



Butler Engineering, Inc.

Soil Testing • Engineering & Safety Consulting • Safety Training

September 30, 2020

Andy Strong

Subject: Soil Testing - Bearing Capacity / Seasonal High Groundwater
Lot 1 – CSM 6750
City of Franklin, Milwaukee Co.

Dear Mr. Strong:

On September 29, 2020, Butler Engineering completed three (3) open pit soil borings on Lot 1 – CSM 6750 in the City of Franklin, Milwaukee Co., WI. The boring logs are attached.

Observations:

No water was observed within any of the borings to depths of eight to nine (9) feet below surface grade (bsg). High chroma and low chroma mottling was observed in each of the borings at depths of two (2) to four (4) feet bsg.

The blow count of granular soils ranged from six (6) to eight (8) blows per inch (bpi) with a Dynamic Cone Penetrometer.

The Unconfined Compressive Strength of cohesive soils ranged from one (1) to four (4) TSF.

Conclusions and Recommendations:

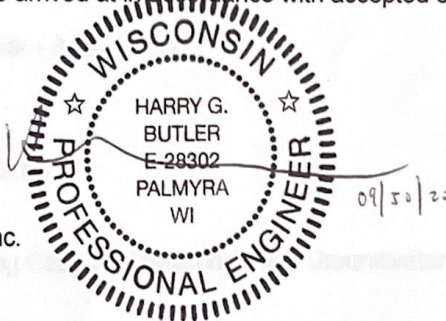
- 1) Native inorganic soils meet the Wisconsin Uniform Dwelling Code Requirements for bearing capacity contained in the Department of Safety and Professional Services, SPS 321 Subchapter IV.
- 2) Seasonal High Groundwater within the area tested can reach to elevations between two (2) and four (4) feet bsg. A standard industry practice and code compliant foundation drainage system should maintain a dry basement.
- 3) Although the City of Franklin does not have an ordinance which prescribes separation between basement floor elevation and seasonal high groundwater, we recommend a basement floor elevation at or above an elevation of 96.0'. Please note that the higher the basement floor is set, the less the sump pump will run during wet times of the year.

Bearing Capacity / Seasonal High Groundwater
Lot 1 – CSM 6160
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- 4) We recommend the following steps to ensure a dry basement:
- a) Install a battery backup to maintain a dry basement in the event of a power failure.
 - b) Complete finish grading around house in accordance with the requirement of SPS 321.12, minimum of $\frac{1}{2}$ "/ft slope away for a minimum of ten (10) feet away from house.
 - c) Moisture proof basement walls.
- 5) The recommendations contained in this report represent my professional opinions. These opinions were arrived at in accordance with accepted engineering practices.

Sincerely,

Harry Butler, P.E.
Butler Engineering Inc.





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INVOICE

Butler Engineering Inc.
N679 Tamarack Rd.
Palmyra, WI 53156

September 30, 2020

Andy Strong

Purchase Order: Verbal – Andy Strong

Lot 1 – CSM 6750
Franklin, WI

Bearing Capacity / Seasonal High Groundwater

\$ 3,250

SOIL EVALUATION REPORT

In accordance with SPS 385, Wis. Adm. Code
Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and location and distance to nearest road.

Please print all information

Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04(1)(m)).

County: Milwaukee	
Parcel ID: 847 9992 005	
Reviewed by:	Date:

Property Owner Andy Strong		Property Location NE1/4, S20, T5N, R21E	
Property Owner's Mailing Address		Lot # 1	Block# Subd. Name or CSM# CSM 6750
City	State	Zip Code	Phone Number
Municipality: City of Franklin		Nearest Road: St. Martins Rd.	
☐ New Construction	Use: ☐ Residential/Number of Bedrooms:	Code derived design flow rate: _____ GPD	
☐ Replacement	☐ Public or Commercial - Describe:		
General Comments & Recommendations:			

B1	Boring #	☐ Boring ☒ Pit	Ground Surface Elev.: 102.0 ft.	Depth to Limiting Factor: 23 in.
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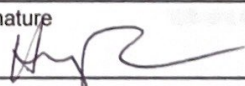
Horizon	Depth (In.)	Dominant Color	Redox Description (Qu.Az.Cont.Color)	Texture	Structure (Gr. Sz. Sh.)	UCS (Tons/Ft. ²)	Blow Count (Blows/In.)	Roots	GPD/Ft. ²	
									*Eff#1	*Eff#2
1	0 - 9	7.5YR3/2	none	l	2fsbk			1vf		
2	9 - 23	7.5YR 4/4	none	cl	2msbk	1		1vf		
3	23 - 45	7.5YR 5/4	m2d 7.5 YR5/8, 6/2	sicl	1fsbk	1		-		
4	45 - 72	7.5 YR 5/6	m2d 10 YR 6/2	sil	0m		6 bpi			
5	72 - 112	7.5 YR 5/6	m2d 10 YR 6/2	sl	0m					
No water observed										

B2	Boring #	☐ Boring ☒ Pit	Ground Surface Elev.: 101.1 ft.	Depth to Limiting Factor: 52 in.
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Horizon	Depth (In.)	Dominant Color	Redox Description (Qu.Az.Cont.Color)	Texture	Structure (Gr. Sz. Sh.)	UCS (Tons/Ft. ²)	Blow Count (Blows/In.)	Roots	GPD/Ft. ²	
									*Eff#1	*Eff#2
1	0 - 8	7.5YR 3/2	none	l	2vfsbk			1vf		
2	8 - 28	7.5YR 4/6	none	cl	2msbk			1vf		
3	28 - 52	7.5YR 5/6	none	grls	0sg		6 bpi			
4	52 - 99	7.5 YR 6/3	m2d 10 YR 5/8	sicl	0m	4				
No water observed										

*Effluent #1 = BOD, > 30 ≤ 220 mg/L and TSS > 30 ≤ 150 mg/L

*Effluent #2 = BOD, > 30 ≤ 220 mg/L and TSS > 30 ≤ 150 mg/L

CST Name (Please Print) Harry Butler	Signature 	CST Number 222742
Address N679 Tamarack Rd. Palmyra, WI 53156	Date Evaluation Conducted 9/29/2020	Telephone Number (262) 650 - 2000

SBD-8330 (Modified)

County:	Milwaukee
Parcel ID:	847 9992 005

B3	Boring #	☐ Boring	Ground Surface Elev.:	Depth to Limiting Factor:
	☒ Pit		101.7 ft.	29 in.

Horizon	Depth (In.)	Dominant Color	Redox Description (Qu.Az.Cont.Color)	Texture	Structure (Gr. Sz. Sh.)	UCS (Tons/Ft. ²)	Blow Count (Blows/In.)	Roots	GPD/Ft. ²	
									*Eff#1	*Eff#2
1	0 - 10	7.5YR 3/1	none	l	2vfsbk			1vf		
2	10 - 29	7.5YR 4/4	none	cl	2msbk			1vf		
3	29 - 72	7.5YR 5/4	m2p 10RY 5/8, 6/2	sicl	1fsbk	1				
4	72 - 104	7.5 YR 5/4	m2d 10 YR 5/8	sl	0m		8 bpi			
Third horizon has bands of 7.5 YR 5/8 ls										
No water observed										

	Boring #	☐ Boring	Ground Surface Elev.:	Depth to Limiting Factor:
	☐ Pit		ft.	in.

Horizon	Depth (In.)	Dominant Color	Redox Description (Qu.Az.Cont.Color)	Texture	Structure (Gr. Sz. Sh.)	UCS (Tons/Ft. ²)	Blow Count (Blows/In.)	Roots	GPD/Ft. ²	
									*Eff#1	*Eff#2

	Boring #	☐ Boring	Ground Surface Elev.:	Depth to Limiting Factor:
	☐ Pit		ft.	in.

Horizon	Depth (In.)	Dominant Color	Redox Description (Qu.Az.Cont.Color)	Texture	Structure (Gr. Sz. Sh.)	UCS (Tons/Ft. ²)	Blow Count (Blows/In.)	Roots	GPD/Ft. ²	
									*Eff#1	*Eff#2

*Effluent #1 = BOD, > 30 ≤ 220 mg/L and TSS > 30 ≤ 150 mg/L

*Effluent #2 = BOD, > 30 ≤ 220 mg/L and TSS > 30 ≤ 150 mg/L

Printed: 11/11/2019 10:00 AM
City of Milwaukee, Milwaukee County
Division of Industry Services
Date: 11/11/2019 10:00 AM



St. Martins Road

229.59'

B1
102.0

168.97'

B3
101.7

B2
101.1

BM - 100.0
Top of 1" Iron Pipe

205.50'

270.00'

0' 20' 40'
Graphic Scale

Parcel 1 of CSM# 6750
City of Franklin, Milwaukee County
Drawn by: Harry Butler
Date: 9/29/2020 Scale: 1" = 40'