

REPORT OF SUBSURFACE EXPLORATIONS
AND GEOTECHNICAL ENGINEERING
EVALUATIONS

FOR

PROPOSED DEWIT COMMUNITY LIBRARY
5146 JAMESVILLE ROAD
DEWITT, NY

PREPARED FOR

MENTER, RUDIN & TRIVELPIECE, P.C.
COUNSELORS AT LAW
308 MALTBIE, STREET, SUITE 200
SYRACUSE, NY 13204-1498



2015-09-11

PREPARED BY
JOHN P. STOPEN ENGINEERING LLP
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August 31, 2015
JPSELLP #215229.00

JOHN P. STOPEN ENGINEERING, LLP

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ASSOCIATE: CHRISTOPHER H. PITULEJ / CONSULTANTS: JOHN P. STOPEN, P.E. / JOHN SODJA, P.E.

August 31, 2015

Menter, Rudin & Trivelpiece, P.C.
Counselors at Law
308 Maltbie Street, Suite 200
Syracuse, NY 13204-1498

ATTN: Julian B. Modesti, Counselor at Law

RE: Report of Subsurface Explorations and
Geotechnical Engineering Evaluations
Proposed Dewitt Community Library
5146 Jamesville Road
Dewitt, New York
#215229.00

Dear Mr. Modesti:

This report documents our subsurface explorations and geotechnical engineering evaluations for the proposed Dewitt Community Library. Our study was based on the plans by King + King Architects Sheet L-200 dated June 24, 2016 (see Appendix A). Details of our evaluation follow.

The proposed 19,000 sq ft two-story building, with paved parking, will be constructed on an approximately 7-acre undeveloped hillside site. The site is east of Jamesville Road opposite the intersection with Quintard Road, as shown on Figure 1.

SITE DESCRIPTION

The site slopes down from about Elevation 500 ft at the northwest corner from Jamesville Road to about Elevation 440 ft near the overhead power transmission lines next to Butternut Creek that are just beyond the property line.

The Onondaga County Soil Survey mapped most of the site as "cut and fill land." Aerial photographs from the 1950's indicated the site was a clear field and noticeably lower than it is currently. This background information suggests that the surficial soils are probably disturbed. This disturbance probably occurred in the late 1960's or early 1970's. Most of

the site was overgrown with mature trees and brush at the time of our study.

PROJECT DESCRIPTION

The building will be located on the hillside as shown on Figure 2. The proposed building floor will be Elevation 484 ft. There will be a partial lower walkout level on the east side with floor at Elevation 472 ft.

Estimated maximum column loads are 300 kips. Estimated maximum wall loads are 3 kips per ft.

Paved parking has been proposed south of the proposed building. Design traffic loading was not available.

Significant regrading and excavations will be required for the building and pavement construction. To achieve the lower level floor at Elevation 472 ft, the west side will need to be excavated to depths as great as 20 ft, and the east side as deep as 6 ft. To achieve the proposed parking lot grades, the ground will have to be raised as much as 12 ft and lowered as much as 6 ft.

GEOLOGY AND SEISMICITY

Geological reports indicate that the site is on the edge of a relict glacial delta next to the Butternut Creek alluvial plain. According to the Onondaga County Soil Survey, the native soil consists of Camillus silt loam over soft-gray silty shale bedrock. The bedrock is most likely the Camillus Shale that is often a poor quality rock with gypsum seams, hollow spots, mud seams, and occasional subtle karst features. Occasionally, however, the Camillus Shale includes hard layers of limestone or dolostone.

Figure 1 indicated the lower portion of the site lies within Flood Zone C (area of minimal flooding) and in an area considered a "wetland checkzone." The portion intended for development appears to be outside the flood zone.

According to the New York State Building Code, mapped earthquake spectral accelerations for this site are $S_s=0.180g$ and $S_1 =0.061g$. These values will need to be adjusted for design according to the NYS Building Code for the Soil Profile described later in this report.

SUBSURFACE EXPLORATION AND FINDINGS

We performed subsurface explorations between August 10 and August 19, 2015. They consisted of drilling six test borings, excavating fourteen test pits with a backhoe, and performing six infiltration tests. A significant amount of clearing and road building was required to achieve access for our exploration equipment.

Test Borings TB-1 through TB-6 were drilled under our direction by our subcontractor NYEG Drilling LLC, using a track-mounted drill rig in the presence of our geotechnical engineer. The borings were advanced using hollow stem augers to depths ranging from 22 to 35 ft below grade. The locations of the test borings were as shown on Figure 2. Conditions were as shown on the Test Boring Logs in Appendix B.

The test borings identified three significant layers of subsurface materials: Fill, Silt, and Weathered Rock. Subsurface conditions within the footprint of the proposed building and paved parking areas are summarized on Soil Profiles A, B, C and D, shown on Figures 3 to 6, respectively. The locations of the Soil Profiles are shown on Figure 2.

As shown on Figures 3 and 4, old fill was encountered between 12 and 22 ft thick in the building area. The old fill consisted of brown silt, sand, and gravel layers intermixed with weathered crushed concrete, small pieces of asphalt, brick, shingles, tiles, concrete, metal, and glass. Old fill was encountered as deep as 16 ft below the proposed lower walk-out level floor on the east side.

Below the fill, native silt was encountered in each test boring. The thickness of the silt ranged from 2 to 12 ft. The silt varied in consistency from stiff, with an SPT N-value of 8, to hard, with an N-value of 55. It is likely that the silt

is a residual soil or highly weathered rock. The sampling recovered short samples in the denser layers. In some cases we used a larger 3-inch sampler to recover a representative sample.

Weathered rock was encountered below the silt. SPT N-values were greater than 50. The test borings were advanced between 5 and 10 ft into bedrock using hollow stem augers. The rock consisted of soft gray shale and dolostone characteristic of the Camillus Shale. Our borings did not encounter cavities or gypsum seams.

Free water was not encountered in any of the test borings.

Test Pits

Fourteen test pits (TP-1 through TP-7, TP-9, and IT-1 through IT-6; TP-8 was not excavated) were excavated to evaluate the old fill. Test pit locations were as shown on Figure 2. The test pits were excavated by J.K. Tobin Construction Company (JKT), using a tracked excavator. Work was directed and witnessed by our geotechnical engineer. The test pits were excavated to depths approximately 5 to 6 ft below grade. Subsurface conditions encountered in test pits were as shown on the Test Pit Logs in Appendix B.

The test pits encountered old fill at least 1 to 6 ft thick in most of the tests pits excavated, but in several test pits the fill thickness exceeded the test pit depth. The old fill consisted of brown silt, sand, and gravel layers intermixed with varying amounts of cobbles, boulders, crushed weathered concrete, sand, asphalt, brick, shingles, tiles, concrete slabs, metal, rebar, plastic, styrofoam, and glass. Decayed logs and limbs were encountered in Test Pits TP-9 and IT-1. A large void, approximately 2 ft by 3 ft by 3 ft, was encountered in the side wall of TP-9 where an old log was dislodged. Significant debris was encountered in test pits IT-1 and IT-6. A slight "moth ball" odor was noticed in TP-5. A garbage-like odor was encountered in IT-6.

Free water was not encountered in any of the test pits.

Infiltration Tests

Six infiltration tests (IT-1 through IT-6) were performed at locations requested by the Site Engineer. Excavations were made by JKT. Our engineer installed wells and monitored infiltration in accordance with New York State Storm Water Management Design Manual procedures. Each infiltration test was performed next to a test pit. Infiltration test results are summarized in Table 1. Subsurface conditions next to the infiltration tests were as indicated on the Test Pit Logs in Appendix B. Plots of infiltration vs. time are shown in Appendix C.

Table 1: Infiltration Test Results

Test	Average Infiltration Rate (in/hr)	Soil Type
IT-1	> 20	Fill
IT-2	13	Silt
IT-3	> 20	Silt
IT-4	> 20	Silt
IT-5	3	Silt
IT-6	1	Fill

GEOTECHNICAL ENGINEERING EVALUATION

The site was used many years ago as a dump site for mostly earth material, but some debris and waste were also dumped. The most significant geotechnical considerations for this site are (1) significant thickness of uncontrolled old fill over essentially the entire area proposed for development and some of it containing debris; and (2) the relatively steep hillside location.

Most of the old fill might have been placed over 30 years ago, but we were not able to find documentation for this. We reasoned that the mature vegetation most likely has taken years

to establish itself. The old fill is not shown on old aerial photos from the 1960's, so it must have been placed after that.

The old fill has uncertain and variable properties because it comes from different sources. The properties will vary from location to location. Much of the fill encountered in the test pits appears to be earth and concrete and asphalt typical of road materials, but there were random pockets of debris including concrete slabs, logs and limbs and it is likely that other debris could be encountered between our explorations. We encountered a garbage-like odor in one test pit and a "moth ball" odor in another. The fill has erratic density and does not appear to have been placed in a controlled manner that could be relied on to provide support for the proposed facilities.

For the one-level building area, the test borings encountered native residual soil at depths of 6 ft or less below the proposed floor level. The test borings indicated that the west side of the two-level building will bear within the silt, while the east side will be constructed over as much as 16 ft of old fill.

The hillside slopes significantly. The old fill and native soil were stable in the condition that we observed in test borings and test pits. Final slope configurations 1-v:3-h, or flatter, should have adequate stability for the proposed facility if protected against erosion. Steeper slopes may be practical, but we should evaluate on a case-by-case basis if these are needed.

The old fill that lies within the building footprint should not be relied on to support footings or floors. The old fill beneath the one-level portion of the building will need to be removed and replaced before constructing the proposed building floor. The west side of the two-level portion of the building should bear on the dense silt or weathered rock. The east portion of the building will require a deep foundation. The transition between shallow and deep foundations needs to be determined based on additional explorations and a design study.

Conventional footings may bear on native soils using a net allowable bearing pressure of 3 ksf. Footings for the one-level building area may need to be undercut as much as 2 to 3 ft to reach the silt bearing layer. Undercuts may be backfilled with structural fill.

The most suitable deep foundation for the two-level building will be drilled shafts. Drilled shafts should extend into the Camillus shale and derive their resistance from bond or side friction in the Camillus shale. For design purposes, allowable bond stress may be taken as 3 ksf in the Camillus shale bedrock based on previous experience, but the value must be confirmed by a load test on a prototype shaft. To attain the 300 kip estimated design load, a 30-inch diameter shaft will need to be drilled into the rock about 15 ft. Our experience indicates this should be feasible using conventional drilled shaft equipment with rock teeth.

An alternate to deep foundations may be the use of ground improvement technologies such as stone columns, aggregate piers, grout columns, or deep dynamic compaction. Evaluation of these methods will require a more detailed design level study and cost evaluation.

Seismic design may be based on Seismic Site Class D. Accordingly, the mapped spectral design accelerations in an earlier section of this report must be modified in accordance with Section 17 of the New York State Building Code.

The Camillus Shale bedrock varies widely across this area. It can have relatively hard, sound layers or it can be a weathered rock having the consistency of a stiff-soil. In other places, gypsum pockets, hollow spots, small cavities, and mud pockets have been observed. It is unlikely that a subsurface exploration would encounter all of these features that may exist at this site. As a consequence of this possibility, it would be inadvisable to channel surface water into the ground within 50 ft of a building. Water infiltrating into the ground has the unquantifiable potential of accelerating natural ground subsidence by washing soil overburden into fissures and hollow spots, or dissolving gypsum seams. Therefore, all storm infiltration areas should be set as far as possible from

structures and pavements. We suggest that this be at least 50 ft away from facilities that are to be protected.

Parking lot pavements will be constructed in areas of deep existing fills, as shown on Figures 5 and 6. It appears that spoil from the building excavation will be used to raise grades. The existing old uncontrolled fills will have a possibility in many areas of shifting and settling over time. This possibility could be greatly reduced by improving the old fills by deep dynamic compaction or by complete removal and replacement with structural fill. Complete removal and replacement of the old fill would be cost prohibitive. Ground improvement using deep dynamic compaction could be budgeted at a cost of about \$1.50 per square foot. An alternate method, of lower reliability, would be to perform partial removal and replacement with a thickened and/or reinforced pavement subbase. Subbase reinforcement would be accomplished with a synthetic geogrid. A design study will be necessary to evaluate the optimal method for this project.

Use of the building spoil for structural fill beneath paved areas will probably be feasible. A portion of the spoil will probably need to be excluded because it contains debris.

The soils had low moisture at the time of our explorations. Nevertheless, given that they are mostly silt, they will be difficult to compact during wet weather. Earthwork should therefore be scheduled to the extent practical between May and October.

GEOTECHNICAL ENGINEERING RECOMMENDATIONS

Based on our findings and evaluations, the proposed building should be constructed so that the floor and foundation of the one-level portion bear on the native soil or on structural fill placed on stable natural soil. This will require significant excavation and replacement and will require that excavation subgrade be approved in the field by an engineer at the time of the work.

The two-level portion of the building should be constructed with a structurally supported floor. Foundations on the west

side of the two-level building may bear on the rock. The other columns and walls are to be supported on deep foundations. The location of transition between footings and drilled piers needs further evaluation after two additional test borings are drilled. In addition, the two additional test borings will allow for the drilled shaft lengths to be checked.

The paved areas will be constructed on top of old fill that needs to be completely or partially removed and replaced or improved in place, unless the risk of future shifting and settlement can be accepted. The magnitude of the future settlement and differential movement cannot be quantified, but we believe that it could be on the order of 6 inches. This would probably lead to the need for maintenance repairs, so we recommend improving the ground before constructing the paved areas.

Our specific recommendations are:

I. Building Area

A. Site Preparation

1. Remove all old fill from building area and to at least 5 ft beyond, and to at least 1 ft below building subgrade.
2. Proofroll area in presence of geotechnical engineer or his representative.
3. After approval by engineer's representative, place working mat, at least 12 inches thick, of crushed stone subbase. Place additional crushed stone as necessary to achieve subgrade level.

B. Foundation Design and Construction:

1. Construct foundations for the one-story portion on stable natural subgrade, or stable structural fill placed during site preparation work.

2. Proportion footings for maximum allowable net bearing stress of 3 ksf.
3. Minimum column footing width to be 36 inches; minimum wall footing width to be 24 inches.
4. Footings requiring protection from frost heave to bear at least 48 inches below finished grade. Footings may bear above the depth if underlain by non-frost-heave susceptible bedrock or soil
5. Footing subgrade to be stable, free of loose or disturbed material, and to be approved by the Engineer's representative before constructing footings.
6. If unsuitable subgrade is encountered at bearing level, undercut subgrade as directed by the Engineer's representative and replace with lean concrete or structural fill.
7. Column and floor loads in the two-level area are to be supported on footings bearing on the rock on the west side and on drilled shafts bearing within the rock for the rest of the area.
8. Two additional test borings are to be drilled to determine the dividing line between footings and drilled shafts and to evaluate the length of the drilled shafts.
9. Drilled shafts are to be sized based on allowable side resistance of 3 ksf.
10. Side resistance of drilled shafts must be verified by a load test.

C. Below Grade Walls:

1. Foundation drain is to be installed outside and inside exterior walls having below grade space.

2. Below grade walls are to be backfilled with imported granular soil conforming to NYSDOT Standard Specification for Item 304-2.02, Type 2 or 4.
3. Below grade walls require dampproofing.
4. Consider use of a waterproofing product for below grade dampproofing for storage or office space.
5. Design basement walls for equivalent fluid stress of 80 pcf for at rest condition. Design retaining walls for active earth pressure of 60 pcf equivalent fluid pressure.
6. Add effect of appropriate wall surcharge.
7. For seismic design of basement walls or retaining walls, use a dynamic earth pressure increment of 50 pcf equivalent fluid pressure and having resultant at 0.40 H above base of wall.

D. Concrete Slab-on-Grade Floor

1. Construct floor on stable subbase material at least 12 inches thick.
2. Provide perimeter subfloor drain.
3. Construct floor directly on vapor barrier such as STEGO WRAP 10 mil thickness.
4. Design floor thickness based on subgrade modulus of 100 pci.

E. Structural Fill and Backfill

1. Use structural fill and backfill that conform to NYSDOT Standard Specification Item 304.2.02 Type 2 or 4.

2. Compact structural fill to at least 93 percent of the modified Proctor maximum density as determined by ASTM D1557.

II. PAVED AREAS

A. Pavements

1. Prepare pavement areas by improving subgrade by complete removal of old fill, partial removal, or by ground improvement. A design study will be required to select the most appropriate method.
2. Pavements can be preliminarily designed based on subgrade CBR=7, provided that subgrade is demonstrated to be sound by proofrolling.
3. Proofrolling is to consist of making at least 5 passes with a half-loaded 10 wheel dump truck.
4. Where uncompactible or unstable subgrade is encountered by proofrolling, repair subgrade by over-excavating and replacing with subbase material.
5. After subgrade approval, place pavement subbase without delay and compact to at least 95 percent of modified Proctor density determined by ASTM D 1557.

B. Walks and Slab Area Preparation

1. Prepare walkway and slab areas by improving subgrade before construction. Method of improvement is to be determined by design level study.
2. Raise grades as necessary by placing structural fill.
3. Building entry areas within 5 ft of out-swinging doors is to be underlain by non-frost-heave susceptible soil to depth of 4 ft. Non-frost-heave susceptible soil shall be run-of-crusher stone conforming to NYSDOT Standard Specification Item 304.2.02 Type 2.

III. SPECIAL INSPECTIONS

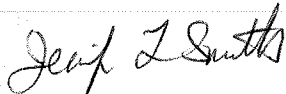
These special inspections will be required:

1. Observation and confirmation of methods and extent of ground improvement work.
2. Foundation subgrade approval.
3. Preparation of drilled shaft installation reports.
4. Approval of materials for structural fill.
5. Document appropriate soil compaction for fill and backfill.

Thank you for the opportunity to be of service on this project. Please contact us if you or your design team have any questions.

Sincerely,

JOHN P. STOPEN ENGINEERING, LLP



JENNIFER SMITH, Ph.D., P.E.
Geotechnical Engineer

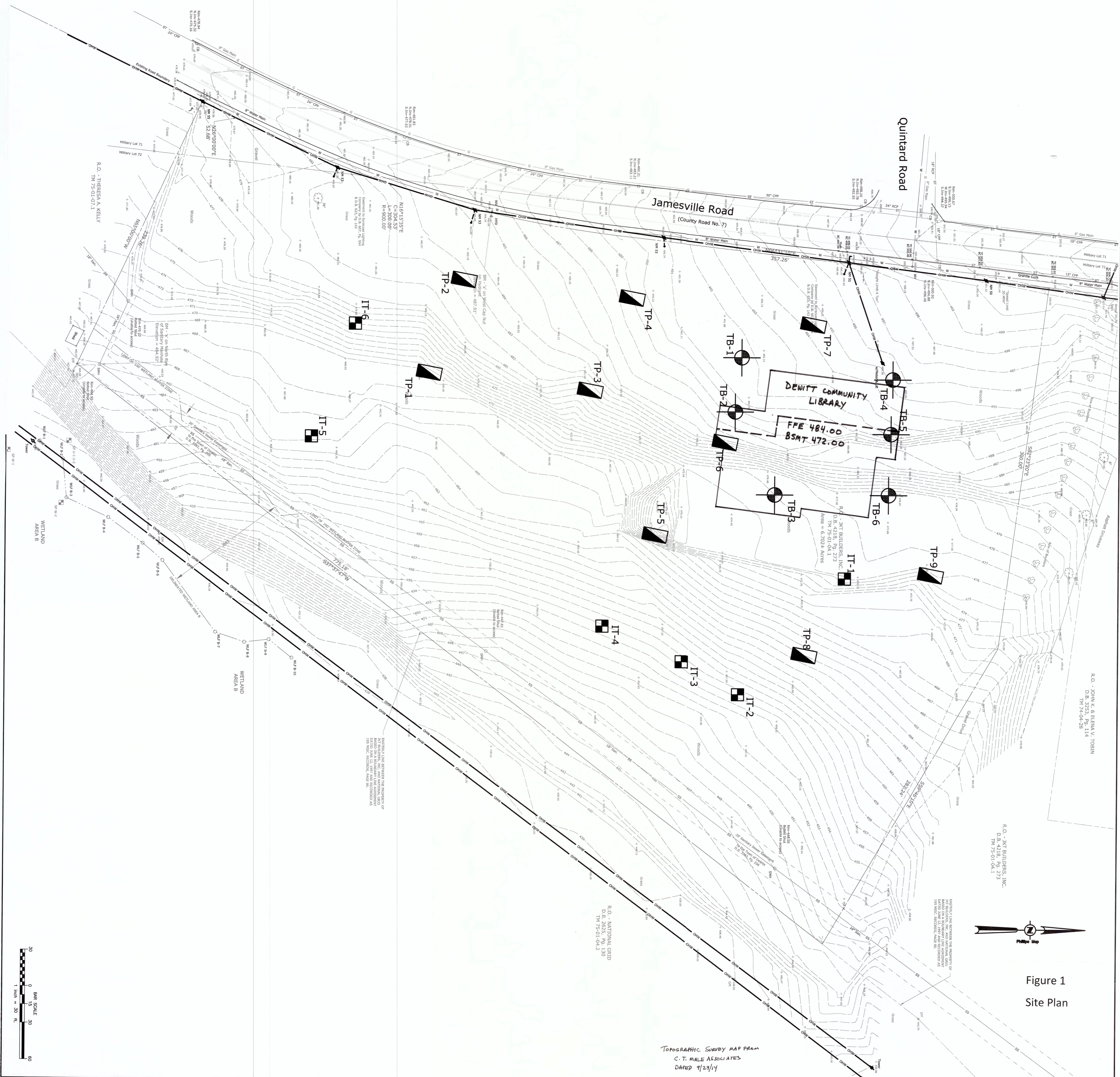


JAMES P. STEWART, Ph.D., P.E.
Partner, Geotechnical Engineer

JS/JPS/jlw

Attachments: Figure 1 Site Plan
2 Exploration Plan
3 Soil Profile A
4 Soil Profile B
5 Soil Profile C
6 Soil Profile D

Appendix A - Site Plan by King & King
B - Test Boring and Test Pit Logs
C - Infiltration Tests



R.O. - THERESA A. KELLY
TM 75-01-07.1

R.O. - JOHN K. & ELENA V. TOBIN
D.B. 3253, Pg. 114
TM 74-04-28

R.O. - JKT BUILDERS, INC.
D.B. 4218, Pg. 273
TM 75-01-04.1



VERTICAL LINE BETWEEN THE PROPERTY OF
R.O. - JKT BUILDERS, INC. AND THE PROPERTY OF
R.O. - THERESA A. KELLY IS A BOUNDARY LINE AND NOT
A PROPERTY LINE. THE PROPERTY OF R.O. - JKT
BUILDERS, INC. IS TO THE EAST OF THIS LINE.
195 NAD 83 COORDINATES, PAGE 80.

R.O. - NATIONAL GRID
D.B. 3655, Pg. 130
TM 75-01-04.2

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195 NAD 83 COORDINATES, PAGE 80.

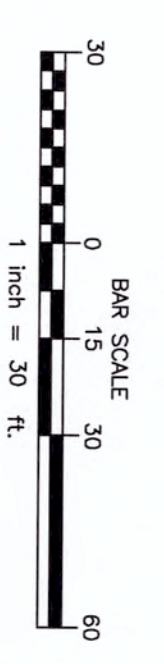
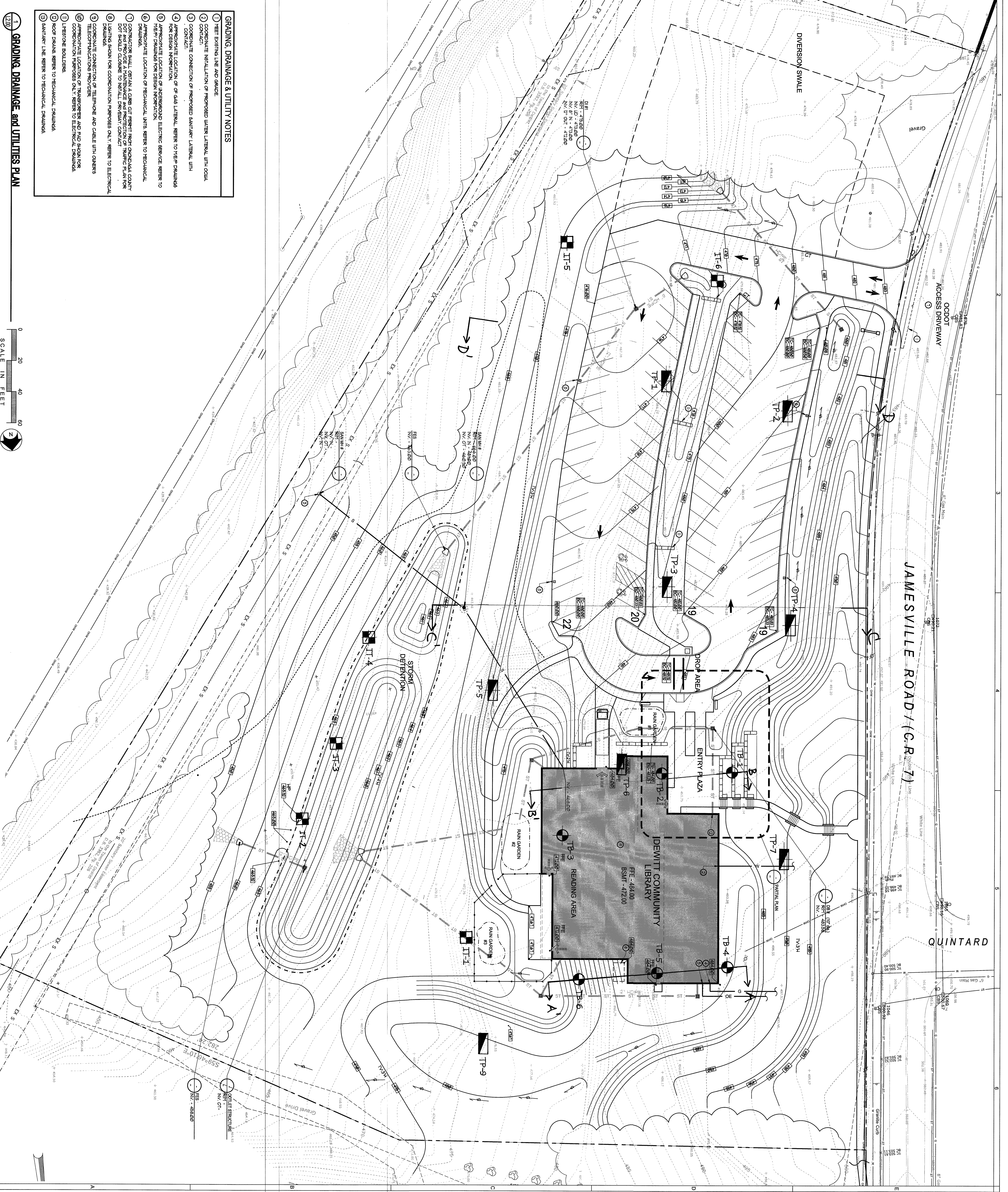
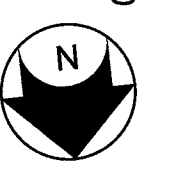


Figure 1
Site Plan

TOPOGRAPHIC SURVEY MAP FROM
C. T. MALLE ASSOCIATES
DATED 7/24/14

- GRADING, DRAINAGE & UTILITIES NOTES**
1. FEEB EXISTING LINE AND GRADE
 2. COORDINATE INSTALLATION OF PROPOSED WATER LATERAL WITH COCA CONTRACT
 3. COORDINATE CONNECTION OF PROPOSED SANITARY LATERAL WITH CONTRACT
 4. APPROPRIATE LOCATION OF GAS LATERAL REFER TO MECH DRAININGS FOR DESIGN INFORMATION
 5. APPROPRIATE LOCATION OF UNDERGROUND ELECTRIC SERVICE REFER TO MECH DRAININGS FOR DESIGN INFORMATION
 6. APPROPRIATE LOCATION OF MECHANICAL INTS REFER TO MECHANICAL DRAWINGS
 7. CONTRACTOR SHALL OBTAIN A GROUND CUT PERMIT FROM ONONDAGA COUNTY DOT AND PROVIDE A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR DOT BEFORE COMMENCING TO INSTALL SANITARY LATERAL
 8. DRAINING BASIN FOR CONNECTION PURPOSES ONLY REFER TO ELECTRICAL DRAWINGS
 9. COORDINATE CONNECTION OF TELEPHONE AND CABLE WITH OWNERS
 10. APPROPRIATE LOCATION OF TRANSFORMER AND PAD AREA FOR CONNECTION PURPOSES ONLY REFER TO ELECTRICAL DRAWINGS
 11. LIBERTINE BOLLERS
 12. ROOF DRAIN REFER TO MECHANICAL DRAWINGS
 13. SANITARY LINE REFER TO MECHANICAL DRAWINGS

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SCALE IN FEET



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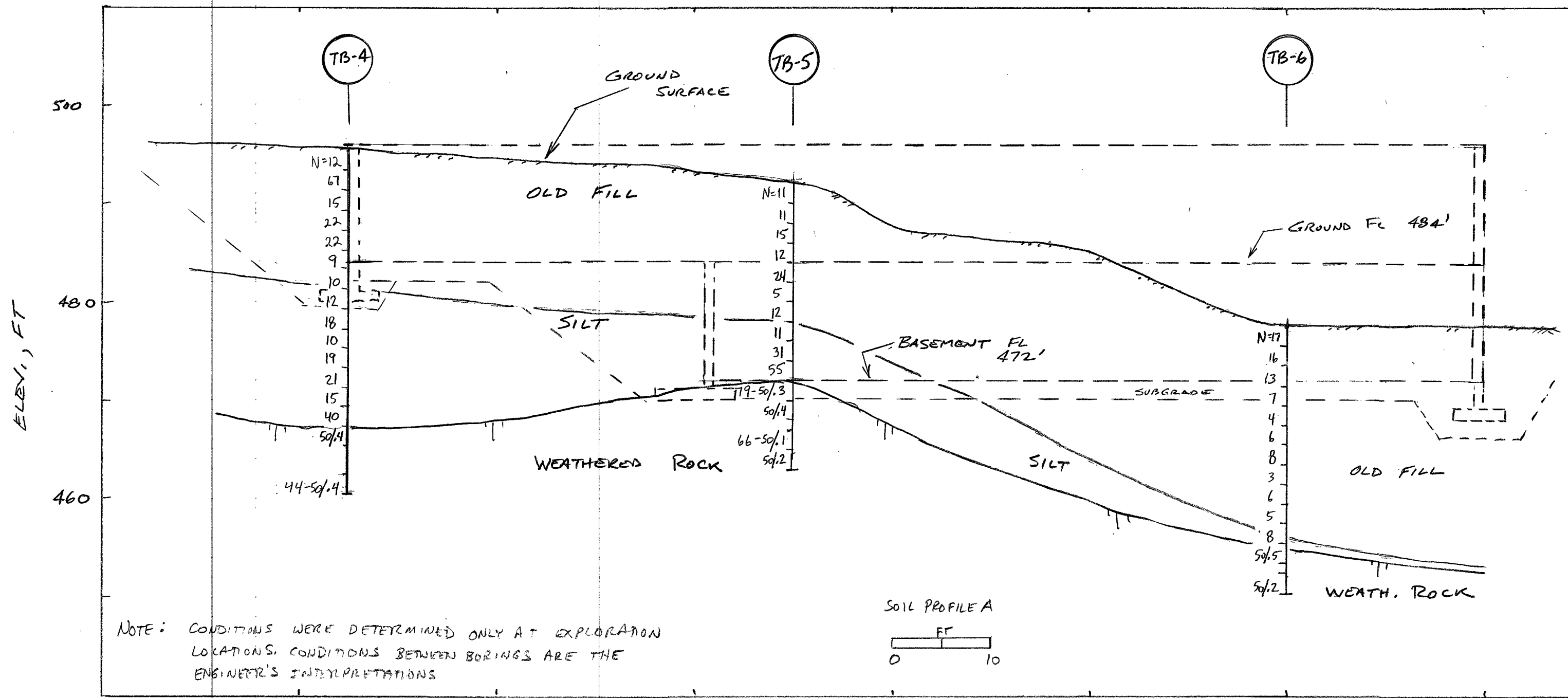
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**DEWITT COMMUNITY LIBRARY ASSOCIATION
NEW LIBRARY FACILITY**
5146 JAMESVILLE ROAD, DEWITT, NEW YORK

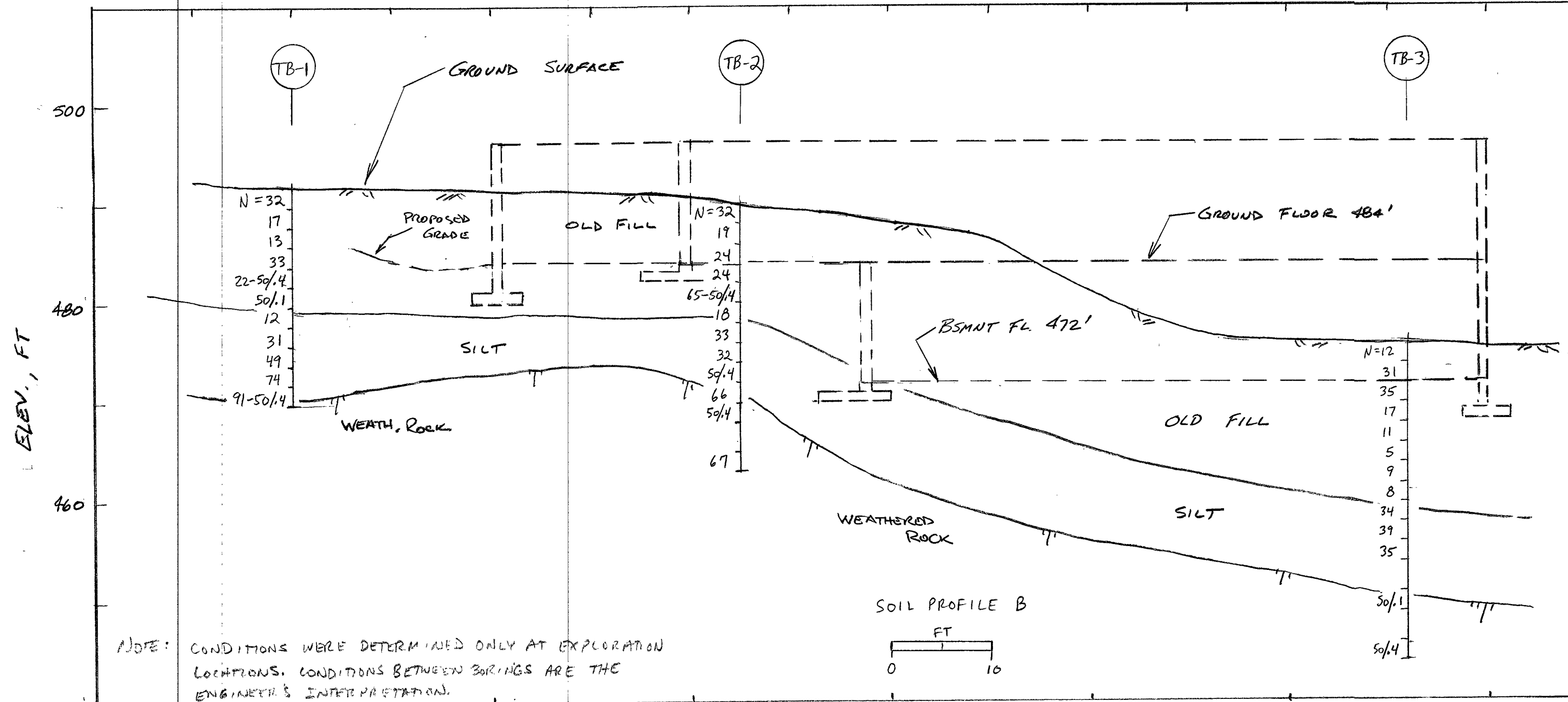


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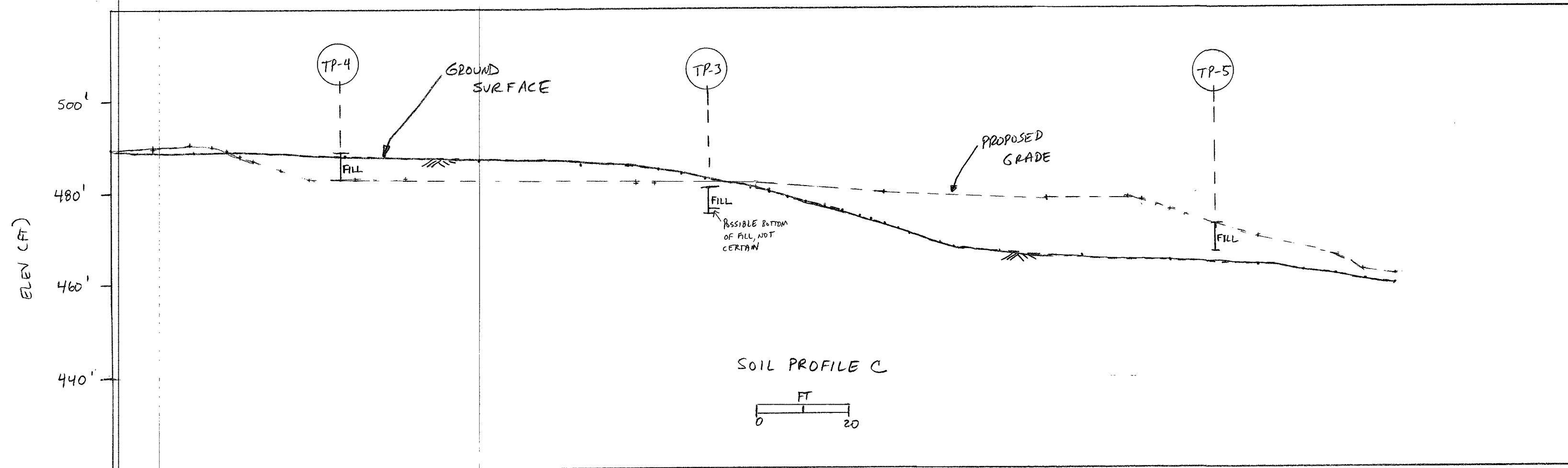
Figure 2
Exploration Plan



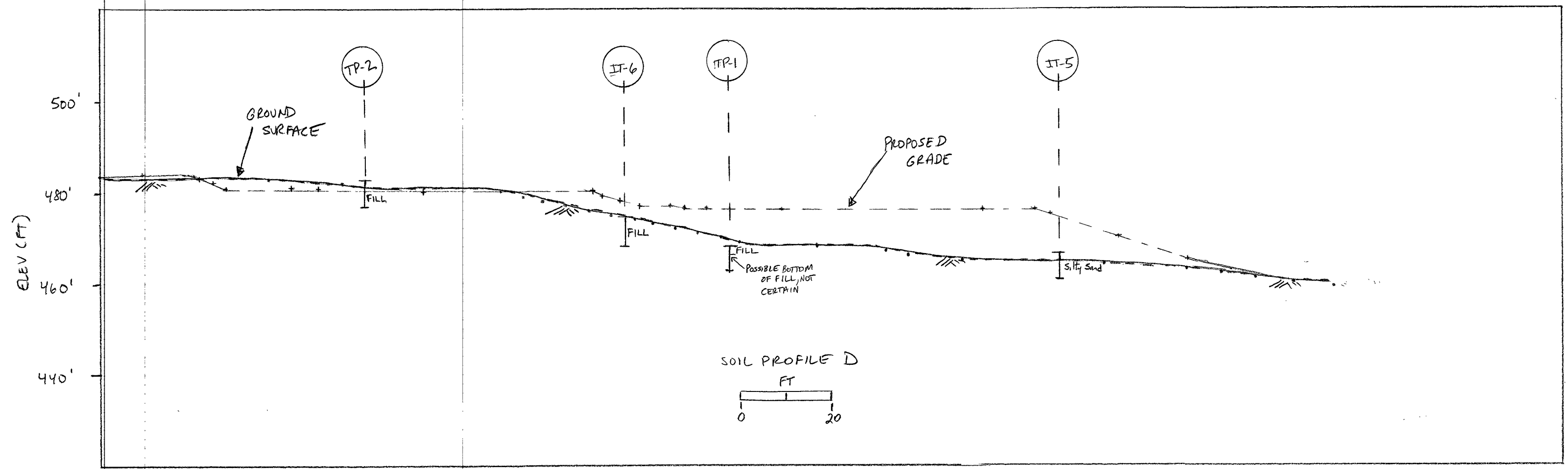
JOHN P STOPEN ENGINEERING, LLP SYRACUSE, N.Y. 315-472-5238			
SOIL PROFILE A			
PROPOSED LIBRARY			
JOB No: 215229	DESIGNED BY: JL SMITH/J. STEWART	DATE: SEPT. 2015	DWG No.: 3



JOHN P STOPEN ENGINEERING, LLP SYRACUSE, N.Y. 315-472-5238			
SOIL PROFILE B			
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JOHN P STOPEN
ENGINEERING, LLP
SYRACUSE, N.Y. 315-472-5238

SOIL PROFILE D

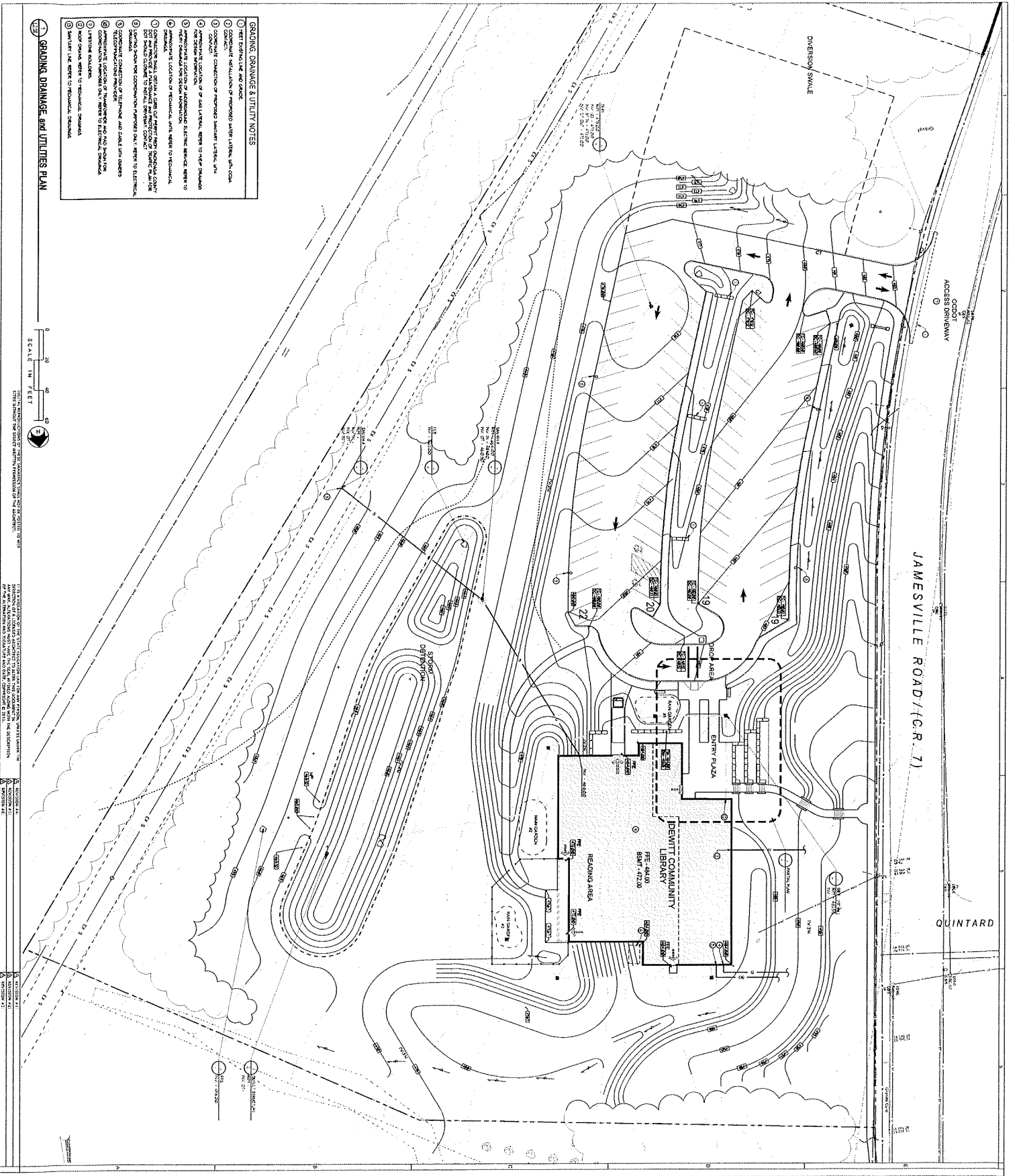
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APPENDIX A

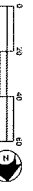
KING + KING

DRAWING



- GRADING, DRAINAGE & UTILITY NOTES**
1. REFER TO SHEET 12.00 FOR SITE PLAN AND CONTOUR
 2. CONTOUR INTERVALS OF 2 FEET UNLESS OTHERWISE NOTED
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GRADING, DRAINAGE AND UTILITIES PLAN



1. THIS PLAN IS A PART OF THE GRADING, DRAINAGE AND UTILITIES PLAN FOR THE DEWITT COMMUNITY LIBRARY ASSOCIATION NEW LIBRARY FACILITY. IT IS TO BE USED IN CONJUNCTION WITH THE OTHER PLANS AND SPECIFICATIONS FOR THE PROJECT.

REVISION 01	DATE: 12/11/2008
REVISION 02	DATE: 12/11/2008
REVISION 03	DATE: 12/11/2008
REVISION 04	DATE: 12/11/2008
REVISION 05	DATE: 12/11/2008
REVISION 06	DATE: 12/11/2008
REVISION 07	DATE: 12/11/2008
REVISION 08	DATE: 12/11/2008
REVISION 09	DATE: 12/11/2008
REVISION 10	DATE: 12/11/2008
REVISION 11	DATE: 12/11/2008
REVISION 12	DATE: 12/11/2008
REVISION 13	DATE: 12/11/2008
REVISION 14	DATE: 12/11/2008
REVISION 15	DATE: 12/11/2008
REVISION 16	DATE: 12/11/2008
REVISION 17	DATE: 12/11/2008
REVISION 18	DATE: 12/11/2008
REVISION 19	DATE: 12/11/2008
REVISION 20	DATE: 12/11/2008
REVISION 21	DATE: 12/11/2008
REVISION 22	DATE: 12/11/2008
REVISION 23	DATE: 12/11/2008
REVISION 24	DATE: 12/11/2008
REVISION 25	DATE: 12/11/2008
REVISION 26	DATE: 12/11/2008
REVISION 27	DATE: 12/11/2008
REVISION 28	DATE: 12/11/2008
REVISION 29	DATE: 12/11/2008
REVISION 30	DATE: 12/11/2008

DEWITT COMMUNITY LIBRARY ASSOCIATION
 NEW LIBRARY FACILITY
 5146 JAMESVILLE ROAD, DEWITT, NEW YORK

king + king
 ARCHITECTS

GRADING, DRAINAGE
 AND UTILITIES PLAN
 12.00

APPENDIX B

SUBSURFACE EXPLORATION LOGS

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-1
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/11/15
 Date Completed 08/11/15
 Driller J Rausher

Drill Rig CME-55
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____
 Weather Conditions: _____

Boring Location _____

Surface Elevation not available

Ground Water Observations				
Date	Time	Drilled to	Boring at	Groundwater at
No water encountered				

Depth	Sample Number	Sample Depth		Sample Type	SOIL				N	MATERIAL DESCRIPTION	REMARKS	
		From (Ft)	To (Ft)		Blows on Sampler							Value
					0/0.5'	0.5/1.0'	1.0/1.5'	1.5/2.0'				
	S-1	0.0	2.0	ss	3	7	25	2	32	0-2' - Brown SILT, c-f sand 2-4' - Brown SILT, some sand c-f gravel 4-6' - Grey c-f SAND, gravel, some silt 6-8' - Brown SILT, c-f gravel 8-14' - Grey c-f SAND and gravel Spoon Refusal @ 10.6' Drilled to 12' 14-16' - Light Brown SILT 16-18' - Brown/Grey SILT 18-22' - Grey SILT	Moist, stiff Moist, medium stiff Moist, medium dense Moist, medium dense Moist, dense Stiff, moist Hard, moist Hard, moist	
5	S-2	2.0	4.0	ss	15	10	7	3	17			
	S-3	4.0	6.0	ss	7	5	8	10	13			
	S-4	6.0	8.0	ss	14	20	13	8	33			
10	S-5	8.0	10.0	ss	16	15	7	50/4	31			
	S-6	10.0	12.0	ss	15	50/1	-	-	50+			
	S-7	12.0	14.0	ss	14	5	7	7	12			
15	S-8	14.0	16.0	ss	10	16	15	16	31			
	S-9	16.0	18.0	ss	19	26	23	23	49			
20	S-10	18.0	20.0	ss	23	39	33	33	72			
	S-11	20.0	22.0	ss	28	44	47	50/4	91			
30												
35												
40												
45												
50												

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-2
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/11/15
 Date Completed 08/11/15
 Driller J Rauscher

Drill Rig CME-55
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____
 Weather Conditions: _____

Boring Location _____

Surface Elevation not available

Date	Time	Ground Water Observations		
		Drilled to	Boring at	Groundwater at
		No water encountered		

Depth	Sample Number	Sample Depth		Sample Type	SOIL				N	MATERIAL DESCRIPTION	REMARKS
		From (Ft)	To (Ft)		Blows on Sampler			Value			
					0/0.5'	0.5/1.0'	1.0/1.5'				
	S-1	0.0	2.0	ss	7	11	21	20	32	0-6' - Grey SILT & c-f gravel, some m-f sand 6-8' - Grey/Brown c-f SAND, little rock 8-10' - Grey/Brown c-f SAND & gravel 10-12' - Brown SILT & c-f SAND 12-16' - Brown SILT & c-f SAND, some rock 16-16.4' - Grey SILT, weathered rock 18-19.9' -Brown SILT 20-27' - Grey weathered rock	Moist, very stiff Moist, stiff Moist, stiff Moist, stiff Dry, hard Moist, stiff Dry, hard
5	S-2	2.0	4.0	ss	14	10	9	12	19		
	S-3	4.0	6.0	ss	11	11	13	20	24		
	S-4	6.0	8.0	ss	19	12	12	9	24		
10	S-5	8.0	10.0	ss	8	15	50/4	-	50+		
	S-6	10.0	12.0	ss	10	10	8	9	18		
	S-7	12.0	14.0	ss	43	7	26	18	33		
15	S-8	14.0	16.0	ss	9	13	19	28	32		
	S-9	16.0	18.0	ss	50/4	-	-	-	50+		
20	S-10	18.0	20.0	ss	15	20	46	50/4	66		
	S-11	20.0	22.0	ss	50/4	-	-	-	50+		
25											
	S-12	25.0	27.0	ss	26	37	30	26	67		
30											
35											
40											
45											
50											

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-3
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/11/15
 Date Completed 08/11/15
 Driller J. Rauscher

Drill Rig CME-55
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____

Boring Location _____
 Surface Elevation not available
 Ground Water Observations
 Date Time Drilled to Boring at Groundwater at
No water encountered

Weather Conditions: _____

Depth	Sample Number	Sample Depth		Sample Type	SOIL				N	MATERIAL DESCRIPTION	REMARKS	
		From (Ft)	To (Ft)		Blows on Sampler							Value
					0'/0.5'	0.5'/1.0'	1.0'/1.5'	1.5'/2.0'				
				Ft.		%		Depth of Change				
5	S-1	0.0	2.0	ss	3	4	8	10	12	0-6' - Brown SILT & CLAY, some c-f gravel, little f sand Moist, stiff		
	S-2	2.0	4.0	ss	15	14	17	14	31		Moist, very stiff	
	S-3	4.0	6.0	ss	6	17	18	14	35			
	S-4	6.0	8.0	ss	7	9	8	7	17		6-8' - No recovery	
10	S-5	8.0	10.0	ss	8	6	5	5	11	8-10' - No recovery re-drove 3" spoon		
15	S-6	10.0	12.0	ss	3	3	2	5	5	10-15' - Brown CLAY, some m-f gravel, little m-f sand Moist, stiff		
	S-7	12.0	14.0	ss	5	4	5	6	9			
	S-8	14.0	16.0	ss	4	2	6	6	8		15-21' - Grey/Green CLAY & SILT, some c-f gravel, little m-f sand Moist, hard	
S-9	16.0	18.0	ss	10	14	20	25	34				
20	S-10	18.0	20.0	ss	24	19	20	12	39	Moist, stiff		
25	S-11	20.0	22.0	ss	5	3	31	41	34	21-21.5' - Brown CLAY, some c-f sand 21.5'-30.5' - Grey weathered Shale Wet, soft Dry, hard		
	S-12	25.0	27.0	ss	50/1	-	-	-	50+			
30												
35	S-13	30.0	32.0		50/1	-	-	-	50+			
40												
45												
50												

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-4
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/12/15
 Date Completed 08/12/15
 Driller J. Rauscher

Drill Rig CME-55
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____

Boring Location _____

Surface Elevation not available

Ground Water Observations				
Date	Time	Drilled to	Boring at	Groundwater at
No water encountered				

Weather Conditions: _____

Depth	Sample Number	Sample Depth		Sample Type	SOIL				N	MATERIAL DESCRIPTION	REMARKS	
		From (Ft)	To (Ft)		Blows on Sampler							Value
					0/0.5'	0.5/1.0'	1.0/1.5'	1.5/2.0'				
					Rock Recovery							
					Ft.	%						
									Depth of Change			
	S-1	0.0	2.0	ss	4	7	5	4	12	0-6' - Brown SILT	Moist, stiff	
5	S-2	2.0	4.0	ss	5	45	22	15	67			
	S-3	4.0	6.0	ss	8	8	7	6	15		4' - trace brick	
	S-4	6.0	8.0	ss	24	10	12	19	22	6-8' - Brown SILT c-f gravel, asphalt	Moist, very stiff	
10	S-5	8.0	10.0	ss	24	13	9	8	22	8-10' - Grey medium SAND & GRAVEL	Dry, dense	
	S-6	10.0	12.0	ss	7	4	5	3	9	10-12' - Brown c-f SAND & GRAVEL	Moist, very stiff	
	S-7	12.0	14.0	ss	5	5	5	7	10	12-14' - Brown SILT, c-f sand & gravel	Moist, stiff	
15	S-8	14.0	16.0	ss	6	6	6	10	12	Brown SILT, trace wood, little clay Red/Brown CLAY, c gravel	Moist, hard	
	S-9	16.0	18.0	ss	4	11	7	6	18	14-16' - Brown SILT	Moist, stiff	
	S-10	18.0	20.0	ss	5	3	5	8	8	Brown SILT, c-f sand & gravel	Moist, stiff	
	S-11	20.0	22.0	ss	5	8	11	9	19	Brown SILT	Moist, stiff	
	S-11	22.0	24.0	ss	6	7	14	13	21	Brown SILT, gravel	Moist, medium stiff	
	S-12	24.0	26.0	ss	11	8	7	7	15	Brown SILT, gravel	Moist, very stiff	
	S-13	26.0	28.0	ss	9	17	23	34	40	Brown SILT, c-f sand & gravel	Moist, very stiff	
30	S-14	28.0	30.0	ss	34	50/4	-	-	50+	Grey SILT, c-f sand, & gravel	Moist, stiff	
										Grey SILT, c-f sand, & gravel	Moist, hard	
										Grey SILT, weathered rock	Dry, hard	
										Grey SILT, weathered rock	Moist, hard	
										Grey SILT, weathered rock	Dry, hard	
35	S-15	33.0	35.0	ss	24	10	34	50/4	44			
40												
45												
50												

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-5
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/12/15
 Date Completed 08/12/15
 Driller J. Rauscher

Drill Rig CME-55
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____

Boring Location _____
 Surface Elevation not available
 Ground Water Observations

Date	Time	Drilled to	Boring at	Groundwater at
		No water encountered		

Weather Conditions: _____

Depth	Sample Number	Sample Depth		Sample Type	SOIL					MATERIAL DESCRIPTION	REMARKS
		From (Ft)	To (Ft)		Blows on Sampler				N		
					0/0.5'	0.5/1.0'	1.0/1.5'	1.5/2.0'			
					Rock Recovery		Value				
Ft.	%	Depth of Change									
5	S-1	0.0	2.0	ss	4	5	6	6	11	0-2' - Grey SILT, trace brick	Moist, stiff
										2-4' - Grey c-f SAND & gravel	Moist, stiff
10	S-2	2.0	4.0	ss	5	4	10	7	14		
	S-3	4.0	6.0	ss	4	7	8	8	15	4-6' - Brown SILT, trace c-f sand	Moist, very stiff
15	S-4	6.0	8.0	ss	7	7	5	18	12	6-8' - Brown SILT, some c-f sand & gravel	Moist, stiff
	S-5	8.0	10.0	ss	13	12	12	7	24	8-10' - Brown SILT, rock, asphalt	Moist, stiff
20	S-6	10.0	12.0	ss	2	3	2	2	5	10-12' - Brown SILT, asphalt, wood	Moist, soft
	S-7	12.0	14.0	ss	3	3	9	10	12	Brown SILT, c-f sand & gravel	
25	S-8	14.0	16.0	ss	4	4	7	8	11	12-14' - Brown SILT, c-f sand & gravel, trace glass	No recovery
	S-9	16.0	18.0	ss	12	12	19	20	31	14-16' - Brown SILT	Drove 3' spoon
30	S-10	18.0	20.0	ss	18	27	28	42	55	16-24' - Grey SILT	Moist, stiff
	S-11	20.0	22.0	ss	14	31	48	50/3	79		Moist, hard
35	S-11	22.0	24.0	ss	50/4	-	-	-	50+		Dry, hard
	S-13	25.0	27.0	ss	15	17	49	50/1	66	24-25' - Grey/Brown c-f SAND	Moist, very dense
40										Brown SAND	Moist, dense
										25-27' - Grey SILT	Dry, hard
45										Brown SILT	Moist, hard
	S-14	27.0	29.0	ss	21	50/2	-	-	50+	27-27.7' Grey SILT/weathered rock	Dry, hard
50											

Client JPSEP, LLP
 Project DeWitt Library
 Location Jamesville Road
Jamesville, NY



Boring No. B-6
 Project No. 15-0674
 Sheet 1 of 1
 Date Started 08/10/15
 Date Completed 08/10/15
 Driller J. Rauscher

Drill Rig CME-850
 Casing 3.25" HAS
 Casing Hammer: Wt. NA lb. Fall NA in.
 Soil Sampler 2" SPLIT SPOON SAMPLER
 Sample Hammer: Wt. 140 lb. Fall 30 in.
 Rock Sampler: NA
 Other: _____

Boring Location _____
 Surface Elevation not available
 Ground Water Observations
 Date _____ Time _____ Drilled to _____ Boring at _____ Groundwater at _____
No water encountered

Weather Conditions: _____

Depth	Sample Number	Sample Depth		Sample Type	SOIL				N	MATERIAL DESCRIPTION	REMARKS	
		From (Ft)	To (Ft)		Blows on Sampler							Value
					0/0.5'	0.5/1.0'	1.0/1.5'	1.5/2.0'				
					Rock Recovery							
					Ft.	%						
	S-1	0.0	2.0	ss	4	12	5	8	17	0-3.8' - Brown c-f SAND and c-f gravel, some silt	Fill Moist, medium dense	
5	S-2	2.0	4.0	ss	5	8	8	10	16	3.8-4.5' - BrownCLAY, m-f gravel, little silt, trace c-f sand	Moist, very stiff	
	S-3	4.0	6.0	ss	10	6	7	5	13	4.5-13.8' - Brown CLAY & c-f gravel, some silt	Moist, medium stiff	
	S-4	6.0	8.0	ss	4	4	3	3	7			
10	S-5	8.0	10.0	ss	2	1	3	5	4	13' - small lens of what appears ot be asphalt	Moist, medium stiff	
	S-6	10.0	12.0	ss	3	3	3	5	6			
15	S-7	12.0	14.0	ss	4	4	4	2	8			
	S-8	14.0	16.0	ss	1	1	2	2	3	13.8-22' - Grey CLAY & SILT, some c-f gravel little c-f sand	Moist, medium stiff	
	S-9	16.0	18.0	ss	3	3	3	2	6			
20	S-10	18.0	20.0	ss	3	2	3	4	5	22'-25.7' - Grey/Green weathered shale	Dry	
	S-11	20.0	22.0	ss	5	4	4	7	8			
25	S-11	22.0	24.0	ss	50/5	-	-	-	50+			
	S-13	25.0	27.0	ss	53	50/2	-	-	50+	22'-25.7' - Grey/Green weathered shale	Dry	
30	S-14	28.0	30.0	ss	50/0	-	-	-	50+			
										auger & spoon refusal		
35												
40												
45												
50												

JOHN P. STOPEN ENGINEERING PARTNERSHIP

450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS

Client Dewitt Community Library
 Project _____
 Location Jamesville Road
 Job No. 215229.00

Date 08/14/2015
 Datum _____
 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. TP-1 Elevation ± 469.5 Water None

depth	moisture	pocket pen	w	Description
	Moist	2 tsf		FILL: Brown, sandy silt, trace brick, roots
	Moist	3.5 tsf		Brown, layered silty shale with silt seams
	Moist	2-3 tsf		Brown, sandy silt, little gravel, Pa = 2.0" w/100#
	Moist			Brown, layered silty shale with silt seams
5	Dry	>4.5 tsf		Gray, v dense, layered silty shale Pa = 0.25" w/100#
10				

Note: 1. Possible bottom of fill, not certain.

Test Pit No. TP-2 Elevation + 482.5 Water None

depth	moisture	pocket pen	w	Description
	Moist			FILL: Brown, sandy silt, some gravel and cobbles, 2x3x1 ft boulder, cobbles, trace brick, roots. One side: Light gray, silty sand, some gravel and cobbles. Some rebar (at 1-2 ft), brick, plastic, and styrofoam (at 3 ft).
	Moist			
	Moist			FILL: Gray, silty sand and gravel. One side: Light gray, silty sand, some gravel and cobbles.
5	Moist	>4.5 tsf		Pa = 0.25" w/100#
10				

JOHN P. STOPEN ENGINEERING PARTNERSHIP

450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS

Client Dewitt Community Library
 Project _____
 Location Jamesville Road
 Job No. 215229.00

Date 08/14/2015
 Datum _____
 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. TP-3 Elevation ± 481.0 Water None

depth	moisture	pocket pen	w	Description
	Moist			<p>FILL: Brown, silty sand, trace gravel, roots, asphalt</p> <p>FILL: Brown, v dense, silty sand and gravel, little asphalt (at 1, 1.5, and 3 ft)</p> <p>Brown, v dense, layered silty shale. Pa = 0.25" w/100#</p> <p>Note: 1. Possible bottom of fill, not certain.</p>
	Dry			
	Dry			
	Dry			
5	Dry	> 4.5 tsf		
10				

Test Pit No. TP-4 Elevation ± 489.0 Water None

depth	moisture	pocket pen	w	Description
	Moist			<p>FILL: Brown, silty sand and gravel, trace cobbles, roots</p> <p>FILL: Light gray, silty sand, some gravel</p> <p>Pa = 0.25" w/100#</p>
	Dry			
	Dry			
	Dry	2.0 tsf -		
5	Dry	>4.5 tsf		
10				

JOHN P. STOPEN ENGINEERING PARTNERSHIP

450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS

Client Dewitt Community Library Date 08/14/2015
 Project _____ Datum _____
 Location Jamesville Road
 Job No. 215229.00 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. TP-5 Elevation ± 475.0 Water None

depth	moisture	pocket pen	w	Description
	Moist			
	Moist			
	Moist			
	Moist			
5	Moist	3.5 tsf		
10				

Test Pit No. TP-6 Elevation ± 485.0 Water None

depth	moisture	pocket pen	w	Description
	Dry			
	Dry			
	Dry			
	Dry			
5	Dry	>4.5 tsf		
10				

Note: 1. Possible bottom of fill, not certain.

JOHN P. STOPEN ENGINEERING PARTNERSHIP

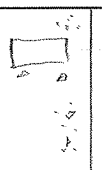
450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS

Client Dewitt Community Library
 Project _____
 Location Jamesville Road
 Job No. 215229.00


Date 08/14/2015
 Datum _____
 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. TP-7 Elevation ± 494.5 Water None

depth	moisture	pocket pen	w	Description
	Moist			 <p>FILL: Brown, silty sand, some c gravel, trace roots</p> <p>FILL: Brown, silty sand, some c gravel, trace glass, large piece of concrete (1x2x2 ft). One side: Gray, silty sand, some gravel (2.5 tsf)</p>
	Dry	3.5 tsf		
	Dry			
	Dry			
5	Dry	3.5 tsf		<p>Brown, sandy silt and c gravel</p> <p>Pa = 0.25" w/100#</p>
10				

Note: 1. Possible bottom of fill, not certain.

Test Pit No. TP-9 Elevation ± 475.5 Water None

depth	moisture	pocket pen	w	Description
	Moist			 <p>FILL: Brown, silty sand and gravel, trace roots, PE pipe (at 1 ft), rebar (upper 2 ft), 2x5 ft long decayed "log" (extends into a void in side wall 3 ft deep, 2 ft wide, 3 ft down at 45 degrees), asphalt (at 4-5.5 ft), metal (at 5 ft)</p> <p>Pa = 0.25" w/100#</p>
	Moist			
	Moist			
	Moist			
5	Moist	>4.5 tsf		
10				

JOHN P. STOPEN ENGINEERING PARTNERSHIP


450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS


Client Dewitt Community Library
 Project _____
 Location Jamesville Road
 Job No. 215229.00

Date 08/14/2015
 Datum _____
 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. IT-1 Elevation ± 475.5 Water None

depth	moisture	pocket pen	w	Description
	Dry			FILL: Brown, silty sand, trace gravel, roots
	Dry			 FILL: Brown, silt, some f sand and f-c gravel, trace asphalt (at 2.5-3 ft and 4-5 ft), wooden beam with rebar, 4-ft long rebar (at 3 ft), 1-ft diameter boulder (at 1 ft), brick (at 3 ft), fabric (at 2.5 ft), glass (at 2.5 ft), decayed wood (at 3-6 ft) Pa = 12" w/100#
	Dry			
	Dry			
5	Dry	>4.5 tsf		
10				

Test Pit No. IT-2 Elevation ± 455.5 Water None

depth	moisture	pocket pen	W	Description
	Moist			Brown, med dense, silty sand, little gravel, roots
	Dry	3 tsf		 Brown, v dense, layered, silty shale, some sand seams, cobbles Gray, v dense, layered, silty shale, with silt seams (3 tsf) Pa = 0.25" w/100#
	Dry	>4.5 tsf		
	Dry	>4.5 tsf		
5	Dry	>4.5 tsf		
10				

JOHN P. STOPEN ENGINEERING PARTNERSHIP

450 South Salina Street P.O. Box 29 Syracuse, NY 13201 (315)472-5238

TEST PIT LOGS

Client Dewitt Community Library Date 08/14/2015
 Project _____ Datum _____
 Location Jamesville Road
 Job No. 215229.00 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. IT-3 Elevation ± 455.5 Water None

depth	moisture	pocket pen	w	Description
	Moist			Brown, med dense, silty sand, little gravel, roots
	Dry			Brown, dense, silt, some f sand and gravel, trace cobbles
	Dry			Brown, v dense, layered, weathered, silty shale
	Dry			Brown, dense, silt, some f sand and gravel
5	Dry	>4.5 tsf		Gray, v dense, layered, weathered silty shale, with silt seams. Pa = 0.25" w/100#
10				

Test Pit No. IT-4 Elevation ± 455.0 Water None

depth	moisture	pocket pen	w	Description
	Dry			Brown, med dense, silty sand, trace c gravel, roots
	Dry	>4.5 tsf		Brown, very dense, silt, some fine sand and coarse gravel
	Dry			
	Dry			Gray, very dense, layered weathered, silty shale
5	Dry	>4.5 tsf		Pa = 0-0.75" w/100#
10				

JOHN P. STOPEN ENGINEERING PARTNERSHIP

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TEST PIT LOGS

Client Dewitt Community Library Date 08/14/2015
 Project _____ Datum _____
 Location Jamesville Road
 Job No. 215229.00 Weather 85°F, Sunny
 Observer J. Smith

Test Pit No. IT-5 Elevation ± 466.25 Water None

depth	moisture	pocket pen	W	Description
	Moist	2.5 tsf		Brown, silty sand, trace gravel, roots
	Moist			Brown silt, trace f sand and c gravel
	Moist			Pa = 0" w/100#
5	Moist	>4.5 tsf		
10				

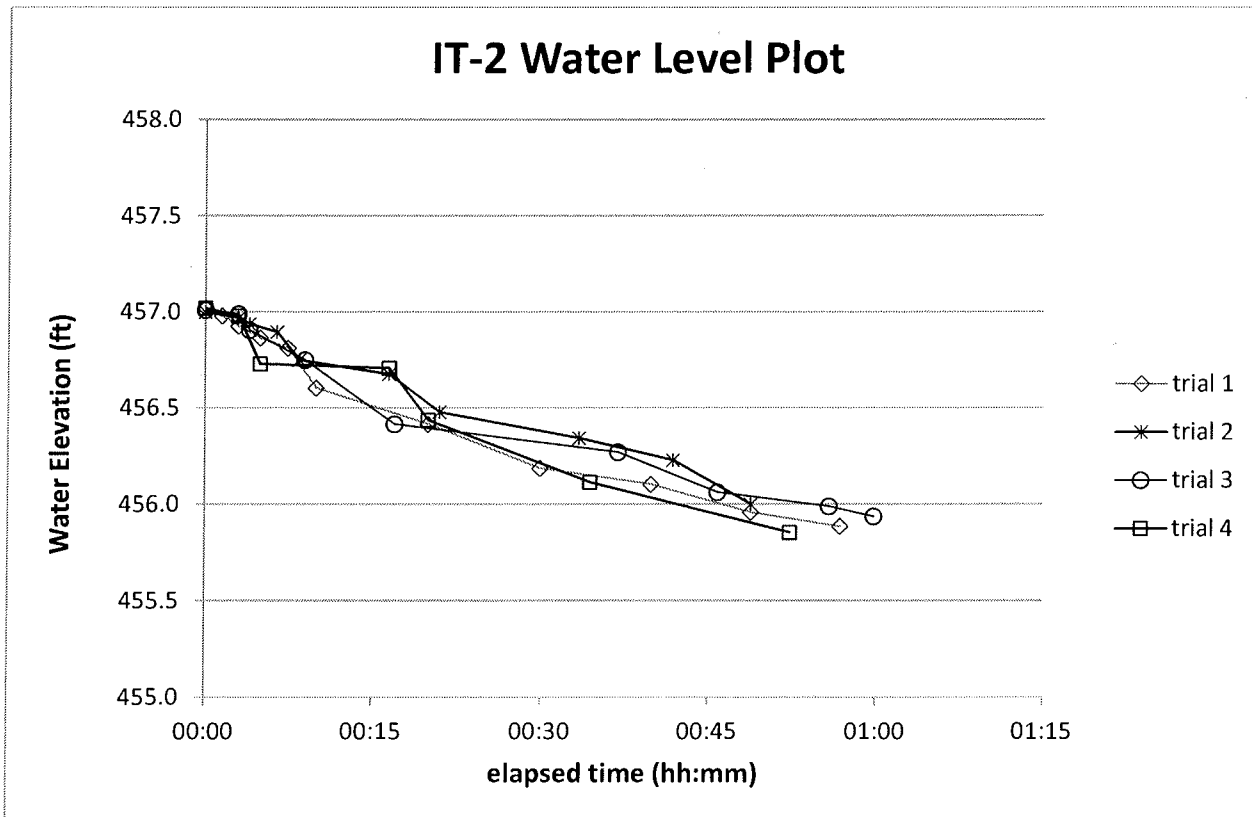
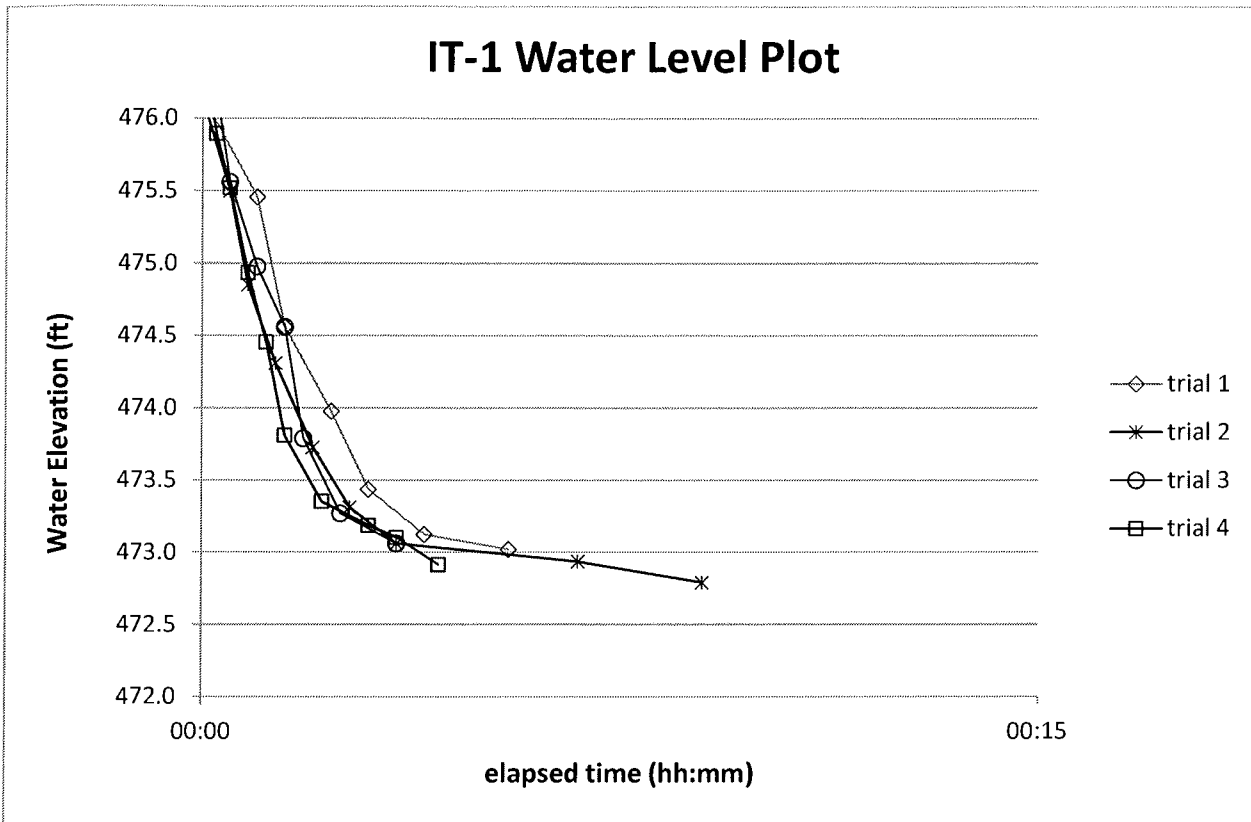
Test Pit No. IT-6 Elevation ± 476.0 Water None

depth	moisture	pocket pen	w	Description
	Dry			FILL: Brown, silty sand, little gravel, cobbles, roots
	Dry			FILL: Brown silt, little gravel, trace cobbles and boulders,
	Dry			cinder blocks, metal, plastic, cloth, metal trays, tiles, wire,
	Dry			metal pipe.
				Pa = 0.25" w/100#
5	Dry	>4.5 tsf		"Garbage" odor
10				

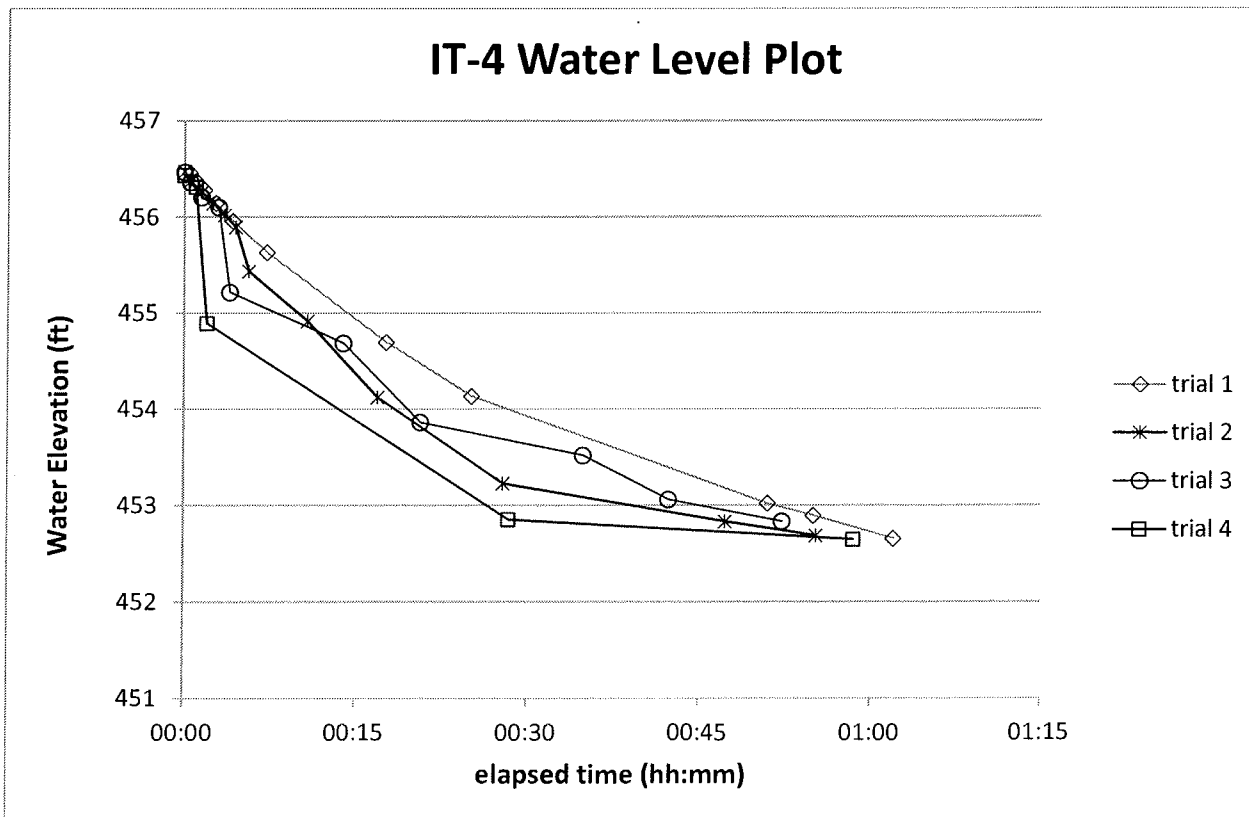
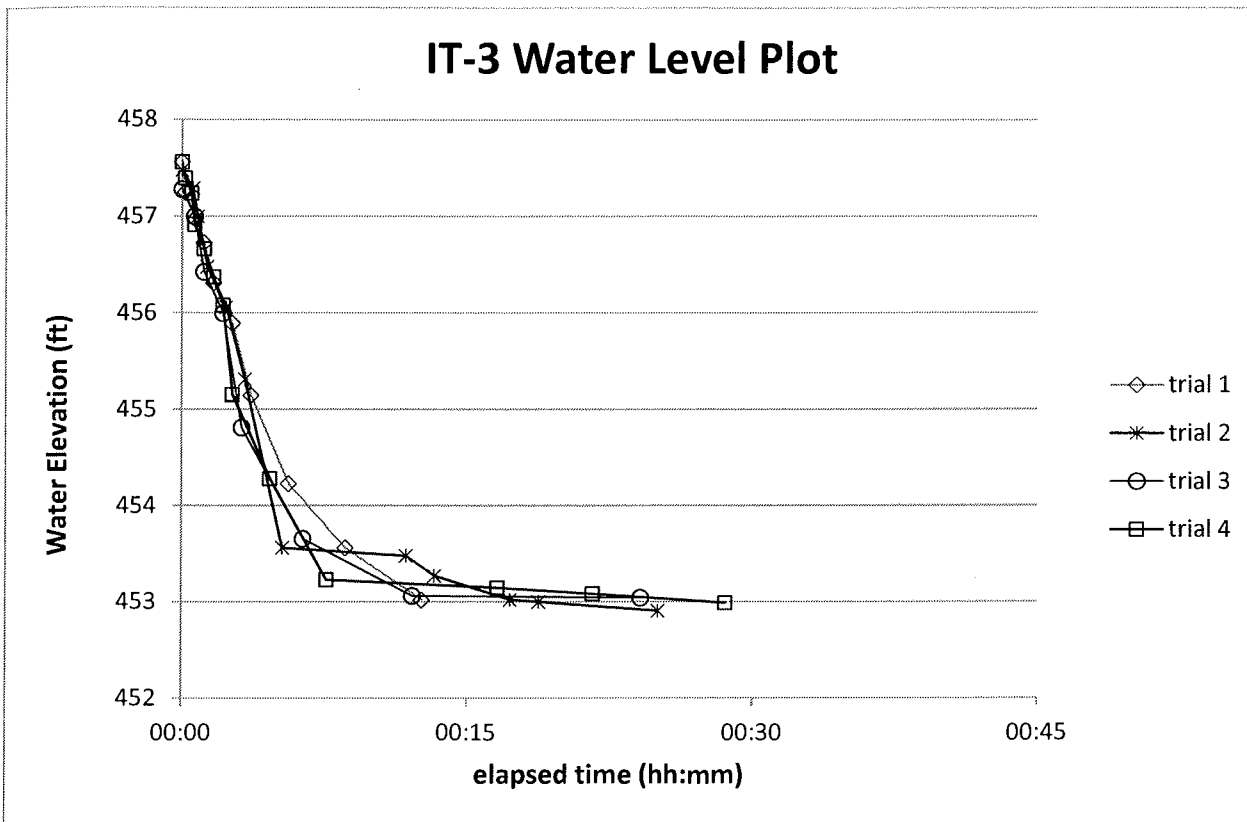
APPENDIX C

INFILTRATION CURVES

Dewitt Community Library
Infiltration Test Results
August 2015



Dewitt Community Library
Infiltration Test Results
August 2015



Dewitt Community Library
Infiltration Test Results
August 2015

