GEOTECHNICAL EVALUATION

PROPOSED HAMPTON INN
PITKIN STREET
EAST HARTFORD, CONNECTICUT

PROJECT NO. 05490G
SEPTEMBER 30, 2005

EASTERN, Inc.

GEOTECHNICAL EVALUATION

PROPOSED HAMPTON INN
PITKIN STREET
EAST HARTFORD, CONNECTICUT

PROJECT NO. 05490G
SEPTEMBER 30, 2005

Prepared for:

Mr. George Gamache
Adams Associates
90 Lewis Street
Walpole, MA 02081

September 30, 2005

Mr. George Gamache
Adams Associates
90 Lewis Street
Walpole, MA 02081

Advance Copy by Fax

Re: Geotechnical Evaluation
Proposed Hampton Inn
Pitkin Street
East Hartford, Connecticut

JGI Project No. 05490G

Dear Mr. Gamache:

JGI EASTERN, Inc. (JGI) is pleased to provide this report regarding a geotechnical evaluation for the above-referenced project. The report includes our assessment of subsurface conditions for foundation design and earthwork construction for the proposed development. Our work, which was completed in general accordance with our proposal dated July 15, 2005, is subject to the Limitations in Appendix A of this report. Environmental issues were not part of the assignment.

SITE AND PROJECT DESCRIPTION

The project site is located southeast of the intersection of Pitkin Street and East River Road, within the paved parking area of Founders Plaza in the City of East Hartford, Connecticut, as shown on Figure 1, Site Location Map. The site is generally level at approximate Elevation (El) 19.5 feet.

The project consists of the construction of a 5-story, 121-room, Hampton Inn hotel with a footprint of approximately 15,000 square feet. Parking is planned to the east, south, and west of the building. A 5,000-square foot restaurant outparcel is planned for the southeast corner of the site. However, we did not advance test borings at the restaurant location; this report does not provide foundation recommendations for the restaurant. We understand that the finished floor elevation (FFE) of the hotel will be at El 21.5, requiring placement of approximately 2 feet of fill. The existing general site layout and proposed development are shown on Figure 2, Subsurface Exploration Location Plan.

SUBSURFACE EXPLORATIONS AND CONDITIONS

JGI monitored the advancement of 6 test borings (JB-1 through JB-6) by New England Boring Contractors, Inc. of Glastonbury, Connecticut on August 10, 11, and 15, 2005. JB-2 through JB-5 were advanced within the proposed building footprint. JB-1 and JB-6 were advanced within the proposed parking and below-pavement stormwater infiltration system areas. JB-2, JB-4, and JB-5 were drilled with 4¼-inch diameter solid-stem augers to a depth of 15 feet, and continued with a roller bit in 3-inch inside diameter flush wall casing (FWC) and a roller bit to refusal, probably on bedrock, at depths ranging 90.4 to 91.4 feet below the existing ground surface. JB-3 was advanced in a similar manner, but only to a depth of 52 feet. JB-1 and JB-6 were advanced with 4¼-inch diameter solid-stem augers to a depth of 17 feet. Sampling was performed with a standard 2-inch outside diameter split-barrel sampler are intervals ranging from continuous near the surface to 10 feet at depth. Standard Penetration Tests (SPTs) were performed at sampling intervals, in general accordance with ASTM D1586. The approximate test boring locations are shown on Figure 2. Visual classifications of encountered soils are presented on the test boring logs in Appendix B.

The subsurface profile generally consists of asphalt/topsoil/fill over an alluvial deposit, which is underlain by a glaciofluvial deposit. The glaciofluvial deposit is underlain by a layer of glacial till over bedrock. Asphalt (2 inches) was encountered at the surface in JB-1, JB-4, and JB-6, and at a depth of 2.3 feet in JB-3. Topsoil (5 to 7 inches) was encountered in JB-2 and JB-5. The fill, very loose to medium dense, light brown, to red/brown, coarse to fine sand, trace to and gravel, little to some silt was encountered within all of the explorations and extends to depths ranging from 2 to 6 feet below the existing ground surface. The alluvial deposit, encountered below the fill in all of the explorations, varies from a loose, brown, fine sand, little to some silt, to a medium dense, brown, coarse to fine sand, little to some silt, trace to little gravel. The alluvial deposit has a thickness ranging from about 26 to 35 feet. The glaciolacustrine deposit, consisting of soft, red/brown, clay and silt, was encountered under the alluvial deposit at depths ranging from 32 to 39 feet below existing grade. The layer of glacial till, consisting of hard red/brown clay and silt, some gravel, was encountered at a depth of 85 feet in JB-4. The glacial till was encountered at a depth of 90 feet in JB-5, and was not encountered in JB-2. However, because of extended sampling intervals at this depth, JB-4 may be more representative of the glacial till thickness. Refusal, on bedrock was encountered in JB-2, JB-4, and JB-5 at depths of 90.4, 90.9, and 91.4 feet, respectively.

Depth to bedrock was implied by roller bit refusal in three of the test borings. The bedrock was not cored. Based on our review of the Bedrock Geological Map of Connecticut (1985), the bedrock underlying the site consists of arkose, commonly referred to as brownstone.

Groundwater was observed at depths ranging from 10.5 to 15.0 feet. However, groundwater levels may vary depending upon season, precipitation, and other conditions that may be different from those at the time of drilling. Groundwater may temporarily perch above silty layers within the alluvial deposit.

PERMEABILITY TESTING

Falling head permeability tests were performed where below-pavement stormwater infiltration systems may be constructed. The locations Perm 1 and Perm 2 are shown on Figure 2.
A 5-foot length of 4.1-inch inside diameter polyvinyl chloride (PVC) pipe was pushed a couple of inches into the native alluvial deposit at each location. A few inches of coarse sand was placed in the bottom of each PVC pipe to reduce disturbance to the alluvial soils as water was poured in. The falling head permeability test was performed by filling the PVC pipe to the top and measuring the incremental drop in water level for approximately 320 minutes. The permeability test results are included in Appendix C.

GEOTECHNICAL ENGINEERING RECOMMENDATIONS

General Evaluation

Under a surficial 2- to 6-foot thick layer of unsuitable fill, the site is underlain by a substantial thickness of generally loose alluvial deposit, then by a thick glaciolacustrine deposit with loose/soft layers. Shallow spread footings are not appropriate for the hotel. We will be able to provide foundation recommendations specifically for the restaurant in a separate report after drilling test holes at the restaurant location. Based on our knowledge of compressible soils in the East Hartford area, these soil layers may consolidate approximately 5 to 7 inches under the added weight of thickness of fill and from proposed building loads. Therefore, we recommend a piled foundation and pile-supported structural slab for the building.

From our experience of monitoring pile driving in the immediate area, the length of piles to the deep bedrock, and the difficulty of impact driving piles through silty soils, we consider that a non-displacement type pile, such as a steel H-pile, is appropriate. Even with non-displacement type piles, a vibratory hammer will likely be required, as side friction within siltier portions of the alluvial or glaciolacustrine deposits can impede or prevent impact driving. We have selected a pile type and size based on these considerations and your imposed loads.

Foundation Type and Design Criteria

In light of the above, we recommend that the hotel building columns and floor slab be supported on steel H-piles with a yield strength (f_y) of 50 kips per square inch, deriving vertical capacity through end bearing in the bedrock. An HP 12 X 74 section would be appropriate and would allow for 1/8 inch of corrosion. Protective points from Associated Pile & Fitting, LLC, or similar, should be attached to the toe of the pile. The allowable vertical effective load-carrying capacity of these H-piles is estimated to be 100 tons. This capacity and the associated driving refusal criterion should be confirmed by the selected piling contractor on the basis of wave equation analysis when the pile driving hammer has been chosen. Since each pile will have a design load in excess of 40 tons, we recommend that at least one vertical pile load test be performed to confirm that the safety factor is at least 2.0. Settlement of the pile foundations, bearing on competent bedrock, should be negligible.

The allowable pile capacity is net of pile downdrag load, which we estimate to be up to about 4 tons per pile. Downdrag occurs as the compressible soils settle relative to the pile tip due to the additional 2.0 feet of fill, which we understand will be placed to reach finished grade.
Piles should be spliced with an appropriate splicer or full depth welding. However, splices should not be made in the upper 15 feet of the pile.

The number of piles installed per column will depend primarily on the eccentric loading of the pile group. A column is stable if supported by at least three piles. However, fewer piles can be used if grade beams or structural floors are designed to resist bending moments caused by eccentricity. Single piles may be used to support floor slab loads between column locations. Based on column and point loads, we consider that three piles will likely be required for each interior column support. The minimum pile spacing (center-to-center) should be 30 inches.

Lateral capacity of vertically installed piles is primarily dependent on the type and consistency of the soil against which the pile is pressed by the horizontal load, in this case the fill, alluvial, and glaciolacustrine soils that underlie the entire site. The thickness and consistency of each deposit is variable. Thus, the lateral capacity will be vary. Vertical HP 12 X 74 steel H-pile sections, oriented with the flange perpendicular to the direction of maximum lateral load, should have allowable lateral capacities of at least 4.0 kips. Lateral capacities for the H-pile section assumes up to 0.25-inch lateral deflection at the top of the pile. This estimate of lateral capacity is for piles securely tied into pile caps or grade beams (fixed head), as anticipated for the building. If these lateral capacities are not sufficient for portions of the building, we can review each location based on an adjacent test boring. Higher lateral capacities may be feasible. However, we may recommend that lateral load testing be performed to more accurately estimate pile lateral load capacity. Batter piles are not an option at the site because of the effect on sloping piles of settlement of the compressible soils following placement of the additional fill.

Sliding resistance between the existing fill/imported fill and concrete surfaces, such as pile caps or grade beams, should not be relied upon; the fill will settle away from the underside of pile caps or grade beams reducing sliding resistance to zero.

The underside of exterior pile caps and grade beams should be at least 3.5 feet below the adjacent finished grade, to reduce the likelihood of the detrimental effects of frost heave. Interior pile caps and/or grade beams may be placed higher, provided they will not be exposed to freezing temperatures.

Floor loads should be transferred into the piled foundation through the recommended structural floor slab. However, to provide a suitable base for forming and placing the floor slab, we recommend that an approximately 6-inch thick layer of a free draining, compacted structural fill be placed. Unless attached to the piles or structural slab, utilities will settle as the underlying alluvial and glaciofluvial deposit consolidate. A vapor barrier should be incorporated into the structural slab design.

Lateral Earth Pressures

Given the general site topography and the type of building, large retaining structures are unlikely. However, loading docks and other retaining structures, if constructed, should be pile supported. Piles similar to those recommended for the building would be appropriate. However, depending on lateral capacity, a smaller pile section may be used as the vertical loading will be less than for building loads. H-piles should be oriented with the flange perpendicular to the direction of maximum lateral load to take advantage of the full lateral capacity of the pile section.

The retaining structures and supporting piles should be designed to resist combined lateral forces resulting from static soil pressures, surcharges, and additional pressures under seismic events. Surcharge due to water pressure may be neglected, if geotextile wrapped foundation drains are installed behind the retaining wall adjacent to the footing. Retaining walls that are restrained, i.e. the top of the wall is fixed or braced, should be designed on the basis of the "non-yielding" parameters presented below. Retaining walls that are free to rotate may be designed on the basis of the "yielding" parameters. Other surcharge loads should be considered where they are located within a horizontal distance equal to 1.5 times the height of the wall. The following design criteria are recommended for yielding and non-yielding walls:

	Yielding	**Non-Yielding**
Static Lateral Earth Pressure (Compacted structural fill as equivalent fluid unit weight)	38 pcf (pounds per cubic foot)	60 pcf
Traffic Surcharge (Distributed uniformly over height of wall)	70 psf	110 psf
Seismic Forces	11H psf/foot (distributed as an inverse triangle)	11H psf/foot (uniform pressure distribution)

Note: H is equal to the exposed height of the wall, i.e. above the permanent ground level in front of the wall. Surcharge stresses due to point loads, line loads, and those of limited extent such as compaction equipment should be evaluated using elastic theory.

Retaining structures should be backfilled evenly to the extent practical. Temporary bracing should be specified if walls that are designed to be supported by other structural elements, are permitted to be backfilled before the permanent support is in place. Because of settlement of the underlying organic deposit following placement of the proposed fill layer, friction at the soil-concrete interface should be ignored in calculating lateral resistance.

Lateral pressures based on the above parameters are cumulative for computing overall factors of safety. To account for effect on the wall of compaction equipment during construction, the lateral pressure should not be less than 200 psf, distributed uniformly over the height of the wall.

We recommend that a passive earth pressure coefficient, K_p, of 3.0 and a dry unit weight for the soil of 110 pcf be used for calculating the passive soil resistance to lateral loading. The passive pressure calculated with these parameters should be reduced by at least a factor of safety of 3, to reflect the amount of movement required to mobilize the passive resistance.

Seismic Design Criteria

The subsurface conditions were reviewed in accordance with the Connecticut State Building Code, which incorporates *The BOCA National Building Code – 13th Edition*. For calculation of the lateral seismic forces on the structure, the soil profile is considered to be type S_4. The recommended site coefficient (S) for seismic design is 2.0. The site does not appear to be susceptible to liquefaction in the event of an earthquake.

Pavements

Flexible pavement designs for standard- and heavy-duty sections were based on *AASHTO Guide for Design of Pavement Structures (1993)* and our experience with similar projects. The thickness of each course is a function of subgrade strength, traffic, design life, serviceability factors, and frost susceptibility. A 20-year design life and 30,000 18-kip Equivalent Axle Loads (EALs) were used in the design of standard-duty pavement. A 20-year design life and 100,000 EALs were used in the design for heavy-duty pavement. A CBR value of 6 was considered appropriate for the underlying soils. A summary of design recommendations is presented below. Reference has been made to the *State of Connecticut Department of Transportation (CTDOT) Standard Specifications for Roads, Bridges and Incidental Construction (Form 816) 2004.*

	Thickness (inches)	
Pavement Material	**Standard Duty**	**Heavy Duty**
Bituminous Concrete Wearing Course CTDOT M.04.03 Class 2	1.5	1.5
Bituminous Concrete Binder Course CTDOT M.04.03 Class 1	1.5	2.5
Granular Base CTDOT M.02.06 Grading C	6.0	6.0
Bank or Crushed Gravel CTDOT M.02.06 Grading B	6.0	6.0

The granular base should be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D1557, Method C. Bituminous concrete should be placed in general accordance with CTDOT standards and compacted to at least 92 percent as compared to Marshall test methods.

Compacted Fill

Structural fill is typically used where support for structural elements is required. However, we have recommended that a thin layer of structural fill be placed under the structural slab. Common fill may be used elsewhere on the site, because the building and floor slab will be pile supported. We

recommend that the maximum size of the common fill be reduced from 8 to 3 inches where common fill is placed against concrete elements.

Structural Fill: Structural fill should be free of organic, frozen, or other deleterious material and conform to the gradation requirements in Table 1. Structural fill should be placed in loose lifts not exceeding 12 inches thick for self-propelled vibratory rollers, and 8 inches for vibratory plate compactors. Structural fill should be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D 1557.

Common Fill: Common fill should consist of mineral soil free from frozen soil, debris, or other deleterious material. The recommended maximum particle size for imported common fill is 8 inches. No more than 25 percent by weight should pass the No. 200 sieve. Common fill should be placed in the lift thicknesses recommended above for structural fill, and should be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D 1557, under roadway and parking areas, which cover most of the site. In landscaped areas, a 92 percent compaction criterion would be appropriate.

CONSTRUCTION CONSIDERATIONS

Compaction of Existing Fill

Prior to placing common fill to raise the site grade in parking areas and along access roadways, asphalt and topsoil should be removed. The exposed subgrade consisting of previously placed fill should be proofrolled with at least 6 passes of a minimum 10-ton vibratory roller. During the proofrolling process, the subgrade should be observed by a geotechnical engineer, or his/her representative, for the presence of soft/loose zones. Soft/loose zones or unstable areas, if encountered, should be overexcavated to more competent subgrade and replaced with common fill. Once proofrolling has been completed satisfactorily, common fill may be placed.

Within the area of the building, which will be pile supported, limited proofrolling should be performed, such that a suitable working surface can be prepared for forming pile caps and grade beams and supporting the slab reinforcing steel.

Construction Dewatering

Based on the observed depths to groundwater, significant dewatering is not anticipated during construction. Dewatering, if required, may generally be accomplished by pumping from filtered sumps containing crushed stone.

The contractor should maintain a stable subgrade during construction to allow the placement of pile caps, grade beams and the structural slab. The contractor should prevent groundwater, if encountered, and surface water runoff from collecting in excavations. Subgrade soils that become unstable should be replaced with compacted structural fill or crushed stone, to the extent necessary to facilitate placement of concrete.

Pavement

Pavement subgrade will comprise the common fill that has been placed and compacted to raise the site grade. However, prior to placing pavement subbase, the surface of the fill should be proofrolled with at least 6 passes of a minimum 10-ton vibratory roller. During the proofrolling process, the subgrade should be observed by a geotechnical engineer, or his/her representative, for the presence of soft/loose zones. Such soft/loose zones or unstable areas, if encountered, should be overexcavated to more competent subgrade and replaced with common fill. Once proofrolling has been completed satisfactorily, the granular subbase course may be placed.

Temporary Excavations

Excavations greater than 4 feet deep may be required for construction. Temporary construction slopes should be designed in compliance with recent governing regulations. Construction slopes should be cut to a stable incline or braced, depending upon the excavation depth and encountered subsurface conditions.

Construction slopes should be observed for signs of mass movement. If movement and/or potential stability problems are observed, work should cease; the geotechnical engineer should be immediately contacted. The responsibility for excavation safety and stability of temporary construction slopes should lie solely with the contractor.

Potential Impact of Weather on Earthwork Activities

The predominant soil subgrade will consist of either common fill placed to raise grade or the existing fill. While the common fill specification has an appropriate maximum fines content for compaction under most conditions, portions of the existing fill may have an elevated silt content. Existing fill with a higher silt content will be sensitive to moisture and difficult to proofroll or compact during wet periods. Contractors experienced in earthwork construction in New England should be aware of the silty soil behavior and the effect that moisture and inclement weather can have on its workability. If a contractor bids construction knowing that earthwork must begin during the winter or wet months, the contractor should have a contingency to use off-site suitable fill, and dispose on-site soils that become unsuitable.

DOCUMENTATION REVIEW AND CONSTRUCTION MONITORING

JGI should be given the opportunity to review final design drawings and specifications prior to bidding. The purpose of the review is to evaluate the appropriate implementation of recommendations provided in this report. By completing this review prior to the bidding process, the potential for misinterpretation of our recommendations by the bidders may be reduced.

During earthwork operations, we recommend that a qualified geotechnical engineer or his/her representative be on site full time to observe earthwork and construction activities, such as preparation of pile caps/grade beams and slab subgrades, suitability of backfill soil, and installation of piles. During the placement of fill, compactive efforts should be evaluated by field density testing. JGI would be pleased to provide these services.

If you have questions or require additional information, please contact our office. We thank you for this opportunity to have been of service and look forward to continuing our work with you as the project progresses.

Very truly yours,

JGI EASTERN, Inc.

Ryan R. Roy, P.E.
Principal/Senior Engineer

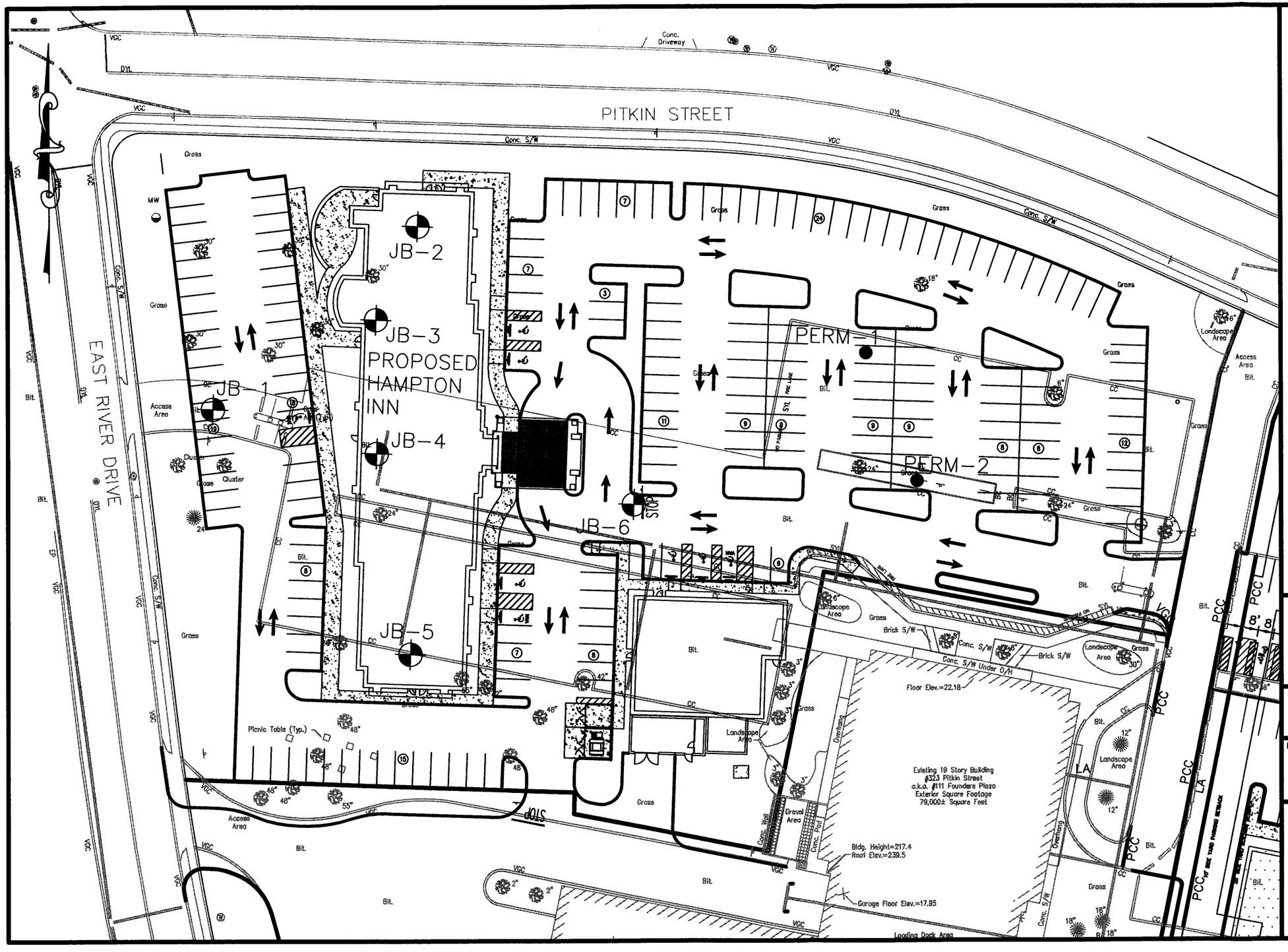
Richard W.M. McLaren, P.E.
Senior Engineer

/ekc/05490G

copy: Ms. Shannon Rutherford – Vanasse Hangen Brustlin, Inc., Middletown, CT

Attachments: Figure 1 – Site Location Map
Figure 2 – Subsurface Exploration Location Plan
Table 1 – Gradation Specifications
Appendix A – Limitations
Appendix B – Test Boring Logs JB-1 thru JB-6
Appendix C – In-situ Falling Head Permeability Test Results

Figures



NOTES:

1. THIS FIGURE WAS PREPARED FROM VANASSE HANGEN BRUSTLIN, INC. OF MIDDLETOWN, CT PROJECT NUMBER: 40708.00 DRAWING NUMBER: C-10 TITLED: "BORING PLAN" DATED: 6/12/05

2. THE EXPLORATIONS SHOWN AS JB-1 THROUGH JB-6 WERE ADVANCED ON AUGUST 10, 11, AND 15, 2005 UNDER THE DIRECTION OF JGI WITH EQUIPMENT OWNED AND OPERATED BY NEW ENGLAND BORING CONTRACTORS INC. OF GLASTONBURY, CT.

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

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

GRAPHIC SCALE

25 0 25 50 100

(IN FEET)

LEGEND

JB-1 ⊕ TEST BORING LOCATION (TYP)

PERM-1 ● PERMEABILITY TEST LOCATION (TYP)

FIGURE 2
SUBSURFACE EXPLORATION LOCATION PLAN

PROPOSED HAMPTON INN
EAST HARTFORD, CONNECTICUT

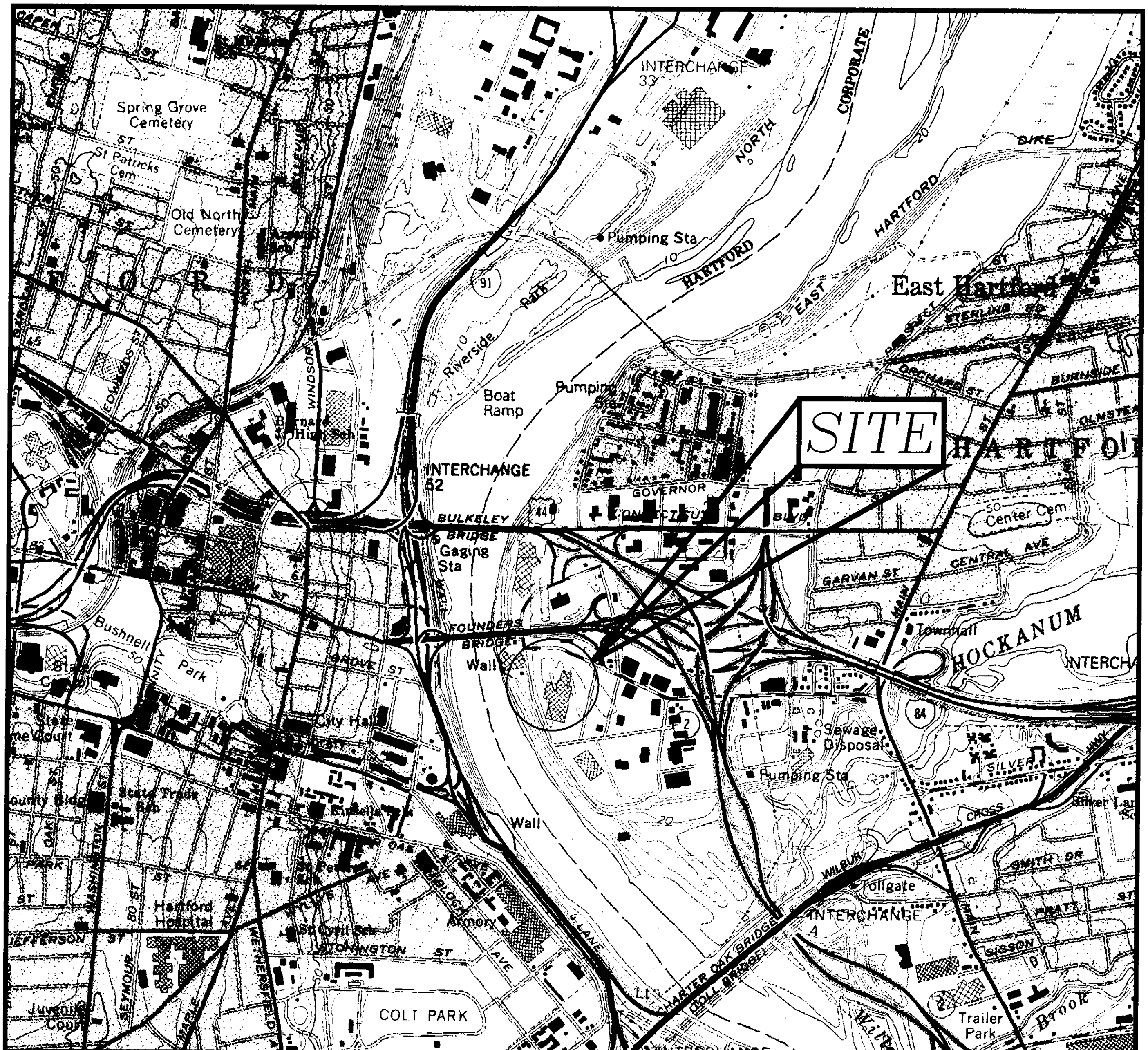
PREPARED FOR:
ADAMS ASSOCIATES
90 LEWIS STREET
WALPOLE, MA 02081

DATE: SEPTEMBER, 2005
SCALE: 1" = 50'
PROJECT NO: 05490

JGI EASTERN, Inc.
114 Woodlawn Road
Berlin, Connecticut 06037
(860) 829-1725

Geotechnical
Environmental
Construction
& Materials Testing

05490



SCALE: 1:24 000

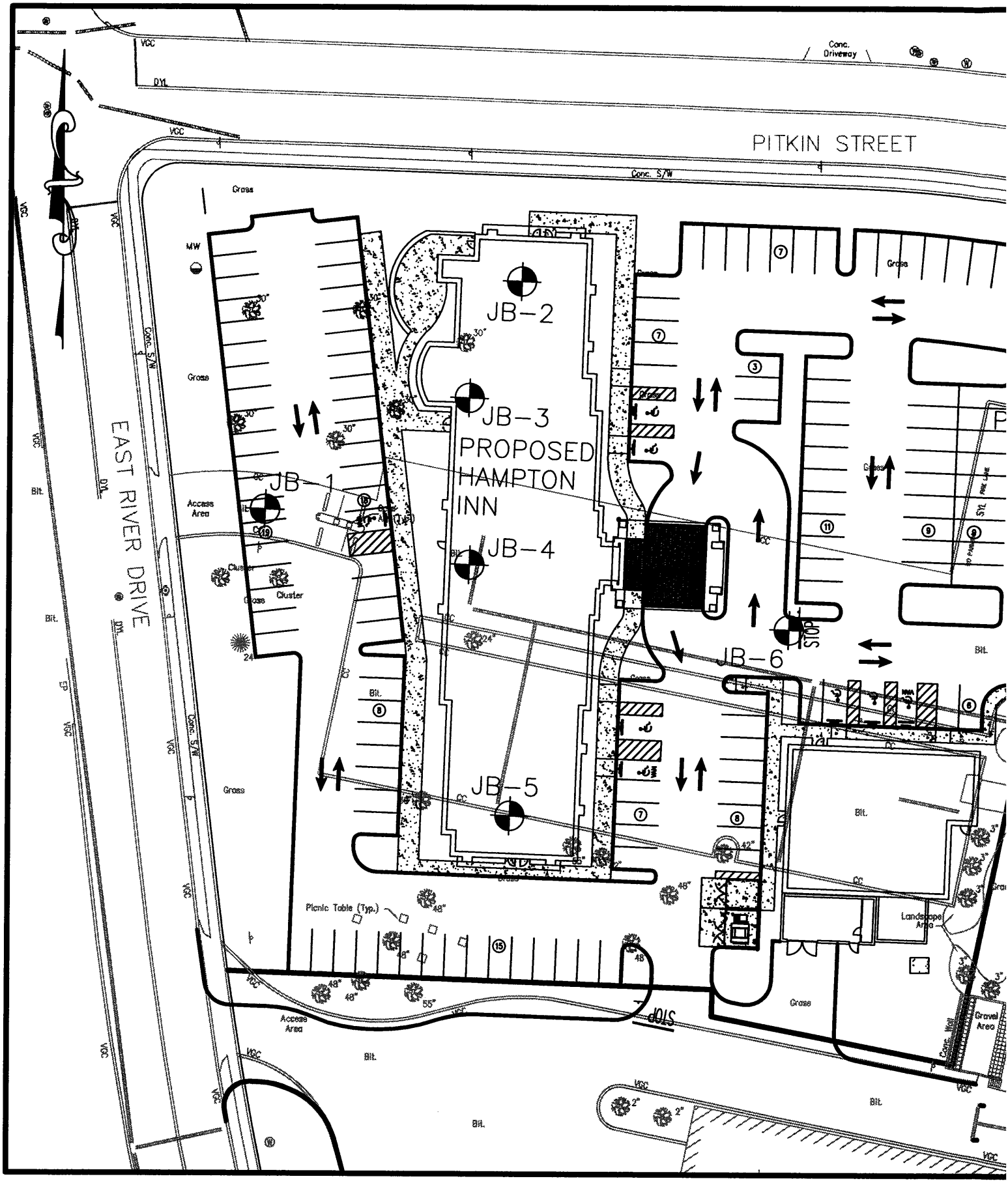
1 — 1/2 — 0 — 1 MILE

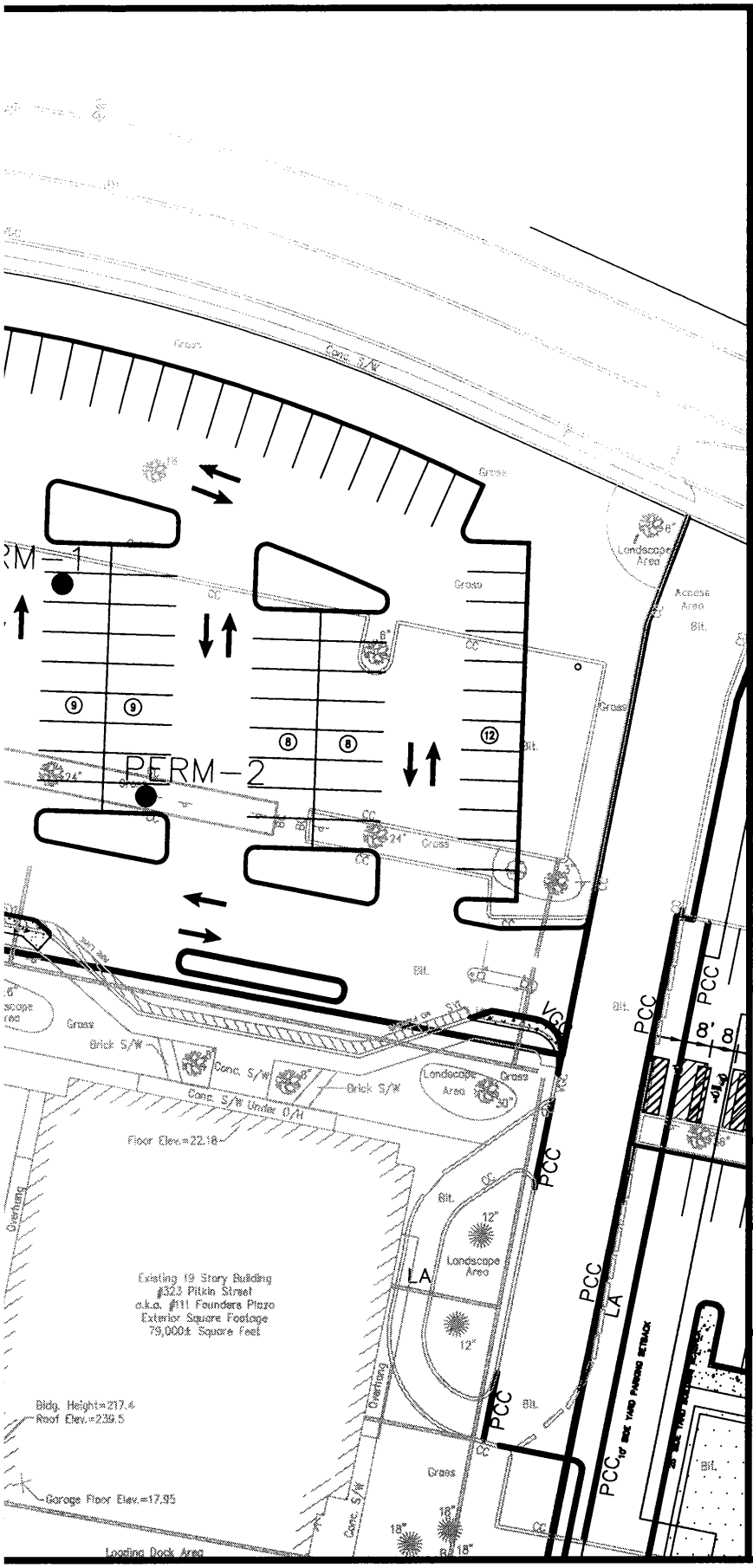
1000 — 0 — 1000 — 2000 — 3000 — 4000 — 5000 — 6000 — 7000 FEET

1 — .5 — 0 — 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

PROJECT:	PROPOSED HAMPTON INN EAST HARTFORD, CONNECTICUT	FIGURE 1 SITE LOCATION MAP	JGI EASTERN, Inc. 114 Woodlawn Road Berlin, Connecticut 06037
PROJECT NO.	05490		
DATE:	SEPTEMBER, 2005		
SOURCE:	HARTFORD NORTH, CONN USGS QUAD REV. 1992		
CD:	HARTFORD EAST 1/2		


PITKIN STREET
EAST RIVER DRIVE
PROPOSED
HAMPTON
INN
JB-1
JB-2
JB-3
JB-4
JB-5
JB-6
Conc. Driveway
Conc. S/W
VGC
DYL
Grass
Bit.
Access Area
Cluster
Picnic Table (Typ.)
Landscape Area
Gravel Area
STOP



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(IN FEET)

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FIGURE 2

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PROPOSED HAMPTON INN
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PREPARED FOR:

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90 LEWIS STREET
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JGI EASTERN, Inc.
114 Woodlawn Road
Berlin, Connecticut 06037

Geotechnical
Environmental
Construction
& Materials Testing

(860) 829-1725

05490

Table

TABLE 1

Proposed Hampton Inn
Pitkin Street
East Hartford, Connecticut
Project No. 05490G

Gradation Specifications

Sieve Size	Percent Passing by Weight			
	Structural Fill	Granular[1] Base	Granular[2] Subbase	Common[3] Fill
8"	- -	- -	- -	100
5"	- -	- -	100	- -
3½"	- -	- -	90 - 100	- -
3"	- -	- -	- -	(100)[3]
2"	100	- -	- -	- -
1½"	- -	100	55 - 95	- -
¾"	45 - 95	45 - 80	- -	- -
¼"	- -	25 - 60	25 - 60	- -
No. 4	30 - 90	- -	- -	- -
No. 10	25 - 80	15 - 45	15 - 45	- -
No. 40	10 - 50	5 - 25	5 - 25	- -
No. 100	- -	0 - 10	0 - 10	- -
No. 200	0 - 12	0 - 5	0 - 5	25

Notes:

[1] From Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction, 2004 Form 816, Section M.02.06, Grading C.

[2] From Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction, 2004 Form 816, Section M.02.06, Grading B.

[3] Three inch maximum particle size when placed against concrete elements.

Appendix A

LIMITATIONS

Explorations

1. The analyses, recommendations, and designs submitted in this report are based in part upon the data obtained from preliminary subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, JGI EASTERN, Inc. (JGI) should re-evaluate the recommendations of this report.

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

3. Water level readings have been made in the test borings under conditions stated on the logs. These data have been reviewed and interpretations have been made in the text of this report. However, fluctuations in the level of the groundwater may occur because of variations in rainfall, temperature, and other factors differing from those at the time the measurements were made.

Review

4. JGI should be given the opportunity to review final design drawings and specifications to evaluate the appropriate implementation of the recommendations provided in this report.

5. In the event that changes in the nature, design, or location of the proposed areas are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of the report modified or verified in writing by JGI.

Construction

6. JGI should be retained to provide geotechnical engineering services during the pile installation and earthwork phases of the project. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

Use of Report

7. This report has been prepared for the exclusive use of Adams Associates, and their architect and engineer, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

8. This report was completed for preliminary design purposes and may be limited in its scope to complete an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to evaluation considerations only.

Appendix B

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 1**	
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA	**BORING:**	JB-1
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia.	**LOCATION:**	**See Plan**
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 15, 2005					**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Mike St. John	8/15/05	12.0'	Removed	10 Minutes		
JGI REP:	Pat Cameron						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Asphalt	0.3'	
	SS-1	0-2	6-15	12/12	SS-1: Red, coarse to fine SAND and Gravel, little Silt.		
					(Fill)	2.0'	
	SS-2	2-4	5-3	24/22	SS-2: Loose, brown, fine SAND, some Silt, trace Gravel.		
			4-5				
5	SS-3	4-6	4-3	24/20	SS-3: Similar to SS-2.		
			3-3				
	SS-4	6-8	5-6	24/24	SS-4: Similar to SS-3, except medium dense.		
			6-7				
	SS-5	8-10	5-3	24/22	SS-5: Loose, brown, coarse to fine SAND, some Silt, trace Gravel.		
10			2-4				
15							
	SS-6	15-17	6-5	24/16	SS-6: Similar to SS-5 , except medium dense.		
			5-5		(Alluvial Deposit)		
					Exploration Terminated at 17.0'		
20							
25							
30							

EASTERN, Inc.

Notes:

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

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

Boring No. JB-1

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 4**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING** JB-2
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** **See Plan**
DATE START:	August 13, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 15, 2005					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/12/05	10.5'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.7'	
	SS-1	0-2	1-4	24/18	SS-1: Medium dense, white to brown, coarse to fine SAND and Gravel, little Silt.		
			14-30				
	SS-2	2-4	26-28	24/0	SS-2: No Recovery		
			6-4				
5	SS-3	4-6	5-5	24/2	SS-3: Loose, dark brown, coarse to fine SAND and Gravel, some Silt.		
			4-5		(Fill)	6.0'	
10							
	SS-4	10-12	4-3	24/18	SS-4: Loose, dark brown, fine SAND, little Silt, trace Gravel.		
			2-2				
15							
	SS-5	15-17	11-8	24/20	SS-5: Medium dense, brown, coarse to fine SAND, little Silt, trace Gravel.		
			8-5				
20							
	SS-6	20-22	5-4	24/0	SS-6: No Recovery		
			6-8				
25							
30							

EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-2

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 2 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:**	JB-2
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 15, 2005					**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Mike St. John	8/12/05	10.5'	Removed	10 Minutes		
JGI REP:	Pat Cameron						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-7	30-32	6-7	24/15	SS-7: Medium dense, brown, medium to fine SAND, little Gravel and Silt.		
			5-4		(Alluvial Deposit)	32.0'	
35							
40							
	SS-8	40-42	13-8	24/24	SS-8: Stiff, brown SILT and Clay.		
			7-7				
45							
50							
	SS-9	50-52	WOR-2	24/24	SS-9: Similar to SS-8, except soft.		
			1-2				
55							
60							

EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-2

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 3 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:**	JB-2
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 15, 2005					**SURF. EL.:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Mike St. John	8/12/05	10.5'	Removed	10 Minutes		
JGI REP:	Pat Cameron						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-10	60-62	WOR	24/24	SS-10: Medium stiff, red/brown CLAY and Silt.		
			2-3				
65							
70							
	SS-11	70-72	WOR	24/24	SS-11: Similar to SS-10.		
			3-4				
75							
80							
	SS-12	80-82	5-4	24/24	SS-12: Similar to SS-10, except medium stiff.		
			5-5				
85							
90							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-2

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 4 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:**	JB-2
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable		
DATE END:	August 15, 2005					**SURF. EL.:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**					
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**		
FOREMAN:	Mike St. John	8/12/05	10.5'	Removed	10 Minutes		
JGI REP:	Pat Cameron						

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-13	90-90.4	50/5"	5/3	SS-13: Medium stiff, brown SILT and Clay, some Gravel. (Glaciolacustrine Deposit)		
					Refusal at 90.4'. Probably on Bedrock.		
95							
100							
105							
110							
115							
120							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-2

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 2**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:** JB-3
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** **See Plan**
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 15, 2005					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AT DRILLING**	
FOREMAN:	Mike St. John	8/15/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-1	0-2	2-3	24/12	SS-1: Loose, red-brown, coarse to fine SAND, little Silt and Gravel, some Root Matter.		
			4-5				
					SS-2: Similar to SS-1. (Fill)	2.3'	
	SS-2	2-4	3-3	24/12	Asphalt	2.7'	
			4-4				
5	SS-3	4-6	3-2	24/14	SS-3: Very loose, brown, fine SAND, some Root Matter.		
			1-2				
10							
					(Fill)	10.3'	
	SS-4	10-12	2-2	24/24	SS-4: Very loose, brown, fine SAND, some Silt.		
			2-3				
15							
	SS-5	15-17	1-1	24/24	SS-5: Similar to SS-4.		
			1-1			17.0'	
20							
	SS-6	20-22	3-3	24/10	SS-6: Loose, gray/brown, coarse to fine SAND, little Silt.		
			4-4				
25							
30							

EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-3

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 2 OF 2**	
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING:**	JB-3
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 15, 2005	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 15, 2005				**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/15/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-7	30-32	3-4	24/22	SS-7: Loose, gray/brown, coarse to fine SAND, little Silt.		
			4-5				
35							
					(Alluvial Deposit)	38.0'	
40							
	SS-8	40-42	WOR-1	24/24	SS-8: Soft, red/brown CLAY and Silt.		
			1-2				
45							
50							
	SS-9	50-52	WOR-1	24/24	SS-9: Similar to SS-8, except brown.		
			2-3		(Glaciolacustrine Deposit)		
					Exploration Terminated at 52.0'		
55							
60							

EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-3

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 4**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:** JB-4
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** See Plan
DATE START:	August 10, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 10, 2005					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/10/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Asphalt	0.3'	
	SS-1	0-1.5	5-5	18/4	SS-1: Loose, red/brown, coarse to fine SAND, some Silt, little Gravel.		
			7		(Fill)	2.0'	
	SS-2	2-4	7-8	24/18	SS-2: Medium dense, red/brown, medium to fine SAND and Silt, trace Gravel.		
			8-10				
5	SS-3	4-6	5-4	24/20	SS-3: Loose, brown, fine SAND and Silt, trace Gravel.		
			3-3				
	SS-4	6-8	4-5	24/24	SS-4: Similar to SS-3, except medium dense.		
			5-6				
	SS-5	8-10	6-7	24/5	SS-5: Similar to SS-4.		
10			6-7				
15							
	SS-6	15-17	4-5	24/20	SS-6: Medium dense, gray to brown, coarse to fine SAND, little Silt, trace Gravel.		
			6-8				
20	SS-7	20-22	6-8	24/12	SS-7: Medium dense, gray, fine SAND, little Silt.		
			12-22				
25							
	SS-8	25-27	6-11	24/18	SS-8: Similar to SS-7.		
			14-20				
30							

EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-4

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 2 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING**	JB-4
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 10, 2005	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 10, 2005				**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/10/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-9	30-32	6-12	24/20	SS-9: Similar to SS-7		
			13-31				
35							
	SS-10	35-37	7-9	24/18	SS-10: Similar to SS-7.		
			7-10				
					(Alluvial Deposit)	39.0'	
40							
	SS-11	40-42	3-4	24/24	SS-11: Stiff, red/brown, SILT and Clay.		
			4-5				
45							
	SS-12	45-47	1-2	24/24	SS-12: Soft, red/brown, CLAY and Silt.		
			2-3				
50							
	SS-13	50-52	2-2	24/24	SS-13: Similar to SS-12.		
			2-3				
55							
	SS-14	55-57	2-2	24/24	SS-14: Similar to SS-12.		
			3-3				
60							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-4

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 3 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING**	JB-4
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 10, 2005	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 10, 2006				**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/10/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-15	60-62	WOR-1	24/24	SS-15: Soft, red/brown, CLAY and Silt.		
			1-2				
65							
	SS-16	65-67	WOR-1	24/24	SS-16: Similar to SS-15.		
			1-1				
70							
	SS-17	70-72	WOR-1	24/24	SS-17: Similar to SS-15.		
			2-2				
75							
	SS-18	75-77	2-2	24/24	SS-18: Similar to SS-15.		
			3-4				
80							
	SS-19	80-85	2-2	24/24	SS-19: Similar to SS-15.		
			2-3				
85					(Glaciolacustrine Deposit)	85.0'	
	22-20	85-87	26-25	24/20	SS-20: Hard, red/brown, CLAY and Silt, some Gravel.		
			30-27				
90							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-4

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 4 OF 4**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING** JB-4
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** **See Plan**
DATE START:	August 10, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 10, 2006					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/10/05	11.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-21	90-90.9	30-100/5"	11/3	SS-21: Hard, red/brown, CLAY, and Silt, some Gravel. (Glacial Till)		
					Refusal at 90.9'. Probably on Bedrock.		
95							
100							
105							
110							
115							
120							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-4

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 4**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING** JB-5
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** See Plan
DATE START:	August 11, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 11, 2006					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/11/05	15.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Topsoil	0.4'	
	SS-1	0-2	4-7	24/10	SS-1: Medium dense, brown, fine SAND, little Silt, trace Gravel.		
			6-5				
	SS-2	2-4	7-7	24/16	SS-2: Similar to SS-1		
			5-6				
5	SS-3	4-6	4-4	24/1	SS-3: Similar to SS-1, except loose.		
			4-3				
10							
	SS-4	10-12	2-2	24/24	SS-4: Similar to SS-3.		
			3-5				
					(Fill)	12.0'	
15							
	SS-5	15-17	6-2	24/21	SS-5: Loose, brown, coarse to fine SAND, little Silt.		
			3-5				
20							
	SS-6	20-22	5-11	24/19	SS-6: Similar to SS-5, except dense.		
			21-32				
25							
30							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-5

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 2 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING**	JB-5
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 11, 2005	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 11, 2006				**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/11/05	15.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-7	30-32	13-15	24/24	SS-7: Dense, brown, medium to fine SAND, little Silt.		
			18-21		(Alluvial Deposit)	32.0'	
35							
40							
	SS-8	40-42	2-1	24/24	SS-8: Soft, red/brown, SILT and Clay.		
			2-3				
45							
50							
	SS-9	50-52	WOR-1	24/24	SS-9: Soft, red/brown, CLAY and Silt.		
			2-3				
55							
60							

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-5

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 3 OF 4**	
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING:**	JB-5
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:**	**See Plan**
DATE START:	August 11, 2005	FALL: 30"	Drop Method:	Winch/Cable		
DATE END:	August 11, 2006				**SURF. EL:**	19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/11/05	15.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-10	60-62	WOR-1	24/24	SS-10: Soft, red/brown, CLAY and Silt.		
			1-2				
65							
70							
	SS-11	70-72	WOR-1	24/24	SS-11: Similar to SS-10.		
			3-3				
75							
80							
	SS-12	80-82	WOR-1	24/24	SS-12: Similar to SS-10, except, little Gravel.		
			7-3				
85							
90					(Glaciolacustrine Deposit)		

JGI EASTERN, Inc.

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

Boring No. JB-5

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**	**SAMPLER**	**CASING**	**SHEET 4 OF 4**
LOCATION:	East Hartford, Connecticut	TYPE: Safety	SS	SSA / FWC	**BORING:** JB-5
PROJECT NO.:	05490	SIZE: 140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** See Plan
DATE START:	August 11, 2005	FALL: 30"	Drop Method:	Winch/Cable	
DATE END:	August 11, 2006				**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**			
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**
FOREMAN:	Mike St. John	8/11/05	15.0'	Removed	10 Minutes
JGI REP:	Pat Cameron				

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
	SS-13	90-91.4	40-36	17/8	SS-13: Hard, red/brown, CLAY and Silt, some Gravel.		
			100/5"		(Glacial Till)		
					Refusal at 91.4'. Probably on Bedrock.		
95							
100							
105							
110							
115							
120							

Notes:

Boring advanced to a dept of 15 feet with solid stem auger (SSA), and subsequently advanced using wash and drive techniques with a roller bit in flush wall casing (FWC).

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

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

JGI EASTERN, Inc.

Boring No. JB-5

TEST BORING LOG

PROJ. NAME:	Proposed Hampton Inn	**HAMMER**		**SAMPLER**	**CASING**	**SHEET 1 OF 1**
LOCATION:	East Hartford, Connecticut	TYPE:	Safety	SS	SSA / FWC	**BORING:** JB-6
PROJECT NO.:	05490	SIZE:	140 lbs.	2" OD	4-1/4" Dia. / 3" I.D.	**LOCATION:** See Plan
DATE START:	August 15, 2005	FALL:	30"	Drop Method:	Winch/Cable	
DATE END:	August 15, 2005					**SURF. EL:** 19.5' ±
BORING CO.:	New England Boring Contractors	**GROUNDWATER OBSERVATIONS**				
CO. LOCATION:	Glastonbury, CT	**DATE**	**DEPTH**	**CASING AT**	**DURATION AFTER DRILLING**	
FOREMAN:	Mike St. John	8/15/05	15.0'	Removed	10 Minutes	
JGI REP:	Pat Cameron					

Depth (ft)	SAMPLING No.	Depth (ft.)	Blows/ 6"	Penet./ Rec. (in)	Sample Description	Strata Change Depth (ft)	Notes
					Asphalt	0.3'	
	SS-1	0-1	10-8	12/12	SS-1: Medium dense, light brown, coarse to fine SAND, some Silt, trace Gravel.		
	SS-2	2-4	9-8	24/22	SS-2: Medium dense, brown, fine SAND, some Silt, little Gravel.		
			5-6				
5	SS-3	4-6	2-2	24/20	SS-3: Very loose, red/brown, coarse to fine SAND, some Silt, trace Gravel.		
			1-1				
	SS-4	6-8	2-2	24/24	SS-4: Similar to SS-3.		
			2-2				
	SS-5	8-10	2-2	24/22	SS-5: Similar to SS-3		
10			2-2				
15							
	SS-6	15-17	2-1	24/16	SS-6: Similar to SS-3.		
			2-2		(Fill)		
					Exploration Terminated at 17.0'		
20							
25							
30							

EASTERN, Inc.

Notes:

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

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

Boring No. JB-6

Appendix C

FALLING HEAD PERMEABILITY TEST

Project:	Hampton Inn
Project No.:	05490G
Date:	9/14/2005
Calculated By:	rwo
Checked By:	RRR
Page 1 of 1	

Test No. 1 (5 feet below grade)

Inside diameter of pipe (D) = 10.4 centimeters

Initial reading of water column (H_1) = 421.6 centimeters

Final reading of water column (H_2) = 335.0 centimeters

Duration of Test (T_2 - T_1) = 320 minutes

Permeability, $K_m = (Pi * D)/(11(T_2-T_1)) \ln (H_1/H_2)$

Test No. 1 Calculated Permeability = 3.6×10^{-5} cm/sec

Test No. 2 (2 feet below grade)

Inside diameter of pipe (D) = 10.4 centimeters

Initial reading of water column (H_1) = 409.0 centimeters

Final reading of water column (H_2) = 327.0 centimeters

Duration of Test (T_2 - T_1) = 320 minutes

Permeability, $K_m = (Pi * D)/(11(T_2-T_1)) \ln (H_1/H_2)$

Test No. 1 Calculated Permeability = 3.5×10^{-5} cm/sec