BID PROJECT NO. 0110-12

MONROE COUNTY, NEW YORK

ADDENDUM NO. 1

TO CONTRACT DOCUMENTS FOR

ABRAHAM LINCOLN PARK IMPROVEMENTS - PHASE 2

Capital Improvement Project No. 1462.01

January 2012

Contract No. 1: General Construction
Contract No. 2: Electrical Construction
Contract No. 3: HVAC Construction
Contract No. 4: Plumbing Construction

Prepared By:
Environmental Design and Research
274 North Goodman Street
Rochester, New York 14607

Prepared For:
Monroe County Department of Parks
171 Reservoir Ave
Rochester, New York 14620

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TO ALL BIDDERS OF RECORD:

The Contractor/Bidder shall acknowledge in writing on his bid proposal for the receipt of this Addendum. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICAITON.

This Addendum shall be part of the Specifications and Drawings for this project and shall be part of the actual contract documents to complete the work. When the Landscape Architect / Engineer issues an Addendum, it is the Bidders responsibility to copy and insert an Addendum into the bid documents they have obtained from the Owner.

SPECIFICATIONS AND RELATED DOCUMENTS ITEMS:

ITEM DESCRIPTION

Item No. 1: Specifications, Proposal, Page P-1

ADD:
Proposal, Page P-1, SECOND

Milestone: **Building weather tight** No. of Days: 174

Item No. 2: Specifications, Proposal, Page P-2

ADD:
Proposal, Page P-2, THIRD

Milestone: **Building weather tight** Liq. Damages: $250.00/day.

Item No. 3: Specification section 02200 EARTHWORK, Section 1.06, item H.,2.

DELETE:

c. "A copy of all available subsurface soil data is available for inspection at the office of Environmental Design & Research for information only."

ADD:

c. A copy of all available subsurface soil data used is provided under separate cover for information only. This information is not to be considered a part of the Contract Documents.

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

January 13, 2011

Environmental Design & Research
274 North Goodman Street
Rochester NY 14607

Attention: Tom Robinson, LEED AP
Sr. Project Manager

Reference: Lincoln Park Lodge
Smith Road, Penfield, New York
Geotechnical Evaluation, 3487.0

Dear Mr. Robinson:

This report summarizes our Geotechnical Evaluation for the referenced project. The project consists of a new Lodge/Shelter to replace the existing 'Quonset Hut' along the waterfront. New parking lots will be added and the access road will be repaved. The access road is to be paved with its width limited to about a single lane. The parking lots will consist of some type of permeable pavement or a gravel surface. The new structure will be two stories and include meeting space, etc. Part of the first floor and the entire second floor will be available for use 'year round'; the majority of the first floor will be used as boat storage for summertime activities. Column loads are expected to generally be between 50 kips and 100 kips. Finished floor is expected to be near elevation 254. This blends fairly well with the existing grades.

We based our conclusions on recent test boring exploration, our experience at the adjacent development, U.S.G.S. and N.Y.S.D.O.T topographic and geologic mapping, conceptual plans, and consultation with the design team. We intend the conclusions and recommendations outlined in this report exclusively for the design and construction of this project.

335 Colfax Street, Rochester, NY 14606 • Tel: 585 458-0824 • Fax: 585 458-3323 • foundationdesignpc.com

The site is a bay-front site consisting of a flat bench set at about elevation 252 to 254. The access road is fairly steep, dropping from elevation 300+ at the sewer plant down to the waterfront. The road runs alongside an existing swale/drainage way. Some signs of erosion into the swale were evident during our field exploration despite the snow covered ground. A *General Location Plan*, depicting the site on N.Y.S.D.O.T. topographic mapping, is attached.

The exploration program consisted of six soil borings drilled by Nothnagle Drilling on December 22, 2010. Soil boring locations and elevations were laid out by Doug Magde, LS, the project surveyor. Soil borings were advanced to depths of six feet (roadway) to twenty-six feet (structure). Nothnagle also installed a 4 inch diameter solid PVC pipe at the two parking lot test holes. We saturated the soil beneath the pipes on December 22 and returned on December 23 to perform falling head permeability/infiltration tests.

We also subcontracted with CME Associates, Inc. to perform laboratory analysis of soil samples we selected. The testing program consisted of three sieve analyses, four moisture content tests, and four organic content tests. The test results are discussed below. The CME Associates, Inc. laboratory report is also attached.

The two falling head permeability/infiltration tests were performed in accordance with the *Infiltration Testing Requirements* found in the *New York State Stormwater Management Design Manual Appendix D.* In brief, this method requires that a solid casing be installed and then water infiltrated through the bottom of the pipe. Nothnagle Drilling installed 4-inch diameter solid PVC casings to five feet below grade at bore holes B10-3 and B10-4. Falling head testing (introducing water into the well and recording time for it to dissipate) was performed at both holes. At B10-3, the percolation was very slow (⅛ inch in eight minutes) so a rising head test was attempted by pumping water out of the PVC pipe and watching for 'recharge'. Here the water table remained steady at the pumped-to elevation for 10 minutes. At B10-4 the test proceeded as per our general expectations.

Table No. 1 – Infiltration Test Results

Test Location	Infiltration Rate
B10-3	N/A
B10-4	423 in/hr

The following interpretations of the soil, bedrock, and groundwater conditions are based on the test pits, our site observations, and previous work in the area. See the attached logs for soil descriptions at the test locations. Variations from the inferred profile are possible. Contact us immediately if variations are found during construction so we may evaluate the impact on our recommendations.

The encountered soils varied across the site. Along the roadway soils consisted of loose to firm sand and silt that was wet at a depth of four to six feet. A six inch crushed stone layer was noted at B10-2. At boring B10-3 (the north parking lot, potentially a gravel lot) soils consisted of loose to firm, wet fine sand and silt with organics. Moist, but not wet, black topsoil was noted below a depth of 5.5 feet. The surface vegetation in this area appears wet. We cannot say if the surficial wet sand is a 'fill' or a result of an old slump off the natural hillside. Here, we believe that the topsoil material is of low permeability and is causing the surface water to 'perch'. This explains the low/nil infiltration test. Soils at the south, paved lot (B10-4) were loose, coarse to fine sand and silt. No underlying confining layer was noted to a depth of eight feet and moisture conditions increased with depth. A sieve analysis classified the soil as an SP or poorly graded sand. This correlates with the rapid infiltration rate measurement.

At the building location (boring B10-5 and B10-6) soils were similarly loose to firm fine sand/silt near the surface. Wood and then sand with wood and marl were noted to a depth of eight feet at the eastern boring, B10-6. Closer to the bay (B10-5) a peat layer and then a layer of topsoil almost six feet thick extended to about 15 feet below grade. A typical sample of this topsoil contained 7.7 percent by weight organics (15 to 20 percent by volume) and a moisture content of 52.2 percent. Beneath this the clean fine sand was very loose (the hammer sunk into the soil without applying any blows). Soils transitioned to a compact red-brown gravel and sand below a depth of twenty four feet. We classified this material as a glacial till strata that we expect to be continuous to the underlying bedrock.

Bedrock was not encountered in the test borings. We estimate that the depth to bedrock is over 100 feet below the surface. Geologic mapping shows bedrock as the Medina Group or Queenston Formation consisting of shale and sandstone.

Groundwater consisting of water perched in the soils was generally coincident with the nearby bay level and/or perched above the topsoil layers.

It is our opinion that the loose in-place soil and organics are not suitable to support the proposed foundations or floors. Overtime, the organics will continue to decompose slowly and consolidate under the new structural loading. This could lead to unacceptable cracking and differential settlement of both walls and the floor slab. The existing lightly loaded structure is fairly flexible and insensitive to movement; the new structure will be heavier and will more readily show distortion/settlement.

We considered spread footing foundations bearing below the organics but discounted this because the lower soil is very loose/soft and near the level of the bay. The allowable bearing pressure would be very limited and controlling the groundwater flow during construction would be cost prohibitive. We conclude that the structure should be supported on helical piles bearing on the glacial till.

We believe that the north parking lot is a good candidate for a gravel lot. The organics are of a depth that they may result in surface settlement but these should not be significant in a gravel-surface application. The south lot has enough soil cover over the noted organics that conditions herein will be more 'typical'.

Lastly, the roadway soils are potentially erosive under water action. Mitigation measures should be added to the site plan to control water flow and protect the surface of the adjacent slope.

Based on this background, we recommend the following:

1. Demolish the existing structure. Remove the in-place foundations, floor slab, and sub-floor utilities (if any) from within the new building footprint.

   Strip topsoil from building, sidewalk, and pavement areas. Waste excess topsoil in berms or other landscaping. We recommend that we observe proof-rolling of the pavement subgrade prior to placing new structural fill. This will allow us to confirm the nature of the soils located between the test borings. The contractor should provide a loaded ten-wheel truck or similar heavy construction equipment as requested for proof-rolling of the subgrades. Rework or replace areas that rut, weave, quake, or are otherwise deemed unsuitable.

2. Support the new structure on a helical screw pile system. Helices size/spacing and installation methodologies are somewhat proprietary so there will need to be a certain amount of submittal review and commentary. Allow the contractor flexibility in terms of size and helix configuration (subject to our review). That being said, we expect that 2⅞ inch diameter pipes (0.217″ wall thickness) installed with one or two helices will bear at a depth of 25 to 30 feet and develop a working capacity of 40 kips in down pressure. A larger pipe, such as 3½ inch (0.254″ wall thickness) would develop a working capacity of 60 kips (down pressure). Uplift capacities will be significantly less; let us know if they are needed. Pile layout should be by the project surveyor and the tolerance for installed piles shall be within two inches of the plan location.

3. Pile installation involves a fair amount of experience and judgment. We require a load test of the first two piles. This will calibrate the equipment to the piles and the ground conditions. The test should generally comply with ASTM D1143, Standard Test Method for Piles under Axial Load. Add piles or adjust pile cap plate size or configuration as needed because of field conditions at no additional cost to the owner. Lastly, retain Foundation Design to monitor the pile test and production pile installation work to review/witness the installation torque and prepare an as-built pile installation log.

4. The NYS Building Code identifies various seismic design coefficients. At this site the Code requires that structures be designed to resist seismic forces developed based on a short period spectral response acceleration (S_S) of 0.199g and 1-second period acceleration (S_1) of 0.058g for a site classification of B. We identify the site as having a Site Classification E, soft soil profile. The Code provides a method to convert the response accelerations from the site class B values to a site classification of E. We analyzed the soil profile and the expected seismic load and judge that the sands are not subject to liquefaction under expected loads.

5. The paved parking lot and roadway section can be fairly 'typical'. Use a CBR value of 5 or a Resilient Modulus, Mr, value of 3,000. Proof-roll the exposed subgrade prior to installing the subbase section. For the roadway we do recommend cross-drains at intervals of 200 feet or less to remove water from the subbase. In addition, rebuild the existing crossing storm drain and armor the slope surface to prevent erosion.

6. Perform trenching and excavating in accordance with the Occupational Safety and Health Administration (OSHA) requirements and New York State Building Code Standards. The contractor is responsible for determining the measures required in meeting these standards. Cut unsupported temporary excavations to a stable slope, but in no case steeper than 1 horizontal on 1 vertical.

   Expect groundwater seepage to result in soil migration/quick conditions when excavating into the wet sand zone. The loose to firm sand exposed during the excavations may migrate with the water flow. Where saturated sand is encountered in sanitary/storm pipe trenches, undercut the wet soil and place extra bedding material. Use a filter fabric as conditions warrant.

7. The NYS Building Code requires special inspection services. The primary geotechnical Special Inspection will be the described pile installation inspection. We will also be available for proof-rolling and other soils-related consultation.

This concludes our design phase services. We are available to answer questions that you may have about the data or interpretations of the soil, bedrock, and groundwater conditions.

Very truly yours,

FOUNDATION DESIGN, P.C.

James M. Baker, P.E.
President

STATE OF NEW YORK
JAMES M. BAKER
073043
LICENSED PROFESSIONAL ENGINEER

Enc.

Cc: Cathy Baker, P.E. Herrick-Saylor
Steve Takatch, A.I.A. Architectura

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

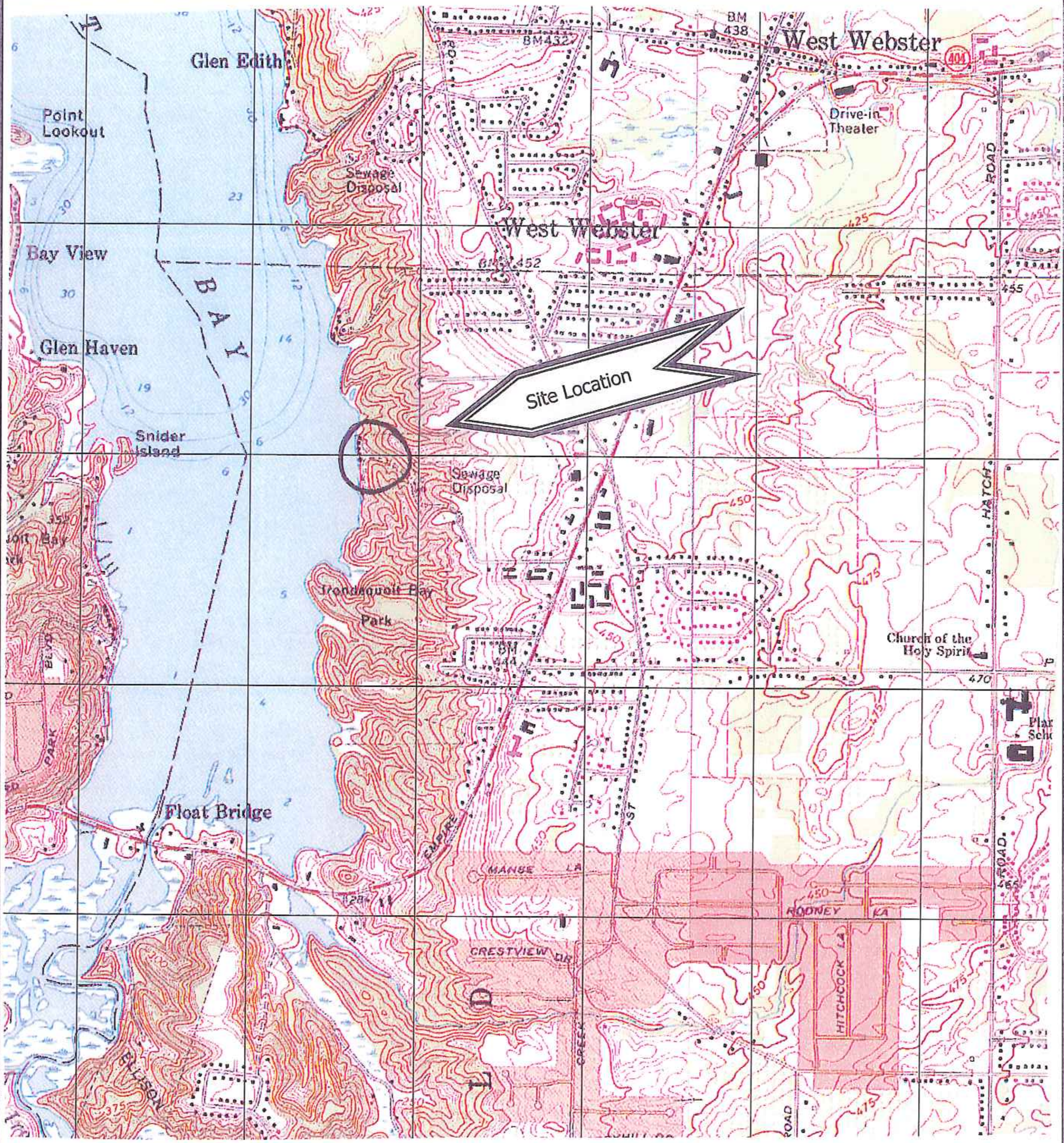
Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE THE GEOPROFESSIONAL BUSINESS ASSOCIATION

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

IIGER09105.0MRP

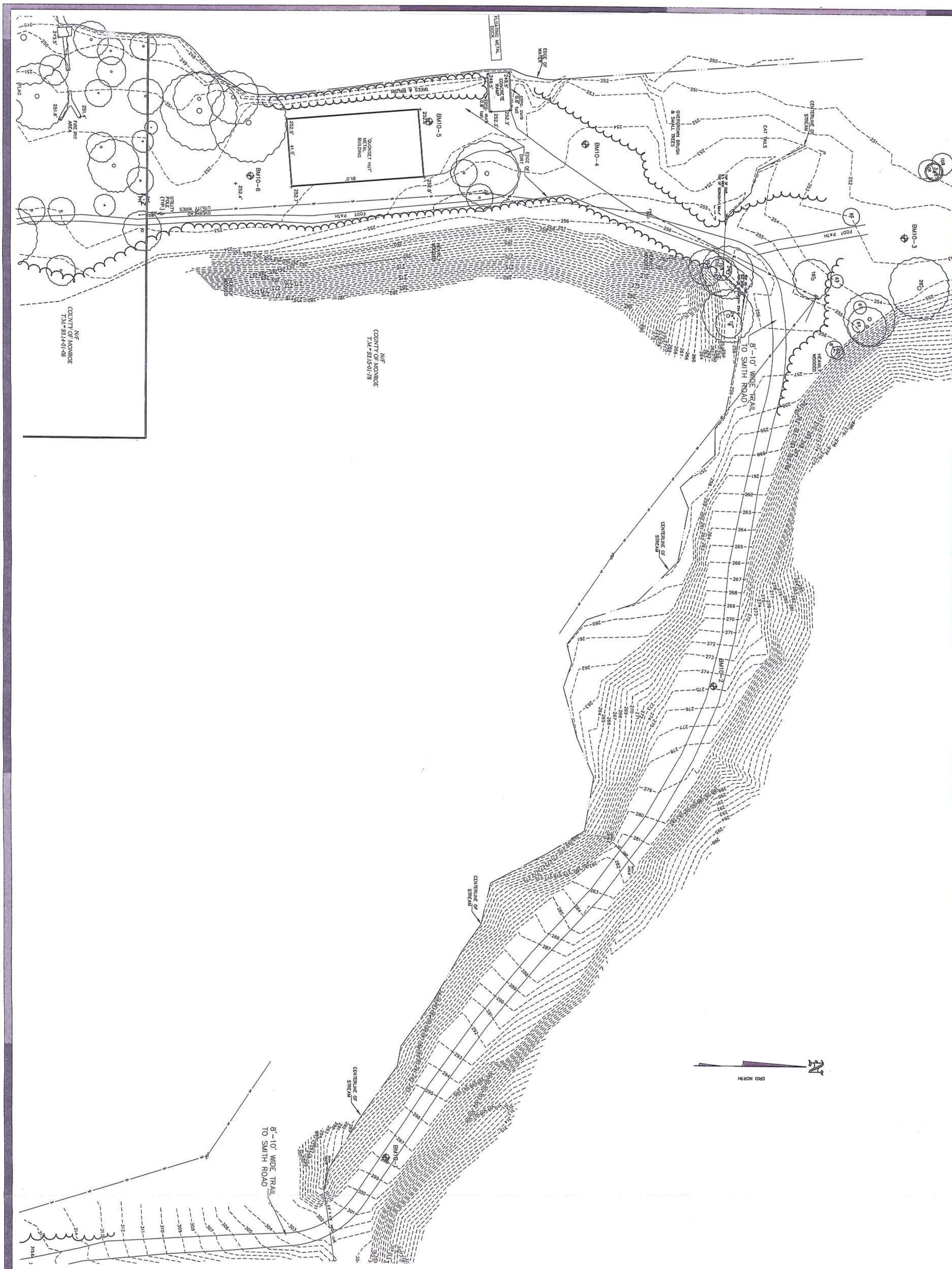


Foundation Design, P.C.

335 Colfax Street
Rochester, New York 14606
Phone (585) 458-0824
FAX (585) 458-3323

Lincoln Park Lodge
Penfield, New York
General Location Plan
Adapted from: 1978 N.Y.S.D.O.T. Topographic Mapping
Rochester East and Webster Quadrangles

CHECKED BY: JMB
DRAWN BY: AMS
Scale 1"= 2,000'
DATE: 12/30/10
JOB NO.: 3487.0



Foundation Design, P.C.

335 Colfax Street
Rochester, New York 14606
Phone (585) 458-0824
FAX (585) 458-3323

Lincoln Park Lodge

Smith Road, Penfield, New York

Boring Location Plan

Adapted from: Magde Survey Site Drawing

CHECKED BY: JMB	Scale 1" ~ 60'	DATE: 01-13-11
DRAWN BY: AMS		JOB NO.: 3487.0

NOTHNAGLE *DRILLING, INC.*

1821 Scottsville-Mumford Road
Scottsville, New York 14546
(585) 538-2328
Fax (585) 538-2357

REFUSAL — Depth in boring where more than 150 blows per foot are needed to advance the sample spoon.

COHESIVE SOIL — Very fine grain soils with appreciable dry strength. Plastic-can be rolled into a thin thread when damp with no apparent water movement. Clays and silty to sandy clays show cohesion.

DESCRIPTION	PENETRATION RESISTANCE BLOWS/FOOT
Very Soft	0-2
Soft	3-5
Medium	6-15
Stiff	16-25
Hard	26 or more

NON-COHESIVE SOIL — Soils composed of silt, sand and gravel, show no cohesion and only slight plasticity.

DESCRIPTION	PENETRATION RESISTANCE BLOWS/FOOT
Loose	0-10
Firm	11-25
Compact	26-40
Dense	41-50
Very Dense	51 or more

COMPOSITION	ESTIMATED PERCENTAGE
And	50
Some	30-49
Little	11-29
Trace	0-10

NOTE: WE CANNOT BE RESPONSIBLE FOR INTERPRETATIONS OR OPINIONS MADE BY OTHERS FROM THE ENCLOSED DATA.

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B10-1

ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 298.45 Start: 12/22/10 Completed: 12/22/10 Driller: N. Short
Water Level - During Drilling: 3'10" Inspector:
Water Level - At Completion: 3'6"
Seasonal and climatic changes may alter observed water levels.

Depth (ft)	C	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Sample N	Rec.	No.	Depth	Visual Soil and Rock Information Remarks
0		6	7							Firm brown damp medium to fine sand and silt, little coarse to fine gravel
				6	6	13	17"	1	0'0"-2'0"	
		4	4							Firm brown wet — 3'10"
				7	10	11	21"	2	2'0"-4'0"	Firm red damp find sand and silt, some medium to fine gravel
5		8	8							
				9	9	17	20"	3	4'0"-6'0"	Firm wet red — 6'0"
10										
15										Boring terminated at 6'0" Advanced test boring with 2" split spoon sampler. Boring backfilled on completion.
20										
25										
30										
35										
40										

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive__ Casing___with___ lb. Wt.___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 274.75 Start: 12/22/10 Completed: 12/22/10 Driller: N. Short
Water Level - During Drilling: 4'0" Inspector: ____
Water Level - At Completion: 4'0
Seasonal and climatic changes may alter observed water levels.

	C	Blows on Sampler 0"/6"	6"/12"	12"/18"	18"/24"	Sample N	Rec.	No.	Depth
0		6	5						
				5	6	10	20"	1	0'0"-2'0"
		5	6						
				5	5	11	24"	2	2'0"-4'0"
5		7	4						
				4	4	8	24"	3	4'0"-6'0"
10									
15									
20									
25									
30									
35									
40									

Visual Soil and Rock Information Remarks

- Crushed stone — 0'6"
- Loose brown damp fine sand, little silt
- Firm brown moist — 4'0"
- Loose brown wet coarse to fine sand, trace silt — 6'0"

Boring terminated at 6'0"
Advanced test boring with 2" split spoon sampler.
Boring backfilled on completion.

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive __ Casing ___ with ___ lb. Wt. ___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B10-3

ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation 252.15 Start 12/22/10 Completed 12/22/10 Driller N. Short
Water Level - During Drilling 4'0" Inspector
Water Level - At Completion 4'0
Seasonal and climatic changes may alter observed water levels.

Depth	C	Blows on Sampler 0"/6"	6"/12"	12"/18"	18"/24"	Sample N	Rec.	No.	Depth	Visual Soil and Rock Information Remarks
0		1	2							
				3	3	5	24"	1	0'0"-2'0"	Loose brown moist fine sand and silt, little organics
		3	3							
				3	4	6	24"	2	2'0"-4'0"	Loose brown wet
5		2	1							Loose brown saturated (no organics) 5'6"
				1	1	2	24"	3	4'0"-6'0"	
		2	2							Loose black moist topsoil
				2	3	4	11"	4	6'0"-8'0"	Loose black moist 8'0"
10										
15										
20										
25										
30										
35										
40										

Boring terminated at 8'0"
Advanced test boring with 2" split spoon sampler.
Boring backfilled on completion.
Moved adjacent to bore hole and installed 4" PVC perk test pipe to 5'0".

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive__ Casing___with___ lb. Wt.___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 253.5 Start: 12/22/10 Completed: 12/22/10 Driller: N. Short
Water Level - During Drilling: 6'0" Inspector: ______
Water Level - At Completion: 6'0
Seasonal and climatic changes may alter observed water levels.

Depth (ft)	C	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Sample N	Rec.	No.	Depth	Visual Soil and Rock Information Remarks
0		2	2	3	3	5	19"	1	0'0"-2'0"	Loose brown damp medium to fine sand, some silt, little organics 2'0"
		2	3	5	5	8	17"	2	2'0"-4'0"	Loose tan damp coarse to fine sand
5		2	3	3	4	6	24"	3	4'0"-6'0"	Loose tan damp 6'0"
		1	1	1	2	2	24"	4	6'0"-8'0"	Loose brown saturated fine sand 8'0"
10										
15										
20										
25										
30										
35										
40										

Boring terminated at 8'0"
Advanced test boring with 2" split spoon sampler.
Boring backfilled on completion.
Moved adjacent to bore hole and installed 4" PVC perk test pipe to 5'0".

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive__ Casing___with___ lb. Wt.___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B10-5

ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 252.7 Start: 12/22/10 Completed: 12/22/10 Driller: N. Short
Water Level - During Drilling: 5'0" Inspector: ____
Water Level - At Completion: None, cave in 4'0"
Seasonal and climatic changes may alter observed water levels.

Depth	C	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Sample N	Rec.	No.	Depth
0		2	2						
				3	3	5	24"	1	0'0"-2'0"
		2	2						
				2	2	4	22"	2	2'0"-4'0"
5		2	1						
				1	1	2	24"	3	4'0"-6'0"
		WH	WH						
				WH	1	WH	0"	4	6'0"-8'0"
		1	1						
10				1	2	2	20"	5	8'0"-10'0"
		2	2						
				2	3	4	20"	6	10'0"-12'0"
		2	2						
				2	2	4	24"	7	12'0"-14'0"
15		1	2						
				3	6	5	20"	8	14'-0"-16'0"
20		WH	WH						
				WH	2	WH	20"	9	19'0"-21'0"
25		6	12						
				24	30	36	24"	10	24'0"-26'0"
30									
35									
40									

Visual Soil and Rock Information Remarks	Depth
Loose brown damp medium to fine sand, trace silt	
Loose brown damp	
Loose brown damp	5'0"
Loose brown saturated medium to fine sand (trace organics)	
No recovery sample No. 4	
Loose gray saturated fine sand	8'6"
Loose brown-gray damp peat	8'9"
Loose gray moist medium to fine sand	9'8"
Loose black moist topsoil	
Loose black moist	
Loose black moist (and peat)	
Loose black-brown moist	15'6"
Loose brown moist find sand and silt	19'0"
Loose brown saturated fine sand, trace silt	24'0"
Compact red-brown wet coarse to fine gravel, some coarse to fine sand and sandstone fragments	26'0"

Boring terminated at 26'0"
Advanced test boring with hollow stem auger casing.
Boring backfilled on completion.

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive __ Casing ___ with ___ lb. Wt. ___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B10-6

ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 252.2 Start: 12/22/10 Completed: 12/22/10 Driller: N. Short
Water Level - During Drilling: 6'0" Inspector:
Water Level - At Completion: 6'0"
Seasonal and climatic changes may alter observed water levels.

Depth (ft)	C	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Sample N	Rec.	No.	Depth	Visual Soil and Rock Information Remarks
0		2	2	2	4	4	24"	1	0'0"-2'0"	Loose brown damp fine sand, some silt
		4	2	2	4	4	24"	2	2'0"-4'0"	Loose brown damp — 4'0"
5		19	20	4	4	24	13"	3	4'0"-6'0"	Wood — 5'0"
		4	5	4	5	9	12"	4	6'0"-8'0"	Firm gray saturated medium to fine sand, little wood, trace marl Loose gray saturated — 8'0"
10		2	2	1	2	3	7"	5	8'0"-10'0"	Loose gray wet fine sand, trace silt
		4	4	4	5	8	24"	6	10'0"-12'0"	Loose wet brown — 12'0"
15										
20										
25										
30										
35										
40										

Boring terminated at 12'0"
Advanced test boring with hollow stem auger casing.
Boring backfilled on completion.

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive __ Casing __ with __ lb. Wt. __ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

CME Associates, Inc.

385 Sherman Street
Rochester, New York 14606
(585) 254-8740
(585) 254-1351 (Fax)

www.cmeassociates.com

December 29, 2010

Foundation Design, P.C.
335 Colfax Street
Rochester, New York 14606

Attn: Jeff Netzband

Re: Lincoln Park Lodge
Foundation Design No.: 3487.0
CME Report No.: 36757S-56-1210

Dear Mr. Netzband:

Enclosed please find laboratory test results for samples delivered by a representative of Foundation Design on December 27, 2010.

The samples were tested for Moisture Content, Sieve Analysis, and Organic Matter Determination, and as requested.

Please feel free to contact our office should you have any questions.

Respectfully submitted:

CME Associates, Inc.

E. Randall Holbrook
Senior Laboratory Technician

Attachments: Laboratory Test Report (1 page)
Grain Size Distribution Curve (3 pages)

/smg

CME Associates, Inc.

Laboratory Test Report

Foundation Design, P.C.
Project: Lincoln Park Lodge
(F.D. Job #3487.0)
CME Report No.: 36757S-56-1210

1) Particle Size Analysis (ASTM C-136, C-117):

	Percent Passing By Weight						
Sieve Size	B10-4; (S-3); 4' to 6'	B10-5; (S-9); 19' to 21'	B10-5; (S-10); 24' to 26'				
1 1/2"	-	-	100				
1"	-	-	92				
3/4"	-	-	89				
1/2"	-	-	77				
3/8"	-	-	66				
1/4"	-	-	57				
No. 4	-	-	52				
No. 10	-	-	41				
No. 20	100	-	35				
No. 40	99	-	32				
No. 50	91	100	29				
No. 100	30	99	20				
No. 200 (wash)	3.1	42	14				

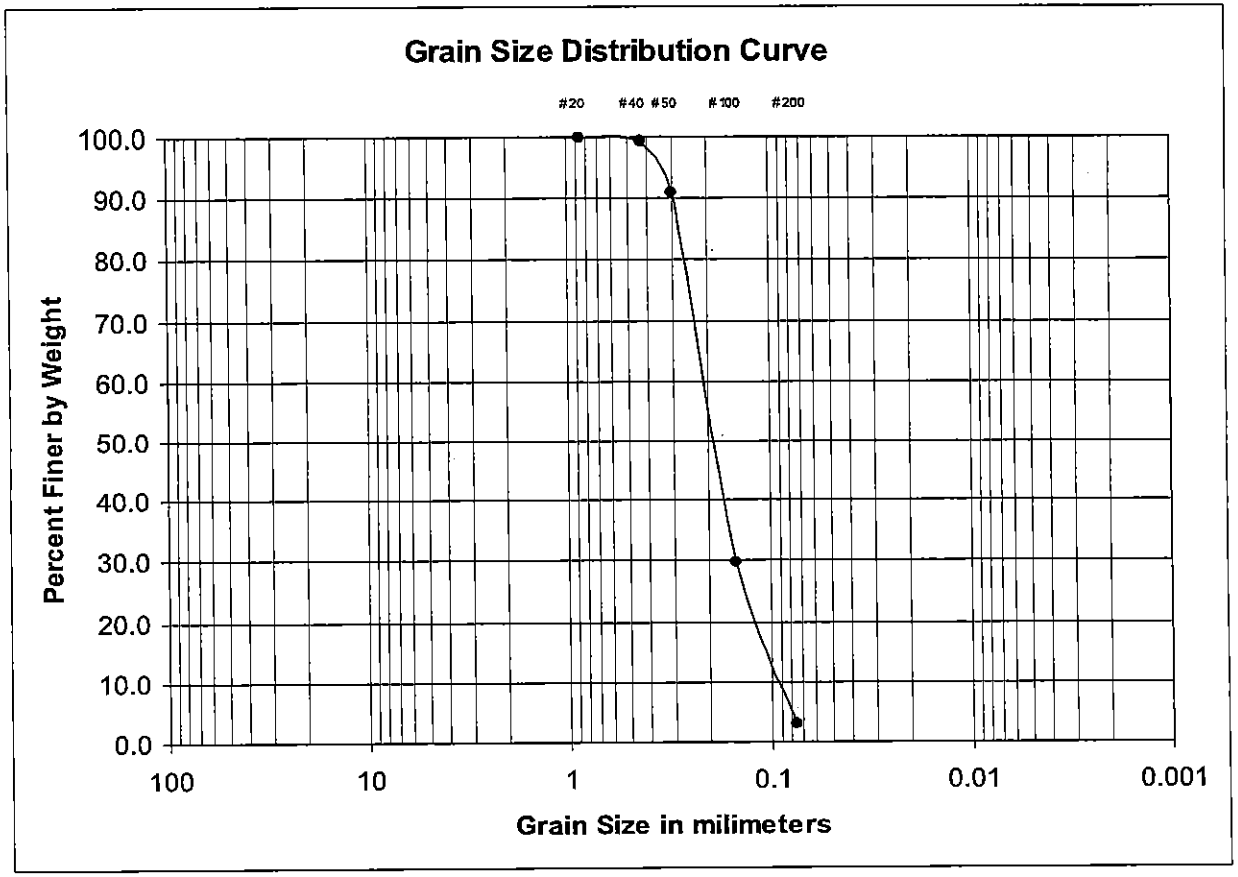
The Grain Size Distribution Curves are attached for your reference.

2) Soil Characterization Test Results (ASTM D-2974, D-2216, D-4318):

Boring No.	Sample No.	Depth (ft)	Moisture (%)	Ash (%)	Organic Matter (%)
B10-3	S-3	4' to 6'	42.5	93.8	6.2
B10-4	S-3	4' to 6'	10.8	-	-
B10-5	S-3	4' to 6'	25.4	99.8	0.2
-5	S-6	10' to 12'	52.2	92.3	7.7
-5	S-9	19' to 21'	30.2	-	-
-5	S-10	24' to 26'	9.3	-	-
B10-6	S-1	0' to 2'	12.4	98.9	1.1
-6	S-6	10' to 12'	24.0	-	-

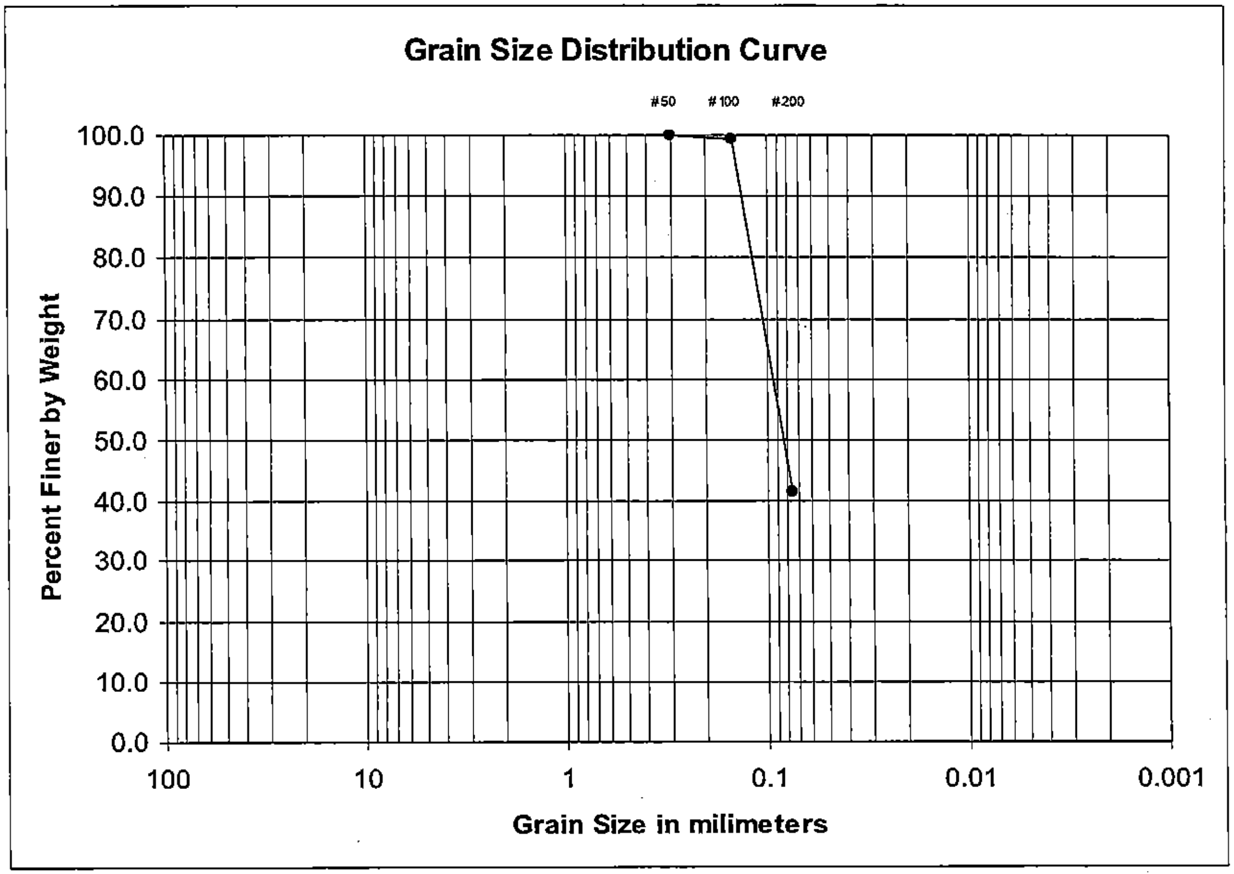
CME Associates, Inc.

CLIENT:	Foundation Design, P.C.	REPORT No.:	36757S-56-1210
PROJECT:	Lincoln Park Lodge (F.D. Job #3487.0)	SAMPLE No.:	RL9611
SAMPLE LOCATION:	B10-4; S-3; 4' to 6'	DATE DELIVERED:	12/27/10
		PAGE:	1 of 3
SOIL CLASSIFICATION:	Brown mf SAND, trace SILT		



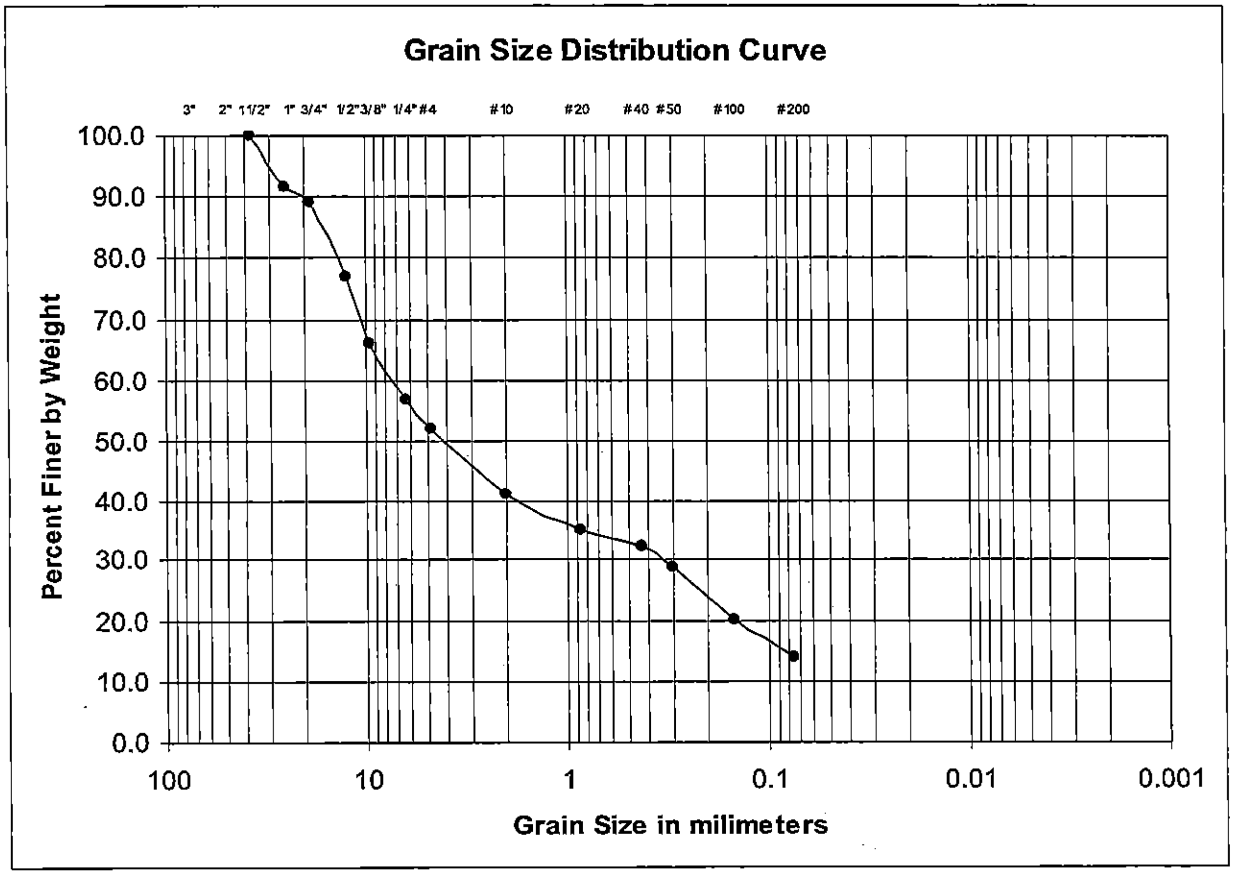
CME Associates, Inc.

CLIENT:	Foundation Design, P.C.	**REPORT No.:**	36757S-56-1210
PROJECT:	Lincoln Park Lodge (F.D. Job #3487.0)	**SAMPLE No.:**	RL9611
SAMPLE LOCATION:	B10-5; S-9; 19' to 21'	**DATE DELIVERED:**	12/27/10
		PAGE:	2 of 3
SOIL CLASSIFICATION:	Brown f SAND, and SILT		



CME Associates, Inc.

CLIENT:	Foundation Design, P.C.	**REPORT No.:**	36757S-56-1210
PROJECT:	Lincoln Park Lodge (F.D. Job #3487.0)	**SAMPLE No.:**	RL9611
SAMPLE LOCATION:	B10-5; S-10; 24' to 26'	**DATE DELIVERED:**	12/27/10
		PAGE:	3 of 3
SOIL CLASSIFICATION:	Brown cmf GRAVEL, and cmf SAND, little SILT/CLAY		



Foundation Design, P.C.
SOIL • BEDROCK • GROUNDWATER

March 10, 2011

Environmental Design & Research
274 North Goodman Street
Rochester NY 14607

Attention: Tom Robinson, LEED AP
Sr. Project Manager

Reference: Lincoln Park Lodge
Smith Road, Penfield, New York
Geotechnical Slope Evaluation, 3487.1
(Addenda to Design Report 3487.0)

Dear Mr. Robinson:

This report summarizes our Geotechnical Evaluation for the new roadway at the referenced project. We undertook this evaluation to review conditions at the 'pinchpoint' in the roadway/slope configuration and discuss its stability. This area shows the steepest current slope and most surface degradation over the life of the roadway/slope. We did not investigate conditions along the remainder of the roadway alignment nor those upslope from the roadway. Our recommendations are intended to help stabilize the slope in its 'current' configuration and not to address its long-term, overall/global stability.

The roadway is generally a gravel road that has likely been in place for more than 50 years. It currently serves the Quonset Hut at the bay and formerly served one or more residences, also at the bayfront. The downslope is about 15 feet to 20 feet in height over a horizontal distance of about 20 feet. While we have not seen the slope when it was not covered in snow it is apparent that localized erosion has been occurring. This has caused a minor gully to develop. The roadway has a ditch along the upslope (north) side that crosses the roadway at the 'pinchpoint' via a drainpipe. Water flow from the drainpipe has eroded the slope at the end of the pipe such that two to three feet of the pipe are now cantilevered out from the slope ('hanging' in the air). The creek at the toe of the slope is somewhat seasonal with limited flow volume. Some dense, 'cobbley' soil and bedrock are exposed along the creekbed and the lower few feet of the slope.

To investigate subsurface conditions sear this we advanced two soil borings along the roadway, one at the uphill side of the slope and one at the downhill side. (See the attached location plan and boring logs.) The logs show that the natural slope consists of firm medium-fine sand with cobbles. More competent soils were encountered below a depth of about thirteen feet. The soil borings encountered refusal, likely on bedrock, between thirteen and fourteen feet below grade. At the downhill boring, B11-8, soils were very loose to a depth of about six and a half feet. We suspect that this was fill placed to create the level roadway. We did not see a readily discernable topsoil layer at the implied fill/native soil interface.

The silty/sandy soils were generally wet or saturated below depths of about five feet. The lower, more dense soil was classified as 'moist' so we suspect that the groundwater perches above this dense layer and moves downslope through the soil.

We analyzed the slope configuration using estimated soil strength properties. Our analysis showed that the critical failure surface is a 'slice' extending about five feet into the top of slope and daylighting downslope at top of the dense till soil. Using 'general condition' soil properties of $Ø=26^{o}$ and (apparent) cohesion=20 psf we estimate the factor of safety to be between 1.15 and 1.20. If we simulate a heavy, soaking rain condition (so near-surface cohesion goes to zero) the factor of safety decreases to 0.9, this slice of the slope will slide. This analysis agrees with our review of other slope 'failures' along the bay, that the slopes perform reasonably well until a major weather event reduces the near-surface soil strength. From a practical standpoint we would expect that the soils will tend to experience 'little slumps' consisting of erosion as the strength decreases rather than a single large slump.

Even the 'steady state' factor of safety, at 1.2 or less, is below 'typical slope stability standards'. We generally see highway embankments designed to conditions where the factor of safety is 1.3 to 1.5. There are ways to do this with the in-place slope. These would consist of some type of wall and anchor system. Given the general stability observed over the life of the roadway and its (expected) low-volume expected we do not expect that a cost-benefit analysis would show that major improvements to the slope to raise the factor of safety are worthwhile. Review this 'risk/cost management' issue with the County. We do feel it worthwhile to make surficial and drainage improvements to reduce the likelihood of soil strength loss and limit future erosion. We recommend the following:

1. Reduce drainage that moves towards the slope. Redirect the flow away from the current drainpipe by continuing the uphill ditch down the roadway and removing the in-place drainpipe. Pitch underdrains and the surface of the roadway towards the uphill slope. Require that the removed pipe be backfilled with silty soil similar to the existing material (so the trench does not continue as a water flow conduit). Require that the subgrade pitch be confirmed as part of the construction. Backfill any undercuts required for subgrade stability in this area with silty soil, similar to the existing material.

2. In-fill the steepest portions of the slope and the slumped area. Work towards a 2H to 1V slope if grades allow. (Any widening/fattening of the slope should be a help.) Use a silty/sandy soil similar to the existing material. Place and compact this material to structural standards, 95% compaction and confirmed via field testing. In terms of the fill placement, begin placement on a flat/level bench (either at the toe of slope or cut into the existing slope, as appropriate.) Require that the slope be constructed by benching into the existing material. Use three foot tall/wide benches into the slope and lift thicknesses of eight to twelve inches. Overfill the face of the slope by about two feet and then cut it back to final grade as the construction proceeds uphill. The benching and this overfilling are

intended to facilitate level fill placement/compaction by modest to large compaction equipment.

3. Cover the slope surface with an erosion-control mat to maintain the surface until plantings can take root. Use a vegetation similar to the existing native plants and schedule the work such that initial root growth can occur prior the the onset of winter.

4. Armor the base of the slope with rip-rap. It appears that 15" to 24" –sized pieces of aggregate would likely be large enough to resist typical flow volumes in the creek. Demolish the existing structure.

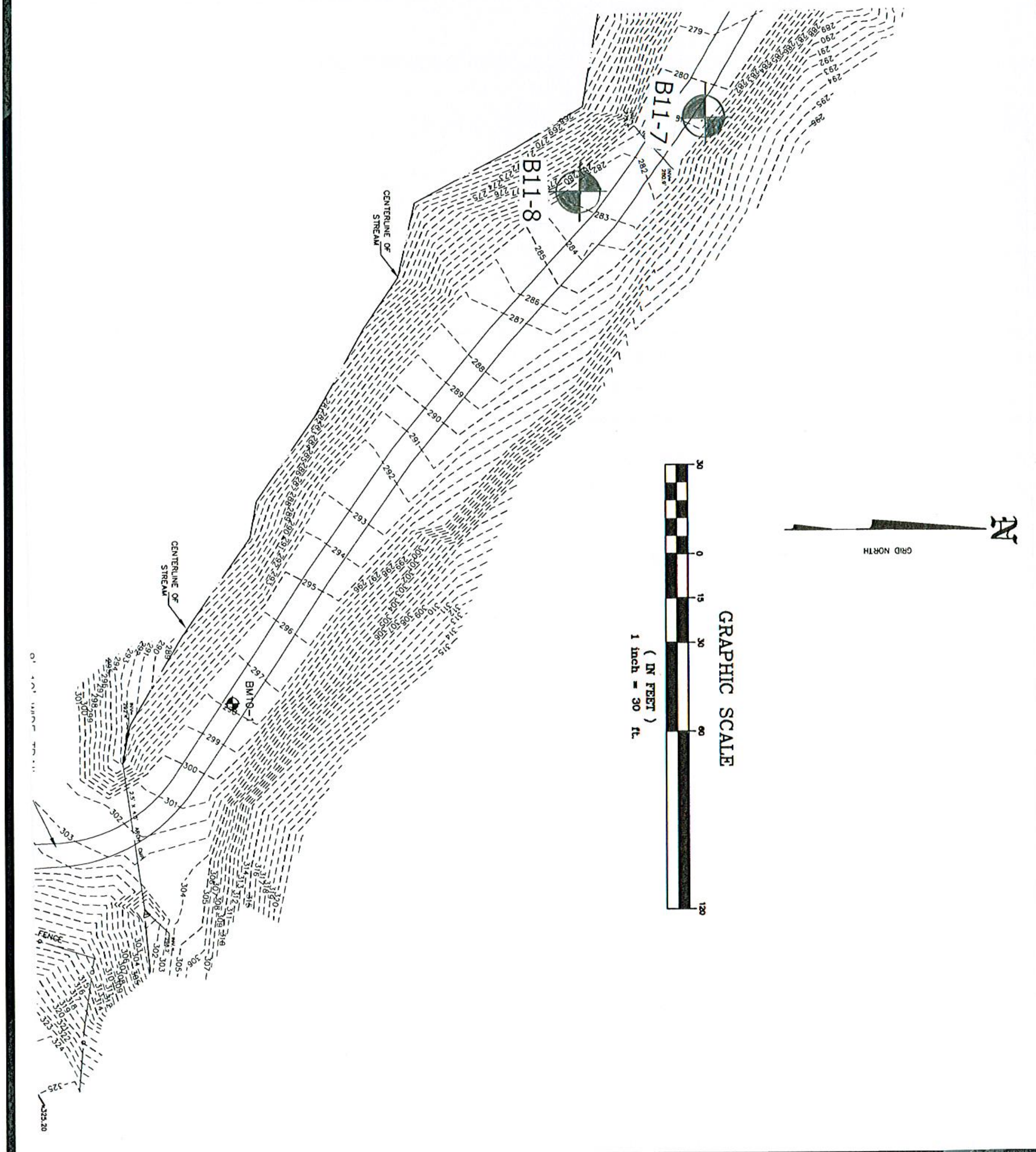
This concludes this presentation of our slope analysis. Again, we present it as an addenda to our January 13, 2011 design report and refer you to that document, as well. We remain available to answer questions that you may have about the data or interpretations of the soil, bedrock, and groundwater conditions.

Very truly yours,

FOUNDATION DESIGN, P.C.

James M. Baker, P.E.
President

Enc.



Foundation Design, P.C.

335 Colfax Street
Rochester, New York 14606
Phone (585) 458-0824
FAX (585) 458-3323

Lincoln Park Lodge

Smith Road, Penfield, New York

Slope Analysis Boring Location Plan

Adapted from: Magde Survey
Site Drawing

DRAWN BY:	**EAA**	Scale as indicated	**DATE: 03-10-11**
CHECKED BY:	**JMB**		**JOB NO.: 3487.0**

NOTHNAGLE *DRILLING, INC.*

1821 Scottsville-Mumford Road
Scottsville, New York 14546
(585) 538-2328
Fax (585) 538-2357

REFUSAL	Depth in boring where more than 150 blows per foot are needed to advance the sample spoon.
COHESIVE SOIL	Very fine grain soils with appreciable dry strength. Plastic- can be rolled into a thin thread when damp with no apparent water movement. Clays and silty to sandy clays show cohesion.

DESCRIPTION	PENETRATION RESISTANCE BLOWS/FOOT
Very Soft	0-2
Soft	3-5
Medium	6-15
Stiff	16-25
Hard	26 or more

NON-COHESIVE SOIL	Soils composed of silt, sand and gravel, show no cohesion and only slight plasticity.

DESCRIPTION	PENETRATION RESISTANCE BLOWS/FOOT
Loose	0-10
Firm	11-25
Compact	26-40
Dense	41-50
Very Dense	51 or more

COMPOSITION	ESTIMATED PERCENTAGE
And	50
Some	30-49
Little	11-29
Trace	0-10

NOTE: WE CANNOT BE RESPONSIBLE FOR INTERPRETATIONS OR OPINIONS MADE BY OTHERS FROM THE ENCLOSED DATA.

NOTHNAGLE *DRILLING*, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B11-7
Page 1 of 1
ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 281.6 Start: 3/1/11 Completed: 3/1/11 Driller: J. Schweitzer
Water Level - During Drilling: 6'0" Inspector:
Water Level - At Completion: 10'3", Cave in 10'6"
Seasonal and climatic changes may alter observed water levels.

Depth (ft)	C	Blows on Sampler 0"-6"	6"-12"	12"-18"	18"-24"	Sample N	Rec.	No.	Depth	Visual Soil and Rock Information Remarks
0		2	3							Firm brown damp medium to fine sand, little medium to fine gravel (cobble @ 1'7") 2'0"
				9	8	12	16"	1	0'0"-2'0"	
		3	6							Firm brown-red moist medium to fine sand, some medium to fine gravel, trace silt
				7	6	13	18"	2	2'0"-4'0"	
5		4	14							
				15	10	29	9"	3	4'0"-6'0"	Compact brown-red moist
		8	8							
				6	7	14	18"	4	6'0"-8'0"	Firm brown-red wet
		6	7							Firm brown-red wet (cobbles noted 8'3" and 9'5") (difficult drilling 8'0" - 13'0") 13'0"
10				13	18	20	15"	5	8'0"-10'0"	
										Very dense brown-red moist medium to fine sand and silt, some medium to fine gravel and weathered bedrock fragments. 13'10"
		26	100/3			100/3	8"	6	13'0"-13'10"	
15										
20										
25										
30										
35										
40										

Boring terminated at 13'10"
Advanced test boring with hollow stem auger casing.
Boring backfilled on completion.

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive___ Casing___with____ lb. Wt.___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations

NOTHNAGLE DRILLING, INC.
1821 Scottsville-Mumford Road
Scottsville, New York 14546
Phone (585) 538-2328
Fax (585) 538-2357

Test Boring No. B11-8

ND Job # 3494-10

Project: Proposed Lodge, Abraham Lincoln Park, Town of Penfield, Monroe County, New York
Client: Foundation Design, P.C., 335 Colfax Street, Rochester, New York 14606
Elevation: 283.2 Start: 3/1/11 Completed: 3/1/11 Driller: J. Schweitzer
Water Level - During Drilling: 6'0" Inspector:
Water Level - At Completion: 11'2", Cave in 11'4"
Seasonal and climatic changes may alter observed water levels.

Depth (ft)	C	Blows on Sampler 0"–6"	6"–12"	12"–18"	18"–24"	Sample N	Rec.	No.	Depth
0		WH	WH						
				WH	1	WH	14"	1	0'0"-2'0"
		1	WH						
				1	WH	1	21"	2	2'0"-4'0"
5		WH	WH						
				WH	1	WH	18"	3	4'0"-6'0"
		3	5						
				9	9	14	18"	4	6'0"-8'0"
		8	25						
10				13	8	38	10"	5	8'0"-10'0"
		7	50/2			50/2	3"	6	13'0"-13'8"
15									
20									
25									
30									
35									
40									

Visual Soil and Rock Information Remarks

Loose brown wet medium to fine sand, some organics, little medium to fine gravel
Loose brown wet (trace silt and organics)
Loose brown wet
Firm brown saturated (cobble @ 7'6") 8'0"

Compact red-brown wet medium to fine sand, some silt and medium to fine gravel and weathered bedrock fragments. (difficult drilling 8'0" - 13'0")
Very dense red-brown moist
Advanced augers to refusal 13'8"

Boring terminated at 13'8"
Advanced test boring with hollow stem auger casing.
Boring backfilled on completion.

N=No. of Blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow
C=No. of Blows to Drive __ Casing ___ with ___ lb. Wt. ___ Ea. Blow
Transitional Depths are Estimated Based on Field Observations