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Scan

Summary of Test Pit Explorations
Existing Fill Stockpiles
Buffalo Lakeside Commerce Park
Buffalo, New York

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SERVICES, INC.

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Summary of Test Pit Explorations
Existing Fill Stockpiles
Buffalo Lakeside Commerce Park
Buffalo, New York

Prepared For:

Erie County Industrial Development Agency
Buffalo Urban Development Corporation
275 Oak Street
Buffalo, New York 14203

Prepared By:

Empire Geo-Services, Inc.
5167 South Park Avenue
Hamburg, New York 14075

Project No. BE-06-260
January 2007

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January 25, 2007
Project No. BE-06-260

Mr. Peter M. Cammarata
Erie County Industrial Development Agency
Buffalo Urban Development Corporation
275 Oak Street
Buffalo, New York 14203

Re: Summary of Test Pit Explorations
Existing Fill Stockpiles
Buffalo Lakeside Commerce Park
Buffalo, New York

Dear Mr. Cammarata:

This letter report summarizes the findings of a test pit exploration program completed by Empire Geo-Services, Inc. (Empire) within the two fill soil stockpiles at the Buffalo Lakeside Commerce Park site, located off Ship Canal Parkway, in Buffalo, New York.

The test pit explorations were made to characterize the materials within the two major stockpiles of fill present on the site, as well as confirming the underlying subgrade conditions present beneath the fill.

A total of thirty-five (35) test pits were excavated and logged by Empire between December 15, 2006 and December 21, 2006. The test pits are designated as TP-1 through TP-32, TP-10A, TP-16A and TP-20A and their approximate locations are shown on the attached site plan presented as Figure 1.

The test pits were excavated using a Caterpillar model 312C track type excavator. A geotechnical engineer from Empire observed the test pit excavations, and logged and photographed the conditions encountered. The geotechnical engineer also used a photoionization detector to screen the excavated soils for potential volatile organic vapors.

Logs of the conditions encountered in each of the test pits are presented in Appendix A. Representative photographs of some of the common conditions observed in test pits or of the site are presented in Appendix B. Comprehensive

photographs of the conditions encountered at each test pit location are included on a compact disk located in the sleeve of Appendix C.

Empire established the test pit locations in the field, using tape measurements referenced to existing site features. Optical survey techniques were utilized to determine the existing surface elevations at the test pit locations using the north bolt on the hydrant located directly south of the eastern fill pile as a benchmark, as shown on the attached Figure 1. The benchmark was assigned an arbitrary elevation of 100.0 feet.

Test pits TP-10A, TP-16A and TP-20A were added in the field because the corresponding test pits (i.e. TP-10, TP-16 and TP-20) could not extend to the required depth due to large obstructions.

Test pits TP-1 through TP-20, TP-10A, TP-16A and TP-20A were located on the top, the slope or around the base of the eastern fill pile and were excavated to depths ranging from 8 feet (El. 92.1 feet) to 15 feet (El. 89.4 feet) below the existing ground surface, with the exception of test pits TP-10, TP-16 and TP-20 which extended to depths of 3.75 feet (El. 95.6 feet), 4.0 feet (El. 94.3 feet) and 4.0 feet (El. 97.5 feet), respectively. Test pits TP-10A, TP-16A and TP-20A were added in the field because the corresponding test pits (i.e. TP-10, TP-16 and TP-20) could not extend to the required depth due to large obstructions.

Test pits TP-21 through TP-32 were located either on the top or on the slope of the western fill pile and were excavated to depths ranging from 9 feet (El. 95.5 feet) to 11 feet (El. 96.6 feet) below the existing ground surface. The existing ground surface at the bottom of both fill piles is estimated to range between about El. 98 feet and El. 99 feet.

Laboratory Testing

Samples obtained from some of the test pit locations were tested in our geotechnical testing laboratory to confirm the visual soil classifications and to provide an indication of the amount of organics present in some of the fill material. The samples tested were generally representative of the finer particle size soils (i.e. less than 2 to 3 inches) present within the fill stockpiles.

The samples tested were obtained from test pit locations TP-2, TP-3, TP-5, TP-6, TP-9 and TP-25. At test pit location TP-2, a bulk composite sample between depths of 1 foot to 2 feet and 5 feet to 6 feet was submitted to the laboratory. The bulk samples obtained from test pit locations TP-3 and TP-6 were prepared from

the slag and/or foundry sand/lime material recovered in the test pits between depths of 7 feet to 8 feet and 12 feet to 14 feet, respectively. One is referred to the applicable test pit logs in Appendix A for a more detailed description of the samples tested. The laboratory testing program included the following tests:

1. All samples were tested for grain size distribution to confirm the visual classifications. The grain size analyses included sieve analyses only and were conducted in general accordance with *ASTM C136 – "Standard Test Method for Particle-Size Analysis of Soils"*.

2. All samples except those recovered from TP-3 and TP-6 were tested for the organic content in accordance with *ASTM D 2974 – "Moisture, Ash and Organic Matter of Peat and Other Organic Soils"*.

The laboratory test data are presented in Appendix D.

Summary of Subsurface Conditions Encountered

The test pit excavations generally revealed a granular type material in both fill stockpiles. It appears the material is predominately of sand and gravel size particles intermixed with inclusions or zones of organics, silt, clay, brick, cinders, concrete rubble, railroad ties, reinforcing steel, slag, steel debris, wood and solidified skulls of molten slag, iron, and steel. The amount of debris encountered varied at each test pit location and also with depth. In some cases brick or slag dominated the test pit excavation while at other locations large concrete rubble, solidified skulls, cobbles and boulders dominated.

The slag material varied in size, consistency and color. Generally, the slag was of a fine to coarse gravel size with occasional cobbles and boulders. In some cases, the slag appears to have been "hot poured" in large slab or boulder like conditions, which was impossible or extremely difficult to excavate, while in other cases the slag was found to be friable.

At test pit location TP-22, the materials recovered consisted predominately of large concrete boulders. Several other test pits consisted predominately of concrete cobbles and/or boulders either in the upper or lower reaches of the test pit. Large deposits of concrete boulders were also visible at the surface and are located on the northeast corner of the eastern stockpile approximately 70 feet by 70 feet tapering off towards the west. On the east side and middle portion of the western fill stockpile, large concrete and slag boulders were found extending about 135 feet and 150 feet, respectively east and west.

At several test pit locations, remnants of concrete slabs, walls and/or foundations were encountered and were unable to be removed or broken out with the excavator used. In addition, various brick structures, apparent steel and clay drainage pipes and intact sections of railroad tracks were exposed at several test pit locations.

As noted on the test pit logs, a slight odor or possible oil type sheen was apparent within the water or on the soil or fill materials recovered at several of the test pit locations (TP-4, TP-7, TP-8, TP-10A, TP-13, TP-14 and TP-20A). However, in all cases, only background levels were recorded with the photoionization detector.

Generally sidewall instability was not an issue and the excavation effort throughout the depth of the test pits varied from easy to moderate when large particles, boulders or debris were not encountered. The excavation effort, however, was very difficult to impossible at times when large concrete rubble, existing concrete structures or apparent "hot poured" slag was encountered.

Indigenous, peat/wood, fine sand and/or silt soils were encountered beneath the fill soils in test pits TP-4, TP-7, TP-12, TP-13, TP-14, TP-16A and TP-26 at depths varying from 7.0 feet (El. 91.3 feet) to 12.0 feet (El. 89.7 feet). The excavation effort in the indigenous soils was described as generally easy.

Freestanding water was encountered at depths varying from 5 feet to 12 feet below the existing ground surface at test pit locations TP-9, TP-10A, TP-11, TP-12, TP-13, TP-14 TP-18, TP-19, TP-20A, TP-25, TP-26 and TP-32. Some variable seepage of groundwater was noted from the sidewalls of several test pits. In some cases the water did not have time to accumulate in the bottom of the test pits during the time that they were open. The seepage was noted at depths varying from 2.5 feet to 7 feet below the existing ground surface.

One is referred to the individual test pit logs in Appendix A for specific information regarding the type of material encountered, excavation effort, sidewall instability and groundwater seepage and/or accumulation. In addition, photographs of the conditions encountered at each test pit location are presented on the compact disk included in the sleeve of this report (Appendix C).

Laboratory Test Results

The grain size distribution of the samples tested from test pits TP-2, TP-3, TP-5, TP-6, TP-9 and TP-25 are summarized on the following table and in the laboratory test data presented in Appendix D.

Test Pit	Gravel (%)		Sand (%)			Silt and Clay
	3" - 3/4"	3/4" - #4	#4 - #10	#10 - #40	#40 - #200	<#200
TP -2	16.0	25.3	10.6	16.1	17.0	15.0
TP-3	28.6	53.0	9.5	5.9	0.7	2.3
TP-5	4.8	20.4	8.1	16.1	31.5	19.1
TP-6	5.1	16.2	13.9	30.5	20.8	13.5
TP-9	2.0	13.7	6.3	24.5	39.1	14.4
TP-25	12.8	24.0	9.9	11.6	14.3	27.4

Note: The sample from test pit TP-3 was predominately slag, while the sample from test pit TP-6 was a pinkish-beige lime or foundry sand type material. The remaining samples were generally a combination of both soil and slag material.

The grain size distribution of the samples tested indicates these fill soils to be predominately of coarse to fine sand and gravel or gravel and sand size particles with "trace" to "some" fines.

Organics were present within some of the samples tested. The organic content of the samples recovered from test pits TP-2, TP-5, TP-9 and TP-25 were 7.7%, 11.5%, 7.5% and 9.3%, respectively.

Conclusions and Recommendations

The majority of the fill material encountered is of a granular, non-plastic nature. Although a lot of debris and oversize material was found within the fill, on-site separation and screening of the material appears may practical to produce a suitable structural type granular fill for use as subgrade fill (i.e. for raising site grades) beneath the subbase course for slab-on-grade and pavement construction. This material, however, would not be considered suitable for the subbase layer.

In such case, we would recommend the material be screened down to a maximum particle size of no greater than about 6-inches. Wood and steel debris would also

need to be removed. It may also be possible to further breakdown the over size material using an excavator mounted hydraulic or air operated hammer/breaker and an on-site crusher. We would recommend consulting with a contractor knowledgeable and experienced in crushed/recycled concrete to help evaluate the effectiveness of crushing/screening the material on-site and the determining the associated costs.

The material in it's present state appears would also be generally suitable for use as a general site fill material in areas to be developed as non-structural park and landscape areas, such as the public use area along the Union Ship Canal wall. In this case some limited segregation may be necessary to remove materials such as rails, railroad ties, reinforcing steel and very large concrete foundations and solidified slag, iron, and steel skulls.

Based on our observations of the material in the test pits, as well as the oversize material present on the surface, we visually estimate that the large oversize material (i.e. particles greater than about 18 to 24 inches in dimension) make up approximately 20 to 30 percent of the material present in the two stockpiles.

The larger pieces of concrete (i.e. between about 2 feet and 4 feet in dimension) could be strategically placed in the bottom of areas requiring more than about 5 feet of fill. The finer material could then be placed around and over the larger particles to fill the voids and provide a more well graded soil matrix.

We point out, however, that if the voids between the larger particles are not properly filled, this could lead to future surface subsidence as the finer cover soils filter into the voids with time. The placement of a suitable geosynthetic separation layer (i.e. geotextile, geo-grid) over the zone of larger particles, prior to placing the finer surface cover soil, could be helpful in preventing potential surface soil migration and subsidence.

We also note, in some cases large concrete structures were encountered within the test pit excavations, which were unable to be removed with our test pit excavation equipment. These structures appear to be remaining parts of the former Donner-Hanna facility, including foundation walls, grade-beams and slabs. It appears they will require significant effort to break up and remove. In addition, one should expect reinforcement within these concrete structures, which will also make it difficult to break down/crush once they have been extricated.

If you have any questions or wish to discuss this information, please do not hesitate to contact our office at any time. Thank you for considering Empire Geo-Services, Inc. for this work.

Sincerely,

EMPIRE GEO-SERVICES, INC.

Wanda Perks, E.I.T.
Geotechnical Engineer

John J. Danzer, P.E.
Senior Geotechnical Engineer

FIGURE

UNION SHIP CANAL

PUBLIC USE AREA

PARCEL "2"

FIRE HYDRANT (typ.)

LIGHT POLE #270

LIGHT POLE #250

LIGHT POLE #230

LIGHT POLE #210

APPROXIMATE LOCATION OF EASTERN FILL STOCKPILE

APPROXIMATE LOCATION OF WESTERN FILL STOCKPILE

653.86'

222.51'

250.00'

250.00'

242.32'

386.51'

386.51'

219.51'

TP-1 TP-2 TP-3 TP-4 TP-5 TP-6 TP-7 TP-8 TP-9 TP-10 TP-10A TP-11 TP-12 TP-13 TP-14 TP-15 TP-16 TP-16A TP-17 TP-18 TP-19 TP-20 TP-20A TP-21 TP-22 TP-23 TP-24 TP-25 TP-26 TP-27 TP-28 TP-29 TP-30 TP-31 TP-32

concrete rubble

concrete rubble

slag boulders

top of hill

bottom of hill

bottom of hill

SUB-LOT 8

SUB-LOT 7

SUB-LOT 6

SUB-LOT 5

PARCEL "A"

SHIP CANAL PARKWAY

HANNA DRIVE

EXISTING BUILDING

APPROXIMATE BENCHMARK LOCATION
- NORTH BOLT ON HYDRANT.
ARBITRARY ELEVATION = 100.0'

LEGEND:

TP-1 INDICATES APPROXIMATE TEST PIT LOCATION AND DESIGNATION

EMPIRE GEO SERVICES INC
a subsidiary of SJB Services, Inc.

SUBSURFACE INVESTIGATION
BUFFALO LAKESIDE COMMERCE PARK
BUFFALO, NEW YORK

SUBSURFACE EXPLORATION PLAN	DR BY: WMP	SCALE: NTS	PROJ NO.: BE-06-260
	CK BY: JJD	DATE: 01/04/07	FIGURE NO.: 1

APPENDIX A

TEST PIT EXPLORATION LOGS

SJB SERVICES, INC.

Western New York Office
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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-1
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	105.4'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	8:15 AM		
TIME FINISHED	9:05 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown-Black, f-c Sand, little organics, tr. gravel, tr coal, tr. wood	Easy	
2'	contains little white, blue, pink and orange Slag, occasional cobbles		
3'			
4'	Blue, White, Pink and Orange Slag, some-and black f-c Gravel and Sand, tr. wood	Easy to Moderate	1
5'			
6'	Brown-Black , Clayey Silt, some-and Slag, little f-c Sand tr.-little red-brick, tr. conduit, steel, wood		2,3
7'			
8'	Black-Brown, foundry Sand and white foundry sand/lime material	Moderate to High	
9'			
10	Test Pit Complete at ~ 9.0'		
11'	No freestanding water at test pit completion		
12'			
13'			
14'			

Remarks:

1. Fine-coarse gravel size slag
2. Fine-coarse gravel size slag with occasional cobbles
3. Steel plate (2' x 4' x 1/4") encountered at ~6'

ABBREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-2
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	103.8'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	9:19 AM		
TIME FINISHED	10:20 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black Silt, little fine Sand, tr. gravel, tr. organics, numerous cobbles		
2'	Brown-Black, f-c Sand and f-c Gravel, tr.-little white-blue slag, tr. coal, tr. lime, tr. rubber, tr. wood	Easy	
3'	contains occasional pockets of olive-gray and brown silty clay		
4'	Olive-Gray and Brown Silty Clay and Black f-c Sand, some black Slag occasional railroad ties and large slag boulders , numerous wood fragments	Easy to Moderate	1
5'	Black Slag and Sand, some f-m Gravel, numerous blue,white, pink and orange cobble slag, tr.-little wood fragments, tr. organics		2 3
6'	occasional railroad ties	Moderate	
7'	Red-orange and white Slag, numerous wood fragments, tr. steel	Moderate to Hard	4
8'	becomes gray-white and blue becomes black-silver	Very Hard	5,6
9'	Test Pit Complete at ~ 8.0'		
10	No freestanding water at test pit completion		
11'			
12'			
13'			
14'			

Remarks:

1. f-c gravel to small cobble Slag, two large slag boulders - ~2'
2. black, f-c sand slag, becomes coarse (gravel) at ~5'
3. some of the cobble slag is friable
4. f-c gravel to small cobble slag, two large slag boulders - 1'>3'
5. at 7' becomes small to large cobble size
6. at 8' becomes one large boulder - unable to penetrate (possible hot-poured slag)

ABBREVIATIONS	
F - FINE	
C- COARSE	
F-M - FINE TO MEDIUM	
F-C - FINE TO COARSE	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-3
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	102.3'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	10:45 AM		
TIME FINISHED	11:55 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown-Black, f-m Sand, some silt, little f-c gravel, tr. - little organics numerous cobbles, numerous roots, tr. slag,	Easy	1, 2
2'	becomes f-c sand, contains tr. wood, tr. brick, occasional boulders, occasional large concrete cobbles contains tr. - little, white foundry sand/lime		
3'			
4'	Gray-Black and Silver Slag	Hard	3
5'	Red-Orange Slag , tr. sand, tr. wood contains occasional to numerous railroad ties occasional white-blue slag	Hard to Very Hard	4,5
6'			
7'			
8'			6,7
	Red-Orange Slag	v. Hard	
9'	White-Blue Slag occasional orange-red slag	Moderate to Hard	8
10			
11'			
12'		Hard	9
13'	Test Pit Complete at ~ 12.0' Freestanding water encountered at 8.0' at test pit completion		

Remarks:
1. brush surrounded by large concrete boulders/rubble and rebar at surface
3. At 3.5' - 4' one large slag boulder (possible hot poured)
4. f-c gravel and small cobble size slag with occasional large cobble size
5. couple boulder size slag pieces ~2' x 2'
6. at ~8' water rushing in, rustic
7. at ~8', slag becomes one large boulder (possible hot poured) did not break through on east side
8. course gravel and small to large cobble size slag
9. side wall instability noted for upper 3.5 feet

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35 - 50%
Boulder > 12"	Gravel - Course = 3/4" - 3"	
Cobble = 3" - 12"	- Fine = #4 - 3/4"	

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-4
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	97.6'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	12:56 PM		
TIME FINISHED	1:48 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown-Black, f-c Sand, little Silt, tr.-little f-c gravel, tr. organics, tr. roots	Moderate to Hard	1
2'	Black Silt, little fine Sand, tr. gravel, tr. cinders		
3'	Blue-White Slag Brown-Black, f-c Sand and f-c Gravel, little slag, tr. red brick, tr. wood		2,3
4'	Orange-White and Blue tint Slag, numerous wood fragments becomes green-blue	Hard	4
5'	Dark Brown, f-c Sand and Cinders, tr.-little slag	Easy to Moderate	5,6,7
6'	Gray-Brown, Silty Clay, numerous wood fragments occasional f-c sand and cinder seams		8
7'	Blue-White Slag	Hard	9
8'			
9'	Brown-Black Peat and Wood (moist-wet, PT)	Easy	
10			
11'	Olive-Gray, fine Sand, little Silt (wet, SP)		10
12'	Test Pit Complete at ~ 11.0'		
13'	No freestanding water encountered at test pit completion		

Remarks:

. At ~1' encountered concrete wall/footer - shifted north to avoid
. One large f-c sand grained slag boulder (possible hot poured ~ 6" thick)
3. Minimal water encountered at 2.5 feet
. f-c gravel slag with occasional cobble size
. at ~4.5' becomes one large slag boulder
6. steel sheeting encountered (~4' x 2'x 1/4") at ~5'
. water rushing in at a depth of about 5'
8. slight odor noted with silty clay and shiny coating - photoionization detector readings were at background levels
. at ~7' becomes one large boulder (possible hot poured) broke through on east side of pit
0. an apparent concrete wall was encountered at ~4' on the west side at which the footer was exposed at ~8'

ABBREVIATIONS	
F - FINE	
C- COARSE	
F-C - FINE TO COARSE	
Boulder > 12"	
Cobble = 3" - 12"	
Gravel - Course = 3/4" - 3"	Fine = #4 - 3/4"

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20% - 35%
AND	35 - 50%

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-5
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	104.6'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	2:04 PM		
TIME FINISHED	2:38 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark-Brown to Brown f-c Sand, tr. gravel, tr. brick, tr. slag tr. organics, tr. roots, occasional rock cobbles	Easy	
2'	occasional slag boulders		1
3'	contains little-some yellow-blue and white slag, tr. wood		2
4'	Brown f-c Sand, little f-c gravel, tr. brick, tr. wood, tr. slag occasional to numerous concrete cobbles and boulders, rebar, wood contains occasional blue, yellow and white slag cobbles, few boulders contains occasional silty clay seams	Moderate	
5'			3
6'			
7'	contains some orange-blue and white slag	Moderate to Hard	4
8'	Blue-White concrete slab	Very Hard	5
9'	Test Pit Complete at ~8.0'		
10	No freestanding water encountered at test pit completion		
11'			
12'			
13'			

Remarks:

. occasional slag boulders ranging from 12" to 24"
. at ~3' fine- coarse gravel and small cobble size slag
3. at ~4' a large concrete boulder (3'x2') w/ numerous #11 rebar was enc.
. f-c gravel and small cobble slag
. Unable to penetrate through concrete

ABBREVIATIONS	
F - FINE	
C- COARSE	
F-C - FINE TO COARSE	
Boulder > 12"	
Cobble = 3" - 12"	
Gravel - Course = 3/4" - 3"	Fine = #4 - 3/4"

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20% - 35%
AND	35 - 50%

SJB SERVICES, INC.

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-6
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	107.9'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	2:58 PM		
TIME FINISHED	3:22 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark-Brown, f-c Sand, little f-c gravel, little white slag	Easy	1
2'	contains some white-blue slag, numerous wood fragments, tr. cinders		2
3'	occasional gray-brown, silty clay seams		
4'	Brown-Black Sand and Blue-White-Pink and Yellow Slag	Easy to Moderate	3
5'	contains little slag, little red brick, tr.-little wood fragments		
6'	occasional slity clay seams and boulder size slag		4
7'	contains little to some slag		
8'			
9'			
10			
11'	Red-Brown to Brown, foundry Sand, tr. slag	Easy	
12'	contains numerous wood fragments		
13'	Pink-white, foundry sand/lime material		
14'			
	Test Pit Complete at 14' No freestanding water encountered		

Remarks:

1. f-c gravel size slag (f-c sand grained)
2. small and large cobble size slag
3. f-c gravel to cobble size slag
4. occasional boulder size slag ranging from 12" to 24"

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	SOME (SO.)	20% - 35%
Boulder > 12"	AND	35 - 50%
Cobble = 3" - 12"		
Gravel - Course = 3/4" - 3"	Fine = #4 - 3/4"	

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-7
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	101.7'
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°

EXCAVATION EQUIP	Caterpillar Model 312C
OPERATOR	Randy Steiner
TIME START	3:37 PM
TIME FINISHED	3:54 PM

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black - Brown, f-c Sand, little Silt, tr. gravel, tr. organics, tr. slag	Easy	
2'	contains little-some pink-white foundry sand/lime material		1
3'	contains pink-blue-orange-white little-some slag		
4'	Olive-gray and brown mottled Silty Clay, tr. Sand	Easy to Moderate	2
5'	Blue-White Slag and Black f-c Sand, tr. brick		
6'	Orange-Pink and White foundry sand/lime material, little blue slag	Moderate	3
7'	Blue Slag	Moderate to Hard	4
8'	Pink-White foundry Sand/lime material	Moderate	5
9'			
10	Black Asphalt	Easy	6
11'	Pink-White foundry Sand/lime material occasional blue slag cobbles, numerous wood fragments		7,8
12'	Olive-Gray and Brown, fine Sand, tr.-little Silt (wet, SP)		
13'	Test Pit Complete at 11.5'		
14'	Freestanding water encountered at ~ 11' test pit completion		

Remarks:

1. f-c sand, gravel and cobble size slag, occasional boulder (friable)
2. cobble and boulder size slag (friable)
3. coarse gravel size slag
4. One large slag boulder - 6" thick (possible hot poured)
5. Some large cobble size sand/lime material - easily friable
6. minimal amount of water percolating through the aspalt layer
7. side wall instability at and below ~9.5 feet
8. possible oil sheen noted on surface of water - photoionization detector readings were at background levels

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35 - 50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-8
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	101.8
DATE	15-Dec-06	WEATHER/TEMP	Partly Sunny / 45°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	4:05 PM		
TIME FINISHED	4:45 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand and Blue-White Slag, little-some f-c Gravel, tr.organics	Easy to Moderate	1
2'	occasional rock cobbles, slag boulders contains tr.-little red-brick, concrete, wood		2
3'			
4'	Red Brick	Moderate	3
5'	Red-Brown, f-c Sand, little silt, tr. slag, numerous wood fragments occasional railroad tie		4
6'	contains pockets of black clayey silt with wood fragments	Hard to very Hard	
7'	Black, f-c Sand and Blue-Silver Slag, little-some Clay		5
8'	Gray-Brown, Silty Clay	Easy	6
9'			
10	Blue Slag, little cinders, little wood	Moderate	7
11'	Gray-Brown, Silty Clay and Wood fragments, tr.-little clay tile	Hard	
12'	Test Pit Complete at 12'		
13'	No freestanding water encountered at test pit completion		
14'			

Remarks:

1. Cobble size slag
2. slag boulders generally range from 18-24 inches
3. Minimal amount of water percolating through the brick
4. on west side, blue-white concrete/slag slab-could not break through (~2' thic
5. f-c gravel size slag
6. odor noted- photoionization detector readings were at background levels
7. cobble size with occasional boulder size slag

ABBREVIATIONS		PROP USED	
F - FINE		TRACE (TR.)	0-10%
C- COARSE		LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM		SOME (SO.)	20 -35%
F-C - FINE TO COARSE		AND	35 - 50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-9
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	101.8
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	8:08 AM		
TIME FINISHED	8:37 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown, f-c Sand, little fine gravel, little silt	Easy	
2'	tr.-little organics, tr.roots, tr.slag,		
3'	occasional rock cobbles/boulders		1
4'	Black, Clayey Silt, little f-c Sand, tr. - little slag	Easy to Moderate	
5'	contains occasional orange-white slag boulders		2
6'	contains tr. brick, several pieces of rebar contains some-and white-blue-pink slag, tr.wood		3
7'	occasional railroad ties		
8'	Pink-White foundry Sand/Lime/Slag, tr. Brick	Moderate to Hard	
9'	contains some blue-white slag		4,5,6
10'	contains numerous concrete cobbles/boulders		
11'			
12'			
13'			
14'			
	Test Pit Complete at 14' - Freestanding water at 8.5' at test pit completion		

Remarks:

1. minimal amount of water percolating in at ~3.5', sidewall instability
2. couple slab boulder, ~2' - easily friable
3. f-c gravel and cobble size slag, numerous boulders (18" >36") - friable
4. f-c gravel and cobble size slag, several boulder size
5. several concrete boulders from 18" to 36"
6. unable to penetrate through the slab/concrete on the west side of pit

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-10
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	99.4'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	9:02 AM		
TIME FINISHED	9:18 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown, f-c Sand, little-some f-c Gravel, tr.-little red brick, tr.clay tile tr.organics, numerous rock cobbles and railroad ties, few tree branches	Easy	
2'	Orange-White, Slag, numerous debris	Easy to Moderate	1,2
3'	contains little red and yellow brick		
4'	Black-Brown, f-c Sand and Railroad ties, little f-c Gravel, little slag	Moderate to Hard	3
5'	Test Pit Complete at 3.75'		
6'	No freestanding water encountered at test pit completion		
7'			
8'			
9'			
10'			
11'			
12'			
13'			
14'			

Remarks:

. f-c sand, gravel and cobble size slag

. debris includes - conduit, steel piping, machine parts, angles, sheeting

3. Abandoned test pit - appears over old railroad tracks as numerous ailroad ties between two steel tracks were exposed - unable to excavate through the railroad ties

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"

Cobble = 3" - 12"

Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-10A
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	99.5'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°

EXCAVATION EQUIP	Caterpillar Model 312C
OPERATOR	Art Koske
TIME START	9:30 AM
TIME FINISHED	10:30 AM

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand, some- and Red & Yellow Brick, little f-c gravel, little roots, little organics, little debris, little f-c gravel/small cobble slag	Easy	1
2'		Moderate	
3'		Moderate to Hard	2
4'	contains little-some gray-silver and red, f-c gravel/small cobble slag		
5'			3
6'			4
7'	contains "and" f-c gravel, little brick, numerous slag/concrete cobbles	Easy to Moderate	
8'			
9'	contains tr.-little wood		
10'		Very Hard	5
11'	Test Pit Complete at 10'		
12'	Freestanding water encountered at 6' at test pit completion		
13'			
14'			

Remarks:

1. debris includes - steel angles, sheeting, conduit, wood, concrete cobbles
2. on east side encountered concrete wall at ~3' - unable to remove
3. on west side encountered concrete slab/structure at ~4.5' underlain by clean stone/void - possible top of tunnel structure.
4. apparent oil on top of water, oil coating on soil materials, the photoionization detector readings were at background levels
5. Unable to go deeper - possible concrete structure

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-11
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	103.0'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	10:52 AM		
TIME FINISHED	11:20 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand and f-c Gravel, tr.brick, tr.wood, tr.slag contains occasional to numerous concrete cobbles/boulders	Easy	1
2'			
3'			
4'	contains little debris, occasional railroad ties		2
5'	contains little blue cobble size slag, occasional boulder size	Moderate	
6'			
7'	Pink-White foundry Sand/Lime/Slag Material contains occasional blue and red slag (cobble size - friable)	Moderate to Hard	
8'			
9'	becomes blue-white, contains "and" slag		
10'		Hard to very Hard	
11'	White foundry Sand/Lime/Slag material and blue Slag		3,4
12'	Test Pit Complete at 11'		
13'	Freestanding water encountered at 9'		
14'			

Remarks:

1. The surface is relatively undefined as surrounded by large concrete cobble with rebar
2. debris includes - steel sheeting, rebar, conduit
3. blue cobble size slag
4. Unable to go deeper - possible concrete structure

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-12
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	98.6'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	11:35 AM		
TIME FINISHED	12:08 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Tan-Brown and Brown, f-c Sand, little silt, tr. organics, tr. roots	Easy	
2'	occasional to numerous wood fragments contains "and" f-c Gravel, little white foundry sand/lime/slag material contains little yellow-blue-pink and white slag		1,2
3'		Easy to Moderate	
4'	Gray-Brown, f-c Gravel and blue Slag, little-some f-c Sand occasional concrete boulders, occasional silty clay seams	Hard	3,4,5
5'	becomes yellow-white or blue slag	Moderate to Hard	
6'			
7'	Black-Gray, Silty Clay and Wood, tr.brick		
8'	tr. concrete		
9'			
10'	Gray-Silver Slag and Wood, tr. brick contains numerous slag/concrete cobbles and boulders		6
11'		Hard	
12'	Olive-Gray, fine Sand, tr.-little Silt (wet, SP)	Easy	7
13'	Test Pit Complete at 12'		
14'	Freestanding water encountered at ~11' at test pit completion		

Remarks:

1. at ~2' a seam of clean #1 stone, ~6" thick x 5' long was encountered
2. generally coarse gravel to cobble size slag
3. generally f-c gravel to small cobble size slag
4. few boulders, generally 18" - 36"
5. minimal amount of water percolating in at ~4'
6. Water rushing in at ~7' on top of apparent concrete slab on north side
7. generally cobble size slag, there are a few slag/concrete boulders > 3'
8. apparent clay tile piping filled with possible grout encountered

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-13
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	101.7'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	1:01 PM		
TIME FINISHED	1:33 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand, little-some f-c Gravel, tr. slag	Easy	1
2'			
3'			
4'	Gray, f-c Sand and Silt, little-some Clay, little f-c gravel		
	little f-c gravel/sm.cobble size slag, tr.organics, tr.wood		
5'	Red-Brown, f-c Sand,some white slag, little f-c gravel, tr.wood	Moderate	2
6'	White Slag becomes blue becomes yellow-blue	Hard to very Hard	3
7'			
8'	becomes gray-blue and yellow-white		
9'			
10'			
11'	Gray Slag	Hard	4
12'			5
	Wood	Easy to Moderate	
13'	Brown Peat and Wood (wet, PT)		
14'	Test Pit Complete at 13.5' Freestanding water encountered at 10'		

Remarks:

1. one large blue slag/concrete boulder encountered at ~6" (2' +/-)
2. f-c sand,gravel and small cobble size slag
3. at ~5.5' and below the slag is one large boulder (possible hot poured)
4. f-c gravel size and occasional small cobble size slag
5. at ~11' the water turned black and soil material coated in apparent oil, however the photoionization detector readings were at background levels

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-14
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	100.5'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	1:48 PM		
TIME FINISHED	2:15 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand, little f-c gravel, tr. wood, tr.slag occasional rock cobbles, occasional boulder size slag contains pockets of fine gravel size slag	Easy	
2'			
3'			
4'	Black-Gray, f-c Gravel and Slag, some f-c Sand, little Clayey Silt, tr.wood		
5'	Red-Brown foundry Sand		
6'	Yellow-White and Blue Slag	Moderate	1
7'			
8'		Moderate to Hard	
9'	becomes predominately blue	Hard	2
10'	becomes black-blue and white	Moderate to Hard	
11'	Dark Brown Peat and Wood (wet, PT)	Easy	
12'	Test Pit Complete at 11.5' Freestanding water encountered at 9.0 feet		
13'			
14'			

Remarks:

1. f-c sand and gravel slag and cobble to boulder size slag (50% friable)
2. water encountered at 9 feet,at ~ 9.5 feet the water turned black and soil material coated in apparent oil, however, the photoionization detector readings were at background levels

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-15
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	104.4'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	2:23 PM		
TIME FINISHED	2:58 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black- Brown to Brown, f-c Sand, little-some f-c Gravel, little clayey silt	Easy	
	little organics, tr.wood, tr.slag		
2'	occasional cobbles, tr.brick		1
	contains some blue-yellow and white slag, couple railroad ties		
3'	contains occasional concrete/slag boulders, numerous rebar, rubble		2,3,4
	occasional debris		
4'	contains some-and slag (small to large cobbles)		
5'	contains occasional to numerous concrete/slag boulders		
6'	contains numerous wood fragments, railroad ties, concrete boulders		
7'	Red Brick	Easy to Moderate	
8'	Yellow-White and Blue Slag, tr.wood	Moderate to Hard	5
9'	Olive-Gray and Brown, Silty Clay , tr. - little wood (wet)	Easy	
10'			
11'			
12'			
13'			
14'			6
15'			
	Test Pit Complete at 15' - No Freestanding Water		

Remarks:

1. coarse gravel and small cobble size slag
2. few concrete/slag boulders (2' x 2') and loose rebar and some within
3. several large rebar (possible #11 bars) - concrete rubble with rebar
4. debris includes steel angles, conduit, small rebar
5. one large boulder - possible hot poured - breaks into cobbles/boulders
6. Sidewall instability within upper 3.5 feet - loose fill debris

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-16
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	98.3'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	3:36 PM		
TIME FINISHED	3:47 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand, some pink-blue-yellow Slag little f-c gravel, little brick contains numerous concrete and steel debris	Hard	1,2,3,4
2'			
3'	becomes black, contains "and" f-c gravel, tr.brick, several railroad ties		5
4'	contains numerous railroad ties		6,7
5'	Test Pit Complete at 4' No freestanding water encountered at test pit completion		
6'			
7'			
8'			
9'			
10'			
11'			
12'			

Remarks:

1. On first attempt, at ~6" possible concrete slab or hard hot poured slag - unable to penetrate - moved slightly north
2. small to large cobble and boulder size slag
3. several boulder size concrete/slag generally from 12" to 36" +/-
4. debris includes rebar, angles, sheeting, conduit, tubes, machine parts
5. perched water encountered at 3'
6. exposed steel railing and railroad ties - apparent railroad tracks moved ~2' north at which exposed similar materials and at ~4' the other rail of the tracks. More steel debris was noted in the fill materials upon moving.
7. At the surface, large concrete boulders and concrete rubble with rebar is on the west side of the test pit

ABBREVIATIONS	
F - FINE	
C- COARSE	
F-M - FINE TO MEDIUM	
F-C - FINE TO COARSE	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35-50%

Boulder > 12"

Cobble = 3" - 12"

Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-16A
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	98.3'
DATE	18-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Art Koske		
TIME START	3:50 PM		
TIME FINISHED	4:15 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black-Brown, f-c Sand and Concrete, some f-c Gravel contains numerous rock and slag cobbles and wood fragments		1,2
2'			
3'	contains numerous railroad ties		
4'		Moderate	3
	Dark Brown f-c Sand and Slag, some f-c Gravel, tr. Brick		4
5'	Gray, Silty Clay and Wood contains gray slag seam		5
6'			
7'			
8'	Dark Brown and Black Peat and Wood (moist-wet, PT)	Easy to Moderate	
9'			
10'			
	Olive-Gray Silt, tr.-little fine sand (moist-wet, ML)	Easy	
11'	Test Pit Complete at 10.5' No freestanding water encountered at test pit completion		
12'			

Remarks:
1. cobble size and boulder size concrete, generally 12" to 36"
2. small tree trunk exposed
3. perched water encountered at ~4'
4. f-c gravel and cobble size slag
5. f-c gravel and cobble size slag seam - hard

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-17
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	105.8'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	8:22 AM		
TIME FINISHED	9:05 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown, f-c Sand, little f-c gravel, little silt, little clay tr.-little organics, tr.roots, tr.slag	Easy	
2'	Gray-Brown, f-c Sand and f-c Gravel, little slag, tr.wood, numerous cobbles		1
3'	Black, f-m Sand and blue and pink-white Slag, little silt, tr.gravel, tr.wood		2
4'			
5'	Blue Slag and Gray-Black f-c Sand, some f-c Gravel, little silt contains little yellow-pink and white slag		3
6'	contains little-some f-c sand and gravel, tr.wood, tr.brick		4,5
7'	contains occasional debris, occasional brown silty clay pockets	Easy to Moderate	
8'	concrete slab	Very Hard	6
9'	Brown, f-c Sand and f-c Gravel some yellow-pink-blue-white Slag		7,8
10'	contains little slag	Easy to Moderate	
11'			
12'			
13'	Test Pit Complete at 12.5 feet No freestanding water encountered at test pit completion		

Remarks:

1. f-c sand, gravel and small cobble size slag
2. f-c gravel and cobble size slag
3. f-c gravel and cobble size slag
4. occasional large cobble and boulder size slag
5. debris includes steel sheeting, pipes, couple railroad ties
6. apparent concrete wall encountered on the west half of the test pit, extends entire depth of test pit and appears to be at least 18 feet long.
7. slag generally f-c gravel and small cobble size, occasional large cobble/boulder size
8. between ~ 9'-11', a large blue-white slag boulder on north side of pit, possible hot poured - unable to break/remove

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-18
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	106.3'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	9:35 AM		
TIME FINISHED	10:04 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand and f-c Gravel, little silt, tr.clay, tr.roots,tr.slag	Easy	1
2'	contains some - and yellow-white-blue-green Slag		
3'	contains and Slag, tr.wood fragments, occasional railroad tie pieces		
4'	contains tr.organics, tr.brick		
5'		Easy to Moderate	
6'	Black-Brown, fine Sand and Silt, some-and yellow-white slag, little f-c gravel, occasional concrete boulders occasional pockets of clay, numerous railroad ties	Moderate to Hard	2,3,4
7'			5
8'	Brown f-c Sand and Silt, some yellow-white Slag, little f-c gravel, little brick occasional debris, occasional to numerous railroad ties (pieces & whole)		6
9'		Moderate	7
10'			
11'			
12'			8,9
	Gray f-c Gravel and Slag, some f-c sand, some wood fragments, tr.-little silt		
13'	Test Pit Complete at 12.5' Freestanding water encountered at 12' at test pit completion		

Remarks:

1. generally f-c gravel to small cobble size slag with occasional large cobble or boulder size below 1'
2. generally f-c gravel and cobble size slag
3. between 4.5' - 6' occasional concrete boulders ranging from 24-36" and numerous slag boulders ranging from 12"- 24"
4. between 5' - 5.5', seam/layer of black, organic clayey silt with numerous roo
5. between 6-7', two large concrete boulders (4'x3')
6. generally f-c gravel and cobble size slag, occasional large cobble/boulder size
7. debris includes steel sheeting, conduit, pipes
8. between 6 feet to 12 feet about half of material was building debris including concrete, brick, rebar, steel and wood ties
9. at ~12' large section of concrete/slag ~6' long x 4' wide x 6" thick, blue-white with rustic orange - hard
10. sidewall instability noted throughout test pit

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-19
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	99.7'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	10:22 AM		
TIME FINISHED	10:53 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand, little-some Silt, little f-c gravel,little cinders, tr.slag		1,2
	contains numerous brick and concrete		
2'	Blue-Yellow and White Slag, little f-c sand and gravel		3,4,5
3'		Easy to Moderate	
4'			
5'			
6'			
7'	becomes blue-yellow-gray and white, tr.wood		
8'		Moderate	
9'	becomes gray, silver, blue and white		
10'		v. Hard	6
11'	Test Pit Complete at 10'		
12'	Freestanding water encountered at 5' at test pit completion		
13'			

Remarks:

1. Several concrete boulders at surface (24 - 36")
2. Whole and fragments of red brick, cobble size concrete
3. f-c gravel and small cobble size slag, few large cobble size
4. two brick walls exposed at ~ 1.5', about 3.5' -4' long, depth unknown
5. at ~2' concrete wall/structure exposed, concrete structure noted at surface-next to excavator tracks, at least 15' long, appears to be connected to thestructue exposed, depth unknown, appears to be about 18" wide
6. very hard structure encoutnered at bottom, unable to break/remove or go deeper

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-20
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	101.5'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	11:10 AM		
TIME FINISHED	11:40 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black-Brown, fine Sand, little-some Silt, little f-c gravel,tr.clay,tr.organics contains occasional concrete cobbles and whole/half red and yellow bricks	Easy to Moderate	
2'	contains "and" Concrete/Brick/Slag (blue/white),tr.wood,tr.asphalt,tr.steel		1
3'	Brown, f-c Sand and Yellow-Red-White and Blue Slag, some f-c Gravel tr.brick, tr.asphalt		
4'			2,3
5'	Test Pit Complete at 4.0' No freestanding water encountered at test pit completion		
6'			
7'			
8'			
9'			
10'			
11'			
12'			
13'			

Remarks:

1. cobble size concrete and slag, several small boulder size
2. f-c gravel and cobble size slag, several small boulder size
3. concrete structure encountered at 4 feet, unable to penetrate, excavator moved slightly east, encountered another concrete structure at ~2'-they appear to be connected. Structure at least 6' wide. Once edge of 2' structure found (~6' long) on east side began digging again. Similar upper conditions were encountered (ie sand and slag) and then at about 4' hit another concrete structure which also appears to be attached. Continued moving east until finally abandoning test pit. Moved to another area. The struture appears to be at least 35 feet long and at least 6' wide. Never found the edge of the structure in any direction.

ABBREVIATIONS		PROP USED	
F - FINE		TRACE (TR.)	0-10%
C- COARSE		LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM		SOME (SO.)	20 -35%
F-C - FINE TO COARSE		AND	35-50%
Boulder > 12"			
Cobble = 3" - 12"			
Gravel - Course = 3/4" - 3"	Fine = #4 - 3/4"		

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-20A
CLIENT	Buffalo Urban Development Corp.	LOCATION	Eastern Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	100.1'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	1:01 PM		
TIME FINISHED	1:41 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown, fine Sand, little-some Silt, tr.gravel,tr.organics,tr.roots	Moderate to Hard	
2'	Yellow Brick, tr.-little f-c sand and gravel, tr. red brick, tr.wood,tr.slag contains occasional steel debris, rock cobbles		1,2
3'			
4'			
5'	occasional concrete boulders (2' +/-), layered brick boulder (3' x 1') numerous steel debris, occasional wood fragments/railroad ties		3,4
6'	numerous wood-railroad tie fragments	Hard to Very Hard	5
7'			
8'			6,7
9'	Test Pit Complete at 8' Freestanding water encountered at 5' at test pit completion		
10'			
11'			
12'			
13'			

Remarks:

1. steel debris includes angles, conduit, scrap, sheeting, rebar, pipes, rope
2. concrete wall/structure encountered on north side at ~2.5' for entire length and depth of test pit
3. at ~5.5' had hard time getting through rubble
4. steel pipe - possible old sewer line through concrete structure
5. appears the wood and brick/concrete debris is covered in oil, however, the photoionization detector readings were at background levels
6. smooth structure encountered at bottom - unable to break up or remove
7. side wall instability in upper loose fill/debris material

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-21
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	108.1'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	1:48 PM		
TIME FINISHED	2:19 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black-Brown f-c Sand and f-c Gravel, little silt, tr.brick, tr.slag		1,2
2'	numerous slag/concrete/rock cobbles, occasional misc. debris occasional slag/concrete boulders, occasional railroad ties		
3'	contains "and" concrete cobbles, brick, wood fragments, debris		3,4
4'		Easy	
5'			5
6'			
7'	contains little concrete cobbles, brick, wood fragments, debris occasional concrete boulders, numerous railroad ties contains clayey silt and silty clay pockets with tr.slag cobbles		
8'		Moderate	
9'		very Hard	6
10'	Test Pit complete at 9.5 feet No freestanding water encountered at test pit completion		
11'			
12'			
13'			

Remarks:

1. on east side of test pit (east side of pile) large concrete boulders and rebar
2. concrete boulder with rebar and tire was immediately exposed at test pit
3. debris includes rubber scraps, steel scraps and sheeting, rebar, conduit
4. at about 3 feet it becomes "and" concrete cobbles, yellow and red brick, wood fragments and misc. debris
5. on west side large concrete boulder ~3' x 4'
6. at bottom of test pit encountered hard obstruction for entire length of test pit - unable to break/remove.

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-22
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	107.6'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	2:39 PM		
TIME FINISHED	2:56 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown and Gray, f-c Sand and f-c Gravel, little-some clay, tr.organics contains numerous concrete/slag/rock cobbles, occasional large cobbles contains occasional red-brown clay seams/layers	Hard	1
2'			
3'	occasional to numerous large concrete/slag boulders (see notes) small tree stump numerous wood/railroad tie fragments		
4'			
5'	layered red brick boulder (4' x 2') numerous debris (steel conduit, pipes, scraps)		
6'	contains numerous smaller concrete/slag boulders (12" - 24") layered yellow brick boulder (4' x 3') "and" concrete/slag cobbles		
7'			
8'			
9'			
10'	Black-Brown, f-c Sand and Wood fragments, little-some f-c Gravel, little clay, tr.-little roots, tr.slag		2,3
11'			
12'	Test Pit Complete at 11' No freestanding water encountered at test pit completion		
13'			

Remarks:

1. Numerous large concrete/slag boulders removed - generally encountered between 1' - 6', but did extend up to ~9'. Some sizes noted below: Generally white, blue or pink-white and generally 24"-36"

Depth (ft)	Size (ft)	
1	3' x 3'	- appears to be a slab - 6" thick
2	7' x 5'	
1' - 3'	4' x 3'	
1' - 3'	3' x 2'	
1' - 3'	2' x 2'	
3'	4' x 3'	
5'	3' x 2'	

2. Hard to excavate due to so many obstructions. 3. Sidwall instability in upper fill soils

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-23
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	106.9'
DATE	19-Dec-06	WEATHER/TEMP	Partly Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	3:14 PM		
TIME FINISHED	3:44 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Red-Brown and Gray, Silty Clay, little-some f-c Sand, little f-c Gravel	Easy	
2'			
3'	Brown, f-c Sand and f-c Gravel, little Clay, tr.-little pink-white slag, numerous small slag/rock cobbles contains some slag, tr.-little steel, tr. clay, tr.plastic, tr.wood		1,2
4'		Moderate	3
5'	becomes red-brown, contains little wood fragments		
6'	contains some yellow-green-white slag, little yellow and red brick occasional concrete boulders (small)		4
7'			
8'	Blue-White Slag/Concrete and Gray, f-c Sand, some f-c Gravel, tr.wood	Moderate to Hard	5
9'		v. Hard	6
10'	Test Pit Complete at 9' No freestanding water encountered at test pit completion		
11'			
12'			
13'			

Remarks:
1. f-c gravel and small cobble size slag
2. two large slag/concrete boulders (3'x1'x1', 1'x1'x6") and several cobble/boulder (12" +/-)
3. steel plate (2'x 2' x 1/4"), rebar, angles
4. generally f-c gravel and small cobble size slag, few larger cobble/small boul
5. f-c gravel and cobble size slag/concrete
6. Possible concrete slab/large boulder - unable to break/remove

ABBREVIATIONS	
F - FINE	
C- COARSE	
F-M - FINE TO MEDIUM	
F-C - FINE TO COARSE	
Boulder > 12"	
Cobble = 3" - 12"	
Gravel - Course = 3/4" - 3"	Fine = #4 - 3/4"

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35-50%

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-24
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	105.7'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	10:13 AM		
TIME FINISHED	10:31 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Olive-Gray and Brown, Silty Clay, little f-c Sand, tr.gravel,tr.wood occasional cobble	Easy	
2'	Brown, f-c Sand and f-c Gravel, little silt, little red brick little concrete, little slag, little steel debris occasional slag/concrete large cobble/boulder	Easy to Moderate	1,2,3
3'			
4'	numerous slag/concrete cobbles, occasional slag/concrete boulder contains some yellow and red brick, occasional railroad ties	Moderate	4,5
5'			
6'	contains "and" yellow and red brick		6
7'		Easy to Moderate	
8'			
9'			
10'	Yellow Brick, little red brick, tr.sand, tr.wood		
11'	Test Pit Complete at 10' No freestanding water encountered at test pit completion		
12'			
13'			

Remarks:
1. f-c gravel and small cobble size slag and concrete
2. steel debris includes sheeting, angles, conduit, rebar
3. at ~2.5' concrete struture on east side - left in ground
4. at ~4' large concrete boulder (3' x 3' x 2') with rebar
5. between 5' to 9' half or more is debris (concrete,slag, brick, steel, wood)
6. at ~6' large concrete boulder (3' x 3' x 1')

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-25
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	104.7'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	10:42 AM		
TIME FINISHED	11:05 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand and f-c Gravel, little yellow-white slag, little clay,tr.wood		1
2'	numerous rock/slag cobbles, occasional small slag/concrete boulders contains occasional gray-brown, silty clay seams	Easy	
3'			2
4'	contains tr.-little yellow and red brick		
5'	tr. steel, tr. fabric	Easy to Moderate	3
6'			
7'			
8'	Yellow-White Slag and Gray-Brown f-c Sand, little yellow and red brick	Moderate	4,5
9'	contains little-some Brick, little f-c Sand,tr.-little wood	Moderate to Hard	
10'	Yellow Brick Yellow Brick and Gray-Brown f-c Sand, some yellow-white Slag, tr.wood, tr.steel	Hard Hard to v. Hard	6
11'	Test Pit Complete at 10.5'		
12'	Freestanding water encountered at 10.0' at test pit completion		
13'			

Remarks:

1. f-c gravel and small cobble size slag
2. concrete boulder at west end- left in place - appears to be about 2.5' thick x 2' long
3. couple concrete boulders approximately 2' x 2' encountered at ~5'
4. generally f-c gravel to small cobble size slag
5. possible hot-poured yellow-gray-white slag on west edge - very hard
6. generally f-c gravel to small cobble size slag

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

SJB SERVICES, INC.

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Fax: (716) 649-8051

TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-26
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	100.2'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	11:13 AM		
TIME FINISHED	11:40 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark-Brown, f-c Sand and f-c Gravel, little Silt	Easy to Moderate	1,2
2'	numerous small slag/concrete/rock cobbles contains tr.-little red-brick, little wood, tr.conduit, tr.steel, tr.fabric, occasional concrete boulders		
3'			3
4'			
5'	Orange-Blue and White Slag, some Brown, f-c Sand and Gravel	Mod.- Hard	
6'	Blue-Silver and Red-White Slag, tr. Wood	Hard to very Hard	4
7'	becomes rustic silver-gray or yellow-white, tr.conduit occasional large slag cobble/small boulder		5
8'			
9'	Olive-Gray and Black, Silty Clay, little-some Wood, little fine Sand, tr.organic	Easy	
10'	Dark Brown, Peat and Wood, laminated olive-gray Silt (wet, PT)		
11'	Test Pit Complete at 10.0'		
12'	Freestanding water encountered at 7.0' at test pit completion		
13'			

Remarks:

1. TP-26 done on south slope-large concrete boulders located on top of hill
2. two large concrete boulders encountered immediately beneath the surface - 3' x 2' x 2' and 4' x 3' x 2'
3. occasional concrete boulders are generally small from 12-18-inches
4. cobble to boulder size slag - possible hot poured - solid piece
5. becomes generally f-c sand, gravel and small cobble size slag

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-27
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	104.5'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	12:46 PM		
TIME FINISHED	1:20 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand, some f-c Gravel, some pink-white and blue Slag, little yellow brick, tr.steel debris numerous concrete boulders		1,2,3,4
2'			
3'			
4'	Concrete/Slag, some f-c Sand and f-c Gravel, little yellow brick contains little-some yellow brick, tr.wood, steel plate	Moderate	
5'			
6'			
7'	Brown f-c Sand, some f-c Gravel, some yellow-white and blue Slag, little-some concrete cobbles/small boulders, little yellow brick contains several railroad ties		
8'			
9'	Blue Slag	v. Hard	5
10'	Test Pit Complete at 9.0' No Freestanding Water encountered at Test Pit completion		
11'			
12'			
13'			

Remarks:

1. coarse gravel and cobble size slag
2. Two concrete boulders encountered near surface - generally 2' x 3'
3. From 1 feet to 5 feet - numerous concrete/slag boulders - 2' x 2', 3' x 2' 1' x 2', 3' x 2', 2' x 2', 2' x 2', 4' x 2', 2' x 2', 2' x 1' and numerous large cobbles and small boulders ranging from 9" to 15" - some with rebar. Generally about half or more of the material consists of slag/concrete cobbles and boulders with rebar between 3 feet and 5 feet.
4. steel debris includes angles, rebar, plate, rope, conduit
5. possible hot poured slag - one large, solid slab/boulder

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-28
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	104.0'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	1:36 PM		
TIME FINISHED	1:55 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand and f-c Gravel, tr.slag, tr.brick	Easy	
2'	contains numerous concrete/slag cobbles, little brick, tr.wood	Moderate	1
3'	contains "and" concrete/slag cobbles, tr.debris		2,3
4'	contains occasional concrete boulders		4
5'			
6'			
7'			
8'			
9'	Red-Brown, f-c Sand and f-c Gravel, tr.steel contains occasional/numerous rock cobbles	Easy to Moderate	
10'	Blue and Yellow-White Slag	Moderate	5
11'	Test Pit Complete at 10.5'		
12'	No Freestanding Water encountered at Test Pit completion		
13'			

Remarks:
1. at ~1' concrete boulder 3' x 3' x 2' encountered
2. debris include steel angles, steel round plate, rebar, clay tile
3. layered brick boulder - 2' x 1' x 1'
4. several concrete boulders - generally 2' x 1' - some with rebar
5. f-c sand and gravel size slag

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-29
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	103.4'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	2:03 PM		
TIME FINISHED	2:18 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand, little f-c Gravel, little Slag, little organics	Easy to Moderate	1,2
2'	contains "and" f-c Gravel, occasional/numerous concrete/slag cobbles several railroad ties		3
3'			
4'	becomes gray-brown, contains little clay, tr.red brick numerous wood fragments		
5'			
6'	Blue and Yellow-White Slag, little-some f-c Sand, little f-c Gravel, tr.-little concrete, tr.red brick, tr.wood		4,5
7'			
8'			
9'			
10'	Yellow-White Slag	V. Hard	6
11'	Test Pit Complete at 10.5'		
12'	No Freestanding Water encountered at Test Pit completion		
13'			

Remarks:

1. f-c sand, gravel and small cobble size slag - friable
2. near surface blue-white slag/concrete boulder - 2' x 1' x 1'
3. some of the concrete cobbles/boulders tied together with rebar generally numerous 12" - 18" size concrete/slag cobbles/boulders, some slag cobbles are friable
4. generally f-c sand,gravel and small cobble size slag - some friable - slag boulder encountered - 2' x 3' x 3'
5. slag or concrete boulder encountered at 6' - 3' x 3' x 2'
6. possible hot poured slag - one large solid slab/boulder

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-30
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	103.5'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	2:30 PM		
TIME FINISHED	2:50 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown, f-c Sand, little f-c Gravel, little Slag, little organics	Easy	
2'	contains numerous concrete/slag cobbles, occasional small concrete boulders (15-18"), tr.steel debris, tr.brick		1,2
3'	occasional concrete/slag boulder		3
4'		Moderate	
5'	Concrete, some red and yellow brick, little f-c sand, little f-c gravel little steel, tr.-little slag, tr.wood	Moderate to Hard	4
6'	contains couple railroad ties	Hard	
7'			
8'			
9'	Gray-Brown, f-c Sand and f-c Gravel, some-and yellow-white and blue Slag	Easy to Moderate	5
10'	Yellow-White Slag		6
11'	Test Pit Complete at 10.5'		
12'	No Freestanding Water encountered at Test Pit completion		
13'			

Remarks:
1. steel debris includes rebar, pipe, coil, conduit, plate
2. concrete boulder encountered at ~3' - 3' x 2' x 2'
3. several small concrete boulders attached by rebar (possible #11 bar), several (3) concrete/slag boulders - generally 2' x 2' x 1' at ~3.5'
4. generally concrete boulders averaging 2', large one (4' x 3') and numerous conrete cobbles
5. generally coarse gravel and cobble size slag
6. generally f-c sand, f-c gravel and small cobble size slag - friable

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-31
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	103.4'
DATE	20-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	3:01 PM		
TIME FINISHED	3:27 PM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c Sand and Gravel and Yellow-White or Blue-White Slag/Concrete little red brick, tr.steel	Easy	1,2
2'	occasional to numerous concrete/slag boulder, tr.wood fragments		3,4
3'			
4'	several (3) railroad ties		
5'	Olive-Gray and Brown, Silty Clay, little f-c Sand, tr.brick		
6'	White Slag	very Hard	5
7'			
8'	Gray, f-c Sand and Pink-Blue and White Slag, some Concrete, some f-c Gravel, little red and yellow brick	Moderate	6
9'			
10'	Yellow-White Slag		7
11'	Test Pit Complete at 10.0'		
12'	No Freestanding Water encountered at Test Pit completion		
13'			

Remarks:

1. generally small slag/concrete cobbles, occasional large cobble (12" +/-)
2. trace steel includes rebar, plate, angle
3. rustic silver slag boulder (5' x 5') encountered at 3', concrete boulder (2' x 2') encountered at 4'
4. between ~ 3' to 4' generally just slag/concrete large cobbles/boulders
5. possible hot poured slag - one large, solid slab/boulder - appears ~2' thick.
6. generally f-c gravel and small cobble size slag and concrete
7. f-c sand, gravel and small cobble size slag - some friable

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

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TEST PIT FIELD LOG

PROJECT	Buffalo Lakeside Commerce Park	TEST PIT NO.	TP-32
CLIENT	Buffalo Urban Development Corp.	LOCATION	Western Fill Pile
PROJECT NO.	BE-06-260	GROUND ELEV	97.8'
DATE	21-Dec-06	WEATHER/TEMP	Sunny / 40°
EXCAVATION EQUIP	Caterpillar Model 312C		
OPERATOR	Randy Steiner		
TIME START	8:30 AM		
TIME FINISHED	8:57 AM		

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-m Sand, little Silt, little organics, tr. Gravel	Easy	1
	Brown f-c Sand, little-some f-c Gravel, tr.brick, tr.slag		
2'	contains occasional/numerous concrete boulders,		2,3,4
	some blue-white Slag, little-some brick, tr.wood		
3'	Black Slag, little-some Cinders, tr.-little red brick	Moderate	5
	Blue-White Slag		
4'			6
5'		Moderate to Hard	
6'	Red-Brown and Brown Slag, little-some Red Brick, little f-c Sand, tr.-little f-c gravel, tr.cinders, tr.wood		7
7'			8
8'			
9'	Yellow/Orange-White and Blue Slag becomes Blue		9
10'			
11'	Test Pit Complete at 10.0'		
12'	Freestanding Water encountered at 9' at Test Pit completion		
13'			

Remarks:

1. apparent concrete wall enc. at ~1' on south side of pit - extends entire lengt
2. on east side of pit - dominate concrete/brick and slag rubble
3. at ~1.5 feet two - 3' x 2' and two 2' x 1' concrete boulders encountered,
4. generally coarse gravel and cobble size slag
5. generally f-c sand, gravel and small cobble size slag, occasional large cobble size slag
6. one large slab/boulder - possible hot poured however friable
7. f-c gravel and small cobble size slag, occasional blue or yellow white slag cobble
8. at ~ 7' appears the footer for the wall was encountered- extends ~10" beyond wall - however easily breakable - blue-white
9. possible hot poured slag - one large slab/boulder - somewhat friable

ABBREVIATIONS	PROP USED	
F - FINE	TRACE (TR.)	0-10%
C- COARSE	LITTLE (LI.)	10 - 20%
F-M - FINE TO MEDIUM	SOME (SO.)	20 -35%
F-C - FINE TO COARSE	AND	35-50%

Boulder > 12"
Cobble = 3" - 12"
Gravel - Course = 3/4" - 3" Fine = #4 - 3/4"

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS

Photograph 1 – Test Pit TP-1

Photograph 2 – Test Pit TP-2

Photograph 3 – Test Pit TP-2

Photograph 4 – TP-3

Photograph 5 – TP-3

Photograph 6 – TP-4

Photograph 7 – TP-6

Photograph 8 – TP-7

Photograph 9 – TP-7

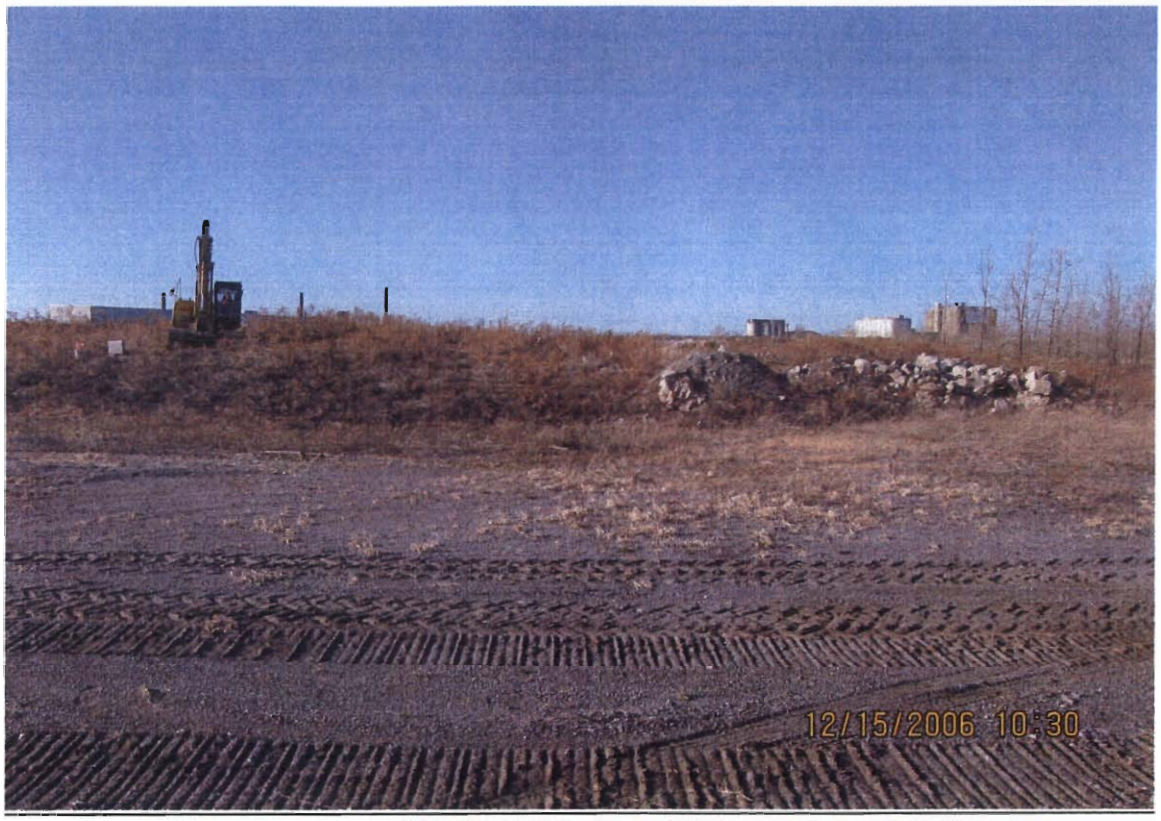
Photograph 10 – TP-10A

Photograph 11 – TP-10A

Photograph 12 – TP-12

Photograph 13 – TP-13

Photograph 14 – TP-13



Photograph 15 – View of Eastern Pile - Northeast View

Photograph 16– TP-20A

Photograph 17 – TP-22

Photograph 18 – TP-32

Photograph 19 – View of East End of West Pile

Photograph 20 – View of Mid-Section of West Pile

APPENDIX C

COMPACT DISK CONTAINING COMPREHENSIVE SET OF PHOTOGRAPHS

APPENDIX D

LABORATORY TEST DATA

Project: Buffalo Lakeside Commerce Park
Client: Buffalo Urban Development Corporation
Date: 1/15/2007

Project No. BE-06-260

Partical Size Distrubution

Test Pit #	Gravel (%)			Sand (%)				Silt and Clay
	Coarse (3" - 3/4")	Fine (3/4" - #4)	Total	Coarse (#4 - #10)	Med. (#10 - #40)	Fine (#40 - #200)	Total	<#200
TP -2	16.0	25.3	41.3	10.6	16.1	17.0	43.7	15.0
TP-3	28.6	53.0	81.6	9.5	5.9	0.7	16.1	2.3
TP-5	4.8	20.4	25.2	8.1	16.1	31.5	55.7	19.1
TP-6	5.1	16.2	21.3	13.9	30.5	20.8	65.2	13.5
TP-9	2.0	13.7	15.7	6.3	24.5	39.1	69.9	14.4
TP-25	12.8	24.0	36.8	9.9	11.6	14.3	35.8	27.4

TP-3 is made up of slag
TP-6 is made up of foundry sand/lime

SJB SERVICES, INC.
Contract Drilling and Testing

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Laboratory Test Report

PROJECT: **Buffalo Lakeside Commerce Park**

CLIENT: **ECIDA / BUDC**

DATE: **January 4, 2007**

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1

Attached are the results of laboratory testing conducted on various samples from the above referenced project. Ms. Wanda Perks representing Empire –Geo Services, Inc, chose samples contained in this report.

The testing conducted was as follows:

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

ASTM D-2974: Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Samples were received at the SJB Services, Inc. laboratory on December 27, 2006 where they were processed for testing.

If the reviewer should have any questions concerning this report, please do not hesitate to contact our office at any time.

SJB Services, Inc.

Paul Gregorczyk
Laboratory Manager

SJB SERVICES, INC.
Contract Drilling and Testing

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Laboratory Test Report

PROJECT: Buffalo Lakeside Commerce Park

CLIENT: ECIDA / BUDC

DATE: January 4, 2007

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1A

SAMPLE NUMBER: 06-1342

SAMPLE LOCATION: TP-2: composite of 1' – 2' & 5' – 6'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
3"	100.0
2"	88.2
1 ½"	88.2
1"	86.8
¾"	84.0
½"	75.9
¼"	63.4
#4	58.7
#10	48.1
#20	39.0
#40	32.0
#100	20.1
#200	15.0

ASTM D-2974: Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Organic Content: 7.7 %

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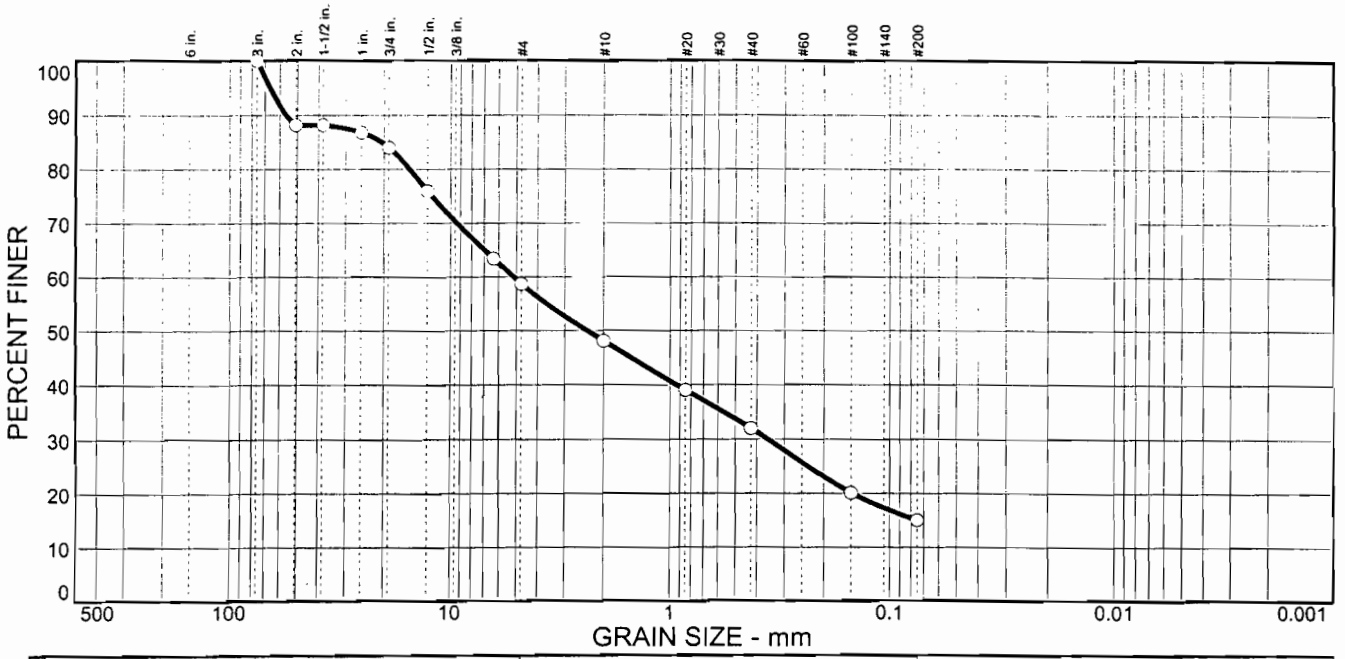
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1342 **Source of Sample:** TP-2 **Date:** 1/4/07
Location: TP-2 **Elev./Depth:** 1'2' & 5'-6'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	41.3	43.7	15.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	88.2		
1.5 in.	88.2		
1 in.	86.8		
.75 in.	84.0		
.5 in.	75.9		
.25 in.	63.4		
#4	58.7		
#10	48.1		
#20	39.0		
#40	32.0		
#100	20.1		
#200	15.0		

* (no specification provided)

Soil Description

TP-2: COMPOSITE OF 1'-2' & 5'-6'

ORGANIC CONTENT = 7.7 %

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 20.5 D_{60}= 5.16 D_{50}= 2.38
D_{30}= 0.357 D_{15}= 0.0750 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

LTR-1A
SAMPLE NUMBER: 06-1342

Plate

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Contract Drilling and Testing

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Fax: (716) 649-8051

Laboratory Test Report

PROJECT: **Buffalo Lakeside Commerce Park**

CLIENT: **ECIDA / BUDC**

DATE: **January 4, 2007**

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1B

SAMPLE NUMBER: 06-1343

SAMPLE LOCATION: TP-3: 7' – 8'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
2"	100.0
1 ½"	96.9
1"	81.6
¾"	71.4
½"	51.0
¼"	25.5
#4	18.4
#10	8.9
#20	5.5
#40	4.3
#100	3.0
#200	2.3

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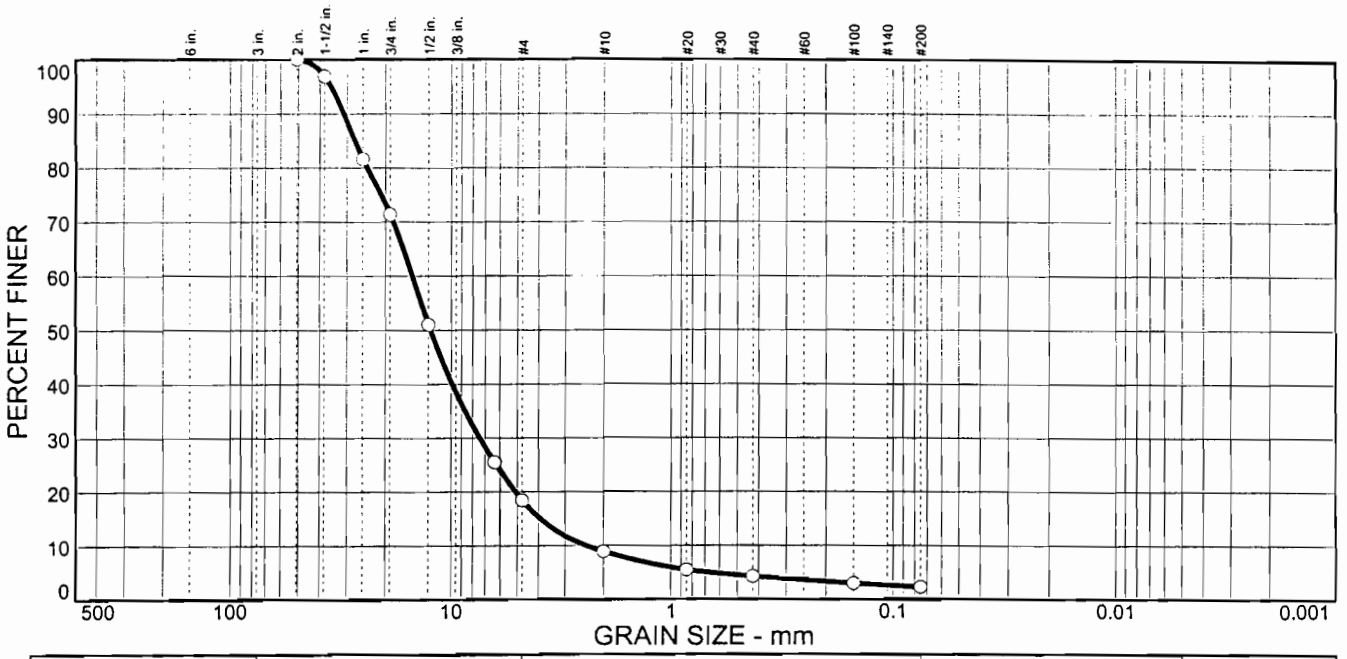
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1343 **Source of Sample:** TP-3 **Date:** 1/4/07
Location: TP-3 **Elev./Depth:** 7'-8'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	81.6	16.1	2.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	96.9		
1 in.	81.6		
.75 in.	71.4		
.5 in.	51.0		
.25 in.	25.5		
#4	18.4		
#10	8.9		
#20	5.5		
#40	4.3		
#100	3.0		
#200	2.3		

* (no specification provided)

Soil Description

TP-3: 7' - 8'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 27.7 D_{60}= 15.1 D_{50}= 12.4
D_{30}= 7.42 D_{15}= 3.92 D_{10}= 2.41
C_u= 6.26 C_c= 1.52

Classification

USCS= AASHTO=

Remarks

LTR-1B
SAMPLE NUMBER: 06-1343

Plate

SJB SERVICES, INC.
Contract Drilling and Testing

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Laboratory Test Report

PROJECT: **Buffalo Lakeside Commerce Park**

CLIENT: **ECIDA / BUDC**

DATE: **January 4, 2007**

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1C

SAMPLE NUMBER: 06-1344

SAMPLE LOCATION: TP-5: 0' – 2'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
2"	100.0
1 ½"	100.0
1"	97.9
¾"	95.2
½"	90.4
¼"	78.7
#4	74.8
#10	66.7
#20	58.5
#40	50.6
#100	30.6
#200	19.1

ASTM D-2974: Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Organic Content: 11.5 %

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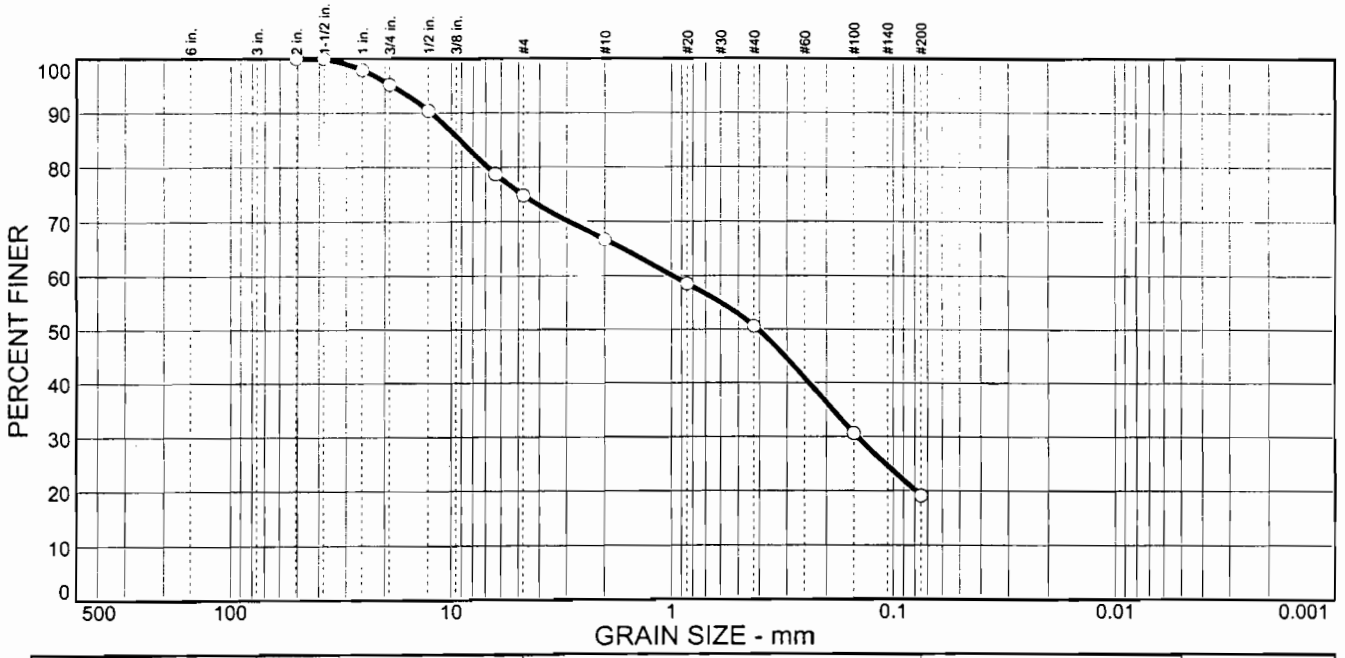
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1344 **Source of Sample:** TP-5 **Date:** 1/4/07
Location: TP-5 **Elev./Depth:** 0'-2'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	25.2	55.7	19.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	100.0		
1 in.	97.9		
.75 in.	95.2		
.5 in.	90.4		
.25 in.	78.7		
#4	74.8		
#10	66.7		
#20	58.5		
#40	50.6		
#100	30.6		
#200	19.1		

* (no specification provided)

Soil Description

TP-5: 0' - 2'

ORGANIC CONTENT = 11.5 %

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 9.17 D_{60}= 0.991 D_{50}= 0.409
D_{30}= 0.145 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

LTR-1C
SAMPLE NUMBER: 06-1344

Plate

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Laboratory Test Report

PROJECT: Buffalo Lakeside Commerce Park

CLIENT: ECIDA / BUDC

DATE: January 4, 2007

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1D

SAMPLE NUMBER: 06-1345

SAMPLE LOCATION: TP-6: 12' – 14'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
2"	100.0
1 ½"	100.0
1"	96.1
¾"	94.9
½"	92.1
¼"	83.1
#4	78.7
#10	64.8
#20	48.6
#40	34.3
#100	19.1
#200	13.5

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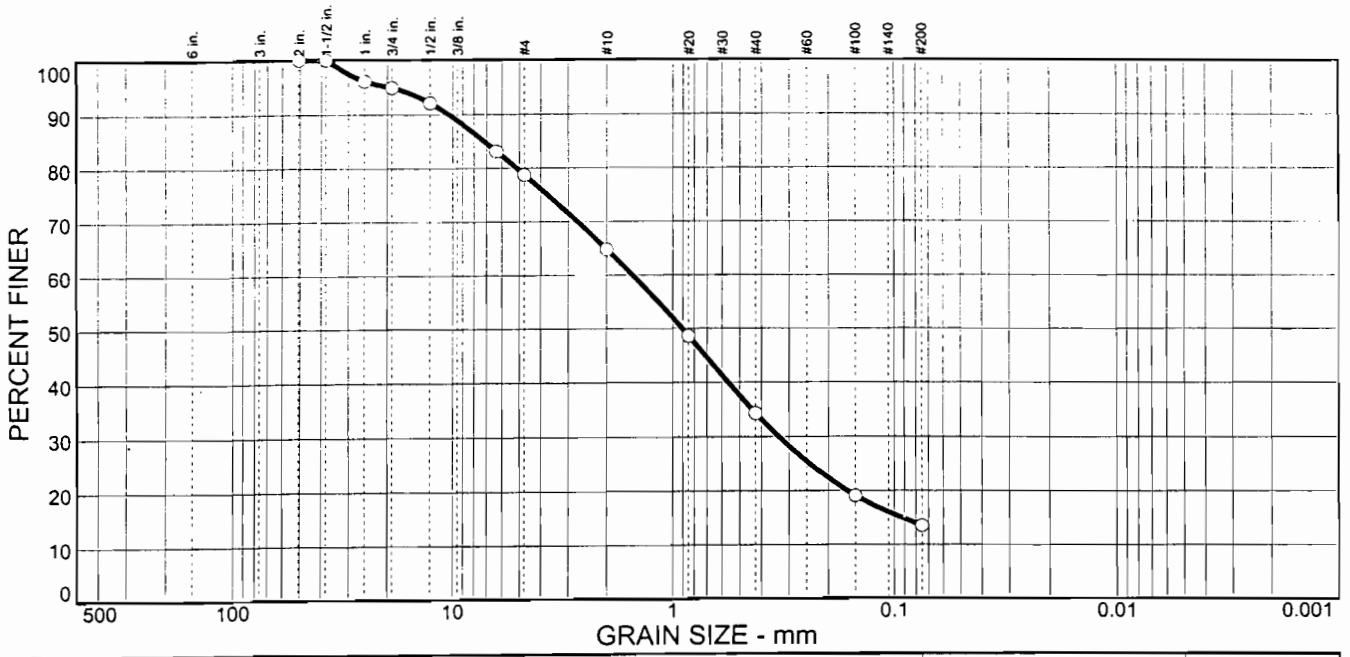
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1345 **Source of Sample:** TP-6 **Date:** 1/4/07
Location: TP-6 **Elev./Depth:** 12'-14'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	21.3	65.2	13.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	100.0		
1 in.	96.1		
.75 in.	94.9		
.5 in.	92.1		
.25 in.	83.1		
#4	78.7		
#10	64.8		
#20	48.6		
#40	34.3		
#100	19.1		
#200	13.5		

* (no specification provided)

Soil Description

TP-6: 12' - 14'

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 7.22 D_{60}= 1.53 D_{50}= 0.910
D_{30}= 0.335 D_{15}= 0.0925 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

LTR-1D
SAMPLE NUMBER: 06-1345

Plate

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Laboratory Test Report

PROJECT: Buffalo Lakeside Commerce Park

CLIENT: ECIDA / BUDC

DATE: January 4, 2007

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1E

SAMPLE NUMBER: 06-1346

SAMPLE LOCATION: TP-9: 0' – 3.5'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
2"	100.0
1 ½"	100.0
1"	98.2
¾"	98.0
½"	95.2
¼"	86.8
#4	84.3
#10	78.0
#20	67.1
#40	53.5
#100	24.8
#200	14.4

ASTM D-2974: Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Organic Content: 7.5 %

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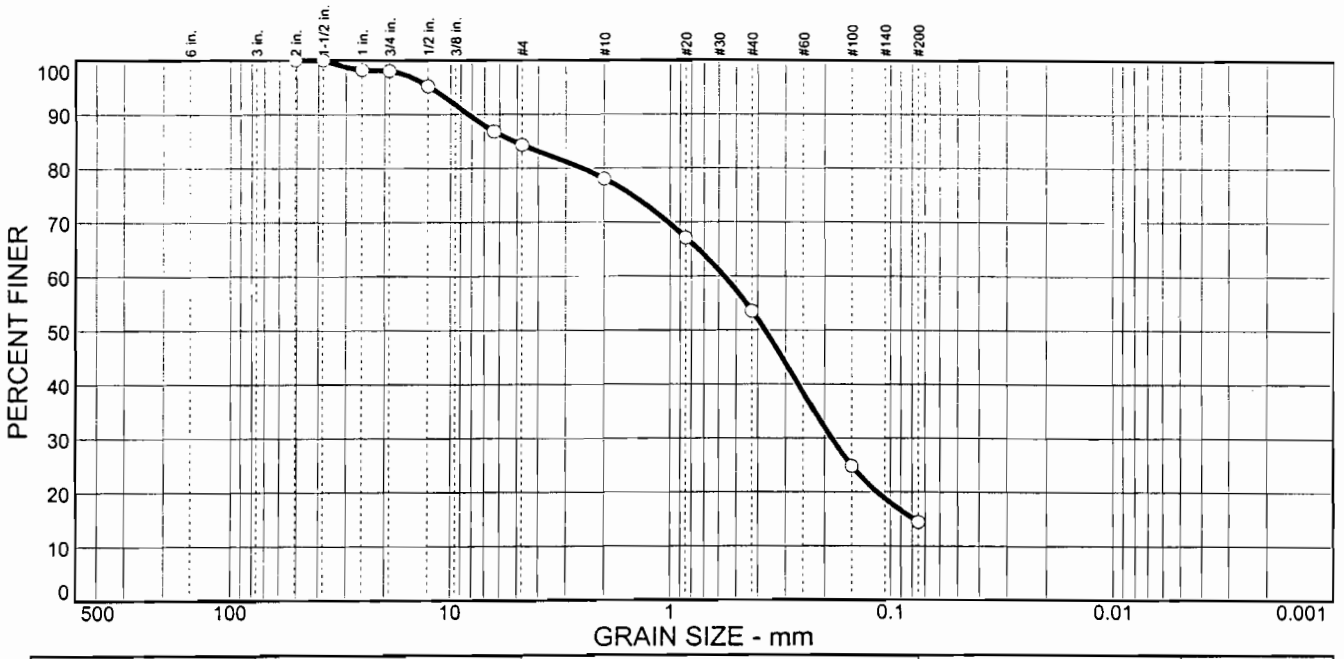
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1346 **Source of Sample:** TP-9 **Date:** 1/4/07
Location: TP-9 **Elev./Depth:** 0'-3.5'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	15.7	69.9	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	100.0		
1 in.	98.2		
.75 in.	98.0		
.5 in.	95.2		
.25 in.	86.8		
#4	84.3		
#10	78.0		
#20	67.1		
#40	53.5		
#100	24.8		
#200	14.4		

* (no specification provided)

Soil Description

TP-9: 0' - 3.5'

ORGANIC CONTENT = 7.5 %

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 5.20 D_{60}= 0.568 D_{50}= 0.372
D_{30}= 0.186 D_{15}= 0.0789 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

LTR-1E
SAMPLE NUMBER: 06-1346

Plate

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Laboratory Test Report

PROJECT: Buffalo Lakeside Commerce Park

CLIENT: ECIDA / BUDC

DATE: January 4, 2007

PROJECT NO.: BE-06-260
REPORT NO.: LTR-1F

SAMPLE NUMBER: 06-1342

SAMPLE LOCATION: TP-25" 0' – 2'

ASTM C-136: Sieve Analysis of Fine and Coarse Aggregates

Sieve Size	*Percent Passing*
2"	100.0
1 ½"	100.0
1"	95.6
¾"	87.2
½"	79.1
¼"	68.1
#4	63.2
#10	53.3
#20	46.4
#40	41.7
#100	32.8
#200	27.4

ASTM D-2974: Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Organic Content: 9.3 %

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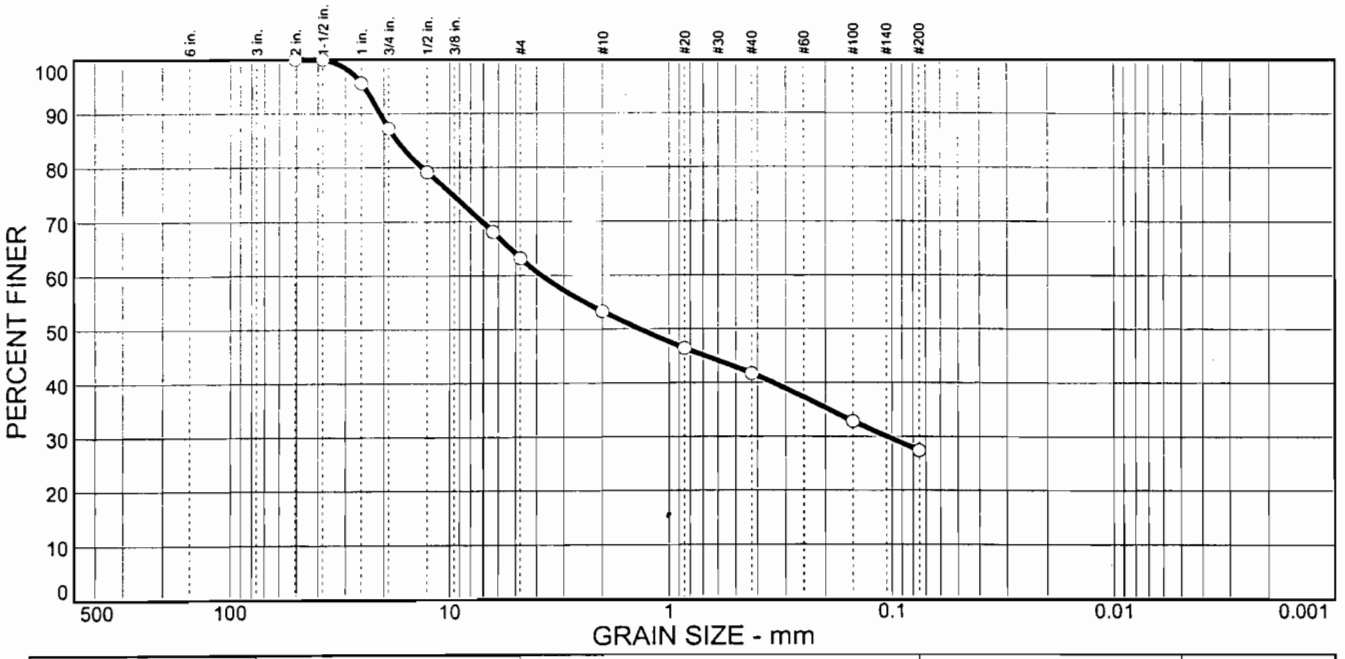
Particle Size Distribution Report

Project: BUFFALO LAKESIDE COMMERCE PARK **Project No.:** BE-06-260

Client: ECIDA / BUDC

Sample No: 06-1347 **Source of Sample:** TP-25 **Date:** 1/4/07
Location: TP-25 **Elev./Depth:** 0'-2'



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY
0.0	36.8	35.8	27.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2 in.	100.0		
1.5 in.	100.0		
1 in.	95.6		
.75 in.	87.2		
.5 in.	79.1		
.25 in.	68.1		
#4	63.2		
#10	53.3		
#20	46.4		
#40	41.7		
#100	32.8		
#200	27.4		

* (no specification provided)

Soil Description

TP-25: 0' - 2'

ORGANIC CONTENT = 9.3 %

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 17.5 D_{60}= 3.80 D_{50}= 1.36
D_{30}= 0.106 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

LTR-1F
SAMPLE NUMBER: 06-1347

Plate