To: All Plan Holders of Record

From: Verdantas LLC
For the Owner

Re: ***Addendum No. 1***
Township Road 675 (Howard Hill Road Slope Repair)
Colerain Township Trustees

Date: October 30, 2025

This Addendum forms a part of the contract documents and modifies the original bidding documents dated October 2025 and all previous addenda, if any. Acknowledge receipt of this addendum in the space provided in the bid forms. Failure to do so may subject the bidder to disqualification.

SPECIFIC PROJECT REQUIREMENT

Add to the Bid Book Section 7 Specific Project Requirements:

6 – EXPLORATION LOGS

6.1 Exploration Logs dated 3/12/25 by Geo-Technology Associates, Inc. were relied upon by the Engineer in the preparation of drawings and specifications. Copies of the logs are provided but are not considered to be part of the contract documents.

AJS/CG:mep

Enclosures

Z:\Project Files\CA-DZ\Colerain\30446 - TWP 675 Howard Hill\Working\Bid Documents\Addenda\Addendum 01\Addendum 01.Doc

NOTES FOR EXPLORATION LOGS

KEY TO USCS TERMINOLOGY AND GRAPHIC SYMBOLS

MAJOR DIVISIONS (BASED UPON ASTM D 2488)			SYMBOLS GRAPHIC	SYMBOLS LETTER
COARSE - GRAINED SOILS	GRAVEL AND GRAVELY SOILS	CLEAN GRAVELS (LESS THAN 5% PASSING THE NO. 200 SIEVE)		GW
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE			GP
		GRAVELS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)		GM
				GC
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LESS THAN 5% PASSING THE NO. 200 SIEVE)		SW
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE			SP
		SANDS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)		SM
				SC
FINE - GRAINED SOILS	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50	SILT OR CLAY (<15% RETAINED THE NO. 200 SIEVE)		ML
		SILT OR CLAY WITH SAND OR GRAVEL (15% TO 30% RETAINED THE NO. 200 SIEVE)		CL
		SANDY OR GRAVELY SILT OR CLAY (>30% RETAINED THE NO. 200 SIEVE)		OL
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50	SILT OR CLAY (<15% RETAINED THE NO. 200 SIEVE)		MH
		SILT OR CLAY WITH SAND OR GRAVEL (15% TO 30% RETAINED THE NO. 200 SIEVE)		CH
		SANDY OR GRAVELY SILT OR CLAY (>30% RETAINED THE NO. 200 SIEVE)		OH
HIGHLY ORGANIC SOILS				PT

NOTE: DUAL SYMBOLS ARE USED TO INDICATE COARSE-GRAINED SOILS CONTAINING AN ESTIMATED 10% FINES BY VISUAL CLASSIFICATION OR WHEN THE SOIL HAS BETWEEN 5 AND 12 PERCENT FINES FROM LABORATORY TESTS; AND FOR FINE-GRAINED SOILS WHEN THE PLOT OF LIQUID LIMIT & PLASTICITY INDEX VALUES FALLS IN THE PLASTICITY CHART'S CROSSHATCHED AREA. FINE-GRAINED SOILS ARE CLASSIFIED AS ORGANIC -OL OR OH, WHEN ENOUGH ORGANIC PARTICLES ARE PRESENT TO INFLUENCE ITS PROPERTIES. LABORATORY TEST RESULTS ARE USED TO SUPPLEMENT SOIL CLASSIFICATION BY THE VISUAL-MANUAL PROCEDURES OF ASTM D2488.

ADDITIONAL TERMINOLOGY AND GRAPHIC SYMBOLS

	DESCRIPTION		GRAPHIC SYMBOLS
ADDITIONAL DESIGNATION	TOPSOIL		
	MAN-MADE FILL		
	GLACIAL TILL		
	COBBLES AND BOULDERS		
RESIDUAL SOIL DESIGNATION	DESCRIPTION	"N" VALUE	
	HIGHLY WEATHERED ROCK	50 TO 50/1"	
	PARTIALLY WEATHERED ROCK	MORE THAN 50 BLOWS FOR 1" PENETRATION, AUGER PENETRABLE	

COARSE-GRAINED SOILS
(GRAVEL AND SAND)

DESIGNATION	BLOWS PER FOOT (BPF) "N"
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	>50

NOTE: "N" VALUE DETERMINED AS PER ASTM D1586

FINE-GRAINED SOILS
(SILT AND CLAY)

CONSISTENCY	BPF "N"
VERY SOFT	<2
SOFT	2 - 4
MEDIUM STIFF	5 - 8
STIFF	9 - 15
VERY STIFF	16 - 30
HARD	>30

NOTE: ADDITIONAL DESIGNATIONS TO ADVANCE SAMPLER INDICATED IN BLOW COUNT COLUMN:
WOH = WEIGHT OF HAMMER
WOR = WEIGHT OF ROD(S)

SAMPLE TYPE

DESIGNATION	SYMBOL
SPLIT-SPOON	S-
SHELBY TUBE	U-
ROCK CORE	R-

WATER DESIGNATION

DESCRIPTION	SYMBOL
ENCOUNTERED DURING DRILLING	▽
UPON COMPLETION OF DRILLING	▼
24 HOURS AFTER COMPLETION	▼

NOTE: WATER OBSERVATIONS WERE MADE AT THE TIME INDICATED. POROSITY OF SOIL STRATA, WEATHER CONDITIONS, SITE TOPOGRAPHY, ETC. MAY CAUSE WATER LEVEL CHANGES.

LOG OF BORING NO. HH-1

PROJECT: **Howard Hill Road Landslide**
PROJECT NO.: **31250382**
PROJECT LOCATION: **Howard Hill Rd Saint Clairsville, OH, 43950**

WATER LEVEL (ft):	10.7'	Dry	
DATE:	3/12/25	3/12/25	
CAVED (ft):		8.5'	

DATE STARTED: **3/12/25**
DATE COMPLETED: **3/12/25**
DRILLING CONTRACTOR: **Pennsylvania Drilling Co.**
DRILLER: **Evan**
DRILLING METHOD: **3.25" Hollow Stem Augers**
SOIL SAMPLING METHOD: **24" Split Spoon Sampler**
ROCK SAMPLING METHOD: **NQ2**

WATER ENCOUNTERED DURING DRILLING (ft.): **Dry**
GROUND SURFACE ELEVATION: **957.5'**
DATUM: **Site Plan**
DRILL MODEL: **CME**
DRILL CARRIER: **Truck Mounted**
LOGGED BY: **Jack McGuane**
CHECKED BY: **Tyler Furr, P.G.**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					957.5	0				
1	0.0	15	16-9-6-7	15			CL		Gray, brown, and tan, dry to moist, medium stiff to stiff, Gravelly LEAN CLAY with Sand	
2	2.0	15	7-4-4-5	8						
3	4.0	14	30-8-3-5	11						
4	6.0	22	8-5-9-8	14	950.5	6	SC		Gray and brown, damp, medium dense, Clayey SAND with coal	
5	8.0	17	10-15-50/5	50/5	949.5		HW		Dark gray and brown, damp, Highly Weathered CLAYSTONE	Augered to 10.0'
6	10.0	1	50/1	50/1	947.4		ROCK		Gray, fresh to moderately weathered, moderately fractured, soft to medium hard, SANDSTONE	Coring started at 10.1'
R-1	10.1	58				12			Core 1: Recovery: 58/60 = 97% RQD: 15 60 = 25%	
R-2	15.1	58				18			Core 2: Recovery: 58/60 = 97% RQD: 29 60 = 48%	
R-3	20.1	50				24			Core 3: Recovery: 50/60 = 83% RQD: 15 60 = 25%	
					932.4				Boring terminated at 25.1'	
						30				

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
206 Bursca Dr
Bridgeville, PA, 15017

LOG OF BORING NO. HH-2

PROJECT: **Howard Hill Road Landslide**
PROJECT NO.: **31250382**
PROJECT LOCATION: **Howard Hill Rd Saint Clairsville, OH, 43950**

WATER LEVEL (ft):	Dry	Dry	
DATE:	3/12/25	3/12/25	
CAVED (ft):		3.4'	

DATE STARTED: **3/12/25**
DATE COMPLETED: **3/12/25**
DRILLING CONTRACTOR: **Pennsylvania Drilling Co.**
DRILLER: **Evan**
DRILLING METHOD: **3.25" Hollow Stem Augers**
SOIL SAMPLING METHOD: **24" Split Spoon Sampler**
ROCK SAMPLING METHOD: **N/A**

WATER ENCOUNTERED DURING DRILLING (ft.): **Dry**
GROUND SURFACE ELEVATION: **954'**
DATUM: **Site Plan**
DRILL MODEL: **CME**
DRILL CARRIER: **Truck Mounted**
LOGGED BY: **Jack McGuane**
CHECKED BY: **Tyler Furr, P.G.**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					954.0	0				
1	0.0	8	15-11-11-16	22			GC		Gray, dry, medium dense, Clayey GRAVEL	
					952.0					
2	2.0	18	26-17-19-11	36			CL		Gray and brown, dry, hard, LEAN CLAY with Rock Fragments	
					950.0					
3	4.0	19	6-7-7-50/1	50/1			HW		Light brown, dry, Highly Weathered SANDSTONE	Augered to 6.0'
4	6.0	3	50/3	50/3	947.5	6			Boring terminated at 6.2'	Auger refusal at 6.2'
						12				
						18				
						24				
						30				

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
206 Bursca Dr
Bridgeville, PA, 15017

LOG OF BORING NO. HH-3

PROJECT: **Howard Hill Road Landslide**
PROJECT NO.: **31250382**
PROJECT LOCATION: **Howard Hill Rd Saint Clairsville, OH, 43950**

WATER LEVEL (ft): **3.0'** **3.7'**
DATE: **3/12/25** **3/12/25**
CAVED (ft):

DATE STARTED: **3/12/25**
DATE COMPLETED: **3/12/25**
DRILLING CONTRACTOR: **Pennsylvania Drilling Co.**
DRILLER: **Evan**
DRILLING METHOD: **3.25" Hollow Stem Augers**
SOIL SAMPLING METHOD: **24" Split Spoon Sampler**
ROCK SAMPLING METHOD: **NQ2**

WATER ENCOUNTERED DURING DRILLING (ft.): **Dry**
GROUND SURFACE ELEVATION: **951'**
DATUM: **Site Plan**
DRILL MODEL: **CME**
DRILL CARRIER: **Truck Mounted**
LOGGED BY: **Jack McGuane**
CHECKED BY: **Tyler Furr, P.G.**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
					951.0	0				
1	0.0	11	11-5-7-8	12			SC		Light brown and gray, dry, medium dense, Clayey SAND with Gravel	
2	2.0	12	10-16-23-50/3	39	949.0		CL		Brown and gray, damp, very stiff, Sandy LEAN CLAY with Gravel	Augered to 4.0'
3	4.0	6	41-18-10-10	28						
4	6.0	15	15-31-27-22	58	945.0	6	HW		Tan and gray, damp, Highly Weathered CLAYSTONE	
5	8.0	14	24-19-13-13	32	943.0		CL		Tan, damp, hard, LEAN CLAY with Gravel	
6	10.0	0	13-50-50/0	50/0					No recovery - spoon broke off in hole	Coring started at 11.0' in offset boring
					940.0		ROCK			
R-1	11.0	48				12			Gray and brown, fresh to highly weathered, slightly fractured to moderately fractured, SANDSTONE Core 1: Recovery: 48/60 = 80% RQD: 18/60 = 30%	
R-2	16.0	45				18			Core 2: Recovery: 45/60 = 75% RQD: 16/60 = 27%	
R-3	21.0	54				24			Gray and black, fresh, highly fractured to slightly fractured, SHALE and COAL Core 3: Recovery: 54/60 = 90% RQD: 4/60 = 7%	
R-4	26.0	36							Core 4: Recovery: 36/36 = 100% RQD: 20 36 = 56%	
					922.0	30			Boring terminated at 29.0'	

NOTES:

GEO-TECHNOLOGY ASSOCIATES, INC.
206 Bursca Dr
Bridgeville, PA, 15017

Photo 1 - Boring HH-1, Box 1 of 1

Photo 2 - Boring HH-3, Box 1 of 2

CORE BOX PHOTOGRAPHS
HOWARD HILL RD LANDSLIDE
SAINT CLAIRSVILLE
BELMONT COUNTY, OHIO

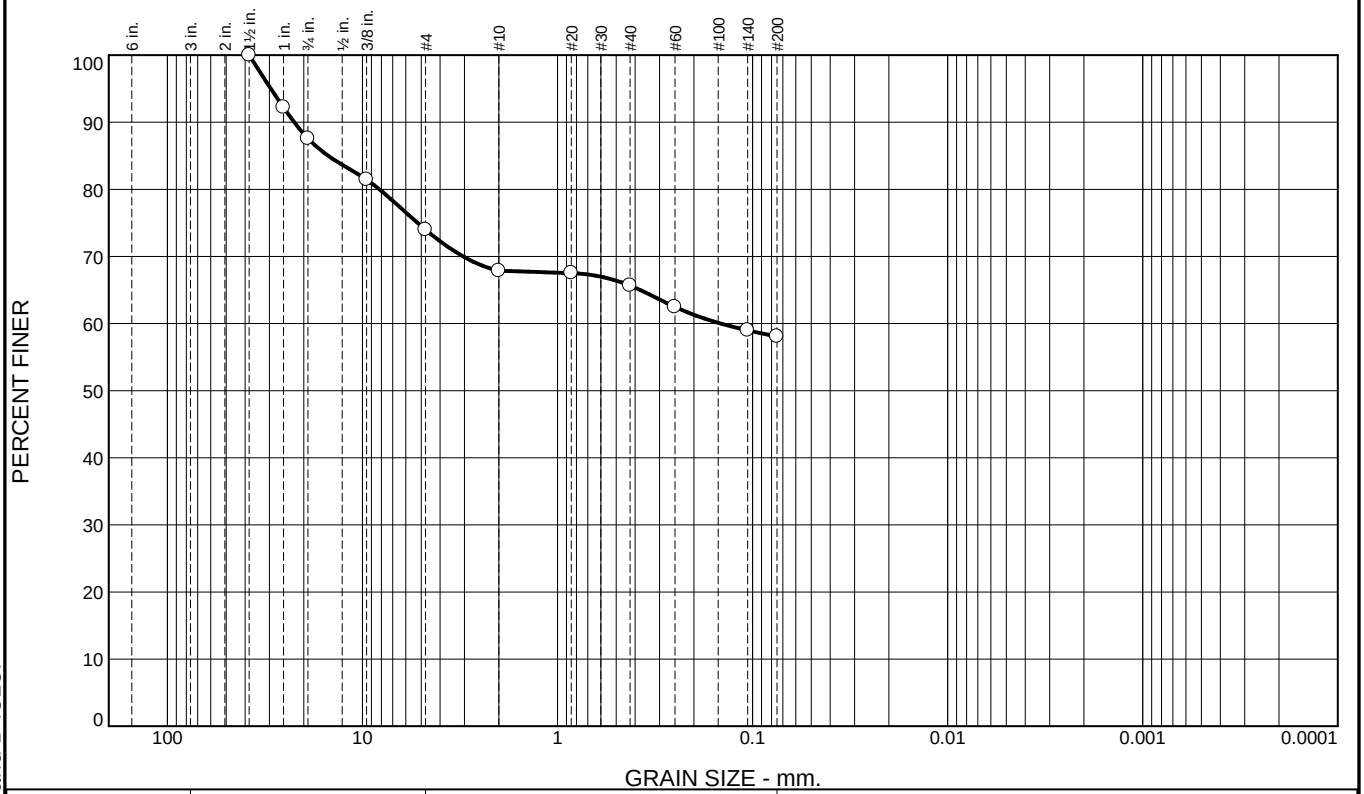
Photo 3 - Boring HH-3, Box 2 of 2

CORE BOX PHOTOGRAPHS
HOWARD HILL RD LANDSLIDE
SAINT CLAIRSVILLE
BELMONT COUNTY, OHIO

GEOTECHNICAL EXPLORATION
NATURAL MOISTURE CONTENT
HOWARD HILL ROAD LANDSLIDE
31250382

LOCATION	DEPTH (ft)	MOISTURE	USCS
HH-1	0.0 - 2.0	10.9%	CL
	2.0 - 4.0	20.6%	CL
	4.0 - 6.0	17.8%	CL
	6.0 - 8.0	20.3%	SC
	8.0 - 9.5	15.9%	HWR
	10.0 - 12.0	10.9%	HWR
HH-2	0.0 - 2.0	4.6%	GC
	2.0 - 4.0	16.6%	CL
	4.0 - 5.5	13.1%	HWR
	6.0 - 6.2	14.6%	HWR
HH-3	0.0 - 2.0	16.6%	SC
	2.0 - 4.0	8.4%	CL
	4.0 - 6.0	14.8%	CL
	6.0 - 8.0	12.6%	HWR
	8.0 - 10.0	13.8%	CL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.4	13.6	6.1	2.2	7.6	58.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	92.2		
.75	87.6		
.375	81.4		
#4	74.0		
#10	67.9		
#20	67.5		
#40	65.7		
#60	62.5		
#140	59.0		
#200	58.1		

* (no specification provided)

Soil Description

Gravelly Lean Clay with Sand

Atterberg Limits

PL= 21 LL= 47 PI= 26 NM= 17.8

Coefficients

D_{90}= 22.3854 D_{85}= 14.9988 D_{60}= 0.1457
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(12)

Remarks

Location: HH-1 S3
Sample Number: HH-1 S3 **Depth:** 4.0'-6.0' **Date:** 04/23/2025

GEO-TECHNOLOGY ASSOCIATES, INC.
1420 W. Main Street
Alliance, OH 44601

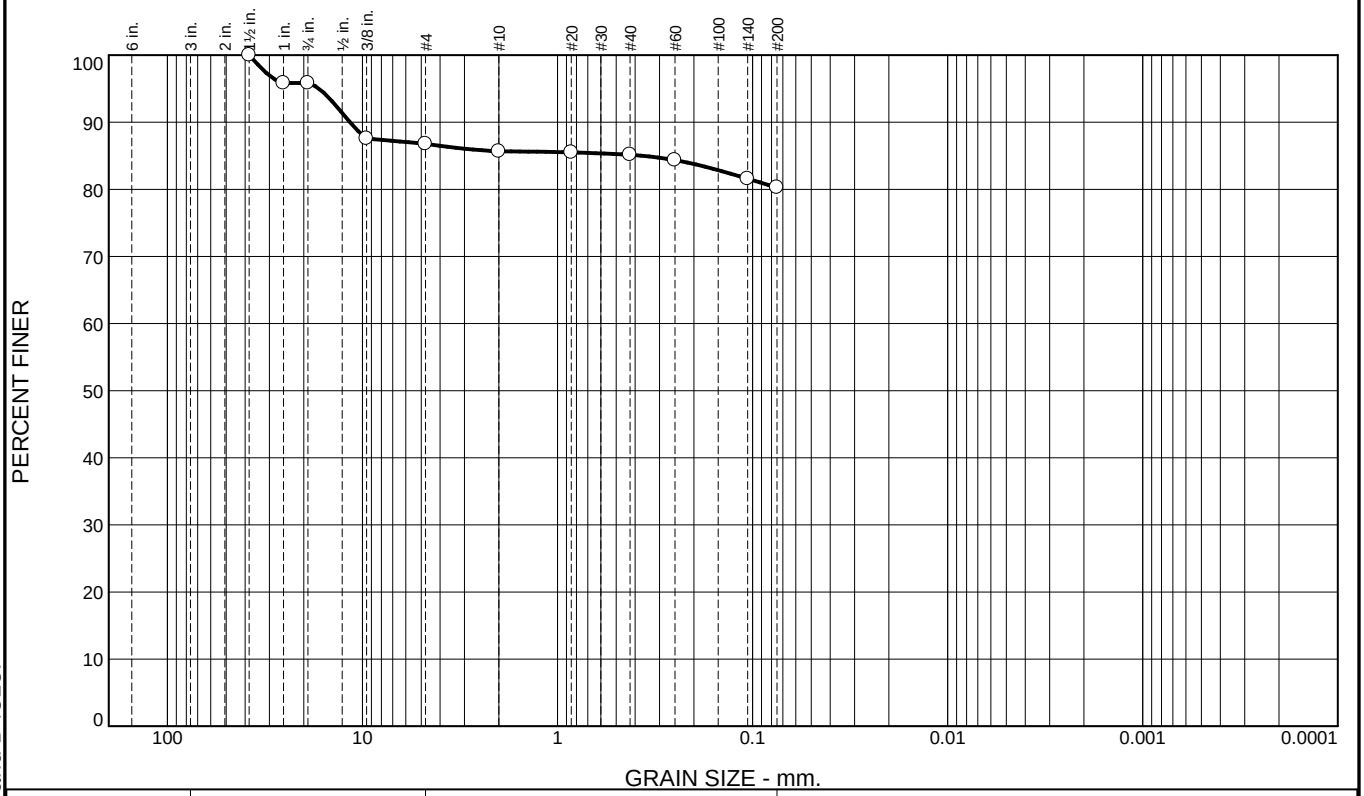
Client: Verdantas
Project: Howard Hill Road Landslide

Project No: 31250382 **Figure**

Tested By: KEM **Checked By:** TF

ASTM Specifications performed may include: D421, D422, D2216, D2217, and D4318.

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.2	9.0	1.2	0.4	4.9	80.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5	100.0		
1	95.8		
.75	95.8		
.375	87.6		
#4	86.8		
#10	85.6		
#20	85.5		
#40	85.2		
#60	84.4		
#140	81.6		
#200	80.3		

* (no specification provided)

Soil Description

Lean Clay with Gravel

Atterberg Limits

PL= 16 LL= 32 PI= 16 NM= 13.8

Coefficients

D_{90}= 11.5905 D_{85}= 0.3674 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(11)

Remarks

Location: HH-3 S5
Sample Number: HH-3 S5 **Depth:** 8.0'-10.0' **Date:** 04/23/2025

GEO-TECHNOLOGY ASSOCIATES, INC.
1420 W. Main Street
Alliance, OH 44601

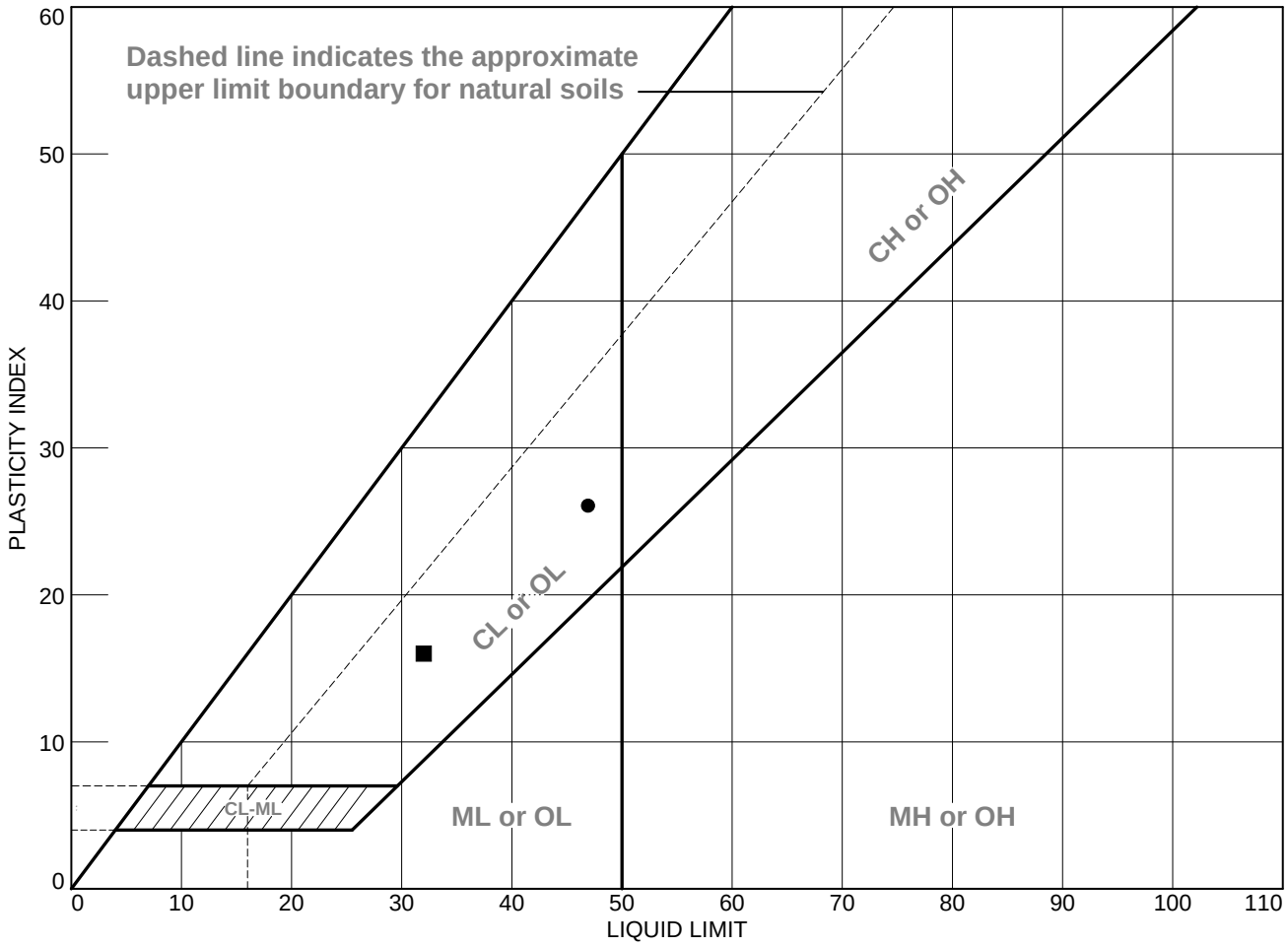
Client: Verdantas
Project: Howard Hill Road Landslide

Project No: 31250382 **Figure**

Tested By: KEM **Checked By:** TF

ASTM Specifications performed may include: D421, D422, D2216, D2217, and D4318.

LIQUID AND PLASTIC LIMITS TEST REPORT - ASTM D4318



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●		HH-1 S3	4.0'-6.0'	17.8	21	47	26	CL
■		HH-3 S5	8.0'-10.0'	13.8	16	32	16	CL

ASTM Specifications performed may include: D421, D422, D2216, D2217, and D4318.

GEO-TECHNOLOGY ASSOCIATES, INC.
1420 W. Main Street
Alliance, OH 44601

Client: Verdantas
Project: Howard Hill Road Landslide
Project No.: 31250382 **Figure**

Tested By: KEM **Checked By:** TF

PROJECT NAME: Howard Hill Road Landslide DATE: 4/24/2025

CORE ID	HH3 R4
Depth	27.0'-27.4'
Diameter	2.0"
Length	4.010
	4.018
	4.012
Average	4.013
Pounds	5660
PSI	1803

CORE ID	HH1 R2
	19.2'-19.6'
Diameter	2.0"
Length	4.022
	4.023
	4.015
Average	4.020
Pounds	19320
PSI	6153