SUPPLEMENTAL
GEOTECHNICAL ENGINEERING SERVICES
PROPOSED INTERIOR FLOOR SLAB
AND ENTRANCE VESTIBULE
258 COMMERCIAL STREET
PORTLAND, MAINE

10-0507 S **SEPTEMBER 10, 2010**

PREPARED FOR:
Waterfront Maine, LP
Attention: Mr. Donal Carroll
14 Main Street #107
Brunswick, Maine 04011-2026

PREPARED BY:

S.W.COLE ENGINEERING, INC.
286 Portland Road
Gray, Maine 04039

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10-0507 S

September 10, 2010

Waterfront Maine, LP
Attention: Mr. Donal Carroll
14 Main Street #107
Brunswick, Maine 04011-2026

Subject: Supplemental Geotechnical Engineering Services
Proposed Building Renovation – Floor Slab and Entrance Vestibule
258 Commercial Street
Portland, Maine

Dear Mr. Carroll:

In accordance with our Budget and Scope Amendment dated August 16, 2010, we have performed supplemental subsurface explorations and geotechnical evaluation for the proposed floor slab and entrance vestibule associated with the Building Renovation at 258 Commercial Street in Portland, Maine. This report summarizes our findings and recommendations, and its contents are subject to the limitations set forth in Attachment A.

1.0 INTRODUCTION

1.1 Scope of Work

S. W. COLE ENGINEERING, INC. coordinated and observed explorations, and performed a geotechnical evaluation, in July and August, 2010 for foundation support at the southeasterly end wall and a proposed stairwell/elevator shaft associated with the proposed building renovation. Our findings for the initial scope of work is presented in the report entitled "Geotechnical Engineering Services – Proposed Building Renovation", dated August 6, 2010. Subsequent to our initial report, we were contacted by Becker Structural Engineers (project structural engineer) in regard to supplemental geotechnical engineering services for a proposed new floor slab and entrance vestibule associated with the building renovation.

The purpose of our supplemental work was to obtain additional subsurface information at the site in order to provide geotechnical recommendations for the proposed floor slab and entrance vestibule only. Our evaluation has included three hand explorations, review of the previously made test borings, laboratory testing and a geotechnical evaluation of the findings as they relate to the proposed construction. Evaluation and recommendations in this supplemental report should be used in conjunction with our previous August 6, 2010 report.

1.2 Site Conditions

The site of the proposed building renovation is located at 258 Commercial Street in Portland, Maine. The central and southeasterly portion of the building is currently used as a self-storage facility on the first several floors, with steel and wooden walls and partitions in place. The existing first floor elevation varies, however we understand is generally near elevation 11.9 feet in the area of proposed construction. We understand the existing first floor consists of a concrete slab overlying a relic timber subfloor and varies by several feet in elevation due to ramps and walkways. A collapsed portion of the floor exists in the northeasterly portion of the proposed new floor slab area. A crawl space of varying height exists beneath at least portions of the floor. Based on limited observations, the crawl space appears to vary in height from about 6 to 8 feet from top of concrete slab. Based on limited visibility and limited observations during our field work, many of the timbers underlying the concrete floor were observed to be heavily decayed and distressed. Several concrete masonry unit “columns” were observed beneath some of the timbers. Many of the “columns” have visibly moved and/or settled and are no longer in contact with the overlying timbers.

The general site location is shown on the “Site Location Map,” attached as Sheet 1. Limited existing and proposed site conditions are shown on the “Exploration Location Plan,” attached as Sheet 1A. Several photographs of the proposed vestibule area and existing crawl space are attached in Appendix B.

1.3 Proposed Construction

1.3.1 Interior Floor Slab

Based on information provided by Becker Structural Engineers, we understand that a new reinforced concrete floor slab is to be constructed in the southeasterly portion of the building. We understand finish floor elevation of the new slab will be approximately 11.9 feet, roughly matching elevation of the adjacent paved parking area and within a few inches of the existing concrete/timber floor elevation. We understand the new slab will extend the width of the building (northeast-southwest) and be situated between two parallel interior foundation walls. The slab will be on the order of 60 by 60 feet in plan dimension and will have live loading of approximately 100 psf. Construction of the new floor slab will require demolition of the current concrete/timber floor and filling of the existing crawl space to achieve slab subgrade elevation. Based on our limited observations of the crawl space and information from Becker Structural Engineers, it appears that new fill depths of about 6 to 8 feet, with an average depth on the order of 6 feet, would be required to achieve proposed slab grade.

1.3.2 Entrance Vestibule

We understand that a new entrance vestibule measuring about 10 by 12 feet in plan dimension is to be constructed adjacent to the northeasterly side of the building, and situated adjacent to the proposed slab-on-grade area discussed above. We understand the vestibule is planned with a slab-on-grade at approximately elevation 11.9 feet, roughly matching the elevation of the adjacent paved parking area. We understand the vestibule will be about one story in height. We understand the vestibule may have large glass windows and doors and will likely have tile flooring. Based on information provided by Becker Structural Engineers, we understand the vestibule slab-on-grade will have a dead load of about 65 psf and live loading of about 100 psf. Additionally, we understand loading at the two vestibule columns on the northeasterly side will be about 7.5 kips live load and 2 kips dead load.

2.0 EXPLORATION AND TESTING

2.1 Exploration

2.1.1 Interior Floor Slab

S. W. COLE ENGINEERING, INC. performed three hand borings (HB-1 through HB-3) in the crawl space on August 25, 2010 in an attempt to obtain information about the fill beneath the proposed slab area in order to assist in evaluation. The explorations were performed within the westerly corner of the proposed slab footprint. Access was gained into the crawl space through an existing hole in the concrete and timber floor in storage unit #184. The three explorations were advanced, starting at the existing crawl space floor, using a shovel and then continuing with a hand auger, a 0.5-inch diameter rod tile probe, and hand sampling equipment. The hand sampling was performed by driving a standard 2-inch O.D. split-spoon sampler at 6-inch intervals using a 70 pound drop hammer assembly. The purpose of the hand sampling is to mimic drill rig powered Standard Penetration Testing in poor access areas, such as the crawl space. Logs of the three hand explorations are attached as Sheets 2 through 4. A key to the notes and symbols used on the logs is attached as Sheet 5.

Because the soil floor of the existing crawl space varies in elevation, depths of the hand borings were measured and are referenced on the logs from the top of the existing concrete floor in storage unit #184 to the bottom of the boring. In general, the crawl space floor appears to range from about 6 to 8 feet below the top of the existing concrete/timber floor.

It should be noted that the access to the crawl space was quite limited and explorations were only made near the existing access hole due to potentially unsafe conditions of the first floor.

2.1.2 Entrance Vestibule

As presented in our August 6, 2010 report, two test borings (B-101 and B-102) were made at the site on July 15 and 16, 2010. Shelby tube sampling was performed at borings B-101 and B-102 to obtain relatively undisturbed samples of the encountered silty clay soils for laboratory testing. Based on information from Becker Structural

Engineers, the location of boring B-101 is along the northeast wall of the proposed vestibule.

Logs for borings B-101 and B-102 are attached in Appendix A. Logs of borings B-1 through B-4, made at the site in March, 2010 by others, as provided by Waterfront Maine, LP, are also attached in Appendix A.

The approximate locations of the explorations are shown on the "Exploration Location Plan," attached as Sheet 1A.

2.2 Laboratory Testing

In addition to the laboratory testing presented in our August 6, 2010 report and on the boring logs in Appendix A, two one-dimensional consolidation tests (ASTM D 2435) were performed on samples of silty clay encountered at borings B-101 and B-102. Results of the consolidation tests are displayed on Sheets 6 and 7. Five moisture contents were performed on samples obtained from hand boring exploration HB-3. The results of the moisture contents are displayed on the attached hand boring log.

3.0 SUBSURFACE CONDITIONS

3.1 Soil Conditions

In general, borings B-1 through B-4 and B-101 and B-102, made adjacent to the exterior side of the structure, encountered an approximately 15 foot thick layer of loose fill material, overlying glaciomarine soils, overlying glacial outwash soils, overlying glacial till and bedrock or probable bedrock at depths varying from about 43 to 102 feet. A relatively thick deposit of medium consistency gray silty clay was encountered within the glaciomarine stratum.

Hand borings HB-1, HB-2, and HB-3, made in a portion of the existing crawl space area, were terminated within the existing fill material at depths of about 9.0, 10.0, and 18.0 feet, respectively, from top of existing concrete floor. It should be noted that the crawl space floor was about 8 feet below the top of the concrete/timber floor in the area of the hand borings. The fill material was observed to be loose and consist predominantly of ash with varying proportions of sand, silt, and debris such as slag and glass. A void or a zone of very loose fill material was observed at HB-3 at a depth interval of about 14.0 to 16.5 feet. A strong organic odor was emitted from the

open borehole at HB-3 upon penetrating the void or very loose zone. A possible timber was encountered at HB-3 with the tile probe at a depth of about 18.0 feet. The tile probe equipment became lodged in the possible timber and could not be removed after significant effort. All of the above measurements are referenced from the top of the existing concrete/timber floor.

3.2 Groundwater Conditions

Groundwater was measured in the open casing at exterior boring B-101 during previous drilling work at a depth of 9.7 feet below ground surface after stabilizing for about 18 hours. Free water was observed in all of the hand borings at a depth of about 9 feet (referenced from top of existing concrete floor) or about one foot below the crawl space floor. Based on available tidal charts, the hand borings were performed at approximately high tide (late morning and early afternoon on August 25, 2010). Due to the short time period of exploration work and the introduction of water to the exterior boreholes during drilling, accurate groundwater level information could not be obtained. Long-term groundwater fluctuation information due to tidal influence and otherwise is not available. Water will likely be present at shallow depths during high tides, seasonally and during periods of heavy precipitation and/or snowmelt.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

The predominant geotechnical considerations for the proposed interior floor slab and entrance vestibule are the presence of a thick layer of loose, variable composition fill material overlying a thick stratum of compressible silty clay soils. Groundwater was encountered at relatively shallow depths should be anticipated to fluctuate due to tides and precipitation.

In our opinion, filling in the existing crawl space with normal weight fill (i.e. Crushed Stone and/or Structural Fill) or lightweight fill (i.e. Geofoam or cellular concrete) to support the proposed interior slab-on-grade will result in unpredictable, differential settlements that would be detrimental to the proposed slab and tile flooring as well as potentially detrimental to existing foundations of the building. In our opinion, improvement or removal and replacement of the existing loose fill soils is likely not feasible given the fill thickness and unknown foundation conditions of the building. We recommend consideration be given to a structural slab deriving support from new

pile foundations or possibly from a new framework attached to existing building foundations (if deemed feasible by the structural engineer).

In our opinion, supporting the entrance vestibule structure on spread footing foundations bearing on existing fill material as well as supporting the vestibule slab-on-grade on the existing fill material will have inherent risk of settlement. Bearing on the existing loose fill materials will likely cause differential settlements that would be detrimental to the vestibule structure, slab, and tile flooring. We recommend that the entrance vestibule foundations derive support from new pile foundations and the vestibule slab be structurally supported on the foundations.

We understand mini piles are being considered for support of portions of the existing southeasterly end wall as well as the proposed interior stairwell/elevator shaft associated with the proposed building renovation. It appears that minipiles are a feasible option for support of the proposed interior floor slab and entrance vestibule. We have provided geotechnical design considerations for mini pile foundations in our August 6, 2010 report. We understand actual selection of pile type, design, and construction will be provided by others, likely as a design-build option.

4.2 Interior Floor Slab Considerations

The fill material encountered at the interior hand borings, performed within a portion of the footprint of the proposed interior floor slab, was observed to be loose and contain a high proportion of ash. Laboratory moisture content testing indicates elevated moisture contents within the fill which are above those anticipated for inert granular soils. The elevated moisture contents indicate a relatively high void ratio for the fill material. Therefore, the fill material is likely compressible under new loading and very sensitive to disturbance. The fill material likely shrinks and swells with varying moisture content. Hand boring HB-3 encountered a void or zone of very loose fill material at a depth interval of about 14.0 to 16.5 feet (measured from the first floor of the building). The presence of voids or very loose zones indicates further potential for settlement of the fill material.

In our opinion, placing compacted normal weight fill (i.e. Crushed Stone and/or Structural Fill) atop the existing fill material to raise grade to bottom of proposed slab will cause continuing, unpredictable, differential post-construction settlement within the existing loose fill underlying the site. Post-construction settlement of this fill

material is difficult to estimate due to the varying material properties, however, based on previous experience with similar Portland, Maine fills, several inches or more of post- construction settlement can be reasonably assumed.

Additionally, use of normal weight fill will cause gradual post-construction consolidation-related settlements in the underlying silty clay layer potentially on the order of 7.5 inches. Our estimate of settlement due to consolidation of the silty clay is based on:

- An average fill depth of 6 feet (as provided by Becker Structural Engineers)
- An average compacted fill weight of 130 pcf
- A 60 by 60-foot fill and slab plan area
- A slab live load of 100 psf
- The findings at test boring B-101
- Laboratory Consolidation test results from samples obtained at Boring B-101

In our opinion, inherent risk of differential post-construction settlement still exists with use of lightweight fill to achieve slab subgrade elevation due to the sensitive, loose, and possibly voided nature of the fill material and fluctuating groundwater conditions. Additionally, given the relatively shallow, fluctuating groundwater conditions, buoyancy issues could arise with use of lightweight fill.

Overexcavation of the existing fill material and replacement with compacted new Crushed Stone or Structural Fill is not feasible due to the relatively deep extent of the material and groundwater conditions. Deep excavations would likely compromise integrity of the existing structure and foundations. Replacement of the fill with compacted new suitable fill will cause additional consolidation related settlements, possibly bearing capacity problems within the underlying silty clay, and possibly new down-drag loading on existing pile foundations. Also, in-situ surface compaction of the fill to improve density would not be effective due to the thickness and unpredictable, variable composition of the material and the shallow groundwater. There may be other options that could be feasible to improve the density of the existing fill, such as in-situ soil mixing. However, consolidation of the underlying silty clay due to new surface loads (new fill and slab loading) would still be a concern and likely unacceptable.

We understand mini piles are being considered for support of the southeasterly end wall and proposed stairwell/elevator shaft. It appears that minipiles may be a feasible option for support of the proposed interior floor slab given similar conditions as the proposed stairwell/elevator shaft.

As discussed with Becker Structural Engineers, we understand support of the interior slab on framework bearing on the existing building foundations may also be possible and they will be evaluating the feasibility of this option. Because details of the existing building foundations (piles and otherwise) are not known at this time, caution must be taken to minimize introduction of new loading so as not to cause foundation overloading.

A possible timber was encountered at hand boring HB-3 at a depth of about 18.0 feet (measured from the first floor of the building). We anticipate relic timber piles, cribwork, and debris could be present beneath the building. Installation of piles will likely encounter frequent obstructions. Based on observations made in the crawl space, the existing exterior granite foundation walls appear to be battered on the interior side. Installation of piles in the proximity of existing foundations may encounter in-place granite and masonry, depending on the batter, orientation, and depth of the structures. We recommend that further test pits and rod probes be performed within the proposed slab footprint after the existing floor has been removed to explore fill conditions, presence of timbers and debris, and orientation of existing foundations.

4.3 Entrance Vestibule Foundation Considerations

4.3.1 Pile Foundation Alternative

Test borings B-101 and B-2, performed in the vicinity of the proposed entrance vestibule, encountered predominantly loose, variable composition fill material to depths of about 16.0 feet and 10 feet, respectively, overlying a relatively thick glaciomarine stratum consisting of medium silty clay and clayey silt with varying proportions of sand. In our opinion, the fill material is not suitable for support of the entrance vestibule foundations or slab-on-grade without risk of post-construction settlement. We anticipate the existing fill material will settle differentially and unpredictably under new loading. Complete removal and replacement of the existing

fill material with new, properly compacted Crushed Stone or Structural Fill is not feasible due to the thickness of the fill layer, presence of groundwater, proximity to the existing structures, and compressibility of underlying silty clay soils.

To mitigate the risk of post-construction settlement and potential construction difficulties, we recommend that consideration be given to supporting the entrance vestibule on a pile foundation. Additionally, we recommend that the vestibule slab-on-grade be structural and derive support from grade beams and piles. Similar to the interior floor slab, minipiles appear to be a feasible option for support of the entrance vestibule.

4.3.2 Spread Footing Alternative

As discussed, there is inherent risk of post construction settlement due to bearing on the existing fill material. Recognizing these risks, alternatively, the entrance vestibule could potentially be supported on spread footing foundations bearing on a layer of geotextile fabric wrapped Crushed Stone overlying the existing fill without new backfill beneath the slab in an effort to "unload" the underlying soils. There is risk associated with this option, however. Some post-construction movement should still be anticipated due to the loose fill and difficult construction conditions may be encountered.

If this option is considered, the Crushed Stone must be fully wrapped in a non-woven geotextile fabric, such as Mirafi 160N or equivalent. If this option is utilized, we recommend that the fill be overexcavated under the entire vestibule footprint to a depth of at least 6.0 feet (4.5 feet minimum frost depth for footings in addition to at least 18-inches of Crushed Stone underlying footings). Excavations in the fill should be made using a smooth-edge bucket to minimize disturbance of the in-place fill material. The fabric wrapped Crushed Stone should be placed across the entire bottom of the overexcavation and should extent at least 2 feet beyond edge of footings.

The interior side of the foundation frost walls should remain open air space so as to create a net "unload" on the underlying fill and native soils. The "unload" will help to reduce post-construction settlements. However, some movement of the underlying loose fills must be anticipated. The magnitude of the settlement cannot be easily

determined due to the variable nature of the fill but can reasonably be assumed to be on the order of several inches. The exterior side of the foundation walls should be insulated with at least 2-inches of rigid insulation. The vestibule slab should be structural and span the open air space on the interior side of the foundation walls. The new foundation walls would likely need to be pinned to the existing foundations (if determined to be feasible by the structural engineer) to maintain a threshold, as determined by the structural engineer.

The exterior side of the foundation should be backfilled with properly compacted Structural Fill and/or Crushed Stone, as defined in our August 6, 2010 report. Flowable fill may be considered if difficulty arises in properly compacting foundation backfill. Excavations, weather considerations, and site preparation should follow the considerations within our August 6, 2010 report.

Due to the varying nature of the fill and unknown building foundation conditions, excavations may encounter foundation elements, timbers, voids, or other unsuitable subgrade conditions during construction requiring design and construction changes. Significant dewatering should be anticipated depending on tides, precipitation, and otherwise.

With this alternative, difficult construction conditions as well as an unknown amount of post-construction settlement must still be anticipated due to the underlying fills. As discussed, pile foundation support should be used if risk of settlement is deemed unacceptable.

4.4 Additional Exploration and Evaluation

This supplemental report addresses only the proposed interior floor slab and entrance vestibule. S. W. COLE ENGINEERING, INC. has not been provided with existing building foundation information and has not conducted an existing foundation investigation. Additional explorations and/or additional investigative work of the existing building foundation system by others will likely be needed as design progresses.

4.5 Quality Control

It is recommended that S. W. COLE ENGINEERING, INC. be retained to provide supplemental engineering and testing services during the construction phase of the project. An S. W COLE ENGINEERING, INC. representative should be on site to

observe installation and load testing of pile foundations. A materials testing program should be implemented to observe compliance with the design concepts, specifications, and design recommendations and to allow design changes in the event that subsurface conditions found differ from those anticipated prior to the start of construction. We would be pleased to provide a scope of services and budget for field and laboratory materials testing services at the appropriate time. S. W. COLE ENGINEERING, INC. is available to provide testing of soils, concrete, grout, masonry, fireproofing, steel, and asphalt materials.

We request that S. W. COLE ENGINEERING, INC. be provided the opportunity to review the final design and specifications to determine that our earthwork and foundation recommendations have been properly interpreted and implemented.

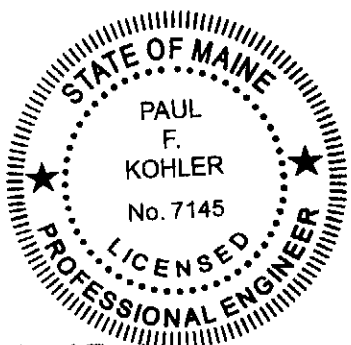
5.0 CLOSURE

It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with you as the design progresses and during construction. If you have any questions or if we may be of further assistance, please do not hesitate to contact us.

Very truly yours,

S. W. COLE ENGINEERING, INC.

Evan M. Walker, E. I.
Geotechnical Engineer



Paul F. Kohler, P.E., President
Senior Geotechnical Engineer

c: Mr. Daniel Burne, P.E. – Becker Structural Engineers

EMW-PFK:emw
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ATTACHMENT A
Limitations

This supplemental report has been prepared for the exclusive use by Waterfront Maine, LP for specific application to the proposed Building Renovation at 258 Commercial Street in Portland, Maine. S. W. COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

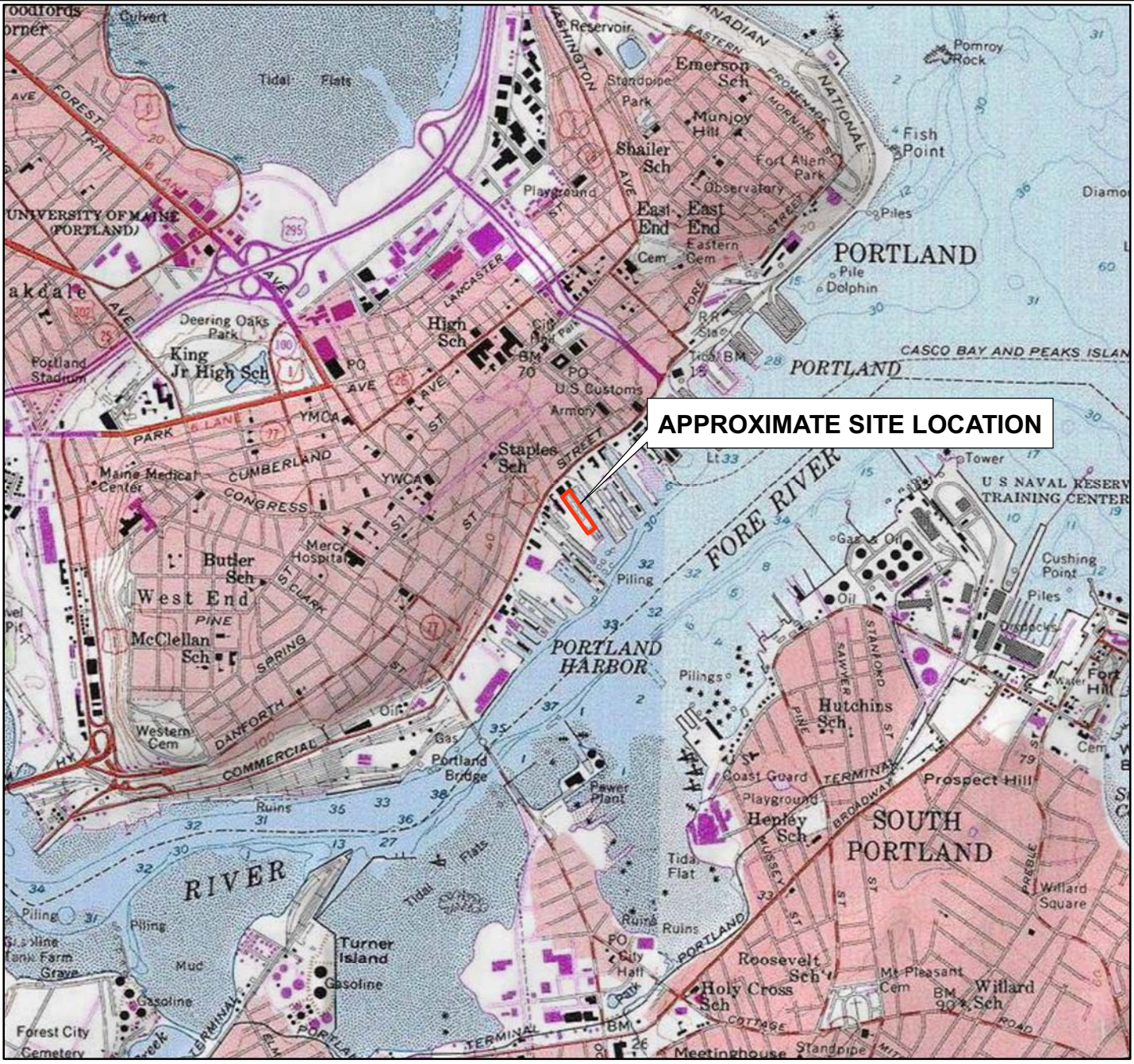
The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S. W. COLE ENGINEERING, INC.'s scope of work has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S. W. COLE ENGINEERING, INC. should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S. W. COLE ENGINEERING, INC.



2,000 0 2,000 4,000

Scale in Feet

NOTE:
SITE LOCATION MAP PREPARED FROM ESRI ArcGIS ONLINE AND DATA PARTNERS INCLUDING USGS AND © 2007 NATIONAL GEOGRAPHIC SOCIETY.

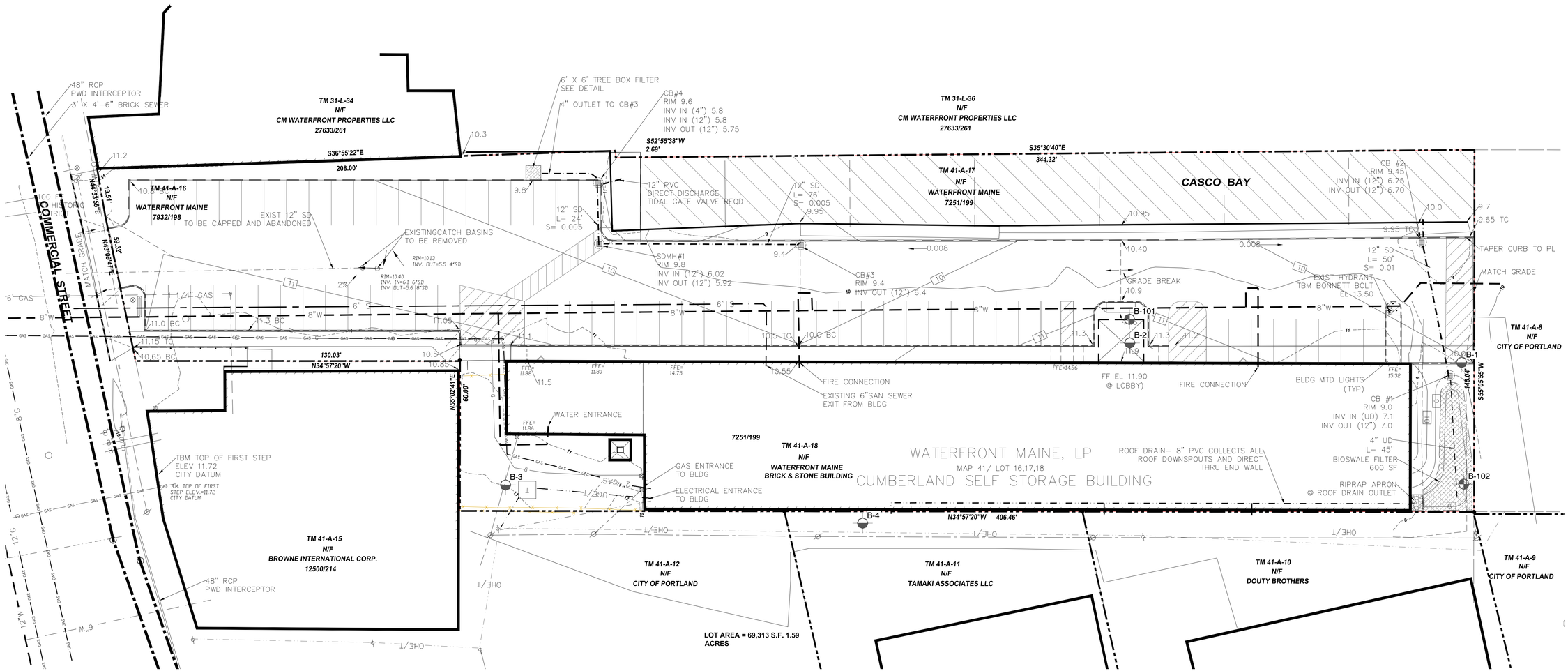
S.W.COLE ENGINEERING, INC.

WATERFRONT MAINE, LP

SITE LOCATION MAP

PROPOSED BUILDING RENOVATION
258 COMMERCIAL STREET
PORTLAND, MAINE

Job No.	10-0507	Scale	1:24000
Date:	08/04/2010	Sheet	1



LEGEND:

- APPROXIMATE BORING LOCATION
- APPROXIMATE BORING LOCATION BY OTHERS

NOTES:

1. EXPLORATION LOCATION PLAN WAS PREPARED FROM A 1"=20' SCALE PLAN OF THE SITE ENTITLED "GRADING & UTILITIES PLAN," PREPARED BY CARROLL ASSOCIATES, DATED 05/03/2010, REVISED 06/01/2010.
2. THE BORINGS WERE LOCATED IN THE FIELD BY TAPED MEASUREMENTS FROM EXISTING SITE FEATURES.
3. THIS PLAN SHOULD BE USED IN CONJUNCTION WITH THE ASSOCIATED S.W. COLE ENGINEERING, INC. GEOTECHNICAL REPORT, DATED AUGUST 5, 2010.
4. THE PURPOSE OF THIS PLAN IS ONLY TO DEPICT THE LOCATION OF THE EXPLORATIONS IN RELATION TO THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION AND IS NOT TO BE USED FOR CONSTRUCTION.

0 10 20 40 60 80

SCALE IN FEET

S.W.COLE ENGINEERING, INC.

WATERFRONT MAINE, LP

EXPLORATION LOCATION PLAN

PROPOSED BUILDING RENOVATION
258 COMMERCIAL STREET
PORTLAND, MAINE

Job No.	10-0507	Scale	1"=20'
Date :	08/05/2010	Sheet	1A

S.W.COLE ENGINEERING, INC.

HAND BORING LOG

BORING NO.: **HB-1**
SHEET: 1 OF 1
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : S.W. COLE ENGINEERING, INC DRILLER: K. GIMPEL

DATE START: 8/25/2010
DATE FINISH: 8/25/2010
ELEVATION: NO SURVEY
SWC REP.: E. WALKER

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	N/A			
SAMPLER:	BUCKET AUGER	2.5"		
CORE BARREL:	N/A			

WATER LEVEL INFORMATION
SOILS APPEARED SATURATED BELOW 7' +/-
FREE WATER MEASURED AT 9' +/- IN OPEN HOLE

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
									2.0'	EXISTING CONCRETE SLAB OVERLYING RIGID INSULATION AND WOOD FLOOR FRAMING
HAND SHOVEL TO 7' AUGER TO 9'	S-1	8"	8"	6.7'					6.0'	OPEN AIR "CRAWL SPACE" BETWEEN BOTTOM OF EXISTING FLOOR FRAMING AND UNDERLYING FILL SOILS
	S-2	7"	7"	8.3'					9.0'	BROWN SANDY SILT AND ASH WITH SLAG, GLASS AND MISC DEBRIS (FILL) ~ LOOSE ~
	S-3	8"	8"	9.0'						REFUSAL AT 9.0' (PROBABLE STEPPED/BATTERED GRANITE EXTERIOR FOUNDATION BLOCKS)

NOTE: ALL MEASUREMENTS, INCLUDING GROUNDWATER DEPTH, MADE FROM TOP OF EXISTING CONCRETE FLOOR IN EXISTING STORAGE UNIT #184.

SAMPLES:
S = HAND GRAB SAMPLE
D = SPLIT SPOON
C = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[X] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[ ] LABORATORY TEST

REMARKS: TEST HOLE LOCATED ABOUT 4.4' FROM INSIDE FACE OF EXTERIOR FOUNDATION WALL
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **HB-1**

S.W.COLE ENGINEERING, INC.

HAND BORING LOG

BORING NO.: **HB-2**
SHEET: 1 OF 1
PROJECT NO.: 10-0507
DATE START: 8/25/2010
DATE FINISH: 8/25/2010
ELEVATION: NO SURVEY
SWC REP.: E. WALKER

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : S.W. COLE ENGINEERING, INC DRILLER: K. GIMPEL

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	N/A			
SAMPLER:	BUCKET AUGER	2.5"		
CORE BARREL:	N/A			

WATER LEVEL INFORMATION
FREE WATER MEASURED AT 9' +/- IN OPEN HOLE

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
									2.0'	EXISTING CONCRETE SLAB OVERLYING RIGID INSULATION AND WOOD FLOOR FRAMING
HAND SHOVEL TO 8.6' AUGER TO 10.0'	S-1	9"	9"	9.6'					6.0'	OPEN AIR "CRAWL SPACE" BETWEEN BOTTOM OF EXISTING FLOOR FRAMING AND UNDERLYING FILL SOILS
									10.0'	BROWN SANDY SILT AND ASH WITH MISC DEBRIS (FILL) ~ LOOSE ~
										REFUSAL AT 10.0' (PROBABLE STEPPED/BATTERED GRANITE EXTERIOR FOUNDATION BLOCKS)

NOTE: ALL MEASUREMENTS, INCLUDING GROUNDWATER DEPTH, MADE FROM TOP OF EXISTING CONCRETE FLOOR IN EXISTING STORAGE UNIT #184.

SAMPLES:
S = HAND GRAB SAMPLE
D = SPLIT SPOON
C = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[X] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[ ] LABORATORY TEST

REMARKS: TEST HOLE LOCATED ABOUT 6.0' FROM INSIDE FACE OF EXTERIOR FOUNDATION WALL
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **HB-2**

S.W.COLE ENGINEERING, INC.

HAND BORING LOG

BORING NO.: **HB-3**
SHEET: 1 OF 1
PROJECT NO.: 10-0507
DATE START: 8/25/2010
DATE FINISH: 8/25/2010
ELEVATION: NO SURVEY
SWC REP.: E. WALKER

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : S.W. COLE ENGINEERING, INC DRILLER: K. GIMPEL

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	N/A			
SAMPLER:	SS	1 3/8"	70-lb	30"
CORE BARREL:	N/A			

WATER LEVEL INFORMATION
FREE WATER MEASURED @ 9' +/- IN OPEN HOLE

CASING BLOWS PER FOOT	SAMPLE NO.	SAMPLE PEN.	SAMPLE REC.	SAMPLE DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
										EXISTING CONCRETE SLAB OVERLYING RIGID INSULATION AND
									2.0'	WOOD FLOOR FRAMING
										OPEN AIR "CRAWL SPACE" BETWEEN BOTTOM OF
										EXISTING FLOOR FRAMING AND UNDERLYING FILL SOILS
HAND									6.0'	
SHOVEL	S-1	6"	6"	7.5'					7.0'	w = 14.7% BROWN SANDY SILT AND ASH (FILL)
TO 8.5'	S-1	6"	6"	8.0'					7.5'	w = 30.6% LIGHT BROWN FINE SAND TRACE ASH TRACE SILT (FILL)
										BROWN SANDY SILT AND ASH
	1D	18"	8"	10.0'	4	3	2			w = 32.2% WITH SLAG AND MISC DEBRIS (FILL)
										~ LOOSE ~
	2D	24"	10"	12.0'	2	1	1	2		w = 50.2%
										STRONG ORGANIC ODOR EMITTED FROM BOREHOLE BELOW 14' +/-
	3D	24"	9"	14.0'	2	1	1	1		w = 41.1%
	4D	30"	0"	16.5'	WOR/30"					(14.0' TO 16.5': POSSIBLE VOID OR VERY LOOSE FILL SOILS-
TILE									18.0'	FREE FALL OF SAMPLER)
PROBE										REFUSAL @ 18.0'
16.5' TO										(POSSIBLE TIMBER)
18.0'										TILE PROBE STUCK IN POSSIBLE TIMBER @ 18.0' AFTER SIGNIFICANT
										EFFORT TO REMOVE
										NOTE: ALL MEASUREMENTS, INCLUDING GROUNDWATER DEPTH,
										MADE FROM TOP OF EXISTING CONCRETE FLOOR IN EXISTING
										STORAGE UNIT #184.

SAMPLES:
S = HAND GRAB SAMPLE
D = SPLIT SPOON
C = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[X] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS: TEST HOLE LOCATED ABOUT 9.0' FROM INSIDE FACE OF EXTERIOR FOUNDATION WALL
STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **HB-3**

KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

w	-	water content, percent (dry weight basis)
q_u	-	unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive test
S_v	-	field vane shear strength, kips/sq. ft.
L_v	-	lab vane shear strength, kips/sq. ft.
q_p	-	unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W_L	-	liquid limit - Atterberg test
W_P	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
γ_T	-	total soil weight
γ_B	-	buoyant soil weight
f	-	fines content (percent by weight passing U.S. No. 200 Sieve)

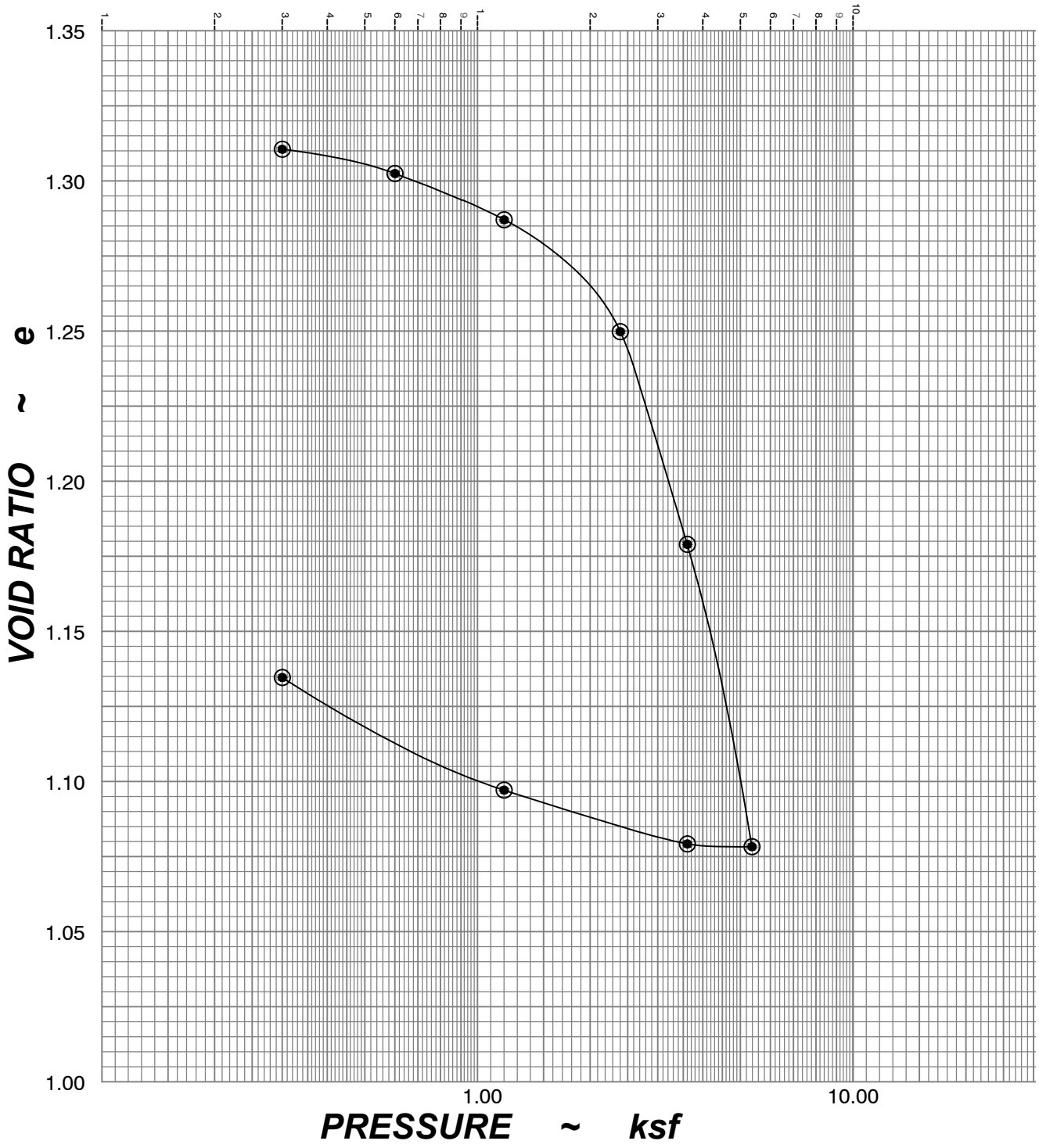
Description of Proportions:

0 to 5% TRACE
5 to 12% SOME
12 to 35% "Y"
35+% AND

RE□USA□□ **Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

RE□USA□□ **Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.



B-101, 1C

Depth 25-27'

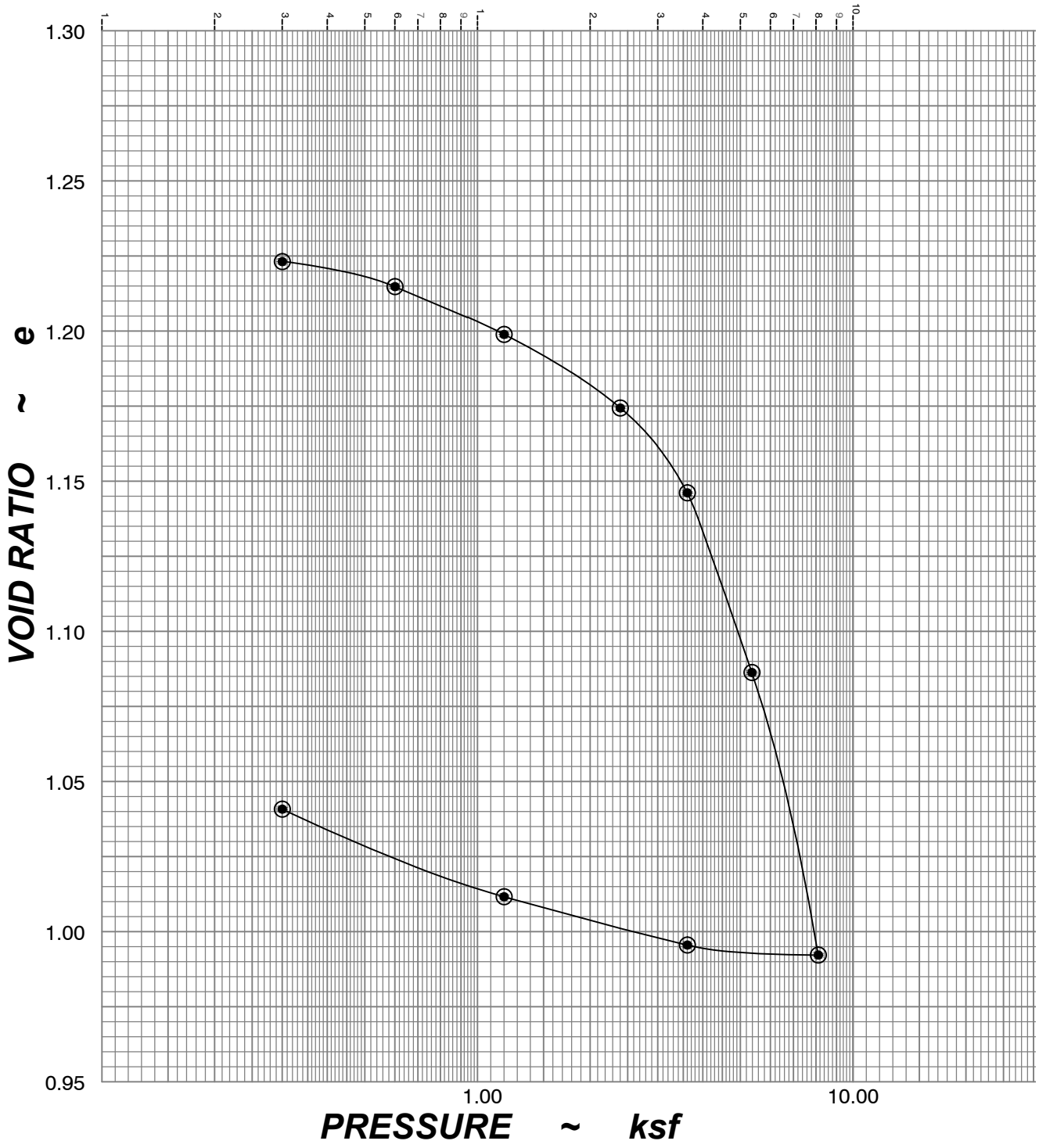
P_C = 2.2± ksf

C_C = 0.57

C_R = 0.05

W = 47.6%

S.W.COLE ENGINEERING, INC.	WATERFRONT MAINE, LP CONSOLIDATION TEST PROPOSED BUILDING RENOVATION	Job No. 10-0507	Scale: As Noted
		Date : 9/08/2010	Sheet: 6



B-102, 2C

Depth 50-57'

P_C = 3.1± ksf

C_C = 0.53

C_R = 0.04

W = 42.3%

S.W.COLE ENGINEERING, INC.	WATERFRONT MAINE, LP CONSOLIDATION TEST PROPOSED BUILDING RENOVATION	Job No. 10-0507	Scale: As Noted
		Date : 9/08/2010	Sheet: 7

APPENDIX A

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-101**
SHEET: 1 OF 3
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC.
DRILLER: NICK VOLTOLINA / MIKE NADEAU

DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: NMC / EMW

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS DAMP @ 5', WATER MEASURED IN CASING AT 9.7' ON 7/16/10(18 HOUR STABILIZATION)

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
PUSH									3" +/-	BITUMINOUS PAVEMENT
	1D	9"	4"	1.2'	7	50/3"			1.5'	BROWN SILTY SAND AND GRAVEL (FILL) ~ MEDIUM DENSE ~
									2.5'	DARK BROWN SILT AND SAND TRACE GRAVEL WITH BRICK (FILL) ~MEDIUM DENSE~
	2D	24"	10"	4.0'	5	14	6	3		BROWN SILTY SAND (FILL)
									5.0'	~ LOOSE ~
										BROWN SILT AND SAND WITH SOME GRAVEL WITH SILTY CLAY POCKETS
	3D	24"	18"	7.0'	2	3	5	17	7.0'	WITH BRICK FRAGMENTS (FILL) ~ LOOSE ~
	4D	24"	10"	9.0'	5	5	27	5		BROWN SAND AND GRAVEL SOME SILT
									10.0'	WITH BRICK AND ASH DEBRIS (FILL) ~ LOOSE ~
	5D	24"	16"	12.0'	2	2	2	2		DARK BROWN SILTY GRAVELLY SAND WITH RUBBER AND BRICK DEBRIS (FILL)
										~ LOOSE ~
									16.0'	
	6D	24"	1"	17.0'	6	1	1/12"			GRAY SILTY CLAY
										q_P = 3.0 ksf
	7D	24"	18"	22.0'	1	2	1	2		w = 38.4%
										~ MEDIUM TO STIFF ~
	1S	24"	24"	27.0'						W_L = 48 W_P = 22
	1V			27.6'	3 5/8" X 7" VANE					S_V = 0.94 KSF / 0.19 KSF
	1V'			28.2'	3 5/8" X 7" VANE					S_V = 0.97 KSF / 0.22 KSF
	8D	24"	24"	32.0'	WOM/24"					w = 39.8%
	2V			35.6'	3 5/8" X 7" VANE					S_V = 0.59 KSF / 0.02 KSF - POSSIBLY DISTURBED
	2V'			36.2'	3 5/8" X 7" VANE					S_V = 1.08 KSF / 0.02 KSF

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS: CONTINUED…

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-101**
SHEET: 2 OF 3
PROJECT NO.: 10-0507
DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: NMC / EMW

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC.
DRILLER: NICK VOLTOLINA / MIKE NADEAU

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS DAMP @ 5', WATER MEASURED IN CASING AT 9.7' ON 7/16/10(18 HOUR STABILIZATION)

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
PUSH										w = 38.4%
	2S	24"	24"	42.0'						W_L = 44 W_P = 20 q_u = 2.3 KSF w = 34.2%
	3V			42.6'	3 5/8" X 7" VANE					S_V = 1.19 KSF / 0.26 KSF
	3V'			43.2'	3 5/8" X 7" VANE					S_V = 1.46 KSF / 0.30 KSF GRAY SILTY CLAY
										~MEDIUM TO STIFF ~
	9D	24"	24"	47.0'	WOH/12"		1/12"			w = 35.9%
	4V			50.6'	3 5/8" X 7" VANE					S_V = 1.19 KSF / 0.08 KSF
	4V'			51.2'	3 5/8" X 7" VANE					S_V = 1.30 KSF / 0.28 KSF
									55.5'	
										w = 21.1%
	10D	24"	18"	57.0'	3	3	3	3	57.0'	GRAY SILT AND FINE SAND ~ LOOSE ~
	11D	24"	17"	62.0'	11	14	15	16	65.0'	BROWN SAND WITH SOME SILT AND TRACE GRAVEL ~ MEDIUM DENSE ~
	12D	24"	15"	67.0'	12	20	10	11		BROWN SANDY GRAVEL WITH SOME SILT
	13D	24"	0"	72.0'	12	12	17	18	75.0'	~ MEDIUM DENSE ~
	14D	24"	20"	77.0'	17	18	21	21		BROWN SILTY SAND WITH SOME GRAVEL ~ DENSE ~

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS: CONTINUED…

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-101**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-101**
SHEET: 3 OF 3
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC.
DRILLER: NICK VOLTOLINA / MIKE NADEAU

DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: NMC / EMW

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW	4"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS DAMP @ 5', WATER MEASURED IN CASING AT 9.7' ON 7/16/10(18 HOUR STABILIZATION)

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
	15D	24"	5"	82.0'	7	12	12	15		BROWN SAND WITH SOME SILT
	16D	24"	16"	87.0'	11	14	17	10		~ MEDIUM DENSE ~
	17D	24"	8"	92.0'	7	8	11	12	95.0'	
										PROBABLE GLACIAL TILL SOILS WITH FREQUENT COBBLES ADVANCE BY ROLLER CONE
									102.7'	
										BEDROCK - ADVANCE BY ROLLER CONE
									107.7'	
										BEDROCK - SEE ROCK CORE LOG
	R1			111.7'					111.7'	RQD = 54%
										BOTTOM OF EXPLORATION AT 111.7'

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
X	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-101**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-102**
SHEET: 1 OF 3
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC. DRILLER: MIKE NADEAU

DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: EMW

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW/NW	4"/3"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS APPEAR DAMP BELOW 3'
SOILS APPEAR SATURATED BELOW 5'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
PUSH										
	1D	24"	16"	2.0'	7	8	8	9		DARK BROWN AND BLACK SILTY SAND WITH SOME GRAVEL WITH BRICK FRAGMENTS (FILL) ~ MEDIUM DENSE ~
									5.0'	
	2D	24"	6"	7.0'	5	4	4	4		DARK BROWN AND BLACK SILTY GRAVELLY SAND WITH BRICK FRAGMENTS AND ASH (FILL) ~ LOOSE ~
									10.0'	
	3D	24"	8"	12.0'	4	5	3	3		DARK GRAY AND BLACK SANDY GRAVEL WITH SOME SILT WITH BRICK FRAGMENTS (FILL) ~ LOOSE ~
									14.0'	
	4D	24"	16"	17.0'	2	1	1	1		GRAY SANDY SILT WITH SOME CLAY WITH TRACE ORGANICS AND SHELL FRAGMENTS ~ LOOSE ~
									20.0'	
	5D	24"	18"	22.0'	2	3	3	4		GRAY CLAYEY SILT WITH SOME SAND q_p = 0.5 KSF WITH FREQUENT SHELL FRAGMENTS AND TRACE ORGANICS ~ MEDIUM ~
									26.0'	
	6D	24"	22"	27.0'	3	4	5	4		q_p = 2.5 KSF OLIVE SILTY CLAY ~ STIFF ~
									30.0'	
	1V				3 5/8" X 7" VANE					S_V = 0.58 KSF / 0.12 KSF
	1V'				3 5/8" X 7" VANE					S_V = 0.59 KSF / 0.13 KSF ~ MEDIUM ~ GRAY SILTY CLAY w = 49.0% W_L = 49 W_P = 23 q_u = 1.1 KSF w = 48.8%
	1S	24"		37.0'	WOM/24"					

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS: CONTINUED…

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-102**
SHEET: 2 OF 3
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC. DRILLER: MIKE NADEAU

DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: EMW

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW/NW	4"/3"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS APPEAR DAMP BELOW 3'
SOILS APPEAR SATURATED BELOW 5'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
PUSH	2V			40.8'	3 5/8" X 7" VANE					S_V = 0.63 KSF / 0.19 KSF
	2V'			41.6'	3 5/8" X 7" VANE					S_V = 0.56 KSF / 0.21 KSF ~ MEDIUM ~
										GRAY SILTY CLAY
	7D	24"	24"	47.0'	WOR/12"		WOM/12"			w = 43.2%
	3V			50.8'	3 5/8" X 7" VANE					S_V = 0.71 KSF / 0.21 KSF
	3V'			51.6'	3 5/8" X 7" VANE					S_V = 0.92 KSF / 0.19 KSF
	2S	24"		57.0'	WOR	WOM/12"		WO2M		W_L = 43 W_P = 21
	4V			60.8'	3 5/8" X 7" VANE					S_V = 0.92 KSF / 0.07 KSF
	4V'			61.6'	3 5/8" X 7" VANE					S_V = 1.06 KSF / 0.13 KSF
	8D	24"	24"	67.0'	WOR	WOM/18"				w = 39.6%
	5V			70.8'	3 5/8" X 7" VANE					S_V = 0.86 KSF / 0.15 KSF
	5V'			71.6'	3 5/8" X 7" VANE					S_V = 1.16 KSF / 0.19 KSF - POSSIBLE SAND SEAM
	9D	24"	20"	77.0'	WOR	WOM	WO2M/12"			w = 28.5% ~ FREQUENT SAND SEAMS ~
									78.5'	ORANGE-BROWN SILTY SANDY GRAVEL ~ DENSE ~

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:
[ ] DRILLER - VISUALLY
[X] SOIL TECH. - VISUALLY
[X] LABORATORY TEST

REMARKS: CONTINUED…

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-102**

S.W.COLE ENGINEERING, INC.

BORING LOG

BORING NO.: **B-102**
SHEET: 3 OF 3
PROJECT NO.: 10-0507

PROJECT / CLIENT: PROPOSED BUILDING RENOVATION / WATERFRONT ME, LP
LOCATION: 258 COMMERCIAL STREET, PORTLAND, MAINE
DRILLING CO. : NORTHERN TEST BORING, INC. DRILLER: MIKE NADEAU

DATE START: 7/15/2010
DATE FINISH: 7/16/2010
ELEVATION: NOT AVAILABLE
SWC REP.: EMW

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HW/NW	4"/3"	140 lbs	30"
SAMPLER:	SS	1 3/8"	140 lbs	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
SOILS APPEAR DAMP BELOW 3'
SOILS APPEAR SATURATED BELOW 5'

CASING BLOWS PER FOOT	SAMPLE NO.	PEN.	REC.	DEPTH @ BOT	SAMPLER BLOWS PER 6" 0-6	6-12	12-18	18-24	DEPTH	STRATA & TEST DATA
	10D	24"	4"	82.0'	35	16	13	14	85.0'	ORANGE-BROWN SILTY SANDY GRAVEL ~ MEDIUM DENSE ~
	11D	24"	17"	85.0'	30	11	17	24	90.0'	BROWN SAND WITH SOME SILT ~ DENSE ~
	12D	24"	16"	92.0'	15	14	15	17	95.0'	BROWN SILT AND FINE TO MEDIUM SAND WITH FREQUENT MEDIUM TO COARSE SAND SEAMS ~ DENSE ~
	13D	24"	17"	97.0'	17	22	28	38	100.0'	BROWN GRAVELLY SILTY SAND (GLACIAL TILL) ~ DENSE ~
	14D	8"	2"	102.0'	25	50/2"			100.7'	GRAY GRAVELLY SILTY SAND (GLACIAL TILL) ~ DENSE ~
									102.0'	PROBABLE WEATHERED BEDROCK - ADVANCE BY ROLLER CONE
	R1			104.4'						RQD = 34% BEDROCK - SEE ROCK CORE LOGS
	R2			109.3'					109.3'	RQD = 43%
										BOTTOM OF EXPLORATION @ 107.4'

SAMPLES:
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY:

	DRILLER - VISUALLY
X	SOIL TECH. - VISUALLY
X	LABORATORY TEST

REMARKS:

STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-102**

S.W.COLE ENGINEERING, INC.

ROCK CORE LOG

PROJECT: PROPOSED BUILDING RENOVATION / PORTLAND, MAINE
BORING NO.: B-101
CLIENT: WATERFRONT ME, LP
PROJECT NO.: 10-0507

LOGGED BY P. Otto DATE: 7/20/2010 SHEET 1 OF 1
CHECKED BY G. Bucklin DATE: 7/20/2010 CORE SIZE NQ2

DEPTH BELOW SURFACE (FT)	CORE RUN	CORE INTERVAL (FT)	CORE RECOVERY (FT)	RQD (%)	ROCK QUALITY	GRAPHIC LOG	ROCK DESCRIPTION AND IDENTIFICATION
107.7'							ADVANCED BORING BY ROLLER CONE 102.7' TO 107.7'
108	R1	4.0	3.6	54	FAIR		Phylite with interbedded quartz, contains calcite veins, muscovite mica and trace pyrite; fine grained; medium to moderately hard; slightly weathered, slight iron oxide staining on fracture surfaces and exterior of core. Foliated at 60-75 degrees. Low to moderate fracture angles at 10-40 degrees from horizontal.
109							
110							
111							
111.7'							PROBABLE ZONE OF CORE LOSS
							BOTTOM OF EXPLORATION AT 111.7'

S.W.COLE ENGINEERING, INC.

ROCK CORE LOG

PROJECT: PROPOSED BUILDING RENOVATION / PORTLAND, MAINE
BORING NO.: B-102
CLIENT: WATERFRONT ME, LP
PROJECT NO.: 10-0507

LOGGED BY P. Otto DATE: 7/20/2010 SHEET 1 OF 1
CHECKED BY G. Bucklin DATE: 7/20/2010 CORE SIZE NQ2

DEPTH BELOW SURFACE (FT)	CORE RUN	CORE INTERVAL (FT)	CORE RECOVERY (FT)	RQD (%)	ROCK QUALITY	GRAPHIC LOG	ROCK DESCRIPTION AND IDENTIFICATION
102.0'							
103							
104	R1	2.4	2.4	34	POOR		Light gray Phylite, contains weathered garnets and quartz veins; fine grained; medium hard; slightly weathered. Fractures and cracks parallel to and cross cut foliation at 20, 60, 65 70, 80 and 85 degrees from horizontal.
105							
106							
107	R2	4.9	4.9	43	POOR		
108							
109							
109.3'							BOTTOM OF EXPLORATION AT 109.3'

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		11.7'
Size	4"	1 3/8"		Start Date: 3/15/10 Finish Date: 3/15/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-1	24"	9"	0'-2'	3	3	3	4		Brown Fine-Medium Sand and Gravel Mixed with Brick
S-2	24"	15"	5'-7'	3	4	3	5	5'	
S-3	24"	19"	10'-12'	4	6	6	7	10'	Grey Fine-Medium Sand Trace Silt (Native)
S-4	24"	15"	15'-17'	2	2	1	2	15'	
S-5	24"	6"	20'-22'	1	2	2	3	20'	Grey Sandy Silt
S-6	24"	22"	25'-27'	2	2	3	6	25'	Grey Silty Fine Sand Some Clay
S-7	24"	21"	30'-32'	2	2	2	2	30'	
S-8	24"	20"	35'-37'	1	1	1	1	35'	Grey Silty Clay
S-9	24"	22"	40'-42'	1	1	1	1	40'	
S-10	24"	21"	45'-47'	1	1	1	1	45'	
S-11	24"	22"	50'-52'	1	1	1	1	50'	

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		11.7'
Size	4"	1 3/8"		Start Date: 3/15/10 Finish Date: 3/15/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-12	24"	20"	55'-57'	1	1	2	2	55'	Grey Clayey Silt
S-13	24"	21"	60'-62'	1	2	1	1	60'	
S-14	24"	20"	65'-67'	1	1	1	1	65'	
S-15	24"	22"	70'-72'	1	1	1	2	70'	Grey Silty Clay
S-16	24"	23"	75'-77'	1	2	1	1	75'	
S-17	24"	22"	80'-82'	1	1	2	2	80'	
S-18	24"	12"	85'-87'	7	7	9	8	85'	Brown Medium-Coarse Sand Some Silt (Glacial Till)
S-19	24"	11"	90'-92'	6	8	8	12	90'	
S-20	24"	10"	95'-97'	7	8	10	12	95'	
S-21	24"	4"	100'-102'	11	11	12	11	100'	
									Bottom of Exploration @ 102' (No Refusal)

Boring #: B-1
Sheet: 2 of 2

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		9.2'
Size	4"	1 3/8"		Start Date: 3/15/10 Finish Date: 3/16/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-1	24"	10"	0'-2'	3	4	3	3		3" Pavement
S-2	24"	14"	5'-7'	3	4	4	4	5'	Brown Fine-Medium Sand and Gravel
S-3	24"	18"	10'-12'	3	4	4	5	10'	Dark Brown Silt and Organics (Original Ground Surface)
S-4	24"	22"	15'-17'	1	2	1	1	15'	Grey Fine Sand with Organics
S-5	24"	19"	20'-22'	1	2	2	2	20'	Grey Fine Sand and Silt
S-6	24"	22"	25'-27'	1	1	1	1	25'	
S-7	24"	22"	30'-32'	1	1	1	1	30'	
S-8	24"	24"	35'-37'	1	1	1	1	35'	
S-9	24"	22"	40'-42'	1	1	1	1	40'	Grey Silty Clay
S-10	24"	21"	45'-47'	1	1	1	1	45'	
S-11	24"	22"	50'-52'	1	1	1	1	50'	

Boring #: B-2
Sheet: 1 of 2

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		9.2'
Size	4"	1 3/8"		Start Date: 3/15/10 Finish Date: 3/16/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-12	24"	22"	55'-57'	1	1	1	1	55'	Grey Clayey Silt
S-13	24"	23"	60'-62'	1	1	1	1	60'	
S-14	24"	17"	65'-67'	9	11	12	14	65'	Brown Medium-Coarse Sand Some Silt (Glacial Till)
S-15	24"	19"	70'-72'	12	15	13	17	70'	
S-16	24"	16"	75'-77'	10	12	12	19	75'	
S-17	24"	17"	80'-82'	12	15	17	18	80'	
S-18	4"	3"	85'-87'	50/4					Bottom of Exploration @ 88.2' (Bedrock Possible Boulder)

Boring #: B-2
Sheet: 2 of 2

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		8.7'
Size	4"	1 3/8"		Start Date: 3/16/10 Finish Date: 3/16/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-1	24"	9"	0'-2'	4	5	5	7		Brown Fine-Medium Sand and Gravel with Brick Pieces
S-2	24"	15"	5'-7'	4	5	5	4	5'	
S-3	24"	17"	10'-12'	1	1	1	1	10'	Dark Brown Silt and Organics (Original Ground Surface)
S-4	24"	2"	15'-17'	2	1	1	1	15'	Brown Sand and Gravel Trace Silt
S-5	24"	15"	20'-22'	7	8	8	12	20'	
S-6	24"	14"	25'-27'	5	5	5	6	25'	
S-7	24"	18"	30'-32'	5	9	9	8	30'	
S-8	24"	15"	35'-37'	7	7	6	9	35'	
S-9	24"	14"	40'-42'	3	7	7	10	40'	Light Rust Brown Sand and Gravel Some Silt (Glacial Till)
S-10	24"	15"	45'-47'	8	10	10	11	45'	
S-11	24"	17"	50'-52'	10	12	12	16	50'	
									Bottom of Exploration 52.7' (bedrock possible boulder)

Boring #: B-3
Sheet: 1 of 1

Northern Test Boring, Inc. Boring Log

Client: Waterfront Maine	Project Name: Cumberland Storage Building
Location: Portland, Maine	Driller: Mike Nadeau

	Casing	Sample	Core	Ground Water Observation
Type	HW	SS		9.2'
Size	4"	1 3/8"		Start Date: 3/17/10 Finish Date: 3/17/10
Hammer Wt.	300	140		
Hammer Fall	30"	30"		

No.	Pen	Rec	Sample Depth	Sample Blow Counts				Depth	Stratum Description
S-1	24"	12"	0'-2'	11	3	3	2		Brown Fine-Medium Sand and Gravel
S-2	24"	17"	5'-7'	3	4	4	3	5'	Sand and Clay Mixed with wood Pieces
S-3	24"	14"	10'-12'	1	1	2	2	10'	Brown Fine-Medium Sand some Silt
S-4	24"	15"	15'-17'	1	1	2	1	15'	Grey Clayey Silt (Native)
S-5	24"	22"	20'-22'	1	1	1	1	20'	
S-6	24"	23"	25'-27'	1	1	1	1	25'	Grey Silty Clay
S-7	24"	21"	30'-32'	1	1	1	1	30'	
S-8	24"	15"	35'-37'	10	12	14	14	35'	Brown Medium-Coarse Sand Trace Silt (Glacial Till)
S-9	24"	16"	40'-42'	10	14	16	14	40'	
									Bottom of Exploration @ 43.2' (Bedrock possible Boulder)

Boring #: B-4
Sheet: 1 of 1

APPENDIX B

LOOKING NORTHWEST TOWARDS PROPOSED ENTRANCE VESTIBULE AREA

EXISTING CRAWL SPACE ACCESS THROUGH EXISTING CONCRETE/TIMBER FLOOR IN STORAGE UNIT # 184

EXISTING CRAWL SPACE WITH
VIEW OF EXISTING CMU COLUMNS

EXISTING CRAWL SPACE
WITH VIEW OF MASONRY PIER

EXISTING CRAWL SPACE WITH VIEW OF EXISTING MASONRY WALL EXTENDING WIDTH OF BUILDING, NORTHEAST-SOUTHWEST

GENERAL VIEW OF EXISTING CRAWLSPACE