

LETTER OF TRANSMITTAL

LANDMARK

ENGINEERING SCIENCES, INC.

119 Coolidge Avenue - Suite 100, Waukesha, WI 53186-6602

Telephone: 414-719-2769

Email: LandMark-Engineering@live.com

To: Maggie Wegner
White Oak Builders, Inc.
W4644 Pine Creek Drive
Elkhorn, WI 53121

Date: March 24, 2025

Project No.: 4112.00 – Wegner site

Description: *Engineering Services – Seasonal Groundwater*
W331S9200 Heritage Hill Court
Village of Mukwonago, WI 53149

C:

WE ARE SENDING YOU the following items via: U. S. Mail Overnight Hand Deliver Other:
 Fax 12 pages E-Mail associates@netwurx.net

Copies/Qty.	Date	Description
1	24 MAR 2025	Form A - Seasonal High Groundwater Determination Report (with attachments)

THESE ARE TRANSMITTED as checked: For Approval For Your Use For Review & Comment
 As Requested Other:

Message:

Attached is the Form A report summarizing the apparent seasonal high groundwater (SHGW) level for the referenced lot(s), as requested.

If you have any questions or comments on these reports, please contact us. Thank you.

Copy to: file

Signed: 

If enclosures are not as noted, kindly notify us at once.

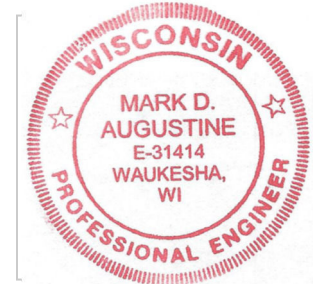
Form A - Seasonal High Groundwater Determination Report

Project/Plat Name: 4112.00 / Lot 1 of Heritage Hill Estates at W331S9200 Heritage Hill Court

Date: March 24, 2025

Project Location (TRSQ): SE1/4, SEC 19, T5N, R18E, Village of Mukwonago, Waukesha County

The following table summarizes my interpretation of the soil profile evaluations conducted on the above noted site. The purpose of this report is to demonstrate compliance with regional engineering standard practices to maintain basement floor elevations at least 1 foot above the seasonal high water table. In this case, the definition for seasonal high water table means the upper limit of the zone of soil saturation caused by underlying groundwater at its highest level. I certify that the information presented in this report represents my best professional judgment in estimating seasonal high water table based on soil and site evaluations in accordance with the procedures contained in Chapter SPS 385 Wisconsin Administrative Code.



Interpreters Signature: 

Interpreters Printed Name/Credentials/Lic. #: Mark D. Augustine, PE #31414

Interpreters Company Name/Address: LandMark Engineering Sciences, Inc., 119 Coolidge Avenue - Suite 100, Waukesha, Wisconsin 53186-6602

Site Benchmark/Elevation (Co. Stds.): BM = ~996.5 top of southeast lot corner pipe (estimated from Waukesha County GIS)

References: 1) NRCS Soil Survey, 2) Waukesha County GIS, and 3) Soil Evaluation Report by Associates Soil Testing

Lot (#)	Soil Observ. (#)	Surface Elev.	Bottom Elev. of Soil Profile	Soil Map Unit Symbol (NRCS)	Elevation of Seasonal High Water Table	Depth to Seasonal High Water Table	Recommended Basement Floor Elevation	Notes: List information used to determine seasonal high water table, including any soil color pattern exemptions under SPS 385.30(3) for a basement floor proposed less than 1-foot above redoximorphic features shown in the referenced soil evaluation reports.
1	B2	1003.9	998.5	MxB	1000.7	3.2'	≥1001.7	Redox indicators were present in native soils beginning at 38" depth. Thus, a basement floor grade ≥1001.7' MSL complies with Village of Mukwonago ordinances for ≥1.0' separation between lowest floor grade and observed and/or design seasonal high groundwater indicators.
1	B4	1002.4	995.4	MxB	999.1	3.3'	≥1000.1	Redox indicators were present in native soils beginning at 40" depth. Thus, a basement floor grade ≥1000.1' MSL complies with Village of Mukwonago ordinances for ≥1.0' separation between lowest floor grade and observed and/or design seasonal high groundwater indicators.

NOTE:

The soil test pits indicate the soil conditions typically have seasonal high groundwater indicators between 3.2' to 3.3' below surface grade. Assume these soil/groundwater conditions continue to higher lot grades, so an engineered foundation drainage system is recommended for the basement.



- Legend**
- Municipal Boundary_2K
 - Parcel_Dimension_2K
 - Note_Text_2K
 - Lots_2K**
 - Lot
 - Unit
 - General Common Element
 - Outlot
 - SimultaneousConveyance**
 - Assessor Plat
 - CSM
 - Condominium
 - Subdivision
 - Cartoline_2K**
 - EA-Easement_Line
 - PL-DA
 - PL-Extended_Tie_line
 - PL-Meander_Line
 - PL-Note
 - PL-Tie
 - PL-Tie_Line
 - <all other values>
 - Railroad_2K

0 100.00 Feet

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, the same should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official means. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

Notes: 2022 aerial photo

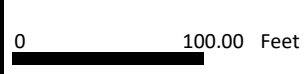
Printed: 12/5/2024





Legend


- Intermediate Contours**
 - Intermediate Contour
 - Intermediate Depression
- Index Contours**
 - Index Contour
 - Index Depression
- Municipal Boundary_2K
- Parcel_Dimension_2K
- Note_Text_2K
- Lots_2K**
 - Lot
 - Unit
 - General Common Element
 - Outlot
- SimultaneousConveyance**
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 - <all other values>
- Railroad_2K



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Notes: elevation contour info

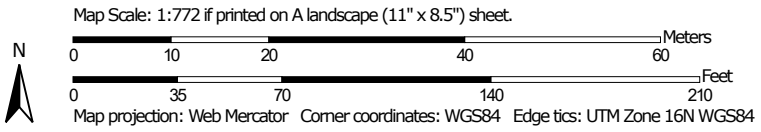
Printed: 12/5/2024



Soil Map—Waukesha County, Wisconsin
(W331S9200 HERITAGE HILL CT, MUKWONAGO, WI 53149)




Soil Map may not be valid at this scale.





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: Waukesha County, Wisconsin

Survey Area Data: Version 1, Sep 3, 2024

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

Date(s) aerial images were photographed: Jul 30, 2022—Aug 18, 2022
































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
MxB	Miami loam, sandy loam substratum, 2 to 6 percent slopes	1.6	100.0%
Totals for Area of Interest		1.6	100.0%



Legend

-  DNR Wetlands < .25 Acre
-  DNR Wetlands > .25 Acre
- FEMA Floodplain**
 -  0.2% Chance Flood
 -  1% Chance Flood (Zone A N
 -  1% Chance Flood Area (Zon
 -  AE, Floodway
- Letters of Map Amendme**
 -  Invalid-Insufficient Informatic Grade/Lowest Finished Floor Ground Elevation Below BFE Invalid-Revised Topography
 -  Still in Effect
 -  Unknown
 -  Pending
 -  <all other values>
- Other Regulatory Floodpl**
 -  Flood Study from SEWRPC
 -  Flood Study from Dam Failur
 -  Flood Study from Approxima
-  Ordinary High Water Mark
-  Lakes and Ponds
- Rivers and Streams**
 -  Perennial, Named
 -  Perennial, Unnamed
 -  Intermittent, Unnamed
 -  Ditch, Unnamed
- Navigability Determinator**
 -  Waterway is navigable
 -  Waterway is NOT navigable
 -  Conditions apply, see file for
-  Water Table Elevation
-  Municipal Boundary_2K
-  Parcel_Dimension_2K
-  Note_Text_2K
- Lots_2K**
 -  Lot
 -  Unit
 -  General Common Element
 -  Outlot

0 691.83 Feet

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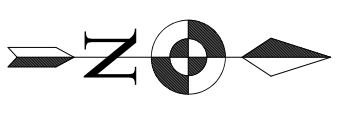
Notes: hydrology info

Printed: 12/5/2024

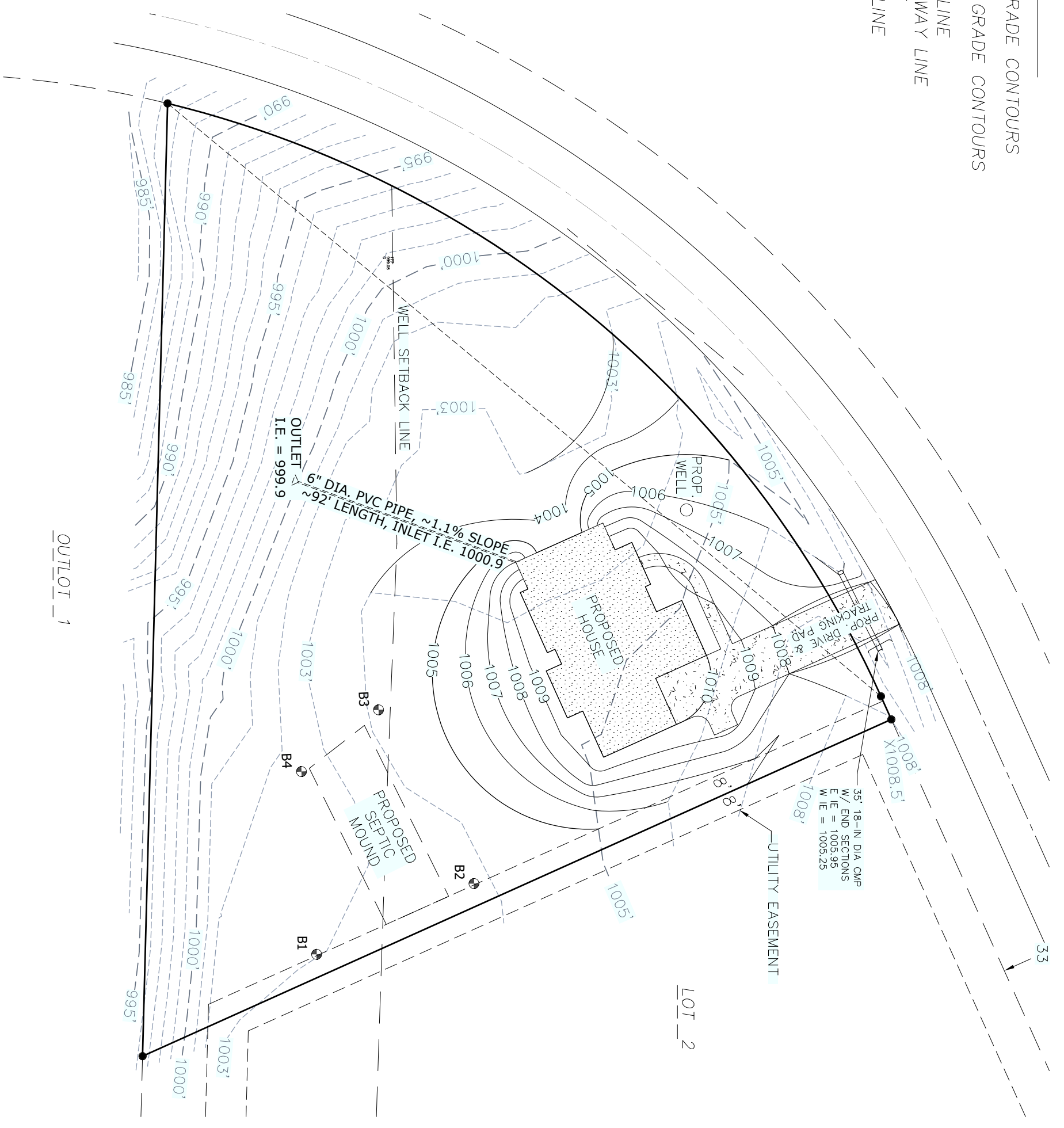


LEGEND

- 1001' -1000' - EXISTING GRADE CONTOURS
- 1001' -1000' - PROPOSED GRADE CONTOURS
- - - EASEMENT LINE
- - - RIGHT-OF-WAY LINE
- - - CENTERLINE
- - - PROPERTY LINE



SCALE: 1" = 20'



PROPOSED GRADES:

BOTTOM OF FOOTING	1001.00
TOP OF FOOTING	1001.07
BASEMENT FLOOR	1001.17
TOP OF FOUNDATION	1010.67
GARAGE FLOOR	1010.33
FINISHED FIRST FLOOR	1011.89
FRONT YARD GRADE	1010.00
WEST YARD GRADE	1005.00



WHITE OAK BUILDERS, INC.
 WEGNER PROPERTY
 W331S9200HERITAGE HILL COURT
 MUKWONAGO, WI 53149

GRADING PLAN

LANDMARK
ENGINEERING SCIENCES, INC.
 119 COOLIDGE AVE., SUITE 100, WAUKESHA, WI 53186
 PHONE: 414-719-2769
 EMAIL: LANDMARK-ENGINEERING@LIVE.COM

PROJECT #	4112.00
DATE	26FEB2025
DRAWN BY	MA
DESIGNED BY	MA
REVISIONS	OSMAR2025 24MAR2025
SHEET NUMBER	C-1
TOTAL SHEETS	3



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 Waukesha	Date
Parcel I.D. MUKT1948014	
Reviewed by	

Property Owner Michael Wegner Relentless Properties LLC	Property Location Govt. Lot NE ¼ SE¼ S 19 T 5 N R 18			<input checked="" type="checkbox"/> E	<input type="checkbox"/> W
Property Owner's Mailing Address 110 Acker Ct	Lot # 1	Block #	Subd. Name or CSM# Heritage Hill Estates		
City Verona	State WI	Zip Code 53593-2251	Phone Number ()	<input type="checkbox"/> City	<input type="checkbox"/> Village
				<input checked="" type="checkbox"/> Town	Nearest Road Heritage Hill Ct

<input checked="" type="checkbox"/> New Construction	Use: <input checked="" type="checkbox"/> Residential / Number of bedrooms: <u>Unknown</u>	Code derived design flow rate <u> </u> GPD	Site Suitable For: <input type="checkbox"/> Conventional <input type="checkbox"/> At-Grade <input checked="" type="checkbox"/> Mound <input type="checkbox"/> Holding Tank <input type="checkbox"/>
<input type="checkbox"/> Replacement	<input type="checkbox"/> Public or commercial - Describe: <u> </u>		
Parent material <u>Glacial Till</u>		Flood Plan elevation if applicable <u> </u> ft.	
General comments and recommendations: <u>Proposed Mound Site Established</u>			

1 Boring # Boring Pit
Ground surface elev. 110.3 ft Depth to limiting factor >80 in. / elev. 103.64 ft.

Horizon	Depth In.	Dominant Color Munsell	Redox Description Qu. Az. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	Roots	Soil Application Rate	
									GPD/Ft ²	
									*Eff#1	*Eff#2
1	0-13	10yr3/3	-----	L	2fsbk	Mvfr	AS	2F	0.6	0.8
2	13-48	10yr4/4	-----	SCL	2fsbk	Mfr	CS	1F	0.4	0.6
3	48-56	10yr5/4	-----	GrSCL	2fsbk	Mfr	CS	-----	0.4	0.6
4	56-80	10yr5/3	-----	GrSL	1fsbk	Mfr	-----	-----	0.4	0.7

2 Boring # Boring Pit
Ground surface elev. 112.8 ft Depth to limiting factor 38 in. / elev. 109.64 ft.

Horizon	Depth In.	Dominant Color Munsell	Redox Description Qu. Az. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	Roots	Soil Application Rate	
									GPD/Ft ²	
									*Eff#1	*Eff#2
1	0-10	10yr3/3	-----	L	2fsbk	Mvfr	AS	2F	0.6	0.8
2	10-26	10yr4/4	-----	CL	2msbk	Mfr	CS	1F	0.4	0.6
3	26-38	10yr5/4	-----	GrSL	1fsbk	Mfr	CS	-----	0.4	0.7
4	38-65	10yr5/4	fif10yr5/6	GrSL	0M	Mfr	-----	-----	0.2	0.6

CST Name (Please Print) Logan Mohr	 Signature	CST Number 1410637
Address W4644 Pine Creek Drive Elkhorn WI 53121	Date Evaluation Conducted 9/27/2024	Telephone Number 262 495 7004

* 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

3 Boring # Boring Pit Ground surface elev. 112.8 ft. Depth to limiting factor 30 in. / elev. 110.3 ft.

Horizon	Depth In.	Dominant Color Munsell	Redox Description Qu. Az. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	Roots	Soil Application Rate	
									GPD/Ft ²	
									*Eff#1	*Eff#2
1	0-7	10yr3/3	-----	L	2fsbk	Mvfr	AS	2F	0.6	0.8
2	7-19	10yr4/4	-----	SCL	2msbk	Mfr	CS	1F	0.4	0.6
3	19-30	10yr5/4	-----	GrSL	1fsbk	Mfr	CS	-----	0.4	0.7
4	30-66	10yr5/4	fif10yr5/6	VFSL	2fpl	Mfr	-----	-----	0.0	0.2
			Bands of SL in VFSL							

4 Boring # Boring Pit Ground surface elev. 110.2 ft. Depth to limiting factor 40 in. / elev. 106.87 ft.

Horizon	Depth In.	Dominant Color Munsell	Redox Description Qu. Az. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	Roots	Soil Application Rate	
									GPD/Ft ²	
									*Eff#1	*Eff#2
1	0-7	10yr3/2	-----	L	2fsbk	Mvfr	AS	2F	0.6	0.8
2	7-20	10yr4/4	-----	SCL	2fsbk	Mfr	CS	1F	0.4	0.6
3	20-40	10yr5/4	-----	GrSL	1fsbk	Mfr	CS	-----	0.4	0.7
4	40-60	10yr5/4	fif10yr5/6	GrSL	1fpl	Mfr	GW	-----	0.4	0.6
5	60-84	10yr5/4	c2d10yr 5/6 6/8	SiL	1fpl	Mfr	-----	-----	0.4	0.6

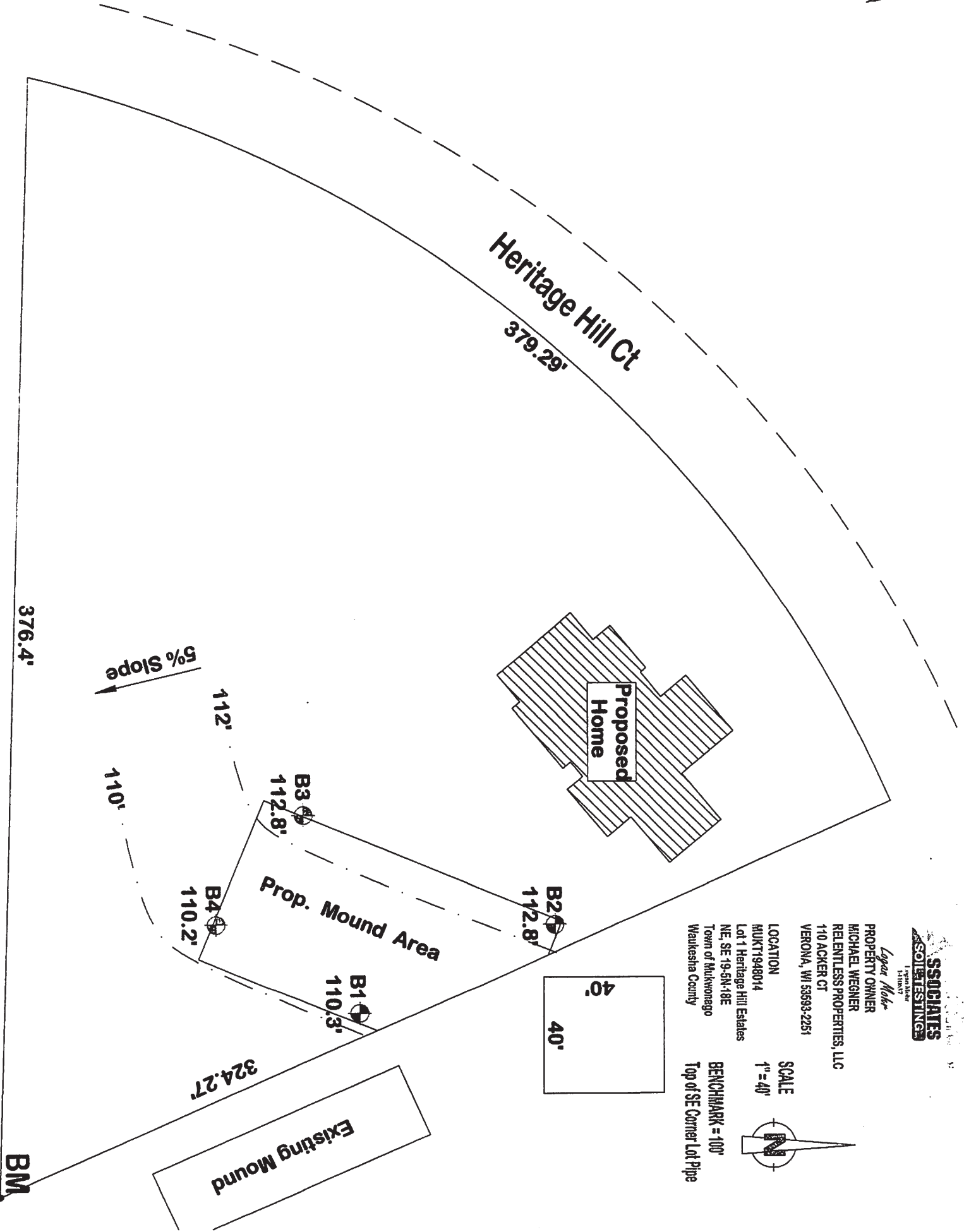
5 Boring # Boring Pit Ground surface elev. ft. Depth to limiting factor in. / elev. ft.

Horizon	Depth In.	Dominant Color Munsell	Redox Description Qu. Az. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	Roots	Soil Application Rate	
									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



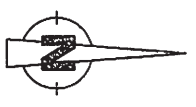
G. 3003



ASSOCIATES
 SCIENTISTING
 11000
 11000

Lopez Mohr
 PROPERTY OWNER
 MICHAEL WEGNER
 RELENTLESS PROPERTIES, LLC
 110 ACKER CT
 VERONA, WI 53593-2251

LOCATION
 MUKT1948014
 Lot 1 Heritage Hill Estates
 NE, SE 19-5N-18E
 Town of Mukwonago
 Waukesha County



SCALE
 1" = 40'

BENCHMARK = 100'
 Top of SE Corner Lot Pipe