to SSC removal for any particle size gradation, assuming the particles are inorganic sandy-silt. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand) as a function of operating rate.

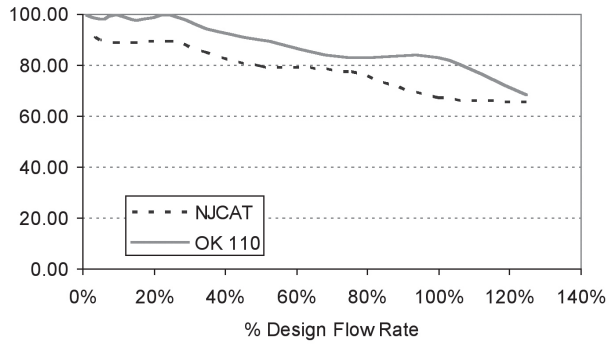


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d50) of 125 microns (e.g. Washington State Department of Ecology — WASDOE - 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). The model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at the design (100%) flow rate, for this particle size distribution (d50 = 125 μm).

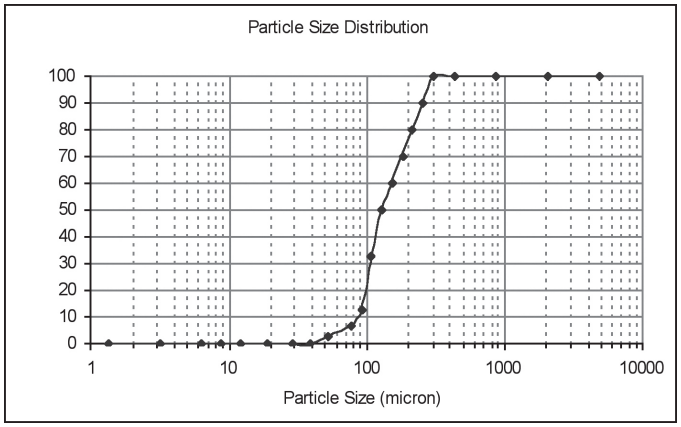


Figure 3. WASDOE PSD

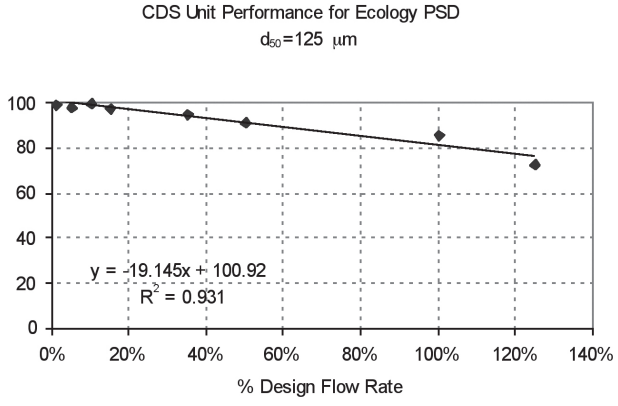


Figure 4. Modeled performance for WASDOE PSD.

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified

during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

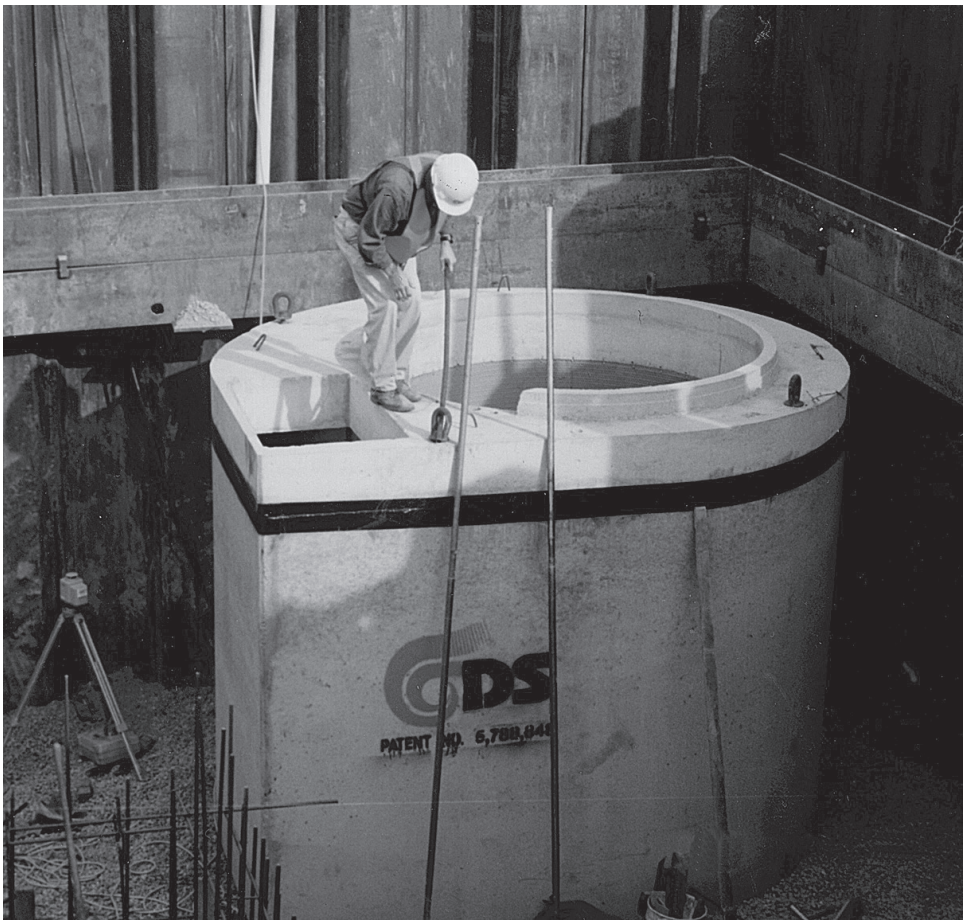
In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be cleaned to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.

CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	yd3	m3
CDS2015-4	4	1.2	3.0	0.9	0.5	0.4
CDS2015	5	1.5	3.0	0.9	1.3	1.0
CDS2020	5	1.5	3.5	1.1	1.3	1.0
CDS2025	5	1.5	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Note: To avoid underestimating the volume of sediment in the chamber, carefully lower the measuring device to the top of the sediment pile. Finer silty particles at the top of the pile may be more difficult to feel with a measuring stick. These finer particles typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.



CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile**.

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

APPENDIX E
Appendix A from the Report of Geotechnical Investigation
By Whitestone Associates, Inc.

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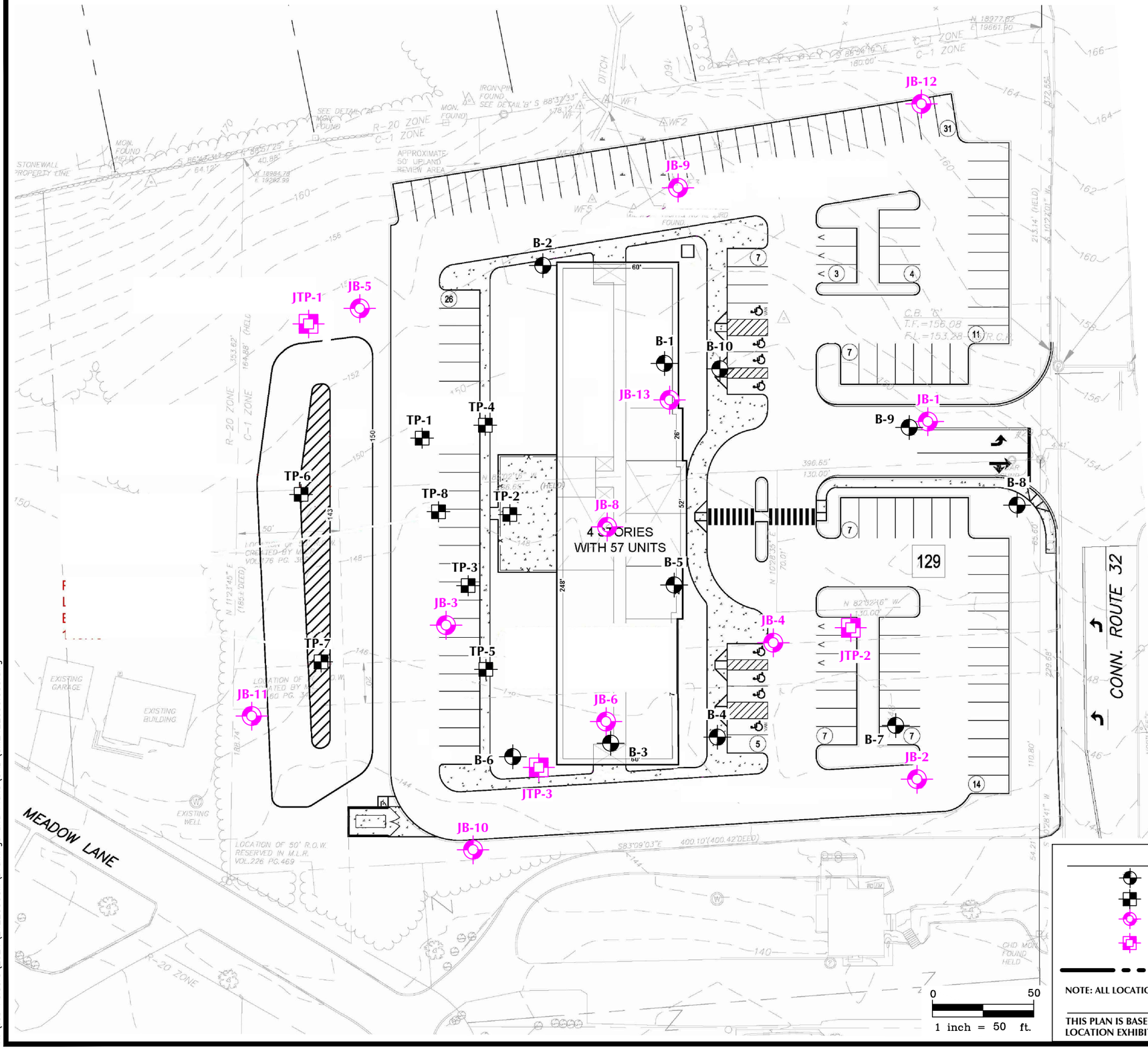
FIGURE 1
Test Location Plan



LEGEND

- BORING LOCATION
- TEST PIT LOCATION
- PREVIOUS BORING LOCATION
- PREVIOUS TEST PIT LOCATION
- SUBJECT PROPERTY BOUNDARY

NOTE: ALL LOCATIONS ARE APPROXIMATE.

REFERENCE

THIS PLAN IS BASED ON A 7/19/24 TEST PIT & BUILDING CORNER LOCATION EXHIBIT PREPARED BY RJ O'CONNELL & ASSOCIATES, INC.

WHITESTONE
An Employee-Owned Company
16 OLD FORGE ROAD, SUITE A, ROCKY HILL, CT 06067
860.726.7889 WHITESTONEASSOC.COM

DRAWING TITLE: **TEST LOCATION PLAN**

CLIENT: R.J. O'CONNELL & ASSOCIATES, INC.

PROJECT: PROPOSED APARTMENT BUILDING
2268 - 2284 ROUTE 32
MONTVILLE, NEW LONDON COUNTY, CONNECTICUT

PROJECT #: GM2422090.000	
DESIGNED BY: MR	PROJ. MGR.: RR
DATE: 8/12/24	FIGURE: 1
SCALE: 1" = 50'	

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WHITESTONE

APPENDIX A
Records of Subsurface Exploration (WAI Boring B-1 thru B-10; WAI Test Pits TP-1 thru TP-8; JP Borings JB-1 thru JB-6, JB-8 thru JB-13; JGI Test Pits JTP-1, JTP-2 & JTP-3)

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 150.0 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	1 - 2 - 2 - 2	20	4		TS		16" Topsoil	
							SUBSOIL		8" Subsoil, Roots	
2 - 4	S-2	X	1 - 2 - 3 - 4	20	5		EXISTING FILL		Gray-Brown, Loose, Silty Sand (FILL)	
						5.0				
5 - 7	S-3	X	7 - 12 - 18 - 24	16	30		GLACIAL TILL		Gray to Brown, Medium Dense to Dense, Silty Sand with Gravel (SM)	
						7.0				
7 - 9	S-4	X	28 - 27 - 35 - 30	16	62		WEATHERED BEDROCK		Weathered Bedrock	Offset boring Similar refusal
						10.0			Boring Log B-1 Terminated upon Auger Refusal at Depth of 9 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-2

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 151.0 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	2 - 2 - 3 - 2	22	5		TS		6" Topsoil	
							SUBSOIL		18" Subsoil, Roots	
2 - 4	S-2	X	2 - 2 - 4 - 5	12	6		EXISTING FILL		Brown, Loose, Silty Sand (FILL)	
						5.0				
5 - 7	S-3	X	14 - 28 - 40 - 24	16	68		GLACIAL TILL		Brown, Very Dense, Silty Sand with Gravel (SM)	Cobbels & Boulders
						7.0				
7 - 9	S-4	X	21 - 24 - 32 - 36	18	66		WEATHERED BEDROCK		Weathered Bedrock	
						10.0			Boring Log B-2 Terminated upon Auger Refusal at Depth of 9 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-3

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 145.3 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	4.0 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	2 - 2 - 4 - 9	18	6		TS		10" Topsoil	
							SUBSOIL		14" Subsoil, Roots	
2 - 2.6	S-2	X	14 - 50/1"	6	-		GLACIAL TILL		Brown, Dense, Silty Sand with Gravel (SM)	
						3.0	WEATHERED BEDROCK		Weathered Bedrock	Offset boring Similar refusal
						5.0			Boring Log B-3 Terminated upon Auger Refusal at Depth of 4 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-4

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 146.4 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	4.5 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	3 - 3 - 3 - 5	18	6		TS		10" Topsoil	
							SUBSOIL		14" Subsoil, Roots	
2 - 4	S-2	X	4 - 5 - 21 - 27	18	26	3.0	EXISTING FILL		Brown, Loose, Silty Sand with Gravel, Ceramics (FILL)	
							GLACIAL TILL		Brown, Dense, Silty Sand with Gravel (SM)	Offset boring Similar refusal
						5.0			Boring Log B-4 Terminated upon Auger Refusal at Depth of 4.5 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-5

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 147.1 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	5.8 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	1 - 1 - 1 - 2	18	2		TS		6" Topsoil	
							SUBSOIL		30" Subsoil, Roots	
2 - 4	S-2	X	2 - 2 - 7 - 15	10	9		GLACIAL TILL		Brown, Medium Dense, Silty Sand with Gravel (SM)	Cobbles & Boulders
						5.0				
5 - 5.8	S-3	X	19 - 50/3"	4	-		WEATHERED BEDROCK		Weathered Bedrock	
									Boring Log B-5 Terminated upon Auger Refusal at Depth of 5.8 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-6

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 144.4 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	4.5 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	3 - 2 - 1 - 3	20	3		TS		12" Topsoil	
							SUBSOIL		12" Subsoil, Roots	
2 - 4	S-2	X	12 - 19 - 28 - 46	18	47	3.0	GLACIAL TILL		Brown, Dense, Silty Sand with Gravel (SM)	Cobbles & Boulders
							WEATHERED BEDROCK		Weathered Bedrock	
						5.0			Boring Log B-6 Terminated upon Auger Refusal at Depth of 4.5 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-7

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 146.3 feet Above NAVD88	**Date Started:**	7/24/2024
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/24/2024
Proposed Location:	Parking	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1		WOH - 1 - 1 - 5	22	2		TS		6" Topsoil	
							SUBSOIL		18" Subsoil, Roots	
2 - 4	S-2		8 - 20 - 38 - 21	14	58		GLACIAL TILL		Gray-Brown, Very Dense, Silty Sand with Gravel (SM)	
						5.0				
5 - 7	S-3		3 - 16 - 21 - 23	14	37				As Above, Dense (SM)	Cobbles & Boulders
7 - 9	S-4		4 - 24 - 23 - 28	10	47				As Above (SM)	
						10.0			Boring Log B-7 Terminated upon Auger Refusal at Depth of 9 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-8

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 148.5 feet Above NAVD88	**Date Started:**	7/24/2024
Termination Depth:	7.3 feet bgs	**Date Completed:**	7/24/2024
Proposed Location:	Access	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

	Water Depth (feet bgs)	Water Elevation (ft NAVD88)	Cave-In Depth (feet bgs)	Cave-In Elevation (ft NAVD88)
During:	--	--		
At Completion:	--	--	**At Completion:**	-- / --
24 Hours:	--	--	**24 Hours:**	-- / --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	5 - 2 - 3 - 2	22	5		TS		6" Topsoil	
							PAVEMENT		2" Asphalt	
							TS		6" Former Topsoil	
2 - 4	S-2	X	2 - 2 - 15 - 30	14	17		SUBSOIL		22" Subsoil, Roots	
						3.0				
							GLACIAL TILL		Gray-Brown, Dense, Silty Sand with Gravel (SM)	Cobbles & Boulders
						5.0				
5 - 7	S-3	X	4 - 19 - 62 - 65	12	81				As Above, Very Dense (SM)	
						7.0				
7 - 7.2	S-4	X	50/2"	2	-		WEATHERED BEDROCK		Weathered Bedrock	
									Boring Log B-7 Terminated upon Auger Refusal at Depth of 7.3 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-9

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

				Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
Surface Elevation:	± 148.4 feet Above NAVD88	**Date Started:**	7/24/2024		
Termination Depth:	4.6 feet bgs	**Date Completed:**	7/24/2024		
Proposed Location:	Access	**Logged By:**	JB	**During:** -- | --	
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE	**At Completion:** -- | --	**At Completion:** -- | --
		Equipment:	Mobile B-57	**24 Hours:** -- | --	**24 Hours:** -- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1		2 - 4 - 4 - 14	22	8		TS		6" Topsoil	
							SUBSOIL		18" Subsoil, Roots	
2 - 4	S-2		22 - 34 - 42 - 50	14	76		GLACIAL TILL		Gray-Brown, Very Dense, Silty Sand with Gravel (SM)	Cobbles & Boulders
4 - 4.6	S-3		6 - 50/1"	2	-				As Above (SM)	
						5.0			Boring Log B-9 Terminated upon Auger Refusal at Depth of 4.6 fbgs.	
						10.0				
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Boring No.: B-10

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 149.8 feet Above NAVD88	**Date Started:**	7/23/2024
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/23/2024
Proposed Location:	Building	**Logged By:**	JB
Drill / Test Method:	HSA / SPT (Autohammer)	**Contractor:**	DE
		Equipment:	Mobile B-57

Water Depth | Elevation (feet bgs) | (ft NAVD88)		Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)	
During:	-- | --		
At Completion:	-- | --	**At Completion:**	-- | --
24 Hours:	-- | --	**24 Hours:**	-- | --

SAMPLE INFORMATION						DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	No	Type	Blows Per 6"	Rec. (in.)	N	(feet)				
						0.0				
0 - 2	S-1	X	1 - 2 - 2 - 3	18	4		TS		8" Topsoil	
							SUBSOIL		16" Subsoil, Roots	
2 - 4	S-2	X	2 - 2 - 3 - 4	16	5		EXISTING FILL		Gray-Brown, Loose, Silty Sand (FILL)	
						5.0				
5 - 7	S-3	X	4 - 10 - 19 - 15	16	29		GLACIAL TILL		Gray-Brown, Medium Dense, Silty Sand with Gravel (SM)	
						7.0				
7 - 9	S-4	X	19 - 26 - 27 - 25	16	53		WEATHERED BEDROCK		Weathered Bedrock	
						10.0			Boring Log B-10 Terminated upon Auger Refusal at Depth of 9 fbgs.	
						15.0				
						20.0				
						25.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-1

Page 1 of 1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.
Surface Elevation:	± 149.9 feet NAVD88	**Date Started:**	7/22/2024
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/22/2024
Proposed Location:	SWM Area	**Logged By:**	JB
Excavating Method:	Midi Excavator	**Contractor:**	CL
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 314

	Water Depth (feet bgs)	Elevation (ft NAVD88)	Cave-In Depth (feet bgs)	Elevation (ft NAVD88)
During:	--	--		
At Completion:	--	--	**At Completion:** --	--
24 Hours:	--	--		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		4" Topsoil	
				SUBSOIL		20" Subsoil, Roots	
3.5	1	Grab					
			5.0	GLACIAL TILL		Gray-Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
7.5	2	Grab					
						Test Pit TP-1 Terminated upon Refusal at Depth of 9 Feet Below Ground Surface.	
			10.0				
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-2

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Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

Surface Elevation:	± 148.2 feet NAVD88	**Date Started:**	7/22/2024		**Water Depth (feet bgs)**	**Elevation (ft NAVD88)**	**Cave-In Depth (feet bgs) / Elevation (ft NAVD88)**
Termination Depth:	9.0 feet bgs	**Date Completed:**	7/22/2024				
Proposed Location:	SWM Area	**Logged By:**	JB	**During:**	--	--	
Excavating Method:	Midi Excavator	**Contractor:**	CL	**At Completion:**	--	--	**At Completion:** -- / --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 314	**24 Hours:**	--	--	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		30" Topsoil	
				SUBSOIL		30" Subsoil, Roots	
			5.0	GLACIAL TILL		Gray, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0			Test Pit TP-2 Terminated upon Refusal at Depth of 9 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-3

Page 1 of 1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

				Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
Surface Elevation:	± 147.1 feet NAVD88	**Date Started:**	7/22/2024		
Termination Depth:	8.0 feet bgs	**Date Completed:**	7/22/2024		
Proposed Location:	SWM Area	**Logged By:**	JB	**During:** -- | --	
Excavating Method:	Midi Excavator	**Contractor:**	CL	**At Completion:** -- | --	**At Completion:** -- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 314	**24 Hours:** -- | --	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		24" Topsoil	
3	1	Grab		SUBSOIL		30" Subsoil, Roots	
			5.0				
5.5	2	Grab		GLACIAL TILL		Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0			Test Pit TP-3 Terminated upon Refusal at Depth of 8 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-4

Page 1 of 1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

				Water Depth | Elevation	Cave-In Depth | Elevation
				(feet bgs) | (ft NAVD88)	(feet bgs) | (ft NAVD88)
Surface Elevation:	± 150.6 feet NAVD88	**Date Started:**	7/22/2024		
Termination Depth:	8.0 feet bgs	**Date Completed:**	7/22/2024		
Proposed Location:	SWM Area	**Logged By:**	JB	**During:** -- | --	
Excavating Method:	Midi Excavator	**Contractor:**	CL	**At Completion:** -- | --	**At Completion:** -- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 314	**24 Hours:** -- | --	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		12" Topsoil	
				SUBSOIL		36" Subsoil, Roots	
			5.0	GLACIAL TILL		Gray-Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
7.5	1	Grab					
			10.0			Test Pit TP-4 Terminated upon Refusal at Depth of 8 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-5

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Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

				Water Depth | Elevation (feet bgs) | (ft NAVD88)	Cave-In Depth | Elevation (feet bgs) | (ft NAVD88)
Surface Elevation:	± 146.3 feet NAVD88	**Date Started:**	7/22/2024		
Termination Depth:	10.0 feet bgs	**Date Completed:**	7/22/2024		
Proposed Location:	SWM Area	**Logged By:**	JB	**During:** -- | --	
Excavating Method:	Midi Excavator	**Contractor:**	CL	**At Completion:** -- | --	**At Completion:** -- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 314	**24 Hours:** -- | --	

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		24" Topsoil	
				SUBSOIL		30" Subsoil, Roots	
			5.0				
5.5	1	Grab					
				GLACIAL TILL		Brown to Gray-Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0				
						Test Pit TP-5 Terminated at Depth of 10 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-6

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Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

Surface Elevation:	± 150.0 feet NAVD88	**Date Started:**	8/10/2024		**Water Depth (feet bgs) | Elevation (ft NAVD88)**		**Cave-In Depth (feet bgs) | Elevation (ft NAVD88)**
Termination Depth:	9.5 feet bgs	**Date Completed:**	8/10/2024				
Proposed Location:	SWM Area	**Logged By:**	JB	**During:**	-- | --		
Excavating Method:	Backhoe	**Contractor:**	CL	**At Completion:**	-- | --	**At Completion:**	-- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 430	**24 Hours:**	-- | --		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				
				TOPSOIL		12" Topsoil	
				SUBSOIL		6" Subsoil, Roots	
							Indications of ESGWH
3.5	1	Grab					@ 3 fbgs.
			5.0	GLACIAL TILL		Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0			Test Pit TP-6 Terminated upon Refusal at Depth of 9.5 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-7

Page 1 of 1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

Surface Elevation:	± 146.0 feet NAVD88	**Date Started:**	8/10/2024		**Water Depth (feet bgs) | Elevation (ft NAVD88)**		**Cave-In Depth (feet bgs) | Elevation (ft NAVD88)**
Termination Depth:	9.5 feet bgs	**Date Completed:**	8/10/2024				
Proposed Location:	SWM Area	**Logged By:**	JB	**During:**	-- | --		
Excavating Method:	Backhoe	**Contractor:**	CL	**At Completion:**	-- | --	**At Completion:**	-- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 430	**24 Hours:**	-- | --		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		24" Topsoil	
				SUBSOIL		6" Subsoil, Roots	
3.5	1	Grab					
			5.0	GLACIAL TILL		Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0			Test Pit TP-7 Terminated upon Refusal at Depth of 9.5 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

WHITESTONE

RECORD OF SUBSURFACE EXPLORATION

Test Pit No.: TP-8

Page 1 of 1

Project:	Proposed Apartment Building	**WAI Project No.:**	GM2422090.000
Location:	2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut	**Client:**	R.J. O'Connell & Associates, Inc.

Surface Elevation:	± 148.0 feet NAVD88	**Date Started:**	8/10/2024		**Water Depth (feet bgs) | Elevation (ft NAVD88)**		**Cave-In Depth (feet bgs) | Elevation (ft NAVD88)**
Termination Depth:	9.0 feet bgs	**Date Completed:**	8/10/2024				
Proposed Location:	SWM Area	**Logged By:**	JB	**During:**	-- | --		
Excavating Method:	Backhoe	**Contractor:**	CL	**At Completion:**	-- | --	**At Completion:**	-- | --
Test Method:	Visual Observation	**Rig Type:**	Caterpillar 430	**24 Hours:**	-- | --		

SAMPLE INFORMATION			DEPTH	STRATA		DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (ft.)	Number	Type	(feet)				
			0.0				No indication of ESGWH
				TOPSOIL		12" Topsoil	
				SUBSOIL		6" Subsoil, Roots	
4.5	1	Grab	5.0	GLACIAL TILL		Brown, Silty Sand with Gravel, Cobbles, Boulders (SM)	
			10.0			Test Pit TP-8 Terminated upon Refusal at Depth of 9 Feet Below Ground Surface.	
			15.0				

NOTES: bgs = below ground surface, msl = mean sea level, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	SSA	**BORING:**	JB-1
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	4" dia.	**LOCATION:**	**See Plan**
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 29, 2007				**SURF. EL:**	150' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Trent Rowe	8/29/07	Not Encountered			
JGI REP:	Brian Opp					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.2	
					Brown, fine SAND, some Gravel, trace Silt.		
					Cobbles and Boulders		
5							
						7.0	
					Brown, fine SAND, trace Silt.		
10						10.0	
					Brown, coarse to fine SAND, Gravel, with Cobbles. (Glacial Till)	11.3	
					Auger refusal at 11.3', on possible Boulder or Bedrock.		
15							
20							
25							
30							

EASTERN, Inc.
A Terracon COMPANY

Notes:

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-1

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	SSA	**BORING:** JB-2
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	4" dia.	**LOCATION:** See Plan
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable	
DATE END:	August 29, 2007				**SURF. EL:** 148' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**			
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**
FOREMAN:	Trent Rowe	8/29/07	Not Encountered		
JGI REP:	Brian Opp				

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Moisture Content (%)
					Topsoil	0.2	
	SS-1	0-2	2-2	24/18	SS-1: Loose, brown, fine SAND, trace Silt.		5.2
			3-3				
	SS-2	2-4	2-3	24/12	SS-2: Medium dense, fine SAND, some Gravel, trace Silt.		2.5
			8-18		(Possible Fill)	3.5	
5							
	SS-3	5-5.6	30-100/1"	7/7	SS-3: Medium dense to dense, brown, medium to fine SAND, some Gravel, trace Silt, with Cobbles.		1.3
	SS-4	7-9	27-31	24/18	SS-4: Very dense, brown, coarse to fine SAND, some Gravel, trace Silt, occasional Cobbles.		1.2
			43-45				
10	SS-5	9-11	44-41	24/18	SS-5: Similar to SS-4.		1.7
			47-50		(Glacial Till)	11.0	
					Auger Refusal at 11.0', on possible Boulder or Bedrock.		
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Initial refusal at 4.3' offset 5' to the west.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-2

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	H S A	**BORING:** JB-3
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	3 1/4" ID	**LOCATION:** **See Plan**
DATE START:	August 30, 2007	FALL: 30"	Drop Method:	Winch/Cable	
DATE END:	August 30, 2007				**SURF. EL:** 148.5' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**			
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**
FOREMAN:	Tim Carpenter	8/30/07	Not Encountered		
JGI REP:	Michael Kraemer				

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.5	
	SS-1	0-2	4-5	24/20	SS-1: Medium dense, brown, medium to fine SAND, some Silt, little Gravel. (Subsoil)	1.5	
			7-8		Brown, coarse to fine SAND, little Gravel and Silt.	4.0	
5							
	SS-2	5-5.5	62	6/4	SS-2: Very dense, brown, coarse to fine SAND, some Gravel, little Silt, frequent Cobbles. (Glacial Till)	8.0	
					Auger Refusal at 8.0', on possible Boulder or Bedrock.		
10							
15							
20							
25							
30							

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Notes:

Offset 10' west. Refusal at 9.3'.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-3

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**		**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	H S A		**BORING:**	JB-4
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	3 1/4" ID		**LOCATION:**	**See Plan**
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable			
DATE END:	August 29, 2007					**SURF. EL.:**	148.5' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Trent Rowe	8/29/07	Not Encountered				
JGI REP:	Brian Opp						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Moisture Content (%)
					Topsoil	0.2	
	SS-1A	0-0.9	2-5	24/20	SS-1A: Medium dense, brown, medium to fine SAND, some Silt.	1.0	
	SS-1B	0.9-2	6-7		SS-1B: Medium dense, brown, coarse to fine SAND, some Gravel, trace Silt.		
	SS-2	2-4	7-7	24/12	SS-2: Medium dense, brown, coarse to fine SAND, some Gravel, little Silt, with Brick. (Fill)	3.5	1.3
			9-21				
5							
	SS-3	5-6.7	28-41	20/14	SS-3: Very dense, brown, coarse to fine SAND, some Gravel, trace Silt.		1.4
			33-100/2"			6.7	
					Cobbles and Boulders (Glacial Till)	9.5	
10					Auger Refusal at 9.5', on possible Boulder or Bedrock.		
15							
20							
25							
30							

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Notes:

Auger Refusal at 6.7' on boulder, offset 12' northwest.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-4

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE:	Safety	SS	H S A	**BORING:**	JB-5
PROJECT NO.:	J2075388	SIZE:	140 lbs.	2" OD	3 1/4" ID	**LOCATION:**	**See Plan**
DATE START:	August 30, 2007	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 30, 2007					**SURF. EL:**	152' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Tim Carpenter	8/30/07	Not Encountered				
JGI REP:	Michael Kraemer						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.5	
	SS-1	0-2	3-5	24/18	SS-1: Medium dense, brown, medium to fine SAND, some Silt, trace Gravel. (Subsoil)	1.5	
			9-14				
					Cobbles and Boulders.		
5							
	SS-2	5-6	38-62	12/1	SS-2: Very dense, brown, coarse to fine SAND, some Gravel, little Silt, occasional Cobbles.		
10							
	SS-3	10-10.1	50/1"	1/0	SS-3: Similar to SS-2, except with frequent Cobbles. (Glacial Till)	12.0	
					Auger Refusal at 12.0', on possible Boulder or Bedrock.		
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-5

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	H S A	**BORING:** JB-6
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	3 1/4" ID	**LOCATION:** **See Plan**
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable	
DATE END:	August 29, 2007				**SURF. EL:** 148' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**			
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**
FOREMAN:	Trent Rowe	8/29/07	Not Encountered		
JGI REP:	Brian Opp				

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Content
					Topsoil	0.2	
	SS-1	0-2	4-5	24/10	Brown, medium to fine SAND, some Silt, trace root matter. (Subsoil)	1.0	
			5-5		SS-1: Brown, medium to fine SAND, some Silt and Gravel, occasional Cobbles.	2.0	
	SS-2	2-2.3	60/4"	4/0	SS-2: No Recovery.		
5					Brown, coarse to fine SAND, Some Gravel, little Silt.		
					Cobbles and Boulders.		
10					(Glacial Till)	10.5	
					Auger Refusal at 10.5', on possible Boulder or Bedrock.		
15							
20							
25							
30							

Notes:

Refusal at 4.3'. Offset 5' to the north.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-6

JGI EASTERN, Inc. A Terracon COMPANY

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**		**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	SSA	**BORING:**	JB-8
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	4" dia.	**LOCATION:**	**See Plan**
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 29, 2007				**SURF. EL:**	149; +/-
BORING CO.:	New England Boring Contractors					
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Trent Rowe	8/29/07	Not Encountered			
JGI REP:	Brian Opp					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Content
					Topsoil	0.2	
					Brown, fine SAND, some Silt, trace root matter. (Subsoil)	1.0	
					Brown, fine SAND, some Silt and Gravel.		
5						5.0	
	SS-1	5-7	18-14	24/15	SS-1: Dense, brown, medium to fine SAND, some Gravel, little Silt, occasional Cobbles.		
			17-29				
10					(Glacial Till)	9.8	
					Auger Refusal at 9.8', on possible Boulder or Bedrock.		
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-8

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	H S A	**BORING:** JB-9
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	3 1/4" ID	**LOCATION:** See Plan
DATE START:	August 30, 2007	FALL: 30"	Drop Method:	Winch/Cable	
DATE END:	August 30, 2007				**SURF. EL.:** 151.5' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**			
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**
FOREMAN:	Tim Carpenter	8/30/07	Not Encountered		
JGI REP:	Michael Kraemer				

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.5	
	SS-1A	0-1	2-7	24/16	SS-1A: Medium dense, brown, medium to fine SAND, some Silt, trace Gravel. (Subsoil)	1.0	
	SS-1B	1-2	14-18		SS-1B: Dense, brown, coarse to fine SAND, little Gravel and Silt, occasional Cobbles.		
5	SS-2	5-5.5	62	6/2	SS-3: Very dense, brown, coarse to fine SAND and Gravel, trace Silt, occasional Cobbles.		
					(Glacial Till)	9.5	
10					Auger Refusal at 9.5', on possible Boulder or Bedrock.		
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Offset 8' north. Refusal at 8.5'.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-9

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE:	Safety	SS	SSA	**BORING:**	JB-10
PROJECT NO.:	J2075388	SIZE:	140 lbs.	2" OD	4" dia.	**LOCATION:**	**See Plan**
DATE START:	August 29, 2007	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 29, 2007					**SURF. EL:**	146.5' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Trent Rowe	8/29/07	Not Encountered				
JGI REP:	Brian Opp						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.2	
					Brown, coarse to fine SAND and Gravel, trace Silt, with Brick.		
5					(Fill)	5.0	
					Brown, coarse to fine SAND, some Gravel and Silt, frequent Cobbles.		
10					(Glacial Till)	11.0	
					Auger refusal at 11.0', on possible Boulder or Bedrock.		
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-10

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE:	Safety	SS	H S A	**BORING:**	JB-11
PROJECT NO.:	J2075388	SIZE:	140 lbs.	2" OD	3 1/4" ID	**LOCATION:**	**See Plan**
DATE START:	August 30, 2007	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 30, 2007					**SURF. EL:**	148.5' +/-
BORING CO.:	New England Boring Contractors						
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Tim Carpenter	8/30/07	Not Encountered				
JG1 REP:	Michael Kraemer						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.5	
	SS-1	0-2	2-8	24/14	SS-1: Medium dense, brown, medium to fine SAND, some Silt, little Gravel. (Subsoil)	1.5	
			14-16				
					Cobbles and Boulders.		
5							
	SS-2	5-6.5	16-37	18/8	SS-2: Very dense, brown, coarse to fine SAND, some Gravel, little Silt, occasional Cobbles.		
			64		(Glacial Till)	7.5	
					Auger Refusal at 7.5', on possible Boulder or Bedrock.		
10							
15							
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Offset 10' east. Refusal at 8.0'.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-11

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	SSA	**BORING:**	JB-12
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	4" dia.	**LOCATION:**	**See Plan**
DATE START:	August 29, 2007	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 29, 2007				**SURF. EL:**	160.5' +/-
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Trent Rowe	8/29/07	Not Encountered			
JGI REP:	Brian Opp					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Dark brown, medium to fine SAND, some Gravel, little Silt, trace Brick. (Fill)	3.0	
5					Light brown, fine SAND, trace Silt.	7.5	
10					Brown, medium to fine SAND, some Gravel, trace Silt, frequent Cobbles. (Glacial Till)	12.0	
15					Auger refusal at 12.0', on possible Boulder or Bedrock.		
20							
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-12

TEST BORING LOG

PROJ. NAME:	Proposed Rite Aid Pharmacy	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	Montville, Connecticut	TYPE: Safety	SS	H S A / F W C	**BORING:**	JB-13
PROJECT NO.:	J2075388	SIZE: 140 lbs.	2" OD	3 1/4" ID / 4" ID	**LOCATION:**	**See Plan**
DATE START:	August 30, 2007	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 30, 2007				**SURF. EL:**	150' +/-
BORING CO.:	New England Boring Contractors					
CO. LOCATION:	Glastonbury, Connecticut	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Tim Carpenter	8/30/07	Not Encountered			
JGI REP:	Michael Kraemer					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.3	
	SS-1	0-2	4-8	24/14	SS-1: Medium dense, brown, medium to fine SAND, little Gravel, trace Silt.		
			11-12				
						3.5	
5							
	SS-2	5-5.3	50/3"	3/0	SS-2: Very dense, brown, coarse to fine SAND, some Gravel, little Silt, occasional Cobbles.		
10					Cobbles and Boulders.		
15							
20					(Glacial Till)		
					Roller Bit Refusal at 20.0', probably on Bedrock.		
25							
30							

JGI EASTERN, Inc. A Terracon COMPANY

Notes:

Auger refusal at 8.5'. Roller bit used from 8.5' to roller bit refusal at 20.0'.

Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).

Cohesive Consistency (Blows/ft.)		Cohesionless Relative Density (Blows/ft)	
very soft	0-2	very loose	0-4
soft	2-4	loose	4-10
medium stiff	4-8	medium dense	10-30
stiff	8-15	dense	30-50
very stiff	15-30	very dense	50+
hard	30+		

Boring No. JB-13

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-1
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 153' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
	0.5	Topsoil		
1				
2		Orange-brown, fine SAND and Silt, trace Gravel and Roots.		
3	3.0	(Subsoil)		
4			> 6"	Mottling observed at 3.5'
5		Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.		
6	6.0	(Glacial Till)		
7		Exploration Terminated at 6.0'.		
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
16'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-2
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 148' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
	0.5	Topsoil		
1				
2		Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots and Asphalt.		
3				
4				
5				
6	5.0	(Fill)		
7		Exploration Terminated at 5.0'.		
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
15'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-3
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 145' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
1	0.7	Topsoil		
2		Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots.		
3	3.0	(Subsoil)		
4		Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.	>6"	
5	5.0	(Glacial Till)		
6		Exploration Terminated at 5.0'.		
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
14'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

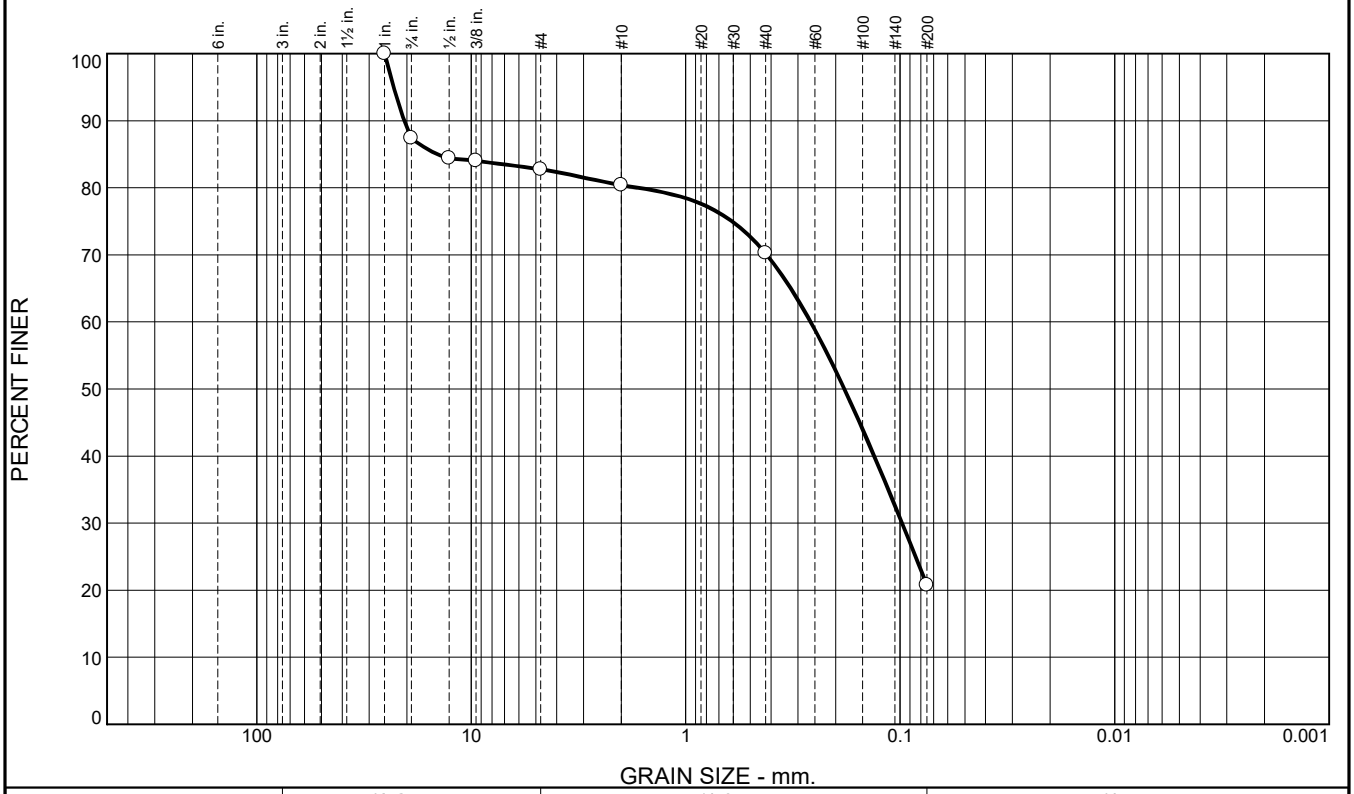
Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY

WHITESTONE

APPENDIX B
Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.6	4.7	2.3	10.2	49.4	20.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	87.4		
1/2"	84.4		
3/8"	84.0		
#4	82.7		
#10	80.4		
#40	70.2		
#200	20.8		

* (no specification provided)

Material Description

Silty Sand with Gravel

Atterberg Limits

PL= NP LL= NV PI= NV

Coefficients

D_{90}= 20.5856 D_{85}= 14.3912 D_{60}= 0.2618
D_{50}= 0.1823 D_{30}= 0.0982 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Moisture Content: 11.6%

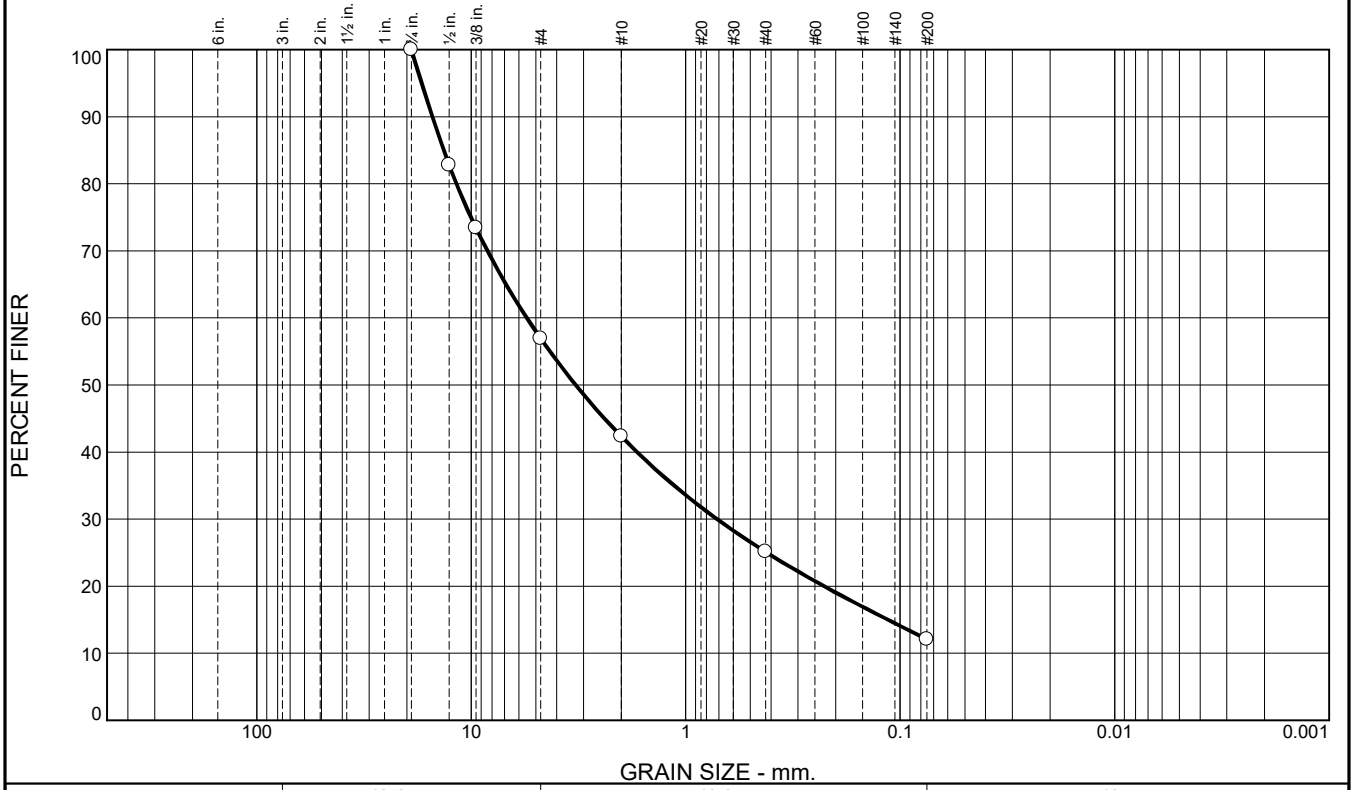
Location: B-5
Sample Number: S-2 **Depth:** 2' - 4' **Date:** 7/30/24

WHITESTONE

Client: R.J. O'Connell and Associates, Inc.
Project: Proposed Apartment Building
2268-2284 CT Route 32, Montville, New London County, CT
Project No: GM2422090.000 **Figure** S-1

Tested By: MM **Checked By:** RWM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	43.1	14.6	17.2	13.0	12.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	82.8		
3/8"	73.4		
#4	56.9		
#10	42.3		
#40	25.1		
#200	12.1		

* (no specification provided)

Material Description

Silty Sand with Gravel

Atterberg Limits

PL= NP LL= NV PI= NV

Coefficients

D_{90}= 15.2013 D_{85}= 13.4589 D_{60}= 5.5190
D_{50}= 3.2631 D_{30}= 0.7150 D_{15}= 0.1143
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-1-a

Remarks

Moisture Content: 3.2%

Location: B-8
Sample Number: S-3 **Depth:** 5' - 7' **Date:** 7/30/24

WHITESTONE

Client: R.J. O'Connell and Associates, Inc.
Project: Proposed Apartment Building
2268-2284 CT Route 32, Montville, New London County, CT
Project No: GM2422090.000 **Figure** S-2

Tested By: MM **Checked By:** RWM

WHITESTONE

APPENDIX C
Supplemental Information (USCS, Terms & Symbols)

WHITESTONE
An Employee-Owned Company

16 Old Forge Road
Suite A
Rocky Hill, CT 06067
860.726.7889
whitestoneassoc.com

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMITS LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMITS GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*

% FINER BY WEIGHT

TRACE..... 1% TO 10%
LITTLE..... 10% TO 20%
SOME..... 20% TO 35%
AND..... 35% TO 50%

COMPACTNESS*
Sand and/or Gravel

RELATIVE DENSITY

LOOSE. ..... 0% TO 40%
MEDIUM DENSE.... 40% TO 70%
DENSE..... 70% TO 90%
VERY DENSE..... 90% TO 100%

CONSISTENCY*
Clay and/or Silt

RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT

VERY SOFT..... LESS THAN 250
SOFT..... ..... 250 TO 500
MEDIUM..... 500 TO 1000
STIFF..... 1000 TO 2000
VERY STIFF..... 2000 TO 4000
HARD..... GREATER THAN 4000

** VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.*

L:\Geotechnical Forms and References\Reports\USCSTRMSSYM CT.docx

WHITESTONE
An Employee-Owned Company

16 OLD FORGE ROAD
SUITE A
ROCKY HILL, CT 06067
860.726.7889
whitestoneassoc.com

GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

N: Standard Penetration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
Qu: Unconfined compressive strength, TSF.
Qp: Penetrometer value, unconfined compressive strength, TSF.
Mc: Moisture content, %.
LL: Liquid limit, %.
PI: Plasticity index, %.
δd: Natural dry density, PCF.
▼: Apparent groundwater level at time noted after completion of boring.

DRILLING AND SAMPLING SYMBOLS

NE: Not Encountered (Groundwater was not encountered).
SS: Split-Spoon - 1 ⅜" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
AU: Auger Sample.
OB: Diamond Bit.
CB: Carbide Bit
WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Term (Non-Cohesive Soils)	Standard Penetration Resistance
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Term (Cohesive Soils)	Qu (TSF)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in.-3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in.-5mm	Fine Sand	0.2mm-0.074mm		

APPENDIX F
Addendum to Geotechnical Evaluation
By JGI Eastern, Inc.

EASTERN, Inc.
A Terracon COMPANY
201 Hammer Mill Road
Rocky Hill, CT 06067
Phone (860) 721-1900
Fax (860) 721-1939
www.terracon.com

December 20, 2007

Mr. Brian McCarthy
Vice President
R.J. O'Connell & Associates, Inc.
80 Montvale Avenue, Suite 201
Stoneham, MA 02180

Advance Copy by Email

Re: Addendum to Geotechnical Evaluation
Proposed Rite Aid Pharmacy
Route 32
Montville, Connecticut

JGI Project No. J2075388

Dear Mr. McCarthy:

JGI EASTERN, Inc., A Terracon Company (JGI), is pleased to provide this addendum to our September 25, 2007 Geotechnical Evaluation for the above-referenced project. The purpose of our additional work was to conduct subsurface explorations to evaluate the soil conditions and percolation rates as they relate to the proposed subsurface stormwater infiltration systems. This letter should be read in conjunction with the September Geotechnical Evaluation and is subject to the Limitations included in that report.

SITE AND PROJECT DESCRIPTION

The approximately 3.4-acre project site is located west of Route 32, north of Gallivan's Lane, and immediately northeast of Meadow Lane in the Town of Montville, Connecticut. The site is developed with both commercial and residential structures and associated paved and landscaped areas. The topography of the site generally slopes up to the north from approximately Elevation (El) 144 to 165 feet.

The project consists of demolishing the existing structures and constructing an approximately 14,700 square foot (sf) single-story Rite Aid Pharmacy building within the south central portion of the site. An additional restaurant/retail outparcel with an overall footprint of about 6,100 sf is planned to the north of the pharmacy. Parking areas are planned to the east, south, and west of both buildings. Finished floor elevations of the buildings were not provided prior to the issuance of this report. However, based on site topography, we have assumed that cuts and fills on the order of about 10 feet will be required to develop the site.

Three subsurface stormwater infiltration systems will be installed as part of the site development. An approximately 900 cubic-foot (cf) system will be located in the northwest corner of the site, west of the proposed outparcel building. Two systems will be located south and east of the proposed pharmacy building with approximate capacities of 2,700 cf and 2,200 cf, respectively.

ADDITIONAL SUBSURFACE EXPLORATIONS AND CONDITIONS

JGI monitored the excavation of three test pits (JTP-1, JTP-2, and JTP-3) on December 11, 2007, using a Komatsu PL120 excavator, owned and operated by B & L Construction, Inc. of Old Saybrook, Connecticut. Pursuant to your requests, the test pits were advanced within the locations of the proposed infiltration systems. The test pits were advanced to depths ranging between 5 and 6 feet below the existing grade. Bedrock was not encountered in any of the test pits.

The approximate exploration locations are shown on the attached Subsurface Exploration Location Plan. The exploration elevations were interpolated from contours shown on the RJ O'Connell and Associates, Inc. "Grading and Drainage Plan", dated September 28, 2007. The exploration logs are attached.

The subsurface profile at the location of the three test pits generally consists of topsoil over subsoil, underlain by glacial till. However, fill was encountered in JTP-2. Topsoil (about 6 to 8 inches) was encountered in all of the test pits. The topsoil generally consists of dark brown, fine sand and silt, trace gravel with root matter. Subsoil, which was encountered below the topsoil in all but JTP-1 and JTP-3, extends to a depth of approximately 3 feet. The subsoil generally consists of brown, medium to fine sand, little to and silt, trace to some gravel, trace roots. Fill was encountered below the topsoil to a depth of at least 5 feet in JTP-2. The fill generally consists of orange-brown, medium to fine sand, some gravel, little silt, trace roots and asphalt. Glacial till, which was encountered below the subsoil in JTP-1 and JTP-3, generally consists of brown, coarse to fine sand, some gravel, trace silt, frequent cobble and boulders.

Groundwater was not encountered in the test pits. However, soil mottling was observed in the side walls of JTP-1 at an approximate depth of 3.5 feet below the existing grade. Therefore the high groundwater elevation may be approximately at Elevation 149.5 feet.

Percolation Testing

Percolation testing was completed within each test pit, in general accordance with the requirements in the Connecticut Public Health Code, revised January 1, 2007. The percolation test holes were approximately 12 inches in diameter and ranged in depth from about 20 to 22 inches. The percolation test results range between 0.9 and 1.2 minutes per inch and are shown on the attached Subsurface Exploration Location Plan.

This addendum letter has been prepared for the exclusive use of R.J. O'Connell & Associates, Inc., in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

If you have questions, please contact us. It was a pleasure working with you on this project and we look forward to continuing our work as the project progresses.

Very truly yours,

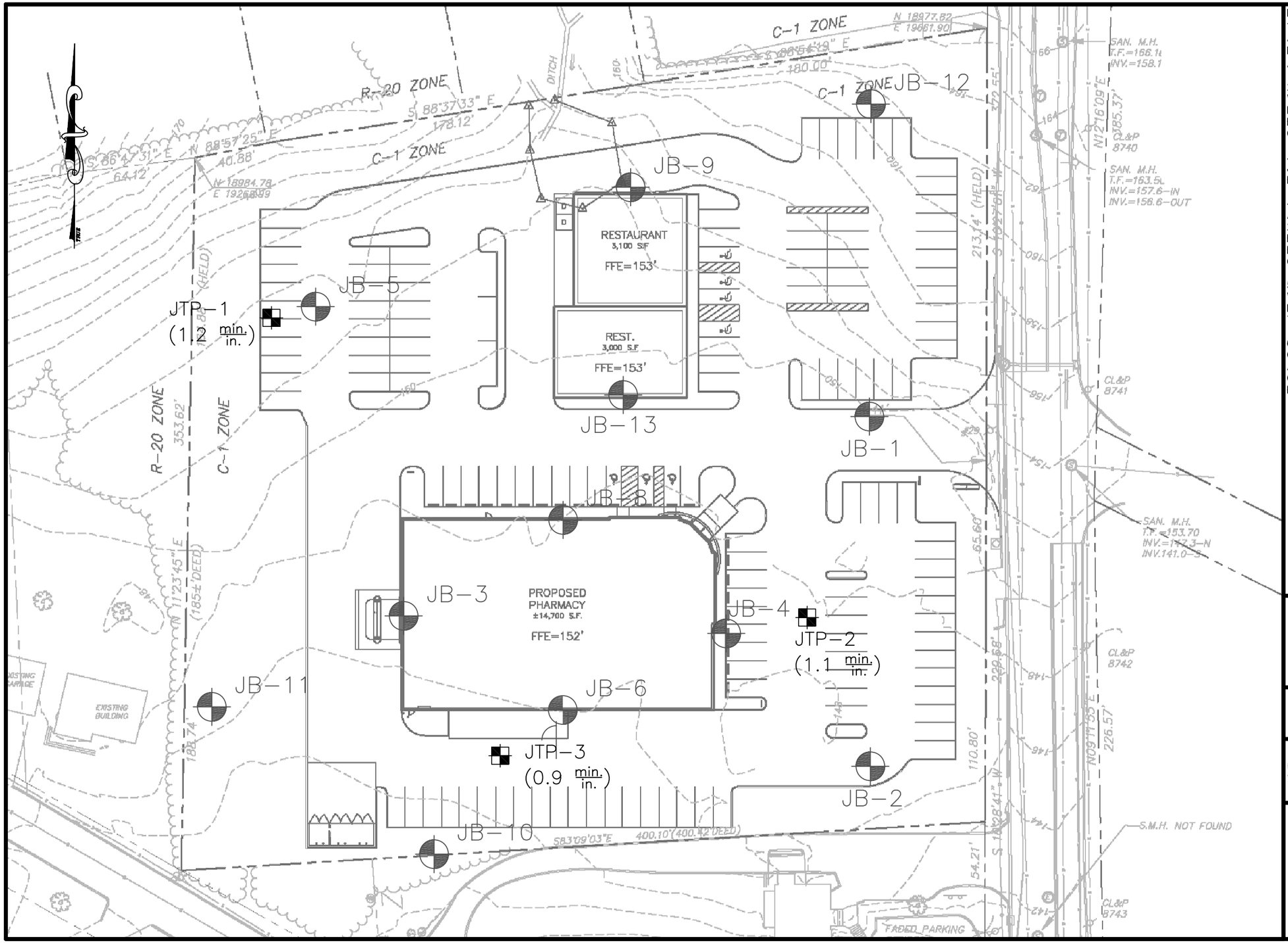
JGI EASTERN, Inc.
A Terracon Company

Brian D. Opp, P.E.
Geotechnical Engineer

Robert W. Olah, P.E.
Geotechnical Engineer

/ekc/J2075388

Attachments: Subsurface Exploration Location Plan
Test Pit Logs, JTP-1, JTP-2, JTP-3



NOTES:

1. THIS PLAN WAS PREPARED FROM RJ O'CONNELL AND ASSOCIATES, INC. OF STONEHAM, MASSACHUSETTS PROJECT NUMBER: 06034 SHEET NUMBER: C-2 TITLED: "GRADING AND DRAINAGE PLAN" DATED: 7/23/07.

2. THE TEST PITS SHOWN AS JTP-1, JTP-2, AND JTP-3 WERE ADVANCED ON DECEMBER 11, 2007 UNDER THE DIRECTION OF JGI WITH EQUIPMENT OWNED AND OPERATED BY B & L CONSTRUCTION, INC. OF OLD SAYBROOK, CONNECTICUT.

3. PERCOLATION TESTING WAS PERFORMED WITHIN JTP-1, JTP-2, AND JTP-3 ON DECEMBER 11, 2007 BY A JGI FIELD ENGINEER.

4. THE TEST BORINGS SHOWN AS JB-1 THROUGH JB-6 AND JB-8 THROUGH JB-13 WERE ADVANCED ON AUGUST 29 AND 30, 2007, UNDER THE DIRECTION OF JGI WITH EQUIPMENT OWNED AND OPERATED BY NEW ENGLAND BORING CONTRACTORS, INC OF GLASTONBURY, CONNECTICUT.

5. THE APPROXIMATE LOCATIONS OF THE EXPLORATIONS WERE TAPED FROM EXISTING SITE FEATURES. THE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

6. USE OF THIS PLAN IS LIMITED TO THE ILLUSTRATION OF THE APPROXIMATE LOCATIONS OF THE EXPLORATIONS AND OTHER PERTINENT SITE FEATURES. ANY OTHER USE OF THIS PLAN WITHOUT PERMISSION FROM JGI IS PROHIBITED.

GRAPHIC SCALE

25 0 25 50 100

(IN FEET)

LEGEND

JTP-1 TEST PIT LOCATION (TYP)

(1.1 min./in.) PERCOLATION RATE (TYP)

JB-1 TEST BORING LOCATION (TYP) (AUGUST 2007)

SUBSURFACE EXPLORATION LOCATION PLAN

PROPOSED RITE AID PHARMACY
U.S ROUTE 32
MONTVILLE, CONNECTICUT

PREPARED FOR:
RJ O'CONNELL & ASSOCIATES, INC.
600 UNICORN PARK DRIVE
WOBURN, MA 01801

DATE: DECEMBER 2007
SCALE: 1" = 50'
PROJECT NO. J2075388

EASTERN, Inc.
A Terracon COMPANY

Geotechnical
Environmental
Construction
& Materials Testing

201 Hammer Mill Road
Rocky Hill, CT 06067
(860) 721-1900

J2075388

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-1
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 153' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
	0.5	Topsoil		
1				
2		Orange-brown, fine SAND and Silt, trace Gravel and Roots.		
3	3.0	(Subsoil)		
4			> 6"	Mottling observed at 3.5'
5		Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.		
6	6.0	(Glacial Till)		
7		Exploration Terminated at 6.0'.		
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
16'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-2
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 148' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
	0.5	Topsoil		
1				
2		Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots and Asphalt.		
3				
4				
5				
6	5.0	(Fill)		
7		Exploration Terminated at 5.0'.		
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
15'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY

TEST PIT LOG

PROJECT:	Proposed Rite Aid Pharmacy	**JGI INSPECTOR:**	**SHEET 1 OF 1**
LOCATION:	Montville, Connecticut	Doug Yates	**TEST PIT NO:** JTP-3
PROJECT NO.:	J2075388	**WEATHER:**	**LOCATION:** See Plan
DATE:	December 11, 2007	Sunny, High 20° Degrees	**SURFACE EL:** 145' ±

EXCAVATION EQUIPMENT:		**GROUNDWATER OBSERVATIONS**	
CONTRACTOR:	B & L Construction, Inc.	**DATE** / **TIME**	**DEPTH** / **NOTES**
OPERATOR:	Bruce Sypher	12/11/07	Not Encountered
MAKE:	Komatsu **MODEL:** PL120		
CAPACITY:	3/4 c.y. **REACH:** 15.0'		

Depth (ft.)	Stratum Change Depth (ft)	SOIL DESCRIPTION	Boulder Size/Count	Notes
1	0.7	Topsoil		
2		Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots.		
3	3.0	(Subsoil)		
4		Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.	>6"	
5	5.0	(Glacial Till)		
6		Exploration Terminated at 5.0'.		
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

NOTES:

PIT DIMENSIONS:

Length:	Width:	Depth:
14'	5'	5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti
may be gradual. Water level readings have been made in the test pits at times under conditions stated on t
test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those pres
at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

JGI EASTERN, Inc.
A Terracon COMPANY