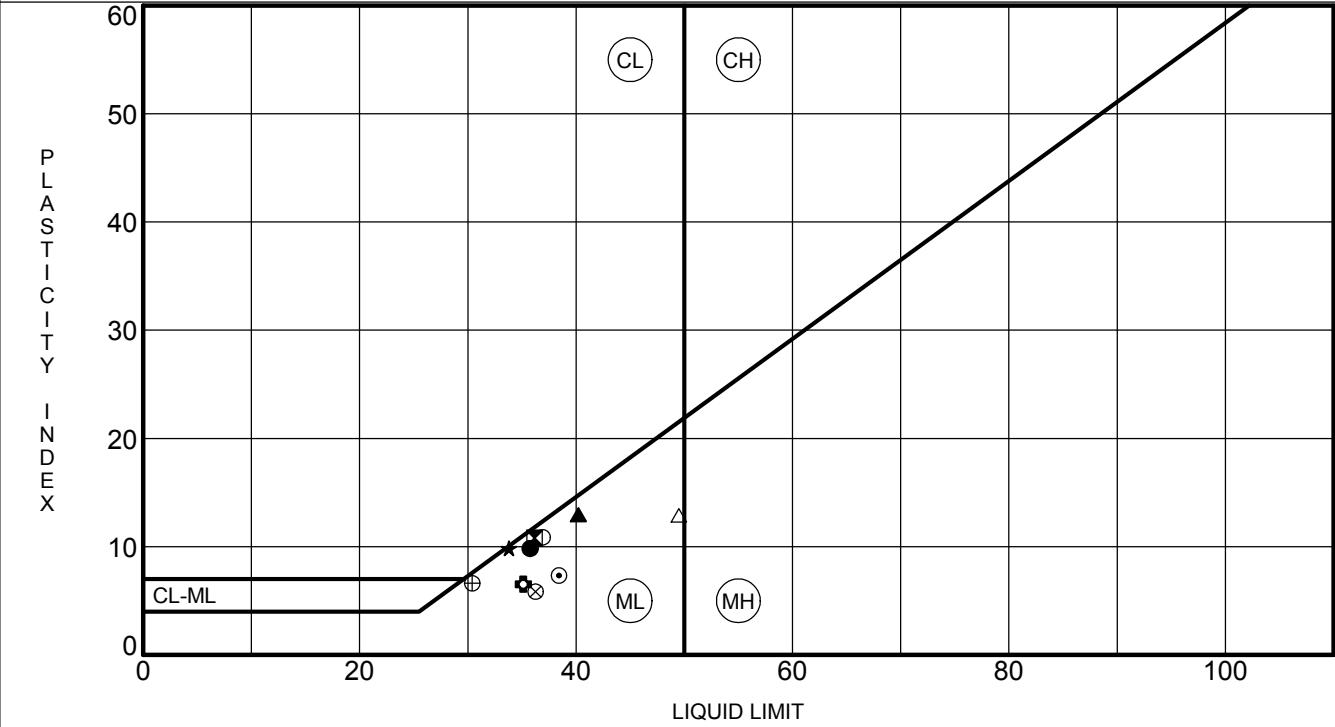
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/27/2018



Specimen Identification	LL	PL	PI	Fines	Classification
● TP-208, BULK @ 0.0' - 2.0',	36	26	10	48	Darek Yellowish Brown SILTY SAND(SM) {A-4, GI=2}
⊗ TP-215, BULK @ 0.0' - 2.0',	36	25	11	62	Reddish Brown SANDY SILT(ML) {A-6, GI=5}
▲ TP-228, BULK @ 0.0' - 2.0',	40	27	13	71	Yellowish Red SILT with SAND(ML) {A-6, GI=9}
★ TP-231, BULK @ 0.0' - 2.0',	34	24	10	62	Yellowish Red SANDY SILT(ML) {A-4, GI=5}
⊙ TP-241, BULK @ 0.0' - 2.0',	38	31	7	52	Yellowish Red SANDY SILT(ML) {A-4, GI=2}
⊕ TP-253, BULK @ 0.0' - 2.0',	35	29	6	41	Brown SILTY SAND with GRAVEL(SM) {A-4, GI=0}
○ TP-258, BULK @ 0.0' - 2.0',	37	26	11	60	Reddish Brown SANDY SILT(ML) {A-6, GI=5}
△ TP-259, BULK @ 0.0' - 2.0',	49	37	12	54	Brown SANDY SILT with GRAVEL(ML) {A-7-5, GI=5}
⊗ TP-263, BULK @ 0.0' - 2.0',	36	30	6	41	Brown SILTY SAND(SM) {A-4, GI=0}
⊕ TP-273, BULK @ 0.0' - 2.0',	30	24	6	49	Red SILTY SAND(SM) {A-4, GI=1}

ATTERBERG ASTM AASHTO 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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MOISTURE-DENSITY RELATIONSHIP

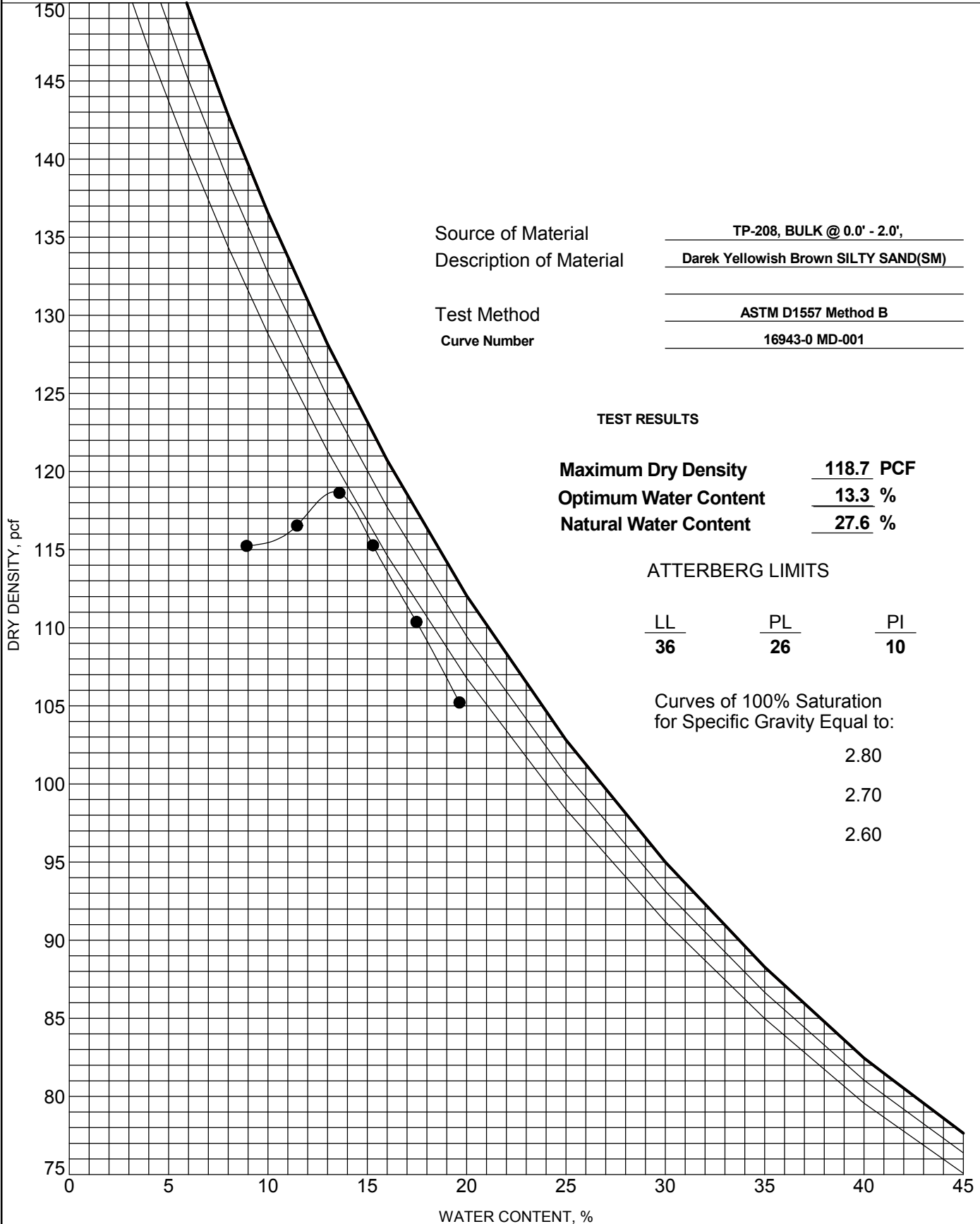
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/31/2018



Source of Material TP-208, BULK @ 0.0' - 2.0',
 Description of Material Darek Yellowish Brown SILTY SAND(SM)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-001

TEST RESULTS

Maximum Dry Density 118.7 PCF
 Optimum Water Content 13.3 %
 Natural Water Content 27.6 %

ATTERBERG LIMITS

LL	PL	PI
<u>36</u>	<u>26</u>	<u>10</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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MOISTURE-DENSITY RELATIONSHIP

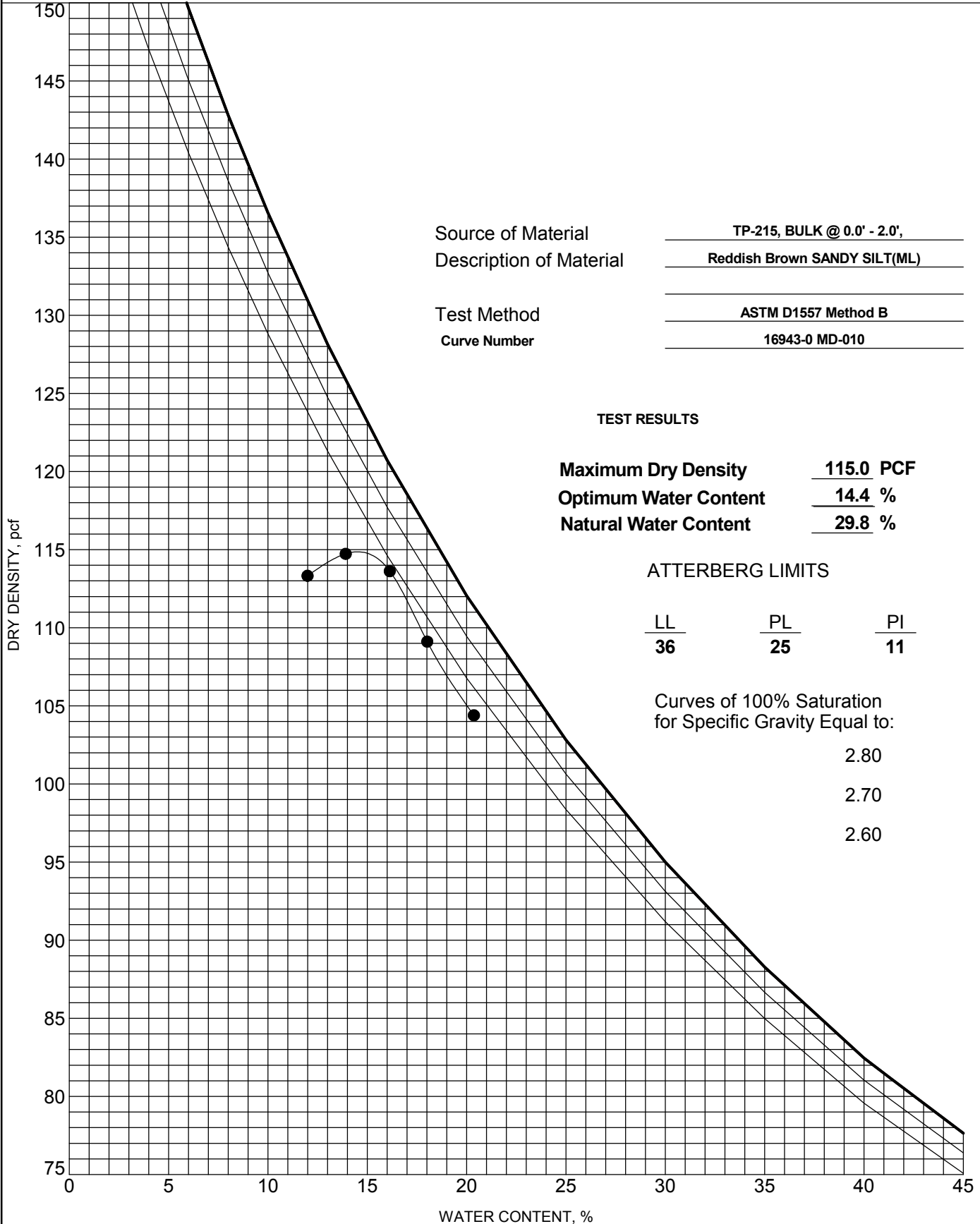
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/31/2018



Source of Material TP-215, BULK @ 0.0' - 2.0',
 Description of Material Reddish Brown SANDY SILT(ML)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-010

TEST RESULTS

Maximum Dry Density 115.0 PCF
 Optimum Water Content 14.4 %
 Natural Water Content 29.8 %

ATTERBERG LIMITS

LL	PL	PI
<u>36</u>	<u>25</u>	<u>11</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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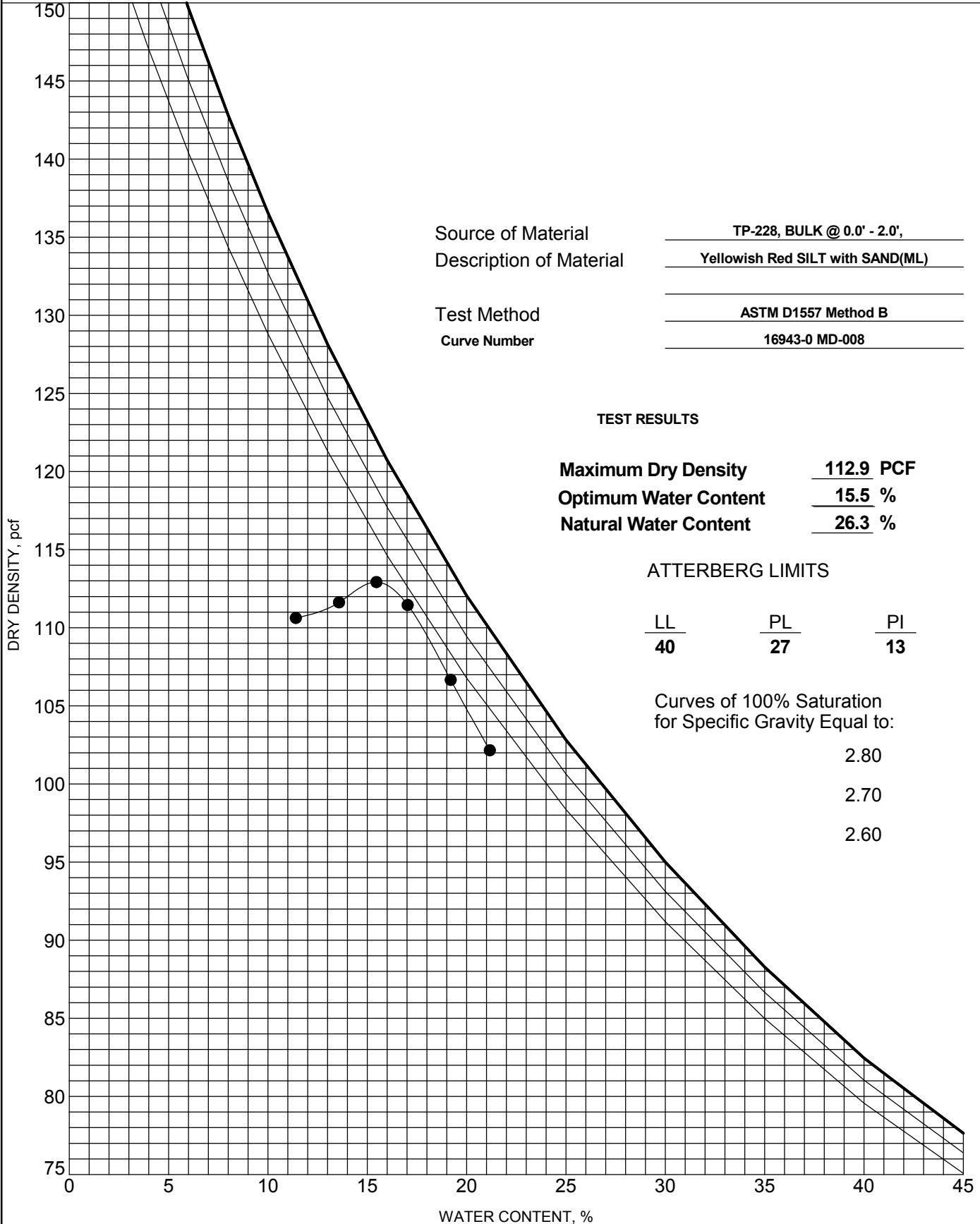
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018





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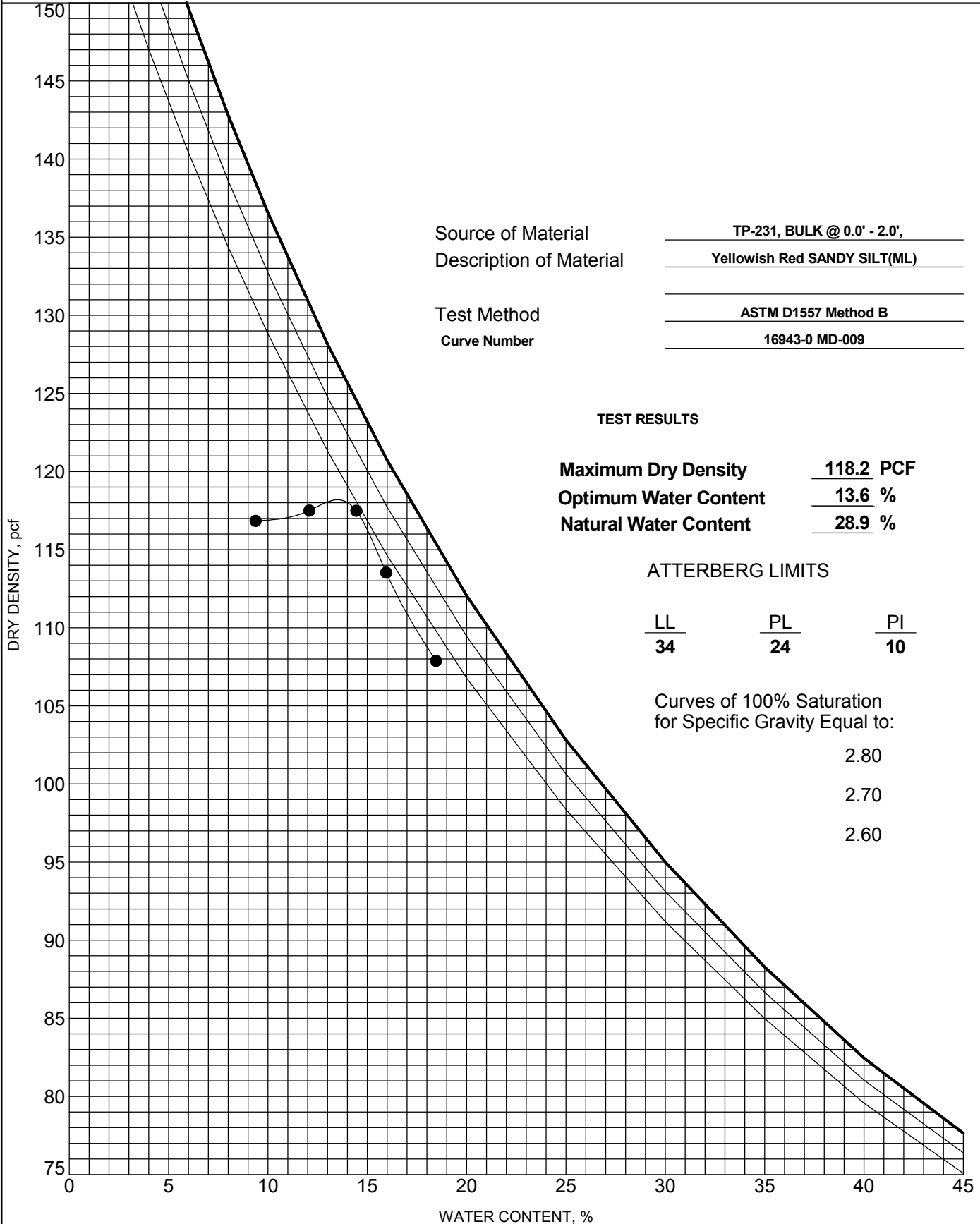
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018



Source of Material TP-231, BULK @ 0.0' - 2.0',
 Description of Material Yellowish Red SANDY SILT (ML)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-009

TEST RESULTS

Maximum Dry Density 118.2 PCF
 Optimum Water Content 13.6 %
 Natural Water Content 28.9 %

ATTERBERG LIMITS

LL	PL	PI
<u>34</u>	<u>24</u>	<u>10</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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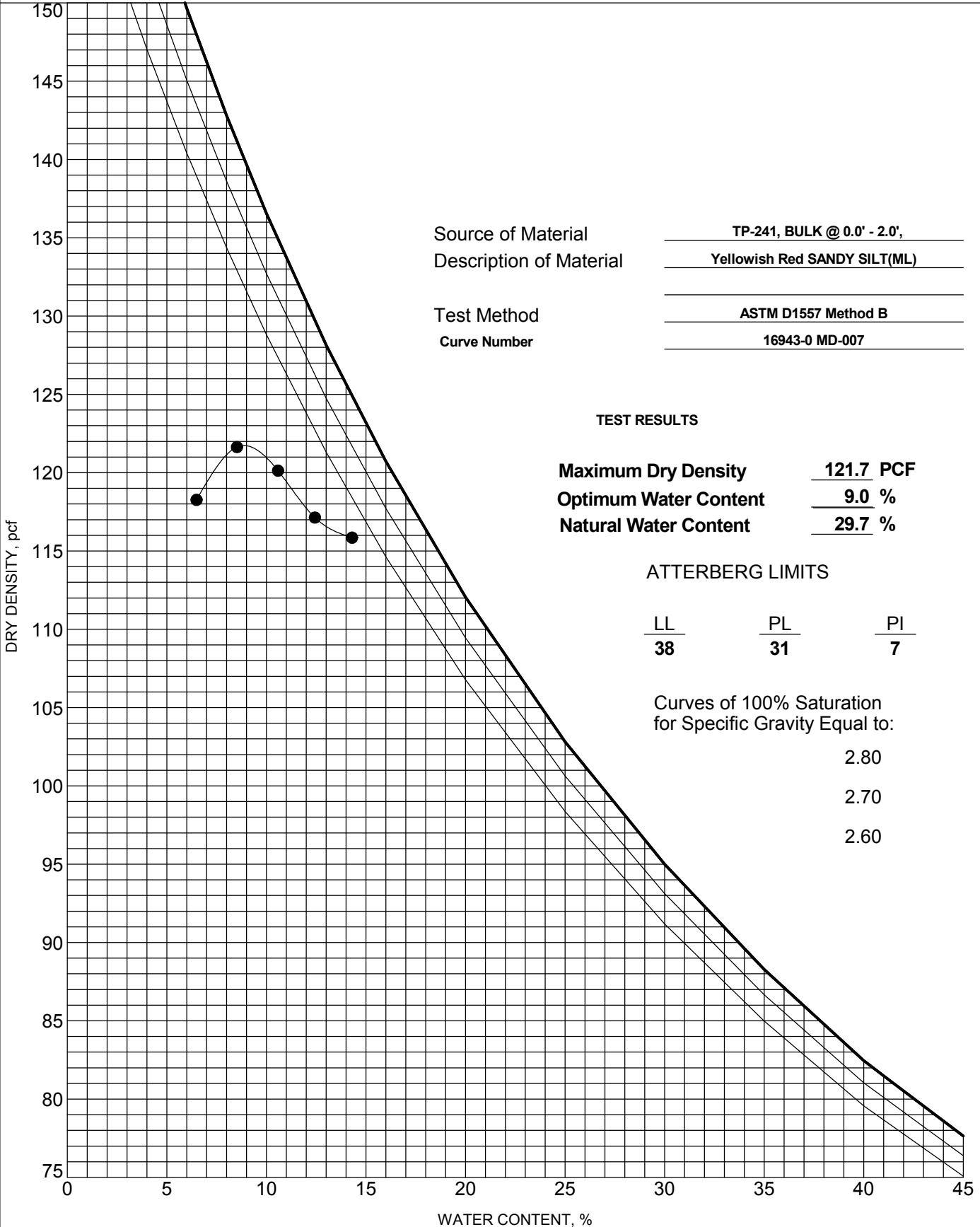
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/29/2018



Source of Material TP-241, BULK @ 0.0' - 2.0',
 Description of Material Yellowish Red SANDY SILT(ML)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-007

TEST RESULTS

Maximum Dry Density 121.7 PCF
 Optimum Water Content 9.0 %
 Natural Water Content 29.7 %

ATTERBERG LIMITS

LL	PL	PI
38	31	7

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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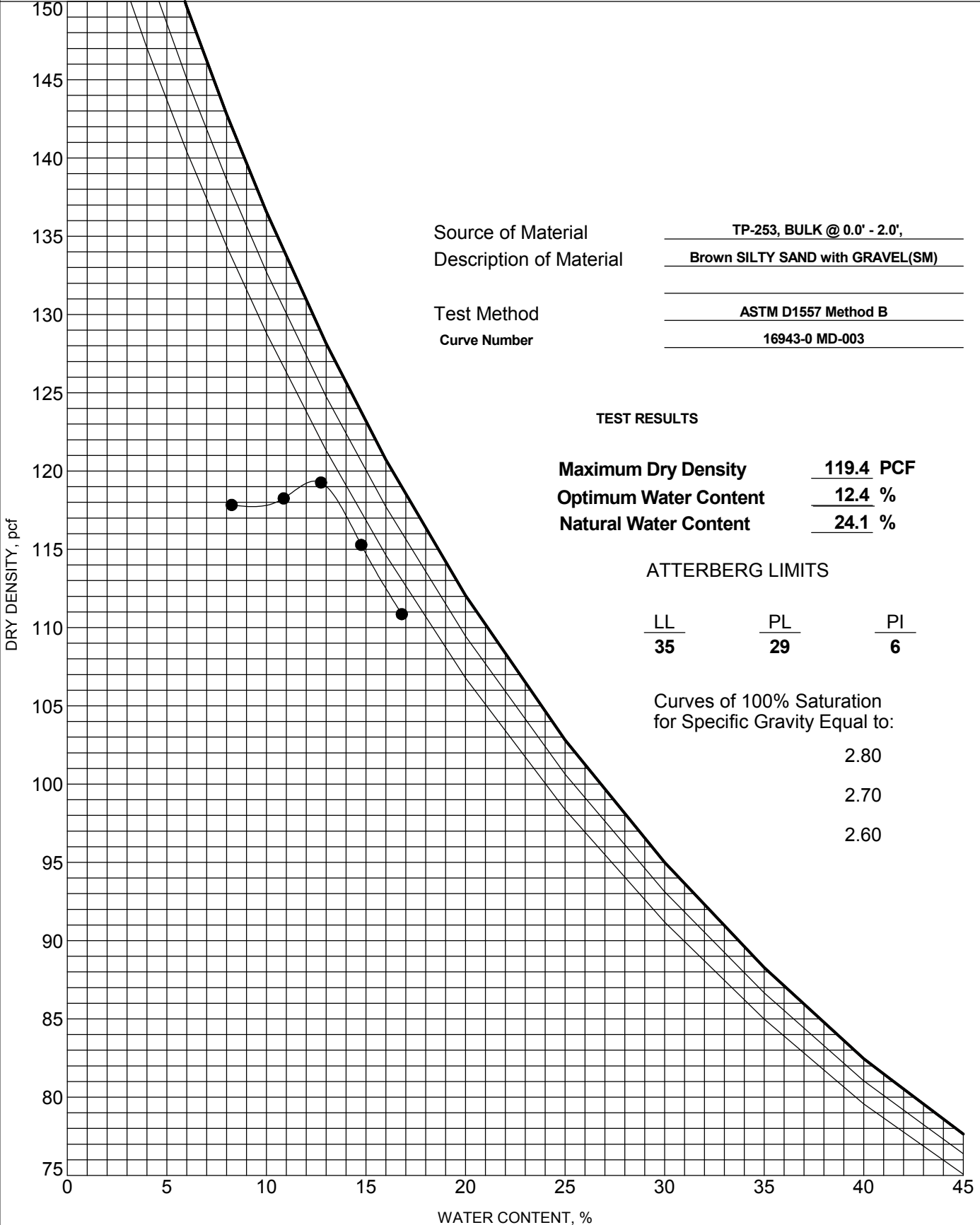
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/27/2018



Source of Material TP-253, BULK @ 0.0' - 2.0',
 Description of Material Brown SILTY SAND with GRAVEL(SM)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-003

TEST RESULTS

Maximum Dry Density 119.4 PCF
 Optimum Water Content 12.4 %
 Natural Water Content 24.1 %

ATTERBERG LIMITS

LL	PL	PI
<u>35</u>	<u>29</u>	<u>6</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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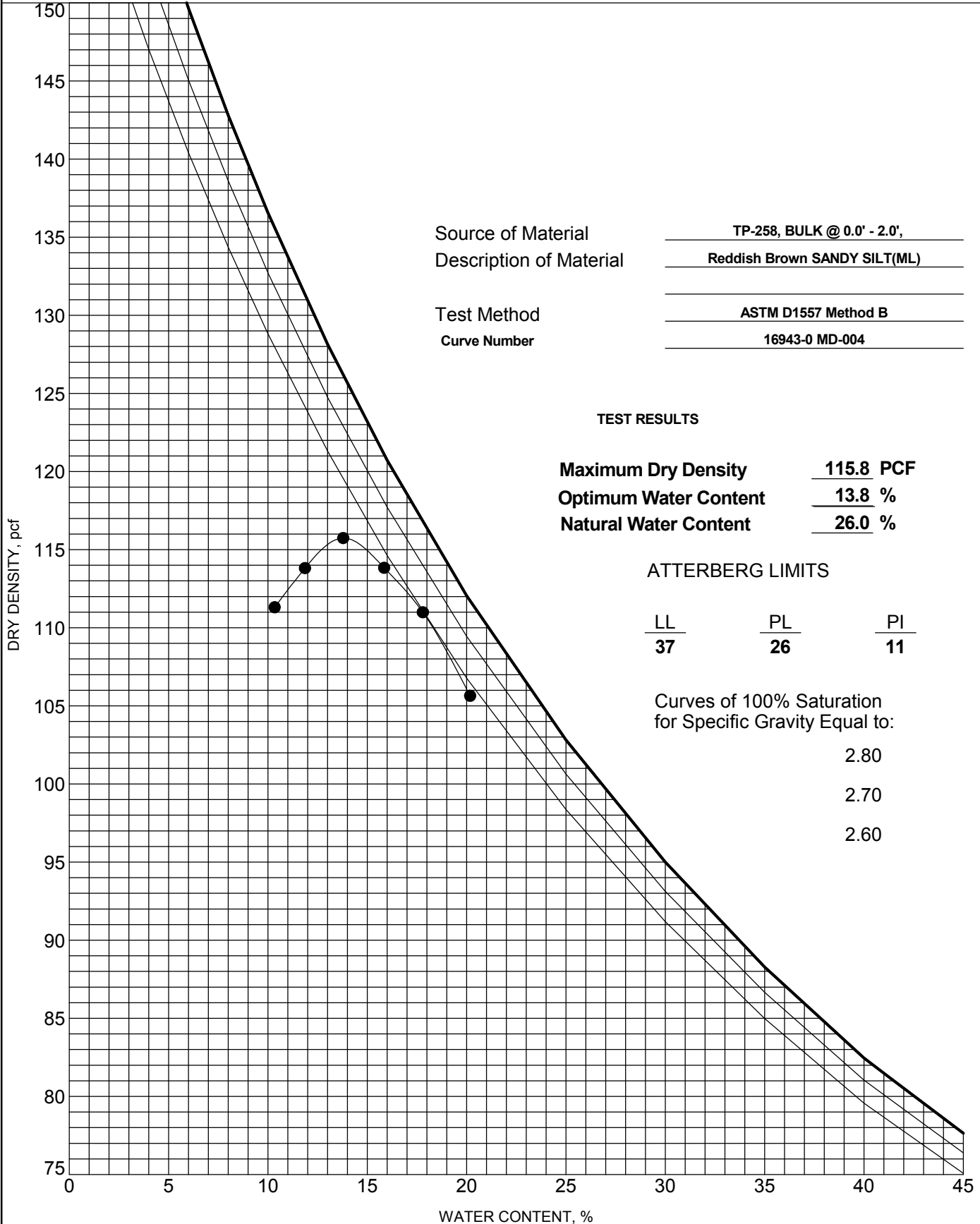
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/30/2018



Source of Material TP-258, BULK @ 0.0' - 2.0',
 Description of Material Reddish Brown SANDY SILT(ML)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-004

TEST RESULTS

Maximum Dry Density 115.8 PCF
 Optimum Water Content 13.8 %
 Natural Water Content 26.0 %

ATTERBERG LIMITS

LL	PL	PI
37	26	11

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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MOISTURE-DENSITY RELATIONSHIP

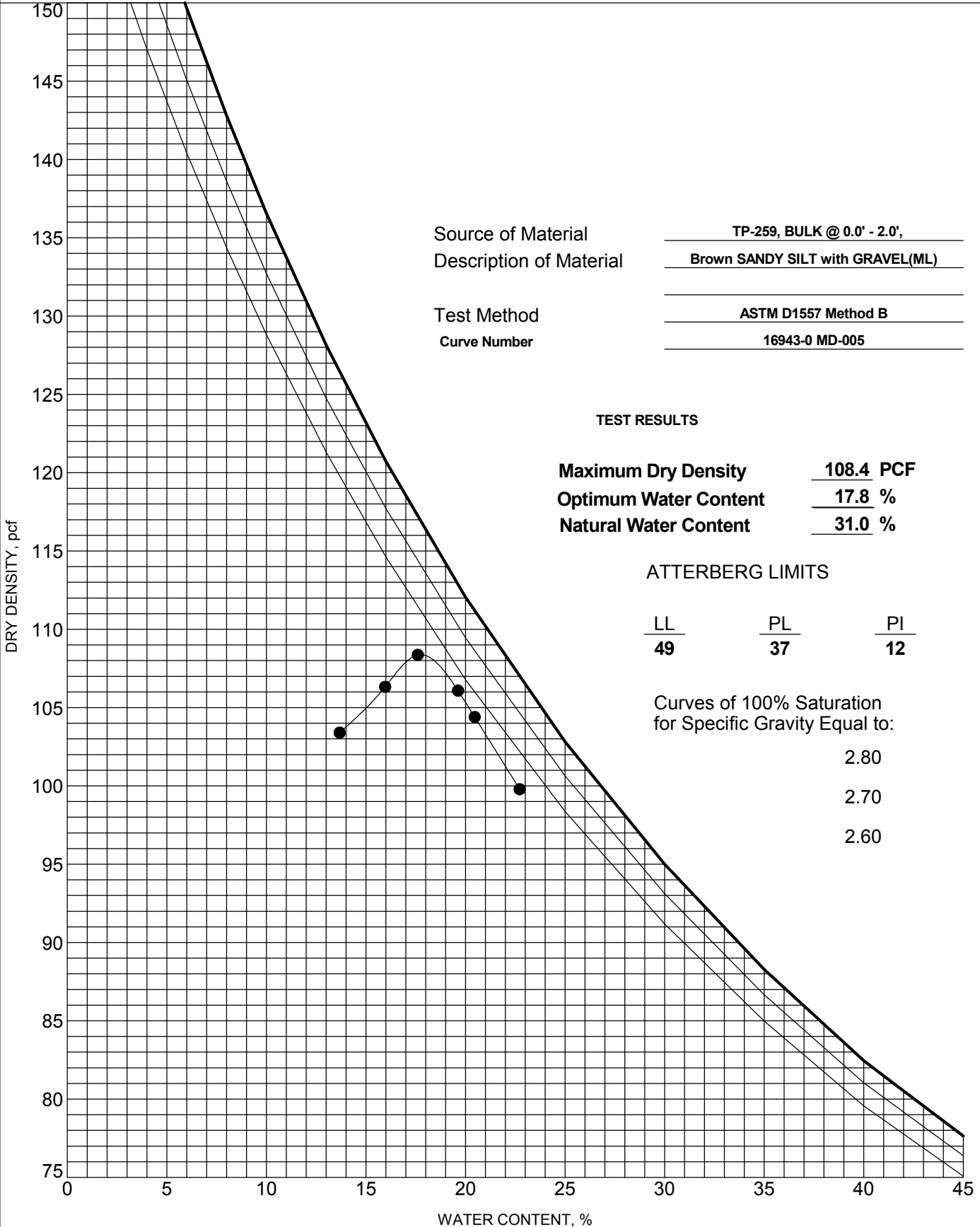
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PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/28/2018



COMPACTION 16943-0 GUDE LANDFILL.GPJ MTA REDLINE.GDT 8/6/18



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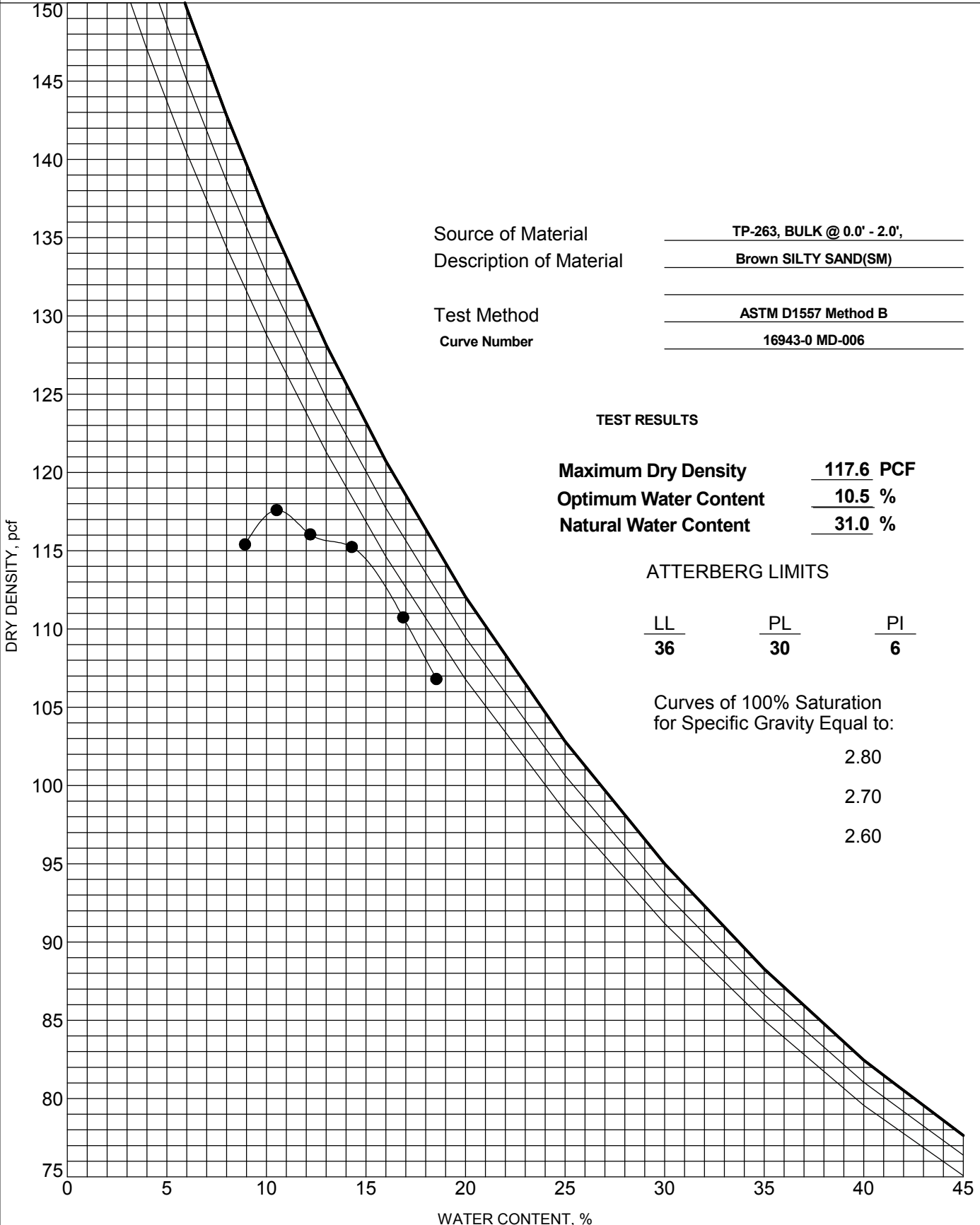
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/30/2018



Source of Material TP-263, BULK @ 0.0' - 2.0',
 Description of Material Brown SILTY SAND(SM)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-006

TEST RESULTS

Maximum Dry Density 117.6 PCF
 Optimum Water Content 10.5 %
 Natural Water Content 31.0 %

ATTERBERG LIMITS

LL	PL	PI
<u>36</u>	<u>30</u>	<u>6</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



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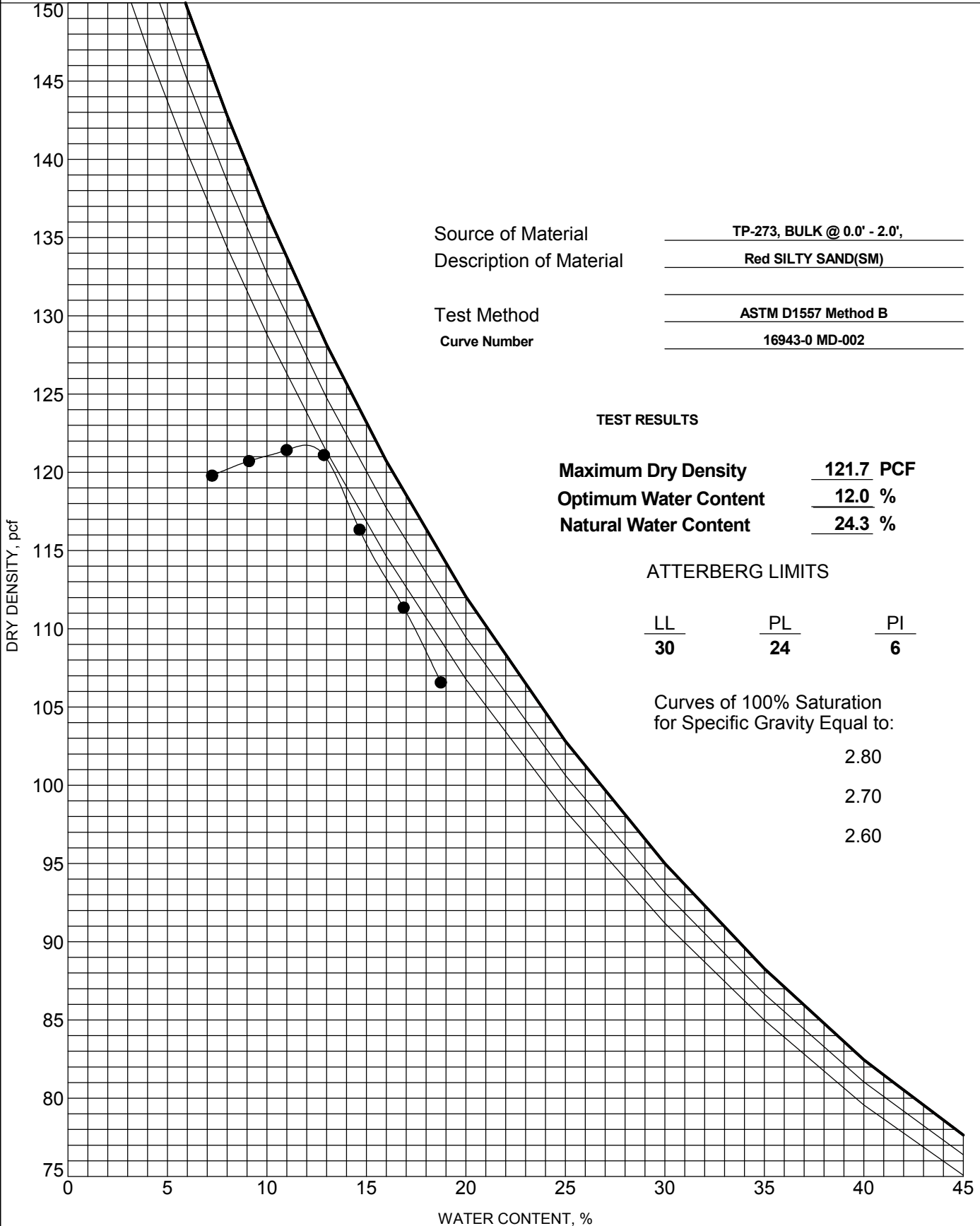
CLIENT EA Engineering, Inc.

PROJECT NAME Gude Landfill

PROJECT LOCATION Montgomery County, Maryland

PROJECT NUMBER 16943-0 MD

DATE TESTED 7/27/2018



Source of Material TP-273, BULK @ 0.0' - 2.0',
 Description of Material Red SILTY SAND(SM)
 Test Method ASTM D1557 Method B
 Curve Number 16943-0 MD-002

TEST RESULTS

Maximum Dry Density 121.7 PCF
 Optimum Water Content 12.0 %
 Natural Water Content 24.3 %

ATTERBERG LIMITS

LL	PL	PI
<u>30</u>	<u>24</u>	<u>6</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60