GEOTECHNICAL ENGINEERING REPORT

Madison East-West Bus Rapid Transit
Pavement and Subgrade Report
Madison, Wisconsin

GESTRA Project No.: M21068-10
April 28, 2022

Prepared For:
AECOM Technical Services, Inc.
1350 Deming Way, Suite 100
Middleton, WI 53562

GESTRA

Geotechnical Engineering Report

Madison East-West Bus Rapid Transit
Pavement and Subgrade Report
Madison, Wisconsin

GESTRA Project No. M21068-10
April 28, 2022

Prepared For:

AECOM Technical Services, Inc.
1350 Deming Way, Suite 100
Middleton, WI 53562

Prepared By:

GESTRA Engineering, Inc.
2223 Industrial Drive
Monona, WI 53713
(608) 222-9406

Table of Contents

Geotechnical Engineering Report
Madison East-West Bus Rapid Transit
Pavement and Subgrade Report
Madison, Wisconsin

1.0 INTRODUCTION

GESTRA Engineering, Inc. (GESTRA) was authorized by AECOM Technical Services, Inc. (AECOM) to complete a subsurface exploration and geotechnical engineering reports for the Madison East-West Bus Rapid Transit (E-W BRT) project in Madison, Wisconsin. This report is related to subgrade preparation and pavement design for the project.

The engineering recommendations and analysis contained within this report are based on the following project information which is a projection of GESTRA's understanding of the project. If for any reason the actual project information differs from what is reported below, GESTRA should be contacted so that we can review our recommendations in light of any new information.

1.1 PROJECT INFORMATION

The Madison E-W BRT project includes implementing a dedicated bus travel lane, new bus stops and platforms, new bus terminal locations, and overhead signs and traffic light improvements. This report presents recommendations related to subgrade preparation and pavement design throughout the current proposed route. Where new pavement is planned, we understand it will consist of construction of a new pavement section.

Due to the length of the project, we have separated our discussion and recommendations for the project by the following sections:

- S. Junction Road
- Mineral Point Road
- S. Whitney Way, Sheboygan Avenue, and N. Segoe Road
- University Avenue/Campus Drive, and W. Johnson Street
- Capitol Square
- E. Washington Avenue (U.S. Highway 151)
- Wright Street, Anderson Street, and Mendota Street

2.0 SCOPE OF SERVICES

GESTRA has performed the following services for the project:

- Contacted Diggers Hotline regarding the boring locations and coordinated with the utility companies to identify the public utility locations prior to performing the fieldwork.
- Performed field visits to review utility marking, boring access, and adjust boring locations as needed.

- Completed standard penetration test (SPT) soil borings. For this report, twelve (12) SPT soil borings were completed to depths between 12.3 feet to 26 feet. At the completion of drilling, boreholes were abandoned per WDNR requirements. Two additional soil borings (B-14 and B-15) were originally planned but not attempted due to site constraints and a possible utility conflict with a boring location.
- Performed laboratory soil testing to assign classification and engineering properties to the soils encountered. The laboratory testing included hand penetrometer, moisture content, organic content (LOI), Atterberg limits, mechanical analysis, and unconfined compressive strength.
- Reviewed historical geotechnical soil borings performed by others and provided by the City of Madison (City).
- Prepared this engineering report presenting the results of the field exploration, laboratory testing, and providing the following recommendations pertaining to proposed construction:
    - Pavement: Pavement design parameters based on Wisconsin Department of Transportation (WisDOT) pavement design guidance (Wisconsin Design Group Index (DGI), frost class classification (FI), soil support value (SSV), modulus for subgrade reaction (k), and drainage class.
    - Construction Considerations: Reuse of on-site soils for fill, fill compaction and placement, groundwater control, subgrade preparation/estimation of excavation below subgrade (EBS), and trench and utility construction requirements.

3.0 EXPLORATION RESULTS

3.1 SITE CONDITIONS

The majority of the proposed BRT route travels along multilane divided roadways in an urban area, with some exceptions. The Sheboygan Avenue segment (project station 80WW+00 to 30 SH+00) is one traffic lane and one parking lane in each direction. University Avenue and W. Johnson Street segments (east of project station 800UN+00) are each multilane one-way roads, with flow of traffic on University Avenue in the westbound direction and W. Johnson Street in the eastbound direction. The Capitol Square area is a multilane one-way road that travels in a counterclockwise direction around the Wisconsin State Capitol building. Wright Street, Anderston Street, and Mendota Street are smaller undivided two-lane roads.

The proposed BRT route through the city is primarily fronted by commercial properties. However, the S. Whitney Way and Sheboygan Avenue segments are primarily residential properties. The roadways typically consist of asphalt surface pavement. Additionally, E. Washington Avenue is also part of U.S. Highway 151.

3.2 PEDOLOGICAL INFORMATION

The USDA NRCS Web Soil Survey was used to research the pedologic mapping for the project area. This survey was reviewed for mapped soil types and compared to Chapter 8 of the Wisconsin Department of Transportation (WisDOT) Geotechnical Manual for pedological information. The Web Soil Survey maps are included in Appendix III of this report.

Table 3-1 below summaries the predominate soil units mapped within each segment of the current

project route and Table 3-2 provides a description and properties of each soil unit per Chapter 8 of the WisDOT Geotechnical Manual.

Table 3-1: Summary of Soil Series Units within Project Area

Project Segment	Predominate Soil Series Unit [a]
S. Junction Road	Plano (Po), Dresden (Ds)
Mineral Point Road	Batavia (Bb), Pecatonica (Pe), Plano (Po)
S. Whitney Way/Sheboygan Avenue/N. Segoe Road	Dodge (Dn), Virgil (Vr), McHenry (Md)
Campus Drive/University Avenue/W. Johnson Street	Virgil (Vw), Batavia (Bb), Dodge (Dn), Sable (Sa)
Capitol Square	Dodge (Dn), McHenry (Md)
E. Washington Avenue (from Capitol Square to Wright Street)	Colwood (Co), St. Charles (Sc), Batavia (Bb)
Wright Street/Anderson Street/Mendota Street	St. Charles (Sc), Virgil (Vw)
E. Washington Avenue (from Mendota Street to E. Springs Drive)	Elburn (Eg), Plano (Pl), St. Charles (Sc), Troxel (Tr), Dresden (Ds)

a. Predominate units based on 10% or more present within respective project segment

Table 3-2: Description and Properties of Soil Series Units

Soil Series Units	Description	Design Group Index (DGI)	Subgrade Modulus (k, pci)
Batavia	Silty clay on calc sandy loam till	10 - 12	150 - 200
Colwood	Stratified sand to sandy loam	14	100 - 125
Dodge	Silty clay loam over gravelly sandy loam	10 - 12	150 - 200
Dresden	Silty clay loam over sand and gravel	14	125

Soil Series Units	Description	Design Group Index (DGI)	Subgrade Modulus (k, pci)
Elburn	Silty clay loam, silt loam	12 - 14	125 - 150
McHenry	Silty clay loam over gravelly sandy loam	2 - 12	175 - 275
Pecatonica	Silty clay loam	10	200
Plano	Silty clay loam over stratified sand	12	150 - 200
Sable	Loess > 48" Thick	12 - 14	125 - 150
St. Charles	Silty clay loam over stratified gravelly sandy loam	10 - 12	150 - 200 [a]
Troxel	Silty clay loam over gravelly sand	14 - 18	75 - 100
Virgil	Loam, silty clay loam, sandy loam	10 - 12	150 - 200

a. k values not provided in Geotechnical Manual; estimated based on Soil Series with similar descriptions.

3.3 SUBSURFACE SOIL PROFILE

Twelve (12) of the SPT soil borings performed by GESTRA were located within the roadway limits of this report. The borings were completed within the City of Madison right-of-way, primarily within grass medians or terraces. Only boring B-13 was performed through existing pavement within Campus Drive. It should be noted that frost was observed within the first split spoon sample collected; therefore, the recorded SPT N-values for the upper 2 feet of each boring should not be considered accurate. All borings encountered fill material consisting of varying soil types and depths. Table 3-3 summarizes the topsoil and pavements thicknesses and fill depths observed. Boring B-14 was planned in the area of the W. Johnson Street and N. Orchard Street intersection and boring B-15 was planned in the area of the E. Washington Avenue and S. Franklin Street intersection, but were not performed due to site constraints and a possible utility conflict with the boring location. Per the direction of the City of Madison, GESTRA reviewed historical borings provided by the City and typically did not perform new borings within these sections of the project. The boring logs and boring location plans from the information provided by the City are included in Appendix IV of this report.

Table 3-3: Summary and Depths of Surface and Fill Materials

Project Segment	GESTRA Boring Number	Surface Material / Thickness (inches)	Fill Material	Depth of Fill (feet)	SPT N-Values Range (bpf) [a]
S. Junction Road	B-8	Topsoil / 7	Silty Sand with Gravel	3.8	12
Mineral Point Road	B-9	Topsoil / 12	Sandy Lean Clay	4.7	21
	B-10	Topsoil / 5	Sandy Lean Clay / Clayey Sand	4	31
S. Whitney Way/Sheboygan Avenue/N. Segoe Road	B-11	Topsoil / 6	Lean Clay with Sand [b, c]	2.7	10
	B-12	Topsoil / 4	Silty / Clayey Sand	4.4	10
Campus Drive/University Avenue/W. Johnson Street	B-13	Asphalt / 6.5	Silty Sand / Lean Clay / Clayey Sand [c]	7.6	6 to 27
E. Washington Avenue	B-16	Topsoil / 2	Sand with Silt, Clay, and Gravel [c]	6.2	3
	B-17	Topsoil / 6	Sandy Lean Clay / Sand [b]	6.3	6 to 26
	B-18	Topsoil / 6	Sand with Silt / Silty Sand [b, c]	6.2	12 to 17
	B-19	Topsoil / 9	Sand with Gravel / Silty Sand	3.4	9
	B-20	Topsoil / 10	Lean Clay with Sand	4.7	14
	B-21	Topsoil / 10	Lean Clay [b, c]	7.3	6 to 9

a. Excludes N-value from 0 to 2 feet due to frost.

b. Trace organics present within fill material.

c. *Asphalt, concrete, or debris pieces noted within fill material.*

The native soils encountered below the fill material typically consisted of clay over granular soils with occasional silt layers. Borings B-11 and B-17 consisted of a stratified sand and clay profile.

An approximate 1-foot peat layer was present below the fill material in boring B-8 around a depth of 3.8 feet. Table 3-4 summarizes the native soil properties at each boring location.

Table 3-4: Summary of Native Soils

Project Segment	GESTRA Boring Number	Moisture Content Range of Clays and Silts	Hand Penetrometer Range of Clays (tsf)	SPT N-Values Range of Silts and Granular Soils (bpf)
S. Junction Road	B-8	23.1% [a]	2.5 [a]	7 to 11
Mineral Point Road	B-9	N/A	N/A	8 to 24
	B-10	14.6% to 15.3%	0.5 to 1	13 to 16
S. Whitney Way/Sheboygan Avenue/Segoe Road	B-11	9% to 22.7%	2.75 to 4.25	21 to 29
	B-12	20.3% to 24%	0.5 to 2.5	8 to 50 for 6 inches or less [b]
Campus Drive/University Avenue/Johnson Street	B-13	N/A	N/A	13 to 16
E. Washington Avenue	B-16	20.8% to 22.4%	0.75 to 2.5	5 to 45
	B-17	17.3%	1	10 to 20
	B-18	N/A	N/A	22 to 50 for 6 inches or less [b]
	B-19	N/A	N/A	11 to 62
	B-20	24.9%	2.75	14 to 39
	B-21	20.7%	N/A	17 to 60

a. Does not include peat layer from 3.8-4.7 feet.

b. Possible bedrock at depth of boring.

Some difficulty occurred when drilling borings B-10, B-12, and B-18. A possible boulder or cobbles was encountered at 4 feet in boring B-10, resulting in auger refusal of the drill rig and offsetting to continue the boring. Possible bedrock was noted at 19.5 feet in boring B-12 and at 12.3 feet in boring B-18.

Results of the field and laboratory tests and observations are depicted on the individual boring logs included in Appendix I of this report. Soils were grouped together based on similar observed

properties. The stratification lines were estimated by the reviewing engineer based on available data and experience. The actual in-situ changes between layers may differ slightly and may be more gradual than depicted on the boring logs. Subsurface and groundwater conditions can vary between borehole locations and in areas not explored.

It is important to note that the soil observations, fill depths, topsoil, and pavement thickness estimates were made in small diameter boreholes. Therefore, it should be understood that thicker or thinner deposits of the individual strata are likely to be encountered within other portions of the project. Furthermore, the estimation of strata thickness at a particular location can differ from person to person due to a sometimes indistinct transition between the soils encountered. Additionally, it must be recognized that in the absence of foreign substances and/or debris within the soil samples obtained, it is sometimes difficult to distinguish between natural soils and clean soil fill.

3.4 GROUNDWATER OBSERVATIONS

Groundwater observations were made during and at the completion of drilling operations. Only borings B-16 and B-17 encountered groundwater. Boring B-11 observed a 2-inch very moist layer at 7.3 feet. Table 3-5 summaries the groundwater observations made during drilling.

Table 3-5: Depth to Water Measurements and Water Elevations [a]

GESTRA Boring Number	Ground Surface Elevation (feet)	Groundwater During Drilling		Ground Water After Drilling	
		Depth (feet)	Elevation (feet)	Depth (feet)	Elevation (feet)
B-16	849.8	4.5 [b]	845.3	15	834.8
B-17	856.8	12.2	844.6	NE [c]	NE

a. Borings not presented in the table did not encounter water during or after completion of drilling.

b. Wet sand fill layer observed from 4.5 to 5.1 feet; likely perched or tapped water.

c. NE: Not encountered

Groundwater level fluctuations may occur with time and seasonal changes due to variations in precipitation, evaporation, surface water runoff and local dewatering. Perched water pockets and a higher water table may also be encountered during wet weather periods, particularly in more permeable silt and sand seams or granular fill material overlying less permeable clays. Installation and monitoring of an observation well would be required to assess true groundwater elevation.

4.0 ANALYSIS AND RECOMMENDATIONS

4.1 DISCUSSION OF GEOTECHNICAL INFORMATION

GESTRA performed a limited number of soil borings along the project route at locations selected by AECOM. As such, the individual as-drilled soil borings were located as close as reasonably possible to the planned improvement areas. Therefore, it should be understood that the soil data presented is used as an approximation over a larger span, and that soil conditions along the project

route may likely vary in between soil boring locations. Historical geotechnical soil borings performed by others were provided to GESTRA by the City of Madison and were used as directed to evaluate areas not explored by GESTRA. The recommendations presented in this report are in part based on the provided information; however, the actual soil conditions encountered during construction may vary from these projects.

4.2 PAVEMENT RECOMMENDATIONS

4.2.1 SELECT MATERIAL DISCUSSION

The roadways within the proposed project route are not considered either a rural state trunk highway or urban freeway project. Therefore, it is our understanding that use of Select Materials is not required as part of FDM 11-5-15. However, the project is within the shaded portion of Attachment 15.1 in the WisDOT Facilities Development Manual (FDM), Section 11-5-15 and as such is part of the Standard Inclusion Area for use of Select Material. Based on the typical stiff to very stiff lean clay or clayey fill condition anticipated to be the majority of the subgrade throughout the project, it is our opinion that the roadways could be designed and constructed without use of Select Material provided that the subgrade is evaluated and repairs are made as needed. Potential areas anticipated for subgrade correction are discussed further in Section 4.1.3 of this report.

The design can consider if the use of Select Material would be cost effective as it would remove the need for proof rolls and would be expected to remove the need for EBS. Select Material may have a higher cost but there would be less uncertainty in the quantities of EBS needed. Use of Select Material would also allow incorporating an improved subgrade modulus. For budgeting purposes, breaker run with a thickness of 16 inches may be assumed for Select Material. This can be reduced to 12 inches with the use of geogrid per page 2 of FDM 11-5-15 attachment 15.2.

4.2.2 SUBGRADE PREPARATION (IF SELECT MATERIAL NOT USED)

Subgrade preparation should start with the removal of existing pavement or surficial topsoil and vegetation. If buried topsoil, vegetation, roots, debris, deleterious material, soil that contains significant amounts of organics, or other unsuitable material are exposed, it should be removed from the planned pavement subgrade. Pavement should not be constructed over frozen soil and any unused underground utilities or drain tile should be properly removed or abandoned.

After the initial subgrade preparation and/or additional excavation (if needed), we recommend re-compacting the subgrade using a sheepsfoot roller for cohesive soils or a vibratory drum roller for non-cohesive soils followed by a proof roll. The proof roll should be completed with a fully loaded tri-axle dump truck moving at no more than walking speed to determine the stability of the subgrade soils. Soil remediation work may be needed where excessive yielding during the proof roll is noted. The type of remediation and the depth needed should be determined at the time of construction based on drainage, weather, and soil conditions. Where subgrade remediation is needed, possible options for improvement include the following methods.

<u>Recondition the soft subgrade through moisture/density control</u>

If this option is chosen, the subgrade should be aerated through disking and dried to within two (2) percent of its optimum moisture content after which the dried soils can be re-compacted in place to at least 95% of the maximum dry density as obtained by the modified Proctor (ASTM D1557). However, it may not be effective if unstable soils extend to depths greater than 1 foot below subgrade. This option should not be used for unsuitable subgrade material and may not be

practical if weather conditions are not appropriate, there is not sufficient time in the schedule for drying, or there is not sufficient staging area to dry the soils.

Removal and Replacement through Excavation Below Subgrade (EBS)

Where soils were observed to have high moisture contents (20% or more) and/or low SPT blow counts (N<7), or organic soils present, it should be anticipated that an unstable subgrade condition is likely. Upon reviewing the soil information collected from GESTRA's borings, as well as the historical soil boring records provided by the City, Table 4-1 below summarizes the boring locations where potential subgrade correction may be necessary.

Table 4-1: Areas Identified for Potential Subgrade Correction [a]

Project Segment	GESTRA Boring Number or Historical Borings Reference [b]		Nearest Project Station Number [c]	Potential Unsuitable Soil Conditions Present [d]
S. Junction Road	B-8 (GESTRA)		N/A	Peat layer (3.8 to 4.7 feet)
Mineral Point Road	B-2 (CGC report #17051-9)		75MP+00	Clay FILL and soft to stiff native clay
University Avenue/Campus Drive/W. Johnson Street	CGC report #C18051-18	RB-3	343UC+00 to 370UC+00	Medium stiff to stiff clay
		RB-4		Medium stiff clay FILL
		RB-5		Stiff clay FILL with topsoil
		B-7		Very loose sand with silt FILL
		B-8, B-9		Soft to stiff clay FILL
	CGC report #C08071-13	B4, B7, B8, B9, B10, B12	390UC+00 to 847UN+00	Soft to stiff clay (FILL and native)
		B13, B14	853UN+00	Black clay/possible buried topsoil

Project Segment	GESTRA Boring Number or Historical Borings Reference [b]		Nearest Project Station Number [c]	Potential Unsuitable Soil Conditions Present [d]
Capitol Square	CGC report #C15051-30	B1, B2	510SQS+00 to 514SQS+00	Medium stiff to stiff clay (FILL and native)
		B3	414SQN+00	
E. Washington Avenue	B-16 (GESTRA)		236WA+00	Sand FILL with 3 to 4 N-values, wet layer at 4.5 feet
	B-21 (GESTRA)		477WA+00	Clay FILL with organics
	SB1, SB2, SB3 (CGC report #C17143)		230WA+00	Loose FILL mixed with possible foundry material, deeper soft and organic soils
	B1, B2, B3 (CGC report #C18051-8)		250WA+00	Loose sand FILL mixed with possible foundry materials
	B4, B8, B12, B16, B18, B19, B21 (CGC report #C19051-15)		454WA+00	Organic soils and soft clay [e]

a. Project segments and borings not referenced in table did not indicate conditions for significant subgrade correction.

b. Based on borings closest to project route.

c. Based on stationing from project Site Layout plans and shown on attached Geotechnical Borings plan.

d. Based on unsuitable soil condition noted within upper 7 feet of boring.

e. Borings performed within existing park greenspace; soft or organic soils have likely been corrected during past roadway construction.

The need for subgrade correction may be significantly higher if the work is completed in poor weather conditions. The above listed boring locations are not provided to suggest that subgrade repairs would only be needed at these locations, rather the borings are taken as a representation of the soil conditions throughout the route. We recommend the project includes an appropriate budget for performing subgrade correction and repairs.

Granular fill should be compacted to at least 95% of the maximum dry density as obtained by the modified Proctor (ASTM D1557). If an open graded clean stone is used as fill, a geotextile may be necessary to provide an adequate separation between the underlying subgrade and new fill and to prevent migration of the finer subgrade soils into the void space of the new fill.

If deeper unsuitable subgrade soils are encountered and/or shallow utilities are present, Geogrid may be used to limit the depth of EBS. Geogrid is a permeable synthetic fabric which, depending on the type of material used, can be used for separation, stabilization, confinement and/or reinforcement of weak subgrade. A typical section suitable for support of construction traffic would include a minimum of 12 inches of 1 ¼-inches dense aggregate over geogrid. Use of geogrid is based on the following assumptions in general accordance with WisDOT Standard Specification Sections 645.2.3.2 and 645.3.2:

- The subgrade should be smoothed and shaped to the required grade and section and be compacted to the specified density prior installation of geogrid.
- No traffic or construction equipment will be allowed to travel directly over the geogrid.
- Geogrid should be rolled out on the roadway and pulled taut manually to remove wrinkles.
- Parallel strips should be overlapped at least 18 inches.
- Geogrid should be covered within 48 hours of installation.

4.2.3 SOIL PARAMETERS FOR PAVEMENT DESIGN

From an evaluation of the available data, information available in the WisDOT Facilities Development Manual (FDM, Chapter 14, Section 14-5), and referring to the WisDOT Geotechnical Manual (2017), we recommend that the specific pavement design values outlined below be used in establishing the appropriate pavement section(s) for the project.

The recommended average soil parameters indicated in Table 4-2 are based on the given AASHTO classification. The majority of the project route contained clay soils or fill containing some percentage of clay or silts present in shallow depths. These parameters assume the typical clayey fill soil condition is present near the surface and that soil preparation has been performed as identified in this report. In some areas of the project route, granular soils were present within varying boring locations. However due to the variability of the soil conditions throughout the route, we assumed one overall set of conservative subgrade parameters for the project. If the subgrade is planned to extend through the clayey soils and into the native granular soils, the provided soil parameters could be modified.

Table 4-2 – Estimated Average Soil Parameters

Design Parameters	Project Segment		
	S. Junction Road	Mineral Point Road S. Whitney Way/Sheboygan Avenue/N. Segoe Road Campus Drive/University Avenue/W. Johnson Street Capitol Square Wright Street/Anderson Street/Mendota Street	E. Washington Avenue
AASHTO Soils Classification [a]	A-6	A-6	A-6
Depth to (possible) bedrock (if <20 feet) [b]	Not applicable	4 feet to 19.5 feet (from project station 30SH+00 to 415UC+00)	12 feet (GESTRA boring B-18, near project station 310WA+00)
Design Group Index (DGI)	14	14	14
Soil Support Value (SSV)	3.9	3.9	3.9
Flexible Pavement - Soil Support Value (SSV) with Select Material [c]	4.5	4.5	4.5
Drainage Class	W	SP – W	P – W
Frost Index	F-3	F-3	F-3
Modulus of Subgrade Reaction (k)	125	125	125
Rigid Pavement- Modulus of Subgrade Reaction (k) with Select Material [d]	375	375	375
Additional Subgrade Parameters for AASHTOWare Software Inputs [e]			
Maximum Dry Density (pcf) [f]	120		

Optimum Moisture content (%) [f]	13
Specific Gravity	2.7
Gradation (% Passing)	#200: 80
	#40: 90
	#10: 95
	#4: 95
Liquid Limit (LL) and Plasticity Index (PI)	LL = 35 PI = 20

a. Based on the predominate clayey fill soils.

b. Shallow bedrock predominantly encountered along the N. Segoe Road and Campus Drive segments; however, bedrock not anticipated to affect pavement construction. The depths are for locations where bedrock was encountered, but bedrock was not encountered in all borings.

c. Per Geotechnical Manual (March 1, 2017), Section 6-2.3, Figure 2: Soil Support Value and Design Group Index, only if Select Material is used.

d. Per WisDOT FDM Chapter 14; Section 5; Sub-section 5.2.1, only if Select Material is used.

e. Estimated based on reviewing the observed soil profile, laboratory testing, and engineering judgment; actual soil conditions may vary at locations along the route.

f. Estimated values based on Modified Proctor tests of similar material.

The soil parameters presented in Table 4-2 assume the recommendations of the report are followed. Additionally, the use of the recommended design values is based on the following assumptions:

- The subgrade has been closely monitored during development of the road subbase.
- The subgrade has been thoroughly and adequately compacted.
- Wet zones have been dried, drained, or removed.
- Pockets of dissimilar material have been removed, replaced or mixed to achieve a homogeneous subgrade.
- Adequate subgrade drainage has been achieved. (Reference: WisDOT, Geotechnical Manual).

4.2.4 RECLAIMED ASPHALT AND CONCRETE PAVEMENT

If the existing asphalt surface is pulverized and planned to be reused as base course, we recommend the pulverized material meet the requirements of Section 305.2.2.2 (Reclaimed Asphalt) of WisDOT Standard Specification (2022). The requirements for reclaimed asphalt of WisDOT Standard Specification (2022) are presented as below:

- 100 percent passing a 1 1/4-inch sieve as 1 1/4-inch base.

If pulverized asphalt is used for all or part of the base course, we recommend a gradation analysis on the pulverized material be performed to verify that is satisfies WisDOT specifications.

In addition, if recycled concrete material is planned to be reused for subgrade correction and improvement, we recommend the crushed concrete material meet the requirements for Breaker Run per WisDOT Standard Specification (2022), Section 311. The concrete should free of steel,

building materials or other deleterious materials; and when processed through a primary crusher, produces a material similar in size and texture to that produced from a quarry. The concrete should be crushed so that it is 6 inches or less in at least one dimension. If the crushed concrete is used for base course material, we recommend a gradation analysis be performed on the crushed concrete material. The base course material should satisfy WisDOT graduation requirements for 1-1/4-inch dense-graded base per specifications 305.2.2.1.

Additionally, we recommend the placement and compaction follow the general guidelines in this report and the construction include oversight and evaluation of the material during placement, including a proof roll prior to paving.

4.2.5 Additional Engineered Fill and Construction Comments

Our recommendations are based on the assumption that all earthwork and construction will be performed in accordance with the appropriate sections of the *State of Wisconsin Standard Specifications for Highway and Structure Construction*, 2022 Edition, *the City of Madison Standard Specification for Public Works Construction,* 2022 Edition and all supplemental specifications.

We recommend that fill be unfrozen and free of organics, wood, construction debris, lumps, and/or deleterious materials. We recommend that fill be placed in lifts not exceeding 12 inches for granular soils and 8 inches for clay soils, and the fill be compacted with proper compaction equipment depending on the soil type. All fill material should be compacted at moisture contents within 2% of the optimum moisture content as determined by a modified Proctor test.

If EBS is required, per Table 1, Section 5-3.1.8 of the WisDOT Geotechnical Manual, March, 2017, we recommend a 30% expansion value be used in determining the difference between the in-place volume and the volume of the excavated material when handled in a truck based on the clay soils. The value for the conversion of imported fill in a truck to a compacted condition is dependent on the type of material used. For the purposes of estimating imported fill material (assumed granular soil), a 15% expansion value can be used.

Site grading should direct runoff away from planned pavement areas and should be maintained throughout construction so that the potential for the softening of the subgrade soils is reduced. Equipment and working traffic should also be kept to a minimum on subgrade surfaces, especially during times of precipitation or following spring thaw. The contractor is responsible for maintaining completed earthwork areas. Consideration should be given to utilizing existing pavements to reduce disturbance to the subgrade soils.

The information presented in this report may be used to evaluate the site conditions for construction, but the contractor is responsible for determining site preparation means and methods required to complete the project. An aggressive construction schedule or construction during seasons with limited drying time may not allow for reconditioning of the subgrade and soil correction may require removal and replacement with imported granular fill.

This geotechnical report identifies or recommends material that may be used as engineered fill, but the contractor is responsible for utilizing materials that meet the project requirements and determining means and methods required for placement and compaction. Typically, clay soils are easier to dry or rework when placed over large open areas during favorable weather conditions. Clay soils can be difficult to compact or moisture condition in trench backfill situations and may increase potential for consolidation and settlement of the backfill if it is not placed or compacted

properly. Granular soils may be easier to place and compact in trench backfill situations but may increase construction costs if the material has to be imported

4.3 TRENCH AND UTILITY CONSTRUCTION REQUIREMENTS

It is our understanding that shallow utility work performed for the project will typically be done in an open trench excavation. We recommend utility construction procedures be performed in general accordance with the *City of Madison Standard Specification for Public Works Construction*, 2022 Edition. Additionally, utility excavations and subsequent backfill procedures should follow the subgrade preparation recommendations of Section 4.1 of this report. Based on the sandy soils and existing fill materials present in the majority of the borings, it is likely that a temporary soil retention system will be required during utility excavation work. Additional discussion relating to excavation stability is presented in Section 4.4 of this report.

Based on the GESTRA soil borings performed and review of the historical boring records, possible shallow bedrock (20 feet or less in depth) is most likely to be encountered in the areas of the N. Segoe Road and Campus Drive segments (project station 30SH+00 to 415UC+00). Additionally, layers of cobbles or boulders may be present during utility construction, such as encountered in GESTRA boring B-10/B-10A near the Mineral Point Road and S. Whitney Way intersection. Therefore, if bedrock, cobbles, or boulders are encountered during utility construction or deeper grade utilities are planned, excavations may require additional methods to install the utilities.

4.4 CONSTRUCTION CONSIDERATIONS

The detailed means and method of excavation and construction should be decided by the contractor and approved by the project design team. Based on the specific site information, geotechnical exploration results and requirements for the proposed project, the following issues should be taken in consideration during construction.

Dewatering

Groundwater is not expected to be encountered during reconstruction of the roadway. If water is encountered, it is expected to be mainly in the form of localized "perched" water pockets rather than a true groundwater table. Typically, if water is encountered during the general roadway excavation an appropriate number of temporary sump pits and pumps should be sufficient to remove water from the excavation. Additionally, the contractor should take precautions during earthwork to prevent the ponding of water from precipitation.

Excavation Stability

Caving is a common issue for excavation side walls during construction, especially if fill material, granular soils, and/or water seepage are observed. An excavation plan should be developed and the length of excavation left open should be limited to prevent caving soil from covering the suitable bearing soils.

Where granular fill soils or loose soils (SPT N-values < 7) are encountered, a temporary soil retention system may also be necessary in order to prevent caving or provide support of surrounding structures or utilities during construction. Designing the retention system is out of the scope for GESTRA. The contractor must comply with the federal, state, local and updated OSHA regulations during excavation and in retention system design to ensure excavation safety.

Occupational Safety and Health Act (OSHA) has instituted strict standards for temporary construction excavations. These standards are outlined in 29 CFR Part 1926 Subpart P. Excavations within unstable soil conditions or extending five feet or more in depth should be adequately sloped or braced according to these standards. Excavation safety is the responsibility of the contractor. Material stockpiles or heavy equipment should not be placed near the edge of the excavation slopes. The actual stable slope angle should be determined during construction and will depend upon the loading, soil, and groundwater conditions encountered.

Weather Implications

The subgrade soil might become unstable with exposure to adverse weather such as rain, snow and freezing temperatures. The unstable areas due to weather exposure may require an additional undercut or stabilization and the representative geotechnical engineer should assist with the determination of the depth of additional undercut or stabilization procedure based on observation of the field condition.

Soil Sensitivity

Soil at the construction site will be exposed to moisture and disturbance from construction traffic, construction equipment and human factors. Due to the disturbance, soil may become sensitive with contact of water. Additionally, the soils with higher percentages of fines are more susceptible to disturbance. Contractors should try to lessen the exposure to moisture and disturbances the soil may encounter at the construction site. Therefore, pavements and utilities should be constructed immediately after the review of the representative geotechnical engineer.

Existing Fill

Foreign material was encountered within samples of the existing fill material collected. GESTRA has not evaluated the material with respect to environmental considerations.

5.0 EXPLORATION AND TESTING PROCEDURES

5.1 LAYOUT AND ELEVATION PROCEDURES

A total of twelve (12) soil borings were completed within the project sections of this report at the approximate locations shown on the attached Geotechnical Boring Plan in Appendix I. The location of the borings were selected by AECOM. Borings B-8 through B-13 were located and surveyed in the field by KL Engineering, Inc. Borings B-16 through B-21 were located and surveyed in the field by Strand Associates, Inc. The locations were adjusted as needed by GESTRA based on utility locations and access with the final locations approved by AECOM.

5.2 FIELD TESTING PROCEDURES

The boreholes were drilled using a truck mounted drill rig. The boreholes were initiated and advanced by using hollow stem augers. A 24-inch split spoon sample was typically collected at the surface, then 18-inch split spoon samples were collected at 2.5-foot intervals starting at a depth of 2 feet to a depth of 16 feet or at a termination depth determined at the time of drilling.

All representative soil samples were taken in general accordance with the “Standard Method for Penetration Test and Split-Barrel Sampling of Soils” (ASTM D1586) or “Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes” (ASTM D1587). After each sampling, a soil sample was retained and placed in a jar and recorded for type, color, consistency,

and moisture, sealed and then transported to the laboratory for further review and testing, if required. The specific drilling method used including the depths, rig type, and crew chief are included on each of the individual boring logs as it may change for each borehole.

5.3 LABORATORY TESTING PROCEDURES

After completion of drilling operations, all of the retained soil samples were transported to GESTRA's laboratory and classified by a geotechnical engineer using the Unified Soil Classification System (USCS). Charts describing the classification systems used are included in Appendix I of this report. The engineer assigned laboratory testing suited to extract important index properties of the soil layers. These tests included hand penetrometer, moisture content, organic content (LOI), Atterberg limits, mechanical analysis, and unconfined compressive strength.

STANDARD OF CARE

Our exploration was limited to evaluating subsurface soil and groundwater conditions pertaining to the proposed project. GESTRA did not perform any environmental, chemical, or hydrogeologic testing as these were not part of our work scope.

The City of Madison provided GESTRA geotechnical soil borings performed by others and requested GESTRA use the information in preparation of our report. GESTRA utilized the geotechnical information as provided in developing our geotechnical recommendations, but our scope did not include independent exploration to confirm subsurface conditions in these areas.

This report should be made available in its entirety to bidding contractors for information purposes. The soil boring logs and borehole location map should not be detached from this report. Our report is not valid if used for purposes other than what is described in the report.

All OSHA regulations such as those regarding proper sloping and temporary shoring of excavations should be followed during the entire construction process.

GESTRA has presented our professional opinions in this report in the form of recommendations. Our opinions are based on our understanding of current project information and related accepted engineering practices at the time of this report. Other than this, no warranty is implied or intended.

Sincerely,

GESTRA Engineering, Inc.

Report Prepared By:

Joseph Metzinger, E.I.T.
Staff Engineer

Report Reviewed By:

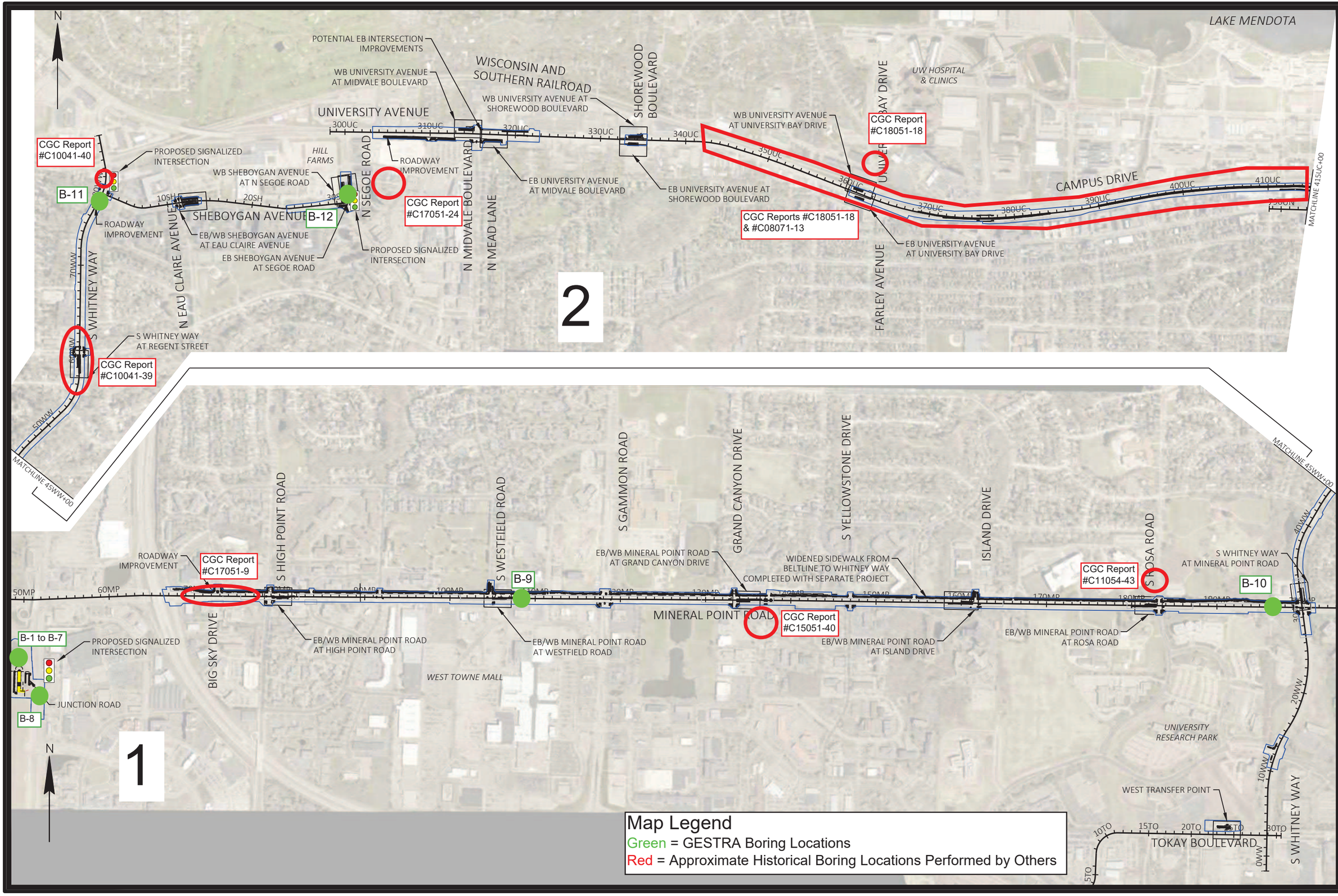
WISCONSIN
DOUGLAS S. DETTMERS
E-35060
MILWAUKEE
WI
PROFESSIONAL ENGINEER

Digitally signed by Douglas Dettmers
Date: 2022.04.28 16:08:27 -05'00'

Douglas Dettmers, P.E.
Senior Engineer

APPENDIX I

PROJECT OVERVIEW PLAN, GEOTECHNICAL BORINGS PLAN, TEST BORING LOGS, GENERAL NOTES AND SOILS CLASSIFICATION



Map Legend

Green = GESTRA Boring Locations

Red = Approximate Historical Boring Locations Performed by Others

MARK	REVISION	DATE	BY
Designed By: AECOM	Date: 2021-10-01	Scale: 1 IN:1000 FT	
60631225P			

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

PROJECT OVERIVEW

BUS RAPID TRANSIT

CITY OF MADISON

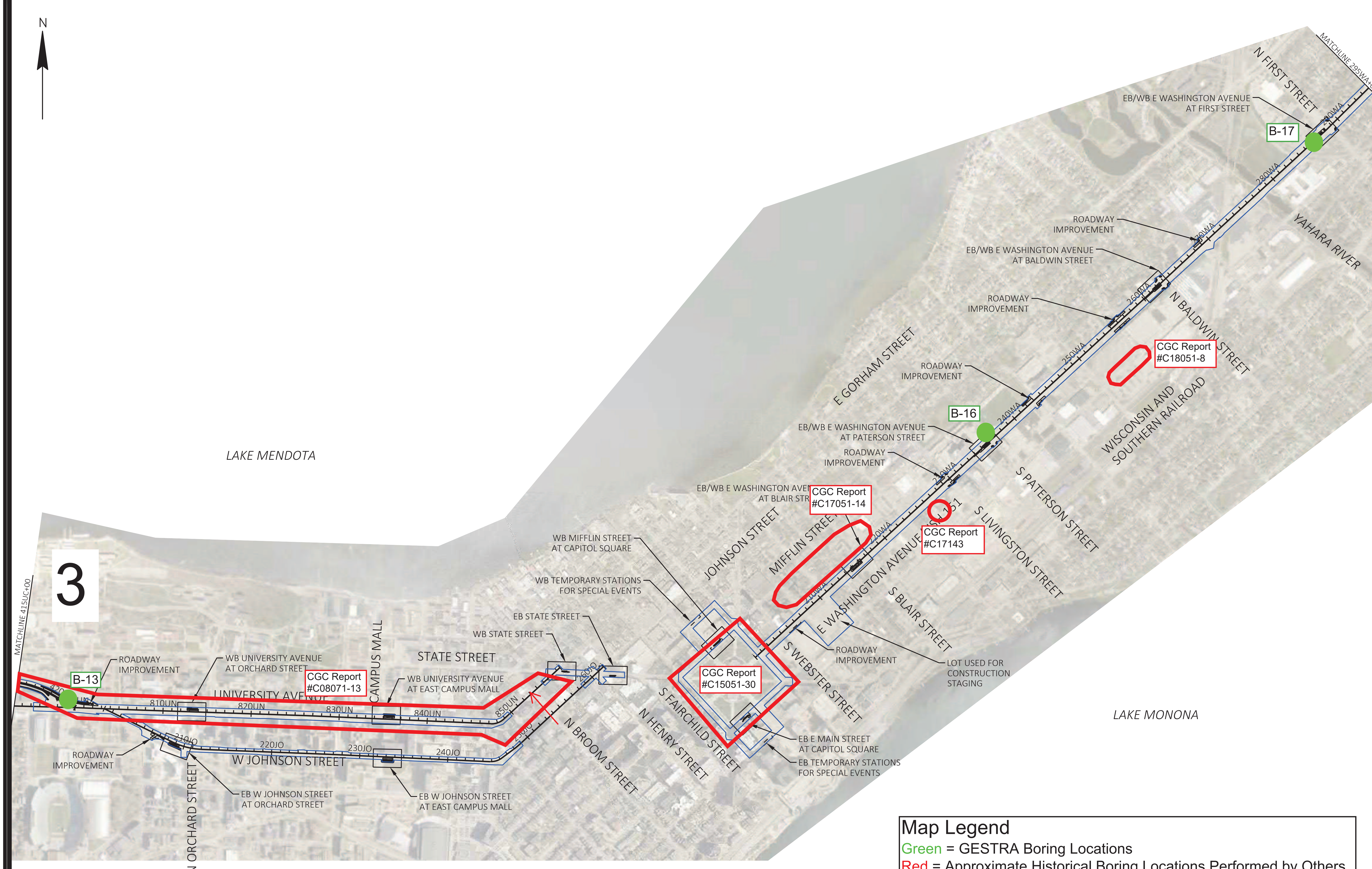
60631225P

0-1

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\MICHAEL.SCHNEIDER2@AECOM.COM\DMS86348\020201-P0.DWG

LAYOUT NAME - 01

LAST PLOT DATE - 2021-10-01



Map Legend

Green = GESTRA Boring Locations

Red = Approximate Historical Boring Locations Performed by Others

MARK	REVISION	DATE	BY

Designed By: AECOM
60631225P

Date: 2021-10-01

Scale: 1 IN:1000 FT

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

PROJECT OVERIVEW

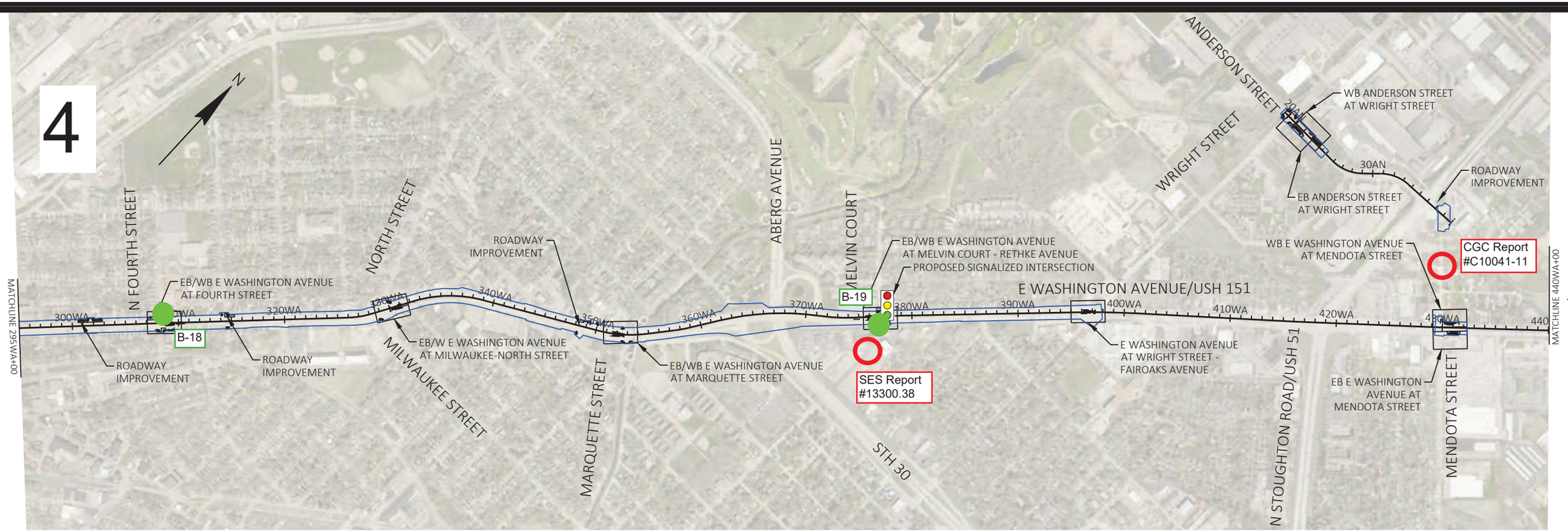
BUS RAPID TRANSIT

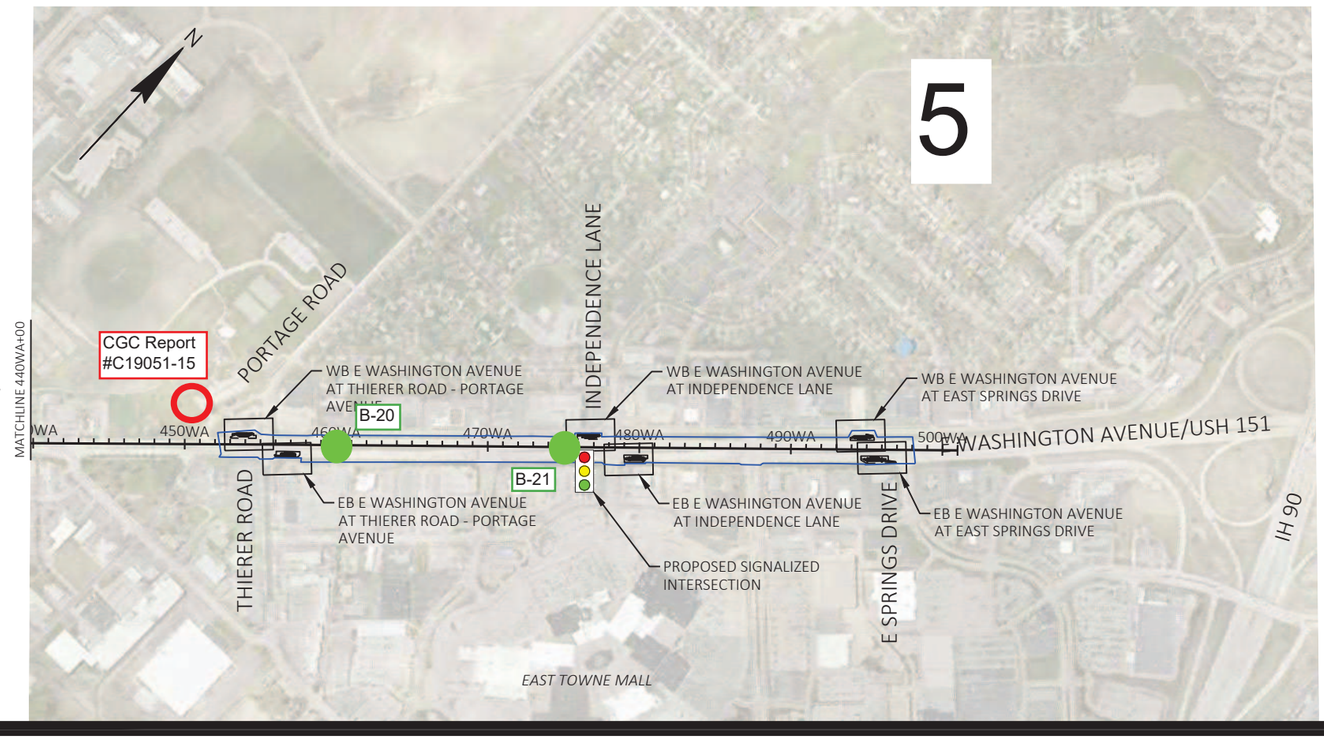
CITY OF MADISON

60631225P

O-2

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\MICHAEL.SCHNEIDER2@AECOM.COM\DMS86348\020201-PO.DWG
LAYOUT NAME - 02
LAST PLOT DATE - 2021-10-01





EXTENSION TO SUN PRAIRIE PARK AND RIDE (O'KEEFFE AVENUE & REINER ROAD)

Map Legend

Green = GESTRA Boring Locations

Red = Approximate Historical Boring Locations Performed by Others

MARK	REVISION	DATE	By
Designed By: AECOM 60631225P	Date: 2021-10-01	Scale: 1 IN:1000 FT	

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

PROJECT OVERIVEW

BUS RAPID TRANSIT

CITY OF MADISON

60631225P

O-3

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\MICHAEL.SCHNEIDER2@AECOM.COM\DMS86348\020201-PO.DWG
LAYOUT NAME - 03
LAST PLOT DATE - 2021-10-01

N

GRAYSCALE PAVEMENT MARKINGS ON ALL SHEETS REPRESENTS EXISTING MARKINGS AND ARE FOR REFERENCE ONLY; NOT ALL EXISTING MARKINGS ARE SHOWN AND SOME ARE SIMPLIFIED (EXAMPLE: CONTINENTAL CROSSWALKS SHOWN AS STANDARD TRANSVERSE MARKINGS).

BORE

BORE

BORE

BORE

BORE

BORE

B-8

46MP

48MP

MINERAL POINT ROAD

50MP

PI: 51+09.56MP

52MP

JUNCTION ROAD

54MP

MATCHLINE 55+00MP

= GESTRA Boring Location

MARK	REVISION	DATE	BY
Designed By: KL ENG	Date: 2022-04-06	Scale: 1"=100 FT	
60631225P			

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M1-W

FILE NAME : C:\PW\WORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS863511\MADISON BRT BORING LOCATIONS WEST.DWG
LAYOUT NAME - JCT01
LAST PLOT DATE - 2022-04-06

N

GAMMON ROAD

R/L MINERAL POINT ROAD

MINERAL POINT ROAD

MATCHLINE 105+50MP

106MP

108MP

BORE

110MP

B-9

112MP

114MP

116MP

118MP

MATCHLINE 118+50MP

= GESTRA Boring Location

MARK	REVISION	DATE	BY
Designed By: KL ENG	Date: 2022-04-06	Scale: 1"=100 FT	
60631225P			

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

CITY OF MADISON

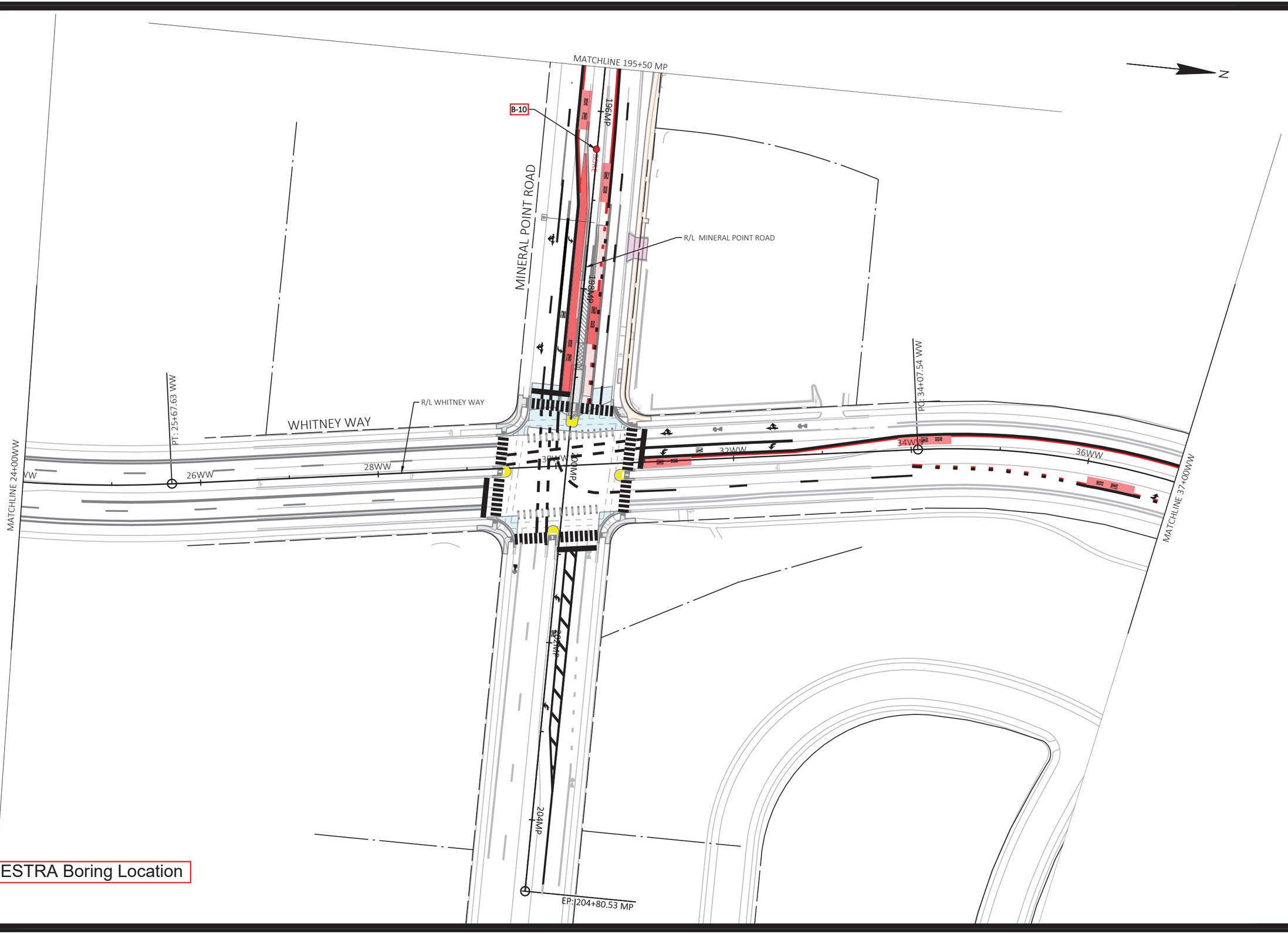
60631225P

M6-W

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS WEST.DWG

LAYOUT NAME - MP04

LAST PLOT DATE - 2022-04-06



MARK	REVISION	DATE	BY
Designed By: KL ENG 60631225P	Date: 2022-04-06	Scale: 1"=100 FT	

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

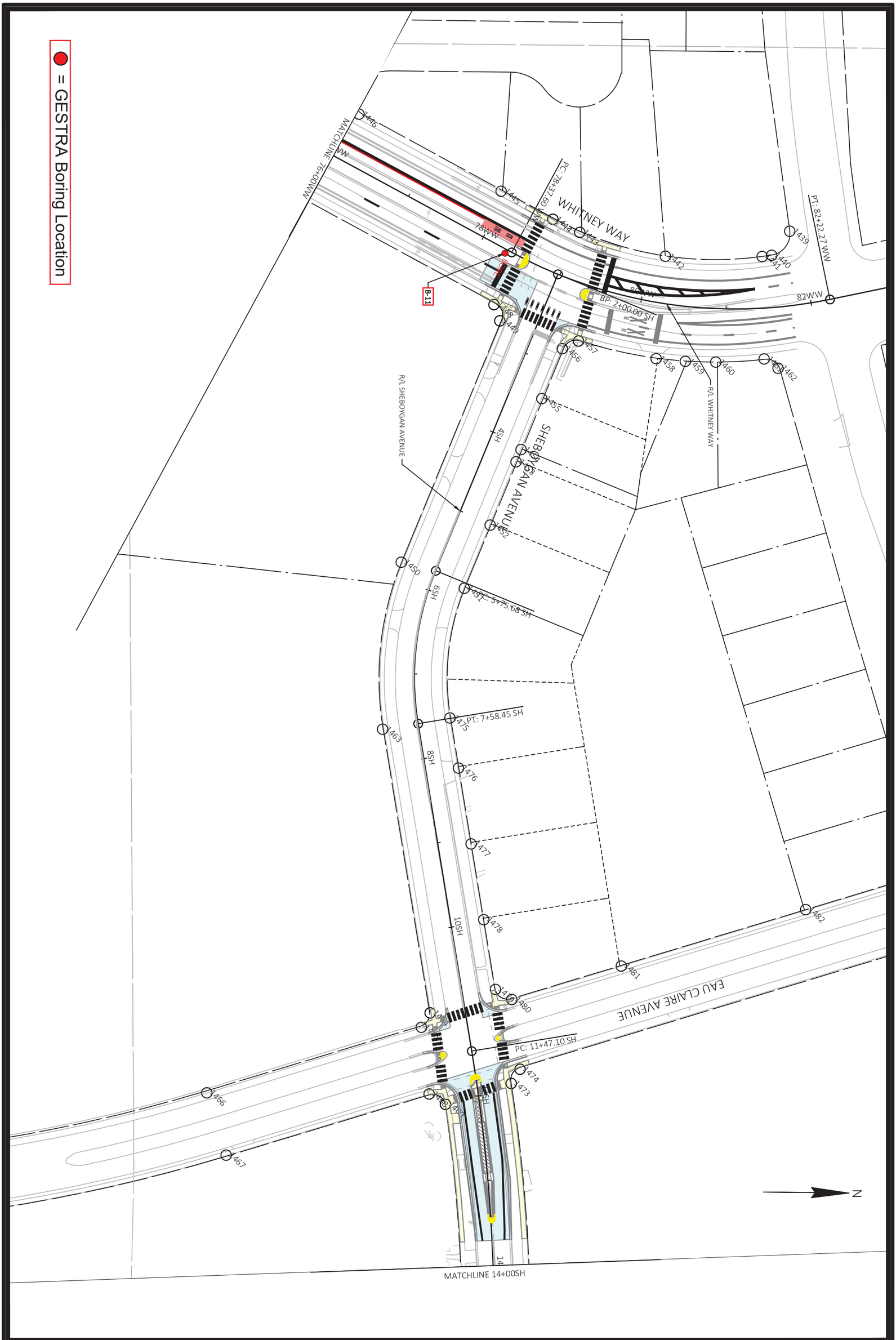
BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M13-W

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS WEST.DWG
LAYOUT NAME - WW3
LAST PLOT DATE - 2022-04-06



M17-W | 60631225P

GEOTECHNICAL BORINGS | 60631225P

BUS RAPID TRANSIT | CITY OF MADISON, DANE COUNTY, WI

CITY OF MADISON | CONTRACT NO: 60631225C

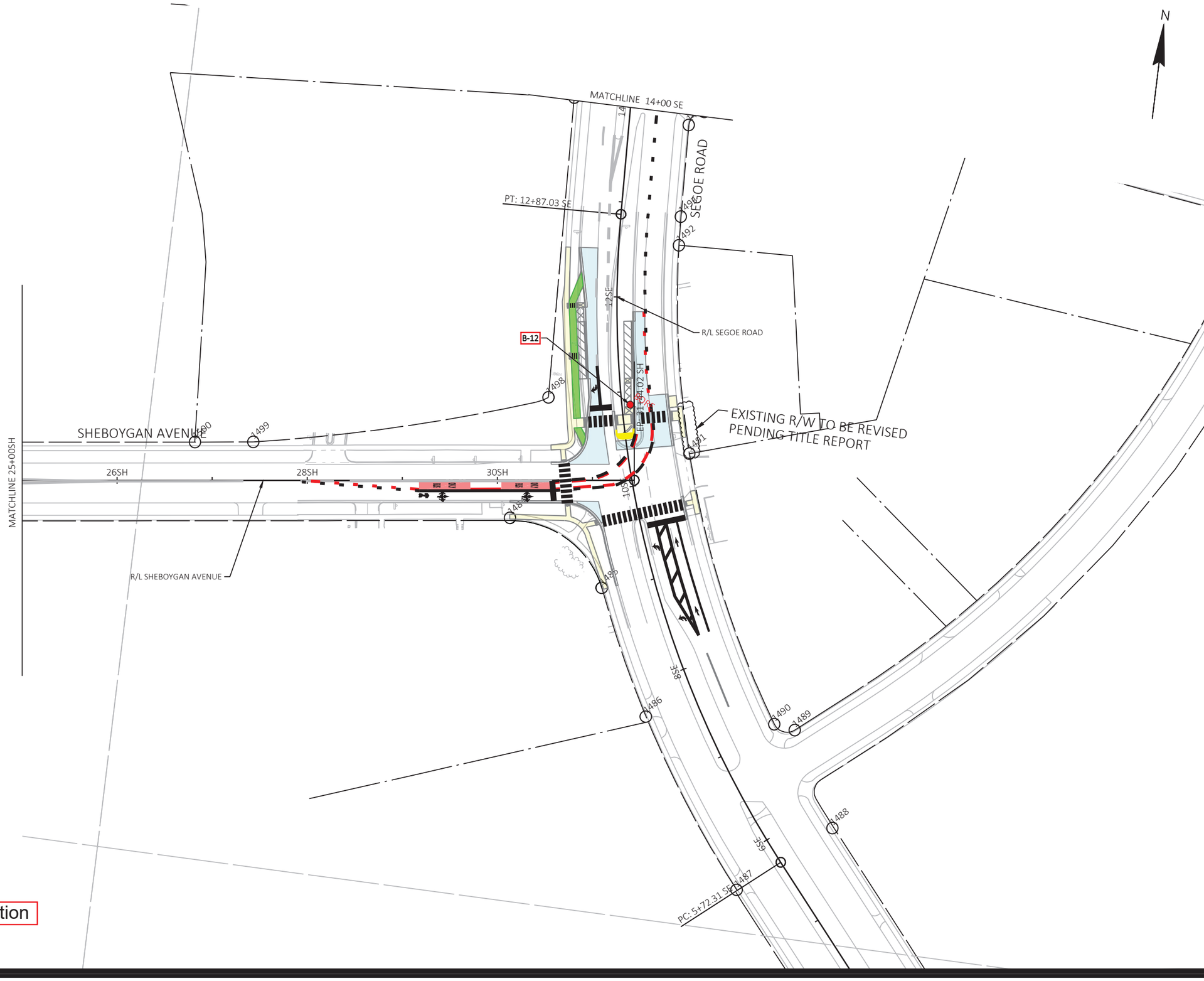
MARK	REVISION	DATE	BY

Designed By: KL ENG | Date: 2022-04-06 | Scale: 1"=100 FT

60631225P

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS WEST.DWG

LAYOUT NAME - SH1 | LAST PLOT DATE - 2022-04-06



MARK	REVISION	DATE	BY
Designed By: KL ENG	Date: 2022-04-06	Scale: 1"=100 FT	
60631225P			

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

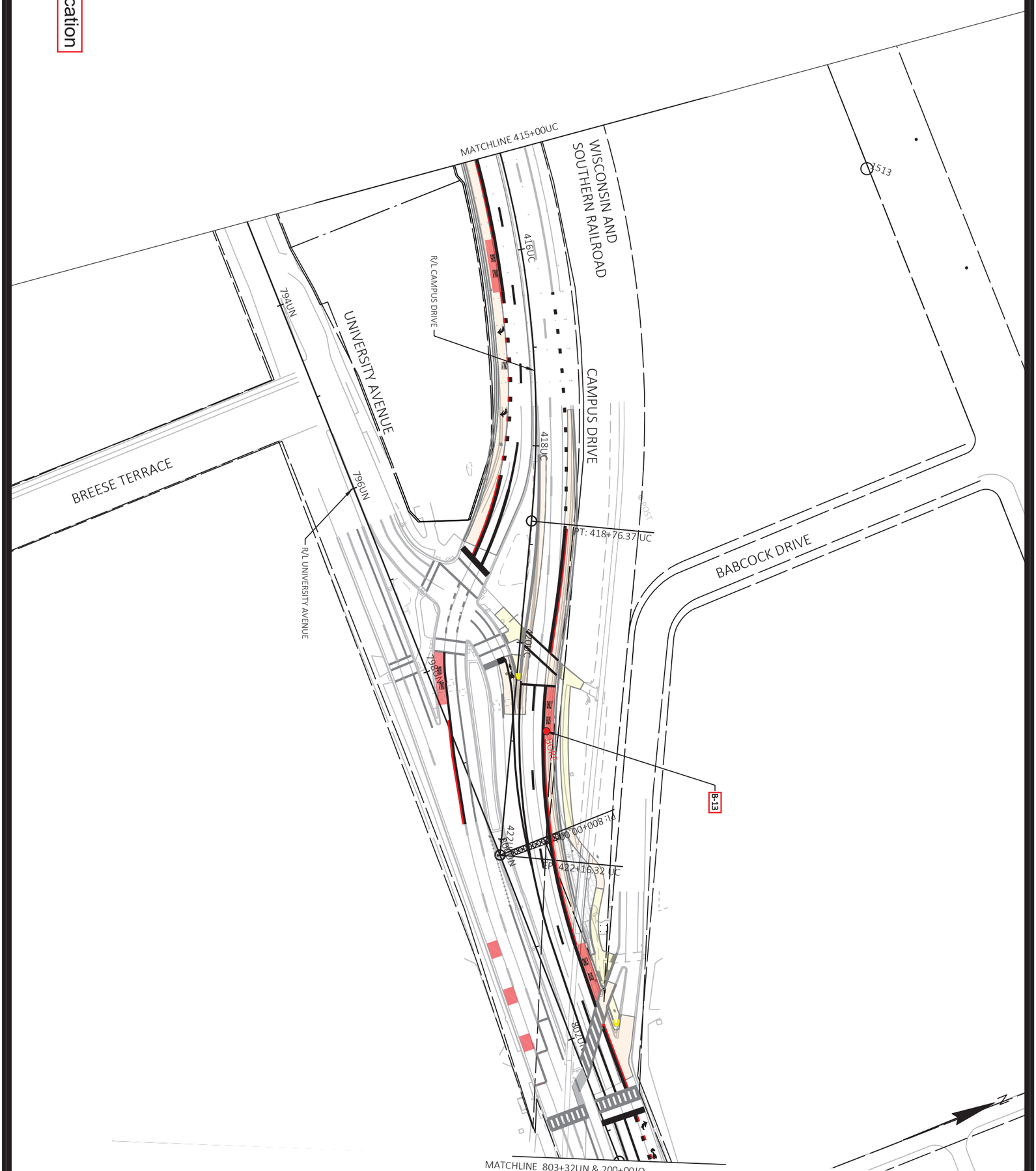
CITY OF MADISON

60631225P

M19-W

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS WEST.DWG
LAYOUT NAME - SH3
LAST PLOT DATE - 2022-04-06

● = GESTRA Boring Location



M29-W	60631225P	
GEOTECHNICAL BORINGS	60631225P	
BUS RAPID TRANSIT	CITY OF MADISON, DANE COUNTY, WI	
CITY OF MADISON	CONTRACT NO: 60631225C	

MARK	REVISION	DATE	BY
Designed By: KL ENG 60631225P	Date: 2022-04-06	Scale: 1"=100 FT	

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS WEST.DWG
LAYOUT NAME - UC10 LAST PLOT DATE - 2022-04-06

E. MIFFLIN ST.

N. LIVINGSTON ST.

N. PATERSON ST.

N. BREARLY ST.

E. WASHINGTON AVE.

MATCHLINE STA. 229+00 WA

MATCHLINE STA. 243+00 WA

230WA

234WA

238WA

240WA

242WA

B-16

BORE

R/L E. WASHINGTON AVENUE

S. LIVINGSTON ST.

S. PATERSON ST.

S. BREARLY ST.

R/L STATE STREET

E. MAIN ST.

● = GESTRA Boring Location

60631225P

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

CITY OF MADISON

CITY OF MADISON, DANE COUNTY, WI

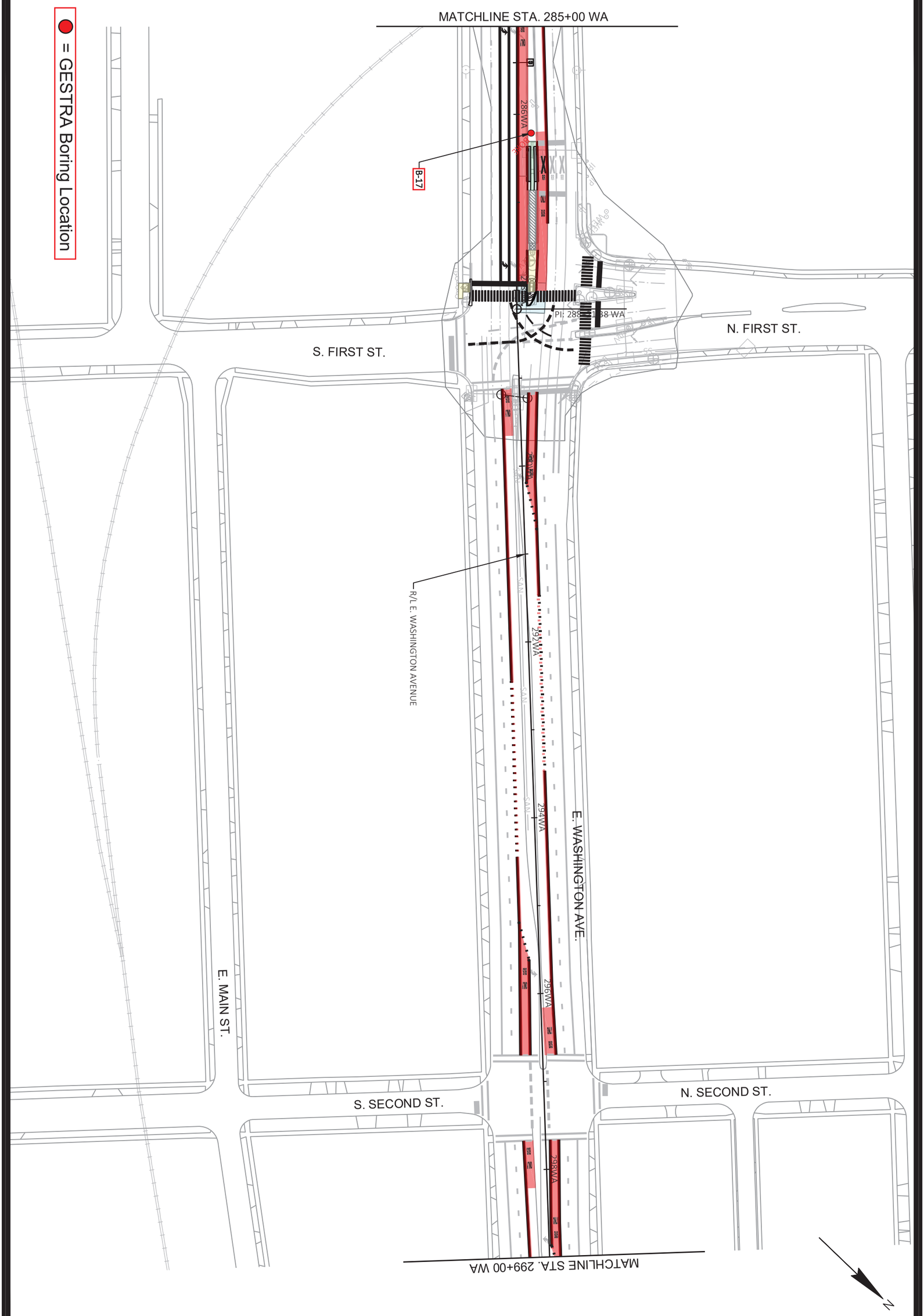
CONTRACT NO: 60631225C

MARK	REVISION	DATE	BY
Designed By: KL ENG 60631225P	Date: 2022-04-06	Scale: 1"= 100 FT	

60631225P

M5-E

FILE NAME : C:\PW\WORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS8635\1\MADISON BRT BORING LOCATIONS EAST.DWG
LAYOUT NAME - 024505_pm
LAST PLOT DATE - 2022-04-06



M9-E

60631225P

GEOTECHNICAL BORINGS

60631225P

BUS RAPID TRANSIT

CITY OF MADISON, DANE COUNTY, WI

CITY OF MADISON

CONTRACT NO: 60631225C

MARK	REVISION	DATE	BY

Designed By: KL ENG | Date: 2022-04-06 | Scale: 1"=100 FT

60631225P

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS EAST.DWG

LAYOUT NAME - 024509_pm LAST PLOT DATE - 2022-04-06

N. THIRD ST.

N. FOURTH ST.

B-18

BORE

PI 308+31.69 WA

E. WASHINGTON AVE.

MATCHLINE STA. 299+00 WA

300WA

302WA

304WA

306WA

308WA

310WA

312WA

MATCHLINE STA. 313+00 WA

R/L E. WASHINGTON AVENUE

S. FOURTH ST.

E. MAIN ST.

= GESTRA Boring Location

N

MARK	REVISION	DATE	BY
Designed By: KL ENG 60631225P	Date: 2022-04-06	Scale: 1"= 100 FT	

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

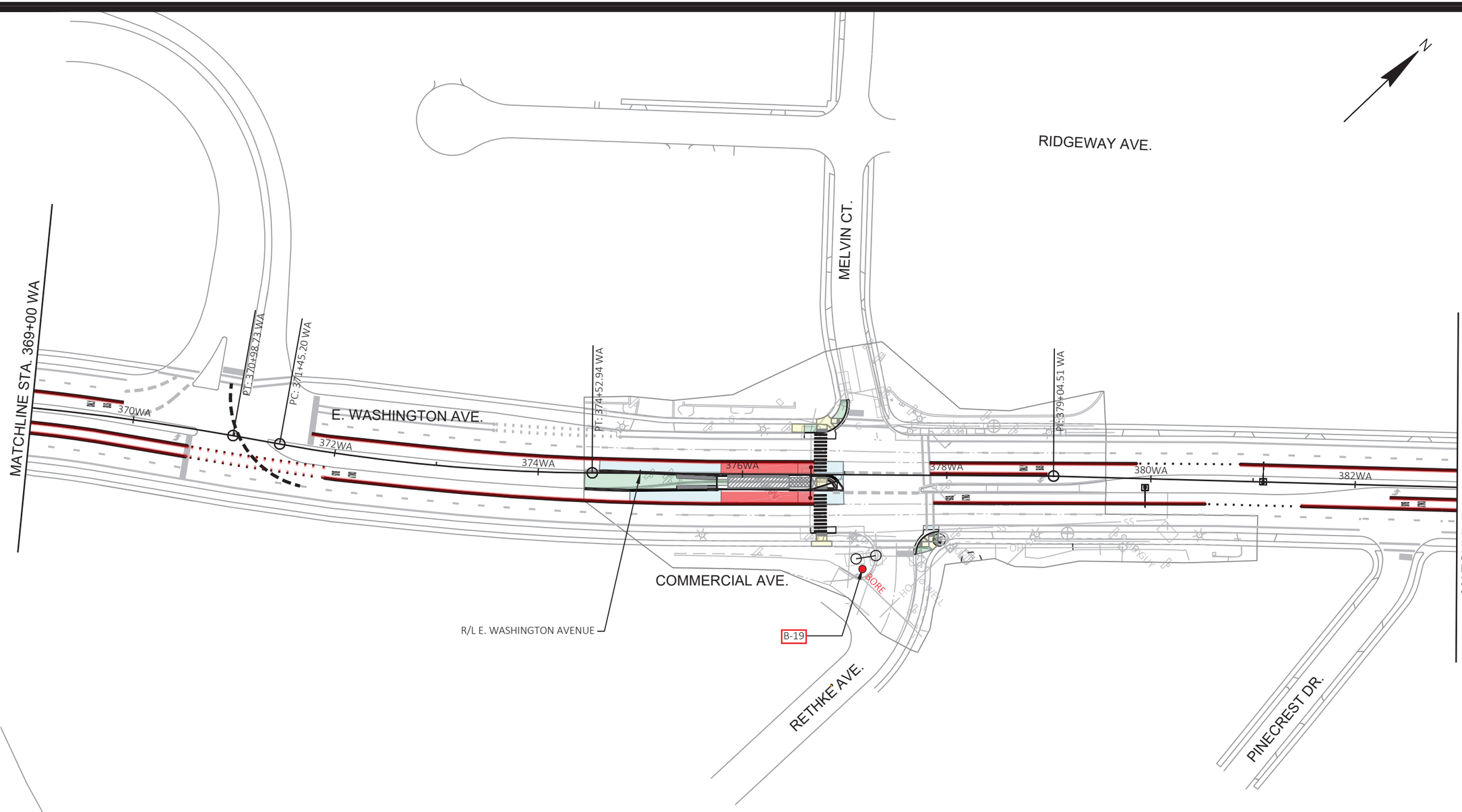
BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M10-E

FILE NAME : C:\PW\WORKING\AECOM_D520_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS8635\1\MADISON BRT BORING LOCATIONS EAST.DWG
LAYOUT NAME - 024510_pm
LAST PLOT DATE - 2022-04-06



● = GESTRA Boring Location

MARK	REVISION	DATE	BY

Designed By: KL ENG
Date: 2022-04-06
Scale: 1"= 100 FT
60631225P

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

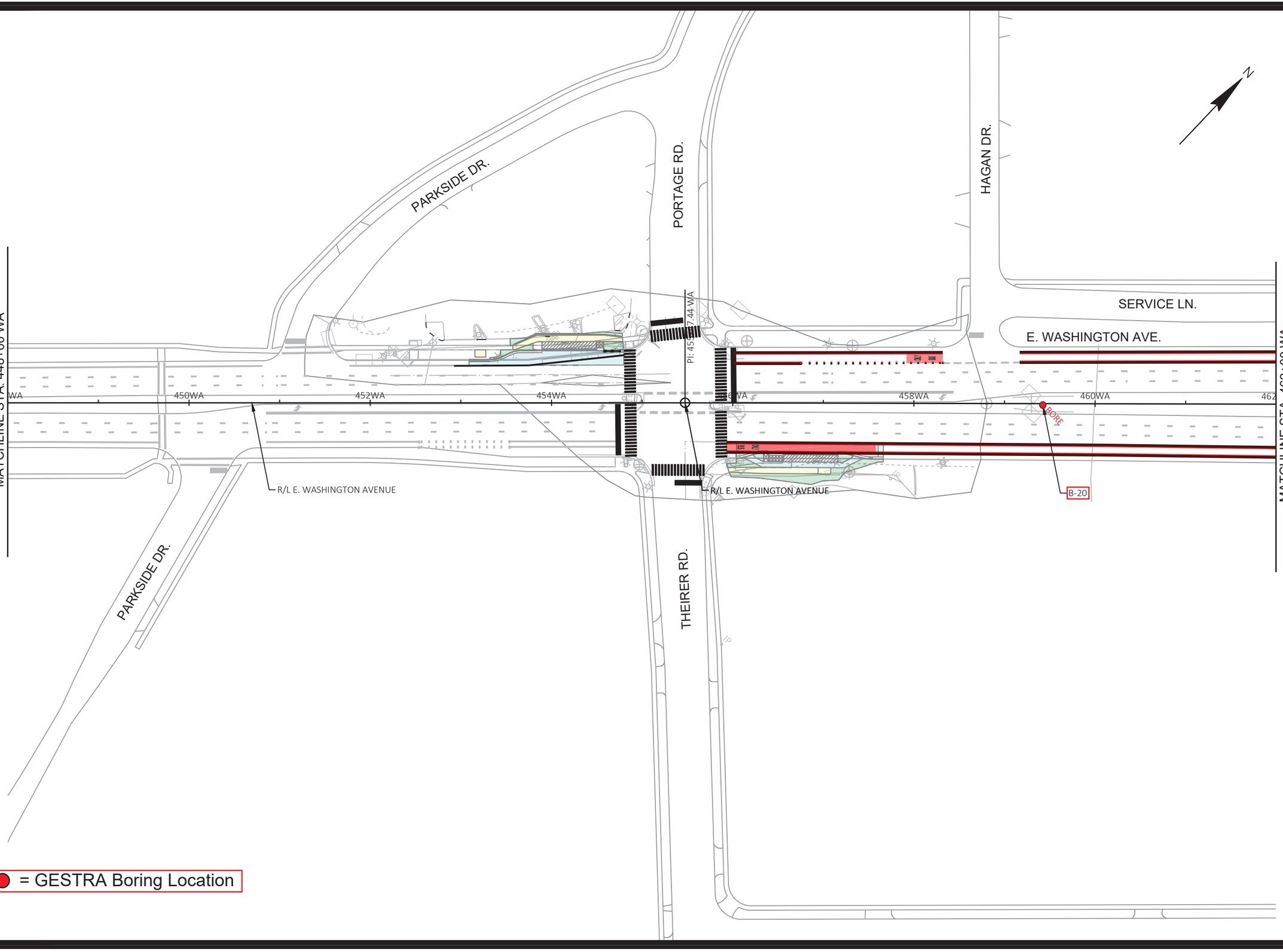
BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M15-E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS8635\1\MADISON BRT BORING LOCATIONS EAST.DWG
LAYOUT NAME - 024515_pm
LAST PLOT DATE - 2022-04-06



MARK	REVISION	DATE	BY
Designed By: KL ENG	Date: 2022-04-06	Scale: 1"= 100 FT	
60631225P			

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M22-E

FILE NAME : C:\PW\WORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS EAST.DWG
LAYOUT NAME - 024522_pm
LAST PLOT DATE - 2022-04-06

INDEPENDENCE LN.

E. WASHINGTON AVE. FRONTAGE RD.

E. WASHINGTON AVE.

MATCHLINE STA. 475+00 WA

MATCHLINE STA. 489+00 WA

476WA

478WA

480WA

482WA

484WA

486WA

488WA

B-21

R/L E. WASHINGTON AVENUE

ZEIER RD.

E. TOWNE BLVD.

● = GESTRA Boring Location

MARK	REVISION	DATE	BY
Designed By: KL ENG 60631225P	Date: 2022-04-07	Scale: 1"= 100 FT	

60631225P

CITY OF MADISON, DANE COUNTY, WI

CONTRACT NO: 60631225C

GEOTECHNICAL BORINGS

BUS RAPID TRANSIT

CITY OF MADISON

60631225P

M24-E

FILE NAME : C:\PWWORKING\AECOM_DS20_NA_2019\PHYLLIS.HANSON@AECOM.COM\DMS86351\MADISON BRT BORING LOCATIONS EAST.DWG
LAYOUT NAME - 024524_pm
LAST PLOT DATE - 2022-04-07

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/1/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/1/2022	BORING NUMBER: B-8
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 476567 EASTING: 782839	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 1075.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	21	14 65 26 12	91		TOPSOIL (7-inches) 0.6 (1074.6) SILTY SAND WITH GRAVEL, light brown to brown, moist, (FILL)								Estimated frost depth = 12 inches
SS - 2	14	3 5 7	12		3.8 (1071.4) PEAT, black, moist 4.7 (1070.5)								
SS - 3	10	2 2 3	5	5 / 1070.0	LEAN CLAY, bluish gray, moist, very stiff, embedded roots/wood pieces	CL			2.50			23.1	LOI = 2.1%
SS - 4	18	2 3 4	7		7.3 (1067.9) SAND WITH SILT, brown, moist, loose 9 (1066.2)	SP-SM							
SS - 5	12	3 5 6	11	10 / 1065.0	SAND WITH SILT, light brown, moist, loose to medium dense								
SS - 6	12	2 4 5	9			SP-SM							
SS - 7	13	2 4 6	10	15 / 1060.0	16 (1059.2) End of Boring at 16.0 ft.								
				20 / 1055.0									
				25 / 1050.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/1/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/1/2022	BORING NUMBER: B-9
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 477722 EASTING: 788461	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 1056.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	20	9 11 5 9	16	1055.0	TOPSOIL (12-inches) 1 (1055.2) SANDY LEAN CLAY, gray to dark gray, moist, (FILL)							19.9	Estimated frost depth = 12 inches LOI = 2.2%
SS - 2	14	4 9 12	21		3 (1053.2) SANDY LEAN CLAY, brown to dark brown, moist, (FILL)							10.4	
SS - 3	12	3 5 3	8	5 1050.0	4.7 (1051.5) SILTY CLAYEY SAND, brown, moist, loose 6.2 (1050)	SC-SM							
SS - 4	12	2 4 8	12		SILTY SAND, light brown, moist, medium dense Trace gravel at top of sample SS-4 8.7 (1047.5)	SM							
SS - 5	7	5 7 6	13	10 1045.0	SAND WITH SILT, light brown, moist, medium dense								
SS - 6	13	3 7 11	18		Trace silt in sample SS-6	SP-SM							
SS - 7	12	8 11 13	24	15 1040.0	Trace gravel from 14.5 feet to 14.9 feet With 5-inch silty sand layer at 14.9 feet 16 (1040.2) End of Boring at 16.0 ft.								
				20 1035.0									
				25 1030.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/1/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/1/2022	BORING NUMBER: B-10/B-10A
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 477798 EASTING: 797295	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 1005.6 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	24	10 14 10 9	24	1005.0	TOPSOIL (5-inches) 0.4 (1005.2) SANDY LEAN CLAY, brown, moist, (FILL) Large gravel piece in sample SS-1							15.2	Estimated frost depth = 10 inches
SS - 2	12	2 5 26	31		2 (1003.6) CLAYEY SAND, brown and dark brown varved, moist, with clay layers, (FILL)							12.9	
SS - 3	1	32 21 10	31	5 1000.0	4 (1001.6) Possible boulder or cobbles								Heavy rig chatter and limited auger advancement at 4 feet in borehole B-10. Borehole offset 3 feet southeast (B-10A) and blind drilled to 7 feet.
SS - 4	17	5 6 7	13		6.5 (999.1) SANDY LEAN CLAY, brown and gray varved, moist, medium stiff to stiff, trace gravel With 1-inch gravel layer at 7.3 feet				1.00			14.6	
SS - 5	1	4 4 2	6	10 995.0		CL							Poor recovery in sample SS-5
SS - 6	18	2 3 5	8		With sand layers from 11.5 feet to 12.5 feet				0.50 - 1.00			15.3	
SS - 7	14	2 7 6	13		12.5 (993.1) With 2-inch sand layer at 12.3 feet CLAYEY SAND, brown to dark brown, moist, medium dense	SC							
SS - 8	14	6 8 8	16	15 990.0	14 (991.6) SILTY SAND, brown to light brown, moist, medium dense, trace gravel 16 (989.6)	SM							
					End of Boring at 16.0 ft.								
				20 985.0									
				25 980.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR	CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/2/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/2/2022	BORING NUMBER: B-11
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 482217 EASTING: 798864	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 941.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	22	9 10 10 10	20	940.0	TOPSOIL (6-inches) 0.5 (941.3) LEAN CLAY WITH SAND, brown and dark brown, moist, trace gravel, trace organics, (FILL)							15.7	Estimated frost depth not recorded
SS - 2	11	5 5 5	10		Trace asphalt pieces in sample SS-2 2.7 (939.1) LEAN CLAY, brown, moist, very stiff to hard, trace sand	CL			4.25			21	
SS - 3	16	3 4 6	10	5	With silt lenses in sample SS-3 6.4 (935.4)				2.75			22.7	
SS - 4	15	2 7 10	17	935.0	SANDY SILTY CLAY, brown, moist, very stiff, trace gravel With 2-inch very moist layer at 7.3 feet 8 (933.8) SILTY SAND, light brown, moist, medium dense	CL-ML SM				16	4	11.2	Sample SS-4 disturbed; Unable to obtain Qp
SS - 5	17	3 13 16	29	10	8.8 (933) SILT WITH SAND, brown, moist, medium dense, trace gravel 11.4 (930.4)	SP-SM						9.4	
SS - 6	21	3 8 16	24	930.0	SILTY CLAY, brown, moist, very stiff With 1-inch silty sand layer at 12.2 feet WIth 2-inch gravel layer at 12.2 feet 14.1 (927.7)	CL-ML			3.00			9	
SS - 7	10	9 8 13	21	15	SILT WITH SAND AND GRAVEL, light brown to brown, moist, medium dense 16 (925.8)	ML							
				925.0	End of Boring at 16.0 ft.								
				20									
				920.0									
				25									
				915.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.	CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR	CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR		

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/2/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/2/2022	BORING NUMBER: B-12
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 482309 EASTING: 801772	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 942.4 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	21	9 12 17 23	29		TOPSOIL (4-inches) 0.4 (942) SILTY SAND, light brown to brown, moist, (FILL)								Estimated frost depth = 7 inches
SS - 2	18	4 6 4	10	940.0	2.2 (940.2) CLAYEY SAND, brown, moist, with clay pieces (FILL)								
					4.4 (938)								
SS - 3	15	3 5 3	8	5	LEAN CLAY, brown, moist, very stiff	CL			2.50			24	
					6.3 (936.1) SANDY LEAN CLAY, brown, moist, medium stiff								
SS - 4	8	2 1 2	3	935.0		CL			0.50			20.9	
					9.3 (933.1)								
SH - 5	23			10	SILTY SAND, brown, moist, loose, trace gravel							20.3	
SS - 6	15	2 3 5	8	930.0	Yellowish brown color at 12.8 feet	SM							
SS - 7	17	10 29 12	41	15	15.5 (926.9)								
					GRAVEL WITH SAND, dark gray, moist, dense								
				925.0		GP							
SS - 8	0	50/4"	R	20	19.8 (922.6) Fine white powder in tip of split spoon of sample SS-8								Possible bedrock at 19.5 feet
					End of Boring at 19.8 ft.								
				920.0									
				25									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/2/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/2/2022	BORING NUMBER: B-13
BORING DRILLED BY: FIRM: GESTRA; CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger	NORTHING: 482455	PROJECT NUMBER: M21068-10
	LAB LOG / QC: J. Metzinger/D. Dettmers	EASTING: 813621	DRILLING RIG: CME 75 (International)
			DRILLING METHOD: 3¼" HSA
			SURFACE ELEVATION: 875.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
				875.0	ASPHALT (6.5-inches)								Difficult to distinguish between base course and subgrade soils
SS - 1	6	40 50/3"	R		0.6 (875.2) BASE COURSE; sand with gravel, light brown to brown, moist, trace silt								
SS - 2	18	11 16 11	27		2 (873.8) SILTY SAND, light brown and gray, moist, trace gravel, (FILL)								
					2.6 (873.2) SILTY SAND, gray, moist, with clay pieces, trace asphalt pieces, (FILL)								
SS - 3	0	8 3 3	6	5 870.0	4 (871.8) LEAN CLAY, gray, moist, (FILL)							23.4	No recovery obtained in sample SS-3; Sample of auger cuttings was collected instead.
					7.2 (868.6)								
SS - 4	16	1 3 4	7		CLAYEY SAND, brown, moist, (FILL) 7.6 (868.2)								
					SILTY CLAYEY SAND, light brown to brown, moist, medium dense	SC-SM							
SS - 5	10	4 7 6	13	10 865.0									
					11.1 (864.7) SAND WITH SILT, light brown, moist, medium dense								
SS - 6	12	3 7 8	15			SP-SM							
SS - 7	12	5 7 9	16	15 860.0	16 (859.8)								
					End of Boring at 16.0 ft.								
				20 855.0									
				25 850.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME	Madison E-W BRT
PROJECT LOCATION	Madison, WI
DATE DRILLING STARTED	2/3/2022
DATE DRILLING ENDED	2/3/2022
PAGE NUMBER	1 of 1
BORING NUMBER	B-16
PROJECT NUMBER	M21068-10
DRILLING RIG	CME 75 (International)
BORING DRILLED BY	FIRM: GESTRA CREW CHIEF: D. Harris
FIELD LOG	J. Metzinger
LAB LOG / QC	J. Metzinger/D. Dettmers
NORTHING	485698
EASTING	823991
DRILLING METHOD	3¼" HSA
SURFACE ELEVATION	849.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	9	34 50/3"	R		TOPSOIL (2-inches) 0.2 (849.6) SAND WITH SILT AND CLAY AND GRAVEL, light brown to brown, moist, with concrete pieces								Estimated frost depth = 9 inches
SS - 2	2	1 2 1	3										Gravel piece stuck in tip of split spoon of SS-2
					4.5 (845.3)								
SS - 3	12	1 2 1	3	5 845.0	SAND WITH SILT, yellowish brown, wet, (FILL) 5.1 (844.7) SILT WITH GRAVEL, gray, moist, (FILL)							32.3	Sample SS-3A Sample SS-3B
					6.2 (843.6)								
SS - 4	18	1 2 2	4		SILTY CLAY, yellowish gray with brown mottling, moist, medium stiff to stiff	CL-ML			0.75			20.8	
SS - 5	18	1 3 5	8	10 840.0					1.50 - 2.25 **(1.2)**			20	γ_d = 109.8 pcf γ_T = 131.8 pcf
					11.5 (838.3)								
SS - 6	18	2 3 5	8		LEAN CLAY, gray, moist, very stiff	CL			2.50			22.1	
SS - 7	5	3 5 8	13	15 835.0	Water present in spilt spoon sampler of SS-7							22.4	Sample SS-7 disturbed: Unable to obtain Qp
					15.9 (833.9)								
SS - 8	6	2 2 3	5		SANDY SILT, gray, wet, loose to medium dense	ML							
SS - 9	16	2 5 6	11	20 830.0									
SS - 10	18	2 36 9	45	25 825.0	25 (824.8) SILTY SAND, gray, moist, dense 26 (823.8)	SM							Borehole terminated at 26 feet due to sand heave in augers and unable to flush out due to below freezing temperatures
					End of Boring at 26.0 ft.								

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 4.5 ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: 15 ft.		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/2/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/2/2022	BORING NUMBER: B-17
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 489079 EASTING: 827630	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 856.8 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	24	15 13 11 16	24		TOPSOIL (6-inches) 0.5 (856.3) SANDY LEAN CLAY, dark gray, moist, trace gravel, trace organics, (FILL)							19.1	Estimated frost depth = 3 inches
				855.0	1.5 (855.3) SAND WITH GRAVEL, brown, (FILL) 2 (854.8) SANDY LEAN CLAY, dark gray, moist, (FILL) 2.3 (854.5) SANDY LEAN CLAY WITH GRAVEL, brown to dark brown to gray, moist, (FILL)								
SS - 2	14	5 17 9	26										
SS - 3	14	1 2 4	6	5	6.3 (850.5)								
				850.0	SANDY LEAN CLAY, brown, moist, stiff 7.4 (849.4)	CL							
SS - 4	16	2 7 8	15		SILTY SAND, light brown, moist, medium dense 8.9 (847.9)	SM							
SS - 5	16	3 4 5	9	10	SILTY CLAY, light brown, very moist to wet, stiff, trace sand	CL-ML			1.00			17.3	
				845.0	12.2 (844.6)								
SS - 6	13	5 7 13	20		SAND WITH SILT, brown, wet, medium dense 12.9 (843.9) GRAVEL, dark gray, wet, medium dense 13.7 (843.1)	SP-SM GP							
SS - 7	12	3 3 7	10	15	SILTY SAND, light brown, very moist to wet, medium dense, trace gravel 16 (840.8)	SM							P200 = 31.8
				840.0	End of Boring at 16.0 ft.								
				20									
				835.0									
				25									
				830.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 12.2 ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▽	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▽	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/3/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/3/2022	BORING NUMBER: B-18
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 490751 EASTING: 829106	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 864.2 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	16	11 30 24 12	54		TOPSOIL (6-inches) 0.5 (863.7) SAND WITH SILT, light brown to brown, moist, trace gravel, (FILL)								Estimated frost depth = 6 inches
SS - 2	12	6 8 9	17										
				860.0	4 (860.2) SILTY SAND, brown, moist, trace to with gravel, with plastic piece debris, trace root, (FILL)								Rig chatter at 4 feet due to possible cobbles or boulder
SS - 3	13	4 5 7	12	5									
					6.2 (858) SILTY SAND, light brown, moist, medium dense, trace gravel								
SS - 4	12	3 7 15	22										
				855.0		SM							
SS - 5	18	15 22 28	50	10									
SS - 6	2	50/4"	R		12.3 (851.9) End of Boring at 12.3 ft.								Auger refusal at 12 feet due to possible bedrock
				850.0									
				15									
				845.0									
				20									
				840.0									
				25									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/3/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/3/2022	BORING NUMBER: B-19
BORING DRILLED BY: FIRM: GESTRA; CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger	NORTHING: 495338	PROJECT NUMBER: M21068-10
	LAB LOG / QC: J. Metzinger/D. Dettmers	EASTING: 834108	DRILLING RIG: CME 75 (International)
			DRILLING METHOD: 3¼" HSA
			SURFACE ELEVATION: 881.3 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	16	13 13 12 14	25	880.0	TOPSOIL (9-inches) 0.8 (880.5) SAND WITH GRAVEL, brown, moist, (FILL)								Estimated frost depth = 9 inches
SS - 2	5	4 7 2	9		1.6 (879.7) SILTY SAND, brown, moist, trace gravel, (FILL)								
					3.4 (877.9) SILTY SAND, brown, moist, medium dense								
SS - 3	13	2 5 6	11	5									
				875.0									
SS - 4	13	4 6 7	13		Possible cobbles around 6.5 feet	SM							
				10									
SS - 5	18	5 7 9	16		Trace clay lens in sample SS-5								
				870.0									
					11.5 (869.8) SILTY SAND, light brown, moist, medium dense to very dense								
SS - 6	18	4 9 12	21			SM							
SS - 7	16	10 22 40	62	15	Trace gravel in bottom of split spoon sample SS-7								
					16 (865.3)								
				865.0	End of Boring at 16.0 ft.								
				20									
				860.0									
				25									
				855.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/4/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/4/2022	BORING NUMBER: B-20
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 500991 EASTING: 840070	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 872.5 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	24	21 19 16 18	35		TOPSOIL (10-inches) 0.8 (871.7) LEAN CLAY WITH SAND, dark brown, moist, trace gravel, (FILL)							13.2	Estimated frost depth = 11 inches
SS - 2	11	5 6 8	14	870.0								12.2	LOI = 1.6%
					4.7 (867.8)								
SS - 3	11	3 4 5	9	5	LEAN CLAY, brown, moist, very stiff 6.2 (866.3)	CL			2.75			24.9	
SS - 4	14	7 10 11	21	865.0	SILTY SAND WITH GRAVEL, brown, moist, medium dense to dense	SM							
SS - 5	10	13 25 14	39	10	10.1 (862.4) SAND WITH GRAVEL, light brown to brown, moist, dense	SP							
					11.1 (861.4)								
SS - 6	16	5 9 11	20	860.0	SILTY CLAYEY SAND, brown, moist, medium dense, trace gravel	SC-SM							
SS - 7	11	9 7 7	14	15	16 (856.5)								
					End of Boring at 16.0 ft.								
				855.0									
				20									
				850.0									
				25									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

SOIL BORING LOG

GESTRA Engineering Inc.
2223 Industrial Drive
Monona, WI 53713
Phone: 608-222-9406, Fax: 608-222-9408

PROJECT NAME: Madison E-W BRT		DATE DRILLING STARTED: 2/4/2022	PAGE NUMBER: 1 of 1
PROJECT LOCATION: Madison, WI		DATE DRILLING ENDED: 2/4/2022	BORING NUMBER: B-21
BORING DRILLED BY: FIRM: GESTRA CREW CHIEF: D. Harris	FIELD LOG: J. Metzinger LAB LOG / QC: J. Metzinger/D. Dettmers	NORTHING: 502209 EASTING: 841338	PROJECT NUMBER: M21068-10 DRILLING RIG: CME 75 (International) DRILLING METHOD: 3¼" HSA SURFACE ELEVATION: 881.1 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) / Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q_u or Q_p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	16 16 19 10	35	880.0	TOPSOIL (10-inches) 0.7 (880.4) LEAN CLAY WITH SAND, dark brown, moist, (FILL) 1.7 (879.4)							13.2	Estimated frost depth = 9 inches
SS - 2	18	5 5 4	9		LEAN CLAY, dark gray, moist, with organics, (FILL) 3 (878.1)							28.1	LOI = 3.6%
SS - 3	12	3 3 3	6	5 875.0	LEAN CLAY, dark brown, moist, (FILL) Brown in sample SS-3 Trace wood debris in samples SS-3 and SS-4 7.3 (873.8)							27.1	Sample SS-3 ribboned
SS - 4	13	3 8 13	21		SAND WITH SILT AND GRAVEL, light brown to brown, moist, medium dense	SP-SM							
SS - 5	12	4 8 17	25	10 870.0									
SS - 6	14	4 8 9	17		12.5 (868.6) SILT, light brown, moist, medium dense, trace clay 13.8 (867.3)	ML						20.7	
SS - 7	12	8 18 42	60	15 865.0	GRAVEL WITH SILT AND SAND, light brown to white, moist, very dense 16 (865.1) End of Boring at 16.0 ft.	GP							
				20 860.0									
				25 855.0									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: NE ft.		CAVE DEPTH AT COMPLETION: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	WET ☐ DRY ☐
▼	WATER LEVEL AFTER 0 HOURS: NMR			

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.

GENERAL NOTES

DRILLING AND SAMPLING SYMBOLS

SYMBOL	DEFINITION
HSA	Hollow Stem Auger
HSA w/ RW	Hollow Stem Auger converted to Rotary Wash Boring (initiated with Mudding Fluid)
SS	2" O.D. Split Spoon Sample – (ASTM D 1586)
SH	3" Thin-Walled Tube Sample (Shelby Tube) – (ASTM D 1587)
AU	Solid Stem Auger Sample
CA	Modified California Sample – (ASTM D 3550)
RC	Rock Core Sample – (ASTM D 2113)
HA	Hand Auger Sample
GB	Grab Bag Sample
R	SPT Refusal (N-value of 50 blows for less than 6 inches of penetration)
NMR	No Measurement Recorded
NE	Not Encountered

TEST SYMBOLS

SYMBOL	DEFINITION
MC	Moisture Content (%) – (ASTM D 2216)
LOI	Organic Content (Loss on Ignition) (%) – (ASTM D 2974)
Qp	Hand Penetrometer Reading (tsf)
Qu	Unconfined Comp. Strength (tsf) – (ASTM D 2166)
γ_d	Dry Density (pcf) – (ASTM D 7263)
γ_T	Total (Moist) Density (pcf)
LL, PL	Liquid and Plastic Limit (%) – (ASTM D 4318)
PI	Plasticity Index (%)
P200	Percent passing the #200 Sieve – (ASTM D 1140)
Ts	Hand Torvane Reading (tsf)
SG	Specific Gravity – (ASTM D854)
pH	Hydrogen Ion Content – (ASTM D4972)
RQD	Rock Quality Designation (%) – (ASTM D6032)

WATER LEVEL

Water levels shown on the boring logs are the levels measured in the borings at the time and under the conditions indicated. In some soils, it may not be possible to determine the groundwater level within the normal time required for test borings and an extended period of time may be necessary to reach equilibrium. Therefore, the position of the water level symbol may not indicate the true level of the groundwater table. Perched water refers to water above an impervious layer, thus impeded in reaching the water table. The available water level information is given at the bottom of the respective boring log sheet.

DESCRIPTIVE TERMINOLOGY

DENSITY TERM	SPT N-VALUE
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Over 50

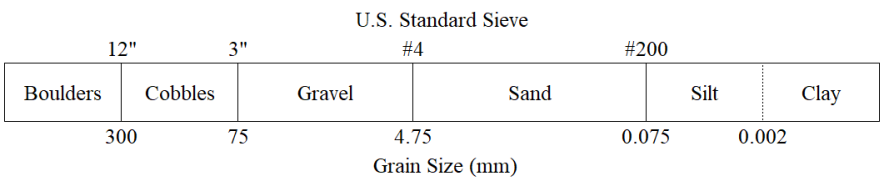
CONSISTENCY TERM	Unconfined Compressive Strength, (tsf)	SPT N-VALUE
Very Soft	<0.25	0 - 2
Soft	0.25 - 0.49	2 - 4
Medium Stiff	0.50 - 0.99	4 - 8
Stiff	1.00 - 1.99	8 - 16
Very Stiff	2.00 - 3.99	16 - 30
Hard	4.0+	Over 30

Lamination	Up to 1/2" thick horizontal stratum
Layer	1/2" thick or greater horizontal stratum
Lens	1/2" to 6" discontinuous horizontal stratum
Varved	Alternating laminations
Dry	Powdery, dusty
Moist	Damp, below saturation
Wet	Saturated, above liquid limit

Standard Penetration Test N-Value: Blows per Foot of a 140 Pound Hammer Falling 30 inches on a 2-inch OD Split Barrel Sampler

Note: If unconfined compressive strength data is not available, then N-value should be used to describe consistency term

RELATIVE SIZES



SOILS CLASSIFICATION FOR ENGINEERING PURPOSES

ASTM Designation: D 2487 - 83

(Based on Unified Soil Classification System)

SOIL ENGINEERING

			Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]		Soil Classification[B] Group Symbol	Group Name
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	Cu ≥ 4 and 1≤ Cc ≤ 3[E]		GW	Well-graded gravel[F]
			Cu < 4 and/or 1 > Cc > 3[E]		GP	Poorly-graded gravel[F]
		Gravels with Fines more than 12% fines[C]	Fines Classify as ML or MH		GM	Silty gravel[F.G.]
			Fines classify as CL or CH		GC	Clayey gravel[F.G.]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean sands Less than 5% fines[D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3[E]		SW	Well-graded sand[H]
			Cu < 6 and/or 1 > Cc > 3[E]		SP	Poorly-graded sand[H]
		Sands with Fines more than 12% fines[D]	Fines Classify as ML or MH		SM	Silty sand[G.H]
			Fines classify as CL or CH		SC	Clayey sand[G.H]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid Limit less than 50	Inorganic	PI > 7 and plots on or above " A" line[I]		CL	Lean clay[J.K.L]
			PI < 4 or plots below " A " line[I]		ML	Silt[J.K.L]
		Organic	Liquid limit - oven dried / Liquid limit - not dried	< 0.75	OL	Organic clay[J.K.L.M] Organic Silt[J.K.L.N]
	Silts and Clays Liquid Limit 50 or more	Inorganic	PI plots on or above " A " line		CH	Fat clay[J.K.L]
			PI plots below " A " line		MH	Elastic silt[J.K.L]
		Organic	Liquid limit - oven dried / Liquid limit - not dried	< 0.75	OH	Organic clay[J.K.L.O] Organic Silt[J.K.L.P]
Highly organic soils			Primarily organic matter, dark in color, and organic odor		PT	Peat

[A] Based on the material passing the 3-in (75- mm) sieve

[B] If field sample contained cobbles or boulders, or both, add with cobbles and/or boulders after group name

[C] Gravels with 5 to 12 % fines require dual symbols:
GW - GM (well-graded gravel with silt)
GW - GC (well-graded gravel with clay)
GP - GM (poorly-graded gravel with silt)
GP - GC (poorly-graded gravel with clay)

[D] Sands with 5 to 12 % fines require dual symbols:
SW -SM (well-graded sand with silt)
SW - SC (well-graded sand with clay)
SP - SM (poorly-graded sand with silt)
SP - SC (poorly-graded sand with clay)

[E] $Cu = \frac{D_{60}}{D_{10}}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" after group name

[G] If fines classify as CL-ML, use dual symbol GC-GM. or SC-SM

[H] If soil contains ≥ 15% gravel, add "with gravel" after group name.

[I] If Atterberg limits plot in hatched area, soil is a CL-ML (silty clay)

[J] If soil contains 15 to 29% plus No. 200, add, "with sand" or " with gravel", whichever is predominant

[K] If soil contains ≥ 30% plus No.200, and predominantly sand, add "sandy" before the group name

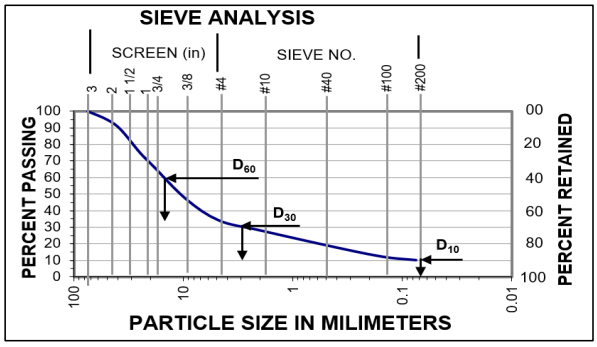
[L] If soil contains ≥ 30% plus No.200, and predominantly gravel, add "gravelly" before the group name

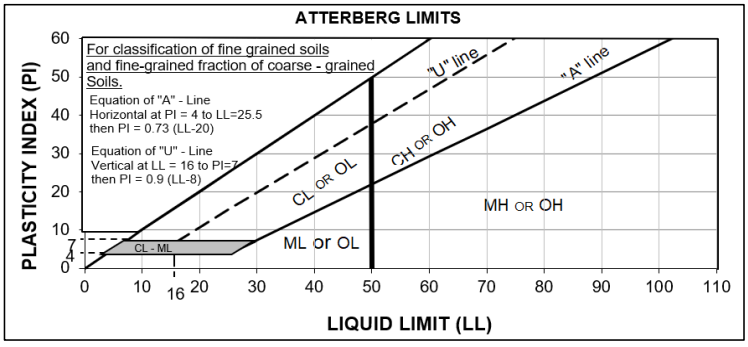
[M] PI ≥ 4 and plots on or above "A" Line

[N] PI < 4 or plots below "A" Line

[O] PI plots on or above "A" Line

[P] PI plots below "A" Line





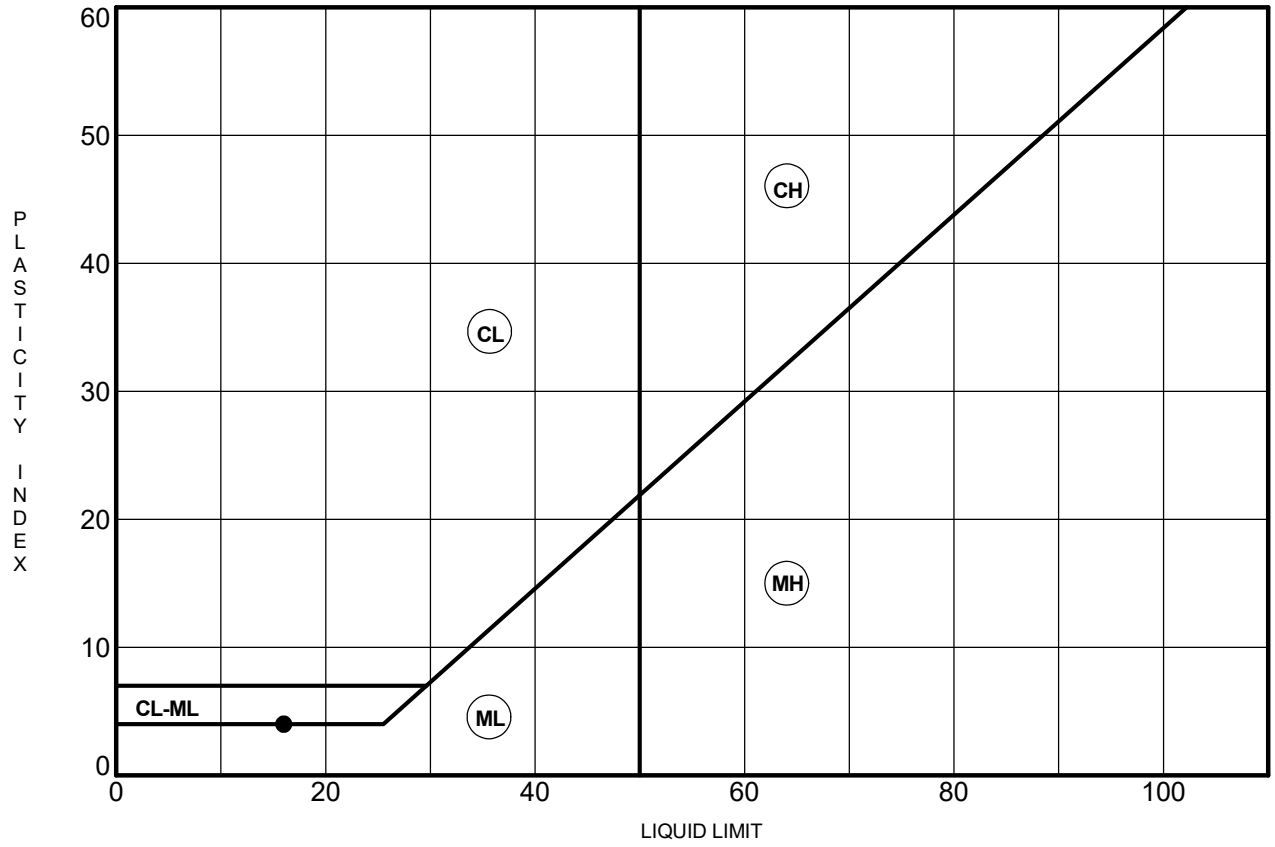
APPENDIX II

LABORATORY TEST RESULTS

GESTRA Engineering, Inc
191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: (414) 933-7444, Fax: (414) 933-7844

LABORATORY TEST RESULTS
ATTERBERG LIMITS RESULTS (ASTM D4318)

Project Name: Madison E-W BRT
Project Number: M21068-10
Project Location: Madison, WI



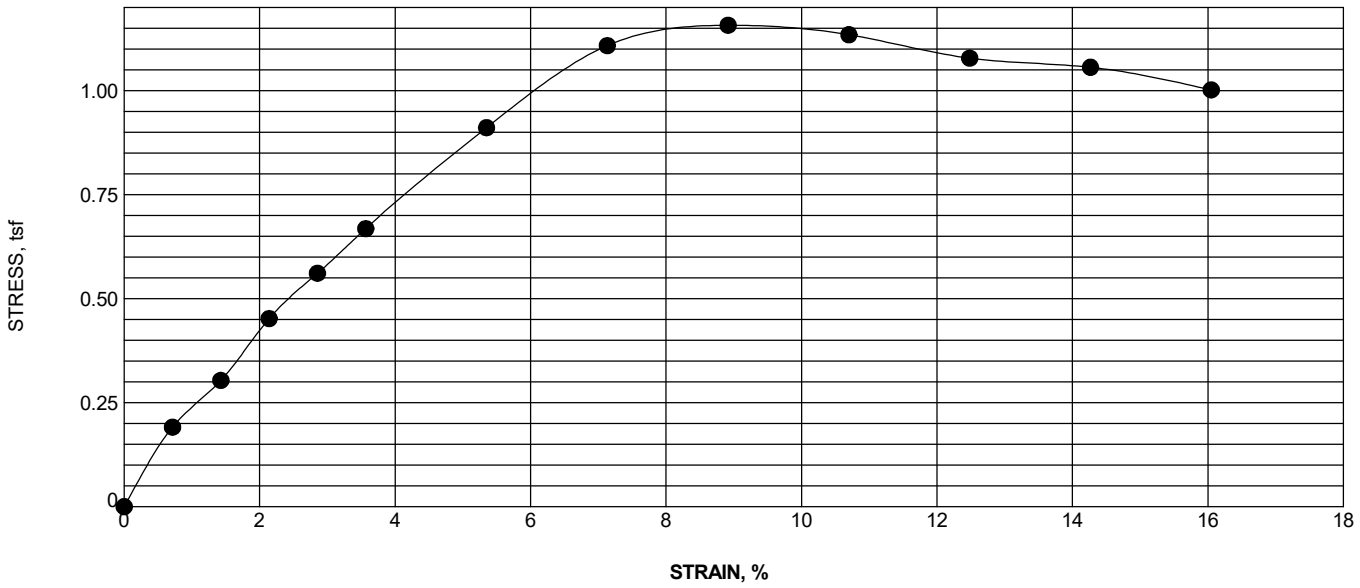
Unless otherwise noted, Atterberg limit sample was air-dried, Liquid limit was performed using mutiple points, and plastic limit test was hand rolled.

	Specimen Identification	LL	PL	PI	Fines	MC	Notes
●	**B-11, SS-4 7'8.5'**	**16**	**12**	**4**		**11.2**	**SILTY CLAY (CL-ML)**

GESTRA Engineering, Inc
191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: (414) 933-7444, Fax: (414) 933-7844

LABORATORY TEST RESULTS
UNCONFINED COMPRESSION TEST (ASTM D2166)

Project Name: Madison E-W BRT
Project Number: M21068-10
Project Location: Madison, WI

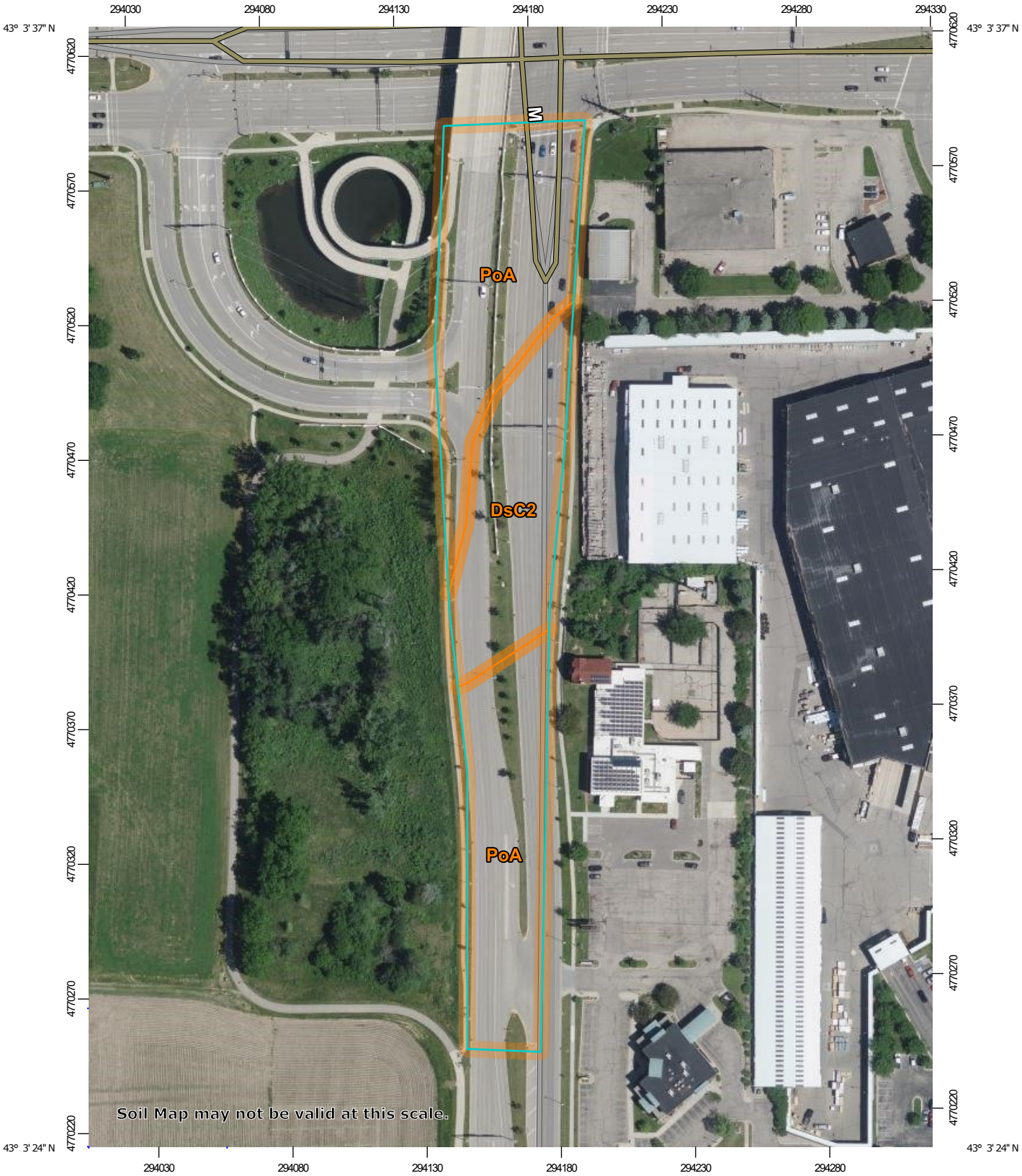


Specimen Indentification	● B-16, SS-5		
Depth (feet)	**9.5'-11'**		
USCS Classification	**SILTY CLAY (CL-ML)**		
Sample Height (in)	2.80		
Sample Diameter (in)	1.43		
Height:Diameter Ratio	1.97		
Q_u (tsf)	**1.16**		
MC (%)	**20.0**		
γ_d (pcf)	**109.8**		
γ_T (pcf)	**131.8**		

APPENDIX III

WEB SOIL SURVEY MAPS

Soil Map—Dane County, Wisconsin
(S. Junction Road)



Map Scale: 1:2,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 30 60 120 180

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

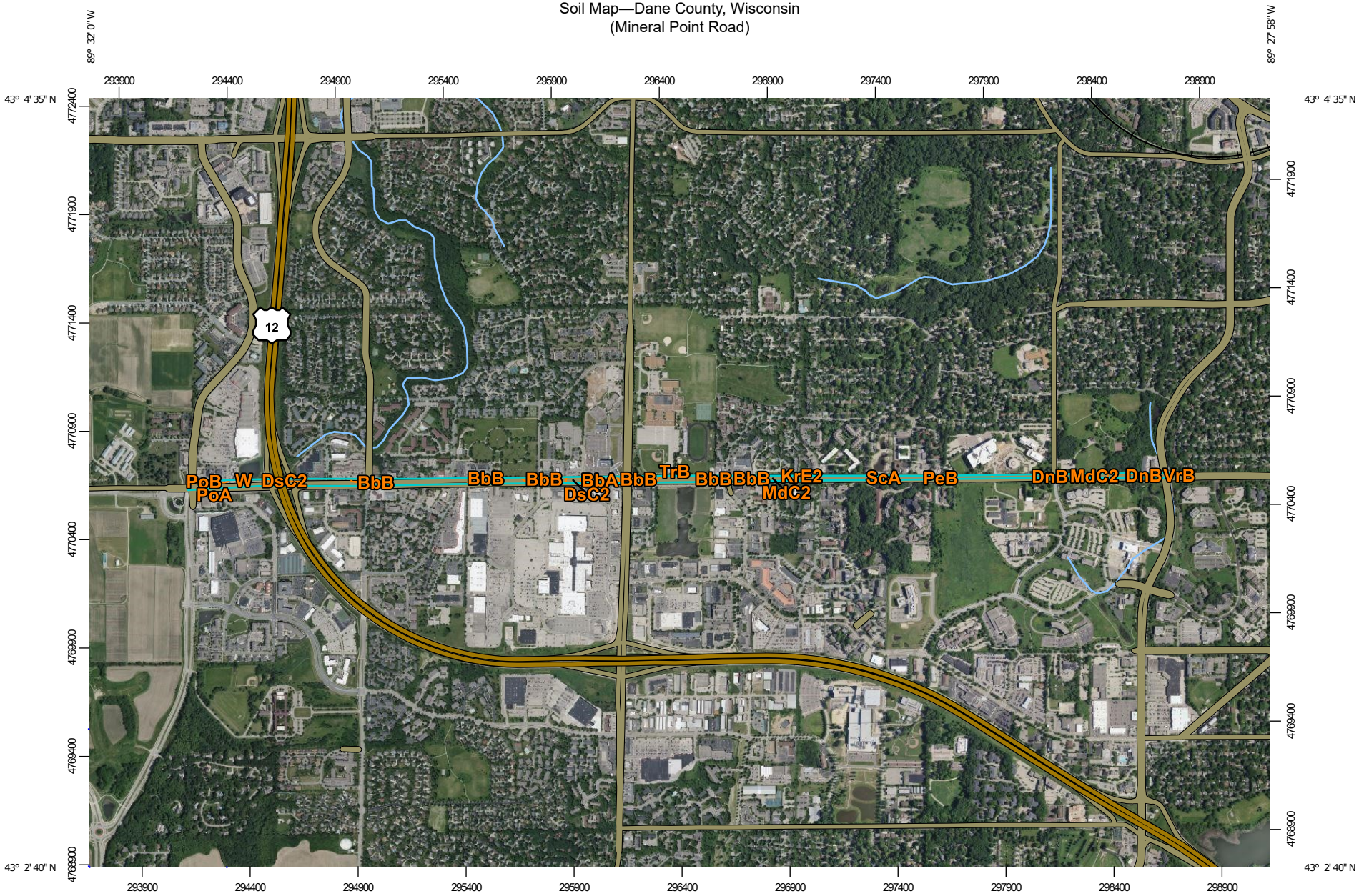
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DsC2	Dresden silt loam, 6 to 12 percent slopes, eroded	1.0	29.0%
PoA	Plano silt loam, gravelly substratum, 0 to 2 percent slopes	2.4	71.0%
Totals for Area of Interest		**3.4**	**100.0%**

Soil Map—Dane County, Wisconsin
(Mineral Point Road)



Map Scale: 1:25,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 350 700 1400 2100

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BbA	Batavia silt loam, gravelly substratum, 0 to 2 percent slopes	3.0	10.3%
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	10.3	35.6%
Cu	Cut and fill land	0.3	1.1%
DnB	Dodge silt loam, 2 to 6 percent slopes	2.7	9.2%
DsC2	Dresden silt loam, 6 to 12 percent slopes, eroded	1.7	5.8%
KdD2	Kidder loam, 12 to 20 percent slopes, eroded	0.3	0.9%
KrE2	Kidder soils, 20 to 35 percent slopes, eroded	0.0	0.0%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	1.6	5.4%
PeB	Pecatonica silt loam, 2 to 6 percent slopes	3.8	13.4%
PoA	Plano silt loam, gravelly substratum, 0 to 2 percent slopes	1.8	6.3%
PoB	Plano silt loam, gravelly substratum, 2 to 6 percent slopes	1.2	4.3%
ScA	St. Charles silt loam, 0 to 2 percent slopes	0.2	0.5%
TrB	Troxel silt loam, 0 to 3 percent slopes	1.5	5.4%
VrB	Virgil silt loam, 1 to 4 percent slopes	0.5	1.6%
W	Water	0.0	0.1%
Totals for Area of Interest		**28.8**	**100.0%**

Soil Map—Dane County, Wisconsin
(S. Whitney Way/Sheboygan Avenue/N. Segoe Road)

Map Scale: 1:10,100 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 100 200 400 600

Feet
0 450 900 1800 2700

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

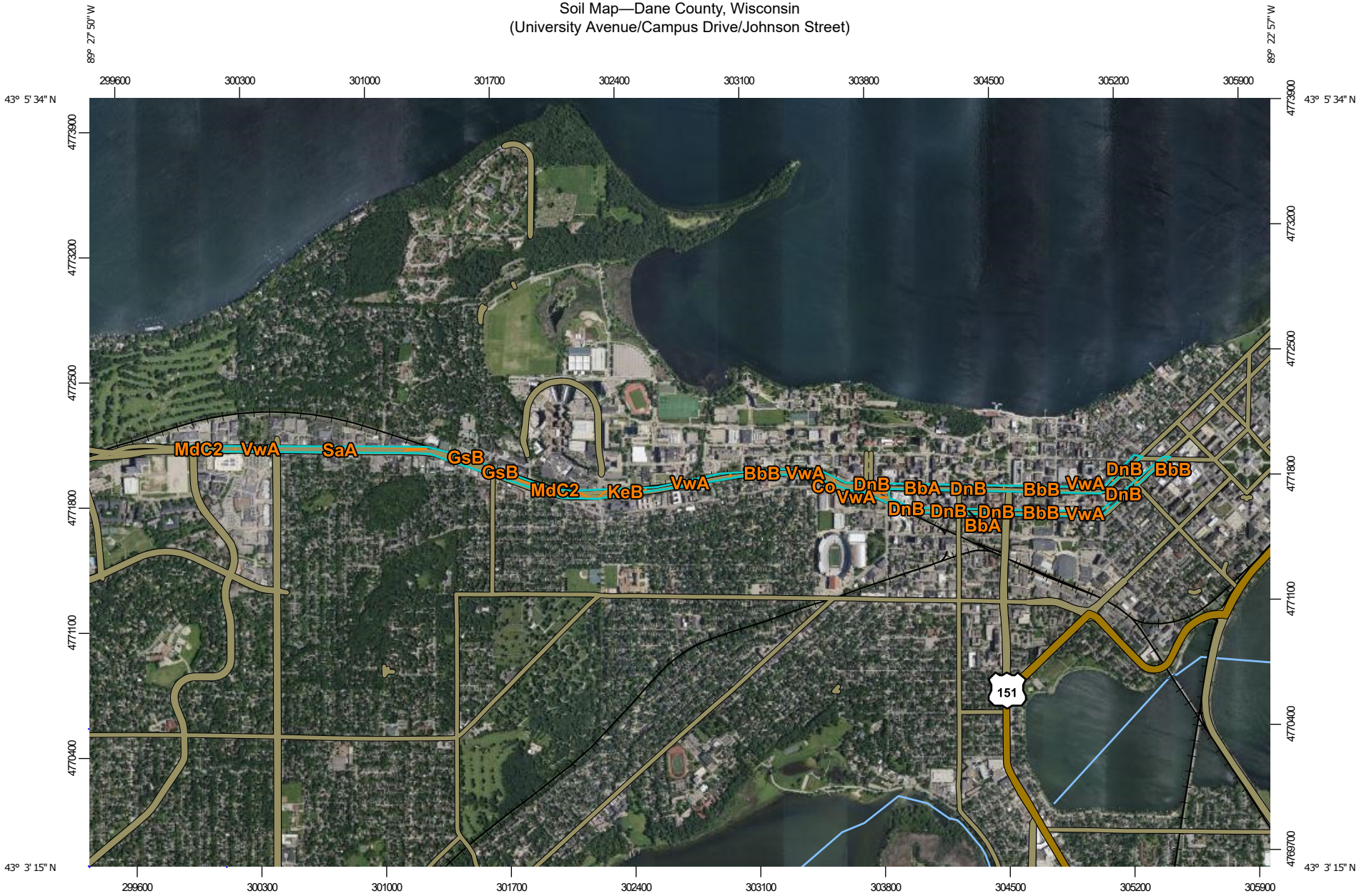
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DnB	Dodge silt loam, 2 to 6 percent slopes	13.8	77.0%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	2.0	11.0%
VrB	Virgil silt loam, 1 to 4 percent slopes	2.1	12.0%
Totals for Area of Interest		**17.9**	**100.0%**

Soil Map—Dane County, Wisconsin
(University Avenue/Campus Drive/Johnson Street)



Map Scale: 1:30,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 400 800 1600 2400

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

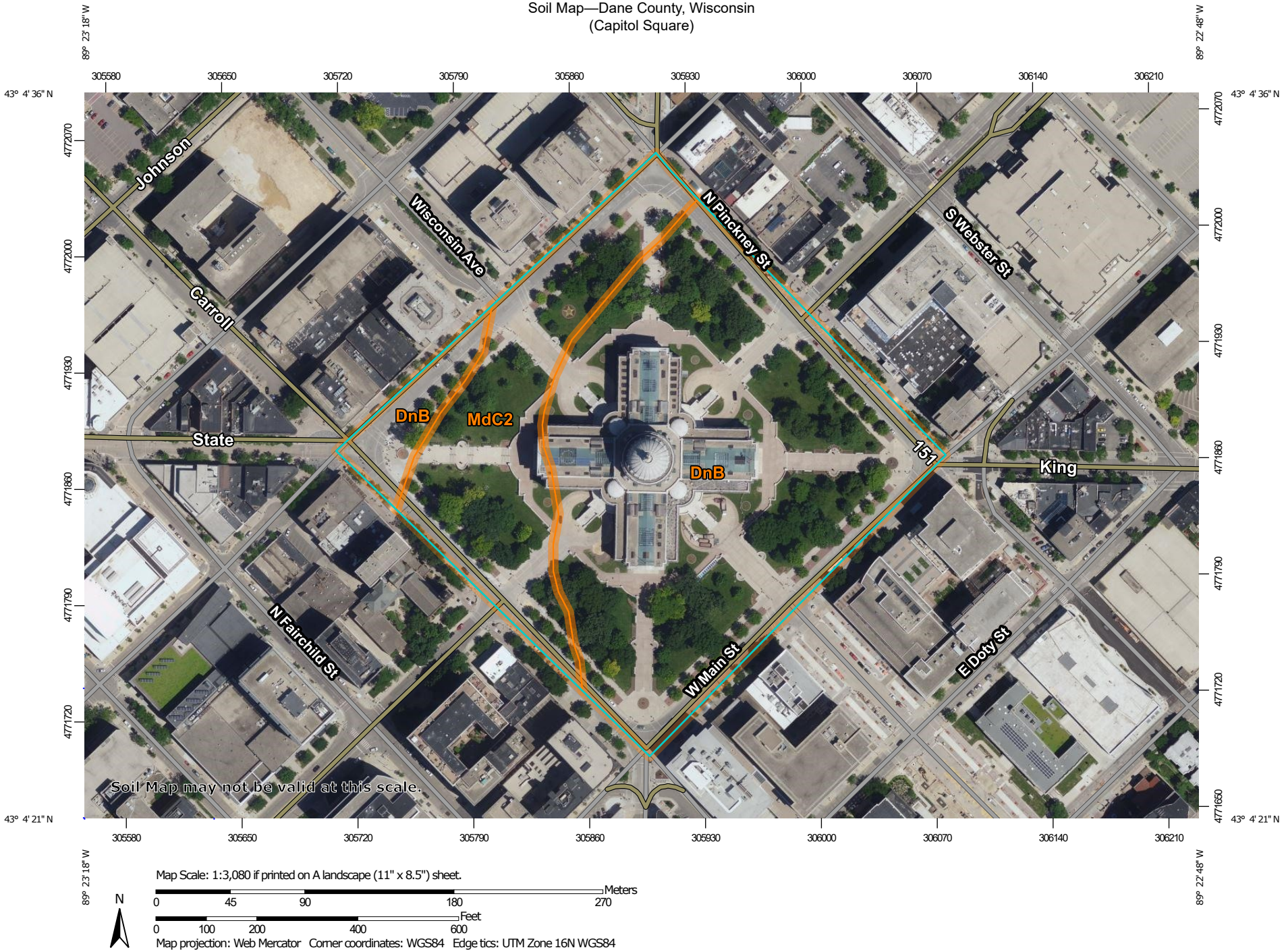
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BbA	Batavia silt loam, gravelly substratum, 0 to 2 percent slopes	5.5	9.2%
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	10.7	17.9%
Co	Colwood silt loam, 0 to 2 percent slopes	1.3	2.1%
DnB	Dodge silt loam, 2 to 6 percent slopes	10.0	16.8%
GsB	Grays silt loam, 2 to 6 percent slopes	0.7	1.2%
KeB	Kegonsa silt loam, 2 to 6 percent slopes	2.1	3.6%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	3.3	5.6%
SaA	Sable silty clay loam, 0 to 2 percent slopes	7.0	11.7%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	19.0	31.9%
Totals for Area of Interest		**59.6**	**100.0%**

Soil Map—Dane County, Wisconsin
(Capitol Square)



Map Scale: 1:3,080 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

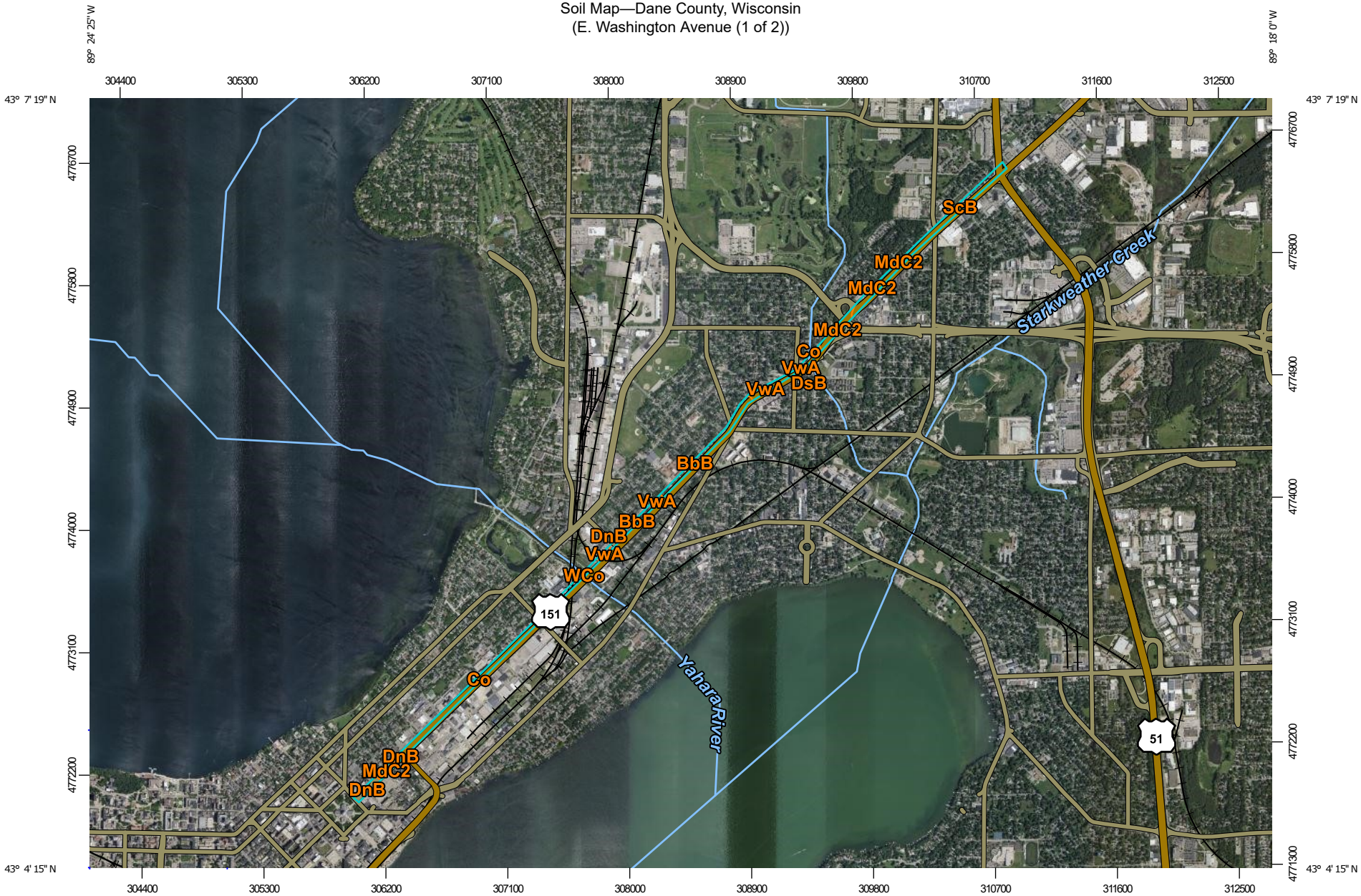
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DnB	Dodge silt loam, 2 to 6 percent slopes	12.1	73.2%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	4.4	26.8%
Totals for Area of Interest		**16.6**	**100.0%**

Soil Map—Dane County, Wisconsin
(E. Washington Avenue (1 of 2))



Map Scale: 1:39,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 500 1000 2000 3000

Feet
0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

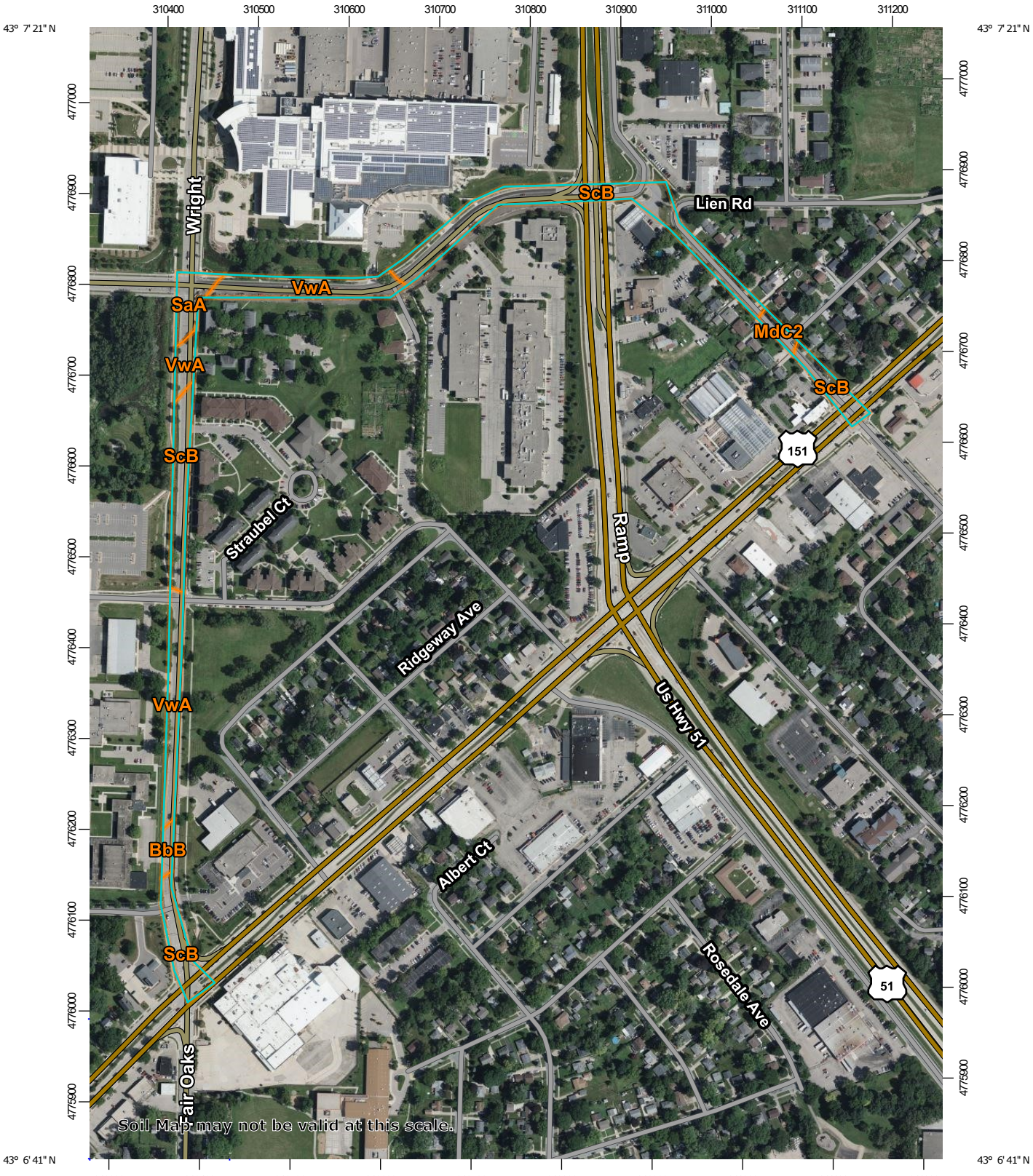
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	12.9	19.5%
Co	Colwood silt loam, 0 to 2 percent slopes	17.9	27.1%
DnB	Dodge silt loam, 2 to 6 percent slopes	5.2	7.9%
DsB	Dresden silt loam, 2 to 6 percent slopes	1.3	1.9%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	6.0	9.1%
ScB	St. Charles silt loam, 2 to 6 percent slopes	17.7	26.8%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	4.8	7.2%
W	Water	0.3	0.4%
Totals for Area of Interest		**66.0**	**100.0%**

Soil Map—Dane County, Wisconsin
(Wright Street/Anderson Street)



Map Scale: 1:6,070 if printed on A portrait (8.5" x 11") sheet.

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

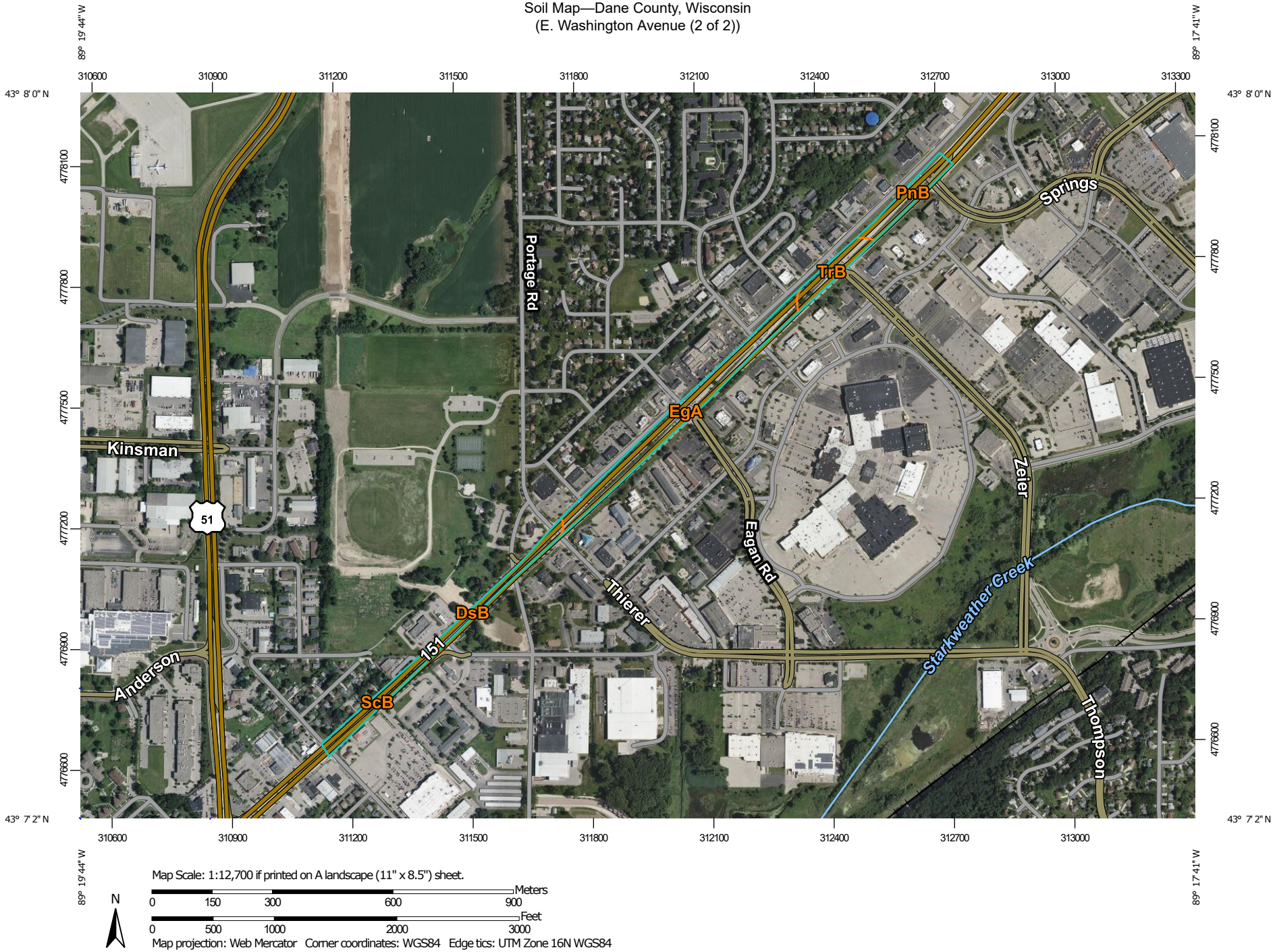
Date(s) aerial images were photographed: Jun 13, 2020—Jul 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	0.2	2.1%
MdC2	McHenry silt loam, 6 to 12 percent slopes, eroded	0.2	2.5%
SaA	Sable silty clay loam, 0 to 2 percent slopes	0.5	6.9%
ScB	St. Charles silt loam, 2 to 6 percent slopes	4.5	58.0%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	2.4	30.5%
Totals for Area of Interest		**7.7**	**100.0%**

Soil Map—Dane County, Wisconsin
(E. Washington Avenue (2 of 2))



Map Scale: 1:12,700 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 20, Sep 7, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 13, 2020—Aug 4, 2020

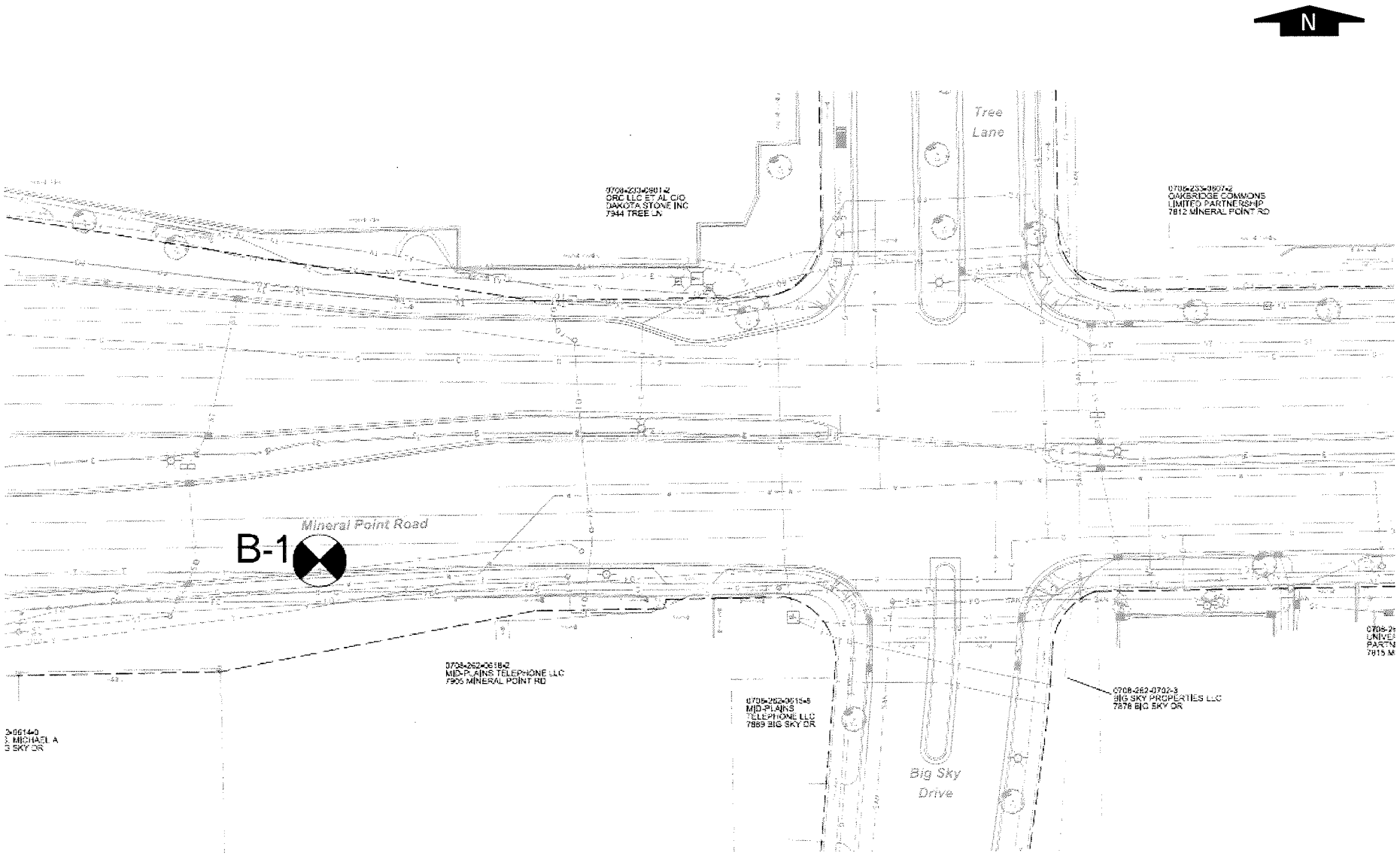
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DsB	Dresden silt loam, 2 to 6 percent slopes	2.1	12.0%
EgA	Elburn silt loam, gravelly substratum, 0 to 3 percent slopes	8.1	45.4%
PnB	Plano silt loam, till substratum, 2 to 6 percent slopes	2.7	15.1%
ScB	St. Charles silt loam, 2 to 6 percent slopes	2.6	14.8%
TrB	Troxel silt loam, 0 to 3 percent slopes	2.3	12.8%
Totals for Area of Interest		**17.9**	**100.0%**

APPENDIX IV

HISTORICAL BORINGS (PROVIDED BY CITY OF MADISON)



Legend

Denotes Boring Location

Notes

1. Soil borings performed by Badger State Drilling in April 2017
2. Boring locations are approximate.

Scale: Reduced

Date: 5/2016	CGC, Inc.	**Soil Boring Location Plan** **Mineral Point Road at Big Sky Drive** **Madison, WI**
Job No. C17051-9		

CGC Inc.

LOG OF TEST BORING

Project **Mineral Point Road at Big Sky Drive**
230' West of Big Sky; 40' South of Centerline
Location **Madison, WI**

Boring No. **1**
Surface Elevation (ft) **1059±**
Job No. **C17051-9**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/8 in. Base Course					
1		14	M	43		Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		10	M	42	5						
3		4	M	71/11"		Very Dense, Brown Fine to Coarse SAND and Gravel, Little Silt, Scattered Cobbles (SP-SM/GP-GM)					
4		6	M	81/11"	10						
5		4	M	52/11"							
					15	Possible Weathered to Competent Bedrock					
						End of Boring at 15 ft					
						Backfilled with Bentonite Chips, Concrete and Asphalt Patch					
					20						

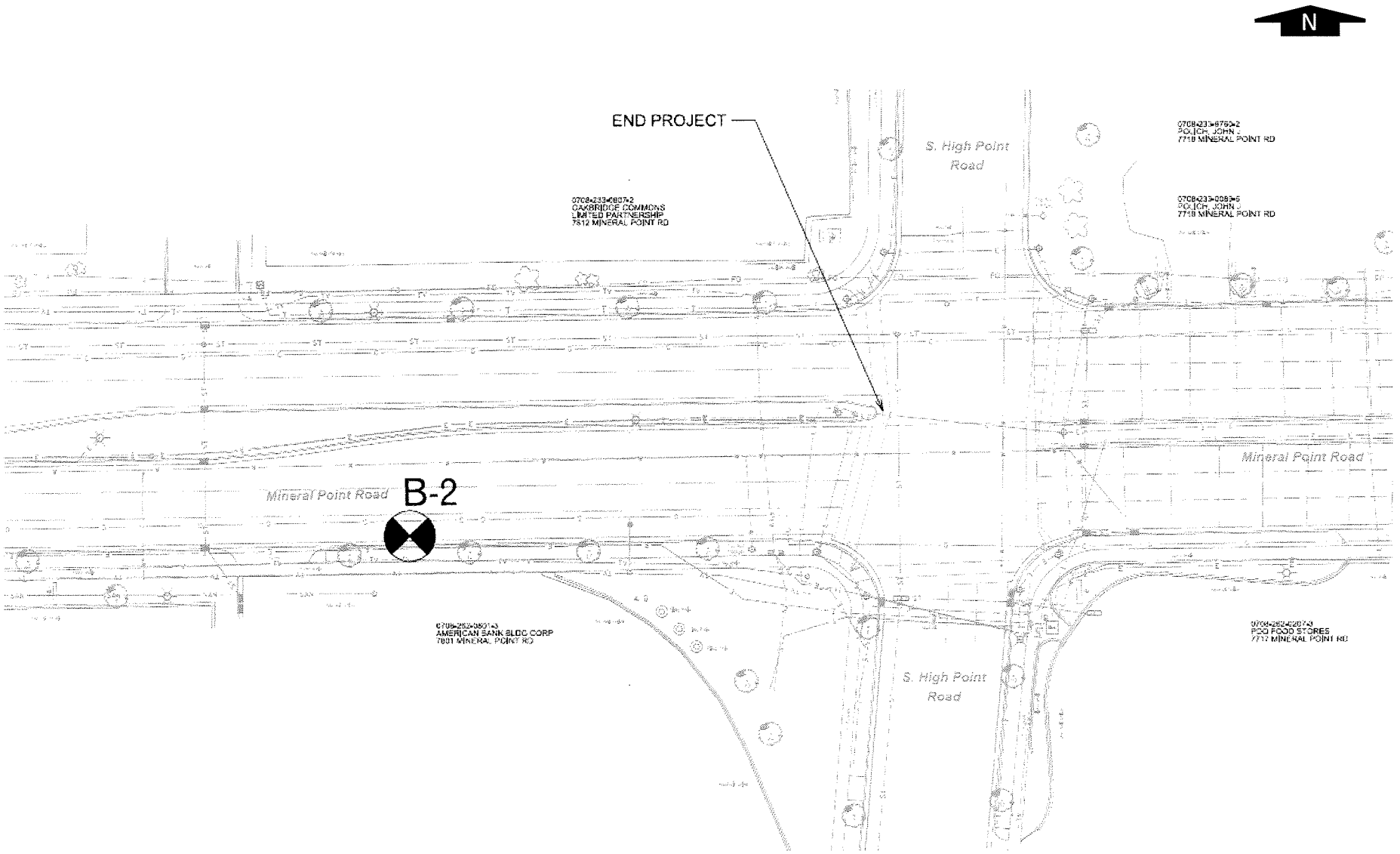
WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **4/5/17** End **4/5/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**



Legend

Denotes Boring Location

Notes

1. Soil borings performed by Badger State Drilling in April 2017
2. Boring locations are approximate.

Scale: Reduced

Date: 5/2016	CGC, Inc.	**Soil Boring Location Plan** **Mineral Point Road at Big Sky Drive** **Madison, WI**
Job No. C17051-9		

CGC Inc.

LOG OF TEST BORING

Project **Mineral Point Road at Big Sky Drive**
225' West of High Point; 40' South of Centerline
Location **Madison, WI**

Boring No. **2**
Surface Elevation (ft) **1064±**
Job No. **C17051-9**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						8 in. Concrete/8 in. Base Course					
1AS		0	M	10		FILL: Gray Clay with Sand and Gravel					
2		10	M	7	5	Medium-Stiff to Stiff, Brown Lean CLAY, Trace Sand and Gravel (CL)	(1.25)				
3		16	M	6			(0.75)				
4		14	M	13		Becoming Soft and Sandy Near 8.5 ft	(0.4)				
					10	Medium Dense, Brown Fine SAND, Trace to Little Silt (SP/SP-SM)					
5		8	M	29		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
					15	End of Boring at 15 ft Backfilled with Bentonite Chips, Concrete and Asphalt Patch					
					20						

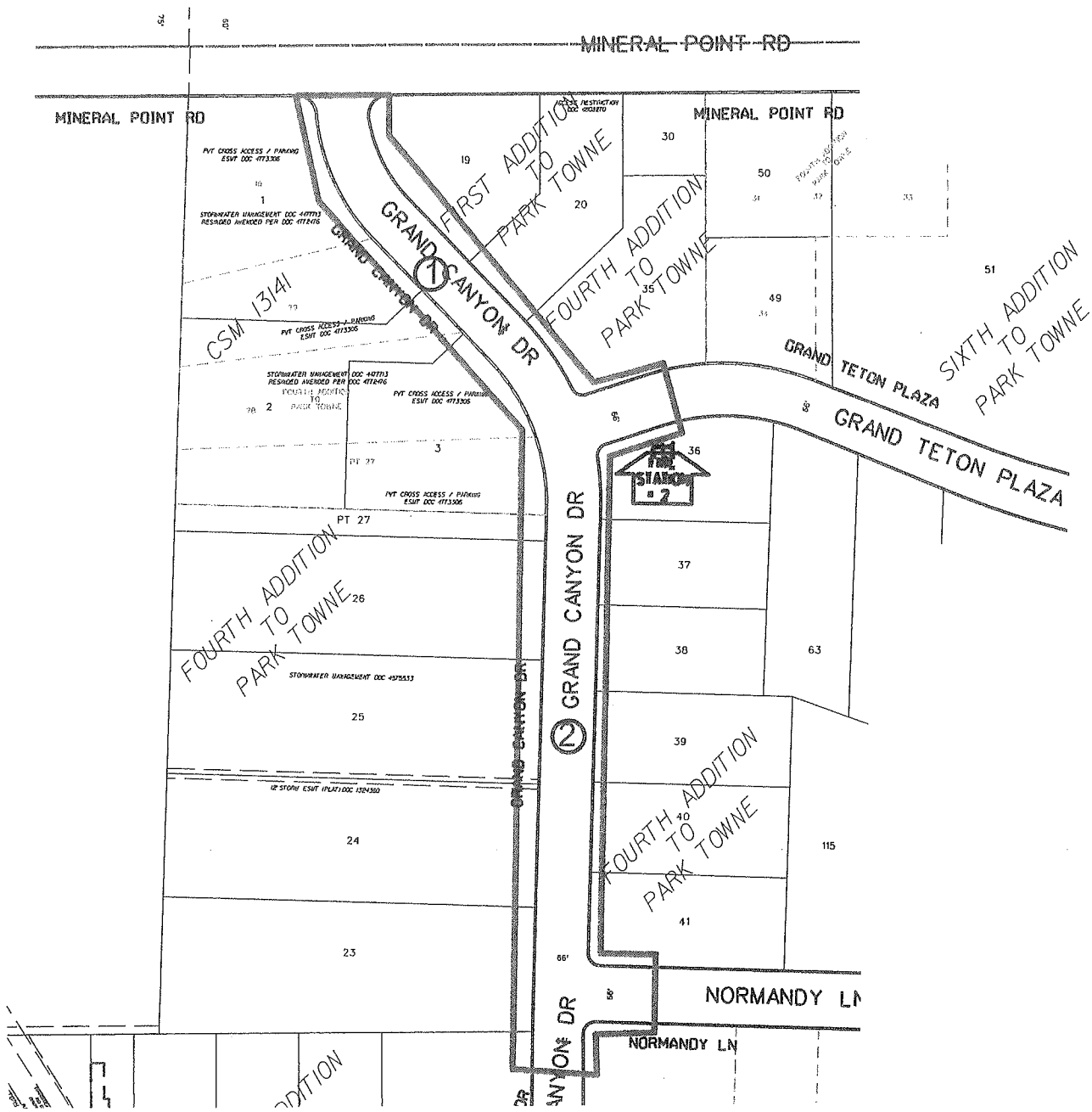
WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **4/5/17** End **4/5/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**



Legend

② Denotes Boring Location (approximate)

Notes

1. Soil borings drilled by Badger State Drilling in December 2015

DWN: -	APP'D: MNS	Date: 1/16	C15051-40	CGC, Inc.	**SOIL BORING LOCATION PLAN** **Grand Canyon Drive**

CGC Inc.

LOG OF TEST BORING

Project: Grand Canyon Drive
50'NW of Grand Teton, 15'W of CL
Location: Madison, WI

Boring No. 1
Surface Elevation (ft)
Job No. C15051-40
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						5 in. Asphalt Pavement/6 in. Base Course					
1		14	M	12		FILL: Brown Silty SAND with Gravel to 2 ft Yellow-Brown Sand with Gravel to 5.5 ft					
2		14	M	13	5						
3		12	M	13		Medium Stiff, Brown and Dark Brown Mottled Lean CLAY (CL)	(0.75)				
4		12	M	39		Dense, Brown Fine to Coarse SAND and GRAVEL, Some Silt, Scattered Cobbles (SM/GM)					
					10	End Boring at 10 ft Backfilled with Bentonite Chips and Asphalt Patch					
					15						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/15/15 End 12/15/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project: Grand Canyon Drive
140'N of Normandy, 14'W of CL
Location: Madison, WI

Boring No. 2
Surface Elevation (ft)
Job No. C15051-40
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						5 in. Asphalt Pavement/8 in. Base Course					
1		14	M	10		Loose to Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		14	M	24	5						
3		12	M	26		Medium Dense to Dense, Brown Fine to Coarse SAND and GRAVEL, Some Silt, Scattered Cobbles (SM/GM)					
4		14	M	31	10						
						End Boring at 10 ft Backfilled with Bentonite Chips and Asphalt Patch					
					15						

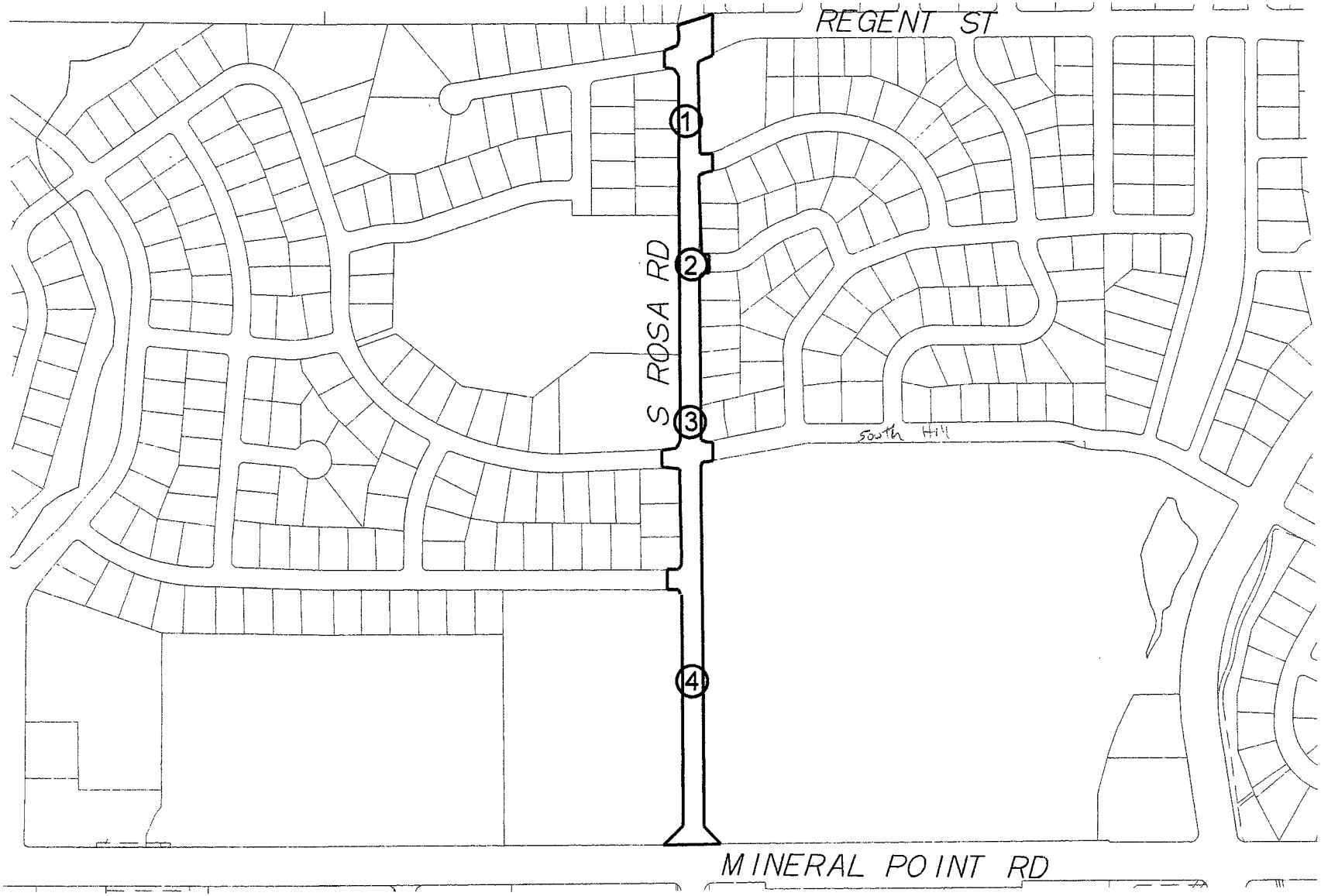
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/15/15 End 12/15/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer



Legend

(2) Denotes Boring Location (approximate)

N

Notes

1. Soil borings performed by Badger State Drilling in December 2011

DWN: -	APP'D: MNS	Date: 12/11	C11054-43	CGC, Inc.	**SOIL BORING LOCATION PLAN** **South Rosa Road** **Madison, Wisconsin**

LOG OF TEST BORING

CGC Inc.

Project: South Rosa Road
105'S of Regent, 9'W of Centerline
Location: Madison, Wisconsin

Boring No. 1
Surface Elevation (ft) 41.4*
Job No. C11054-43
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	PID
						6" Asphalt Pavement/10" Base Course					
1		8	M	9		FILL: Brown Clay with Trace Sand and Gravel	(2.0)				
2		6	M	4			(1.25)				
					5						
						Stiff to Very Stiff, Brown Lean CLAY, Trace Sand (CL)					
3		18	M	8			(2.0)				
4		18	M	10							
					10	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
5		18	M	23							
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
						*Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the intersection of Rosa and Mineral Point.					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/8/11 End 12/8/11
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 2 1/4" HSA

LOG OF TEST BORING

CGC Inc.

Project: South Rosa Road
60'S of Stadium, 9'W of Centerline
Location: Madison, Wisconsin

Boring No. 2
Surface Elevation (ft) 54.0*
Job No. C11054-43
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	PID
						6.5" Asphalt Pavement/10" Base Course					
1		6	M	9		Very Stiff, Brown Lean CLAY (CL)	(3.0)				
2		18	M	10	5	Loose to Medium Dense, Brown Fine to Coarse SAND, Some Silt, Clay and Gravel, Scattered Cobbles (SM/SC)					
3		1	M	50/3"		Very Dense, Brown Fine to Medium SAND and GRAVEL, Some Silt, Scattered Cobbles (SM/GM)					
4		4	M	50/3"	10						
5		4	M	64	15	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
					20	End Boring at 15 ft Borehole backfilled with bentonite chips *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the intersection of Rosa and Mineral Point.					

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/8/11 End 12/8/11
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 2 1/4" HSA

CGC Inc.

LOG OF TEST BORING

Project: South Rosa Road
170'N of South Hill, 8'E of Centerline
Location: Madison, Wisconsin

Boring No. 3
Surface Elevation (ft) 56.4*
Job No. C11054-43
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	PID
						6" Asphalt Pavement/10" Base Course					
1		3	M	9		Stiff to Soft, Brown Lean CLAY (CL)	(1.0)				
2		18	M	7	5	Sandy near 4 ft	(0.4)				
3		18	M	21		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
4		18	M	37	10	Dense, Gray Sandy SILT to Silty Fine SAND, Scattered Gravel and Cobbles (ML/SM)					
5		18	M	33	15	End Boring at 15 ft Borehole backfilled with bentonite chips *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the intersection of Rosa and Mineral Point.					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/8/11 End 12/8/11
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 2 1/4" HSA

CGC Inc.

LOG OF TEST BORING

Project: South Rosa Road
380'N of Mineral Point, 11'E of Centerline
Location: Madison, Wisconsin

Boring No. 4
Surface Elevation (ft) 88.9*
Job No. C11054-43
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	PID
						6" Asphalt Pavement/10" Base Course					
1		0	M	11		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		18	M	11	5						
3		18	M	11							
4		18	M	13	10						
5		0	M	50/1"		Weathered to Competent BEDROCK					
					15	End Boring at 14.5 ft due to Refusal on Competent Bedrock Borehole backfilled with bentonite chips *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the intersection of Rosa and Mineral Point.					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/8/11 End 12/8/11
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 2 1/4" HSA

Legend

(2) Denotes Boring Location and number (approximate)

Notes

1. Soil borings performed by Badger State Drilling in December 2010

DWN: -	APP'D: MNS	Date: 12/10	C10041-39

SOIL BORING LOCATION MAP
South Whitney Way
Madison, Wisconsin

CGC Inc.

LOG OF TEST BORING

Project: South Whitney Way
100'S of Burnett Drive, 38'W of CL
Location: Madison, Wisconsin

Boring No. 1
Surface Elevation (ft) 98.3*
Job No. C10041-39
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						2" Asphalt Pavement/7" Concrete Pavement					
1		18	M	17		Stiff, Brown-Gray Lean CLAY (CL)	(1.75)				
						Stiff to Very Stiff, Brown Lean CLAY (CL)					
2		12	M	16			(2.75)				
3		18	M	13	5		(1.5)				
						End Boring at 6 ft Borehole backfilled with soil cuttings *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the SW corner of the intersection of Whitney Way and Burnett Drive					
					10						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/17/10 End 12/17/10
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 4 1/4" FA

CGC Inc.

LOG OF TEST BORING

Project: South Whitney Way
150'N of Regent Street, 12'W of CL
Location: Madison, Wisconsin

Boring No. 2
Surface Elevation (ft) 97.6*
Job No. C10041-39
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						2" Asphalt Pavement/9" Base Course					
1		18	M	13		FILL: Brown Clay with Sand and Gravel	(1.5)				
						Medium Dense to Dense, Brown Fine to Medium Sand, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		12	M	20							
3		12	M	46	5						
						End Boring at 6 ft Borehole backfilled with soil cuttings *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the NW corner of the intersection of Whitney Way and Regent Street					
					10						

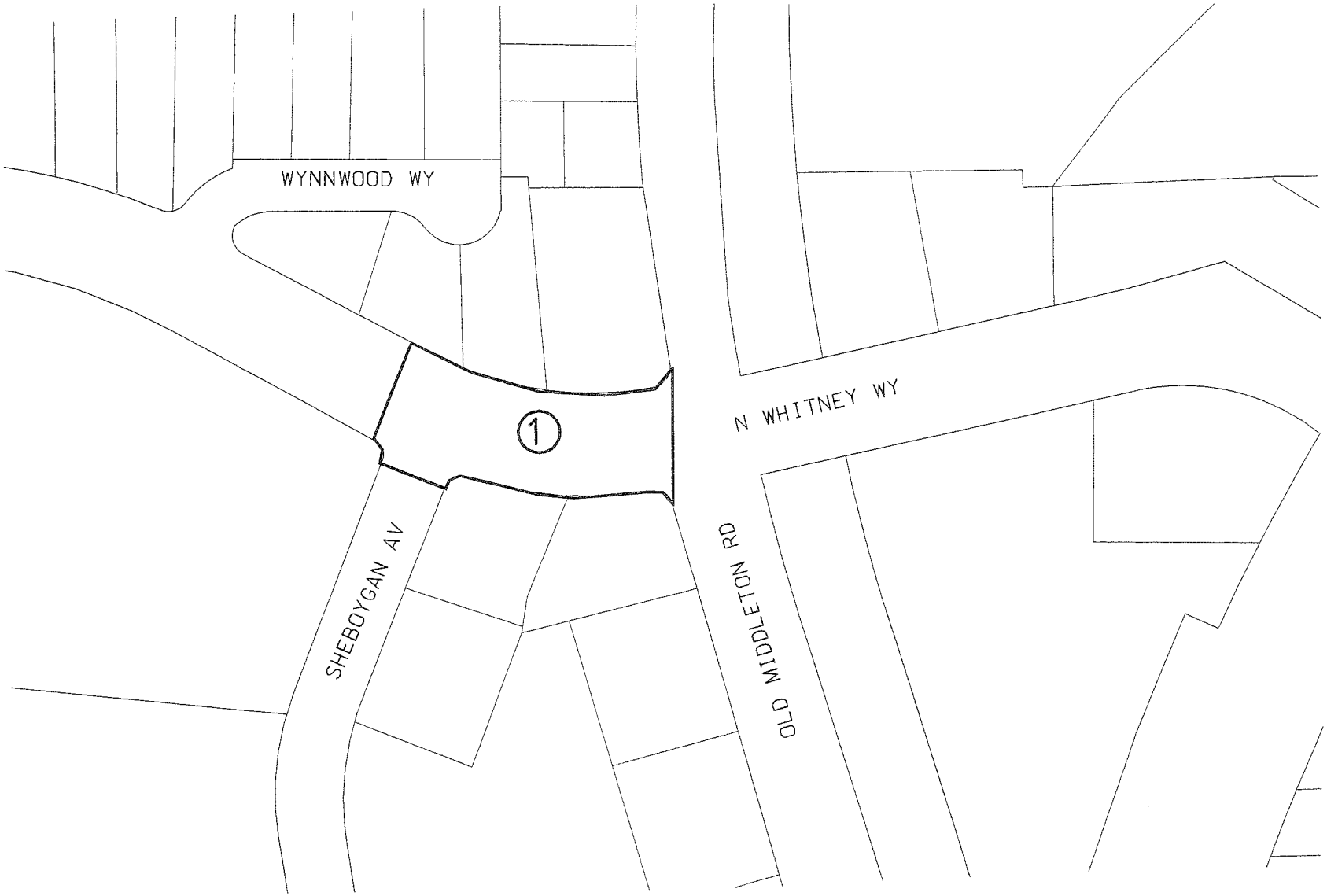
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/14/10 End 12/14/10
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 4 1/4" FA



Legend

(1) Denotes Boring Location (approximate)

N

Notes

1. Soil boring performed by Badger State Drilling in December 2010

DWN: -	APP'D: MNS	Date: 12/10	C10041-40	CGC, Inc.	**SOIL BORING LOCATION MAP** **North Whitney Way** **Madison, Wisconsin**

CGC Inc.

LOG OF TEST BORING

Project: North Whitney Way
105'S of Old Middleton Road, 35'W of CL
Location: Madison, Wisconsin

Boring No. 1
Surface Elevation (ft) 98.8*
Job No. C10041-40
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						2" Asphalt Pavement/7" Base Course					
1		18	M	10		Stiff Gray Lean CLAY (CL) (Possible Fill)	(1.75)				
						Stiff to Very Stiff Brown Lean CLAY (CL)					
2		18	M	7			(2.0)				
3		18	M	8	5		(2.3)				
					10	End Boring at 6 ft Borehole backfilled with soil cuttings *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the SE corner of the intersection of Whitney Way and Old Middleton Road					

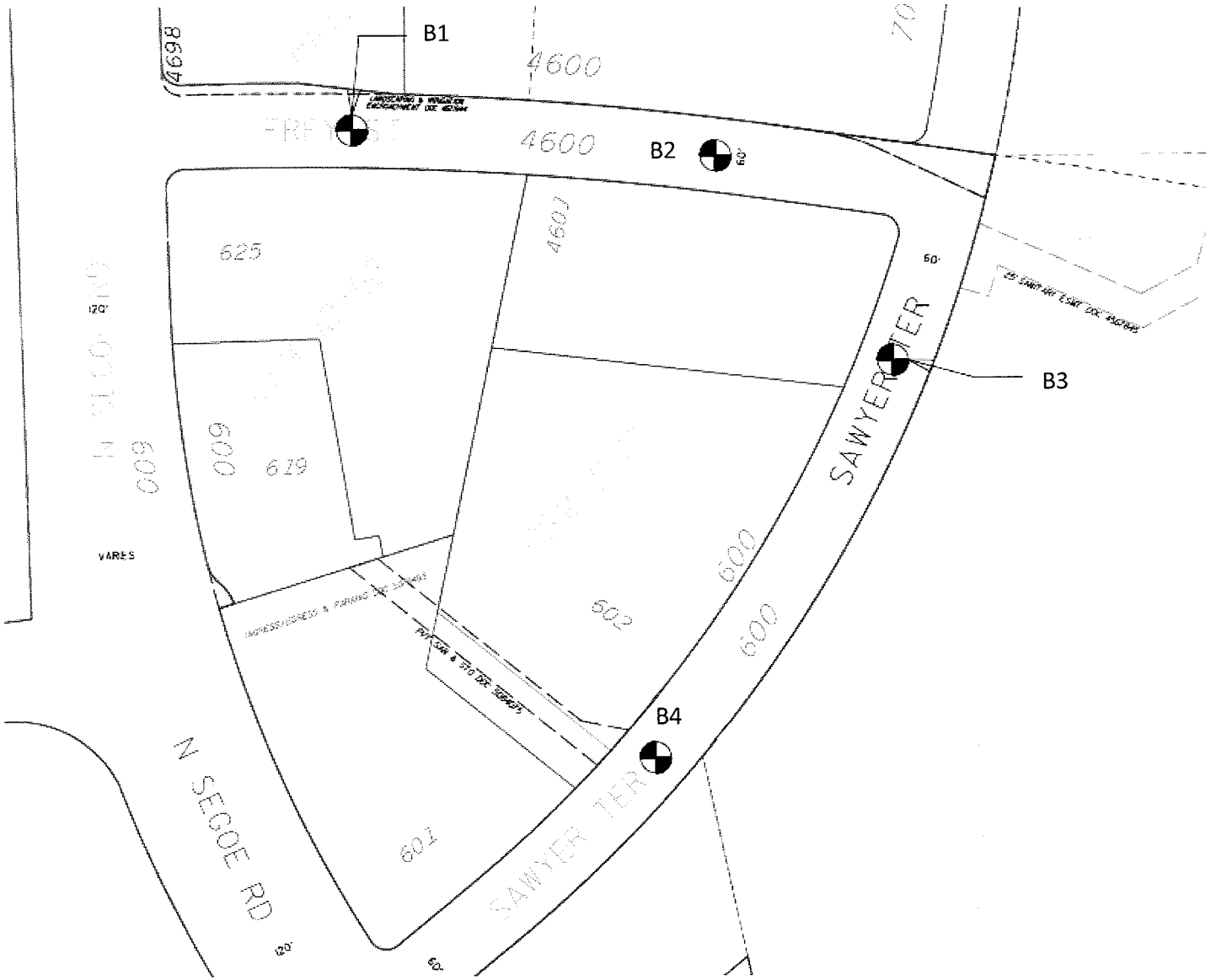
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/14/10 End 12/14/10
Driller Badger Chief BM Rig CME-55
Logger MC Editor ESF
Drill Method 4 1/4" FA



Legend

Denotes Boring Location

N

Scale: Reduced

Notes

1. Soil borings performed by Badger State Drilling in August 2017
2. Boring locations are approximate.

Date: 9/2017	CGC, Inc.	**Soil Boring Location Plan** **Frey Street and Sawyer Terrace** **Madison, WI**
Job No. C17051-24		

CGC Inc.

LOG OF TEST BORING

Project: **Frey Street and Sawyer Terrace**
Frey: 110'E of Segoe, 5'N of CL
Location: **Madison, WI**

Boring No. **1**
Surface Elevation (ft) **947±**
Job No. **C17051-24**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						5.5 in. Asphalt Pavement/9 in. Base Course					
1		14	M	23		Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		7	M	78/8"		Apparent Weathered to Competent Dolomitic Limestone Bedrock					
					5	End of Boring at 5.5 ft due to Auger Refusal on Apparent Competent Bedrock or Possible Boulder Backfilled with Soil Cuttings and Asphalt Patch (N 43° 04.442', W 89° 27.385')					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **8/24/17** End **8/22/17**
Driller **BSD** Chief **KD** Rig **CME-55**
Logger **DB/MG** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: Frey Street and Sawyer Terrace
Frey: 150'W of Sawyer, 5'N of CL
Location: Madison, WI

Boring No. 2
Surface Elevation (ft) 915±
Job No. C17051-24
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						5 in. Asphalt Pavement/8 in. Base Course					
1		14	M	24		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
2		16	M	29	5						
3A 3B		18	M	34							
						Tan to White Weathered to Competent SANDSTONE BEDROCK					
4		18	M	36	10						
5		15	M	29	15						
					20	End of Boring at 15 ft Backfilled with bentonite chips and asphalt patch (N 43° 04.449', W 89° 27.290')					

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 8/24/17 End 8/22/17
Driller BSD Chief KD Rig CME-55
Logger DB/MG Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project: Frey Street and Sawyer Terrace
Sawyer: 300'SW of Frey 8'SE of CL
Location: Madison, WI

Boring No. 3
Surface Elevation (ft) 919±
Job No. C17051-24
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						5 in. Asphalt Pavement/8 in. Base Course					
1		4	M	20		Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM) (Possible Fill to 3ft)					
2		18	M	15	5						
3		12	M	32							
4		16	M	24	10						
5		18	M	32	15						
					20	End of Boring at 15 ft Backfilled with bentonite chips and asphalt patch (N 43° 04.405', W 89° 27.279')					

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 8/24/17 End 8/22/17
Driller BSD Chief KD Rig CME-55
Logger DB/MG Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project: **Frey Street and Sawyer Terrace**
Sawyer, 150'NE of Segoe, 10'E of CL
Location: **Madison, WI**

Boring No. **4**
Surface Elevation (ft) **926±**
Job No. **C17051-24**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4.5 in. Asphalt Pavement/4 in. Base Course					
1		14	M	17		FILL: Medium Dense, Brown to Dark Brown Sand with Some Silt, Gravel and Clay, Occasional Cobbles					
2		0	M	21	5						
3		16	M	16		Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
4		18	M	38	10						
5		12	M	85	15	End of Boring at 15 ft Backfilled with bentonite chips and asphalt patch (N 43° 04.346', W 89° 27.337')					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **8/24/17** End **8/22/17**
Driller **BSD** Chief **KD** Rig **CME-55**
Logger **DB/MG** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

Legend

Denotes Boring Location

N

Scale: Reduced

Notes

1. Boring locations are approximate
2. Soil borings performed by Badger State Drilling in December of 2018
3. Page 1 of 2

Date: 12/2018	CGC, Inc.	**Soil Boring Location Plan** **University Avenue Geotech** **Shorewood to Grand** **Madison, WI**
Job No. C18051-18		

Legend

Denotes Boring Location

N

Scale: Reduced

Notes

1. Boring locations are approximate
2. Soil borings performed by Badger State Drilling in December of 2018 (B7 drilled in October 2015)
3. Page 2 of 2

Date: 12/2018	CGC, Inc.	**Soil Boring Location Plan** **University Avenue Geotech** **Shorewood to Grand** **Madison, WI**
Job No. C18051-18		

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-1
Surface Elevation (ft) 884±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7 in. Concrete Pavement/8 in. Base Course					
1		15	M	59		Medium Dense to Very Dense, Brown Fine to Coarse SAND and GRAVEL, Some Silt (SM/GM - Possible Fill or Weathered Bedrock)					
2		12	M	30	5						
3		6	M	50/11"		Apparent Weathered to Competent Bedrock					
						End Boring at 7.5 ft Due to Auger Refusal on Presumed Competent Bedrock Borehole backfilled with soil cuttings and patched with asphalt					
					10						
					15						
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/21/18 End 12/21/18
Driller BSD Chief MC & KD Rig CME-55
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-2
Surface Elevation (ft) 893±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/8 in. Base Course					
1		12	M	31		FILL: Stiff Brown Clay with Gravel	(1.5)				
2		12	M	21		Stiff, Brown Lean CLAY (CL)	(1.75)				
					5	Becoming Sandy and Medium Stiff Near 6 ft					
3A&B		14	M	20		Medium Dense, Brown Fine to Medium SAND, Little to Some Silt and Gravel (SP-SM/SM)	(0.75)				
4		0		50/1"		Weathered to Competent, Brown to Greenish-Gray Sandstone Bedrock					
					10	Auger Refusal at 10 ft Core Run #1 (10'-13' - Core Barrel Plugged) Recovery: 24 in. (67%) RQD: 13					
					15	Core Run #2 (13'-15' - Core Barrel Plugged) Recovery: 15 in. (63%) RQD: 27 Core Run #3 (15'-23' - Core Barrel Plugged) Recovery: 72 in. (75%) RQD: 34					
					20						
					25	Core Run #4 (23'-30' - Core Barrel Plugged) Recovery: 60 in. (63%) RQD: 23					
					30	Core Run #5 (30'-35') Recovery: 36 in. (60%) RQD: 0					
					35	End Boring at 35 ft					
						Backfilled with Bentonite Slurry and Chips; Patched with Asphalt					
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start 12/20/18 End 12/20/18
Driller BSD Chief KD Rig D-120
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-3
Surface Elevation (ft) 879±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/10 in. Base Course					
1		10	M	10		Stiff to Very Stiff, Gray Silty CLAY (CL-ML)	(1.25-2.5)				
2		17	M	10	5	Stiff to Very Stiff, Brown Lean CLAY (CL)	(1.5-2.0)				
3		14	M	7			(1.5)				
4		10	M	11	10	Medium Dense, Brown Fine to Medium SAND, Little Silt, Trace Clay (SP-SM)					
5		16	M	20	15	Medium Dense to Dense, Light Brown Fine to Medium SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
6		14	M	30	20	End Boring at 20 ft Borehole backfilled with bentonite chips and asphalt patch					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start 12/21/18 End 12/21/18
Driller BSD Chief MC & KD Rig CME-55
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-4
Surface Elevation (ft) 874±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/9 in. Base Course					
1		12	M	10		FILL: Medium Stiff Brown Clay with Sand and Gravel	(0.75)				
2		14	M	9	5	Medium Stiff to Stiff, Brown Lean CLAY (CL)	(1.5)				
3		18	M	9			(1.0)				
4		18	M	9	10	Medium Stiff to Stiff, Gray Lean CLAY (CL)	(0.75-1.0)				
5		10	M	18	15	Medium Dense, Light Brown Fine to Medium SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
						End Boring at 15 ft Borehole backfilled with bentonite chips and asphalt patch					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/21/18 End 12/21/18
Driller BSD Chief MC & KD Rig D-120
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-5
Surface Elevation (ft) 875±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						7 in. Concrete Pavement/10 in. Base Course					
1		6	M	11		FILL: Stiff Brown Clay to 3 ft	(1.5)				
2		9	M	5	5	Stiff Gray Clay with Topsoil to 5.5 ft	(1.5)				
3		14	M	9		Stiff, Dark Gray Lean CLAY, Some Sand, Trace Gravel (CL)	(1.75)				
4A&B		18	M	13		Medium Stiff, Brown Sandy Lean CLAY (CL)	(0.75)				
					10	Medium Dense, Light Brown Fine to Medium SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
5		12	M	21		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips and asphalt patch					
					20						
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/21/18 End 12/21/18
Driller BSD Chief MC & KD Rig CME-55
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue Geotech
Shorewood to Grand
Location: Madison, WI

Boring No. RB-6
Surface Elevation (ft) 878±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						7 in. Concrete Pavement/10 in. Base Course					
1		8	M	21		Medium Dense, Brown Fine to Coarse SAND, Some Silt and Gravel (SM - Possible Fill)					
2		14	M	25	5	Medium Dense, Light Brown Fine SAND, Trace to Little Silt, Trace Gravel (SP/SP-SM)					
3		12	M	28							
4		14	M	18	10	Thin (<1 in.) Seam of Silty Sand Near 9 ft					
						Medium Dense, Light Brown Fine SAND, Trace Silt and Gravel (SP)					
5		16	M	21	15						
6		15	M	29	20	End Boring at 20 ft Borehole backfilled with bentonite chips and asphalt patch					
					25						
					30						
					35						
					40						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start 12/21/18 End 12/21/18
Driller BSD Chief MC & KD Rig CME-55
Logger MG Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: Grand Avenue Area
Grand: 60'S of University, 10'E of CL
Location: Madison, WI

Boring No. B-7
Surface Elevation (ft) 877±
Job No. C15051-19
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						11 in. Concrete Pavement					
1		14	M	14		FILL: Very Loose to Medium Dense, Brown/Orange Fine to Medium Sand with Silt and Gravel					
2		16	M	4	5						
3		12	M	9							
4		18	M	16	10						
						Weathered, Greenish to Grayish-Brown Sandstone BEDROCK					
5		18	M	32	15						
						End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

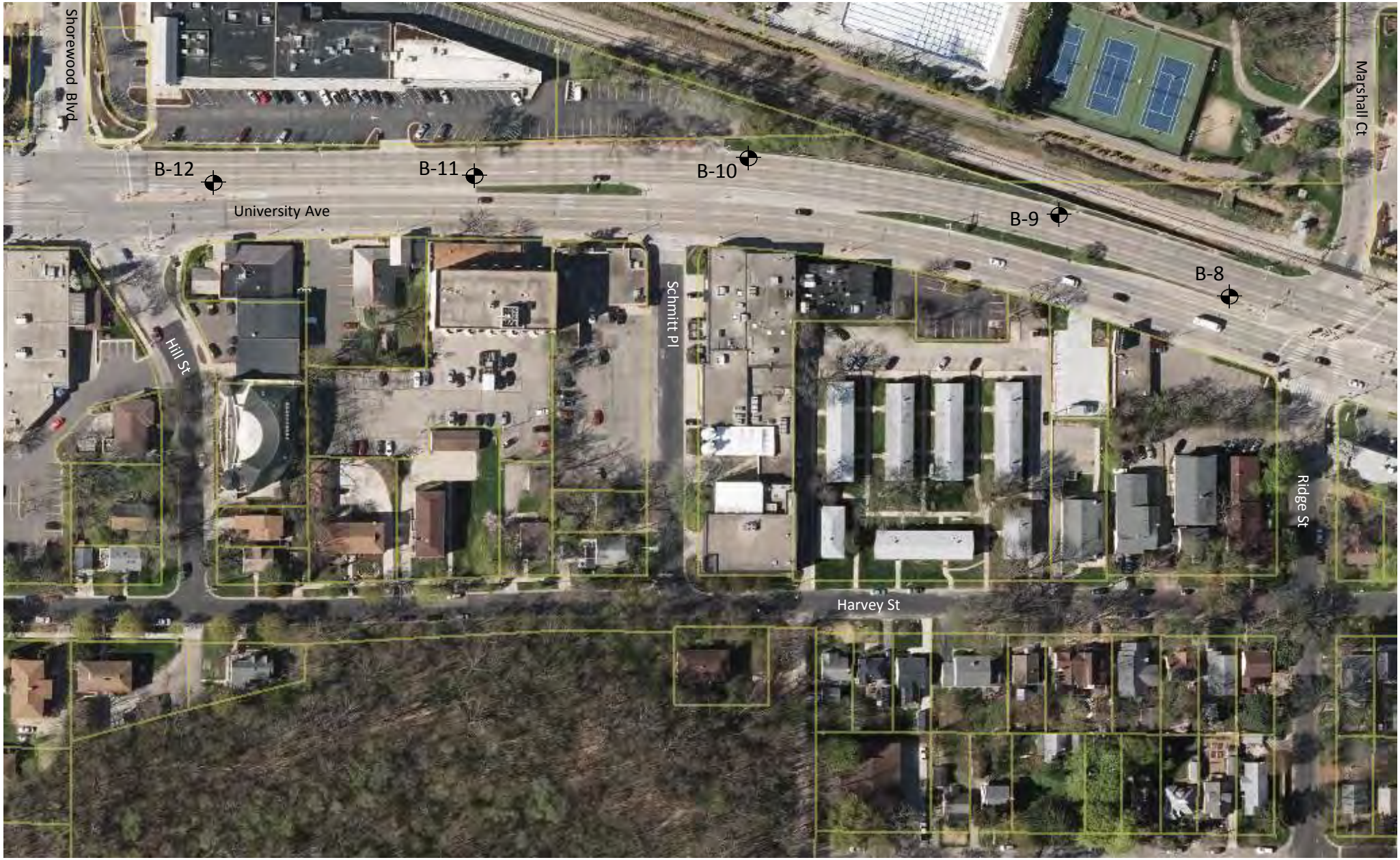
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/22/15 End 10/22/15
Driller BSD Chief MC Rig CME-55
Logger DB Editor ESF
Drill Method 2.25" HSA; Autohammer



Legend

Denotes Boring Location

N

Scale: Reduced

Notes

1. Boring locations are approximate
2. Soil borings performed by Badger State Drilling in July 2020

Date: 7/2020	CGC, Inc.	**Soil Boring Location Map** **University Avenue – Shorewood to Grand** **Additional Borings: Rock Exploration** **Madison, WI**
Job No. C18051-18		

CGC Inc.

LOG OF TEST BORING

Project: University Avenue - Shorewood to Grand
90'W of Ridge in Southern WB Lane
Location: Madison, WI

Boring No. B-8
Surface Elevation (ft) 882±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/9 in. Base Course					
1		18	M	22		FILL: Medium Stiff to Stiff Brown Clay with Sand and Gravel	(0.75-1.0)				
2		18	M	10	5	Stiff, Brown Lean CLAY (CL)	(1.25)				
3		18	M	8			(1.25)				
4		18	M	7	10	Loose, Brown Fine to Medium SAND, Little Silt, Trace Clay (SP-SM)					
5		18	M	4		Loose to Very Loose, Light Brown Stratified SILT and Soft to Very Soft Lean CLAY, Trace Sand (ML/CL)	(0.25)				
6		18	M/W	8	15		(0.4)				
7		18	M	18	20	Medium Dense, Light Brown Fine SAND, Trace Silt (SP)					
					25	End Boring at 20 ft Borehole backfilled with bentonite chips and asphalt patch					

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 7/13/20 End 7/13/20
Driller BSD Chief MC Rig CME-55
Logger GB Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue - Shorewood to Grand
290'W of Ridge in Northern WB Lane
Location: Madison, WI

Boring No. B-9
Surface Elevation (ft) 888±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/8 in. Base Course					
1		18	M	14		FILL: Medium Dense Brown Sand with Silt and Gravel to 3'					
						Medium Stiff Brown Clay with Sand and Gravel to 18'					
2		18	M	4			(0.75)				
					5	Becoming Soft to Very Soft from 5' to 9'					
3		8	M/W	2			(0.5)				
4		6	M/W	3			(0.25)				
					10	Layer of Very Loose Orange-Brown Crushed Sandstone Noted From 9' to 10'					
5		10	M	3			(0.75)				
					15						
6		3	M	50/3"		Very Dense Weathered to Competent, Greenish-Brown Sandstone Bedrock					
					20						
						End Boring at 21 ft Due to Auger Refusal on Competent Bedrock					
						Borehole backfilled with bentonite chips and asphalt patch					
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 7/13/20 End 7/13/20
Driller BSD Chief MC Rig CME-55
Logger GB Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project: University Avenue - Shorewood to Grand
75'E of Schmitt in Northern WB Lane
Location: Madison, WI

Boring No. B-10
Surface Elevation (ft) 894±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9.5 in. Concrete Pavement/9 in. Base Course					
1		16	M	18		FILL: Stiff Brown Clay with Sand and Gravel to 5' (Increasing Gravel Content with Depth)	(1.5)				
2		12	M	26							
					5	Medium Dense Crushed Aggregate or Pulverized Bedrock to 10'					
3		14	M	25							
4		14	M	27							
					10	Apparent Weathered to Competent Bedrock					
						End Boring at 10.5 ft Due to Auger Refusal on Apparent Bedrock					
						Borehole backfilled with bentonite chips and asphalt patch					
					15						
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 7/13/20 End 7/13/20
Driller BSD Chief MC Rig CME-55
Logger GB Editor ESF
Drill Method 2 1/4" HSA, Autohammer

CGC Inc.

LOG OF TEST BORING

Project **University Avenue - Shorewood to Grand**
110'W of Schmitt in Southern WB Lane
Location **Madison, WI**

Boring No. **B-11**
Surface Elevation (ft) **885±**
Job No. **C18051-18**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/8 in. Base Course					
1		18	M	22		FILL: Stiff to Very Stiff Brown Clay with Sand and Gravel to 3'	(2.0)				
						Dense Brown Sand and Gravel with Silt to 5'					
2		18	M	47	5						
						Apparent Weathered to Competent Bedrock					
3		2	M	50/3"							
						End Boring at 8 ft Due to Auger Refusal on Apparent Competent Bedrock					
					10	Borehole backfilled with soil cuttings and asphalt patch					
					15						
					20						
					25						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **7/13/20** End **7/13/20**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **GB** Editor **ESF**
Drill Method **2 1/4" HSA, Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: University Avenue - Shorewood to Grand
265'E of Shorewood in Southern WB Lane
Location: Madison, WI

Boring No. B-12
Surface Elevation (ft) 880±
Job No. C18051-18
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/8.5 in. Base Course					
1		18	M	16		FILL: Medium Dense Brown Sand with Clay and Gravel					
						Stiff to Very Stiff, Brown Lean CLAY (CL)					
2		18	M	6			(2.0)				
					5	Loose to Medium Dense, Brown Silty Fine SAND, Occasional Thin (<1") Clay Lenses (SM)					
3		18	M	6							
4		18	M	11							
					10						
						Medium Stiff to Stiff, Light Brown Lean CLAY, Occasional Seams and Lenses of Sand (CL)					
5		18	M	12			1.0				
					15						
						Medium Dense, Brown Fine to Medium SAND, Trace Silt (SP)					
6		18	M/W	16							
					20						
						Apparent Weathered To Competent Bedrock					
						End Boring at 22 ft Due to Auger Refusal on Apparent Bedrock					
						Borehole backfilled with bentonite chips and asphalt patch					
					25						

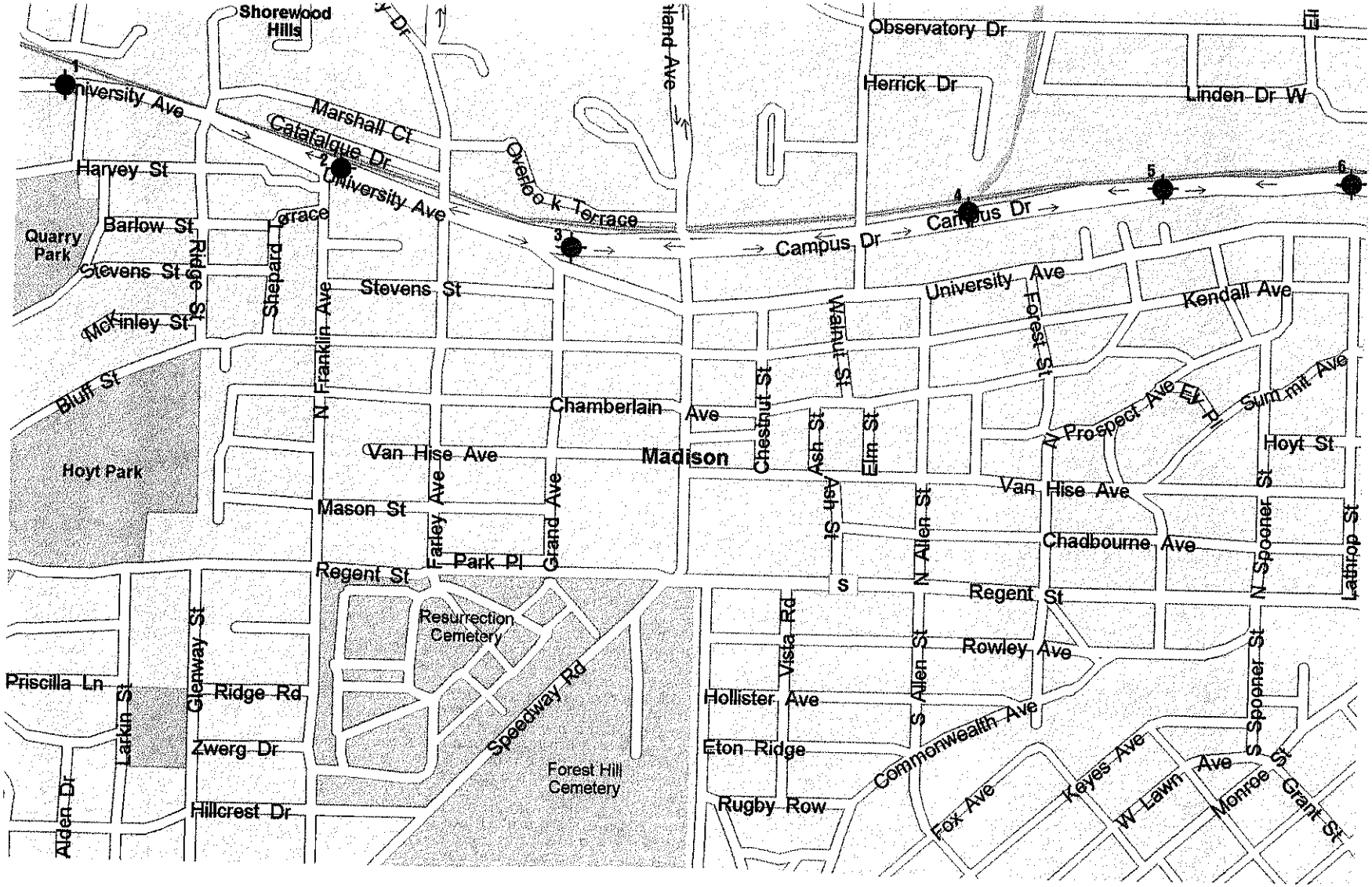
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 7/13/20 End 7/13/20
Driller BSD Chief MC Rig CME-55
Logger GB Editor ESF
Drill Method 2 1/4" HSA, Autohammer



Legend

Denotes Boring Location

Notes

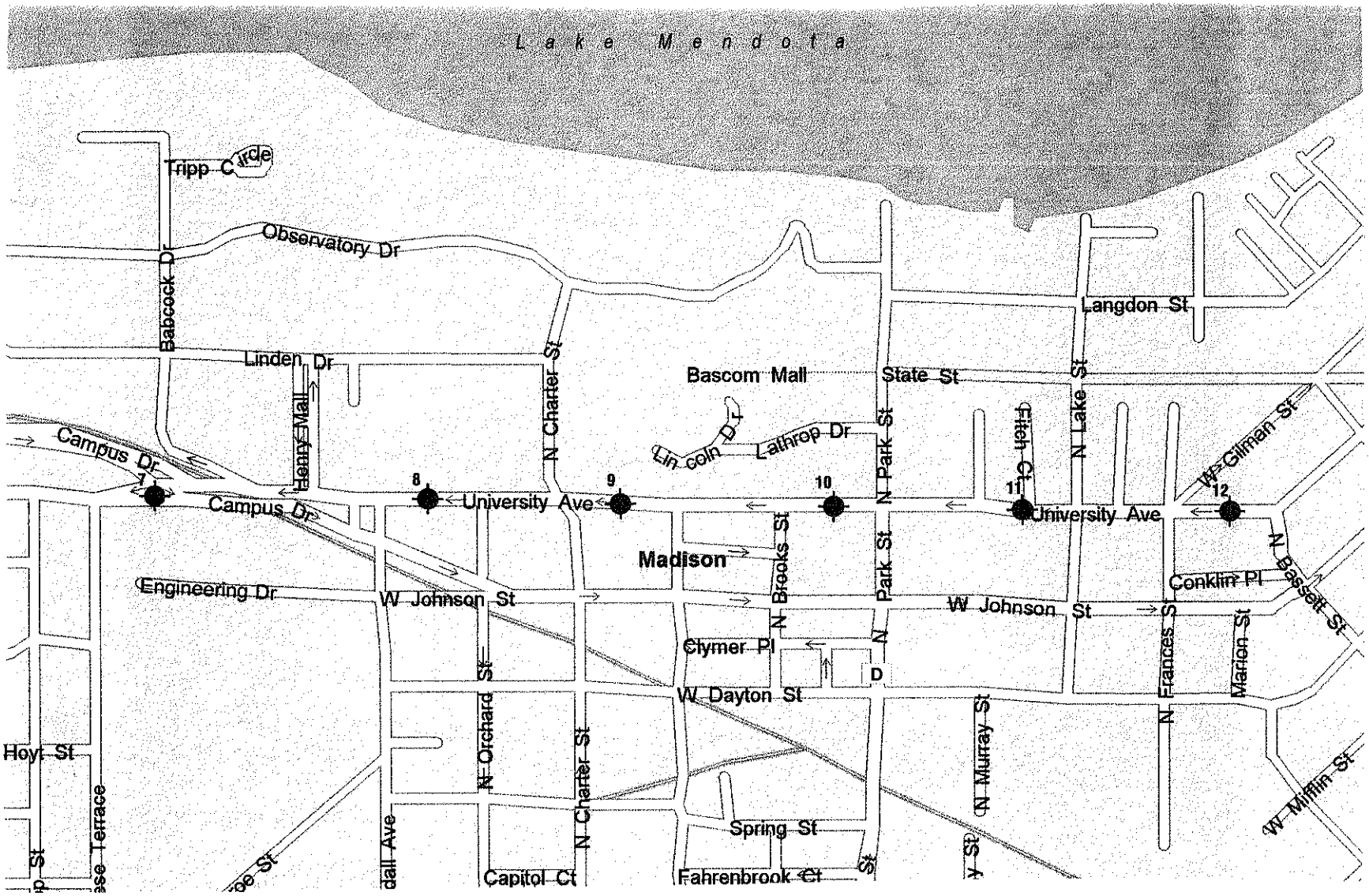
1. Soil borings drilled by Badger State Drilling in October 2008

N

DWN: -	APP'D: MNS	Date: 11/08	C08071-13

CGC, Inc.

SOIL BORING LOCATION MAP
University Avenue/Campus Drive
Madison, Wisconsin
1 of 3



Legend

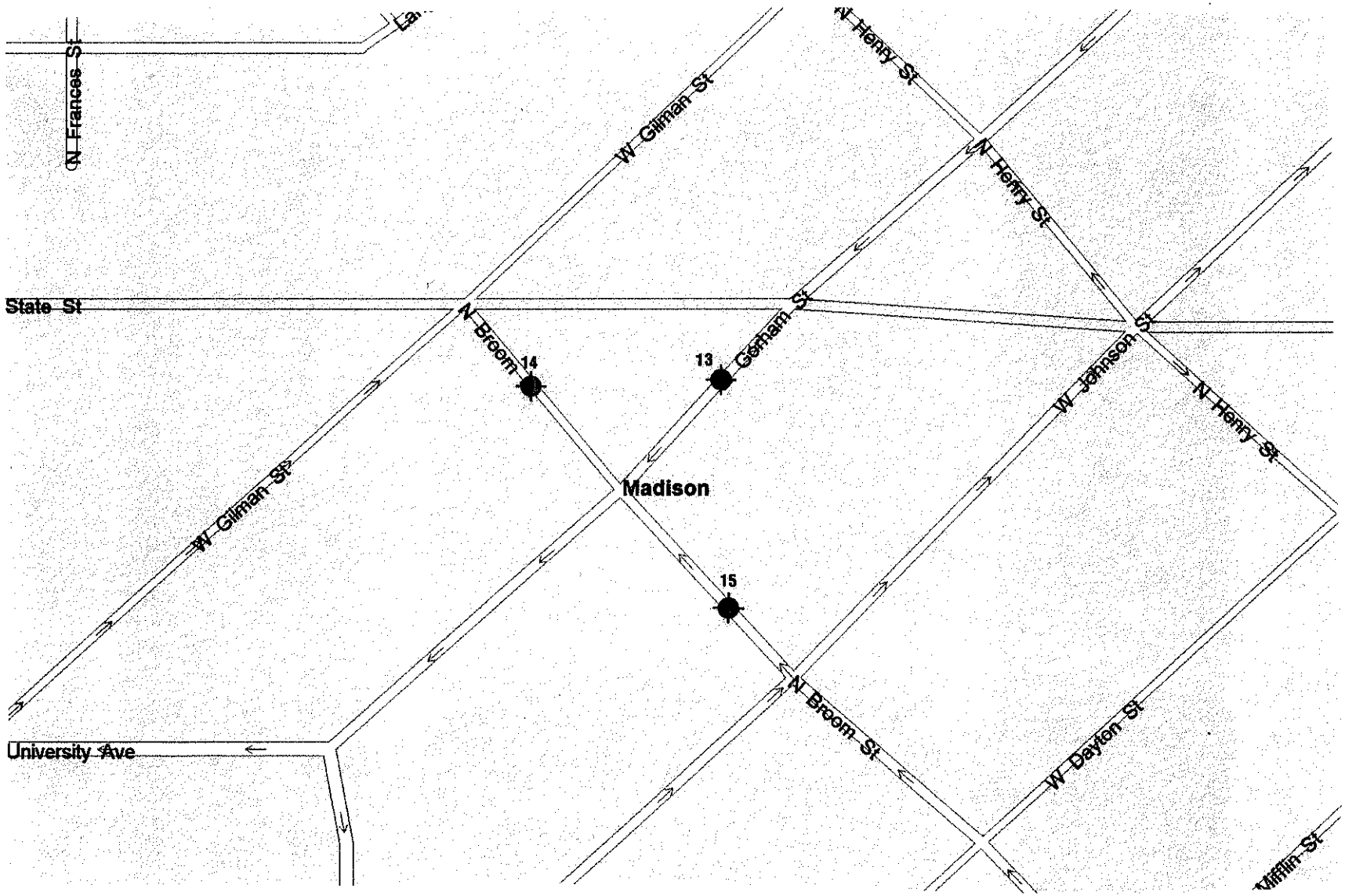
Denotes Boring Location

Notes

1. Soil borings drilled by Badger State Drilling in October 2008

N

DWN: -	APP'D: MNS	Date: 11/08	C08071-13	CGC, Inc.	**SOIL BORING LOCATION MAP** **University Avenue/Campus Drive** **Madison, Wisconsin** **2 of 3**



Legend

Denotes Boring Location

Notes

1. Soil borings drilled by Badger State Drilling in October 2008

N

DWN: -	APP'D: MNS	Date: 11/08	C08071-13

CGC, Inc.

SOIL BORING LOCATION MAP
University Avenue/Campus Drive
Madison, Wisconsin
3 of 3

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
90' W of Schmitt, 30' S of Centerline
Location: Madison, Wisconsin

Boring No. 1
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9.5 in. Concrete Pavement/5 in. Base Course					
1		5	M	50		FILL: Brown Silty Sand, Gravel and Clay					
						Weathered to Competent Dolomtic Limestone Bedrock					
2		1	M	50	5						
3		1	M	50							
						End Boring at 6.5 ft due to Auger Refusal					
						Borehole backfilled with cuttings					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW	Upon Completion of Drilling		NW
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

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

GENERAL NOTES

Start 10/20/08 End 10/20/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenne/Campus Drive
160' E of Franklin, 35' N of Centerline
Location: Madison, Wisconsin

Boring No. 2
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7 in. Concrete Pavement/11 in. Base Course/6 in. Asphalt Pavement					
1		14	M	46		FILL: Brown Clay with Sand and Gravel					
2		14	M	19			(1.5-2.75)				
					5						
3		12	M	14		Medium Dense Gray Fine to Medium SAND, Some Silt, Trace Clay (SM)					
4		14	M	11		Medium Dense, Tan Fine SAND, Trace Silt (SP)					
						Stiff, Brown Lean CLAY, Some Sand (CL)	(1.5)				
					10	End Boring at 10 ft					
						Borehole backfilled with bentonite chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling 15 Min
Depth to Water NW ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/23/08 End 10/23/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
25' E of Grand, 45' S of Centerline
Location: Madison, Wisconsin

Boring No. 3
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	SAMPLE TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
					0	9.5 in. Concrete Pavement					
1		16	M	20		FILL: Brown Silty Sand and Gravel, Some Clay					
2		16	M	60		2 in. Asphalt Pavement/6 in. Base Course/3 in. Asphalt Pavement					
					5	FILL: Brown Silty Sand, Some Gravel and Clay					
3		18	M	13							
4		14	M	5							
					10	End Boring at 10 ft Borehole backfilled with cuttings					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/20/08 End 10/20/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
600' E of Walnut, 20' N of Centerline
Location: Madison, Wisconsin

Boring No. 4
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7 in. Concrete Pavement					
1		3	M	9		FILL: Brown Clay with Gravel to 3 ft	(0.5)				
						Brown Clay, Little Topsoil to 4.5 ft					
2		8	M	13			(3.25)				
					5	Light Brown Silty Sand, Some Clay to 5.5 ft					
3		3	M	3		Brown Clay, Some Sand and Gravel to 10 ft	(2.0)				
4		18	M	5			(0.75)				
					10	End Boring at 10 ft					
						Borehole backfilled with bentonite chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW		Upon Completion of Drilling	
Time After Drilling				15 Min
Depth to Water				NW ▼
Depth to Cave in				

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

GENERAL NOTES

Start 10/23/08 End 10/23/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
235' E of Chamberlain, 20' N of Centerline
Location: Madison, Wisconsin

Boring No. 5
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	SAMPLE Type	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7.5 in. Concrete Pavement/5 in. Base Course					
1		18	M	22		FILL: Dark Gray Sandy Silt, Some Gravel, Clay and Topsoil to 3 ft					
						Dark Gray Sandy Clay, Some Gravel to 5.5 ft					
2		18	M	51			(4.5+)				
					5						
3		18	M	11		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4		18	M	12							
					10	End Boring at 10 ft					
						Borehole backfilled with bentonite chips					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/20/08 End 10/20/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
100' W of Lahrop, 20' N of Centerline
Location: Madison, Wisconsin

Boring No. 6
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
					7 in. Concrete Pavement/5 in. Base Course					
1	4	M	21		FILL: Brown Silty Fine to Medium Sand, Some Gravel, Little Topsoil					
2	16	M	18							
				5						
3	18	M	77/11"		Very Dense, Green Fine SAND, Some Silt (SM) (Weathered Sandstone Bedrock)					
4	5	M	50/5"							
					End Boring at 9 ft					
				10	Borehole backfilled with cuttings					
				15						
				20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/20/08 End 10/20/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
150' E of Breese Terrace, at Centerline
Location: Madison, Wisconsin

Boring No. 7
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						6.5 in. Asphalt Pavement					
1		8	M	8		FILL: Brown Clay & Silty Sand					
						Stiff, Brown Lean CLAY (CL)					
2X 2		18	M	7			(1.0-1.5)				
					5	Becoming Soft to Medium Stiff, Dark Brown and Sandy at 5 ft					
3		18	W/M	9	▽	Soft, Brown Sandy Lean Clay (CL)	(0.5)				
						Occasional Seams (2-4 in.) of Fine Sand and/or Silt					
4X 4		18	M/W	22		Becoming Very Soft to Soft at 9 ft	(0.25-0.5)				
					10						
						Very Stiff to Hard Brown Mottled Lean CLAY (CL)					
5		18	M	41			(4.0)				
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 6.0' Upon Completion of Drilling 8'
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/20/08 End 10/20/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

LOG OF TEST BORING

CGC Inc.

Project: University Avenue/Campus Drive
190' E of Randall, 15' S of Centerline
Location: Madison, Wisconsin

Boring No. 8
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement					
1		14	M	18		FILL: Brown Clay, Sand and Gravel to 3 ft	(1.5)				
						Dark Brown Clay, Little Sand and Gravel to 5.5 ft					
2		8	M	8			(0.5)				
					5	Gray and Black Clay to 6.5 ft					
3		14	M	12			(0.25-0.5)				
						Brown Fine to Medium SAND, Some Silt and Gravel (SM) (Possible Fill)					
						Dense, Tan Fine SAND, Trace to Little Silt (SP/SP-SM)					
4		14	M	32							
					10						
						Very Dense, Tan Sandy SILT (ML)					
5		15	M	55							
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling 15 Min
Depth to Water NW ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/22/08 End 10/22/08
Driller Badger Chief RM Rig CME-55
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
210' W of Mills, 15' S of Centerline
Location: Madison, Wisconsin

Boring No. 9
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/9 in. Base Course					
1		2	M	16		Medium Stiff to Stiff, Brown Lean CLAY, Little Gravel, Trace Sand (CL) (Possible Fill)	(1.0)				
2		2	M	30	5	Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM) (Possible Fill)					
3		16	M	22		Very Stiff, Gray-Brown Mottled Lean CLAY (CL) Occasional Thin (1 in.)Lenses of Silt	(2.5)				
4		0	M	56	10						
5		18	M	54		Very Dense, Gray SILT, Little Sand (ML)					
					15	End Boring at 15 ft Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/22/08 End 10/22/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
225' E of Brooks, 20' S of Centerline
Location: Madison, Wisconsin

Boring No. 10
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/9 in. Base Course					
1		0	-	17		Soft, Brown Lean CLAY, Little Sand (CL)					
2		12	M	8			(0.5)				
					5						
						Loose, Brown Fine SAND, Little Silt (SP-SM)					
3X 3		16	M	9		Medium Stiff to Stiff, Brown Sandy Lean CLAY (CL)	(0.75-1.0)				
						Medium Dense, Brown Fine SAND, Some Silt (SM)					
4X 4		18	M	29							
					10	Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
5		0	-	31							
					15	End Boring at 15 ft Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/22/08 End 10/22/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
25' E of Fitch, 20' S of Centerline
Location: Madison, Wisconsin

Boring No. 11
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	SAMPLE TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8.5 in. Concrete Pavement/9.5 in. Base Course					
1		14	M	12		Stiff, Brown Lean CLAY (CL)	(1.5)				
2		16	M	12		Medium Dense, Reddish Brown Clayey Fine to Medium SAND (SC)					
3		18	M	14	5						
						Medium Dense, Brown Silty Fine SAND to Sandy SILT (SM-ML)					
4		14	M	31		Dense, Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
5		18	M	67	10	Very Dense, Brown Fine to Medium SAND and GRAVEL, Trace Silt (SP-GP)					
					15	End Boring at 15 ft Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW	Upon Completion of Drilling		NW
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

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

GENERAL NOTES

Start 10/22/08 End 10/22/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
214' W of Bassett, 17' S of Centerline
Location: Madison, Wisconsin

Boring No. 12X
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Type	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						7.5 in. Concrete Pavement/10 in. Base Course					
1		18	M	14		FILL: Dark Brown Clay, Some Sand					
					5	End Boring at 3.5 ft Borehole backfilled with cuttings Abandoned B12X at 3.5 ft due to obstruction and moved 3'W, 0.5'S and began B12XX					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/21/08 End 10/21/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
217' W of Bassett, 17.5' S of Centerline
Location: Madison, Wisconsin

Boring No. 12XX
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7.5 in. Concrete Pavement/10 in. Base Course					
						FILL: Dark Brown Clay, Some Sand					
2		12	M	19							
					5						
						End Boring at 6.5 ft					
						Borehole backfilled with cuttings					
						Blind drilled to 3.5 ft					
						Abandoned B12XX at 6.5 ft due to obstruction and moved 3'W, 0.5'S and began B12					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW	Upon Completion of Drilling		NW
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

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

GENERAL NOTES

Start 10/21/08 End 10/21/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
220' W of Bassett, 18' S of Centerline
Location: Madison, Wisconsin

Boring No. 12
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	Type	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7.5 in. Concrete Pavement/10 in. Base Course					
						FILL: Dark Brown Clay, Some Sand					
					5						
3X 3		18	M	12		Soft to Medium Stiff, Gray Sandy Lean CLAY (CL) Occasional Plant Fibers	(0.5)				
						Medium Dense to Dense, Light Brown Fine SAND, Trace Silt (SP)					
4		16	M	47							
					10						
5		18	M	16							
						Very Soft to Soft, Gray Silty CLAY (CL)	(0.25)				
					15	End Boring at 15 ft					
						Blind drilled to 6 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/21/08 End 10/22/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
155' NE of Broom, 9' SE of Centerline
Location: Madison, Wisconsin

Boring No. 13
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						5.5 in. Asphalt Pavement/4 in. Concrete Pavement					
1		0	-	30		Black Lean Clay (CL) (Possible Buried Topsoil)					
						Stiff to Very Stiff, Brown Lean CLAY (CL)					
2		16	M	31			(2.0)				
					5						
						Dense, Light Brown Fine to Coarse SAND, Some Gravel, Little Silt (SP-SM)					
3		8	M	45							
						Medium Dense, Light Brown Fine to Medium SAND, Trace Silt (SP)					
4		16	M	14							
					10						
						Medium Dense, Tan Fine SAND, Trace Silt (SP) Occasional Thin (1/4 in.) Lenses of Silt and/or Clay					
5		18	M	23							
					15	End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW — Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/22/08 End 10/22/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
Broom: 200' NW of Gorham, 8' SW of Centerline
Location: Madison, Wisconsin

Boring No. 14
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7 in. Asphalt Pavement/5 in. Base Course					
1		12	M	22		FILL: Brown Clay, Sand and Gravel	(2.0)				
2		12	M	10			(1.5)				
					5	Black Lean CLAY (CL) (Possible Buried Topsoil)					
3		30	M	18		Stiff, Brown Lean CLAY (CL)	(1.5)				
4		18	M	9		Medium Stiff to Soft at 9 ft	(0.5)				
					10						
5		8	M	50/5"		Dense to Very Dense, Light Tan Fine SAND, Trace Silt (SP)					
					15	End Boring at 14.5 ft due to spoon refusal					
						Borehole backfilled with bentonite chips					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 10/21/08 End 10/21/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA

CGC Inc.

LOG OF TEST BORING

Project: University Avenue/Campus Drive
Broom: 200' SE of Gorham, 7' SW of Centerline
Location: Madison, Wisconsin

Boring No. 15
Surface Elev. (ft)
Job No. C08071-13
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/8 in. Concrete Pavement					
1		16	M	64		Very Dense, Light Brown Fine to Coarse SAND, Some Gravel, Trace Silt (SP)					
2		16	M	23							
					5	Medium Dense at 4.5 ft					
3		16	M	43							
						Dense at 7 ft					
4		16	M	41							
					10	Dense at 9.5 ft					
5		18	M	79							
					15	Very Dense at 14 ft					
						End Boring at 15 ft					
						Borehole backfilled with bentonite chips					
					20						

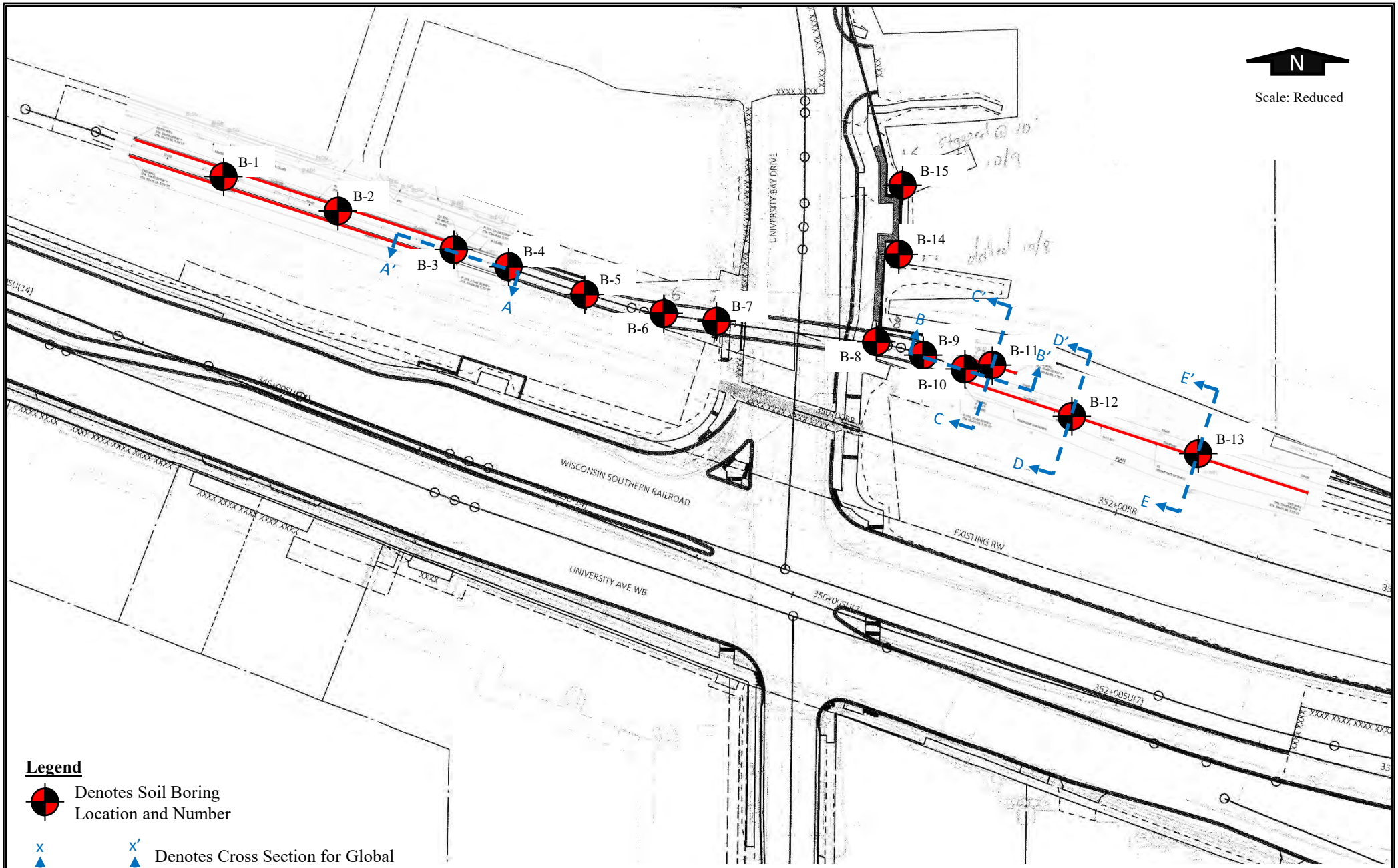
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling NW
Time After Drilling
Depth to Water
Depth to Cave in

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

GENERAL NOTES

Start 10/21/08 End 10/21/08
Driller Badger Chief RM Rig B-59
Logger GFP Editor ESF
Drill Method 2 1/4 in. HSA



Legend

Denotes Soil Boring Location and Number

x x′ Denotes Cross Section for Global and External Stability Analyses

Notes

1. Borings were drilled by Badger State Drilling on October 8 through 14, 2020.
2. Boring locations are approximate.
3. Base map was prepared by KL Engineering.

Job No.: C20051-11	CGC, Inc.	**SOIL BORING LOCATION EXHIBIT** **Proposed Pedestrian Overpass** **University Bay Drive at University Avenue** **City of Madison, Dane County, Wisconsin**
Date: Dec. 2020		

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **1**
Surface Elevation (ft) **876±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	18	M	12		FILL: Medium Dense, Light Brown Silt with Some Clay and Sand					
2	■	18	M	10	5	Loose to Medium Dense, Light Brown SILT, Some Sand, Trace Clay (ML)					
3	■	18	M	9							
4	■	18	M	10	10	<1' Layer of Very Stiff Light Brown Lean Clay, Trace to Little Sand Noted Near 10 ft	(2.25)				
5	■	18	M	22	15	Medium Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
6	■	18	M	18	20						
7	■	18	W	25		Medium Dense, Light Brown SILT, Some Sand, Trace Clay, Occasional Layers of Silty Fine Sand (ML)					
8	■	18	W	14	25						
					30	End Boring at 30 ft Borehole backfilled with bentonite chips, soil cuttings and asphalt patch					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **24 Hours**
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ **22.5'**

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

GENERAL NOTES

Start **10/12/20** End **10/12/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **2**
Surface Elevation (ft) **876±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	12	M	4		FILL: Medium Stiff, Brown Clay with Occasional Sand and Gravel	(0.75)				
2	■	18	M	6	5	Stiff to Medium Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
3	■	18	M	4			(1.0)				
4	■	18	VM	2	10	Very Loose, Light Brown SILT, Some Sand, Trace Clay (ML)					
5	■	14	M/W	16	15	Medium Dense, Brown Silty Fine to Medium SAND, Some Gravel (SM)					
6	■	18	M	24	20	Medium Dense, Light Brown Fine SAND, Trace Silt (SP)					
7	■	18	W	41	▽ 25	Dense to Medium Dense, Light Brown Silty Fine SAND (SM)					
8	■	18	W	28	30						
						End Boring at 30 ft Borehole backfilled with bentonite chips, soil cuttings and asphalt patch					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **24 Hours**
Depth to Water _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ **23'**

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

GENERAL NOTES

Start **10/12/20** End **10/12/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **3**
Surface Elevation (ft) **876±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	18	M	14		FILL: Medium Dense, Dark Brown Sand and Fine Gravel with Cinders					
2	■	18	M	9	5	Stiff to Very Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.5)				
3	■	18	M	7			(2.0)				
4	■	18	M	9	10						
5	■	18	W	16		Medium Dense, Light Brown SILT, Some Sand, Trace Clay (ML)					
6	■	18	M/W	30	15	Medium Dense to Dense, Light Brown Silty Fine SAND (SM)					
7	■	18	W	28	20	Medium Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
8	■	16	W	15	25	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
					30	End Boring at 32.5 ft Due to Auger Refusal Borehole backfilled with bentonite chips, soil cuttings and asphalt patch					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **13.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **24 Hours**
Depth to Water _____ _____ _____ **23.5'** ▼
Depth to Cave in _____ _____ _____ **23.5'**

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

GENERAL NOTES

Start **10/13/20** End **10/13/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **4**
Surface Elevation (ft) **876±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	16	M	7		FILL: Loose, Dark Brown Sand and Fine Gravel with Cinders					
2	■	18	M	6	5	Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.5)				
3	■	18	M	7			(1.25)				
4	■	18	M	5	10	Loose, Light Brown SILT, Some Sand, Trace Clay (ML)	(1.25)				
5	■	18	W	9	15						
6	■	18	W	18	20	Medium Dense, Light Brown Silty Fine SAND (SM)					
7	■	16	W	20	25	Medium Dense, Light Brown Fine to Medium SAND, Trace to Little Silt (SP/SP-SM)					
8	■	4	W	50/5"	30	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
9	■	0	W	50/1"	35						
						End Boring at 36 ft Due to Auger Refusal					
					40	Borehole backfilled with bentonite chips, soil cuttings and asphalt patch					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **13.5'** Upon Completion of Drilling _____

Time After Drilling				**24 Hours**
Depth to Water				**23.5'** ▼
Depth to Cave in				**23'**

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

GENERAL NOTES

Start **10/13/20** End **10/13/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **5**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	16	M	16		FILL: Medium Dense, Dark Brown Sand and Fine Gravel with Cinders					
2	■	18	M	7	5	Loose Light Brown SILT, Some Sand, Trace Clay (ML - Possible Fill)					
3	■	18	M	9			(1.25)				
4	■	18	M	11	10	Medium Dense, Light Brown SILT, Some Sand, Little to Some Clay (ML)					
5	■	18	VM	21	15						
6	■	16	M	27	20	Medium Dense, Light Brown Fine SAND, Trace Silt (SP)					
7	■	0	VM	48	25	Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
8	■	0	W	63	30	Very Dense, Light Brown Fine to Medium SAND, Little to Some Silt (SP-SM/SM)					
9	■	3	W	50/3"	35	Very Dense, Light Brown Silty Fine SAND, Trace Fine Gravel (SM)					
10	■	0	W	50/2"	40						
					45	End Boring at 42 ft Due to Auger Refusal Borehole backfilled with bentonite chips, soil cuttings and asphalt patch					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **28.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **8 Hours**
Depth to Water _____ _____ _____ **23.5'** ▼
Depth to Cave in _____ _____ _____ **25.5'**

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

GENERAL NOTES

Start **10/14/20** End **10/14/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **6**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	18	M	8		FILL: Loose, Dark Brown Sand and Fine Gravel with Cinders					
2	■	18	M	6	5	Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
3	■	18	M	12		Medium Dense, Light Brown SILT, Some Sand, Trace Clay (ML)					
4	■	18	M/W	11	10						
5	■	18	M	15	15	Medium Dense, Light Brown Fine SAND, Trace to Little Silt (SP/SP-SM)					
6	■	18	M/W	19	20						
7	■	14	W	23	25	Medium Dense, Light Brown Silty Fine SAND (SM)					
8	■	6	W	92/9"	30	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
9	■	8	W	79/11"	35						
10	■	0	W	50/2"	40						
					45	End of Boring at 41.5 ft Due to Auger Refusal Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **6 Hours**
Depth to Water _____ _____ _____ **24'** ▼
Depth to Cave in _____ _____ _____ **24'**

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

GENERAL NOTES

Start **10/14/20** End **10/14/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **7**
Surface Elevation (ft) **878±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3.5 in. Asphalt Pavement					
1	■	18	M	23		FILL: Medium Dense, Dark Brown Sand and Fine Gravel with Cinders					
2	■	18	M	5	5	Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
3	■	18	VM	8			(1.25)				
4	■	18	W	8	10	Loose to Medium Dense, Light Brown SILT, Some Sand, Trace Clay (ML)					
5	■	18	M	26	15	Occasional Seams and Layers of Sandy Silt Near 14'					
6	■	18	VM	20	20	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
7	■	16	W	46	25	Dense, Light Brown Fine to Medium SAND, Little to Some Silt (SP-SM/SM)					
8	■	4	W	50/5"	30	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
9	■	2	W	50/3"	35						
					40	End of Boring at 38 ft Due to Auger Refusal Backfilled with Bentonite Chips					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **8.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **2 Hours**
Depth to Water _____ _____ _____ **22.5'** ▼
Depth to Cave in _____ _____ _____ **30'**

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

GENERAL NOTES

Start **10/14/20** End **10/14/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **8**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						8 in. TOPSOIL					
1		18	M	9		Very Stiff, Brown Lean CLAY (CL - Possible Fill)	(2.25)				
2		18	M	7	5	Stiff to Very Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.5)				
3		18	M	13			(1.5)				
4		18	M	14	10		(2.0)				
5		18	M	17	15	Becoming Silty and Laminated Near 14'	(2.0)				
6		18	M	31	20	Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles (SM)					
7		2	M/W	20	25						
8		8	W	66/11"	30						
9		10	W	79/11"	35	Very Dense, Tan to Brown Fine SAND, Trace Fine Gravel (SM - Probable Weathered Sandstone Bedrock)					
					40	End of Boring at 36.5 ft Due to Auger Refusal Backfilled with Bentonite Chips					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **27.0'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **2 Hours**
Depth to Water _____ _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ **23'**

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

GENERAL NOTES

Start **10/7/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **9**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. TOPSOIL					
1	■	18	M	9		FILL: Loose to Medium, Dense Brown Silt with Sand, Traces Clay and Gravel					
2	■	18	M	10							
					5						
3	■	18	M	13		Very Stiff to Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(2.0)				
4	■	18	M	10			(1.5)				
					10						
						Medium Dense, Light Brown, Laminated Sandy SILT and Silty Fine SAND (ML/SM)					
5	■	18	M	11							
					15						
						Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
6	■	18	M	31							
					20						
						Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles (SM)					
7	■	18	M/W	29							
					25						
					▽						
8	■	18	W	58							
					30						
						Very Dense, Tan to Brown Fine SAND, Trace Fine Gravel (SM - Probable Weathered Sandstone Bedrock)					
9	■	6	W	50/6"							
					35						
						End of Boring at 37.5 ft Due to Auger Refusal					
						Backfilled with Bentonite Chips					
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **27.0'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **24 Hours**
Depth to Water _____ _____ _____ **NW** ▼
Depth to Cave in _____ _____ _____ **37.5'**

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

GENERAL NOTES

Start **10/7/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **GB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **10**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						14 in. TOPSOIL					
1		16	M	17		FILL: Medium Dense, Brown Silt with Sand, Traces Clay and Gravel					
2		18	M	13	5						
3		17	M	19		Becoming Light Brown Near 6'					
4		18	M	11	10	Very Stiff to Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(2.25)				
5		18	M	14	15		(1.75)				
6		18	M	22	20	Medium Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
7		18	W	22	25						
8		14	W	57	30	Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
9		0	-	50/1"	35	Probable Weathered Sandstone Bedrock					
					40	End of Boring at 37 ft Due to Auger Refusal Backfilled with Bentonite Chips					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **1 Hour**
Depth to Water _____ _____ _____ **25.5'** ▼
Depth to Cave in _____ _____ _____ **26'**

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

GENERAL NOTES

Start **10/8/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **GB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **11**
Surface Elevation (ft) **878±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
1		16	M	12		FILL: Dark Brown Silty Sand and Gravel to 1.2' Very Stiff, Brown Clay with Trace Sand to 3'	(3.5)				
2		18	M	7	5	Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
3		18	M	7		Loose, Light Brown SILT, Some Sand, Trace Clay (ML)					
4		18	M	9	10						
5		16	M	20	15	Medium Dense, Light Brown Fine SAND, Trace Silt (SP)					
6		18	M	20	20	Medium Dense, Light Brown Fine to Medium SAND, Trace to Little Silt (SP/SP-SM)					
7		12	W	23	25	Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
8		15	W	42	30	Dense, Tan to Light Greenish Brown Fine SAND, Trace Fine Gravel (SM - Probable Weathered Sandstone Bedrock)					
						End of Boring at 30 ft Backfilled with Bentonite Chips					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.0'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **1 Hour**
Depth to Water _____ _____ _____ **22'** ▼
Depth to Cave in _____ _____ _____ **22.25'**

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

GENERAL NOTES

Start **10/8/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **GB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **12**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						FILL: Silty Sand and Gravel to 1.1'					
1	■	18	M	16		Medium Dense, Brown Silt with Sand, Traces Clay and Gravel to 3.5'					
2	■	14	M	7		Very Stiff, Brown Clay with Sand to 5.5'	(2.25)				
3	■	18	M	6	5	Loose, Brown and Dark Brown Sand with Silt and Clay to 8'					
4	■	18	M	7		Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
5	■	16	M	7	10		(1.25)				
6	■	18	M	24		Medium Dense, Light Brown Fine SAND, Trace Silt (SP)					
7	■	16	W	19	15						
8	■	16	W	33	20	Dense, Tan to Brown Fine SAND, Trace Fine Gravel (SM - Probable Weathered Sandstone Bedrock)					
					25	End of Boring at 30 ft					
						Backfilled with Bentonite Chips					
					30						
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.4'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **1 Hour**
Depth to Water _____ _____ _____ **NW** ▼
Depth to Cave in _____ _____ _____ **21'**

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

GENERAL NOTES

Start **10/8/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **GB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **13**
Surface Elevation (ft) **877±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						FILL: Silty Sand and Gravel to 1.2'					
1	■	18	M	10		Dark Brown Clay with Occasional Sand and Gravel to 5.5'					
2	■	18	M	5	5						
3	■	14	M	7		Very Stiff, Brown Lean CLAY (CL)	(2.5)				
4	■	5	M	10	10	Loose to Medium Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
5	■	18	M	4	15	Loose to Very Loose, Light Brown SILT, Some Sand, Trace Clay (ML)					
6	■	18	M	10	20	Loose to Medium Dense, Light Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
7	■	16	W	18	25	Medium Dense, Brown Fine to Medium SAND, Trace to Little Silt (SP/SP-SM)					
8	■	18	W	17	30						
						End of Boring at 30 ft					
						Backfilled with Bentonite Chips					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **23.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **30 Mins.**
Depth to Water _____ _____ _____ **23'** ▼
Depth to Cave in _____ _____ _____ **23'**

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

GENERAL NOTES

Start **10/8/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **GB** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **14**
Surface Elevation (ft) **884±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						12 in. Black Silty TOPSOIL					
1	■	16	M	13		FILL: Medium Dense, Light Brown Fine Sand with Trace Silt to 3'					
2	■	14	M	8		Loose, Dark Brown Sandy Silt to 5.5'					
					5						
3	■	18	M	7		Stiff, Brown Sandy Clay to 8'	(1.75)				
4	■	16	M	6		Loose, Brown Sandy SILT (ML - Possible Fill)					
					10						
5	■	18	M	11		Stiff, Light Brown Lean CLAY, Trace to Little Sand (CL)	(1.25)				
					15						
6	■	18	M	13		Stiff to Medium Stiff Near 19'	(1.0)				
					20						
7	■	16	M	25		Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles and Boulders (SM)					
					25						
8	■	18	M/W	43							
					30	End Boring at 30 ft Borehole backfilled with bentonite chips and soil cuttings					
					35						
					40						
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽	**NW**	Upon Completion of Drilling		**NW**
Time After Drilling				**24 Hours**
Depth to Water				**NW** ▼
Depth to Cave in				

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

GENERAL NOTES

Start **10/8/20** End **10/8/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DC** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Pedestrian Overpass**
University Bay Drive at University Avenue
Location **City of Madison, Dane County, Wisconsin**

Boring No. **15**
Surface Elevation (ft) **886±**
Job No. **C20051-11**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						12 in. Dark Brown Silty TOPSOIL					
1	■	12	M	9		FILL: Loose to Medium Dense, Brown Silt with Sand and Gravel					
2	■	14	M	15	5						
3	■	18	M	8							
					10	End Boring at 8.5 ft Borehole backfilled with soil cuttings					
					15						
					20						
					25						
					30						
					35						
					40						
					45						

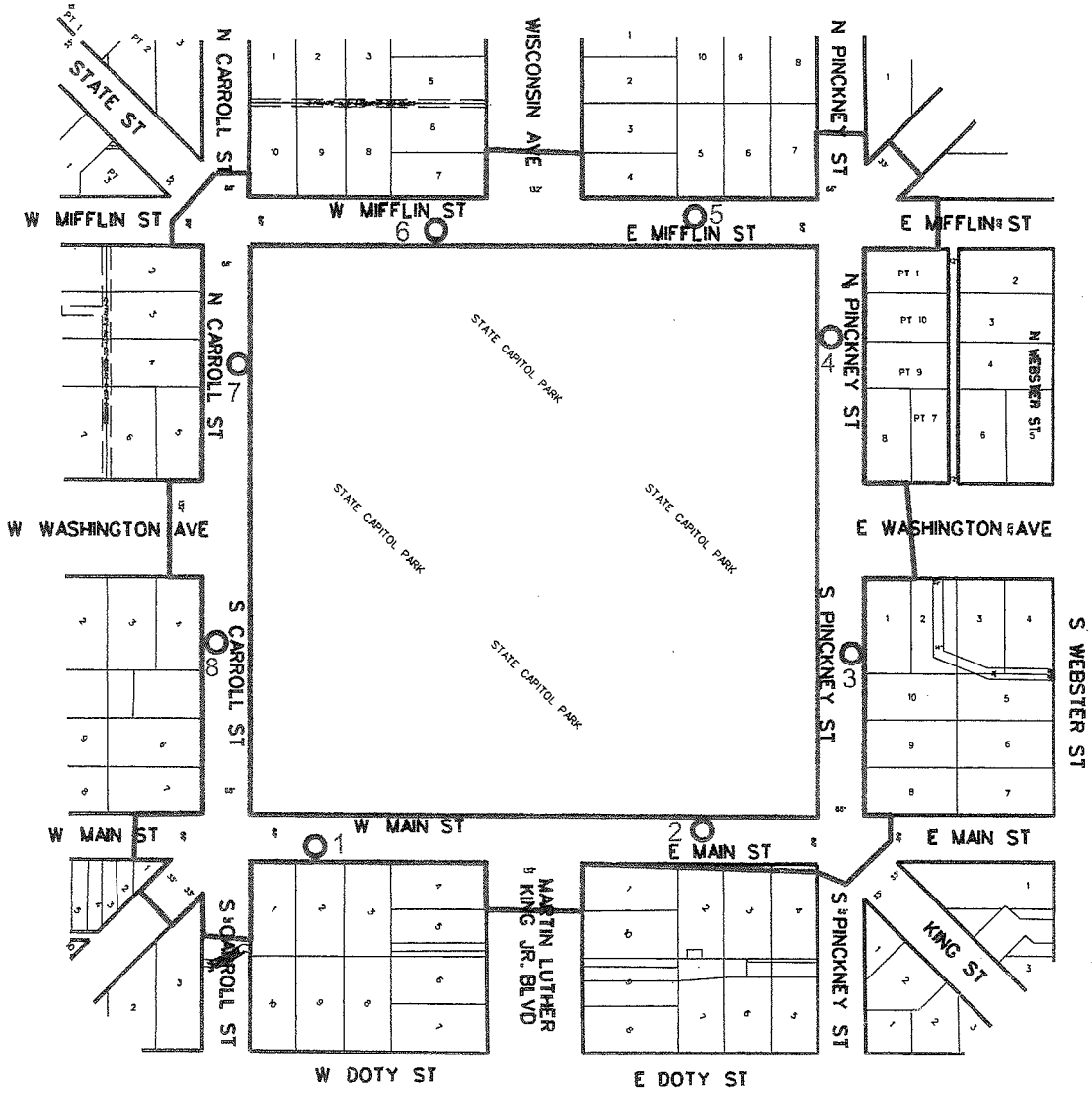
WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **10/9/20** End **10/9/20**
Driller **BSD** Chief **KD** Rig **D-50**
Logger **DC** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**



Legend

○ Denotes Boring Location (approximate)

Notes

1. Soil borings performed by Badger State Drilling in December 2015
2. B-5 not drilled due to utility conflict

DWN: -	APP'D: MNS	Date: 12/15	C15051-30	CGC, Inc.	**SOIL BORING LOCATION PLAN** **Capital Square Pavement Rehabilitation** **Madison, Wisconsin**

CGC Inc.

LOG OF TEST BORING

Project: Capital Square Pavement Rehabilitation
W. Main: 135'NE of Carroll Street
Location: Madison, WI

Boring No. 1
Surface Elevation (ft)
Job No. C15051-30
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						9 in. Concrete Pavement/6 in. Base Course					
1		8	M	7		Medium Stiff to Stiff, Brown Lean CLAY (CL)	(1.0)				
2		8	M	28		Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		14	M	22	5						
4		12	M	57							
5		20	M	52	10						
					15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/1/15 End 12/1/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project: Capital Square Pavement Rehabilitation
E. Main: 200'NE of MLK Blvd.
Location: Madison, WI

Boring No. 2
Surface Elevation (ft)
Job No. C15051-30
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8 in. Concrete Pavement/8 in. Base Course					
1		10	M	7		FILL: Brown Clay to 3 ft	(1.25)				
2		8	M	8		Brown Clay with Sand and Gravel to 5.5 ft	(0.5-0.75)				
					5						
3		15	M	26		Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
4		18	M	26							
					10						
5		18	M	53							
					15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/2/15 End 12/2/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project **Capital Square Pavement Rehabilitation**
S. Pinckney: 100'SE of E. Washington Ave.
Location **Madison, WI**

Boring No. **3**
Surface Elevation (ft)
Job No. **C15051-30**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8 in. Concrete Pavement/6 in. Base Course					
1		0	M	8		FILL: Brown Clay					
						Medium Stiff to Stiff, Brown Lean CLAY (CL - Possible Fill)					
2		6	M	7			(1.0)				
					5						
						Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		18	M	15							
4		18	M	18							
					10						
5		16	M	32							
					15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/2/15** End **12/2/15**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **JR** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Capital Square Pavement Rehabilitation**
N. Pinckney: 250'NW of E. Washington Ave.
Location **Madison, WI**

Boring No. **4**
Surface Elevation (ft)
Job No. **C15051-30**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Concrete Pavement/4 in. Base Course					
1		10	M	9		Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
2		12	M	21	5						
3		0	M	23							
4		20	M	21	10						
5		16	W	44	15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/1/15** End **12/1/15**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **JR** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**

LOG OF TEST BORING

CGC Inc.

Project: Capital Square Pavement Rehabilitation
W. Mifflin: 125'SW of Wisconsin Ave.
Location: Madison, WI

Boring No. 6
Surface Elevation (ft)
Job No. C15051-30
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Concrete Pavement/4 in. Base Course					
1		10	M	12		FILL: Brown Clay with Sand and Gravel	(4.0+)				
2		8	M	10	5						
3		12	M	19		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
4		12	M	15	10						
5		18	M	20	15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/1/15 End 12/1/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project: Capital Square Pavement Rehabilitation
N. Carroll: 200'NW of W. Washington Ave.
Location: Madison, WI

Boring No. 7
Surface Elevation (ft)
Job No. C15051-30
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8 in. Concrete Pavement/4 in. Base Course					
1		10	M	12		FILL: Brown Clay with Sand and Gravel					
2		6	M	12							
					5						
						Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		14	M	19							
4		15	M	20							
					10						
5		18	M	72							
					15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start 12/1/15 End 12/1/15
Driller BSD Chief MC Rig CME-55
Logger JR Editor ESF
Drill Method 2.25" HSA; Autohammer

CGC Inc.

LOG OF TEST BORING

Project **Capital Square Pavement Rehabilitation**
S. Carroll: 100'SE of W. Washington Ave.
Location **Madison, WI**

Boring No. **8**
Surface Elevation (ft)
Job No. **C15051-30**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10 in. Concrete Pavement/5 in. Base Course					
1		10	M	8		Very Stiff, Brown Lean CLAY (CL)	(2.5)				
2		14	M	11	5	Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		0	M	30							
4		16	M	16	10						
5		16	M	31	15	End Boring at 15 ft Backfilled with Bentonite Chips and Asphalt Patch					
					20						

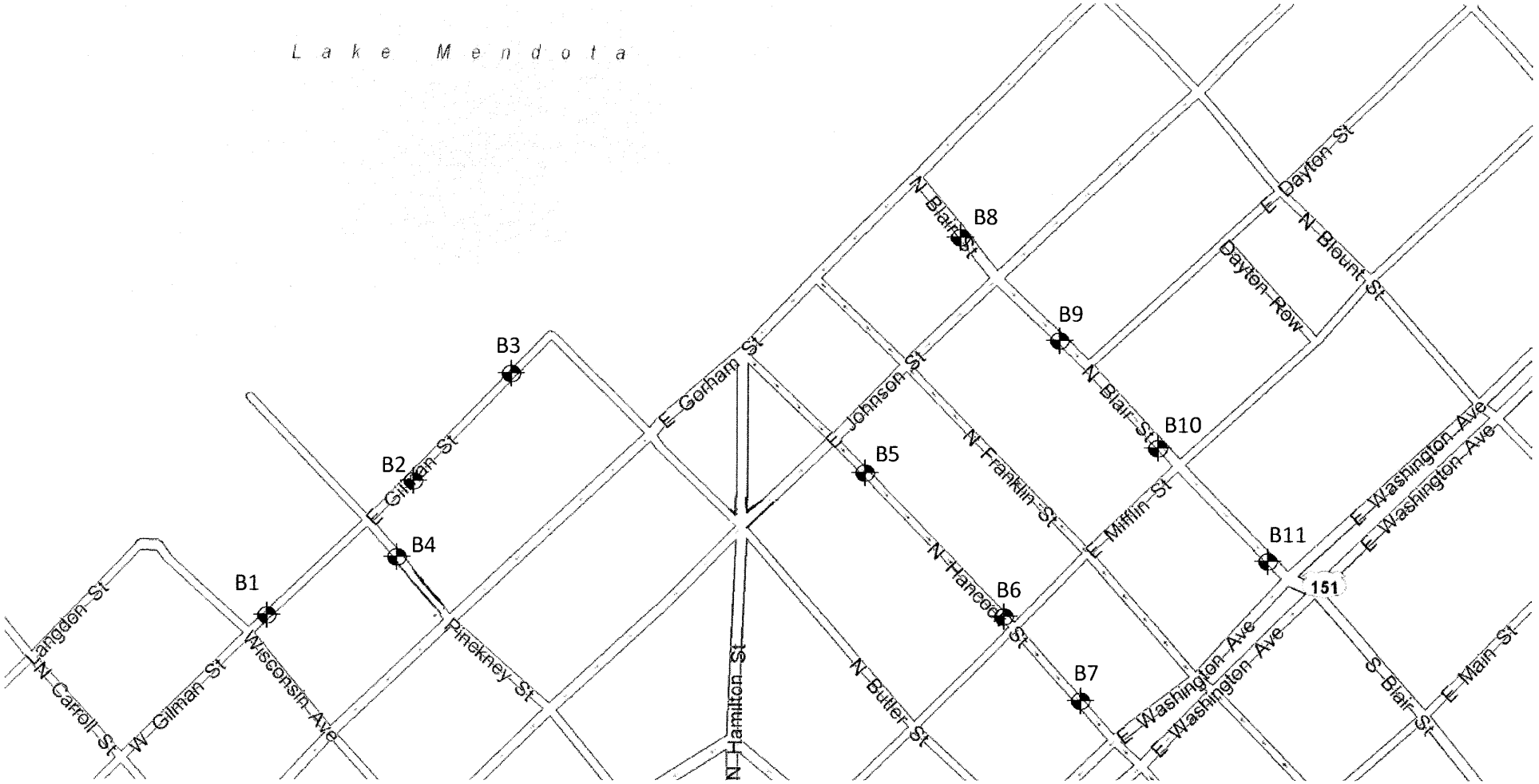
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/1/15** End **12/1/15**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **JR** Editor **ESF**
Drill Method **2.25" HSA; Autohammer**



Legend

Denotes Boring Location

N

Notes

1. Soil borings performed by Badger State Drilling in June 2017
2. Boring locations are approximate.

Scale: Reduced

Date: 6/2017	CGC, Inc.	**Soil Boring Location Exhibit**
Job No. C17051-14		**Isthmus Streets North**
		Madison, WI

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Gilman: 100'NE of Wisconsin, 13'SE of CL
Location: **City of Madison, Dane County, WI**

Boring No. **1**
Surface Elevation (ft) **919±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						2.5 in. Asphalt Pavement/7 in. Concrete Pavement/ 4 in. Base Course					
1		8	M	8		Loose to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) (Possible Fill to 3 ft)					
2		3	M	17	5						
3		18	M	36							
4		18	M	40	10						
5		18	M	46							
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Gilman: 85'NE of Pinckney, 11'SE of CL
Location: **City of Madison, Dane County, WI**

Boring No. **2**
Surface Elevation (ft) **920±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4 in. Asphalt Pavement/6 in. Concrete Pavement/ 2 in. Base Course					
1		12	M	9		FILL: Loose Brown Sand with Silt, Gravel and Clay					
2		1	M	27	5	Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		18	M	42							
4		16	M	32	10						
5		12	M	31							
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Gilman: 105'SW of Butler, 5'NW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **3**
Surface Elevation (ft) **890±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						2.5 in. Asphalt Pavement/7 in. Concrete Pavement/ 3 in. Base Course					
1		8	M	6		FILL: Loose Brown Sand with Silt, Gravel and Clay					
						Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
2		16	M	12							
					5						
3		16	M	23							
4		12	M	46							
					10						
5		14	M	36							
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Pinckney: 3'SW of B3
Location: **City of Madison, Dane County, WI**

Boring No. **3X**
Surface Elevation (ft) **890±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						2.5 in. Asphalt Pavement/7 in. Concrete Pavement/ 3 in. Base Course					
1		6	M	11		FILL: Medium Dense, Brown Sand with Silt, Gravel and Clay					
2		0	M	10/0"	5						
						Terminated Boring at 3.5 ft Due to Unknown, Unmarked Obstruction Borehole Backfilled with Soil Cuttings and Asphalt Patch Moved 3 ft Southwest and performed Boring 3					
					10						
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Pinckney: 110'SE of Gilman, 8'NE of CL
Location: **City of Madison, Dane County, WI**

Boring No. **4**
Surface Elevation (ft) **913±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						3 in. Asphalt Pavement/10 in. Base Course					
1	■	10	M	7		FILL: Loose Brown Sand with Silt, Gravel and Clay					
2	■	4	M	22		Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3	■	16	M	24	5						
4	■	16	M	36							
5	■	18	M	48	10						
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Hancock: 105'SE of Johnson, 40'SW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **5**
Surface Elevation (ft) **855±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4 in. Asphalt Pavement/10 in. Base Course					
1		8	M	13		FILL: Stiff to Very Stiff, Gray Clay with Traces of Sand and Gravel	(1.75-2.5)				
2		6	M	6		Medium Stiff, Black Organic CLAY to Sedimentary PEAT, Trace Sand (OL/PT - Probable Buried Topsoil)	(0.75)	49.3			14.4
					5	Stiff to Medium Stiff, Gray (Mottled) Lean CLAY (CL)	(1.25)				
3		12	M	4			(1.25)				
							(0.75)				
4		15	M/W	8	▽	Loose, Gray Clayey SAND, Some Gravel (SC)					
					10						
						Loose to Medium Dense, White and Gray Fine to Medum SAND, Little to Some Silt and Gravel (SP-SM/SM)					
5		14	W	10							
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **9.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____ **5'**

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Hancock: 60'NW of Mifflin, 8'SW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **6**
Surface Elevation (ft) **867±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						4 in. Asphalt Pavement/5 in. Base Course					
1		1	M	6		FILL: Loose, Brown Clay with Sand and Gravel					
						Medium-Stiff, Brown Lean CLAY (CL)					
2		12	M	6	5		(0.75)				
3		10	M	28		Medium Dense, Brown Fine to Coarse SAND and GRAVEL, Trace Silt (SP/GP)					
4		8	M	38	10	Dense, Brown Fine to Medium SAND, Some Gravel, Trace to Little Silt (SP/SP-SM) Occasional Seams and Layers of Fine to Coarse Sand and Gravel, Trace Silt					
5		5	W	36	15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **13.5'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in **13.5'**

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Hancock: 190'SE of Mifflin, 5'SW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **7**
Surface Elevation (ft) **883±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/10 in. Base Course					
1		12	M	37		Medium Dense to Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
2		14	M	14	5						
3		18	M	21							
4		4	M	50/4"	10	Very Dense at 8.5 ft (Cobble/Boulder)					
5		16	M	31	15						
					20	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/9/17** End **6/9/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Blair: 140'SE of Gorham, 5'SW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **8**
Surface Elevation (ft) **859±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						3 in. Asphalt Pavement/8 in. Concrete Pavement/ 12 in. Base Course					
1		8	M	13		Very Stiff to Medium Stiff, Brown Lean Clay (CL)	(2.5)				
2		12	M	8		Having Trace to Little Sand Beginning near 4 ft	(0.75)				
					5						
3		8	M	31		Dense, Brown Fine to Medium SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
4		14	M/W	13		Medium Dense, Brown SILT, Some Sand, Trace Gravel (ML)					
					10						
5		2	M/W	21		Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Blair: 70'NW of Dayton, 7'NE of CL
Location: **City of Madison, Dane County, WI**

Boring No. **9**
Surface Elevation (ft) **850±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						8 in. Asphalt Pavement/7 in. Base Course					
1		0	M	11		FILL: Medium Dense, Brown Sand and Gravel with Silt					
						Loose to Very Loose, Black Sedimentary PEAT (PT)					
2		8	M	4	5			121.9			32.0
						Loose, Gray Fine SAND, Some Silt, Trace Gravel and Clay (SM)					
3		6	M	7							
						Medium Dense, Light Brown to Gray Fine SAND, Some Silt, Little Gravel (SM)					
4		16	W	28	10						
						Loose, Brown to Gray Sandy SILT, Trace Gravel and Clay (ML)					
5		14	W	8	15						
						End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ 8.5'	Upon Completion of Drilling				
Time After Drilling				15 min.	
Depth to Water				6.9' ▼	
Depth to Cave in				7.5'	

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Blair: 130'NW of Mifflin, 8'SE of CL
Location: **City of Madison, Dane County, WI**

Boring No. **10**
Surface Elevation (ft) **850±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						8 in. Asphalt Pavement/7 in. Concrete Pavement/ 11 in. Base Course					
1	■	8	M	16		FILL: Medium Dense, Brown Sand with Silt and Gravel					
2	■	8	M/W	4	5	Very Loose to Loose, Brown Sandy SILT, Trace to Little Gravel (ML)					
3	■	16	M/W	5	▽	Soft to Very Soft, Gray Lean CLAY, Some Sand (CL)	(0.25)				
4	■	18	W	11	10	Medium Dense, Brown to Gray Fine to Coarse SAND, Some Gravel, Little to Some Silt (SP-SM/SM)					
5	■	18	W	8		Loose, Brown and Gray Silty Fine SAND, Trace Gravel, Occasional Clay Lenses (SM)					
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **7.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **15 min.**
Depth to Water _____ _____ _____ ▼
Depth to Cave in _____ _____ _____ **4'**

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Blair: 50'NW of Washington, 17'SW of CL
Location: **City of Madison, Dane County, WI**

Boring No. **11**
Surface Elevation (ft)
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/6.5 in. Base Course					
1		6	M	10		FILL: Very Stiff, Brown Clay	(2.25)				
						FILL: Medium Dense, Brown Clayey Sand with Occasional Gravel					
2		8	M	10	5						
						Medium Dense, Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
3		2	M	24							
					▽						
4		12	W	14							
					10						
					▼						
5		14	W	45		Dense to Very Dense Beginning Near 11 ft					
6		14	W	74							
					15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips and Asphalt Patch					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **8.5'** Upon Completion of Drilling _____
Time After Drilling _____ _____ _____ **15 min.**
Depth to Water _____ _____ _____ **10.8'** ▼
Depth to Cave in _____ _____ _____ **10.9'**

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project: **Isthmus North Streets**
Blair: 3'S of B11
Location: **City of Madison, Dane County, WI**

Boring No. **11X**
Surface Elevation (ft) **857±**
Job No. **C17051-14**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						6 in. Asphalt Pavement/6.5 in. Base Course					
1		12	M	23		FILL: Medium Dense, Brown Sand and Gravel					
2		10	M	22		Orange-Brown Crushed Sandstone Noted Near 4.5 ft					
					5	Terminated Boring at 5 ft Due to Unknown Unmarked Obstruction Borehole Backfilled with Soil Cuttings and Asphalt Patch Moved 3' South and performed B11					
					10						
					15						
					20						

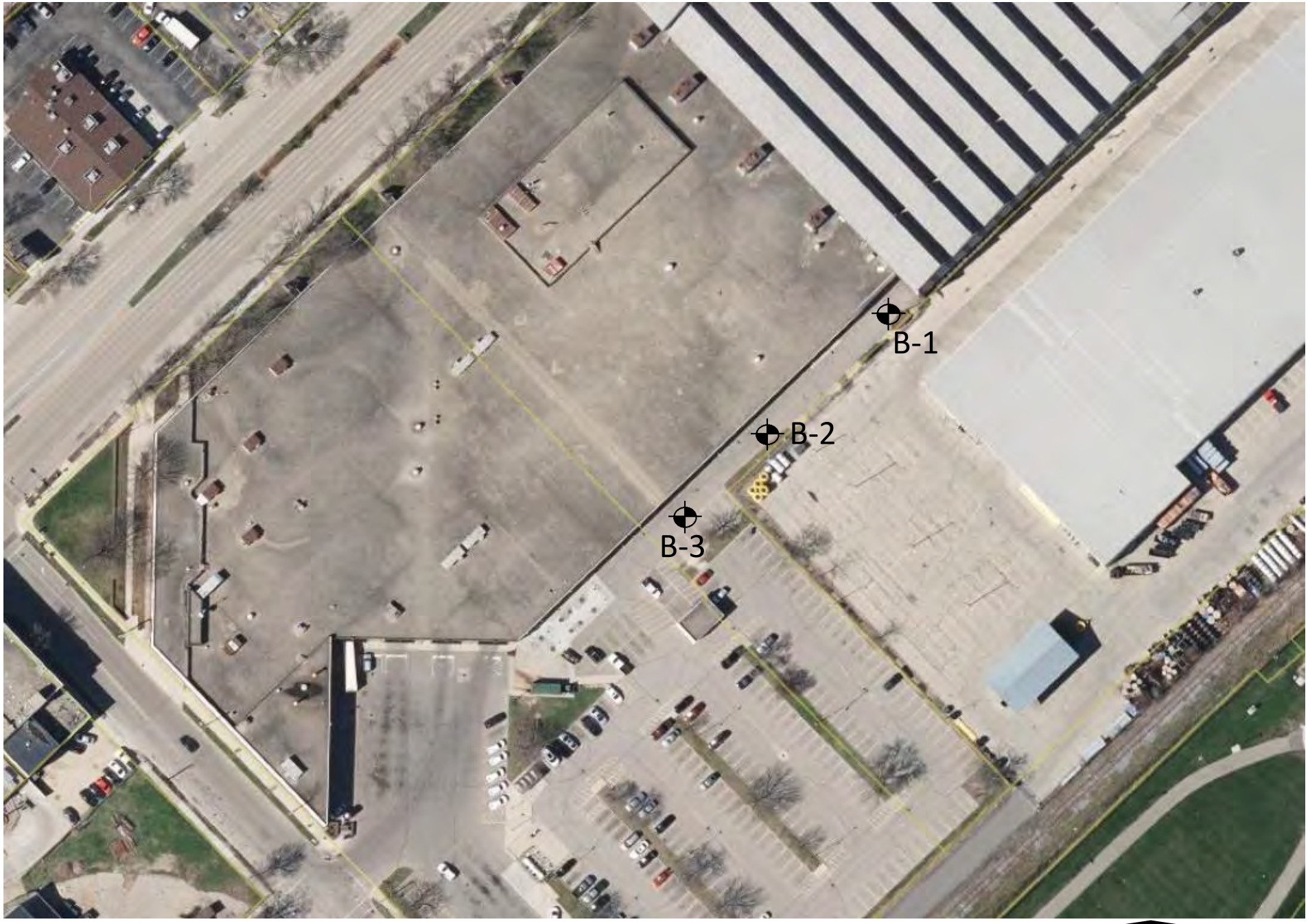
WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/14/17** End **6/14/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **ESF**
Drill Method **2-1/4" HSA; Autohammer**



Legend

Denotes Boring Location and Number

Notes

1. Borings performed by Badger State Drilling on May 15 and 16, 2018.
2. Boring locations are approximate.
3. Base map from Dane County DCiMap.

Scale: Reduced

Date: 05/2018	CGC, Inc.	**SOIL BORING LOCATION EXHIBIT** **Proposed Madison Metro Building Addition** **1101 East Washington Avenue** **City of Madison, Dane Co., WI**
Job No.: C18051-8		

CGC Inc.

LOG OF TEST BORING

Project **Proposed Madison Metro Building Addition**
1101 East Washington Avenue
Location **City of Madison, Dane Co., WI**

Boring No. **B-1**
Surface Elevation (ft) **100.8**
Job No. **C18051-8**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4± in. Asphalt Pavement					
1		10	M	22		FILL: Medium Dense, Brown Fine to Medium Sand, Little Silt and Gravel, Scattered Silt Pockets					
2		10	M/W	11	5	Increasing to Some Silt and Gravel with Depth					
3		14	M	24							
4		12	M/W	5	10	Loose, Dark Gray/Brown (Mottled) SILT to Clayey SILT, Trace to Little Sand (ML - Possible Fill)	(1.5)	25.4			
						Top of Sample was Gray/Brown (Mottled) Silty Clay					
5		18	M/W	9	15	Stiff, Gray Lean CLAY, Laminated with Silt and Silty Fine Sand Seams (CL)	(1.5)	20.7			
						Loose, Light Gray Silty Fine SAND, Little Gravel (SM)					
6		18	W	5	20						
7		12	W	28	25	Medium Dense, Light Greenish Gray Silty Fine SAND, Little to Some Gravel (SM - Possible Highly Weathered Sandstone Bedrock)					
8		10	W	57	30	Medium Dense to Very Dense, Brown/Yellow Brown Fine to Coarse SAND, Some Gravel, Little to Some Silt (SP-SM/SM - Probable Weathered Sandstone Bedrock)					
9		12	W	27	35						
10		16	W	37	40	Color Grades to Light Gray to Brown Near 40 ft					
						End of Boring at 40 ft					
					45	Borehole backfilled with bentonite slurry, chips and asphalt patch					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **8.8'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/15/18** End **5/15/18**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **CV** Editor **DAS**
Drill Method **4-1/4" HSA (0-20'), 3-7/8" RB/DM (20-40'); Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Madison Metro Building Addition**
1101 East Washington Avenue
Location **City of Madison, Dane Co., WI**

Boring No. **B-2**
Surface Elevation (ft) **100.1**
Job No. **C18051-8**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						4± in. Asphalt					
1		14	M	8		FILL: Dark Gray/Black Sand, Some Silt, Intermixed with Apparent Foundry Sand and Cinders					
2		12	M	8							
					5						
3		16	M/W	8		Loose, Light Gray Silty Fine SAND (SM)					
						▽					
4		14	W	11		Medium Dense, Yellow-Brown (Lightly Mottled) Sandy SILT, Trace Organics/Fine Roots (ML)					
					10						
5		12	W	29		Medium Dense to Dense, Brown to Gray Silty Fine SAND to Sandy SILT, Laminated with Thin Silt, Clay and Fine Sand Seams (SM/ML)					
6		10	W	36							
					15						
						Stiff, Gray Lean CLAY, Laminated with Silt Seams (CL)					
7		18	W	11			(1.75-2.0)	23.8			
					20						
						Loose, Light Gray Silty Fine SAND, Little Gravel (SM)					
8		12	W	7							
					25						
						Very Dense, Brown Silty Fine SAND, Little to Some Gravel, Trace Clay (SM)					
9		14	W	66							
					30						
						Very Dense, Light Gray Fine SAND, Some Gravel, Little to Some Silt (SP-SM/SM - Probable Weathered Sandstone Bedrock)					
10		10	W	88/10"							
					35						
						Grades to Light Brown and Finer with Less Gravel Near 40 ft					
11		12	W	62							
					40						
						End of Boring at 40 ft					
						Borehole backfilled with bentonite slurry, chips and asphalt patch					
					45						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **8.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/15/18** End **5/15/18**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **CV** Editor **DAS**
Drill Method **4-1/4" HSA (0-10'), 3-7/8" RB/DM (10-40'); Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Madison Metro Building Addition**
1101 East Washington Avenue
Location **City of Madison, Dane Co., WI**

Boring No. **B-3**
Surface Elevation (ft) **99.6**
Job No. **C18051-8**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						4± in. Asphalt					
1		12	M	13		FILL: Very Loose to Medium Dense, Dark Gray/Dark Brown/Black Sand, Some Silt, Intermixed with Apparent Foundry Sand and Cinders					
2		10	W	2	5						
3		10	M	4		Medium Stiff, Gray/Brown (Mottled) Lean CLAY, Trace to Little Gravel (CL)	(0.75-1.0)	22.9			
4		4	M	5	▽ 10	Grades to Brown (Mottled) Near 10 ft	(1.0)	19.7			
5		8	W	24		Medium Dense, Brown Fine SAND, Little to Some Silt, Trace Gravel (SP-SM/SM)					
6		6	W	30	15	Medium Dense to Dense, Tan Silty Fine SAND to Sandy SILT (SM/ML)					
						Stiff, Gray Lean CLAY, Laminated with Silt Seams (CL)					
7		16	W	7	20		(1.0-1.25)	24.5			
						Medium Dense, Gray Silty Fine SAND, Laminated with Thin Silt and Clay Seams (SM)					
8		12	W	22	25						
						Medium Dense, Olive Brown/Gray Fine SAND, Some Silt, Trace Gravel (SM)					
9		10	W	24	30						
						Medium Dense to Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
10		12	W	36	35						
11		8	W	24							
					40	End of Boring at 40 ft					
						Borehole backfilled with bentonite slurry, chips and asphalt patch					
					45						

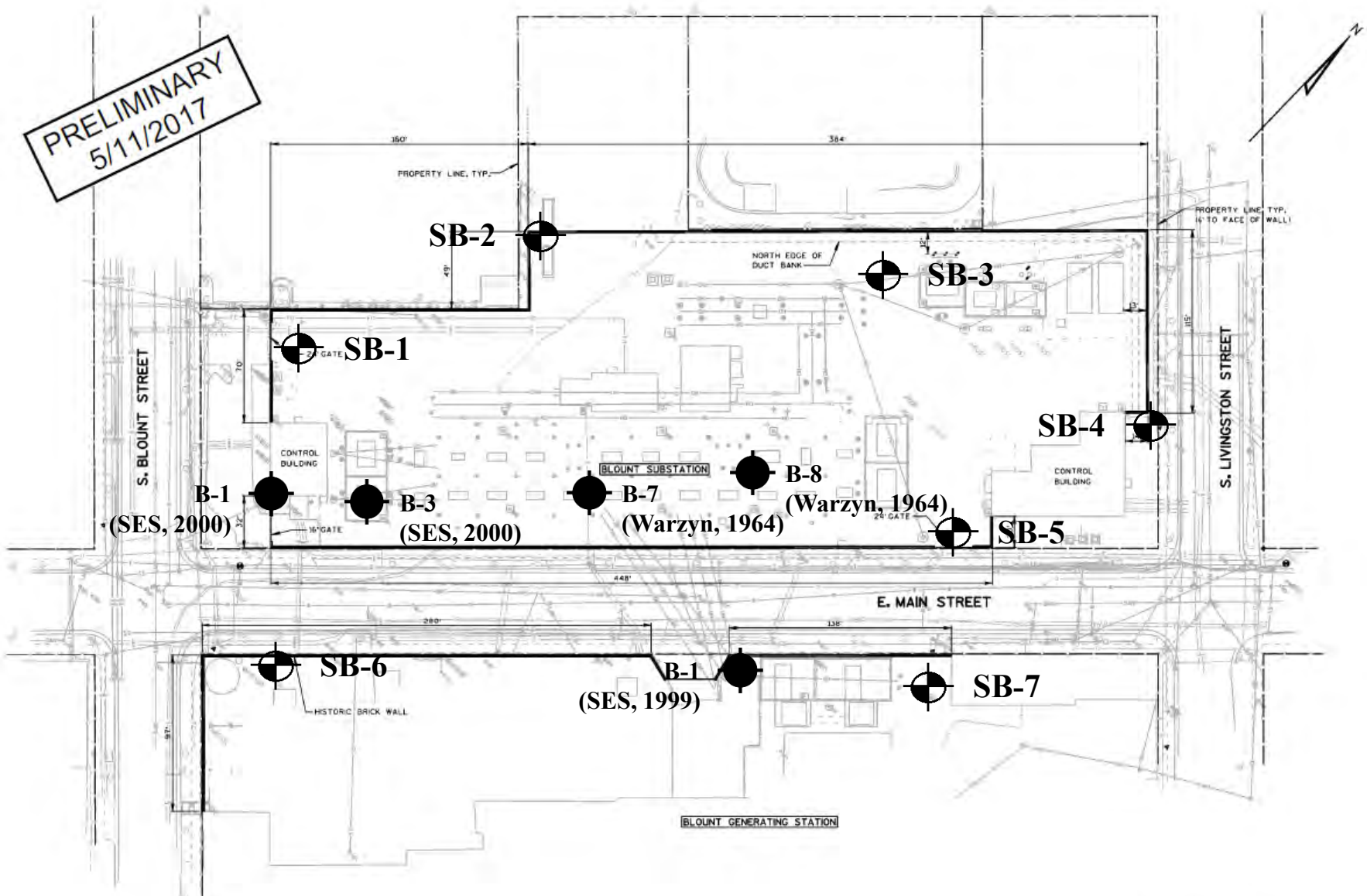
WATER LEVEL OBSERVATIONS

While Drilling ▽ **10.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/16/18** End **5/16/18**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **CV** Editor **DAS**
Drill Method **4-1/4" HSA (0-10'), 3-7/8" RB/DM (10-40'); Autohammer**



Legend

- Denotes Recent Boring Location and Number
- Denotes Previous Boring Location and Number (incl. Drilling Company and Year)

Notes

1. Recent borings drilled by Badger State Drilling from May 30 to 31 and June 6, 2017.
2. Base map provided by Strand Associates.
3. Boring locations are approximate; previous boring locations very approximate.

Job No. C17143	CGC, Inc.	**SOIL BORING LOCATION EXHIBIT** **Proposed Screen Wall Foundations** **MG&E Substation and Generating Plant** **E. Main St., S. Blount St. & S. Livingston St.** **City of Madison, Dane Co., WI**
Date: 06/2017		

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **1**
Surface Elevation (ft) **± 850.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1		18	M	22		FILL: Medium Dense, Tan/Light Gray Fine to Medium Sand, Some Gravel, Little Silt, Scattered Brown Clayey Sand Seams					
2		12	M	13		FILL: Medium Dense, Black Fine to Coarse Sand, Some Gravel, Little to Some Silt, Scattered Dark Gray Silty Sand Seams, Numerous Cinder Fragments	(1.25-2.5)				
3		8	M/W	4	5	FILL: Medium Dense, Black Fine to Coarse Sand, Some Silt and Gravel, Trace to Little Clay, Numerous Cinder Fragments, Scattered Glass Fragments		164.8			
4		16	M/W	WOH		FILL: Medium Dense, Gray Silt, Trace to Little Clay and Sand	(<0.25)				
						FILL: Very Loose to Loose, Black PEAT, Scattered Glass and Porcelain Fragments					
5		18	M/W	5		Very Soft to Soft, Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML) Trace Organics near 7 ft	(<0.25-0.5)	27.6	31	21	
					10						
6		18	W	WOH			(<0.25)	37.3			
					15						
						Very Soft, Dark Gray Lean CLAY, Trace Sand and Organics (CL)					
7		18	W	1			(<0.25)	33.1			2
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **5/30/17** End **5/30/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA (0-10') / 4" MR (10-35'); Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **1**
Surface Elevation **± 850.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Very Soft, Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML)					
8		18	W	2			(<0.25)	25.3			
					25						
						Soft to Medium Stiff, Gray Lean CLAY, Trace Sand (CL)					
9		18	W	6			(0.25-0.75)	23.4	28	16	
					30						
10		12	W	54		Very Dense, Grayish Brown Fine to Coarse SAND, Some Silt and Gravel, Trace Clay, Numerous Gray Clayey Silt Seams (SM)					
11		0	-	50/0"	35	End of Boring/Auger and Split-Spoon Refusal at 35 ft					
						Borehole Backfilled with Bentonite Slurry and Chips					
					40						

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **2**
Surface Elevation (ft) **± 851.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
1		16	M	38		FILL: Dense, Tan/Black Fine to Coarse Sand, Some Silt and Gravel, Numerous Cinder Fragments					
2		12	M	5		FILL: Loose, Black Fine to Coarse Sand, Little Gravel, Scattered Tan/Reddish Brown Silt Seams, Cinder and Glass Fragments					
3		6	W	4		FILL: Very Loose to Loose, Black/Brown Fine to Coarse Sand, Some Gravel, Little Silt, Scattered Dark Gray Clay Seams and Cinder Fragments					
4			W	2	5	Very Soft, Black Clayey PEAT (PT - Possible Fill)	(<0.25)	178.9			
						Very Soft, Dark Gray Lean CLAY, Little Organics, Trace Sand (CL/OL)					
5		18	W	WOH			(<0.25)	67.1			4.3
					10						
						Very Soft to Soft, Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML)					
6		18	W	8			(<0.25-0.5)	28.6			
					15						
						Very Soft, Black Lean to Silty CLAY, Trace Sand and Organics (CL/CL-ML) *Light Organic Odor*					
7		18	W	WOH			(<0.25)	32.1			2.2
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **3.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/30/17** End **5/30/17**
Driller **BSD** Chief **DB** Rig **D-50**
Logger **CD** Editor **TFG**
Drill Method **4.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **2**
Surface Elevation **± 851.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Soft to Medium Stiff, Light Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML)					
8		18	W	4			(0.25-0.75)	25.4	25	20	
					25						
						Medium Stiff to Stiff, Gray Lean CLAY, Trace Sand (CL)					
9		18	W	6			(0.75-1.25)	25.0			
					30						
10		8	W	27		Medium Dense to Very Dense, Gray Fine to Coarse SAND, Some Silt and Gravel, Trace Clay, Scattered Cobbles/Boulders (SM) P200 (Sample 10): 22.4%		10.8			
					35						
11		8	W	63							
					40	End of Boring at 40 ft Borehole Backfilled with Bentonite Slurry and Chips					

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **3**
Surface Elevation (ft) **± 851.5**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1		6	M	34		FILL: Dense, Tan Fine to Coarse Sand, Some Gravel, Little Silt					
2		18	M	13		FILL: Medium Dense, Gray/Reddish Brown Fine to Coarse Sand, Some Gravel, Little Silt, Numerous Brick Fragments					
3		14	M/W	6	5	FILL: Loose, Dark Gray/Brown Fine to Coarse Sand, Some Silt and Gravel, Scattered Brick and Cinder Fragments *Light Organic Odor*					
4		16	M/W	4		Very Loose to Loose, Black PEAT (PT - Possible Fill) *Strong Petroleum Odor*	(<0.25)	215.1 60.0			7.7
5		20	M/W	5		Very Soft, Gray Lean CLAY, Little Organics, Trace Sand (CL/OL) *Light Petroleum Odor*	(0.5-0.75)	22.3			
					10	Medium Stiff, Light Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML)					
						Soft to Medium Stiff, Gray Lean CLAY, Trace Sand, Scattered Silt Seams (CL) *Light Organic Odor*					
6		18	W	16			(0.25-1.0)	23.8			
					15						
7		12	W	13		Medium Dense, Gray Fine to Medium SAND, Some Silt, Little Clay and Gravel (SM-SC) *Strong Petroleum Odor*		15.1			
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ Upon Completion of Drilling
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **5/31/17** End **5/31/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA (0-10') / 4" MR (10-36'); Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **3**
Surface Elevation **± 851.5**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						P200 (Sample 7): 28.4%					
						Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Trace Clay, Scattered Cobbles/Boulders (SM)					
8	■	14	W	68		*Strong Petroleum Odor*					
					25						
						Very Dense, Dark Gray Fine to Medium SAND, Some Silt, Little Gravel (SM)					
						Strong Organic Odor					
9	■	16	W	62		P200 (Sample 9): 32.4%		11.6			
					30						
						Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Trace Clay, Scattered Cobbles/Boulders (SM)					
10	■	14	W	97		*Light Organic Odor*					
					35						
11	■	0	-	50/0"		End of Boring/Auger and Split-Spoon Refusal at 36 ft					
						Borehole Backfilled with Bentonite Slurry and Chips					
					40						

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **4**
Surface Elevation (ft) **± 850.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
1		14	M	16		± 8 in. TOPSOIL FILL (OL)					
						FILL: Medium Dense, Brown Fine to Medium Sand, Some Silt, Little Gravel					
2		2	M	6		FILL: Loose, Tan/Gray Fine to Coarse Gravel, Trace Sand and Silt					
3		2	W	5	5						
4		18	W	3		Soft, Gray/Light Brown Lean CLAY, Little Sand, Trace Organics (CL) *Very Strong Petroleum Odor*	(-)	23.4			2.5
5		18	W	3			(0.25)	21.8			
					10						
						Stiff, Gray Lean CLAY, Trace Sand, Scattered Oily Silt Seams (CL) *Very Strong Petroleum Odor*					
6		18	W	12			(1.5)	21.8			
					15						
7		8	W	14		Medium Dense, Gray Fine to Medium SAND, Some Silt, Little Clay and Gravel (SM-SC)					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **3.5'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/30/17** End **5/30/17**
Driller **BSD** Chief **DB** Rig **D-50**
Logger **CD** Editor **TFG**
Drill Method **4.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **4**
Surface Elevation **± 850.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Strong Petroleum Odor					
8		8	W	76		Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Trace Clay, Scattered Cobbles/Boulders (SM)					
					25	*Light Petroleum Odor*					
9		8	W	87		Grading Grayish Brown with Depth					
					30	End of Boring due to Broken Split-Spoon in Bottom of Borehole at 30 ft Borehole Backfilled with Bentonite Slurry and Chips					
					35						
					40						

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **5**
Surface Elevation (ft) **± 851.0**
Job No. **C17143**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
1		6	M	4		FILL: Very Loose to Loose, Tan Gravelly Fine to Coarse Sand, Little Silt, Intermixed with Dark Gray Clayey Sand, Some Gravel					
2		14	M	20		FILL: Medium Dense, Tan/Dark Gray Fine to Coarse Sand, Some Gravel, Little Silt, Scattered Gray Silty Sand Seams *Light Petroleum Odor*					
3		12	W	11	5	FILL: Medium Dense, Tan Fine to Coarse Gravel, Intermixed with Dark Gray Clayey Sand, Some Gravel *Strong Petroleum Odor*					
4		4	W	50/2"		FILL: Very Dense, Brown Fine to Medium Sand, Some Silt and Gravel, Scattered Cobbles/Boulders *Strong Petroleum Odor* Apparent Concrete near 6.5 ft					
					10	End of Boring/Auger and Split-Spoon Refusal on Apparent Concrete at 7 ft Borehole Backfilled with Bentonite Chips A second boring was attempted about 5 ft west of the original location, and refusal occurred near 6 ft on apparent concrete. A third boring was drilled 20 ft west of the original location. See Boring 5B.					
					15						
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **4.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/30/17** End **5/30/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **5B**
Surface Elevation (ft) **± 851.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Boring 5B Offset about 20 ft West of Boring 5 and Blind-Drilled (without Sampling) to 7 ft					
					5						
						Very Soft to Soft, Dark Gray Lean CLAY, Little Sand, Trace Gravel and Organics (CL)					
1		8	W	6	▽	*Strong Petroleum Odor*	(<0.25-0.5)	21.7			2.6
					10						
						Very Soft, Gray Lean to Silty CLAY, Trace Sand (CL/CL-ML)					
						Strong Petroleum Odor					
2		18	W	5			(<0.25)	34.5			
					15						
						Medium Stiff to Stiff, Gray Lean CLAY, Trace Sand (CL)					
3		18	W	6			(0.5)	26.6			
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **8.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **5/30/17** End **5/30/17**
Driller **BSD** Chief **MC** Rig **CME-55**
Logger **MG** Editor **TFG**
Drill Method **2.25" HSA (0-10') / 4" MR (10-31'); Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **5B**
Surface Elevation **± 851.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
4	■	18	W	10	25		(1.0-1.5)	24.6			
5	■	12	W	36	30	Dense to Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Little Clay, Scattered Cobbles/Boulders (SM-SC) P200 (Sample 5): 23.8%		10.8			
6	■	0	-	50/1"		End of Boring/Auger and Split-Spoon Refusal at 31 ft					
					35	Borehole Backfilled with Bentonite Slurry and Chips					
					40						

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **6**
Surface Elevation (ft) **± 850.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Vacuum Excavation (without Sampling) to 10 ft					
					5						
					10	Very Soft to Soft, Dark Gray Silty CLAY, Trace Sand (CL-ML) *Strong Petroleum Odor*					
1	■	14	W	1			(<0.25)				
					15						
2	■	18	W	1			(<0.25-0.5)				
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **6.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/6/17** End **6/6/17**
Driller **BSD** Chief **DB** Rig **D-50**
Logger **DC/CD** Editor **TFG**
Drill Method **4.25" MR; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **6**
Surface Elevation **± 850.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
3		18	W	1		Soft, Gray Lean CLAY, Little Sand, Scattered Oily Seams (CL) *Very Strong Petroleum Odor*	(0.25-0.5)				
					25						
						Medium Stiff, Gray Lean CLAY, Trace Sand (CL) *Strong Petroleum Odor*					
4		18	W	12			(0.75-1.0)				
					30						
5		12	W	6		Loose, Gray Clayey Fine to Coarse SAND, Some Gravel, Scattered Cobbles/Boulders (SC) *Light Petroleum Odor*					
					35						
						Very Dense, Gray Fine to Medium SAND, Some Silt and Gravel, Little Clay, Scattered Cobbles/Boulders (SM-SC) *Light Petroleum Odor*					
6		12	W	88							
					40						
						End of Boring at 40 ft Borehole Backfilled with Bentonite Slurry and Chips					

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **7**
Surface Elevation (ft) **± 851.0**
Job No. **C17143**
Sheet **1** of **2**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Vacuum Excavation (without Sampling) to 10 ft					
					5						
					10	Very Soft, Black Lean CLAY, Trace Sand (CL) *Light Petroleum Odor*					
1	■	18	W	1			(<0.25-0.25)				
					15						
						Very Soft, Dark Gray Lean CLAY, Trace Sand (CL) *Light Petroleum Odor*					
2	■	18	W	1			(<0.25)				
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ **7.0'** Upon Completion of Drilling _____
Time After Drilling _____
Depth to Water _____ ▼
Depth to Cave in _____

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

GENERAL NOTES

Start **6/6/17** End **6/6/17**
Driller **BSD** Chief **DB** Rig **D-50**
Logger **DC/CD** Editor **TFG**
Drill Method **4.25" MR; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **MG&E Screen Walls**
E. Main Street
Location **Madison, Wisconsin**

Boring No. **7**
Surface Elevation **± 851.0**
Job No. **C17143**
Sheet **2** of **2**

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

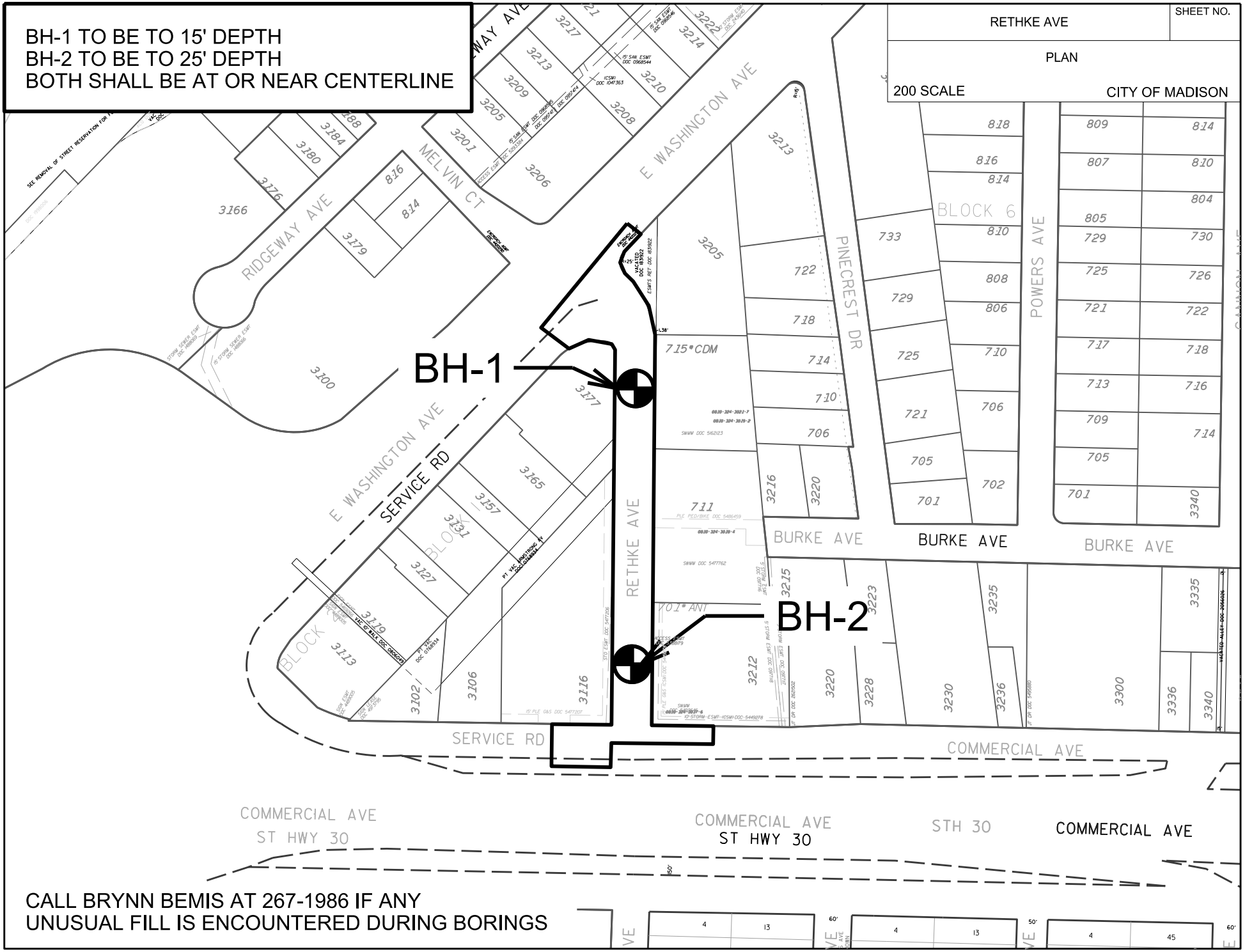
SAMPLE						VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	TYPE	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
						Medium Stiff to Very Stiff, Gray Lean CLAY, Trace Sand (CL)					
						Light Petroleum Odor					
3	■	18	W	6		Scattered Black Fine Sand Seams near 24 ft	(0.5-0.75)				
					25						
4	■	18	W	9			(1.75-2.25)				
					30						
						Loose to Medium Dense, Gray Clayey Fine to Coarse SAND, Some Gravel, Scattered Cobbles/Boulders (SC)					
5	■	18	W	10							
					35						
6	■	4	W	33		Dense, Gray Clayey Fine to Coarse GRAVEL, Some Sand, Scattered Cobbles/Boulders (GC)					
					40	End of Boring at 40 ft					
						Borehole Backfilled with Bentonite Slurry and Chips					

BH-1 TO BE TO 15' DEPTH
BH-2 TO BE TO 25' DEPTH
BOTH SHALL BE AT OR NEAR CENTERLINE

RETHKE AVE | SHEET NO.

PLAN

200 SCALE | CITY OF MADISON



CALL BRYNN BEMIS AT 267-1986 IF ANY
UNUSUAL FILL IS ENCOUNTERED DURING BORINGS

PLOT NAME: _____

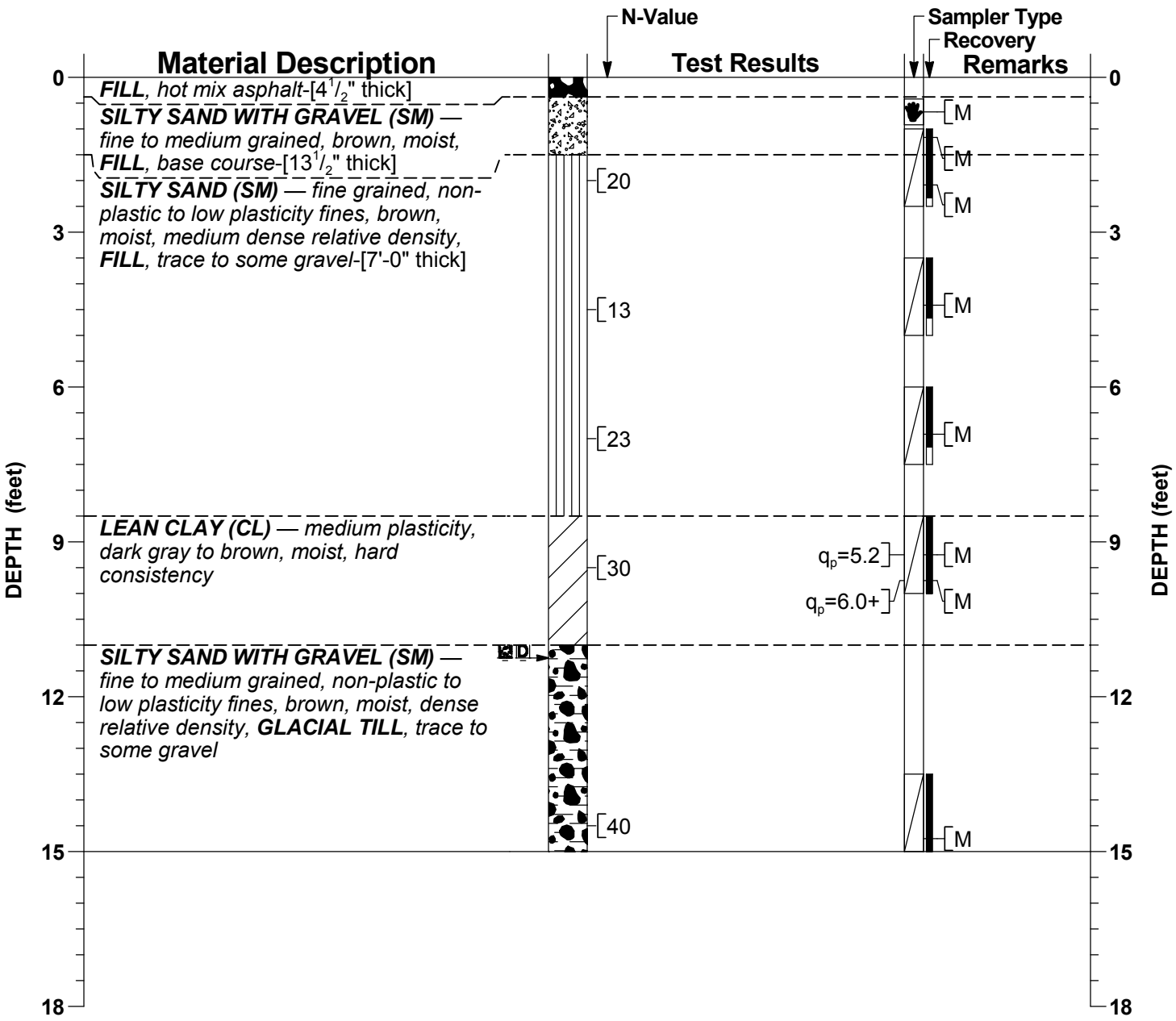
ORIGINATOR: CITY OF MADISON, STREETS DIVISION

FILE NAME: F:\Encommon\Misc\Dawson\Surveys 2020\Surveys 2020.dgn | PLOT SCALE: 199.9996 sf / In. | DATE: 11/19/2019

General Location: **114 feet south of E. Washington Avenue Frontage Road ℄, 3.5 feet east of Rethke Avenue ℄**

Boring BH-1

LATITUDE:	LONGITUDE:	COUNTY:	SECTION:	CREW CHIEF:	DRILL RIG:	PAGE:
—	—	Dane	5	7	CME 75	1 of 1
NORTHING:	EASTING:	TOWNSHIP:	¼:	LOG REVIEW:	HAMMER TYPE (EFFICIENCY):	TOTAL DEPTH:
—	—	(Blooming Grove)7 N	NE	SLF	Automatic (91%)	15'-0"
STATION:	OFFSET:	RANGE:	¼ ¼:	LOG QC:	DATE STARTED:	DATE COMPLETED:
—	—	10 E	NW	CMB	12/13/2019	12/13/2019



WATER LEVEL LEGEND	OTHER LEVEL LEGEND
D 11'-3" Dry at completion	11'-3" Caved at completion

DRILL METHOD	TOOL SIZE	CASING SIZE	DRILL FLUID	DEPTH FROM	DEPTH TO	HOLE DIA
HSA	2 1/4"	—	None	0'-0"	15'-0"	6.3"

SAMPLING METHOD(S): AASHTO T 206

SURFACE PATCH: Cold Mix Asphalt Patching Compound

BACKFILL: Inches Of Base Coarse, Auger Cuttings, Bentonite Chips, Caved Soil

The Notes and Legend Record is considered a part of this Boring Log Record.

Soils & Engineering Services, Inc.
1102 STEWART STREET • MADISON, WISCONSIN 53713
Phone: 608-274-7600 • 888-866-SOIL (7645)
Fax: 608-274-7511 • Email: soils@soils.ws
CONSULTING CIVIL ENGINEERS SINCE 1966

BORING LOG RECORD
Rethke Ave
City of Madison, Dane County, Wisconsin

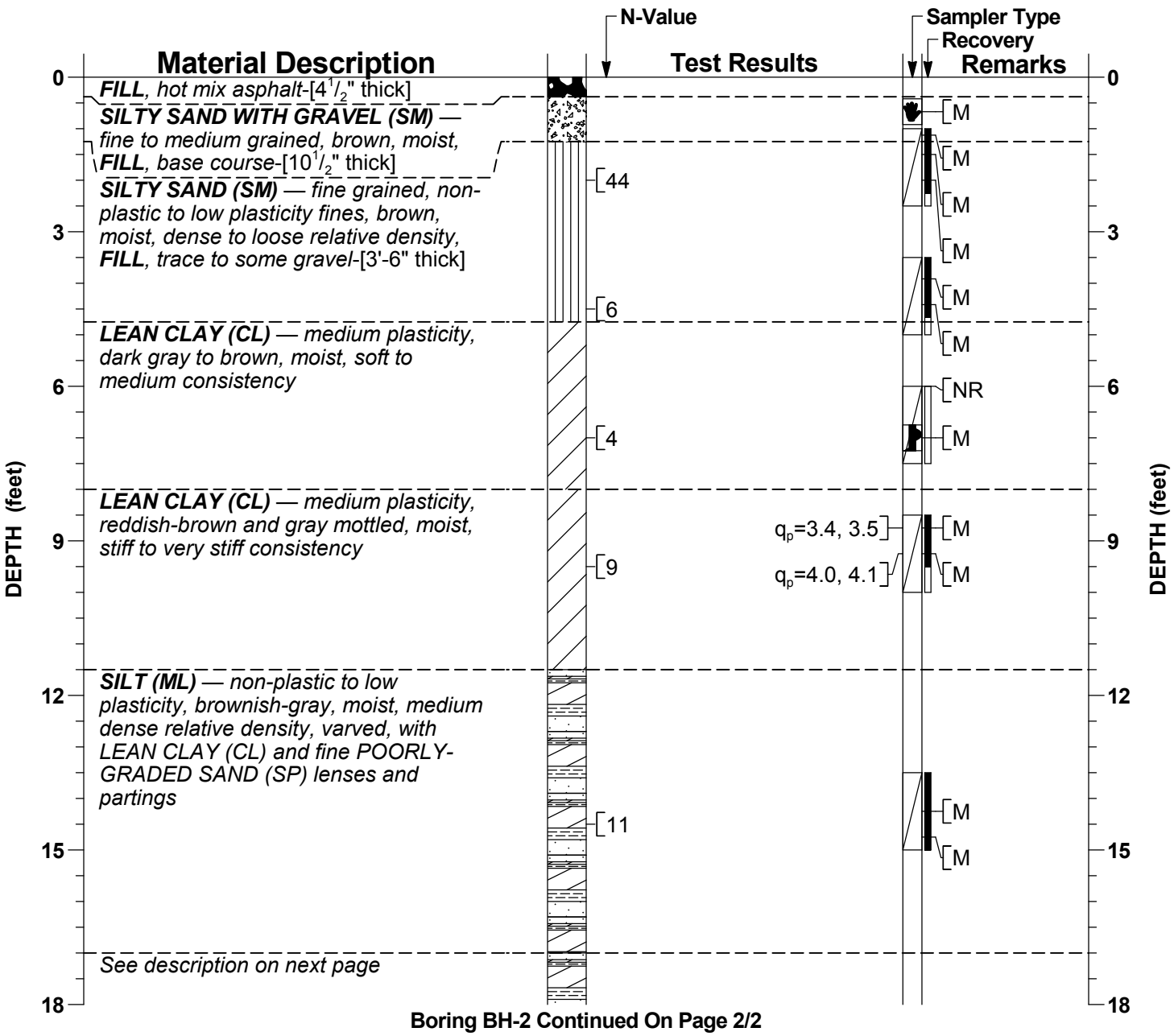
13300.38

Printed on 1/14/2020

General Location: 142 feet north of Commercial Avenue Frontage Road ℄, 1-foot west of Rethke Avenue ℄

Boring BH-2

LATITUDE:	LONGITUDE:	COUNTY:	SECTION:	CREW CHIEF:	DRILL RIG:	PAGE:
—	—	Dane	5	7	CME 75	1 of 2
NORTHING:	EASTING:	TOWNSHIP:	¼:	LOG REVIEW:	HAMMER TYPE (EFFICIENCY):	TOTAL DEPTH:
—	—	(Blooming Grove)7 N	NE	SLF	Automatic (91%)	24'-5½"
STATION:	OFFSET:	RANGE:	¼ ¼:	LOG QC:	DATE STARTED:	DATE COMPLETED:
—	—	10 E	NW	CMB	12/13/2019	12/13/2019



Boring BH-2 Continued On Page 2/2

DRILL METHOD	TOOL SIZE	CASING SIZE	DRILL FLUID	DEPTH FROM	DEPTH TO	HOLE DIA
HSA	2 ¼"	—	None	0'-0"	24'-5½"	6.3"

SAMPLING METHOD(S): AASHTO T 206

SURFACE PATCH: Cold Mix Asphalt Patching Compound

BACKFILL: Inches Of Base Coarse, Auger Cuttings, Bentonite Chips, Caved Soil

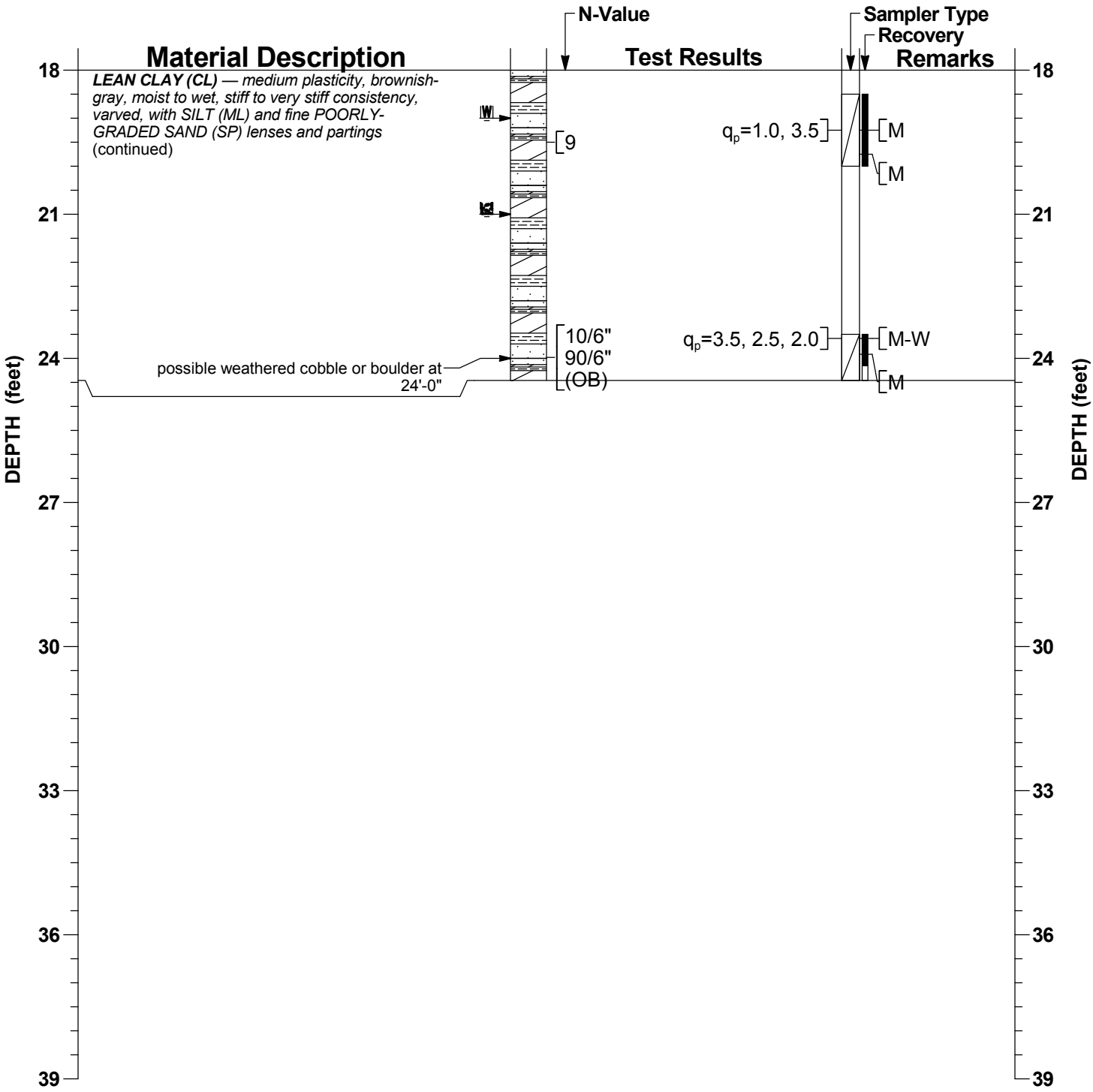
The Notes and Legend Record is considered a part of this Boring Log Record.

Soils & Engineering Services, Inc.
1102 STEWART STREET • MADISON, WISCONSIN 53713
Phone: 608-274-7600 • 888-866-SOIL (7645)
Fax: 608-274-7511 • Email: soils@soils.ws
CONSULTING CIVIL ENGINEERS SINCE 1966

BORING LOG RECORD
Rethke Ave
City of Madison, Dane County, Wisconsin

13300.38

Printed on 1/14/2020



WATER LEVEL LEGEND	OTHER LEVEL LEGEND
W 19'-0" Wet at completion	21'-0" Caved at completion

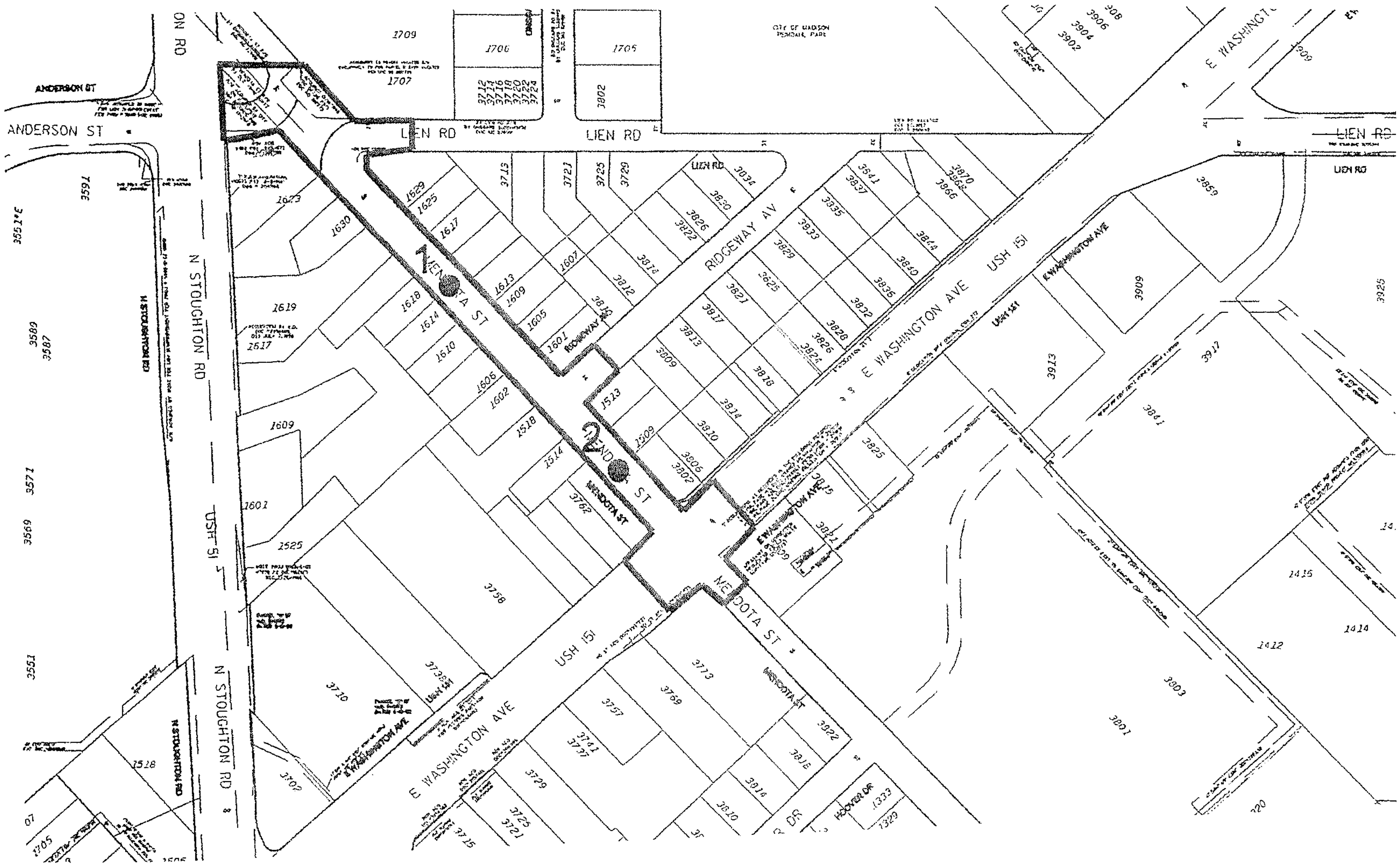
The Notes and Legend Record is considered a part of this Boring Log Record.

Soils & Engineering Services, Inc.
1102 STEWART STREET • MADISON, WISCONSIN 53713
Phone: 608-274-7600 • 888-866-SOIL (7645)
Fax: 608-274-7511 • Email: soils@soils.ws
CONSULTING CIVIL ENGINEERS SINCE 1966

BORING LOG RECORD
Rethke Ave
City of Madison, Dane County, Wisconsin

13300.38

Printed on 1/14/2020



Legend

● Denotes Boring Location (approximate)

Notes

1. Soil borings drilled by Badger State Drilling in September 2010

N

DWN: -	APP'D: MNS	Date: 10/10	C10041-11	CGC, Inc.	SOIL BORING LOCATION MAP Mendota Street Madison, Wisconsin

CGC Inc.

LOG OF TEST BORING

Project: Mendota Street
300'NW of Ridgeway, 3'SW of Centerline
Location: Madison, Wisconsin

Boring No. 1
Surface Elevation (ft) 84.8*
Job No. C10041-11
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8" Asphalt Pavement					
1		12	M	7		Very Stiff, Brown Lean CLAY (CL)	(2.25)				
2		12	M	7	5	Loose, Brown Silty Fine to Coarse SAND, Little Gravel (SM)					
3		18	M	19		Medium Dense, Light Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4		18	M	20	10						
5		18	M	20	15						
						End Boring at 15 ft Borehole backfilled with bentonite chips *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the north corner of the intersection of East Washington and Mendota.					
					20						

WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling 10 min.
Depth to Water NW ▼
Depth to Cave in

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

GENERAL NOTES

Start 9/17/10 End 9/17/10
Driller Badger Chief JR Rig CME-55
Logger RM Editor ESF
Drill Method 2 1/4" HSA

CGC Inc.

LOG OF TEST BORING

Project: Mendota Street
100'NW of E. Washington, 3'SW of Centerline
Location: Madison, Wisconsin

Boring No. 2
Surface Elevation (ft) 99.1*
Job No. C10041-11
Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						7" Asphalt Pavement					
1		12	M	9		Very Stiff, Brown Lean CLAY (CL)	(2.4)				
2		18	M	10	5	Loose to Medium Dense, Brown Silty Fine to Medium SAND (SM)					
3		18	M	31		Medium Dense to Dense, Light Brown Fine to Medium SAND, Some Silt and Gravel (SM)					
4		18	M	15	10						
5		18	M	22	15	End Boring at 15 ft Borehole backfilled with bentonite chips *Elevation determined using an assumed datum of 100.0 ft referencing the top nut of a hydrant situated at the north corner of the intersection of East Washington and Mendota.					
					20						

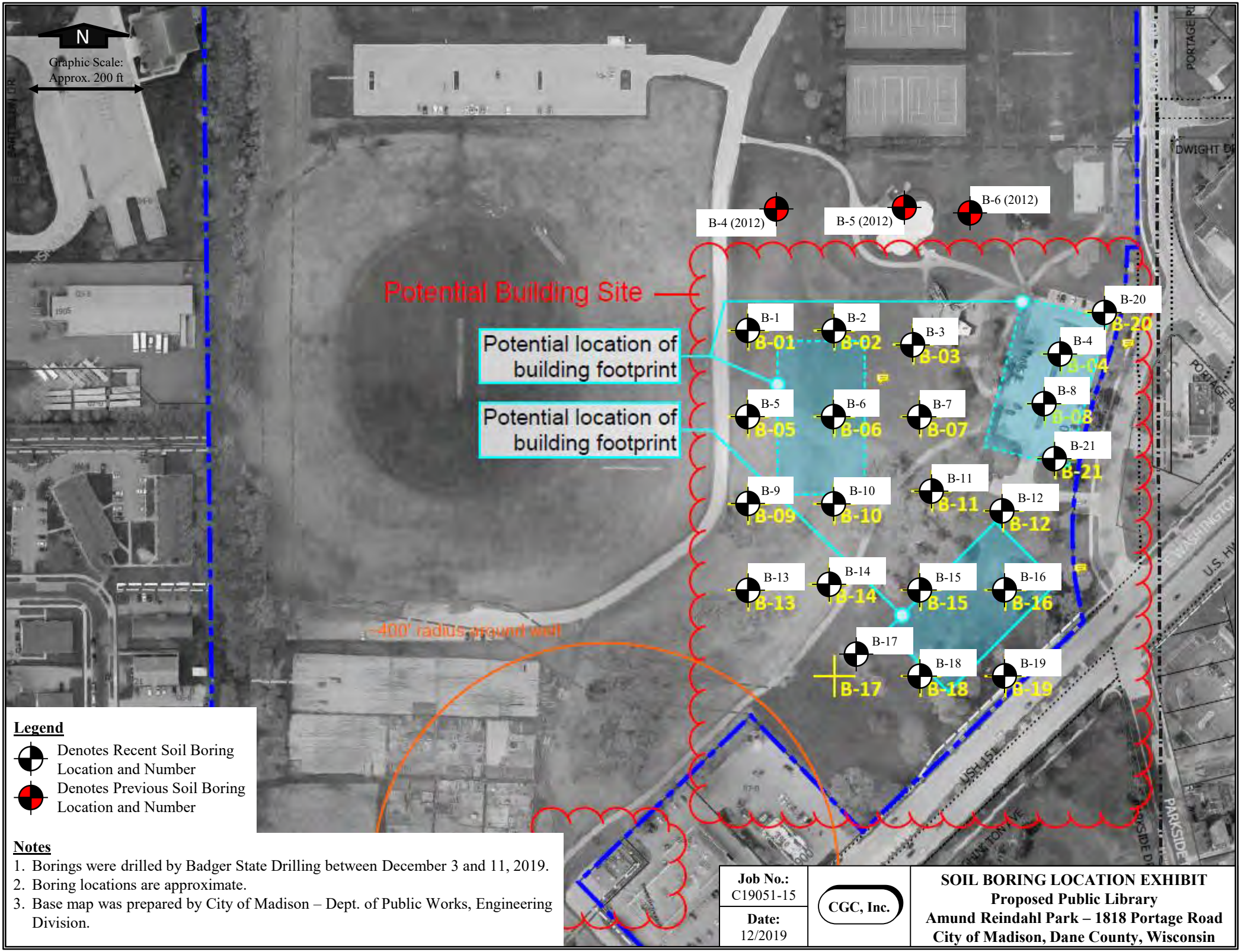
WATER LEVEL OBSERVATIONS

While Drilling ▽ NW Upon Completion of Drilling
Time After Drilling 10 min.
Depth to Water NW ▼
Depth to Cave in

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

GENERAL NOTES

Start 9/17/10 End 9/17/10
Driller Badger Chief JR Rig CME-55
Logger RM Editor ESF
Drill Method 2 1/4" HSA



Legend

- Denotes Recent Soil Boring Location and Number
- Denotes Previous Soil Boring Location and Number

Notes

1. Borings were drilled by Badger State Drilling between December 3 and 11, 2019.
2. Boring locations are approximate.
3. Base map was prepared by City of Madison – Dept. of Public Works, Engineering Division.

Job No.: C19051-15 **Date:** 12/2019	CGC, Inc.	**SOIL BORING LOCATION EXHIBIT** **Proposed Public Library** **Amund Reindahl Park – 1818 Portage Road** **City of Madison, Dane County, Wisconsin**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **1**
Surface Elevation (ft) **884.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		10	M	9		Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(1.5-1.75)				
						Medium Stiff, Brown Sandy Lean CLAY, Trace Gravel (CL)					
2		12	M	18		*USDA: 10YR 4/3 Sandy Clay Loam*	(0.75)				
					5	Medium Dense, Pale Brown Fine to Medium SAND, Some Silt, Little Gravel (SM) *USDA: 10YR 6/3 Sandy Loam*					
3		18	M	23		P200 (Sample 3 - 6 to 7.5 ft): 32.8%		9.5			
						Dense, Pale Brown Fine SAND, Little to Some Silt (SP-SM/SM)					
4		18	M	36		*USDA: 10YR 6/3 Loamy Fine Sand*					
					10						
5		10	M	30		Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
6		8	M	50/2"		Probable Cobble/Boulder near 14 ft					
					15						
7		14	M	65							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **2**
Surface Elevation (ft) **887.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						8± in. TOPSOIL (OL)					
1		10	M	7		Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(1.25-2.0)	25.7			
2		12	M	7			(1.5)	27.0			
3		12	M	16	5	Medium Dense, Pale Brown Sandy SILT, Little to Some Gravel, Scattered Cobbles/Boulders (ML) *USDA: 10YR 6/3 Loam*					
4		14	M	19		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
5		12	M	13	10						
6		10	M	27							
7		12	M	76	15						
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **3**
Surface Elevation (ft) **888.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		10	M	11		Very Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 4/3 Silty Clay Loam*	(2.0-2.5)				
2		10	M	8	5	Medium Stiff, Brown to Dark Brown Sandy Lean CLAY, Trace Gravel (CL) *USDA: 10YR 4/3 to 3/3 Sandy Clay Loam*	(0.5-0.75)	17.9			
3		12	M	21		Medium Dense, Gray to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 5/1 to 6/4 Gravelly Sandy Loam*					
4		10	M	26	10	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
5		12	M	27							
						P200 (Samples 5 and 6 - 11 to 15 ft): 33.7%		7.2			
6		14	M	27	15						
7		14	M	58							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **4**
Surface Elevation (ft) **885.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		10	M	7		Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 4/3 Silty Clay Loam*	(1.5-1.75)	29.1			
2		12	M/W	5		Soft/Loose, Very Dark Grayish Brown to Brown Sandy Lean CLAY to Clayey Fine SAND, Trace Gravel (CL/SC) *USDA: 10YR 3/2 to 5/3 Sandy Clay Loam to Sandy Loam*	(0.25-0.5)				
3		10	M	24	5	Medium Dense to Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
4		10	M	15							
5		10	M	24	10						
6		12	M	23							
7		10	M	38	15						
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **5**
Surface Elevation (ft) **883.5±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		8	M	8		Very Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 4/3 Silty Clay Loam*	(2.0-2.75)	26.9			
2		10	M	9		Medium Stiff to Stiff/Loose, Brown to Pale Brown Sandy Lean CLAY to Clayey Fine to Medium SAND, Trace Gravel (CL/SC) *USDA: 10YR 4/3 to 6/3 Sandy Clay Loam to Sandy Loam*	(0.75-1.25)				
3		14	M	20	5	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
4		14	M	19							
5		12	M	33	10						
6		12	M	40							
7		3	M	50/3"	15	Probable Cobble/Boulder near 18.5 ft - Limited Recovery in Sample 7					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **6**
Surface Elevation (ft) **888.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		12	M	9		Stiff to Very Stiff, Brown Lean CLAY, Little Sand (CL) *USDA: 10YR 5/3 Clay Loam*	(1.75-3.5)	20.6			
2		10	M/W	5		Soft, Brown Sandy Lean CLAY, Trace Gravel (CL) *USDA: 10YR 4/3 Sandy Clay Loam*	(0.25-0.5)	19.0			
3		14	M/W	21	5	Medium Dense to Dense, Pale Brown to Light Yellowish Brown Fine to Coarse SAND, Some Silt, Little to Some Gravel, Scattered Thin Sandy Lean Clay Seams and Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam, Scattered Thin Sandy Clay Loam Seams* P200 (Sample 4 - 8.5 to 10 ft): 31.8%					
4		14	M	21				8.5			
5		16	M	18	10						
6		16	M	17							
7		16	M	38	15						
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **7**
Surface Elevation (ft) **888.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		10	M	9		FILL: Stiff to Very Stiff, Very Dark Grayish Brown to Yellowish Brown Lean Clay, Little to Some Sand, Trace Organics *USDA: 10YR 3/2 to 5/4 Clay Loam to Sandy Clay Loam (Fill)*	(1.5-3.0)	20.2			3.2
2		6	M	4		FILL: Medium Stiff to Stiff, Very Dark Brown to Dark Yellowish Brown Lean Clay, Little Sand, Trace Gravel and Organics *USDA: 10YR 2/2 to 4/4 Clay Loam (Fill)*	(0.75-1.5)	22.5			3.8
3		10	M	15	5	Medium Dense, Light Brownish Gray to Light Yellowish Brown Fine to Medium SAND, Little to Some Silt, Little Gravel (SP-SM/SM - Possible Fill) *USDA: 10YR 6/2 to 6/4 Loamy Sand to Sandy Loam*					
4		14	M	34		Dense, Gray to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 5/1 to 6/4 Gravelly Sandy Loam*					
5		12	M	23	10	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Thin Sandy Lean Clay Seams and Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam, Scattered Thin Sandy Clay Loam Seams*					
6		12	M	25							
7		6	M	64/9"	15	Probable Cobble/Boulder near 19.5 ft					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽	NW			
Upon Completion of Drilling	NW			
Time After Drilling				
Depth to Water				▼
Depth to Cave in				

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **8**
Surface Elevation (ft) **884.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						8± in. TOPSOIL (OL)					
1		10	M	14		Stiff, Very Dark Gray to Brown Organic to Lean CLAY, Trace Sand (OL/CL - Possible Lower Horizon Topsoil in Upper Part of Layer) *USDA: 10YR 3/1 to 5/3 Silty Clay Loam*	(1.0-2.0)	29.1			4.9
2		18	M	14		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Silt Seams and Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Sandy Loam to Gravelly Sandy Loam, Scattered Silt Loam Seams* P200 (Samples 2 and 3 - 3.5 to 7.5 ft): 29.4%					
					5			8.0			
3		16	M	19							
4		16	M	17							
					10						
5		2	M	50/2"		Probable Cobbles/Boulders near 10.5 and 13.5 ft - Limited Recovery in Samples 5 and 6					
6		2	M	50/2"							
					15						
7		14	M	57							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **9**
Surface Elevation (ft) **884.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		6	M	8		Stiff to Very Stiff, Brown to Very Dark Gray Lean CLAY, Trace to Little Sand and Gravel, Trace Organics (CL - Possible Fill) *USDA: 10YR 4/3 to 3/1 Silty Clay Loam*	(1.75-3.25)	20.9			3.2
2		10	M	11		Very Stiff to Hard, Brown/Dark Gray (Lightly Mottled) Lean CLAY, Trace to Little Sand (CL) *USDA: 10YR 5/3 (Redox: c2f 10YR 4/1) Silty Clay Loam*	(3.5-4.5+)				
3		18	W	5	5	Very Soft to Soft, Brown to Dark Brown Sandy Lean CLAY, Trace Gravel (CL) *USDA: 10YR 4/3 to 3/3 Sandy Clay Loam*	(0.25)	23.2			
4		16	M	17		Medium Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
5		10	M	31	10	Dense to Very Dense, Light Yellowish Brown Fine to Medium SAND, Some Silt, Trace to Little Gravel, Scattered Cobbles/Boulders (SM) *USDA: 2.5Y 6/4 Loamy Fine Sand* P200 (Sample 5 - 11 to 12.5 ft): 27.5%		8.9			
6		4	M	50/2"		Probable Cobble/Boulder near 14 ft					
7		16	M	59	15	Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **10**
Surface Elevation (ft) **886.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		12	M	6		Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 4/3 Silty Clay Loam*	(1.75-2.0)	28.1			
2		14	M/W	10	5	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
3		16	M	15							
4		16	M	15	10						
5		12	M	42							
6		10	M	49	15						
7		8	M	50/4"		Probable Cobble/Boulder near 19 ft					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **11**
Surface Elevation (ft) **886.5±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		12	M	13		Very Stiff, Brown/Gray (Mottled) Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 (Redox: c1d 10YR 6/1) Silty Clay Loam*	(2.25-2.75)				
2		12	M	8		Stiff, Brown Lean CLAY, Little Sand (CL) *USDA: 10YR 5/3 Clay Loam*	(1.0-1.5)				
					5						
3		6	M	50/5"		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam* Probable Cobble/Boulder near 6.5 ft					
4		14	M	18							
					10	P200 (Samples 4 and 5 - 8.5 to 12.5 ft): 29.8%		7.8			
5		12	M	16							
6		12	M	18							
					15						
7		14	M	47							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **12**
Surface Elevation (ft) **882.5±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		6	M	9		Medium Stiff to Stiff, Brown Lean CLAY, Little Sand (CL) *USDA: 10YR 5/3 Clay Loam*	(0.5-1.25)	22.3			
2		16	M	20	5	Medium Dense, Pale Brown Sandy SILT, Little to Some Gravel, Scattered Cobbles/Boulders (ML) *USDA: 10YR 6/3 Loam*					
3		16	M	15		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
4		14	M	21	10						
5		4	M	24		Probable Cobble/Boulder near 11.5 ft - Limited Recovery in Sample 5					
6		10	M	27	15						
7		14	M	78							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/5/19** End **12/5/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **13**
Surface Elevation (ft) **884.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		6	M	9		Medium Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(0.5-1.0)	26.7			
2		10	M	9		Loose to Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
3		12	M	25	5						
4		14	M	18							
5		14	M	27	10						
6		12	M	47							
7		14	M	41	15						
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/9/19** End **12/9/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **14**
Surface Elevation (ft) **884.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						11± in. TOPSOIL (OL)					
1		10	M	7		Medium Stiff to Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 4/3 Silty Clay Loam*	(0.75-1.25)	27.4			
2		6	M	18		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
					5	P200 (Samples 2 and 3 - 3.5 to 7.5 ft): 30.0%		9.0			
3		14	M	13							
4		10	M	13							
					10						
5		4	M	24							
6		0	-	50/1"		Probable Cobble/Boulder near 13.5 ft - No Recovery in Sample 6					
					15						
7		6	M	50/5"		Probable Cobble/Boulder near 19 ft					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/9/19** End **12/9/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **15**
Surface Elevation (ft) **882.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						12± in. TOPSOIL (OL)					
1		12	M	9		Stiff to Very Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(1.75-2.0)	28.2			
2		12	M	11	5		(2.25-2.5)				
3		16	M	14		Medium Stiff/Medium Dense, Fine Layers of Brown to Pale Brown Lean CLAY, SILT and Fine SAND, Trace Silt (CL/ML/SP) *USDA: Stratified 10YR 4/3 to 6/3 Silty Clay Loam, Silt Loam and Fine Sand*	(0.5-0.75)				
4		18	M	14		Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
5		14	M	23	10						
6		12	M	26							
7		8	M	50/4"	15	Probable Cobble/Boulder near 19 ft					
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/5/19** End **12/5/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **16**
Surface Elevation (ft) **878.5±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						13± in. TOPSOIL (OL)					
1		8	M	9		Loose/Medium Stiff to Very Stiff, Black to Dark Grayish Brown/Dark Gray (Lightly Mottled) Organic SILT to Lean CLAY, Trace Sand and Organics (OL/CL - Probable Lower Horizon Topsoil in Upper Part of Layer)	(0.75-2.75)	26.6			5.3
2		6	M	54/7"		*USDA: 10YR 2/1 to 4/2 (Redox: c1f 10YR 4/1) Silt Loam to Silty Clay Loam*	(1.5-2.5)				
					5	Stiff to Very Stiff, Brown Lean CLAY, Little Sand, Trace Gravel, Scattered Cobbles (CL)					
3		18	M	14		*USDA: 10YR 4/3 Clay Loam* Probable Cobble near 4.5 ft		12.0			
						Medium Dense, Light Brownish Gray Silty Fine to Medium SAND, Some Gravel (SM)					
4		16	M	33		*USDA: 10YR 6/2 Gravelly Silt Loam* P200 (Sample 3 - 6 to 7.5 ft): 47.8%					
					10	Medium Dense to Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
5		12	M	26		*USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
6		12	M	42							
					15						
7		14	M	24							
					20	End of Boring at 20 ft					
						Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/5/19** End **12/5/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **17**
Surface Elevation (ft) **880.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						12± in. TOPSOIL (OL)					
1		12	M	5		Medium Stiff to Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(0.75-1.25)				
2		14	M/W	3		Very Soft to Soft/Very Loose, Brown Sandy Lean CLAY to Clayey Fine to Medium SAND, Trace Gravel (CL/SC) *USDA: 10YR 4/3 Sandy Clay Loam to Sandy Loam*	(0.25)	24.8			
3		18	W	14	5	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
4		18	W	16							
5		18	W	17	10						
6		18	M	48							
7		16	M	74	15						
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽	**3.5'**	Upon Completion of Drilling		**6.0'**
Time After Drilling	**(Probable**			**1 Day**
Depth to Water	**Perched**			**6.0'** ▼
Depth to Cave in	**Water)**			**8.0'**

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

GENERAL NOTES

Start **12/9/19** End **12/9/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **18**
Surface Elevation (ft) **876.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		6	M	7		Medium Stiff to Stiff, Brown Lean CLAY, Trace Sand (CL) *USDA: 10YR 5/3 Silty Clay Loam*	(0.75-1.25)	28.1			
2		10	M/W	9		Soft to Medium Stiff, Dark Brown Sandy Lean CLAY, Trace to Little Gravel (CL) *USDA: 10YR 3/3 Sandy Clay Loam*	(0.25-0.75)	20.7			
					5						
3		12	M	12		Medium Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
4		14	M	17							
					10						
5		16	M	21							
						P200 (Samples 5 and 6 - 11 to 15 ft): 31.5%		9.2			
6		12	M	14							
					15						
7		18	M/W	16							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/9/19** End **12/9/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **19**
Surface Elevation (ft) **875.5±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						12± in. TOPSOIL (OL)					
1		10	M	5		Stiff, Brown/Grayish Brown (Lightly Mottled) Lean CLAY, Trace Sand, Scattered Organic Pockets (CL) *USDA: 10YR 4/3 (Redox: c2f 10YR 5/2) Silty Clay Loam*	(1.25)	25.7			
2		16	M	7		Stiff, Brown Sandy Lean CLAY, Little Gravel (CL) *USDA: 10YR 4/3 Sandy Clay Loam*	(1.0-1.25)	20.7			
					5						
3		14	M	28		Medium Dense to Dense, Pale Brown Gravelly Fine to Coarse SAND, Trace Silt (SP) *USDA: 10YR 6/3 Very Gravelly Sand*					
						P200 (Samples 3 and 4 - 6 to 10 ft): 4.3%		4.1			
4		6	M	47							
					10						
5		16	M	27		Medium Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM) *USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
6		18	M	24							
					15						
7		12	M/W	28							
					20	End of Boring at 20 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/11/19** End **12/11/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **20**
Surface Elevation (ft) **885.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		12	M	11		Very Stiff to Hard, Very Dark Grayish Brown to Very Dark Gray Lean CLAY, Trace Sand and Organics (CL - Possible Lower Horizon Topsoil or Fill)	(2.25-4.5+)	20.0			3.4
						USDA: 10YR 3/2 to 3/1 Silty Clay Loam					
2		12	M	10		Stiff, Brown/Gray (Lightly Mottled) Lean CLAY, Trace to Little Sand (CL)	(1.25-1.5)				
					5	*USDA: 10YR 5/3 (Redox: f2f 10YR 6/1) Silty Clay Loam*					
3		12	M	17		Medium Dense to Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
						USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam		7.0			
4		12	M	14		P200 (Samples 3 and 4 - 6 to 10 ft): 31.9%					
					10						
5		12	M	15							
6		12	M	20							
					15						
7		14	M	39							
					20	End of Boring at 20 ft					
						Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/3/19** End **12/3/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**

CGC Inc.

LOG OF TEST BORING

Project **Proposed Public Library**
Amund Reindahl Park - 1818 Portage Road
Location **City of Madison, Dane County, Wisconsin**

Boring No. **21**
Surface Elevation (ft) **882.0±**
Job No. **C19051-15**
Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE No.	TYPE	Rec (in.)	Moist	N	Depth (ft)	VISUAL CLASSIFICATION and Remarks	qu (qa) (tsf)	W	LL	PL	LI
						10± in. TOPSOIL (OL)					
1		12	M	9		Stiff to Very Stiff, Very Dark Gray to Grayish Brown Organic to Lean CLAY, Trace Sand (OL/CL - Possible Lower Horizon Topsoil in Upper Part of Layer)	(1.25-3.5)	26.4			4.8
						USDA: 10YR 3/1 to 5/2 Silty Clay Loam					
2		12	M	7		Soft to Medium Stiff, Brown to Dark Brown Sandy Lean CLAY, Trace Gravel (CL)	(0.75-1.0)	16.3			
					5	*USDA: 10YR 4/3 to 3/3 Sandy Clay Loam*					
3		18	M	11			(0.25-1.0)	13.1			
						Medium Dense, Pale Brown Silty Fine SAND, Trace Gravel (SM)					
						USDA: 10YR 6/3 Fine Sandy Loam					
4		16	M	10		P200 (Sample 4 - 8.5 to 10 ft): 38.7%		11.5			
					10	Medium Dense to Very Dense, Pale Brown to Light Yellowish Brown Fine to Medium SAND, Some Silt and Gravel, Scattered Cobbles/Boulders (SM)					
5		14	M	22		*USDA: 10YR 6/3 to 6/4 Gravelly Sandy Loam*					
6		14	M	24							
					15						
7		14	M	70							
					20	End of Boring at 20 ft					
						Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

While Drilling ▽ **NW** Upon Completion of Drilling **NW**
Time After Drilling
Depth to Water ▼
Depth to Cave in

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

GENERAL NOTES

Start **12/4/19** End **12/4/19**
Driller **BSD** Chief **KD** Rig **D-120**
Logger **JF** Editor **TFG**
Drill Method **2.25" HSA; Autohammer**