DOWN TO EARTH CONSULTING, LLC
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

GEOTECHNICAL ENGINEERING REPORT

RETAINING WALL REPLACEMENT
POMFRET STREET (ROUTE 44)
PUTNAM, CONNECTICUT

STATE PROJECT NO. 115-122

Prepared for:

SLR International Corporation
99 Realty Drive
Cheshire, Connecticut 06410

On Behalf of:

Connecticut Department of Transportation
2800 Berlin Turnpike
Newington, Connecticut 06131

Prepared by:

Down To Earth Consulting, LLC
27 Siemon Company Drive #363W
Watertown, Connecticut 06795

April 2025
File No. 0150-002.01

DOWN TO EARTH CONSULTING, LLC
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

April 14, 2025
File No. 0150-002.01

Ms. Shelley Plude, P.E.
SLR International Corporation
99 Realty Drive
Cheshire, Connecticut 06410

Via email: splude@slrconsulting.com

Re: Geotechnical Engineering Report
Retaining Wall Replacement
Pomfret Street (Route 44)
Putnam, Connecticut
State Project No. 115-122

Dear Ms. Plude:

Down To Earth Consulting, LLC (DTE) is pleased to submit this revised geotechnical engineering report for the proposed retaining wall replacement project along Pomfret Street (Route 44) in Putnam, Connecticut. We appreciate this opportunity to work with you. Please call if you have any questions.

Sincerely,

Down To Earth Consulting, LLC

Raymond P. Janeiro, P.E.
Principal

Thomas J. Orszulak, P.E.
Reviewer/Project Manager

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APPENDICES

1.0 INTRODUCTION

Down To Earth Consulting, LLC (DTE) is pleased to submit this geotechnical engineering report for the proposed retaining wall replacement that will be constructed to support Pomfret Street (Route 44) in Putnam, Connecticut. Refer to Figures 1 and 2 (in Appendix 1) for the approximate site and existing wall location, respectively.

Our geotechnical engineering services included: reviewing project plans and existing subsurface data, observing test borings, characterizing subsurface conditions within the project limits, performing geotechnical engineering analyses, and providing geotechnical design and construction recommendations for the proposed retaining wall replacement. Our services were performed in accordance with our March 14, 2025, *Subcontract Agreement*.

In preparation of this revised report, we were also provided with a document entitled, *Scope of Services, Final Design Phase, Replacement of Retaining Wall Along Route 44, Putnam, Connecticut*, prepared by SLR International Corporation (SLR), dated November 22, 2024.

Our recommendations are based on load and resistance factor design and the following references:

- 2024 AASHTO LRFD Bridge Design Specifications
- The Connecticut Department of Transportation (CTDOT) Geotechnical Manual, 2005 edition (revised February 2020)
- CTDOT Standard Specifications for Roads, Bridges, and Incidental Construction, Form 819.

Elevations (El.) stated in this report are in feet and based on the North American Vertical Datum of 1988 (NAVD 88). The coordinates are based on the Connecticut State Plane Coordinate System, NAD 1983.

2.0 BACKGROUND

The Site is located about 500 feet west from the Quinebaug River in Putnam. The existing retaining wall is approximately 400 feet long and currently supports Pomfret Street (Route 44) between the intersections of Church and High Streets. The Cargill Falls Mill building is located a minimum of about 15 feet away from the base of the existing retaining wall. The exposed wall heights vary throughout its length but does not exceed 40 feet based on the survey information provided by SLR International Corporation. It is our understanding that there are no design or construction drawings for this retaining wall. The wall was reportedly constructed around 1925 and generally consists of boulders of various sizes that are mortared together with a sand/cement mixture.

The CTDOT Office of Soils and Foundations has previously evaluated the condition of the existing retaining wall. In 2017, nine boring explorations were completed behind the wall to evaluate potential rehabilitation options. A settlement monitoring program was also initiated by the CTDOT to document wall areas that had demonstrated vertical and lateral deformations. Based on the results of the explorations and monitoring, the Soils and Foundations group determined a wall replacement was likely the best option for the continued safety and stability of Route 44.

3.0 SUBSURFACE DATA

3.1 GENERAL SITE GEOLOGY

Published surficial and bedrock geological map data (*1:125,000 scale, Surficial Materials Map of Connecticut, Janet Radway Stone, 1992 and Bedrock Geological Map of Connecticut, John Rodgers, 1985*) was reviewed. The surficial material within the Site area is mapped as a relatively thin stratum of sand and gravel overlying sand deposits. The underlying bedrock is mapped as gray, medium-grained, gneiss of the Tatnic Hill Formation.

3.2 SUBSURFACE EXPLORATIONS

We observed and logged five test borings (SLR-1 through SLR-5) drilled by General Borings, Inc. on August 10 through 12, 2022. Exploration locations are depicted on Figure 2 (Appendix 1) and the logs are included in Appendix 2. Explorations were located in the field by taping/pacing from existing site features and their elevations were interpolated from the above referenced *Topographic Survey*. The exploration locations and elevations should be considered approximate. The 2017 boring logs completed by the CTDOT are also provided in Appendix 2.

The recent borings were drilled to explore the soil and groundwater conditions in the proposed retaining wall area. Hollow-stem auger and rotary drilling methods were used to advance borings to depths of approximately 20 to 70 feet (approximate El. 188 to 232) below existing grades. The borings were terminated in natural sand deposits.

Representative soil samples were obtained in the borings for soil classification by split barrel sampling procedures in general accordance with ASTM D-1586. The split-spoon sampling procedure utilizes a standard 2-inch O.D. split-barrel sampler that is driven in the borehole with a 140-pound hammer falling a distance of 30 inches. Samples were collected every five feet during advancement of the SLR-designated borings. The number of blows required to advance the sampler the second and third 6-inch increments of a conventional 18-inch penetration is recorded as the Standard Penetration Resistance Value (N). Samplers were driven an additional 6-inches (i.e., 24-inches total) for additional sample collection. The blows are indicated on the boring logs at their depth of occurrence and provide an indication of the relative consistency (or density) of the sampled material.

Groundwater levels were measured using a weighted tape in open drill holes.

3.3 LABORATORY TESTING

Soils laboratory testing was completed by GeoTesting Express on samples obtained from the borings. The testing was completed in accordance with applicable ASTM Standards to confirm field classifications. Refer to Appendix 3 for the laboratory testing results.

4.0 SUBSURFACE CONDITIONS

4.1 SUBSURFACE PROFILE

The subsurface conditions from the borings were consistent with published geologic mappings and generally consisted of Sand deposits. The following is a more detailed description of the subsurface materials encountered in the vicinity of the existing wall:

4.1.1 Pavement Section

The existing pavement section along Route 44 generally consisted of 6 to 8.5 inches of asphalt overlying 6 inches of concrete. No discernible base layer was encountered beneath the concrete. The pavement section at the toe of the existing wall generally consisted of 4 to 4.5 inches of bituminous asphalt.

4.1.2 Gravelly Sand

Gravelly Sand Deposits were encountered along Route 44 directly below the Pavement Section, were about 3 to 12 feet thick, and typically consisted of medium dense to very dense, brown, fine to coarse sand with varying amounts of fine to coarse gravel and lesser amounts of silt.

4.1.3 Silty Sand

Encountered beneath the Pavement Section (and Gravelly Sand where encountered) were loose to very dense, light-brown, sand with varying (5 to 40%) amounts of silt. The relative density of these deposits was notably looser as documented in the 2017 borings. We infer that since the 2017 borings were advanced behind the existing wall, many of the samples were advanced in Miscellaneous Fill (i.e., reworked site soils). Cobbles and possible boulders were also inferred in this stratum based on observed drilling behavior.

4.2 GROUNDWATER

Groundwater was encountered within the limits of the 2022 borings. Groundwater was encountered at about 20 and 44 feet (about El. 224) below existing grades in Borings SLR-3 and SLR-4, respectively. It should be noted that SLR-4 was advanced at roadway levels behind the existing wall, while SLR-3 was advanced at the toe of wall. Groundwater levels measured in the boreholes may not have had sufficient time to stabilize and should be considered approximate. Groundwater levels will vary depending on factors such as temperature, season, precipitation, river levels, construction activity, and other conditions, which may be different from those at the time of these measurements.

5.0 PRELIMINARY GEOTECHNICAL DESIGN RECOMMENDATIONS

We offer the following geotechnical design recommendations based on the subsurface conditions encountered at the site, available project information, and our understanding of the proposed retaining wall construction.

5.1 GEOTECHNICAL DESIGN PARAMETERS

Based on the results of our subsurface explorations, we recommend the following static design parameters:

General:

- Total Unit Weight of Miscellaneous Fill (behind existing wall) = 110 pcf
- Total Unit Weight of natural Silty Sand = 115 pcf
- Total Unit Weight of Pervious Structure Backfill = 125 pcf
- Soil Angle of Internal Friction of Miscellaneous Fill, (φ') = 30°
- Soil Angle of Internal Friction of natural Silty Sand, (φ') = 32°
- Soil Angle of Internal Friction of Pervious Structure Backfill, (φ') = 35°

Bearing:

- Bearing Resistance Factor – Strength Limit State (φ_b) = 0.55 (AASHTO LRFD Table 11.5.7-1)
- Nominal Bearing Resistance (Strength Limit State) – 12 kips per square foot
- Factored Bearing Resistance (Strength Limit State) – 6.6 kips per square foot
- Bearing Resistance Factor – Service Limit State (φ_b) = 1.00
- Nominal Bearing Resistance (Service Limit State) – 2.5 kips per square foot
- Factored Bearing Resistance (Service Limit State) – 2.5 kips per square foot

Sliding/Overturning:

- Coefficient of Friction for Sliding = 0.45 – mass concrete
  0.40 – precast concrete
  (AASHTO LRFD Table 3.11.5.3-1)
- Coefficient of Friction for Soil Against Wall (tan delta) = 0.40 – formed concrete
- Sliding Resistance Factor (φ_τ) = 1.0 (AASHTO LRFD Table 11.5.7-1)
- Earth pressure calculations should assume a surface surcharge of a minimum of 24 inches of soil depth or 250 psf.

The preceding earth pressure coefficients do not include a factor of safety, influence of hydrostatic loading, seismic or surcharge loading. Computations of lateral forces should be based on AASHTO Section 3.11, Earth Pressure, using the above recommended parameters.

5.2 RETAINING WALL FOUNDATIONS

The proposed retaining wall may be supported on shallow footings bearing on a minimum 12-inch-thick layer of Granular Fill overlying natural Silty Sand Deposits. Foundations should bear a minimum of four feet below lowest adjacent grades. Existing Fill is not considered a suitable bearing material and must be excavated (and replaced) in the area of the proposed footings during site preparation. Based on available subsurface data and the recommended wall embedment depth (inclusive of the 12 inches of Granular Fill), over-excavation and replacement of additional miscellaneous Fill is not anticipated.

When Granular Fill is used beneath the footings, we recommend that it be placed one foot beyond the edge of the footings and at a one horizontal to one vertical slope away and down from the bottom outside edge of the footings.

5.3 RETAINING WALL ESTIMATED SETTLEMENTS

Estimated maximum total settlement for the retaining wall is less than 1.5 inches and the maximum differential settlement is estimated at less than ½ of the maximum settlement. We anticipate that new retaining wall loading will generally match that of the existing wall and will not impose additional loading on the nearby Cargill Falls Mill building foundations.

5.4 RETAINING WALL BACKFILL AND DRAINAGE

We recommend backfilling with Pervious Structure Backfill in accordance with CTDOT Standard Specifications Form 819, Section 2.16, and installing drainage in accordance with CTDOT Manual Standard, Plate Number 3.5.2 – U-Type Wingwall or Retaining Wall Drainage and Backfill Requirements. We anticipate that a 6-inch Structure Underdrain constructed in accordance with the referenced CTDOT Standard will be appropriate for the project. The limits of backfill should extend upwards from the wall heel at a slope of 1.5H:1V (Horizontal to Vertical) to the intersection of unexcavated, undisturbed materials.

5.5 GLOBAL STABILITY

Global stability of the new retaining wall must be confirmed once geometries and foundation conditions of the wall become available.

5.6 SEISMIC DESIGN

The site class is “D” per AASHTO 2020 LRFD. Based on the standard penetration test results, visual soil classification, and design peak ground acceleration at this locale, the saturated site soils are not susceptible to liquefaction.

6.0 MATERIALS RECOMMENDATIONS

6.1 ON-SITE MATERIALS

Excavated materials may be suitable for re-use as Pervious Structure Backfill (only if generated materials conform to CTDOT Standard Form 819, Section M.02.05); otherwise, on-site materials can be reused as General Fill (or Embankment Fill (if required)) for site grading purposes.

6.2 BACKFILL MATERIALS

We recommend that materials conform to the following CTDOT Standards:

- Granular Fill - CTDOT Standard Form 819, Section M.02.01
- Crushed Stone - Size No. 8 per CTDOT Standard Form 819, Section M.01.02
- Pervious Structure Backfill - CTDOT Standard Form 819, Section M.02.05

7.0 CONSTRUCTION RECOMMENDATIONS

7.1 SUBGRADE PREPARATION

Soil subgrades should be proof-compacted prior to Granular Fill placement under the observation of a qualified Geotechnical Engineer. The base of foundation excavations should be free of debris materials, water, ice, and loose and frozen soils prior to placing Granular Fill. Should the materials at bearing level become disturbed, the impacted materials should be removed prior to placing Granular Fill. Subgrade preparations should be completed to the satisfaction of the Engineer.

7.2 TEMPORARY EXCAVATIONS

The site soils are classified as OSHA Class “C” soil and can be cut at a maximum one vertical to one and a half horizontal (1V:1.5H) slope up to a maximum excavation depth of 20 feet. These maximum slope and excavation depths assume no surcharge load (i.e., stockpiles, construction equipment, etc.) at the top of the excavations or groundwater seepage.

Temporary earth support systems (TERS) will be required where setback distances are limited. TERS will need to be designed by the Contractor’s licensed Connecticut Professional Engineer based on the provided geotechnical parameters. It is anticipated that a soil nail wall would be a feasible TERS option for this project.

7.3 TEMPORARY GROUNDWATER CONTROL

Based on available subsurface information, construction will occur above groundwater levels. Stormwater runoff should not be permitted to accumulate on/within exposed subgrades and the runoff should be directed away from the exposed subgrade areas.

8.0 REVIEW OF FINAL DESIGN, PLANS, AND SPECIFICATIONS

When project plans and specifications are available they should be provided to DTE for review of conformance with our geotechnical recommendations. If any changes are made to the proposed retaining walls, the recommendations provided in this report will need to be verified by DTE for applicability.

9.0 CONSTRUCTION QUALITY CONTROL

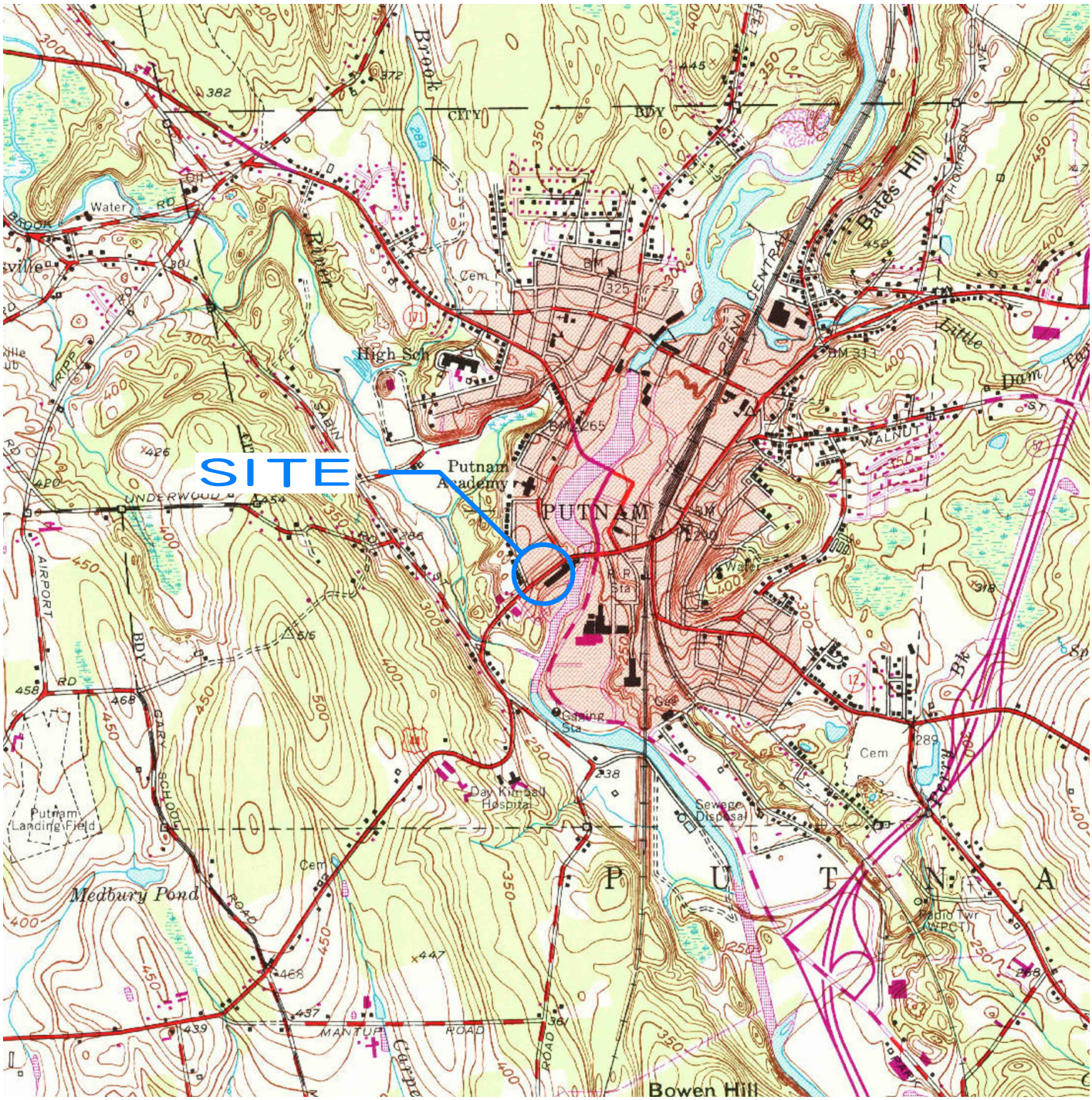
We recommend that DTE make field observations of excavations and foundation preparation to monitor compliance with our recommendations and project specifications. Specifically, we recommend field observation of excavations, footing subgrades, and Fill placement and compaction to monitor compliance with project specifications.

10.0 LIMITATIONS

This report is subject to the limitations included in Appendix 4.

APPENDIX 1 -

FIGURES



DOWN TO EARTH CONSULTING, LLC
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

122 CHURCH STREET
NAUGATUCK, CONNECTICUT 06770

CONNECTICUT

QUADRANGLE LOCATION

AREA PLAN
RETAINING WALL REPLACEMENT
POMFRET STREET, PUTNAM, CT
STATE PROJ. NO. 115-122

REFERENCE:
USGS TOPOGRAPHIC QUADRANGLE: PUTNAM, CT

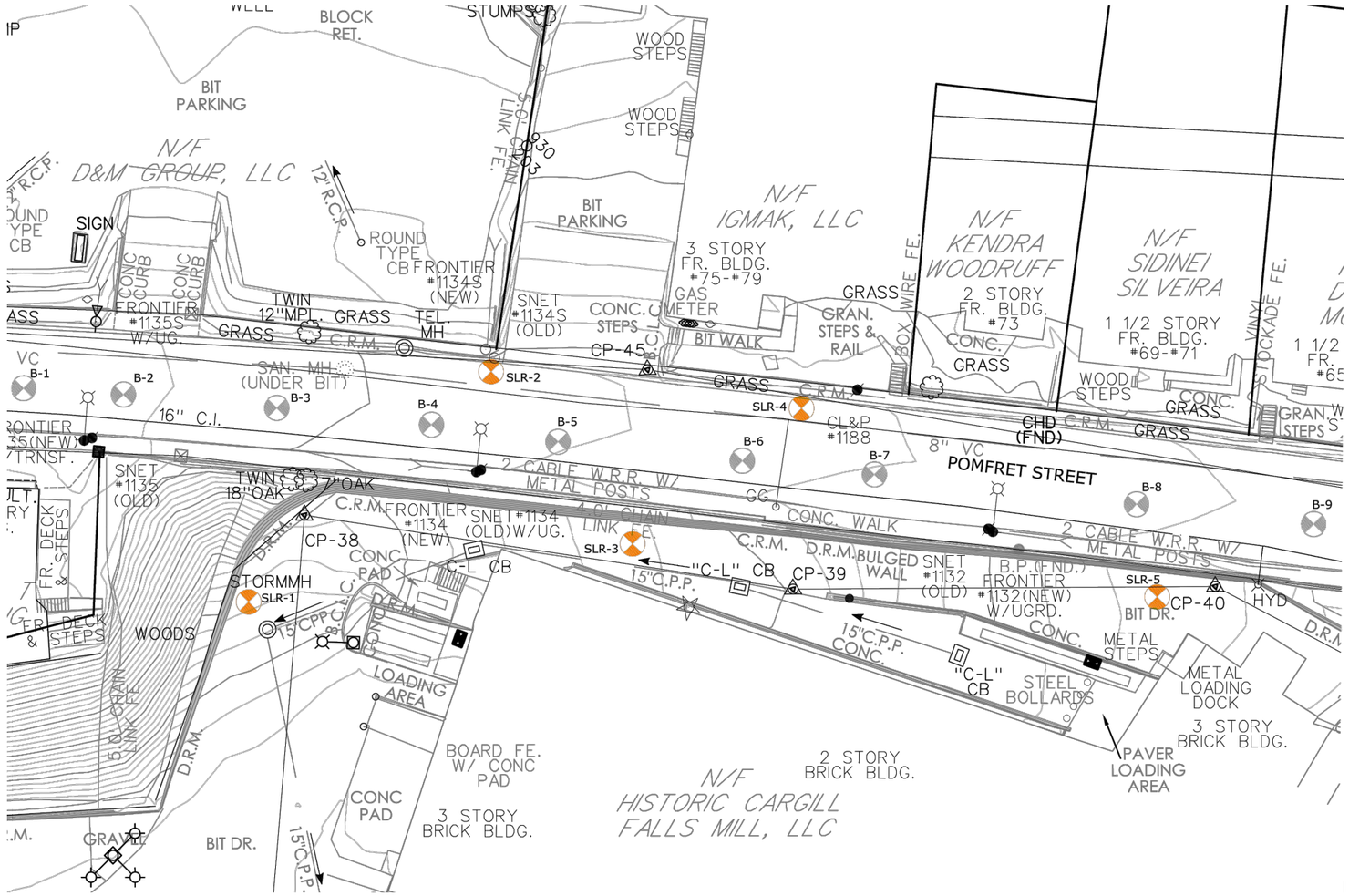
SCALE 1"= 2,000'

2,000' 1,000' 0 2,000'

DRAWN BY: MF	REVIEWED BY: RPJ

PROJECT NO.	0150-002.00
DATE:	10/20/22
FIGURE NO.	1

G:_shortcut-targets-by-id\0B1dDo7eABnVDRk1sSWluSndOeEU\DTE Root Drive\Client Folders\0150 - Milone & MacBroom\01 - Lyme\CADD\0150-001.00 AREA AND SITE PLAN.dwg



LEGEND

SLR–1 — 2022 TEST BORING NO. AND APPROX. LOCATION

B–1 — 2017 TEST BORING NO. AND APPROX. LOCATION

NOTES:
1) BASE MAP DEVELOPED FROM AN ELECTRONIC FILE PREPARED BY SLR INTERNATIONAL CORPORATION, ENTITLED "BORING LOCATION MAP, REPLACEMENT OF RETAINING WALL ALONG ROUTE 44, PUTNAM, CONNECTICUT". UNDATED. ORIGINAL SCALE 1" = 20'.
2) 2022 EXPLORATIONS WERE COMPLETED BY GENERAL BORINGS, INC. AND OBSERVED BY DOWN TO EARTH CONSULTING, LLC. 2017 EXPLORATIONS WERE COMPLETED BY THE DEPARTMENT OF TRANSPORTATION.
3) THE LOCATIONS OF THE EXPLORATIONS WERE DETERMINED BY TAPING AND VISUAL ESTIMATES FROM EXISTING SITE FEATURES. THESE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

DESIGNED BY OTHERS							
DRAWN BY MF							
CHECKED BY RPJ							
	NO.	DATE		DRWN.	CHKD	APPVD	
APPROVED BY RPJ	REVISIONS						

SCALE 1"= 40'
40' 20' 0 40'

DOWN TO EARTH CONSULTING, LLC
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING
122 CHURCH STREET
NAUGATUCK, CONNECTICUT 06770

PROJECT
RETAINING WALL REPLACEMENT
POMFRET STREET, PUTNAM, CT
STATE PROJ. NO. 115–122

DWG. TITLE.
SITE AND BORING LOCATION PLAN

FILE NO. 0150–002.00
SCALE AS NOTED
DATE 10/20/22
FIGURE NO. 2

APPENDIX 2 -

TEST BORING LOGS

Driller: N. Kenney	**Connecticut DOT Boring Report**	Hole No.: B-1A
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894901
Start Date: 4-27-17	Route No.: 44	Easting: 1227680
Finish Date: 4-28-17	Bridge No.:	Surface Elevation: 271.9
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	14 14 13 13	24	18		Gravelly Sand	Brown F-C SAND, and C-F GRAVEL, trace Silt	270
	S-2	9 12 11 12	24	20			Brown C-F SAND, little F-C Gravel, trace Silt	
5	S-3	8 7 12 21	24	16			Brown C-F SAND, and C-F GRAVEL, trace Silt	265
	S-4	22 23 21 26	24	16			Tan C-F GRAVEL, and C-F SAND, trace Silt	
10	S-5	4 4 4 5	24	16		Silty Sand	Tan-Gray F-C SAND, and SILT	
	S-6	5 6 7 7	24	18			Tan-Gray F-C SAND, and SILT	260
15	S-7	9 13 14 15	24	0			Tan-Gray F-C SAND, and SILT	
	S-8	16 12 10 10	24	0			Tan-Gray F-C SAND, and SILT	255
	S-9	8 9 10 12	24	20		Sandy Silt	Tan-Gray SILT, and F-C SAND	
20	S-10	5 6 7 8	24	24		Gravelly Sand	Tan-Gray F-C SAND, and C-F GRAVEL, trace Silt	
	S-11	7 8 8 8	24	23		Silty Sand	Tan-Gray F-C SAND, some Silt	250
25	S-12	5 5 7 8	24	24			Tan-Gray F-C SAND, little Silt	
	S-13	7 9 11 12	24	23			Tan-Gray F-C SAND, little Silt	245
	S-14	6 5 7 7	24	24		Sandy Silt	Tan-Gray SILT, and F-C SAND	
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 20 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: N. Kenney	**Connecticut DOT Boring Report**		Hole No.: B-1A
Inspector: G. Arzt	Town: Putnam		Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234		Northing: 894901
Start Date: 4-27-17	Route No.: 44		Easting: 1227680
Finish Date: 4-28-17	Bridge No.:		Surface Elevation: 271.9
Project Description: Retaining Wall on Route 44			
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID		Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.		
Groundwater Observations: @Dry after 0 hours			

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	6 7 7 9	24	20		Silty Sand	Tan-Gray F-C SAND, and SILT	
	S-16	8 8 12 10	24	21			Reddish-Tan F-C SAND, and SILT	240
35	S-17	6 8 9 11	24	24		Sandy Silt	Reddish-Tan SILT, and F-C SAND	235
40	S-18	7 8 10 9	24	24			Gray SILT, little F-C Sand	230
45	S-19	4 4 5 7	24	23			Tan-Gray SILT, and F-C SAND	225
50	S-20	4 5 7 10	24	24			Reddish-Tan SILT, and F-C SAND	220
							END OF BORING 52ft	
55								215
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft No. of Soil Samples: 20 No. of Core Runs: 0	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2 SM-001-M REV. 1/02

Driller: N. Kenney	**Connecticut DOT Boring Report**		Hole No.: B-2
Inspector: G. Arzt	Town: Putnam		Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234		Northing: 894920
Start Date: 4-26-17	Route No.: 44		Easting: 1227701
Finish Date: 4-27-17	Bridge No.:		Surface Elevation: 271.4
Project Description: Retaining Wall on Route 44			
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID		Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.		
Groundwater Observations: @Dry after 0 hours			

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	10 18 19 20	24	14		Sandy Gravel	Tan C-F GRAVEL, some F-C Sand, trace Silt	270
	S-2	19 20 28 24	24	15			Tan C-F GRAVEL, some C-F Sand, trace Silt	
5	S-3	12 27 16 15	24	14			Tan-Brown C-F GRAVEL, some F-C Sand, trace Silt	265
	S-4	14 7 7 9	24	13			Tan C-F SAND, and C-F GRAVEL, trace Silt	
10	S-5	6 6 10 7	24	4			Tan C-F GRAVEL, some C-F Sand, trace Silt	260
	S-6	5 5 7 8	24	4			Tan C-F GRAVEL, and C-F SAND, trace Silt	
15	S-7	6 6 6 6	24	13		Silty Sand	Tan F-C SAND, and SILT	
	S-8	7 8 9 10	24	0			Tan F-C SAND, and SILT	255
	S-9	5 5 6 7	24	16			Tan SILT, and F-C SAND	
20	S-10	7 6 8 7	24	21			Tan F-C SAND, and SILT	250
	S-11	7 8 10 10	24	20			Tan F-C SAND, some Silt	
25	S-12	7 7 7 9	24	20			Tan F-C SAND, little Silt	
	S-13	7 9 11 12	24	22			Tan F-C SAND, some Silt	245
	S-14	6 6 7 9	24	24			Tan-Gray F-C SAND, and SILT	
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft No. of Soil Samples: 20 No. of Core Runs: 0	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2 SM-001-M REV. 1/02

Driller: N. Kenney	**Connecticut DOT Boring Report**	Hole No.: B-2
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894920
Start Date: 4-26-17	Route No.: 44	Easting: 1227701
Finish Date: 4-27-17	Bridge No.:	Surface Elevation: 271.4
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	SAMPLES: Blows on Sampler per 6 inches	SAMPLES: Pen. (in.)	SAMPLES: Rec. (in.)	SAMPLES: RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	6 8 7 8	24	20		Silty Sand *(con't)*	Tan-Gray F-C SAND, some Silt	240
	S-16	7 9 10 13	24	20			Tan SILT, and F-C SAND	
35	S-17	4 5 8 11	24	22			Tan F-C SAND, and SILT	235
						Sandy Silt		
40	S-18	7 8 9 11	24	24			Tan SILT, little F-C Sand	230
45	S-19	5 5 5 9	24	20			Tan-Brown SILT, some F-C Sand	225
50	S-20	5 6 8 10	24	24		Silty Sand	Tan-Gray F-C SAND, and SILT	220
							END OF BORING 52ft	
55								215
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 20 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: N. Kenney	**Connecticut DOT Boring Report**		Hole No.: B-3
Inspector: G. Arzt	Town: Putnam		Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234		Northing: 894948
Start Date: 4-25-17	Route No.: 44		Easting: 1227735
Finish Date: 4-26-17	Bridge No.:		Surface Elevation: 270.4
Project Description: Retaining Wall on Route 44			
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID		Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.		
Groundwater Observations: @Dry after 0 hours			

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		270
	S-1	7 4 5 8	24	1		Sandy Gravel	Tan-Brown F-C SAND, some C-F Gravel, trace Silt	
	S-2	13 10 9 15	24	16			Tan-Brown F-C SAND, some C-F Gravel, trace Silt	
5								265
	S-3	16 20 18 20	24	15			Tan C-F GRAVEL, and C-F SAND, trace Silt	
	S-4	18 21 20 18	24	15			Tan-Gray C-F GRAVEL, some C-F Sand, trace Silt	
10						Silty Sand		260
	S-5	8 11 4 4	24	16			Tan F-C SAND, little Silt	
	S-6	5 5 5 6	24	17			Tan F-C SAND, some Silt	
15	S-7	4 5 5 6	24	18			Tan-Gray F-C SAND, and SILT	255
	S-8	5 6 9 9	24	18		Sandy Silt	Tan-Brown SILT, and F-C SAND	
	S-9	5 6 6 8	24	20			Tan-Brown SILT, and F-C SAND	
20	S-10	7 8 10 10	24	18		Silty Sand	Tan-Gray F-C SAND, and SILT	250
	S-11	6 7 7 7	24	22			Tan-Gray F-C SAND, some Silt	
25	S-12	6 9 11 11	24	20			Tan-Brown F-C SAND, and SILT	245
	S-13	5 6 7 6	24	18			Tan-Brown F-C SAND, some Silt	
	S-14	6 6 7 9	24	23		Sandy Silt	Tan-Brown SILT, and F-C SAND	
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft No. of Soil Samples: 20 No. of Core Runs: 0	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2 SM-001-M REV. 1/02

Driller: N. Kenney	**Connecticut DOT Boring Report**	Hole No.: B-3
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894948
Start Date: 4-25-17	Route No.: 44	Easting: 1227735
Finish Date: 4-26-17	Bridge No.:	Surface Elevation: 270.4
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	SAMPLES: Blows on Sampler per 6 inches	SAMPLES: Pen. (in.)	SAMPLES: Rec. (in.)	SAMPLES: RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	9 8 11 12	24	23		Sandy Silt *(con't)*	Tan-Brown SILT, and F-C SAND	240
	S-16	4 5 3 2	24	1			Tan-Brown F-C SAND, and SILT, trace F-C Gravel	
35	S-17	5 6 7 7	24	24			Tan-Brown SILT, trace F-C Sand	235
40	S-18	7 9 10 9	24	24			Tan-Brown SILT, and F-C SAND	230
						Sand		
45	S-19	3 4 5 5	24	20			Light Brown F-C SAND, trace Silt	225
50	S-20	4 5 7 12	24	20			Brown F-C SAND, trace Silt	220
							END OF BORING 52ft	
55								215
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 20 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-4
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894976
Start Date: 5-2-17	Route No.: 44	Easting: 1227771
Finish Date: 5-2-17	Bridge No.:	Surface Elevation: 269.6
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	6 8 5 4	24	10		Gravelly Sand	Brown C-F GRAVEL, and F-C SAND, trace Silt	
	S-2	7 4 3 3	24	1			Brown C-F GRAVEL, and F-C SAND, trace Silt	265
5	S-3	1 3 6 7	24	4			Brown F-C SAND, some F-C Gravel, trace Silt	
	S-4	4 2 2 2	24	8			Brown F-C SAND, some C-F Gravel, trace Silt	
10	S-5	5 3 2 5	24	10			Brown-Tan F-C SAND, some C-F Gravel, little Silt	260
	S-6	20 48 13 11	24	10			Brown-Tan F-C SAND, and C-F GRAVEL, trace Silt	
	S-7	4 4 5 5	24	18		Silty Sand	Tan F-C SAND, and SILT	
15	S-8	4 6 6 7	24	16			Tan F-C SAND, and SILT	255
	S-9	8 7 8 8	24	24		Sandy Silt	Tan SILT, and F-C SAND	
20	S-10	4 5 5 5	24	24		Silty Sand	Tan F-C SAND, and SILT	250
	S-11	7 8 9 9	24	18			Tan F-C SAND, and SILT	
	S-12	5 7 7 8	24	18		Sandy Silt	Tan SILT, and F-C SAND	
25	S-13	6 6 7 7	24	18		Silty Sand	Tan F-C SAND, and SILT	245
	S-14	6 7 7 10	24	24		Sandy Silt	Tan SILT, and F-C SAND	
30								240

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-4
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894976
Start Date: 5-2-17	Route No.: 44	Easting: 1227771
Finish Date: 5-2-17	Bridge No.:	Surface Elevation: 269.6
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	5 7 7 8	24	17		Sandy Silt *(con't)*	Light Brown SILT, little F-C Sand	
	S-16	6 9 9 10	24	24			Tan SILT, little F-C Sand	
	S-17	5 7 7 9	24	24			Tan SILT, little F-C Sand	235
35	S-18	8 12 13 14	24	17		Silty Sand	Tan-Gray F-C SAND, and SILT	
40	S-19	5 7 9 9	24	18			Tan-Gray F-C SAND, and SILT	230
45	S-20	2 1 2 2	24	24			Tan-Brown F-C SAND, little Silt	225
50	S-21	5 5 8 9	24	22			Light Brown F-C SAND, some Silt	220
							END OF BORING 52ft	
55								215
60								210

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-5
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894999
Start Date: 5-2-17	Route No.: 44	Easting: 1227800
Finish Date: 5-3-17	Bridge No.:	Surface Elevation: 269.1
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	3 3 4 4	24	6		Sandy Gravel	Brown C-F GRAVEL, and C-F SAND, trace Silt	
	S-2	6 6 4 6	24	7			Tan F-C SAND, some C-F Gravel, trace Silt	265
5	S-3	2 4 4 3	24	7			Tan-Gray C-F GRAVEL, and F-C SAND, trace Silt	
	S-4	5 4 4 5	24	16		Silty Sand	Tan-Gray F-C SAND, and SILT	
								260
10	S-5	12 8 5 6	24	14			Tan-Gray F-C SAND, and SILT	
	S-6	5 6 7 6	24	20			Tan-Gray F-C SAND, and SILT	
	S-7	3 4 5 5	24	15			Tan-Gray F-C SAND, and SILT	255
15	S-8	4 4 5 6	24	22			Tan-Gray F-C SAND, some Silt	
	S-9	7 8 9 11	24	18			Tan-Gray F-C SAND, and SILT	
						Sandy Silt		250
20	S-10	5 6 5 5	24	22			Tan-Gray SILT, some F-C Sand	
	S-11	5 9 9 10	24	21			Tan-Gray SILT, little F-C Sand	
	S-12	5 6 8 7	24	24		Silty Sand	Tan-Gray F-C SAND, some Silt	245
25	S-13	4 6 8 7	24	22		Sandy Silt	Tan-Gray SILT, and F-C SAND	
	S-14	8 11 12 12	24	21		Silty Sand	Tan-Gray F-C SAND, and SILT	
								240
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-5
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 894999
Start Date: 5-2-17	Route No.: 44	Easting: 1227800
Finish Date: 5-3-17	Bridge No.:	Surface Elevation: 269.1
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	5 6 8 9	24	18		Silty Sand *(con't)*	Tan-Gray F-C SAND, some Silt	
	S-16	8 8 8 11	24	20			Tan-Gray F-C SAND, little Silt	
	S-17	7 9 12 12	24	15			Tan-Gray F-C SAND, some Silt	235
35	S-18	10 13 14 16	24	19			Tan-Gray F-C SAND, some Silt	
								230
40	S-19	5 7 10 12	24	18			Tan-Gray F-C SAND, some Silt	
								225
45	S-20	4 4 6 7	24	20			Brown F-C SAND, some Silt	
								220
50	S-21	4 6 12 12	24	24			Brown F-C SAND, little Silt	
							END OF BORING 52ft	215
55								
								210
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 52ft Rock: 0ft		
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**		Hole No.: B-6
Inspector: G. Arzt	Town: Putnam		Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234		Northing: 895033
Start Date: 5-3-17	Route No.: 44		Easting: 1227841
Finish Date: 5-3-17	Bridge No.:		Surface Elevation: 268.4
Project Description: Retaining Wall on Route 44			
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID		Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.		
Groundwater Observations: @47.3 after 13:25 hours			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	2 2 2 2	24	10		Sandy Gravel	Brown F-C SAND, and C-F GRAVEL, trace Silt	265
	S-2	5 6 9 5	24	12			Tan-Brown C-F GRAVEL, and C-F SAND, trace Silt	
5	S-3	2 4 3 4	24	15		Silty Sand	Gray-Tan F-C SAND, and SILT	
	S-4	6 7 7 8	24	19			Tan F-C SAND, and SILT	260
10	S-5	8 8 5 4	24	14			Tan F-C SAND, and SILT	
	S-6	7 5 6 8	24	17			Tan-Gray F-C SAND, some Silt	
	S-7	8 9 8 10	24				Tan-Gray F-C SAND, some Silt	255
15	S-8	9 6 5 7	24	20			Tan-Gray F-C SAND, some Silt	
	S-9	6 6 7 8	24	17		Sandy Silt	Tan-Gray SILT, little F-C Sand	250
20	S-10	10 5 7 7	24	24		Sand	Tan-Gray F-C SAND, trace Silt	
	S-11	6 7 8 9	24	21		Sandy Silt	Tan-Gray SILT, some F-C Sand	
	S-12	4 6 8 8	24	20		Silty Sand	Tan-Gray F-C SAND, and SILT	245
25	S-13	5 6 6 7	24	24			Tan-Gray F-C SAND, some Silt	
	S-14	10 9 11 10	24	17			Tan-Gray F-C SAND, little Silt	240
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft No. of Soil Samples: 21 No. of Core Runs: 0	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2 SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-6
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895033
Start Date: 5-3-17	Route No.: 44	Easting: 1227841
Finish Date: 5-3-17	Bridge No.:	Surface Elevation: 268.4
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @47.3 after 13:25 hours		

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	4 6 8 8	24	17		Silty Sand *(con't)*	Tan-Gray F-C SAND, little Silt	
	S-16	7 9 11 11	24	23			Tan-Gray F-C SAND, little Silt	
	S-17	7 10 10 12	24	19			Tan-Gray F-C SAND, little Silt	235
35	S-18	9 15 14 16	24	22			Tan-Gray F-C SAND, little Silt	
								230
40	S-19	5 8 9 8	24	17			Tan-Gray F-C SAND, trace Silt	
								225
45	S-20	3 4 5 7	24	23			Brown F-C SAND, little Silt	
						Sandy Gravel		220
50	S-21	5 4 11 23	24	24			Brown C-F GRAVEL, some Silt, some F-C Sand	
							END OF BORING 52ft	215
55								
								210
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 52ft Rock: 0ft	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**		Hole No.: B-7
Inspector: G. Arzt	Town: Putnam		Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234		Northing: 895057
Start Date: 5-4-17	Route No.: 44		Easting: 1227871
Finish Date: 5-4-17	Bridge No.:		Surface Elevation: 268.0
Project Description: Retaining Wall on Route 44			
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID		Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.		
Groundwater Observations: @48 after 0 hours			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	6 13 13 8	24	10		Sandy Gravel	Tan-Brown C-F GRAVEL, and C-F SAND, trace Silt	265
	S-2	7 10 5 5	24	16		Silty Sand	Tan-Brown F-C SAND, and SILT	
5	S-3	6 4 7 5	24	12		Sandy Silt	Gray-Tan SILT, and F-C SAND, trace C-F Gravel	
	S-4	7 6 6 7	24	13			Brown SILT, and F-C SAND, little C-F Gravel	260
10	S-5	19 6 5 6	24	16		Silty Sand	Gray-Tan F-C SAND, some Silt	
	S-6	8 8 7 9	24	18		Sandy Silt	Gray-Tan SILT, some F-C Sand	
	S-7	4 5 5 7	24	17			Gray-Tan SILT, and F-C SAND	255
15	S-8	8 6 6 6	24	20			Light Brown SILT, and F-C SAND	
	S-9	8 6 9 13	24	24			Light Brown SILT, some F-C Sand	250
20	S-10	6 6 5 8	24	24		Silty Sand	Tan-Gray F-C SAND, little Silt	
	S-11	9 8 8 8	24	17			Tan-Gray F-C SAND, trace Silt	
	S-12	3 4 4 6	24	17			Tan-Gray F-C SAND, little Silt	245
25	S-13	5 6 8 10	24	20			Tan-Gray F-C SAND, little Silt	
	S-14	9 10 11 13	24	20			Tan-Gray F-C SAND, some Silt	240
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 49ft Rock: 0ft No. of Soil Samples: 21 No. of Core Runs: 0	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2 SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-7
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895057
Start Date: 5-4-17	Route No.: 44	Easting: 1227871
Finish Date: 5-4-17	Bridge No.:	Surface Elevation: 268.0
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @48 after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	5 10 12 12	24	18		Silty Sand *(con't)*	Tan-Gray F-C SAND, little Silt	
	S-16	10 12 11 12	24	20			Tan-Gray F-C SAND, little Silt	
	S-17	5 6 8 7	24	16			Tan-Brown F-C SAND, trace Silt	235
35	S-18	7 9 9 9	24	20			Tan-Gray F-C SAND, little Silt	
						Sandy Silt		230
40	S-19	4 4 3 3	24	24			Brown SILT, trace F-C Sand	
								225
45	S-20	36 24 19 18	24	15		Sandy Gravel	Gray-Brown C-F GRAVEL, little F-C Sand, trace Silt	
	S-21	88	6	3			Dark Brown C-F GRAVEL, some C-F Sand, trace Silt	220
50							END OF BORING 49ft	
								215
55								
								210
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 49ft Rock: 0ft		
No. of Soil Samples: 21 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-8
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895104
Start Date: 5-4-17	Route No.: 44	Easting: 1227931
Finish Date: 5-5-17	Bridge No.:	Surface Elevation: 267.2
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	6 13 12 9	24	12		Sandy Gravel	Brown-Tan C-F GRAVEL, and C-F SAND, trace Silt	265
	S-2	13 5 6 7	24	14		Sandy Silt	Tan-Gray SILT, and F-C SAND, trace C-F Gravel	
5	S-3	9 6 5 5	24	15		Silty Sand	Tan-Gray F-C SAND, and SILT	
	S-4	8 7 8 8	24	14		Sandy Silt	Tan-Gray SILT, and F-C SAND	260
10	S-5	3 3 4 6	24	17			Tan-Gray SILT, some F-C Sand	
	S-6	4 6 5 6	24	24			Tan-Gray SILT, and F-C SAND	255
	S-7	4 4 4 5	24	16		Silty Sand	Tan-Gray F-C SAND, little Silt	
15	S-8	4 4 4 6	24	16			Tan-Gray F-C SAND, little Silt	
	S-9	4 4 5 6	24	19			Tan-Gray F-C SAND, some Silt	250
20	S-10	4 5 6 8	24	16			Tan F-C SAND, little Silt	
	S-11	7 7 7 7	24	21			Tan-Gray F-C SAND, little Silt	245
	S-12	4 6 8 10	24	20			Tan-Gray F-C SAND, little Silt	
25	S-13	5 8 8 8	24	16		Sand	Tan-Gray F-C SAND, trace Silt	
	S-14	5 7 8 9	24	18			Tan-Gray F-C SAND, trace Silt	240
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 37ft Rock: 0ft	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 1 of 2
No. of Soil Samples: 19 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-8
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895104
Start Date: 5-4-17	Route No.: 44	Easting: 1227931
Finish Date: 5-5-17	Bridge No.:	Surface Elevation: 267.2
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	SAMPLES: Blows on Sampler per 6 inches	SAMPLES: Pen. (in.)	SAMPLES: Rec. (in.)	SAMPLES: RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	7 12 10 9	24	18		Sand *(con't)*	Tan-Gray F-C SAND, trace Silt, trace F-C Gravel	
	S-16	15 15 19 22	24	22		Silty Sand	Tan-Gray F-C SAND, little Silt	235
	S-17	6 14 16 27	24	18		Sandy Gravel	Tan-Gray C-F GRAVEL, some F-C Sand, some Silt	
35	S-18	22 38 47 90/3	21	18			Dark Gray-Tan C-F GRAVEL, and F-C SAND, trace Silt	
	S-19	50	0	0				230
							END OF BORING 37ft	
40								225
45								220
50								215
55								210
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 37ft Rock: 0ft	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
No. of Soil Samples: 19 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-9
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895137
Start Date: 5-5-17	Route No.: 44	Easting: 1227972
Finish Date: 5-5-17	Bridge No.:	Surface Elevation: 266.7
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						Pavement Structure		
	S-1	12 13 14 13	24	10		Sandy Gravel	Tan C-F GRAVEL, and C-F SAND, trace Silt	265
	S-2	8 10 6 6	24	12		Silty Sand	Gray-Tan F-C SAND, and SILT, trace C-F Gravel	
5	S-3	9 6 5 7	24	14		Sandy Silt	Gray-Tan SILT, and F-C SAND	260
	S-4	5 7 6 8	24	17			Gray-Tan SILT, trace F-C Sand	
10	S-5	4 5 6 7	24	16			Gray-Tan SILT, and F-C SAND	
	S-6	8 7 7 9	24	20		Silty Sand	Gray-Tan F-C SAND, some Silt	255
	S-7	3 4 6 9	24	18			Gray-Tan F-C SAND, little Silt	
15	S-8	5 7 9 11	24	19			Gray-Tan F-C SAND, some Silt	250
	S-9	6 10 10 12	24	20		Sand	Gray-Tan F-C SAND, trace Silt	
20	S-10	4 7 7 9	24	16			Gray-Tan F-C SAND, trace Silt	
	S-11	7 8 10 11	24	20			Gray-Tan F-C SAND, trace Silt	245
	S-12	5 5 7 9	24	19			Gray-Tan F-C SAND, trace Silt	
25	S-13	5 6 7 8	24	20			Gray-Tan F-C SAND, trace C-F Gravel, trace Silt	240
	S-14	5 9 8 9	24	16			Gray-Tan F-C SAND, trace Silt	
30								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 34.5ft Rock: 0ft	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase Boring terminated at auger refusal at 34.5'	Sheet 1 of 2
No. of Soil Samples: 18 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: B. Perry	**Connecticut DOT Boring Report**	Hole No.: B-9
Inspector: G. Arzt	Town: Putnam	Stat./Offset:
Engineer: R. Pion	Project No.: 0170-3234	Northing: 895137
Start Date: 5-5-17	Route No.: 44	Easting: 1227972
Finish Date: 5-5-17	Bridge No.:	Surface Elevation: 266.7
Project Description: Retaining Wall on Route 44		
Casing Size/Type: 4" HSA	Sampler Type/Size: SS 1 3/8" ID	Core Barrel Type:
Hammer Wt.: Fall: in.	Hammer Wt.: 140 Fall: 30in.	
Groundwater Observations: @Dry after 0 hours		

Depth (ft)	SAMPLES: Sample Type/No.	SAMPLES: Blows on Sampler per 6 inches	SAMPLES: Pen. (in.)	SAMPLES: Rec. (in.)	SAMPLES: RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
30	S-15	5 6 7 6	24	15		Sand *(con't)*	Gray-Tan F-C SAND, trace F-C Gravel, trace Silt	
	S-16	7 8 11 21	24	24		Silty Sand	Gray-Tan F-C SAND, some Silt	235
	S-17	10 100	10	10			Gray-Tan F-C SAND, little Silt	
	S-18	50	0	0				
35							END OF BORING 34.5ft	230
40								225
45								220
50								215
55								210
60								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: Pavement structure consists of 8" of bituminous concrete pavement on 6" of Portland cement concrete pavement with no discernable subbase	Sheet 2 of 2
Earth: 34.5ft Rock: 0ft	Boring terminated at auger refusal at 34.5'	
No. of Soil Samples: 18 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-1
Inspector: D. LaMesa	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/11/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/11/2022	Bridge No.:		Surface Elevation: 238' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 4" ID FJ (HW)	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. 300 Fall: 24in.	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: Groundwater Not Measured Due to Drilling Methods			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
						PAVEMENT STR.	4.5" Asphalt	
	S -1	8 9 9 14	24	23			Light brown, F SAND, some Silt	
5								
	S -2	6 12 15 23	24	19			Light brown, SILT, some f Sand	- 233+/-
10								
	S -3	12 18 25 27	24	18			Light brown, F SAND, little Silt	- 228+/-
15								
	S -4	12 28 24 28	24	24			Orange brown, F SAND, little Silt, wet	- 223+/-
20								
	S -5	12 16 21 25	24	24			Light brown, F SAND, little Silt, wet	- 218+/-
25						SILTY SAND		
	S -6	13 18 22 26	24	17			Light brown, F SAND, little Silt	- 213+/-
30								
	S -7	12 15 18 21	24	19			Gray-brown, F SAND, little Silt	- 208+/-
35								
	S -8	15 21 23 37	24	14			Gray-brown, F SAND, little Silt	- 203+/-
40								
	S -9	11 15 18 20	24	16			Gray-brown, F SAND and SILT	- 198+/-
45								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 50ft	Rock: 0ft	NOTES: 1) Flush-joint casing advanced to 10 feet below grade (fbg) prior to introducing bentonite drilling mud and continuing boring open-hole. 2) Stratification lines represent approx. boundaries between soil types, transitions may be gradual. 3) Water level readings have been made at times and under conditions stated, fluctuations may occur due to other factors.	Sheet 1 of 2
No. of Soil Samples : 11	No. of Core Runs: 0		

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-1
Inspector: D. LaMesa	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/11/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/11/2022	Bridge No.:		Surface Elevation: 238' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 4" ID FJ (HW)	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. 300 Fall: 24in.	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: Groundwater Not Measured Due to Drilling Methods			

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
	S -10	9 14 17 24	24	15		SILTY SAND	Gray-brown, C-F SAND, little Silt	
50	S-11	12 15 29 30	24	16		50'	Gray-brown, F SAND and SILT	- 188+/-
							END OF BORING AT 50ft	
55								
60								
65								
70								
75								
80								
85								
90								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 50ft Rock: 0ft		NOTES:	Sheet 2 of 2
No. of Soil Samples : 11	No. of Core Runs: 0		

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-2
Inspector: D. LaMesa	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/12/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/12/2022	Bridge No.:		Surface Elevation: 269' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 4" ID FJ (HW)	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. 300 Fall: 24in.	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: Groundwater Not Measured Due to Drilling Methods			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
						PAVEMENT STR.	6" Asphalt, 6" Concrete	
	S -1	16 12 14 16	24	12			Brown, C-F SAND, little Silt, trace f Gravel	
5						GRAVELLY SAND		
	S -2	9 6 6 5	24	5			Brown, C-F SAND and M-F GRAVEL, trace Silt	- 264+/-
10								
	S -3	10 15 15 22	24	7			Light brown, F SAND, trace Silt	- 259+/-
15								
	S -4	11 16 17 18	24	6			Gray-brown, F SAND, little Silt	- 254+/-
20								
	S -5	12 16 19 19	24	4			Gray-brown, F SAND, little Silt	- 249+/-
25								
	S -6	14 14 18 16	24	8		SILTY SAND	Light brown, SILT, some f Sand	- 244+/-
30								
	S -7	11 16 21 28	24	10			Light brown, SILT, little f Sand, wet	- 239+/-
35								
	S -8	13 18 19 26	24	4			Light brown, F SAND and SILT	- 234+/-
40								
	S -9	19 29 47 40	24	17			Gray-brown, F SAND, some Silt	- 229+/-
45								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 70ft Rock: 0ft		NOTES: 1) Stratification lines represent approx. boundaries between soil types, transitions may be gradual. 2) Water level readings have been made at times and under conditions stated, fluctuations may occur due to other factors. 3) Drilling chatter observed from about 38 to 39.5 fbg on inferred boulder.	Sheet 1 of 2
No. of Soil Samples 14	No. of Core Runs: 0		

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-2
Inspector: D. LaMesa	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/12/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/12/2022	Bridge No.:		Surface Elevation: 269' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 4" ID FJ (HW)	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. 300 Fall: 24in.	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: Groundwater Not Measured Due to Drilling Methods			

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
	S -10	7 8 15 26	24	5			Brown, F SAND, trace Silt	
50								
	S-11	15 19 19 20	24	21			Brown, F SAND, little Silt	- 219+/-
55								
	S-12	14 17 17 21	24	5		SILTY SAND	Brown, F SAND, some Silt	- 214+/-
60								
	S-13	23 25 26 37	24	12			Brown, F SAND, little Silt	- 209+/-
65								
	S-14	13 19 23 31	24	15		68'	Gray-brown, F SAND, some Silt	- 204+/-
						BOULDER 69.5'		
70						70'		- 199+/-
							END OF BORING AT 70ft	
75								
80								
85								
90								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 70ft Rock: 0ft		NOTES:	Sheet 2 of 2
No. of Soil Samples 14	No. of Core Runs: 0		

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-3
Inspector: M. Fekieta	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/10/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/10/2022	Bridge No.:		Surface Elevation: 244' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 3.25" ID HSAs	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. Fall:	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: @20' after 30 minutes			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
						PAVEMENT STR.	4" Asphalt	
	S -1	8 12 12 11	24	20			Light brown, F SAND and SILT	
5								- 239+/-
	S -2	7 10 13 17	24	18			Light brown, F SAND, little Silt	
10								- 234+/-
	S -3	4 5 13 15	24	18			Light brown, F SAND, trace Silt	
15								- 229+/-
	S -4	6 13 19 22	24	19			Light brown, F SAND, trace Silt	
20						SILTY SAND		- 224+/-
	S -5	4 8 12 15	24	15			Light brown, F SAND, little Silt, wet	
25								- 219+/-
	S -6	5 12 18 26	24	20			Brown, F SAND, little Silt	
30								- 214+/-
	S -7	3 5 10 19	24	24			Light brown, F SAND, little Silt	
35	S -8	33 33 33 65/5"	23	23		35'	Light brown, F SAND and SILT	- 209+/-
							END OF BORING AT 35ft	
40								
45								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 35ft Rock: 0ft		NOTES: 1) Stratification lines represent approx. boundaries between soil types, transitions may be gradual. 2) Water level readings have been made at times and under conditions stated, fluctuations may occur due to other factors.	Sheet 1 of 1
No. of Soil Samples : 8	No. of Core Runs: 0		

Driller:	T. McGovern	**Connecticut DOT Boring Report**	Hole No.: SLR-4
Inspector:	D. LaMesa	Town: Putnam	Sta./Offset: N/A
Engineer:	SLR Consulting	Project No.: 0115-0122	Northing: Not Available
Start Date:	8/11/2022	Route No.: 44	Easting: Not Available
Finish Date:	8/11/2022	Bridge No.:	Surface Elevation: 268' +/-

Project Description: Replacement of Retaining Wall along Route 44

Casing Size/Type: 3.25" ID HSAs	Sampler Type/Size: 1 3/8" ID SS	Core Barrel Type:
Hammer Wt. Fall:	Hammer Wt. 140 Fall: 30in.	

Groundwater Observations: @44' (wet sample)

Depth (ft)	SAMPLES Sample Type/No.	Blows on Sampler per 6 inches				Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
									PAVEMENT STR.	8.5" Asphalt, 6" Concrete	
	S -1	41	38	32	39	24	19		GRAVELLY SAND	Brown, C-F GRAVEL and C-F SAND, trace Silt	
5											- 263+/-
	S -2	4	9	9	10	24	16			Light brown, F SAND, some Silt	
10											- 258+/-
	S -3	6	8	13	12	24	20			Light brown, F SAND, some Silt	
15											- 253+/-
	S -4	10	17	38	18	24	15			Light brown, F SAND and SILT, little m-f Gravel	
20											- 248+/-
	S -5	24	24	20	25	24	8			Light brown, F SAND, little Silt	
25									SILTY SAND		- 243+/-
	S -6	8	10	13	16	24	18			Gray-brown, F SAND, little Silt	
30											- 238+/-
	S -7	8	9	13	18	24	21			Gray-brown, F SAND, little Silt	
35											- 233+/-
	S -8	10	13	17	20	24	22			Gray-brown, F SAND, little Silt	
40											- 228+/-
	S -9	7	10	14	12	24	23			Brown, C-F SAND, trace Silt	
										Brown, F SAND, some Silt	
45	S -10	8	7	5	8	24	15		45'	END OF BORING AT 45ft	

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in		NOTES: 1) Stratification lines represent approx. boundaries between soil types, transitions may be gradual. 2) Water level readings have been made at times and under conditions stated, fluctuations may occur due to other factors. 3) Drilling chatter observed from about 16 to 17 fbg on inferred cobbles/possible boulder.	Sheet
Earth: 45ft	Rock: 0ft		1 of 1
No. of Soil Samples : 10	No. of Core Runs: 0		

Driller: T. McGovern	**Connecticut DOT Boring Report**		Hole No.: SLR-5
Inspector: M. Fekieta	Town: Putnam		Sta./Offset: N/A
Engineer: SLR Consulting	Project No.: 0115-0122		Northing: Not Available
Start Date: 8/10/2022	Route No.: 44		Easting: Not Available
Finish Date: 8/10/2022	Bridge No.:		Surface Elevation: 252' +/-
Project Description: Replacement of Retaining Wall along Route 44			
Casing Size/Type: 3.25" ID HSAs	Sampler Type/Size: 1 3/8" ID SS		Core Barrel Type:
Hammer Wt. Fall:	Hammer Wt. 140 Fall: 30in.		
Groundwater Observations: Not Encountered			

Depth (ft)	SAMPLES Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
						PAVEMENT STR.	4" Asphalt	
	S -1	5 6 9 11	24	15			Brown, C-F SAND, some m-f Gravel, little Silt	
5								- 247+/-
	S -2	3 3 6 9	24	18			Light brown, F SAND, some Silt	
10								- 242+/-
	S -3	6 11 12 16	24	19		SILTY SAND	Light brown, F SAND, little Silt	
15								- 237+/-
	S -4	6 10 12 18	24	18			Light brown, F SAND, trace Silt	
20	S -5	9 11 13 17	24	19			Light brown, C-F SAND, trace Silt	- 232+/-
							END OF BORING AT 20ft	
25								
30								
35								
40								
45								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

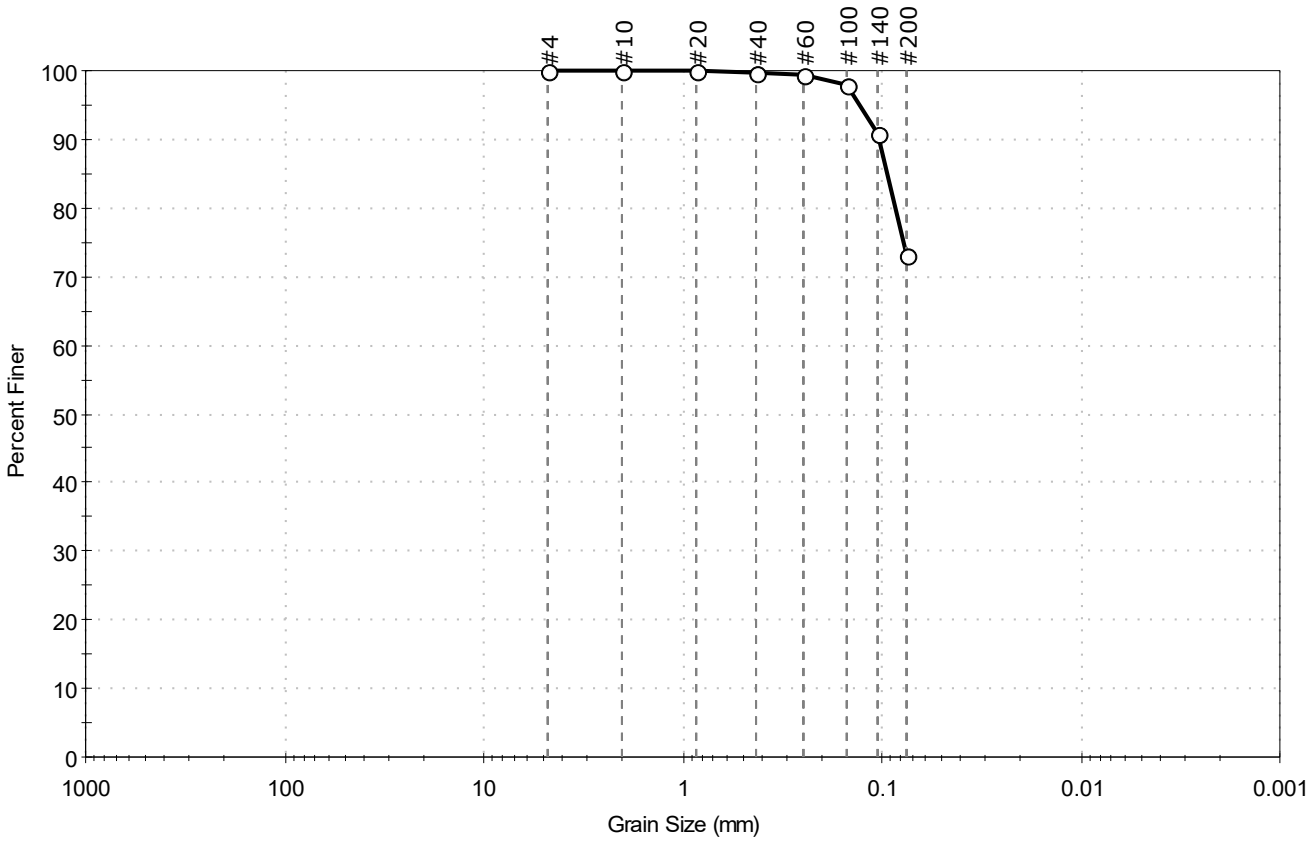
Total Penetration in Earth: 20ft	Rock:	NOTES: 1) Stratification lines represent approx. boundaries between soil types, transitions may be gradual. 2) Water level readings have been made at times and under conditions stated, fluctuations may occur due to other factors.	Sheet 1 of 1
No. of Soil Samples : 5	No. of Core Runs:		

APPENDIX 3 -

LABORATORY TESTING RESULTS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-1	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/05/22	Checked By:	bfs
Depth :	5'-7'	Test Id:	687456		
Test Comment:	---				
Visual Description:	Moist, pale brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	26.8	73.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	98		
#140	0.11	91		
#200	0.075	73		

Coefficients

D_{85} = 0.0945 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

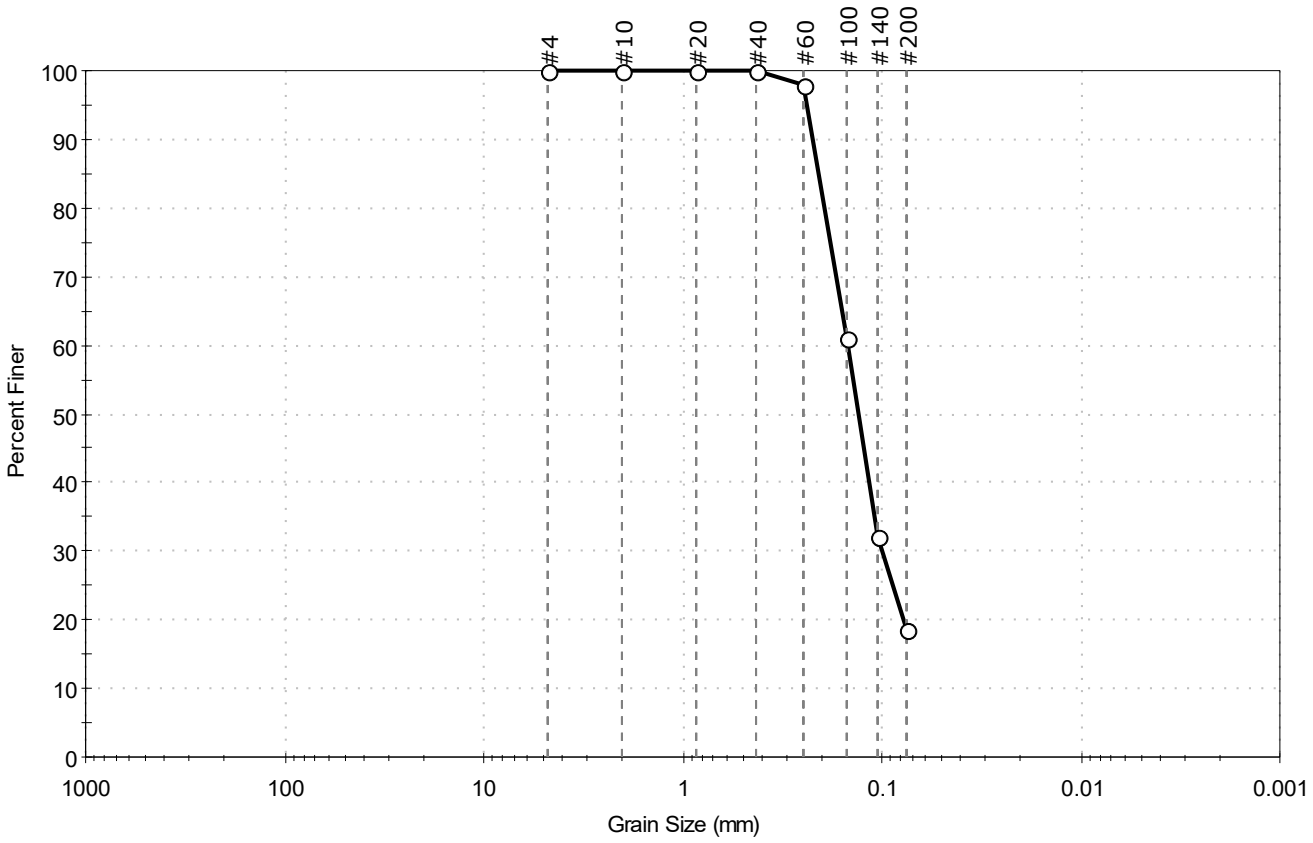
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-1	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-4	Test Date:	10/05/22	Checked By:	bfs
Depth :	15'-17'	Test Id:	687457		
Test Comment:	---				
Visual Description:	Moist, yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	81.6	18.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	61		
#140	0.11	32		
#200	0.075	18		

Coefficients

D_{85} = 0.2089 mm
D_{30} = 0.1001 mm
D_{60} = 0.1479 mm
D_{15} = N/A
D_{50} = 0.1312 mm
D_{10} = N/A
C_u = N/A
C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

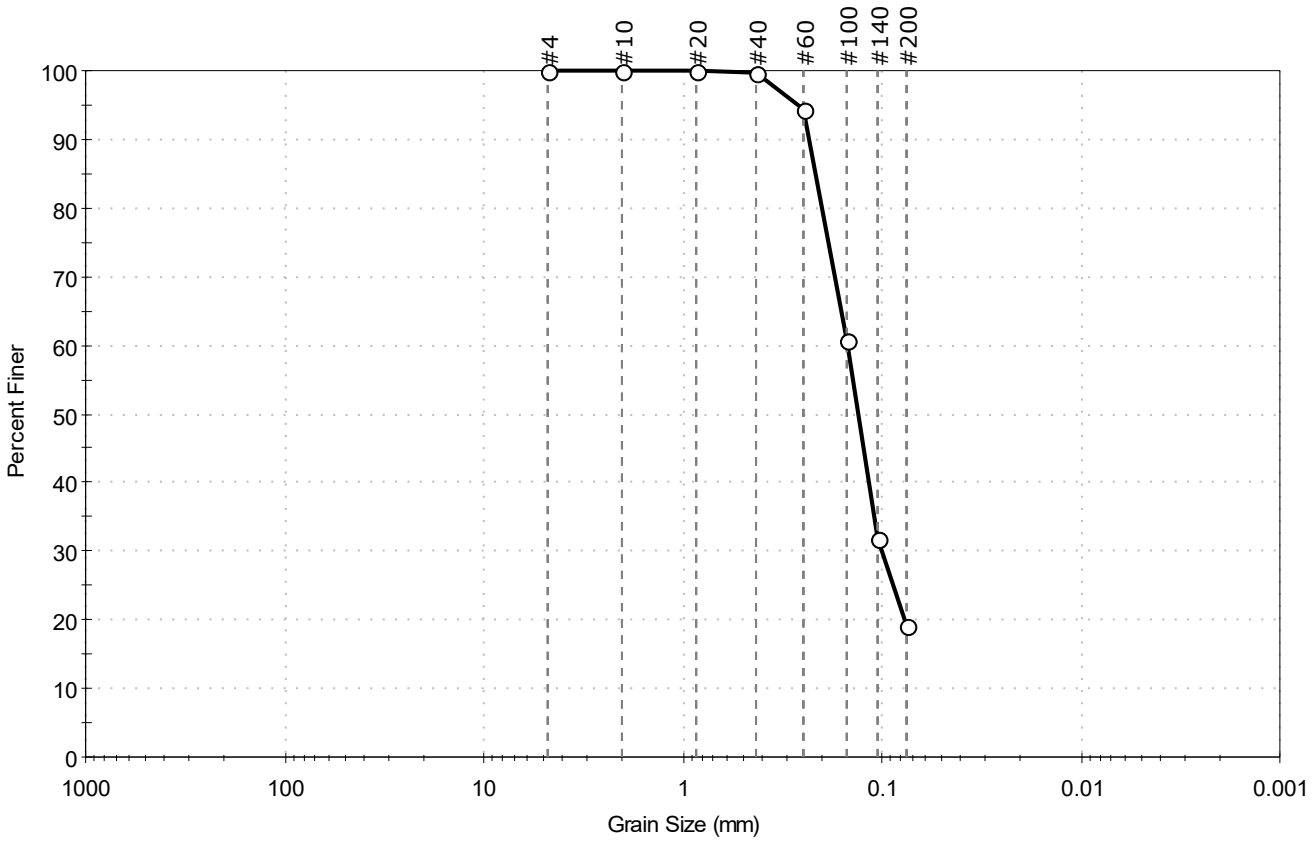
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-1	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-7	Test Date:	10/05/22	Checked By:	bfs
Depth :	30'-32'	Test Id:	687458		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	80.7	19.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	94		
#100	0.15	61		
#140	0.11	32		
#200	0.075	19		

Coefficients

D_{85} = 0.2170 mm	D_{30} = 0.1010 mm
D_{60} = 0.1487 mm	D_{15} = N/A
D_{50} = 0.1319 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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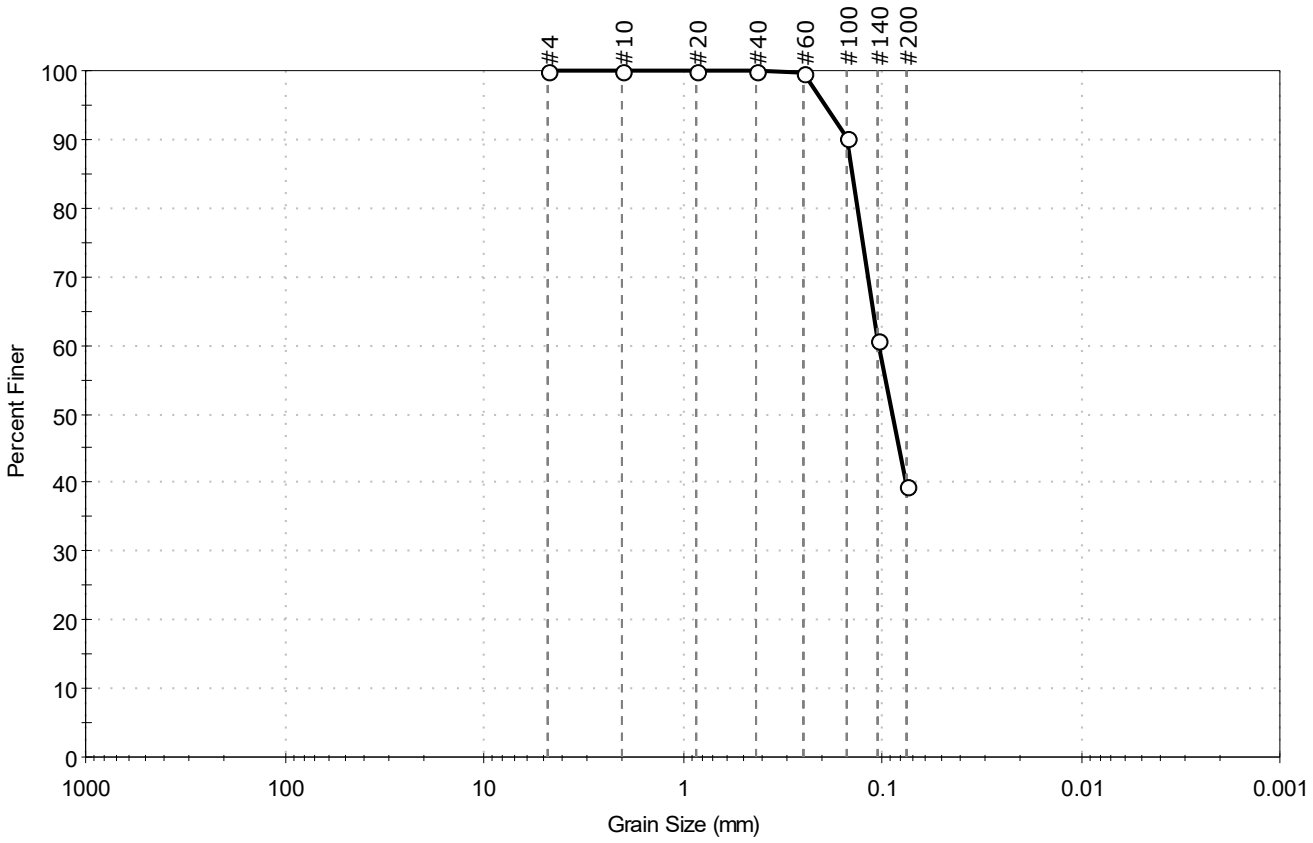
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-1	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-9	Test Date:	10/05/22	Checked By:	bfs
Depth :	40'42'	Test Id:	687459		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	60.5	39.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	90		
#140	0.11	61		
#200	0.075	39		

Coefficients

D_{85} = 0.1411 mm	D_{30} = N/A
D_{60} = 0.1046 mm	D_{15} = N/A
D_{50} = 0.0889 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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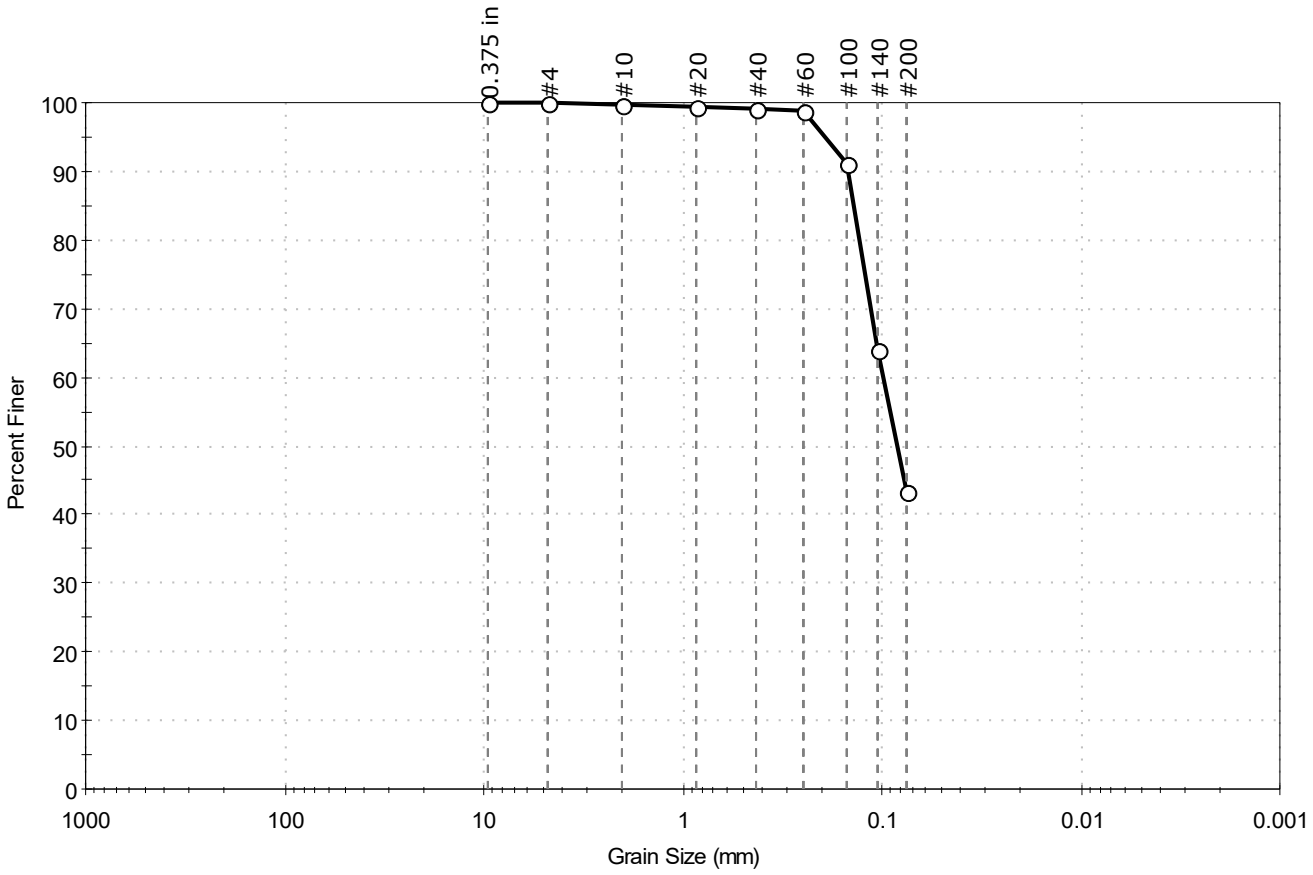
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-1	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-11	Test Date:	10/05/22	Checked By:	bfs
Depth :	48'-50'	Test Id:	687460		
Test Comment:	---				
Visual Description:	Moist, grayish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.1	56.6	43.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.375 in	9.50	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	99		
#100	0.15	91		
#140	0.11	64		
#200	0.075	43		

Coefficients

D_{85} = 0.1387 mm D_{30} = N/A
D_{60} = 0.0992 mm D_{15} = N/A
D_{50} = 0.0839 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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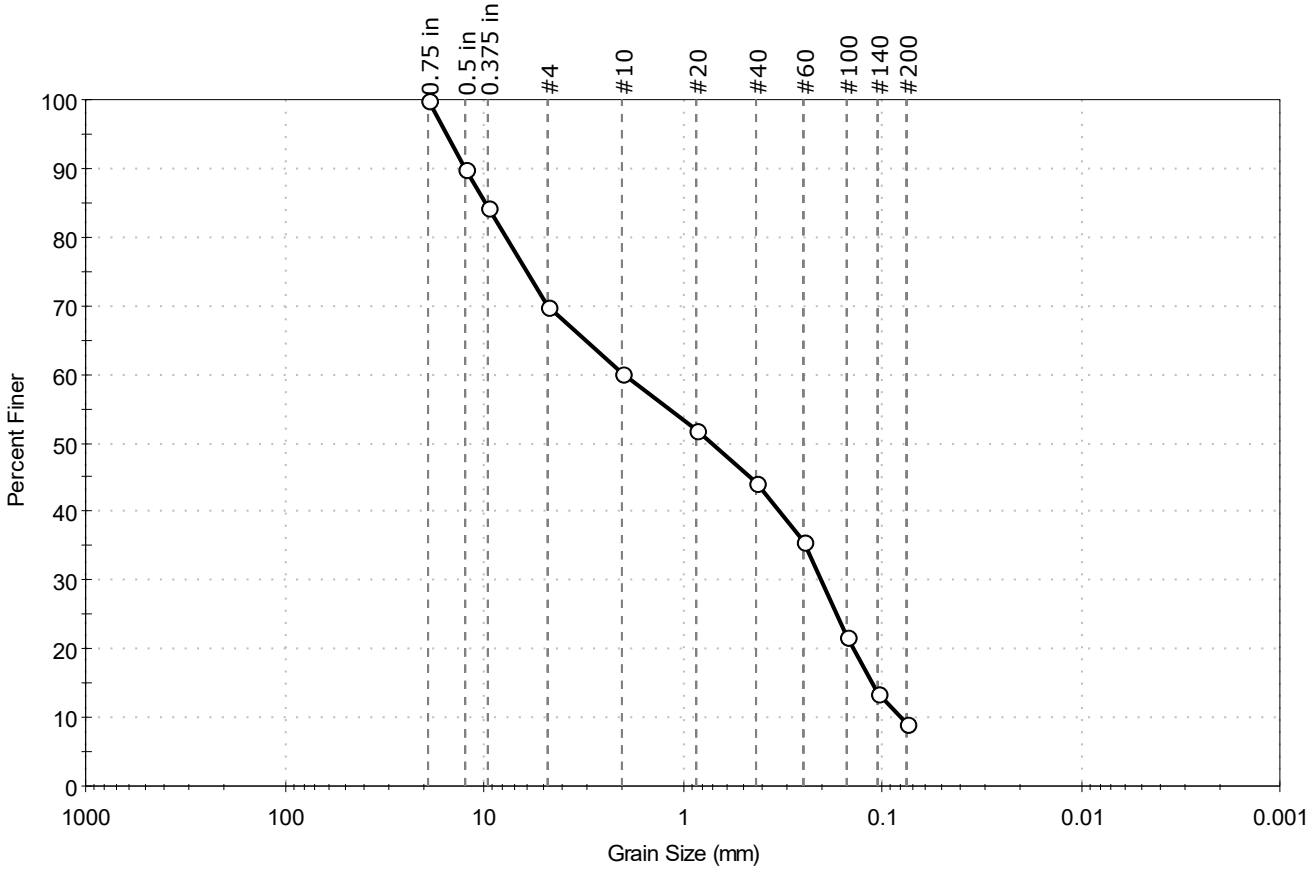
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/05/22	Checked By:	bfs
Depth :	5'-7'	Test Id:	687461		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand with silt and gravel				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	30.2	60.7	9.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	90		
0.375 in	9.50	84		
#4	4.75	70		
#10	2.00	60		
#20	0.85	52		
#40	0.42	44		
#60	0.25	36		
#100	0.15	22		
#140	0.11	14		
#200	0.075	9.1		

Coefficients

D_{85} = 9.7699 mm
D_{30} = 0.2024 mm
D_{60} = 1.9762 mm
D_{15} = 0.1120 mm
D_{50} = 0.7170 mm
D_{10} = 0.0800 mm
C_u = 24.702
C_c = 0.259

Classification

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

Sample/Test Description

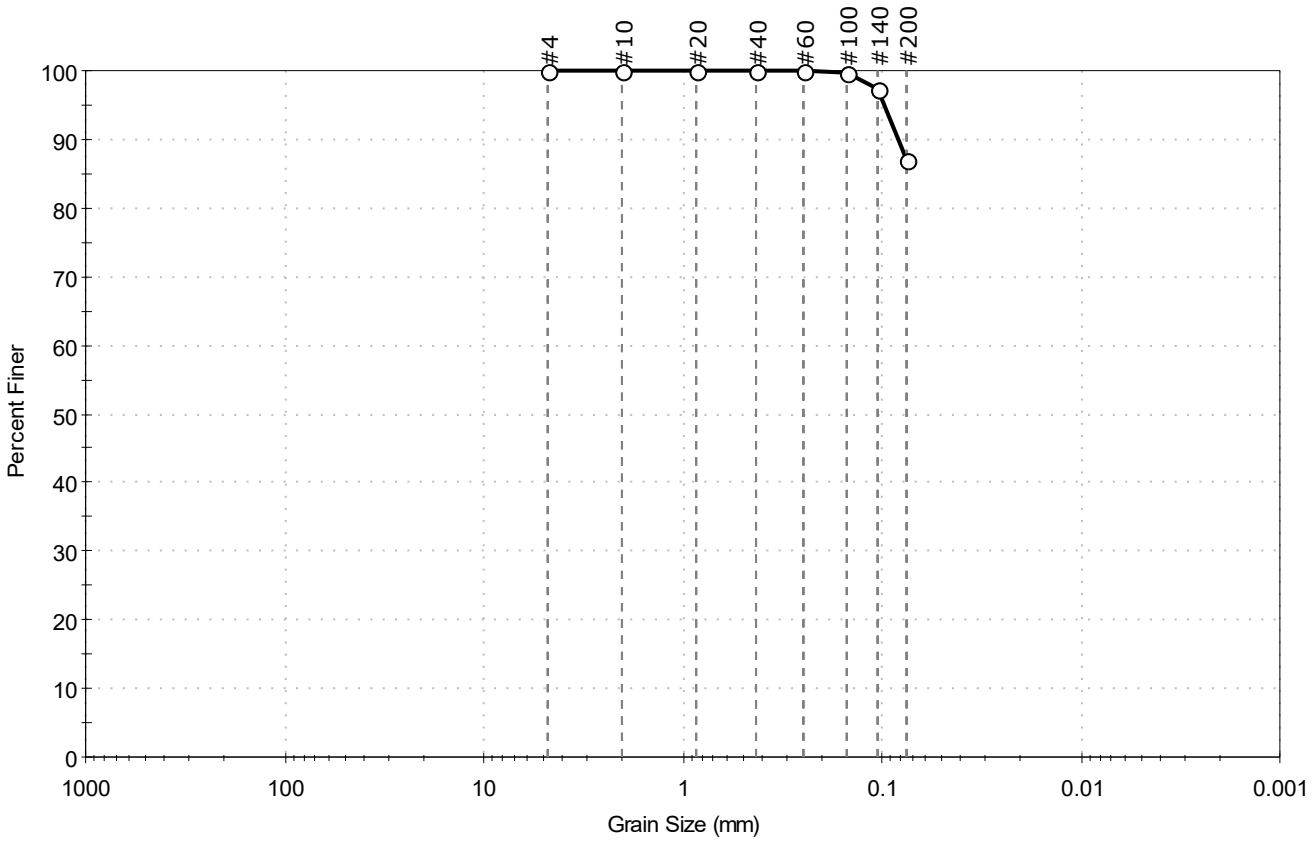
Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-7	Test Date:	10/05/22	Checked By:	bfs
Depth :	30'-32'	Test Id:	687463		
Test Comment:	---				
Visual Description:	Moist, light olive brown silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	12.9	87.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	100		
#140	0.11	97		
#200	0.075	87		

Coefficients

D_{85} = N/A D_{30} = N/A
D_{60} = N/A D_{15} = N/A
D_{50} = N/A D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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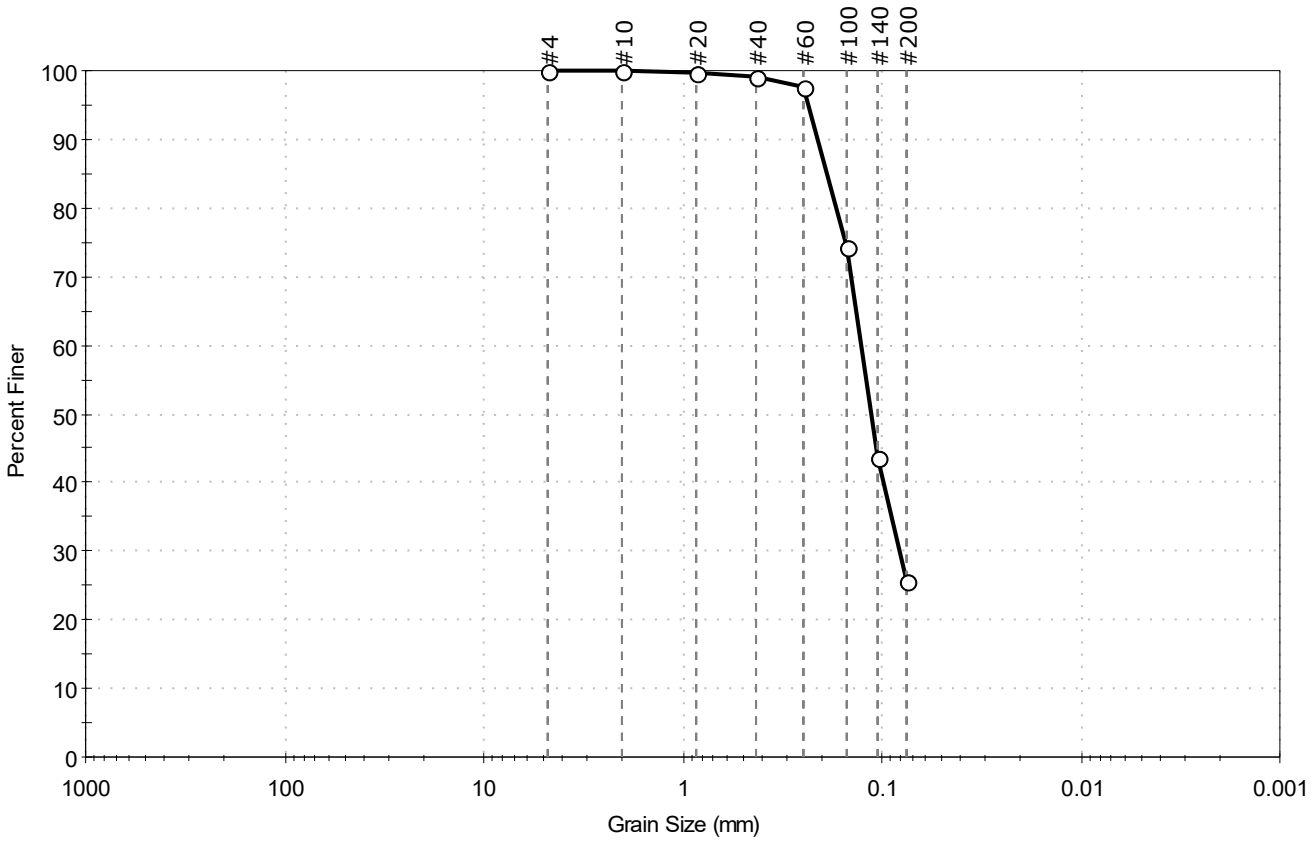
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-9	Test Date:	10/05/22	Checked By:	bfs
Depth :	40'-42'	Test Id:	687464		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	74.2	25.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	74		
#140	0.11	44		
#200	0.075	26		

Coefficients

D_{85} = 0.1897 mm D_{30} = 0.0813 mm
D_{60} = 0.1275 mm D_{15} = N/A
D_{50} = 0.1138 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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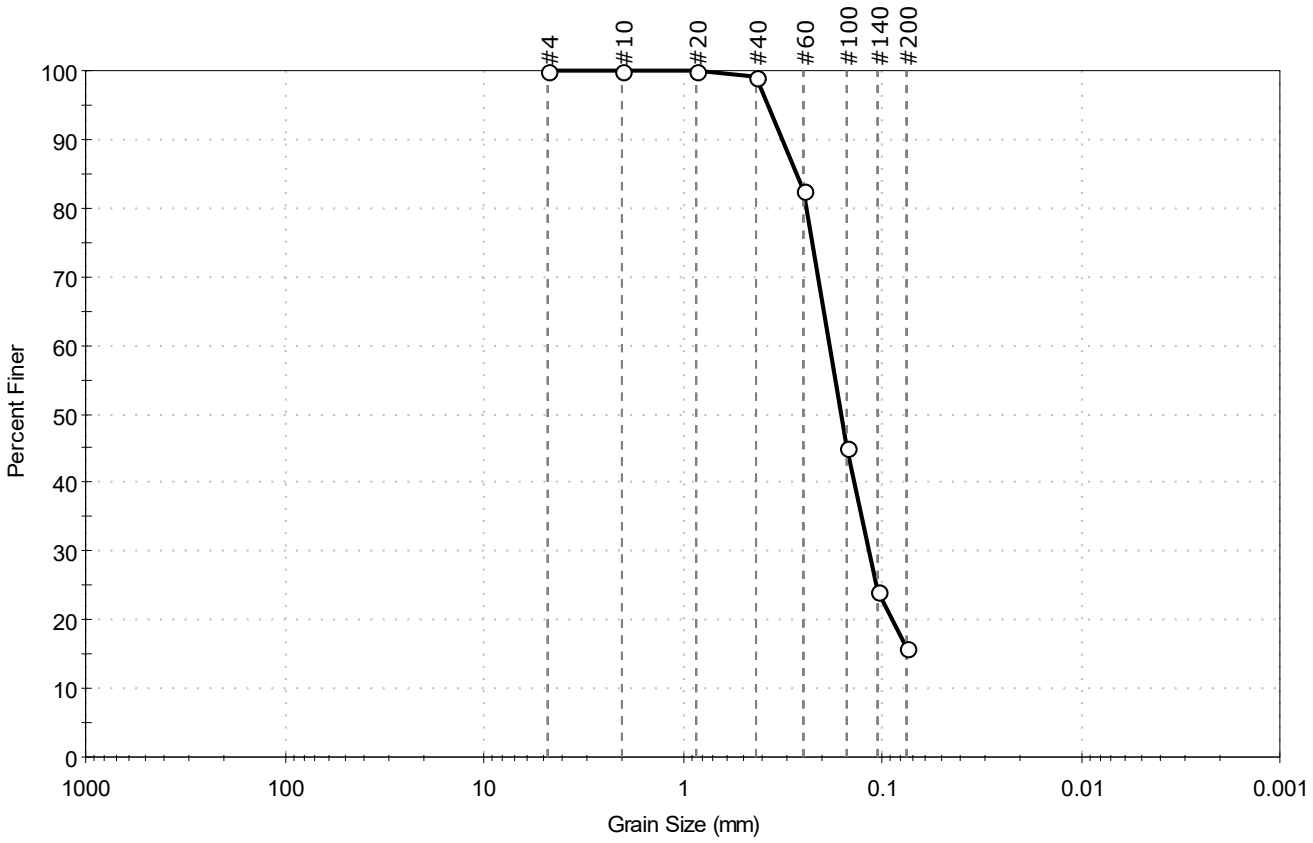
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-11	Test Date:	10/05/22	Checked By:	ank
Depth :	50'-52'	Test Id:	687465		
Test Comment:	---				
Visual Description:	Moist, olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	84.2	15.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	83		
#100	0.15	45		
#140	0.11	24		
#200	0.075	16		

Coefficients

D_{85} = 0.2695 mm	D_{30} = 0.1167 mm
D_{60} = 0.1838 mm	D_{15} = N/A
D_{50} = 0.1605 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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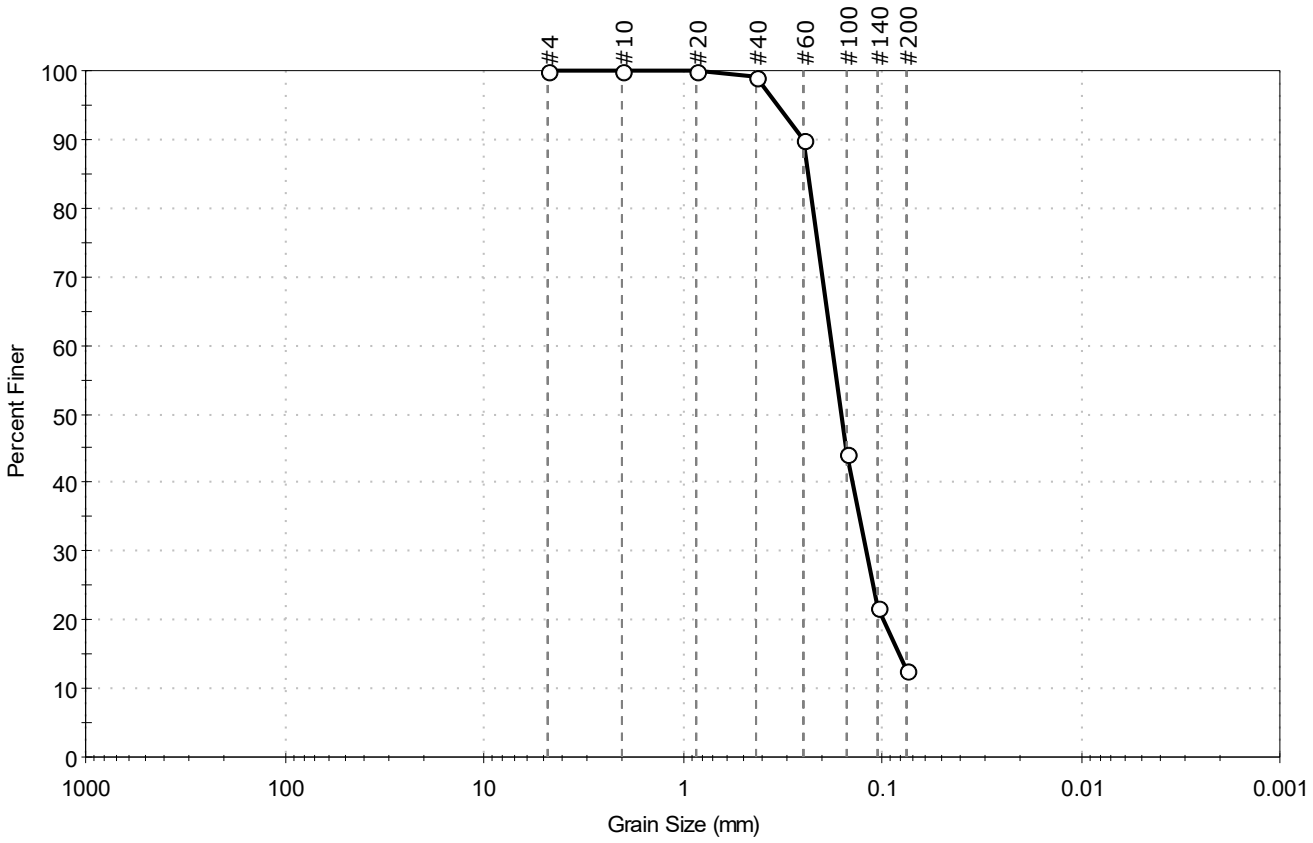
Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-13	Test Date:	10/05/22	Checked By:	bfs
Depth :	60'-62'	Test Id:	687466		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	----				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	87.3	12.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	90		
#100	0.15	44		
#140	0.11	22		
#200	0.075	13		

Coefficients

D_{85} = 0.2364 mm	D_{30} = 0.1202 mm
D_{60} = 0.1787 mm	D_{15} = 0.0818 mm
D_{50} = 0.1598 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

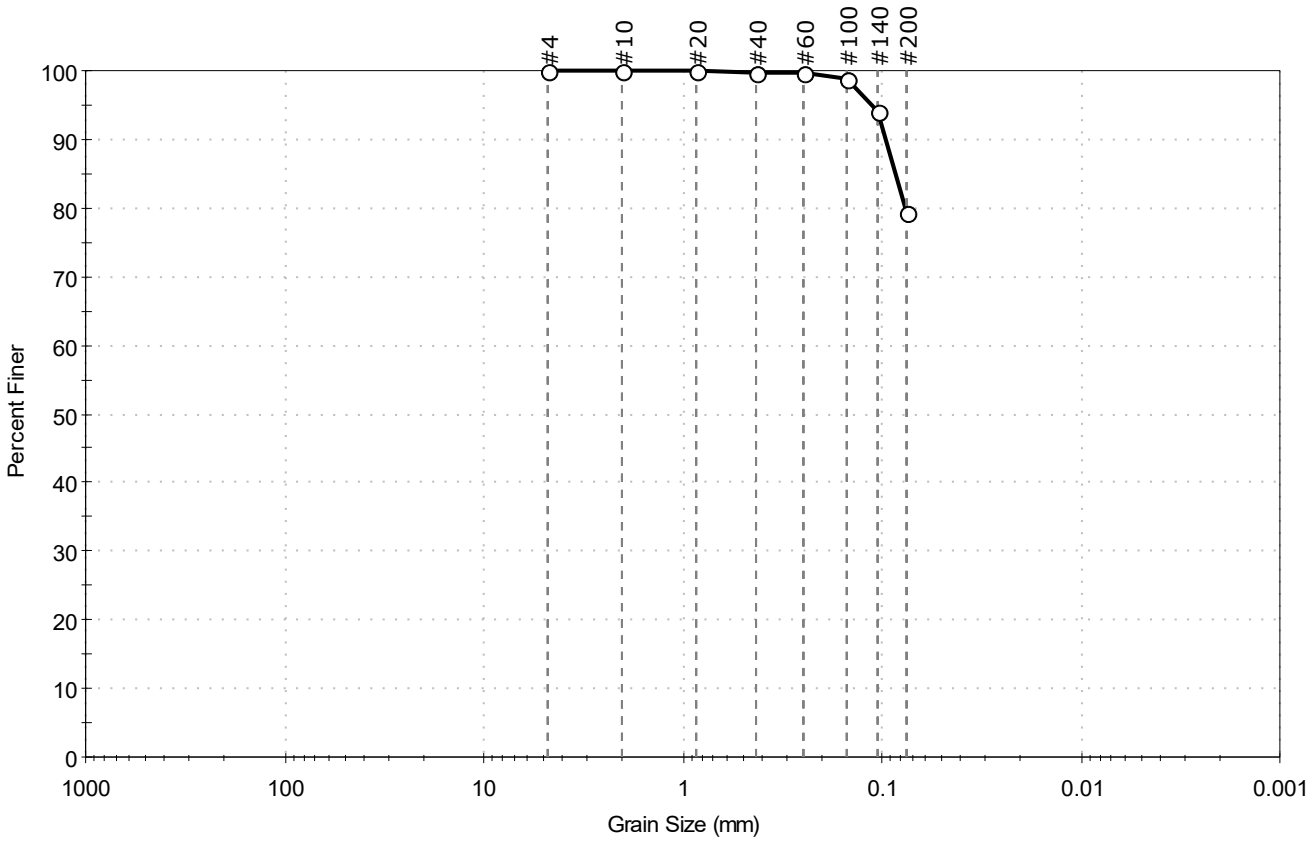
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-2	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-6	Test Date:	10/05/22	Checked By:	bfs
Depth :	25'-27'	Test Id:	687710		
Test Comment:	---				
Visual Description:	Moist, grayish brown silt with sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	20.6	79.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	94		
#200	0.075	79		

Coefficients

D_{85} = 0.0856 mm	D_{30} = N/A
D_{60} = N/A	D_{15} = N/A
D_{50} = N/A	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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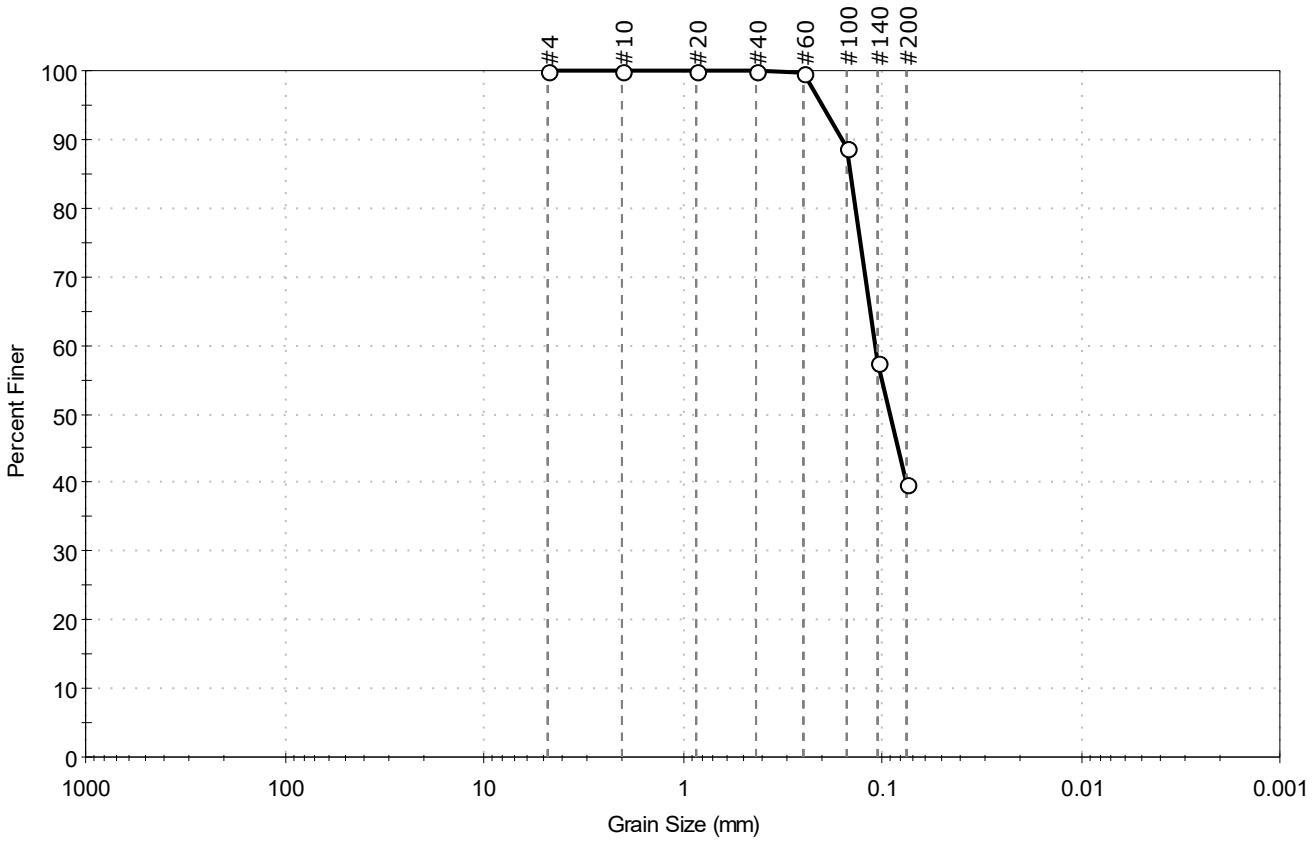
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-3	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-1	Test Date:	10/05/22	Checked By:	bfs
Depth :	1'-3'	Test Id:	687467		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	60.2	39.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	100		
#100	0.15	89		
#140	0.11	58		
#200	0.075	40		

Coefficients

D_{85} = 0.1440 mm D_{30} = N/A
D_{60} = 0.1088 mm D_{15} = N/A
D_{50} = 0.0914 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

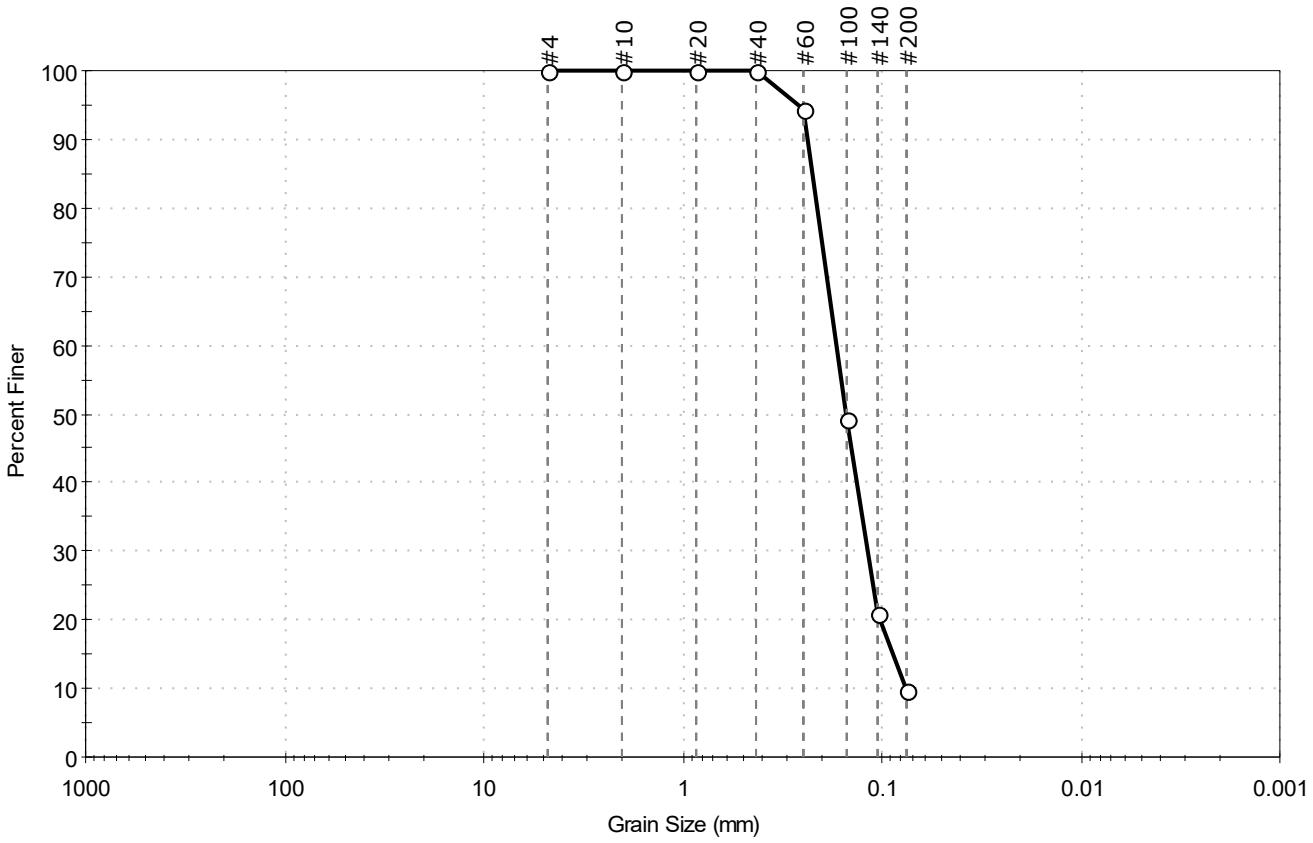
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-3	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-3	Test Date:	10/05/22	Checked By:	bfs
Depth :	10'-12'	Test Id:	687468		
Test Comment:	---				
Visual Description:	Moist, pale brown sand with silt				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	90.3	9.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	94		
#100	0.15	49		
#140	0.11	21		
#200	0.075	9.7		

Coefficients

D_{85} = 0.2247 mm	D_{30} = 0.1185 mm
D_{60} = 0.1693 mm	D_{15} = 0.0884 mm
D_{50} = 0.1512 mm	D_{10} = 0.0756 mm
C_u = 2.239	C_c = 1.097

Classification

ASTM N/A

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

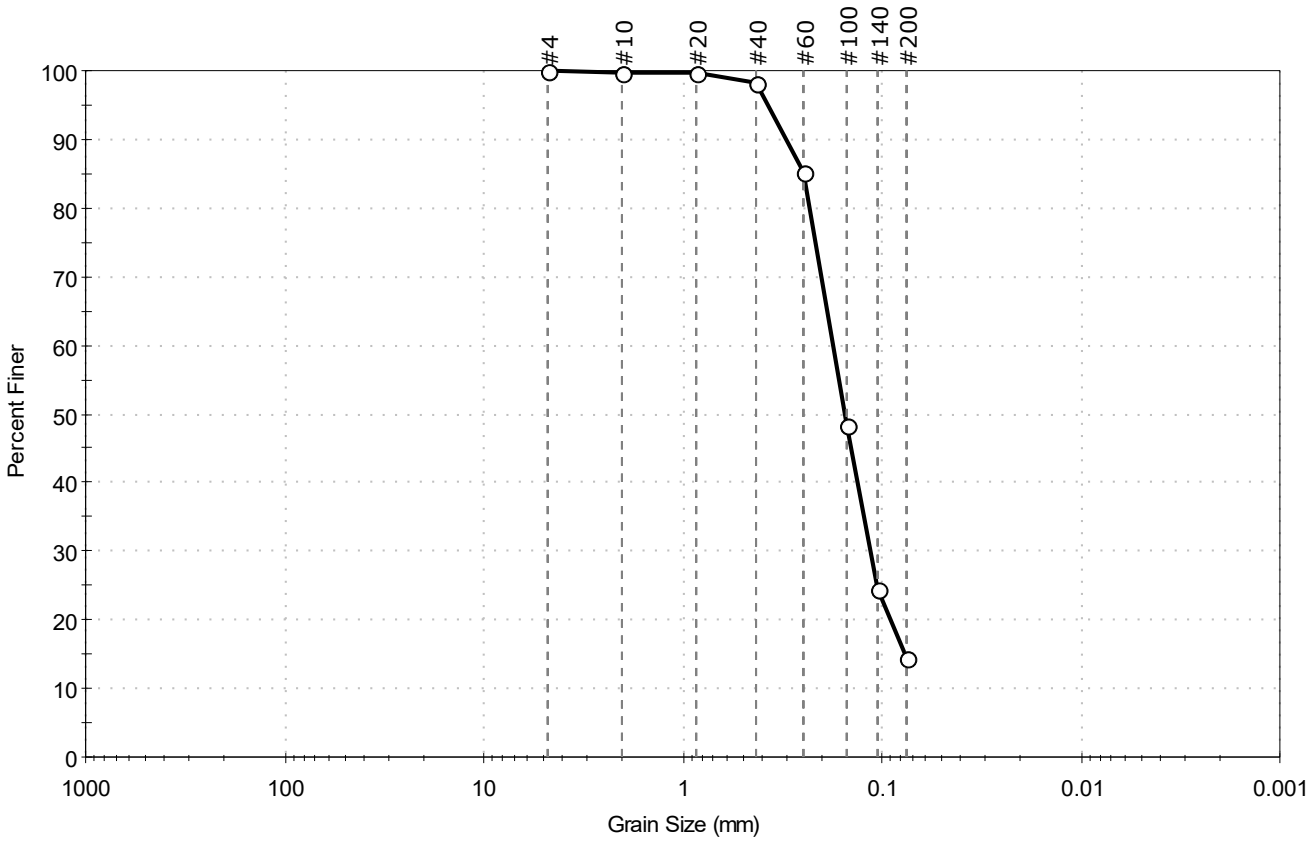
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-3	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-6	Test Date:	10/05/22	Checked By:	bfs
Depth :	25'-27'	Test Id:	687469		
Test Comment:	---				
Visual Description:	Moist, light olive brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	85.7	14.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	98		
#60	0.25	85		
#100	0.15	48		
#140	0.11	25		
#200	0.075	14		

Coefficients

D_{85} = 0.2488 mm	D_{30} = 0.1148 mm
D_{60} = 0.1761 mm	D_{15} = 0.0767 mm
D_{50} = 0.1534 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

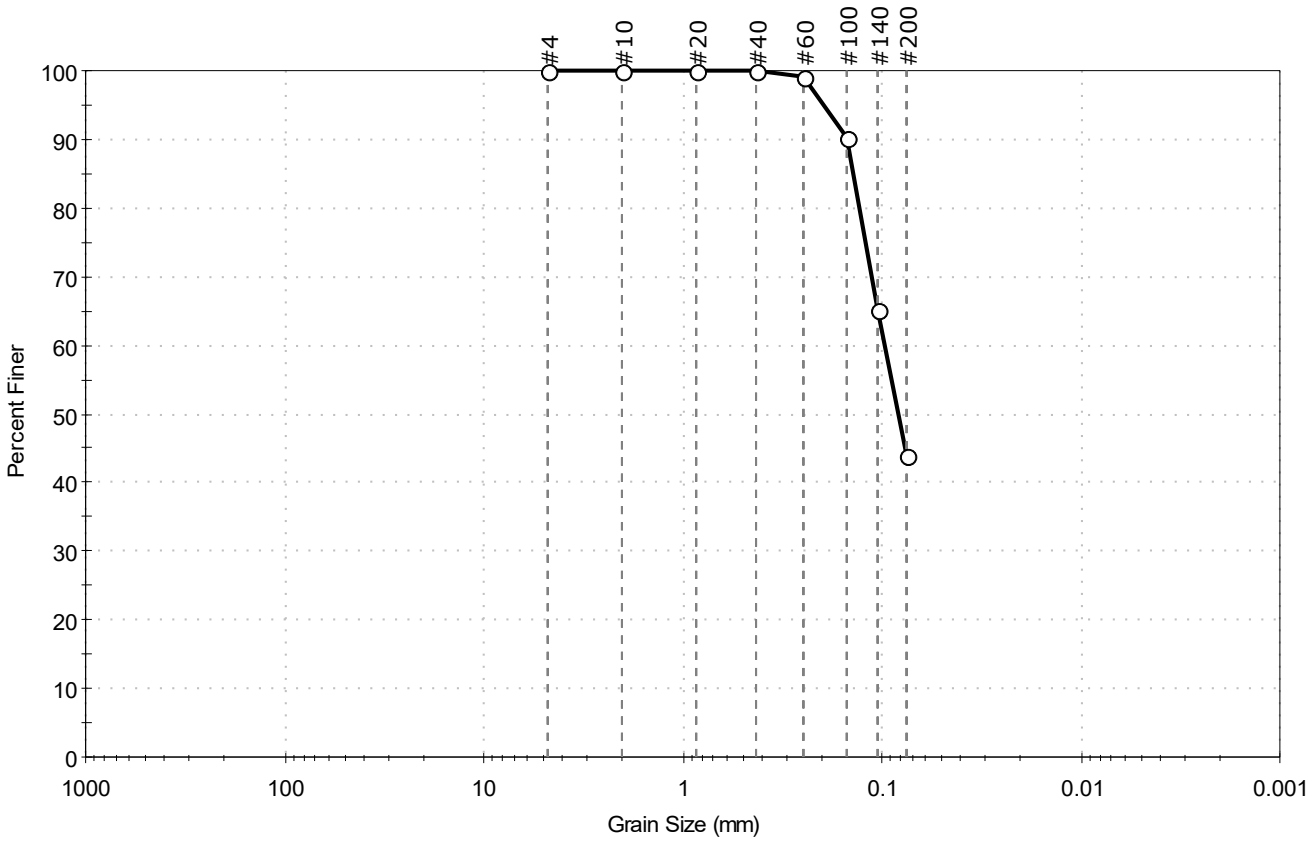
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-3	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-8	Test Date:	10/05/22	Checked By:	bfs
Depth :	33'-35'	Test Id:	687470		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	56.0	44.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	90		
#140	0.11	65		
#200	0.075	44		

Coefficients

D_{85} = 0.1394 mm D_{30} = N/A
D_{60} = 0.0975 mm D_{15} = N/A
D_{50} = 0.0827 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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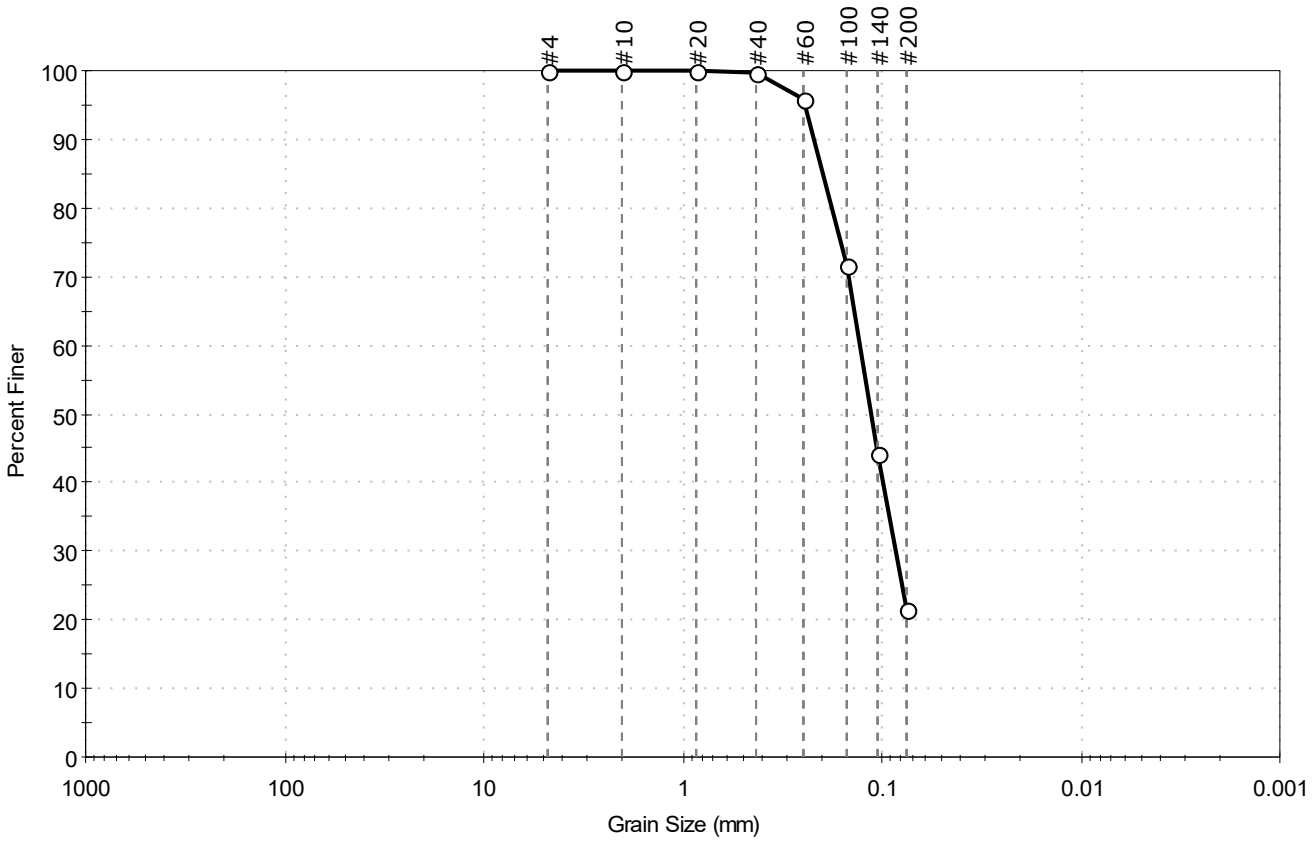
Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-4	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/05/22	Checked By:	bfs
Depth :	5'-7'	Test Id:	687471		
Test Comment:	---				
Visual Description:	Moist, light gray silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	78.5	21.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	72		
#140	0.11	44		
#200	0.075	22		

Coefficients

D_{85} = 0.1986 mm D_{30} = 0.0854 mm

D_{60} = 0.1293 mm D_{15} = N/A

D_{50} = 0.1141 mm D_{10} = N/A

C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

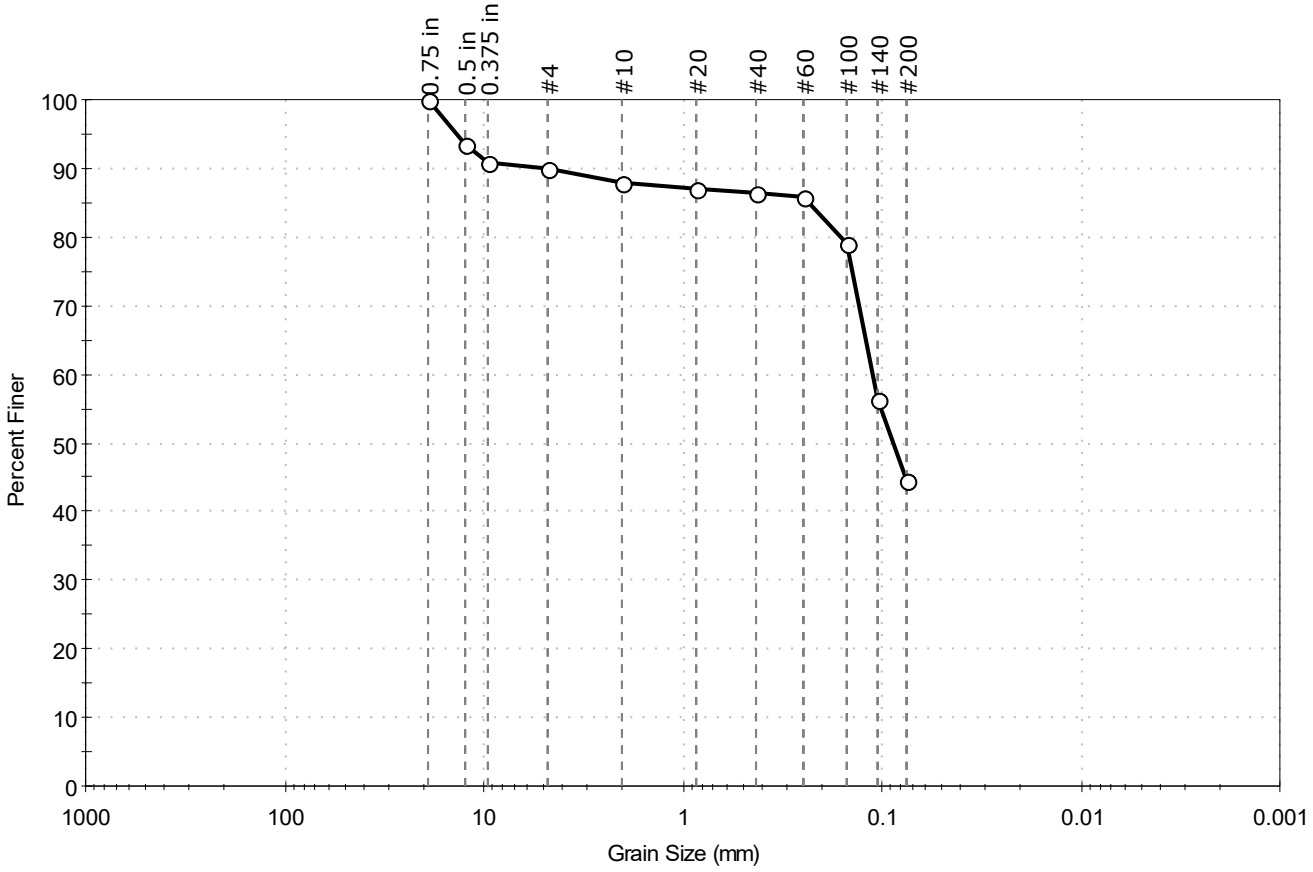
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-4	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-4	Test Date:	10/05/22	Checked By:	ank
Depth :	15'-17'	Test Id:	687472		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	10.1	45.3	44.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	94		
0.375 in	9.50	91		
#4	4.75	90		
#10	2.00	88		
#20	0.85	87		
#40	0.42	86		
#60	0.25	86		
#100	0.15	79		
#140	0.11	56		
#200	0.075	45		

Coefficients

D_{85} = 0.2366 mm	D_{30} = N/A
D_{60} = 0.1123 mm	D_{15} = N/A
D_{50} = 0.0882 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description

Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD

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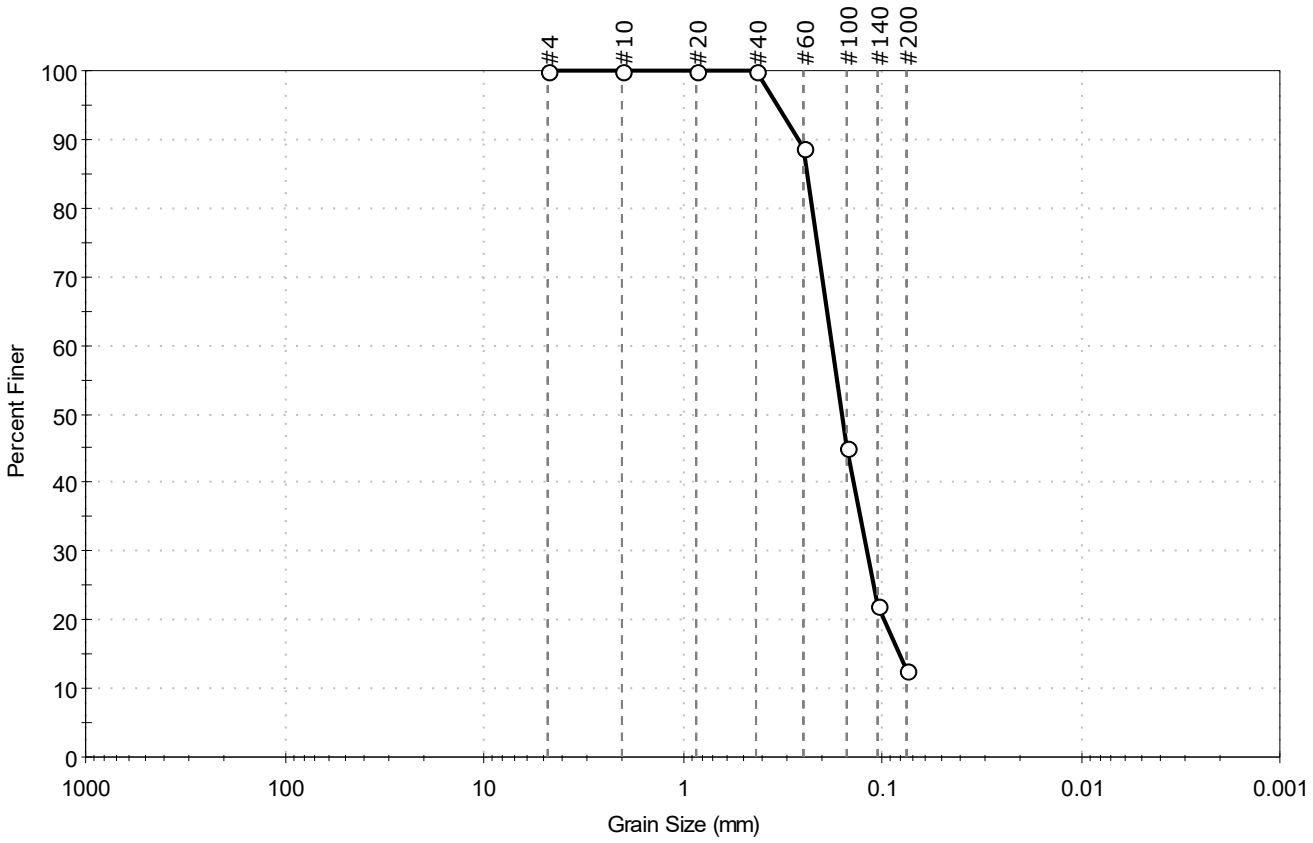
GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-4	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-6	Test Date:	10/05/22	Checked By:	ank
Depth :	25'-27'	Test Id:	687473		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	87.4	12.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	89		
#100	0.15	45		
#140	0.11	22		
#200	0.075	13		

Coefficients

D_{85} = 0.2393 mm	D_{30} = 0.1195 mm
D_{60} = 0.1785 mm	D_{15} = 0.0820 mm
D_{50} = 0.1587 mm	D_{10} = N/A
C_u = N/A	C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

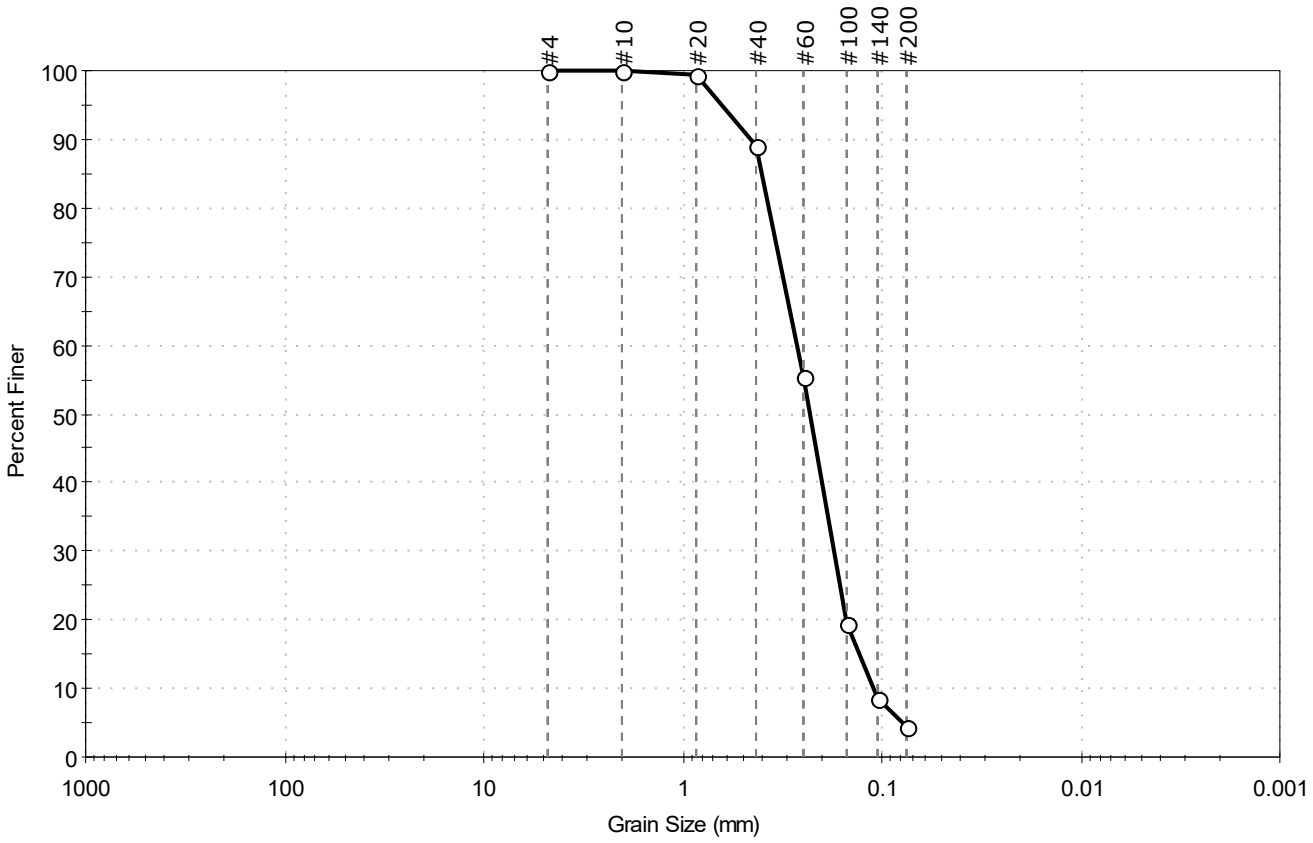
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-4	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-9	Test Date:	10/05/22	Checked By:	ank
Depth :	40'-42'	Test Id:	687474		
Test Comment:	---				
Visual Description:	Moist, light yellowish brown sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	95.5	4.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	89		
#60	0.25	56		
#100	0.15	20		
#140	0.11	9		
#200	0.075	4.5		

Coefficients

D_{85} = 0.3982 mm	D_{30} = 0.1741 mm
D_{60} = 0.2684 mm	D_{15} = 0.1301 mm
D_{50} = 0.2312 mm	D_{10} = 0.1111 mm
C_u = 2.416	C_c = 1.016

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

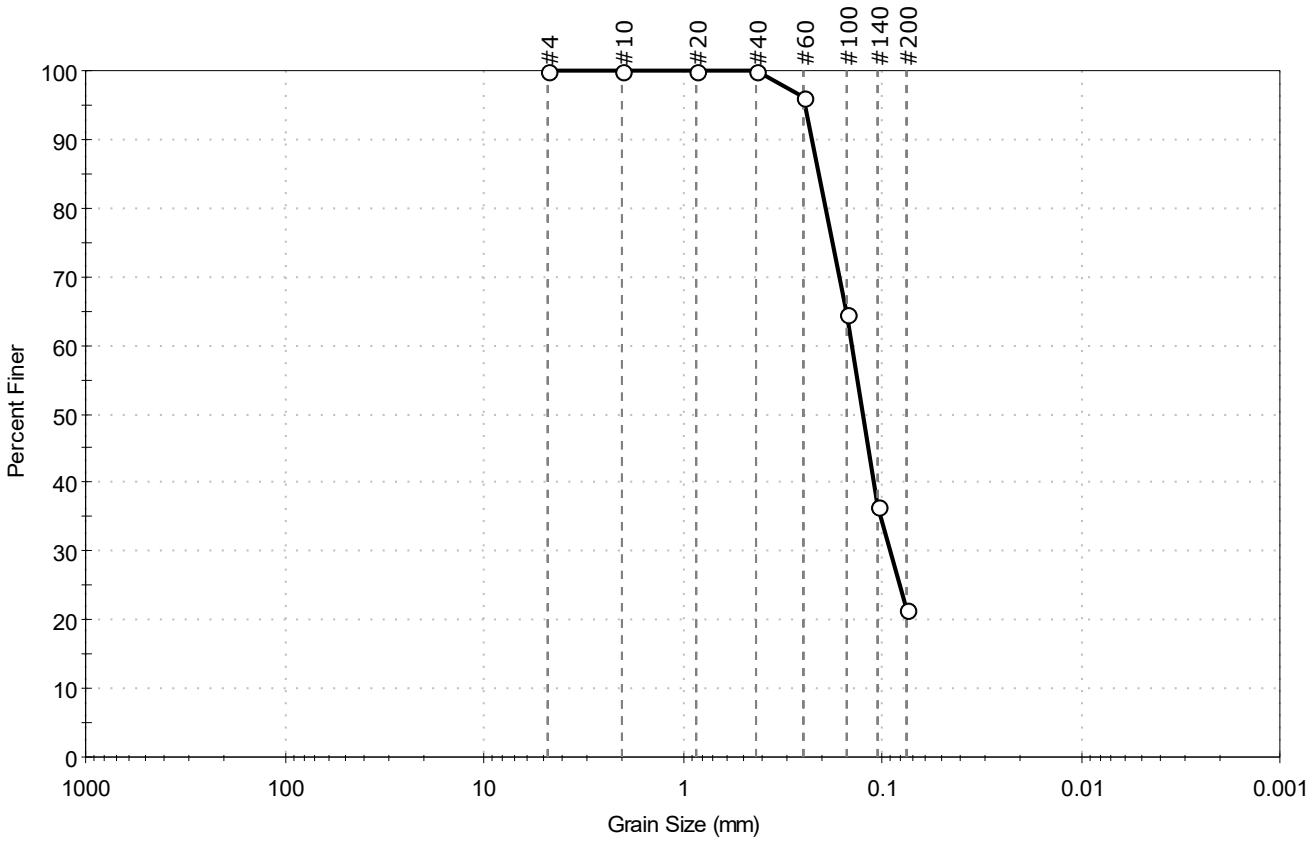
Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-5	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-2	Test Date:	10/05/22	Checked By:	ank
Depth :	5'-7'	Test Id:	687475		
Test Comment:	---				
Visual Description:	Moist, pale brown silty sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	78.4	21.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	96		
#100	0.15	65		
#140	0.11	37		
#200	0.075	22		

Coefficients

D_{85} = 0.2089 mm D_{30} = 0.0910 mm
D_{60} = 0.1418 mm D_{15} = N/A
D_{50} = 0.1252 mm D_{10} = N/A
C_u = N/A C_c = N/A

Classification

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description

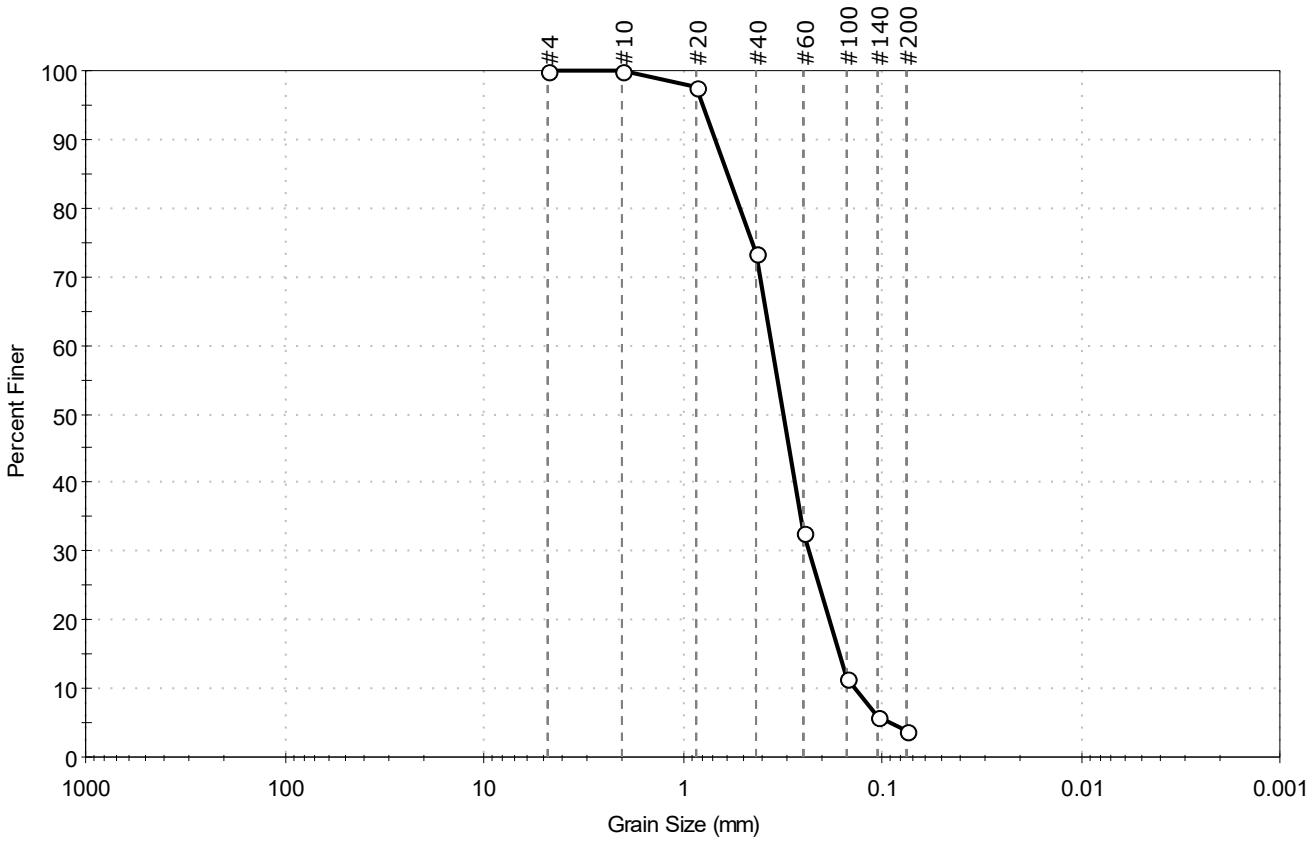
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

GeoTesting EXPRESS

Client:	Down To Earth Consulting				
Project:	Retaining Wall Supporting Rte 44				
Location:	Putnam, CT			Project No:	GTX-316164
Boring ID:	SLR-5	Sample Type:	bag	Tested By:	ckg
Sample ID:	S-5	Test Date:	10/05/22	Checked By:	ank
Depth :	18'-20'	Test Id:	687476		
Test Comment:	---				
Visual Description:	Moist, light gray sand				
Sample Comment:	---				

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
—	0.0	96.2	3.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	98		
#40	0.42	73		
#60	0.25	33		
#100	0.15	11		
#140	0.11	6		
#200	0.075	3.8		

Coefficients

D_{85} = 0.5922 mm	D_{30} = 0.2340 mm
D_{60} = 0.3567 mm	D_{15} = 0.1636 mm
D_{50} = 0.3131 mm	D_{10} = 0.1376 mm
C_u = 2.592	C_c = 1.116

Classification

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

Sample/Test Description

Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---

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APPENDIX 4 -

LIMITATIONS

LIMITATIONS

Explorations

1. The analyses and recommendations submitted in this report are based in part upon the data obtained from subsurface explorations by Down To Earth Consulting, LLC (DTE) and others. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more erratic. For specific information, refer to the boring logs.

3. Water level readings have been made in the drill holes at times and under conditions stated on the boring logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tidal, temperature, and other factors occurring since the time measurements were made.

Review

4. In the event that any changes in the nature, design or location of the proposed retaining wall is planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by DTE. It is recommended that this firm be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications.

Construction

5. It is recommended that this firm be retained to provide soil engineering services during construction of the earthworks and foundation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

Use of Report

6. This report has been prepared for the exclusive use of SLR International Corporation for specific application to the project noted in this geotechnical report in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

7. This soil and foundation engineering report has been prepared for this project by DTE. This report is for design purposes only and is not sufficient to prepare an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to design considerations only.

8. This report may contain comparative cost estimates for the purpose of evaluating alternative foundation schemes. These estimates may also involve approximate quantity evaluations. It should be noted that quantity estimates may not be accurate enough for construction bids. Since DTE has no control over labor and materials cost and design, the estimates of construction costs have been made on the basis of experience. DTE does not guarantee the accuracy of cost estimates as compared to contractor's bids for construction costs.