

**Jeffrey L. Hammes**

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**Certified Soil Testing  
Certified Designing**

820 Williamson St., #401  
Madison, WI 53703  
(608) 233-9200

3/14/2014

Tim Gotzion  
Windsor Golf Ventures  
6592 Lake Rd., Suite D  
Windsor, WI 53598

Re: Soil Borings – Windsor Blue Preliminary Plat

Dear Mr. Gotzion:

On 3/12/2014 I examined 15 soil borings located in the preliminary plat (as noted above) for depth to estimated high groundwater (seasonal saturation), stormwater treatment capability, soil series and fill placement. The attached table is a summary of the observed borings.

It is recommended that any proposed basement floor elevation should stay above the estimated high groundwater (seasonal saturation). Basement floors and walls installed below these depths should have extensive water proofing and install drain tile inside and outside of the footings connected to an active sump pit. All foundations installed in wet soil areas should set properly constructed pilings into stable course subsoils (sand, sandy loam).

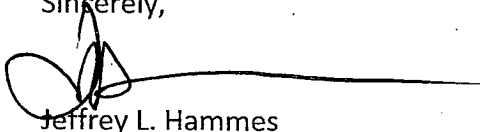
Details of the 15 soil borings for determination of stormwater sizing, location and type are attached.

The soil series observed were a range from hydric (Waucosta silty clay loam) to upland soils (Dodge silt loam, Kegonsa silt loam). The hydric soil area appears to have been filled to direct surface flow of water away from this area. The fill was found to be well structured with a developed topsoil horizon and with absent compaction from initial placement of the fill. The time sequence for natural remediation of compaction caused by filling, topsoil and consistent structure formation would indicate that this fill would generally be considered as being placed more than 50 years ago.

See attached map showing boring locations, topography and the approximate area of filled hydric soils.

If you have any questions please feel free to call me.

Sincerely,



Jeffrey L. Hammes

State of Wisconsin Professional Soil Scientist (License #191-112)

DATE OF OBSERVATION: 3/12/2014

PRELIMINARY PLAT OF WINDSOR BLUE

D E P T H T O

BORING #	ELEVATION	OBSERVED GRDWATER	FIELD MOISTURE CAPACITY (SATURATION)	HIGHEST SEASONAL SATURATION	DEPTH OF FILL OVER ORIG. SOIL	ORIGINAL SOIL SERIES	COMMENTS
1	872.44'	90"	63"	32"	0"	VIRGIL (VWA)	
2	873.90'	>98"	>98"	54"	0"	BATAVIA	
3	872.90'	70"	60"	34"	34"	WAUCOUSTA	FILL IS >50 YEARS OLD
4	872.54'	53"	50"	24"	24"	WAUCOUSTA	FILL IS >50 YEARS OLD
5	875.96'	91"	83"	78"	0"	KEGONSA	
6	876.38'	92"	86"	57"	0"	BATAVIA	
7	878.14'	>96"	>96"	>96"	0"	KEGONSA	
8	883.12'	>96"	>96"	>96"	0"	DODGE	
9	886.23'	>96"	>96"	>96"	0"	DODGE	
10	882.00'	>96"	>96"	>96"	0"	BATAVIA	
11	875.54'	84"	76"	60"	45"	WAUCOUSTA	FILL IS >50 YEARS OLD
12	872.49'	63"	55"	24"	24"	WAUCOUSTA	FILL IS >50 YEARS OLD
13	872.19'	70"	54"	18"	30"	WAUCOUSTA	FILL IS >50 YEARS OLD
14	872.19'	58"	50"	14"	0"	VIRGIL (VrB)	
15	871.84'	71"	56"	19"	15"	WAUCOUSTA	FILL IS >50 YEARS OLD

Division of Safety and Buildings

in accordance with SPS 382.365 and 385, Wis. Adm. Code

Attach complete site plan on paper not less than 8 1/2 x 11" in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and % slope, scale or dimensions, north arrow, location & distance to nearest road.

County	DANE
Parcel I.D.	0910-304-9280-8 & -9652-0
Reviewed by	Date

**Please print all information**

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

Property Owner TIM GOTZION, WINDSOR GOLF VENTURES	Property Location SE/SW 1/4, SE 1/4, S 30, T 9 N, R 10 E
Property Owner's Mailing Address 6592 LAKE RD. SUITE D	Lot # Subd. Name or CSM# WINDSOR BLUE (PRELIM. PLAT)
City State Zip Code Phone Number WINDSOR, WI 53598 608 209-2951	<input type="checkbox"/> City <input checked="" type="checkbox"/> Town Nearest Road WINDSOR GOLF DRIVE

Drainage area: 10 <input type="checkbox"/> sq.ft. <input checked="" type="checkbox"/> acres	Hydraulic Application Test Method:
Optional: Test Site Suitable for (check all that apply)	<input checked="" type="checkbox"/> Morphological Evaluation
<input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trenches	<input type="checkbox"/> Double-Ring Infiltrometer
<input type="checkbox"/> Rain garden <input type="checkbox"/> Grassed swale <input type="checkbox"/> Reuse	<input type="checkbox"/> Other (specify) _____
<input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (>15' wide) <input type="checkbox"/> Other _____	

Boring

OBSERVED GRDWATER @ 90", FMC @ 63"

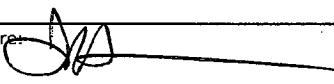
FMC= FIELD MOISTURE CAPACITY

1	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 872.44'	Depth to limiting factor 32"	Hydraulic App. Rate				
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-13	10YR2/2		sil	2fsbk	fr	as	2	0.13
B1	13-32	10YR4/4		sil	2fsbk	fr	cs	2	0.13
B2	32-63	10YR4/3	c3d7.5YR5/8	sil	1fsbk	fi	cs	2	0.13
2C	63-90	10YR5/4	c2d7.5YR5/8	sl	1fsbk	vfr		9	0.5

Boring

2	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 873.9'	Depth to limiting factor 54"	Hydraulic App. Rate				
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-12	10YR2/2		sil	2fsbk	fr	aw	3	0.13
2C1	12-54	10YR6/4		s	0sg	l	cs	10	3.6
2C2	54-98	10YR6/3	c3f7.5YR5/6	s	0sg	l		10	3.6

CST Name JEFFREY L. HAMMES  
Address 820 WILLIAMSON ST., #401  
MADISON, WI 53703

Signature:   
Date Evaluation Conducted: 3/12/2014

CST Number 223300  
Telephone No. (608) 233-9200

Boring

OBSERVED GRDWATER @ 70", FMC @60"

3	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 872.9'	Depth to limiting factor 34"					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
FILL	0-34	10YR3/2		sil	2fsbk	fi	as	6	0.13
B1	34-53	10YR4/4	c2d7.5YR5/8	sil	2fsbk	fr	cs	2	0.13
Bt2	53-84	10YR6/2	c2p7.5YR5/8	sicl	1fsbk	fi	cs	2	0.04
2C	84-92	10YR5/4	m3d7.5YR5/8	sl	1fsbk	vfr		10	0.5
			FILL IS >50 YEARS OLD						

Boring

OBSERVED GRDWATER @ 53", FMC @50"

4	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 872.54'	Depth to limiting factor 24"					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
FILL1	0-16	10YR3/3		sil	2fsbk	fr	as	2	0.13
FILL2	16-19	7.5YR5/6		sl	1fsbk	vfr	aw	11	0.5
FILL3	19-24	10YR3/2	*	sil	1fsbk	fi	as	2	0.13
A	24-38	10YR4/2	c2d7.5YR5/8	sicl	1fsbk	fi	cs	3	0.04
Bt	38-56	5Y6/1	m3d7.5YR5/8	sicl	0mass	fi		3	0.04
			*f2f 5YR4/3 ORGANIC RELIC STAIN FROM FILL SOURCE - NOT INDICATING SATURATION FILL IS >50 YEARS OLD						

Boring

OBSERVED GRDWATER @ 91", FMC @83"

5	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 875.96'	Depth to limiting factor 78"					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-14	10YR3/2		sil	2fsbk	fr	as	2	0.13
B1	14-40	10YR4/4		sil	2fsbk	fr	cs	2	0.13
Bt2	40-60	10YR4/4		sicl	2fsbk	fi	cs	1	0.04
2C1	60-78	10YR6/4		s	0sg	l	cs	10	3.6
2C2	78-96	10YR6/3	f2f10YR5/6	s	0sg	l		10	3.6

Boring

OBSERVED GRDWATER @92", FMC @ 86"

6	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 876.38'	Depth to limiting factor 57"					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-15	10YR3/2		sil	2fsbk	fr	as	2	0.13
B1	15-29	10YR4/4		sil	2fsbk	fr	cs	2	0.13
2B2	29-49	10YR4/6		sl	1fsbk	vfr	cs	5	0.5
2B3	49-57	10YR4/4		gr ls	1fsbk	l	cs	20	1.63
2C	57-90	10YR6/3	m3p7.5YR5/8	s	0sg	l		8	3.6

Boring

7	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 878.14'	Depth to limiting factor N/A					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-8	10YR3/3		sil	2fsbk	fr	as	2	0.13
2B1	8-27	10YR4/6		sl	2fsbk	vfr	cs	5	0.5
2B2	27-36	10YR4/6		ls	1fsbk	l	cs	5	1.63
2C	36-96	10YR6/4		s	0sg	l		6	3.6

Boring

8	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev. 883.12'	Depth to limiting factor N/A					Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-12	10YR3/2		sil	2fsbk	fr	as	2	0.13
B1	12-36	10YR4/4		sil	2fsbk	fi	cs	2	0.13
Bt2	36-58	10YR4/4		cl	1fsbk	fi	cs	2	0.03
2B3	58-82	10YR4/6		sl	1fsbk	vfr	cs	4	0.5
2C	82-96	10YR5/4		sl	1fsbk	vfr		6	0.5

Boring

9	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	886.23'	Depth to limiting factor	N/A			Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-11	10YR3/3		sil	2fsbk	fr	as	2	0.13
B1	11-28	10YR4/4		sicl	2fsbk	fi	cs	2	0.04
Bt2	28-45	10YR4/4		cl	1fsbk	fi	cs	3	0.03
2B3	45-56	7.5YR4/6		sl	1fsbk	vfr	cs	5	0.5
2C	56-96	5YR5/6		sl	1fsbk	vfr		8	0.5

Boring

10	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	882.0'	Depth to limiting factor	N/A			Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
Ap	0-11	10YR3/3		sil	2fsbk	fr	as	2	0.13
B1	11-45	10YR4/4		sil	2fsbk	fr	cs	2	0.13
Bt2	45-50	10YR4/4	c2d7.5YR5/8	sicl	1fsbk	fi	cs	2	0.04
2B3	50-70	10YR4/6		sl	1fsbk	vfr	as	5	0.5
2C	70-96	10YR6/4		s	0sg	l		6	3.6

Boring

OBSERVED GRDWATER @84", FMC @ 76"

11	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	875.54'	Depth to limiting factor	60"			Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr
FILL1	0-8	10YR4/3		l	2fsbk	fr	as	2	0.24
FILL2	8-45	10YR4/4		l	2fsbk	fr	cs	2	0.24
A	45-60	10YR2/1		l	2fsbk	fr	as	2	0.24
Bt1	60-68	10YR6/2	m2d7.5YR5/8	cl	1fsbk	fi	as	4	0.03
2B2	68-84	10YR4/3	c3d7.5YR5/8	sl	1fsbk	vfr		6	0.5
			FILL IS >50 YEARS OLD						

Boring

OBSERVED GRDWATER @ 63", FMC @ 55"

12 Obs. #		<input checked="" type="checkbox"/> Pit		Ground surface elev.	872.49'			Depth to limiting factor		24"		Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr			
FILL1	0-8	10YR4/3		sil	2fsbk	fr	as	2	0.13			
FILL2	8-24	10YR4/4		sil	2fsbk	fr	cs	2	0.13			
FILL3	24-29	10YR4/3	c2d7.5YR5/8	sil	2fsbk	fi	aw	2	0.13			
A	29-38	10YR2/2	f2f10YR5/3	sil	2fsbk	fr	as	2	0.13			
Bt	38-63	5Y6/1	c2d7.5YR5/8	sicl	1fsbk	fi		2	0.04			
			FILL IS >50 YEARS OLD									

Boring

OBSERVED GRDWATER @ 70", FMC @ 54"

13 Obs. #		<input checked="" type="checkbox"/> Pit		Ground surface elev.	872.19'			Depth to limiting factor		18"		Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr			
FILL1	0-8	10YR4/3		sil	2fsbk	fr	as	2	0.13			
FILL2	8-18	10YR4/2,4/4		sil	2fsbk	fr	cs	4	0.13			
FILL3	18-30	10YR4/3	c2f10YR6/3	sil	2fsbk	fr	as	2	0.13			
A	30-40	10YR2/1	c2f10YR5/3	sil	2fsbk	fr	aw	2	0.13			
Bt1	40-52	5Y6/1	m2p7.5YR5/8	sicl	0mass	fi	aw	1	0.04			
2Bt2	52-70	5Y6/1	m2d7.5YR5/8 FILL IS >50 YEARS OLD	scl	0mass	fr		5	0.11			

Boring

OBSERVED GRDWATER @ 58", FMC @ 50"

14 Obs. #		<input checked="" type="checkbox"/> Pit		Ground surface elev.	872.19'			Depth to limiting factor		14"		Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr			
Ap	0-12	10YR2/2		sil	2fsbk	fr	as	2	0.13			
B1	12-14	10YR4/4		sil	2fsbk	fr	cs	2	0.13			
Bt21	14-33	10YR4/4	c2d7.5YR5/8	cl	2fsbk	fi	cs	1	0.03			
Bt22	33-50	10YR6/2	c2p7.5YR5/8	cl	1fsbk	fi	cs	4	0.03			
2B3	50-58	10YR6/2	m2d7.5YR5/8	sl	0mass	vfr		10	0.5			

Boring

OBSERVED GRDWATER @ 71", FMC @56"

15	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	Depth to limiting factor					19"	Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr	
FILL1	0-10	10YR2/2		sil	2fsbk	fr	as	2	0.13	
FILL2	10-15	10YR4/6		sl	2fsbk	fr	as	11	0.5	
A	15-19	10YR2/2		sil	2fsbk	fr	aw	2	0.13	
B1	19-30	10YR5/3	c2d10YR5/8	sil	1fsbk	fi	cs	2	0.13	
Bt2	30-56	5Y6/1	m2p7.5YR5/8	sicl	0mass	fi	cs	3	0.04	
2B3	56-71	5Y6/1	m3p7.5YR6/8 FILL IS >50 YEARS OLD	scl	0mass	fr		5	0.11	

Boring

	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	Depth to limiting factor						Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr	

Boring

	Obs. #	<input checked="" type="checkbox"/> Pit	Ground surface elev.	Depth to limiting factor						Hydraulic App. Rate
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts.	Inches/Hr	