City of Madison

Proposed Demolition and Conditional Use

Location
5430 Lake Mendota Drive

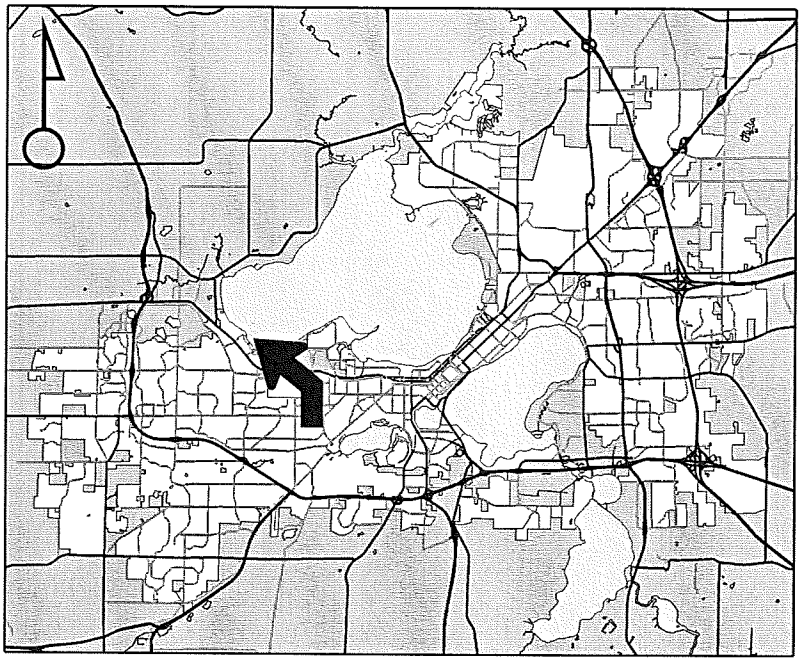
Project Name
Schlageter Project

Applicant
Mike and Mary Schlageter/
Scott Poulsen - Poulsen Enterprises

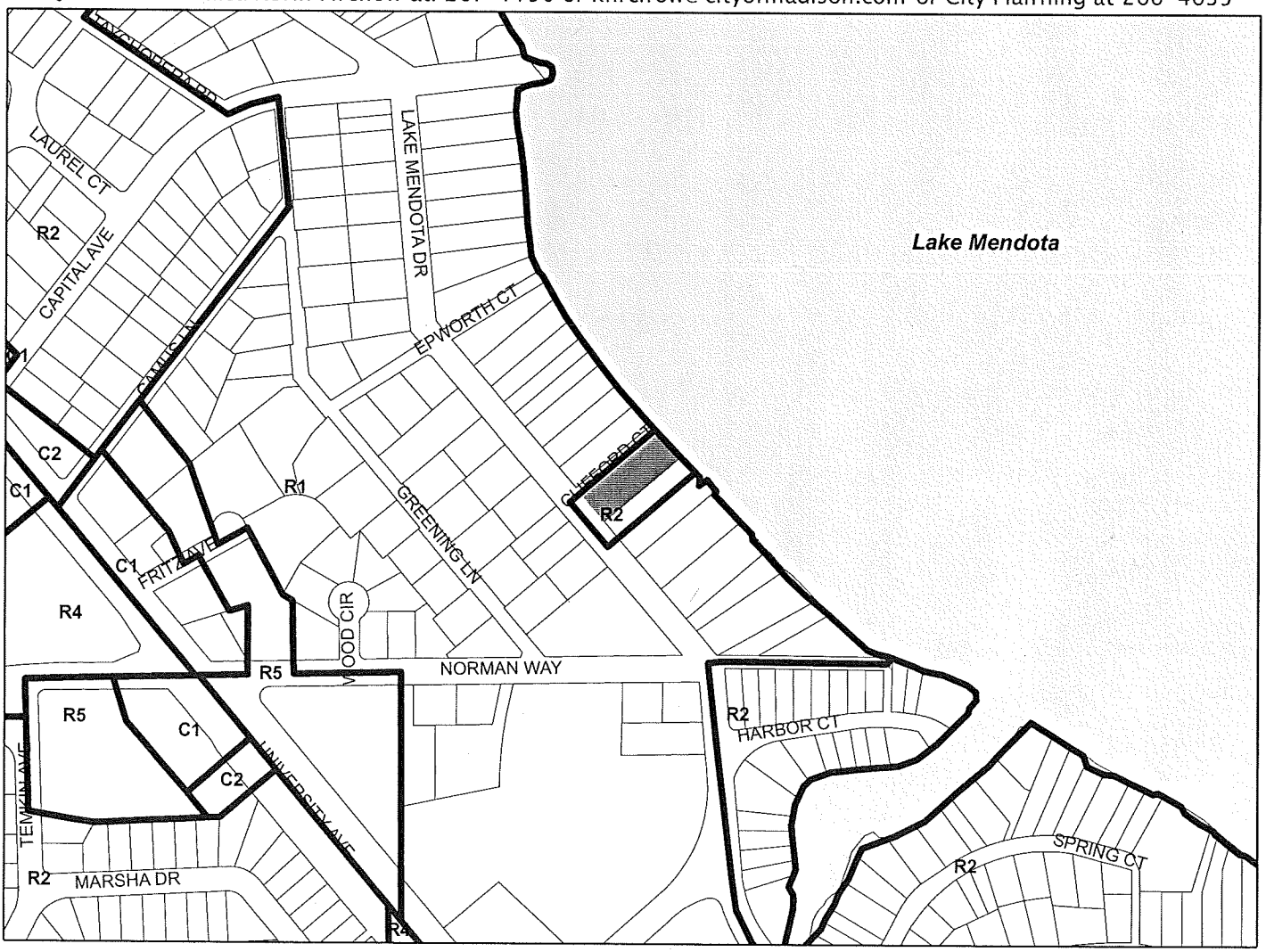
Existing Use
Single-family residence

Proposed Use
Demolish single-family residence and construct new residence on lakefront lot

Public Hearing Date
Plan Commission
09 July 2012



For Questions Contact: Kevin Firchow at: 267-1150 or kfirchow@cityofmadison.com or City Planning at 266-4635

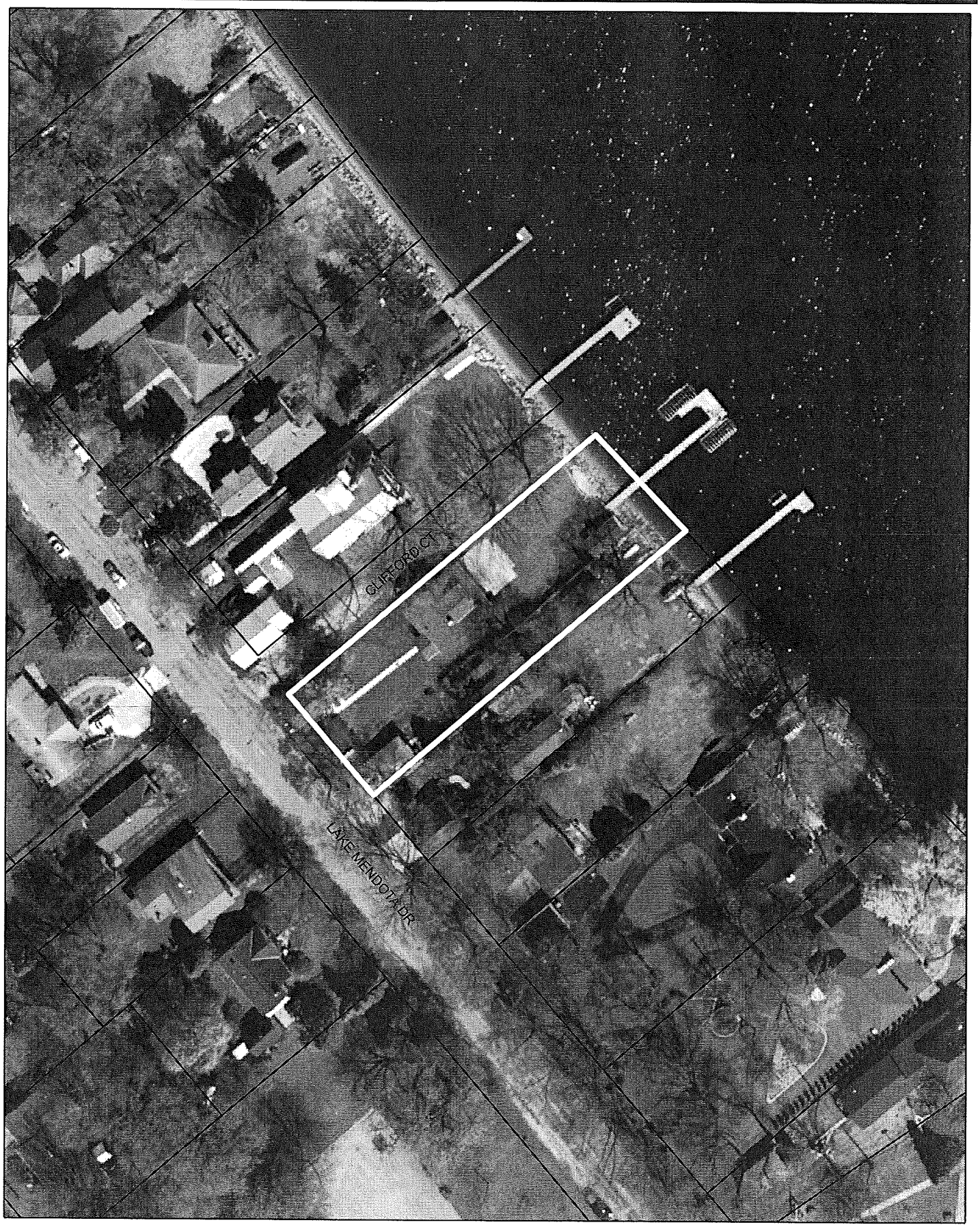


Scale : 1" = 400'

City of Madison, Planning Division : RPJ : Date : 25 June 2012

City of Madison

5430 Lake Mendota Drive



Date of Aerial Photography : Spring 2010

LAND USE APPLICATION
Madison Plan Commission

215 Martin Luther King Jr. Blvd; Room LL-100
PO Box 2985; Madison, Wisconsin 53701-2985
Phone: 608.266.4635 | Facsimile: 608.267.8739

- The following information is required for all applications for Plan Commission review except subdivisions or land divisions, which should be filed with the Subdivision Application.
- Before filing your application, please review the information regarding the **LOBBYING ORDINANCE** on the first page.
- Please read all pages of the application completely and fill in all required fields.
- This application form may also be completed online at www.cityofmadison.com/planning/plan.html
- All Land Use Applications should be filed directly with the Zoning Administrator.

FOR OFFICE USE ONLY:

Amt. Paid $550 Receipt No. 131784
Date Received 5/23/12
Received By JK
Parcel No. 0709-181-0401-2
Aldermanic District 19 Mark Clear
GQ floodplain; waterfront
Zoning District R2

For Complete Submittal

Application	✓	Letter of Intent	✓
IDUP	NA	Legal Descript.	
Plan Sets	✓	Zoning Text	NA
Alder Notification		*Waiver*	
Ngbrhd. Assn Not.		*Waiver*	
Date Sign Issued	5/23/12		

1. Project Address: 5430 LAKE MENDOTA DR **Project Area in Acres:** .44 ACRE

Project Title (if any): SCHLAGETER PROJECT

2. This is an application for:

Zoning Map Amendment (check the appropriate box(es) in only one of the columns below)

☐ **Rezoning to a Non-PUD or PCD Zoning Dist.:** Existing Zoning: _____ *to* Proposed Zoning (ex: R1, R2T, C3): _____	**Rezoning to or Amendment of a PUD or PCD District:** ☐ Ex. Zoning: _____ to PUD/PCD-GDP ☐ Ex. Zoning: _____ to PUD/PCD-SIP ☐ Amended Gen. Dev. ☐ Amended Spec. Imp. Plan
☑ **Conditional Use** ☑ **Demolition Permit**	☐ **Other Requests** *(Specify):* _____

3. Applicant, Agent &Property Owner Information:

Applicant's Name: SCOTT POULSEN Company: POULSEN ENT., INC
Street Address: 4860 PINE SPRING RD City/State: DEFOREST, WI Zip: 53532
Telephone: (608) 444-0419(M) Fax: (608) 846-3211 Email: WSPOULSEN@NETSCAPE.NET (SM)

Project Contact Person: SCOTT POULSEN Company: SAME
Street Address: SAME City/State: _____ Zip: _____
Telephone: ( ) _____ Fax: ( ) _____ Email: _____

Property Owner (if not applicant): MIKE & MARY SCHLAGETER
Street Address: 5430 LAKE MENDOTA DR City/State: MADISON, WI Zip: 53705

4. Project Information:

Provide a brief description of the project and all proposed uses of the site: DEMO EXISTING HOUSE AND BUILD NEW SINGLE FAMILY RESIDENCE

Development Schedule: Commencement AUGUST 2012 Completion JUNE 2013

CONTINUE→

5. Required Submittals:

☐ **Plans** submitted as follows below and depicts all lot lines; existing, altered, demolished or proposed buildings; parking areas and driveways; sidewalks; location of any new signs; existing and proposed utility locations; building elevations and floor plans; landscaping, and a development schedule describing pertinent project details:

- ***7 copies*** of a full-sized plan set drawn to a scale of one inch equals 20 feet (collated and folded)
- ***7 copies*** of the plan set reduced to fit onto 11 inch by 17 inch paper (collated, stapled and folded)
- ***1 copy*** of the plan set reduced to fit onto 8 ½ inch by 11 inch paper

☐ **Letter of Intent (*12 copies*)**: describing this application in detail including, but not limited to: existing conditions and uses of the property; development schedule for the project; names of persons involved (contractor, architect, landscaper, business manager, etc.); types of businesses; number of employees; hours of operation; square footage or acreage of the site; number of dwelling units; sale or rental price range for dwelling units; gross square footage of building(s); number of parking stalls, etc.

☐ **Legal Description of Property:** Lot(s) of record or metes and bounds description prepared by a land surveyor. For any application for rezoning, the description must be submitted as an electronic word document via CD or e-mail. For applications proposing rezoning to more than one district, a separate description of each district shall be submitted.

☐ **Filing Fee:** $_____ See the fee schedule on the application cover page. Make checks payable to: *City Treasurer.*

☐ **Electronic Submittal:** All applicants are required to submit copies of all items submitted in hard copy with their application (including this application form, the letter of intent, complete plan sets and elevations, etc.) as Adobe Acrobat PDF files on a non-returnable CD to be included with their application materials, or in an e-mail sent to *pcapplications@cityofmadison.com*. The e-mail shall include the name of the project and applicant. Applicants unable to provide the materials electronically should contact the Planning Division at (608) 266-4635 for assistance.

In Addition, The Following Items May Also Be Required With Your Application:

☐ For any applications proposing demolition or removal of existing buildings, the following items are required:

- Prior to the filing of an application, the applicant or his/her agent is required to notify a list of interested persons registered with the City **30 or 60 days prior to filing** their application using the online notification tool found at: https://www.cityofmadison.com/developmentCenter/demolitionNotification/
- A photo array (6-12 photos) of the **interior and exterior** of the building(s) to be demolished or removed. A written assessment of the condition of the building(s) to be demolished or removed is highly recommended.
- Note: A Reuse and Recycling Plan approved by the City's Recycling Coordinator is required prior to issuance of wrecking permits and the start of construction.

☐ **Zoning Text (12 copies):** must accompany Planned Community or Planned Unit Development (PCD/PUD) submittals.

6. Applicant Declarations:

☐ **Conformance with adopted City plans:** Applications shall be in accordance with all adopted City of Madison plans:
→ *The site is located within the limits of* _____ *Plan, which recommends:*
_____ *for this property.*

☐ **Pre-application Notification:** Section 28.12 of the Zoning Code requires that the applicant notify the district alder and any nearby neighborhood & business associations in writing no later than ***30*** days prior to filing this request:
→ *List below the Alderperson, Neighborhood Association(s), Business Association(s) AND dates you sent the notices:*

_____

NOTE: If the alder has granted a waiver to this requirement, please attach any such correspondence to this form.

☐ **Pre-application Meeting with staff:** Prior to preparation of this application, the applicant is required to discuss the proposed development and review process with Zoning and Planning Division staff; note staff persons and date.

Planning Staff: _____ *Date:* _____ *Zoning Staff:* _____ *Date:* _____

☐ **Check here if this project will be receiving a public subsidy.** If so, indicate type in your Letter of Intent.

The signer attests that this form is accurately completed and all required materials are submitted:

Printed Name Scott Poulsen Date 5-23-12

Signature Scott Poulsen Relation to Property Owner BUILDER/DESIGNER

Authorizing Signature of Property Owner [signature] Date 5-23-12

Effective May 1, 2009

Letter of Intent:

To City of Madison Planning Commission:

Project: The Schlageter Project:
Mike and Mary Schlageter
5430 Lake Mendota Drive
Madison, WI 53705

Applicant: Scott Poulsen
Poulsen Enterprises, Inc.
4860 Pine Spring Rd.
DeForest, WI 53532

5-23-12

To whom it may concern:

The property has an existing single family with no basement built in the 1930's. There is also an existing boat house and detached garage on the site and they will stay as is with up grading the siding and garage door (new location door) to match the new house proposed. Existing home to be recycled, Habitat will be removing items they desire and demolition will take place.

We intend to stay within the bounds of the zoning requirements. No variances needed.

The owners intend to use the property as a single family primary residence. We would like to start construction sometime in August 2012 and would plan on finishing the project in June of 2013.

The project has been designed by the Owners and the Builder, Poulsen Ent., Inc, Scott Poulsen. Interior design work done by Driscoll Interiors, Laurie Driscoll.

The landscape architect is Doug Corning from Corning & Associates LLC. The acreage of this property is .44 acres, 18940 square feet.

We plan on capping the existing sewer lateral at the property line and installing a new sewer line at the street. We discussed this approach with Mark Moder from the City of Madison. We would need a street opening permit to do so and we have his blessing to do this work.

The electrical over head lines will also be new. I have talked with Keith Vanden. from MGE about re-routing the electrical to a new service and going under ground. This is a very extensive re-route and will be quite expensive but it will clean up a rather cumbersome situation. We will also install a new natural gas line to the proposed home

with MGE. We are intending to use geo thermal heating with 5-7 wells 220 feet deep and will locate then under the driveway.

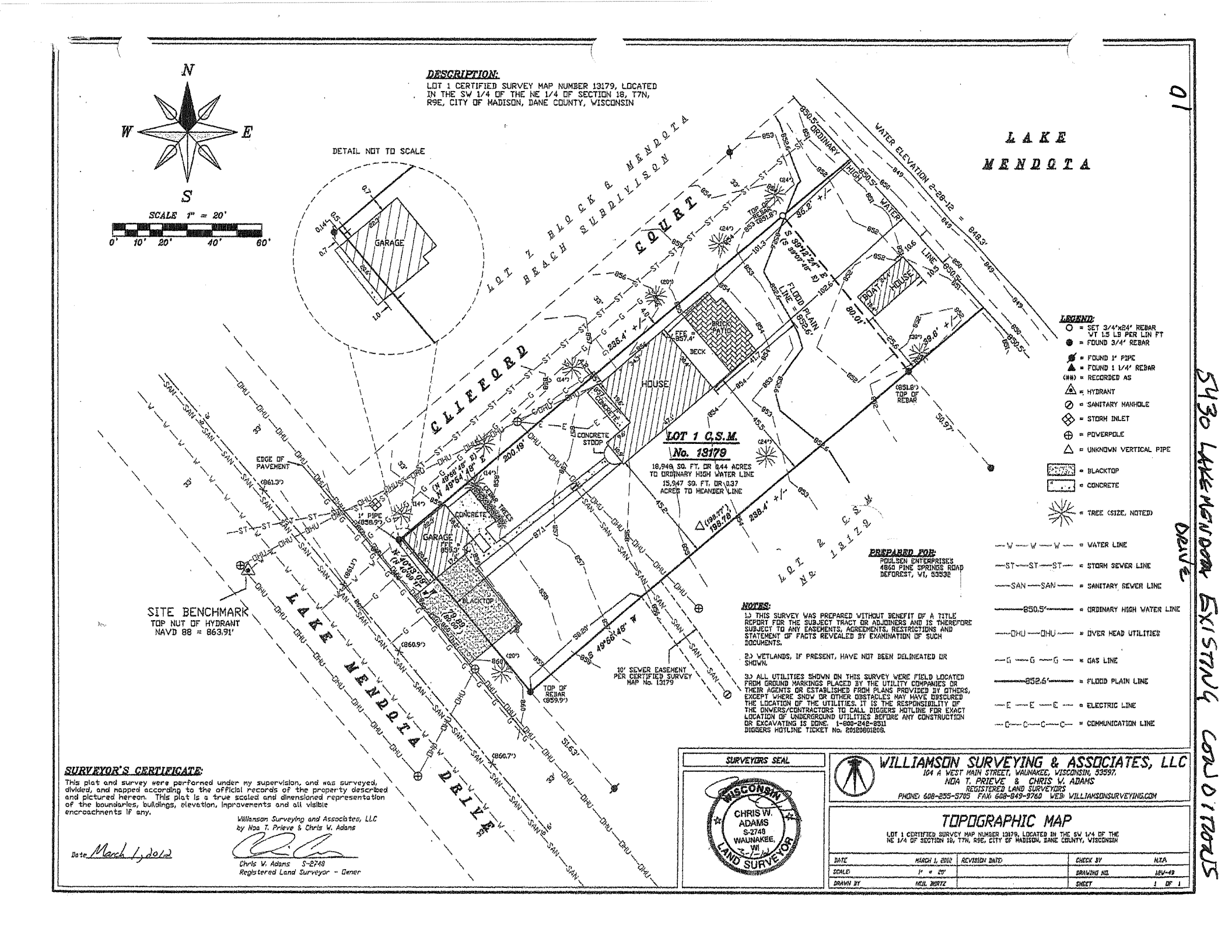
We will be removing a large black top parking pad located off of Lake Mendota Drive and turn it into a grassy area with some plantings. The driveway entrance will come off of Clifford Ct. and the existing detached garage will be modified so the overhead garage door can be used from the new driveway location.

We have a very nice landscaping plan as you can see from the plans that should fit nicely into the existing neighborhood. We should not impact any neighbors as the existing water flows should stay intact. In the area near the lake, 35' we will not have to change any of this but just simple clean up.

At the beginning of planning we contacted a house mover from Stevens Point to see if the house would be a candidate for moving. There are a few things that make it less than desirable to move. Parts of the flooring are concrete and there is a real fireplace that would have to be dismantled in order to transit. The cost was over $50,000.00 to move 8-10 miles. That does not include have to remodel it once it got located. The building being so old and having many remodeling and addition type work done to it makes it not a good idea. The porches would also have to be removed.

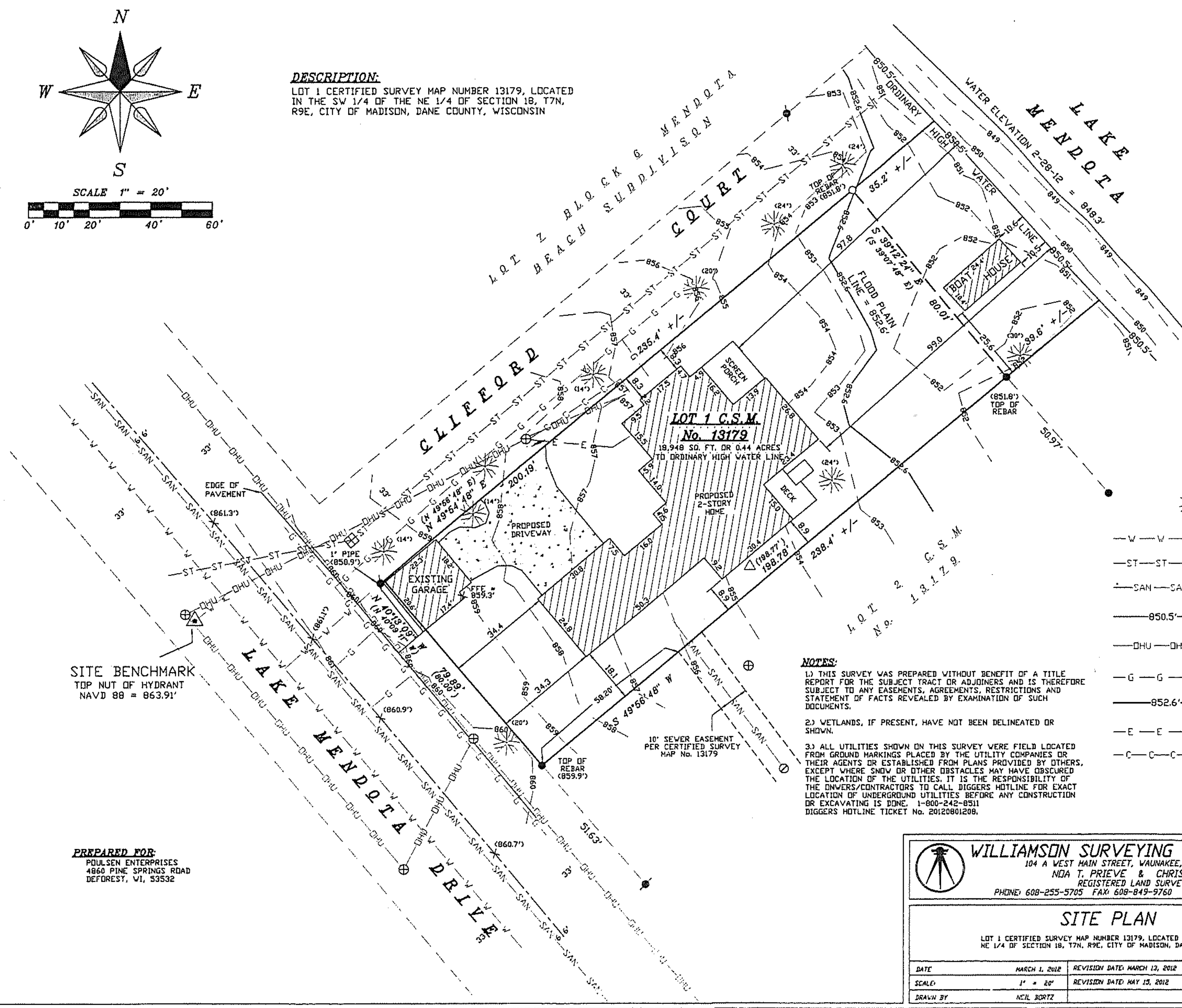
Sincerely;

Scott Poulsen



01

5430 LAKE MENDOTA DRIVE EXISTING CONDITIONS



DESCRIPTION:
LOT 1 CERTIFIED SURVEY MAP NUMBER 13179, LOCATED IN THE SW 1/4 OF THE NE 1/4 OF SECTION 18, T7N, R9E, CITY OF MADISON, DANE COUNTY, WISCONSIN

LEGEND:
- ○ = SET 3/4"x24" REBAR WT 1.5 LB PER LIN FT
- ● = FOUND 3/4" REBAR
- = FOUND 1" PIPE
- ▲ = FOUND 1 1/4" REBAR
- (##) = RECORDED AS
- = HYDRANT
- ⊘ = SANITARY MANHOLE
- = STORM INLET
- ⊕ = POWERPOLE
- △ = UNKNOWN VERTICAL PIPE
- = TREE (SIZE, NOTED)
- —W—W—W— = WATER LINE
- —ST—ST—ST— = STORM SEWER LINE
- —SAN—SAN— = SANITARY SEWER LINE
- ——850.5'—— = ORDINARY HIGH WATER LINE
- —OHU—OHU— = OVER HEAD UTILITIES
- —G—G—G— = GAS LINE
- ——852.6'—— = FLOOD PLAIN LINE
- —E—E—E— = ELECTRIC LINE
- —C—C—C—C— = COMMUNICATION LINE

NOTES:

1.) THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT TRACT OR ADJOINERS AND IS THEREFORE SUBJECT TO ANY EASEMENTS, AGREEMENTS, RESTRICTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.

2.) WETLANDS, IF PRESENT, HAVE NOT BEEN DELINEATED OR SHOWN.

3.) ALL UTILITIES SHOWN ON THIS SURVEY WERE FIELD LOCATED FROM GROUND MARKINGS PLACED BY THE UTILITY COMPANIES OR THEIR AGENTS OR ESTABLISHED FROM PLANS PROVIDED BY OTHERS, EXCEPT WHERE SNOW OR OTHER OBSTACLES MAY HAVE OBSCURED THE LOCATION OF THE UTILITIES. IT IS THE RESPONSIBILITY OF THE OWNERS/CONTRACTORS TO CALL DIGGERS HOTLINE FOR EXACT LOCATION OF UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION OR EXCAVATING IS DONE. 1-800-242-8511
DIGGERS HOTLINE TICKET No. 20120801208.

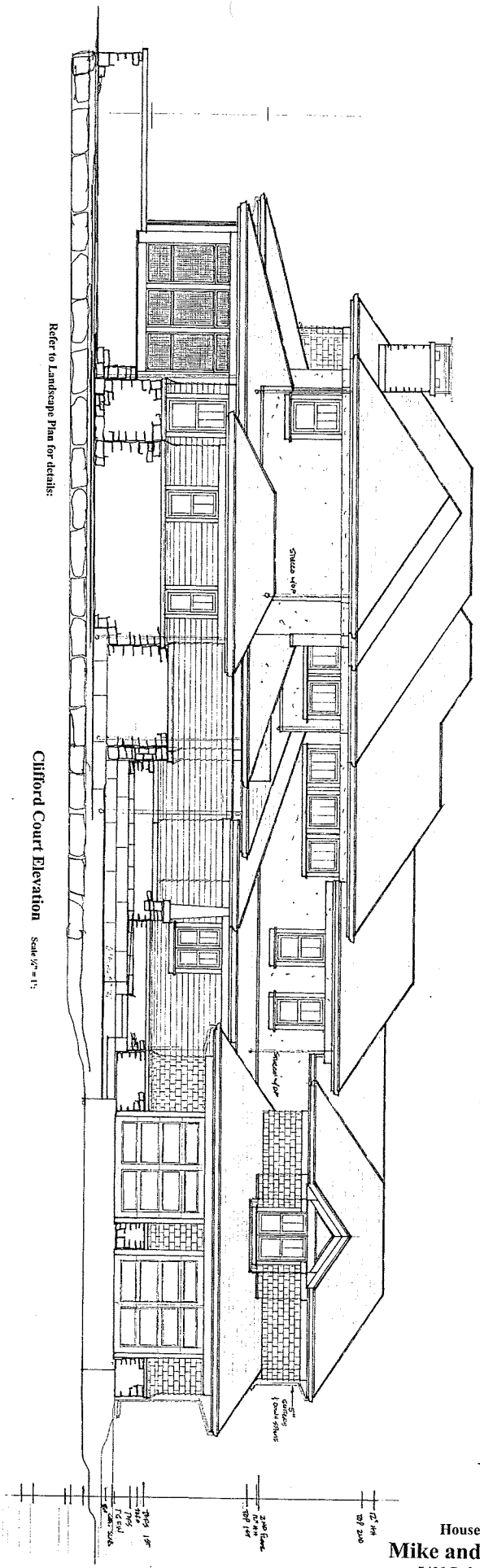
PREPARED FOR:
POULSEN ENTERPRISES
4860 PINE SPRINGS ROAD
DEFOREST, WI, 53532

WILLIAMSON SURVEYING & ASSOCIATES, LLC
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597.
NOA T. PRIEVE & CHRIS W. ADAMS
REGISTERED LAND SURVEYORS
PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

SITE PLAN

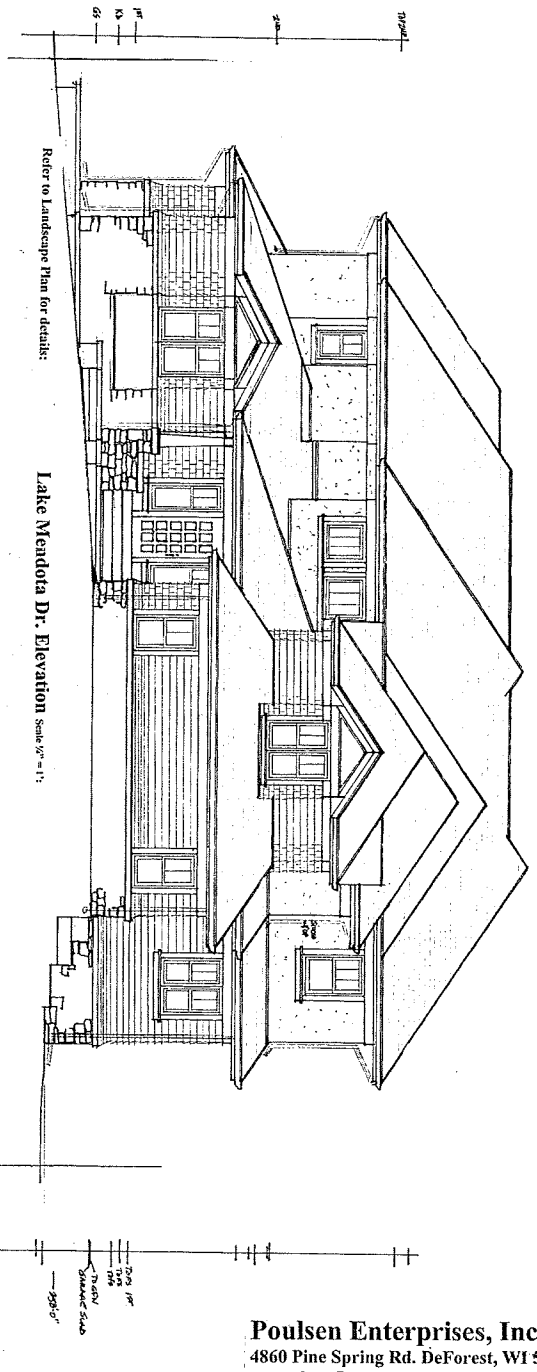
LOT 1 CERTIFIED SURVEY MAP NUMBER 13179, LOCATED IN THE SW 1/4 OF THE NE 1/4 OF SECTION 18, T7N, R9E, CITY OF MADISON, DANE COUNTY, WISCONSIN

DATE	MARCH 1, 2012	REVISION DATE: MARCH 13, 2012	CHECK BY	N.T.P.
SCALE:	1" = 20'	REVISION DATE: MAY 15, 2012	DRAWING NO.	12V-49
DRAWN BY	NEIL BORTZ		SHEET	1 OF 1



Refer to Landscape Plan for details:

Clifford Court Elevation Scale ½" = 1';



Refer to Landscape Plan for details:

Lake Mendota Dr. Elevation Scale ½" = 1';

Poulsen Enterprises, Inc.
4860 Pine Spring Rd. DeForest, WI 53532
wspoulsen@netscape.net 608-444-0419
Drawn By: Scott Poulsen Date: May 22,2012

House Plan for:
Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705

Lake Elevation Scale ⅛" = 1'-

Refer to Landscape Plan for details:

Right Side Elevation Scale ⅛" = 1'-

Refer to Landscape Plan for details:

House Plan for:

Mike and Mary Schlageter Residence

5430 Lake Mendota Dr.Madison, WI 53705

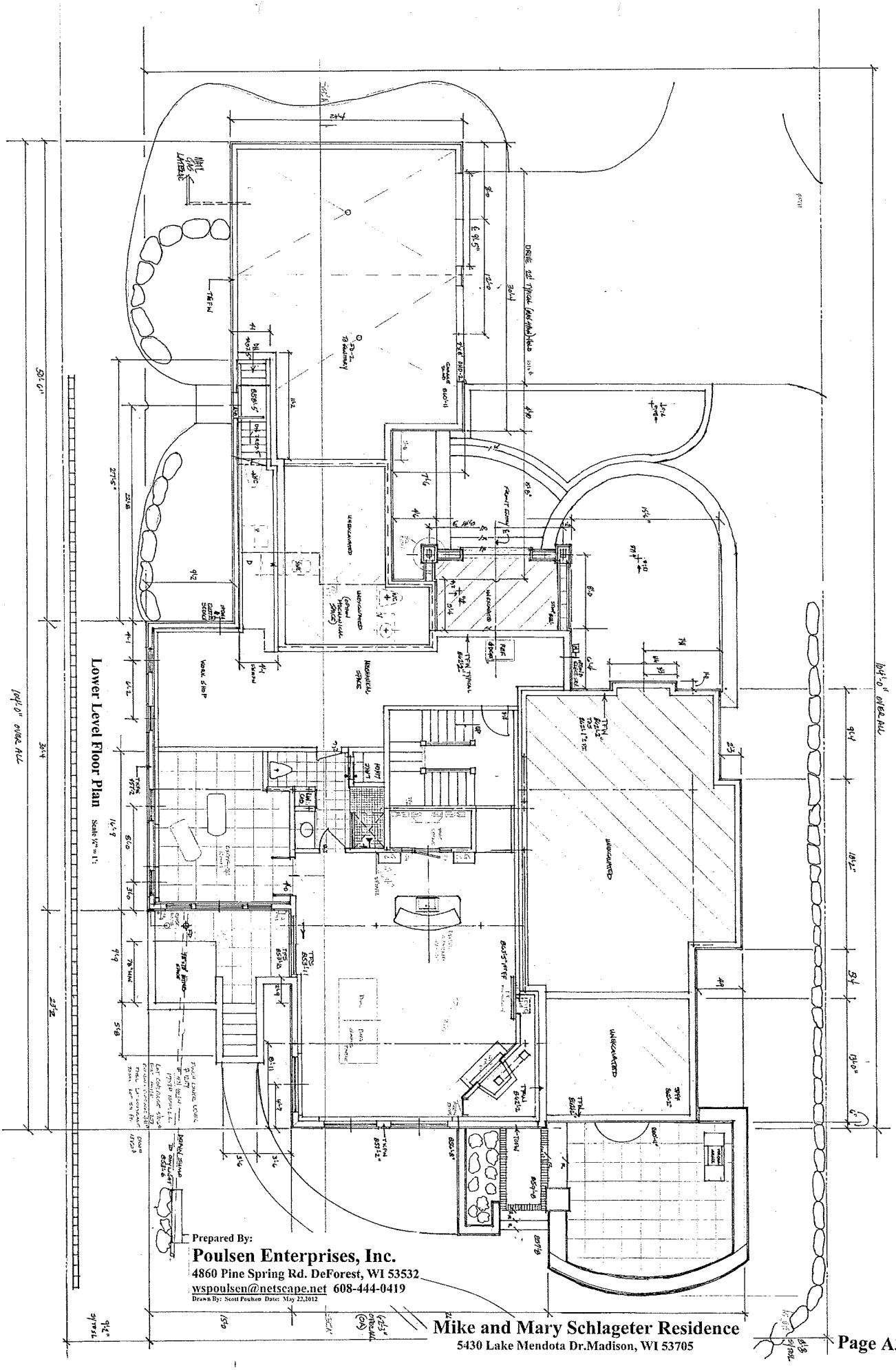
Prepared By:

Poulsen Enterprises, Inc.

4860 Pine Spring Rd. DeForest, WI 53532

wspoulsen@netscape.net 608-444-0419

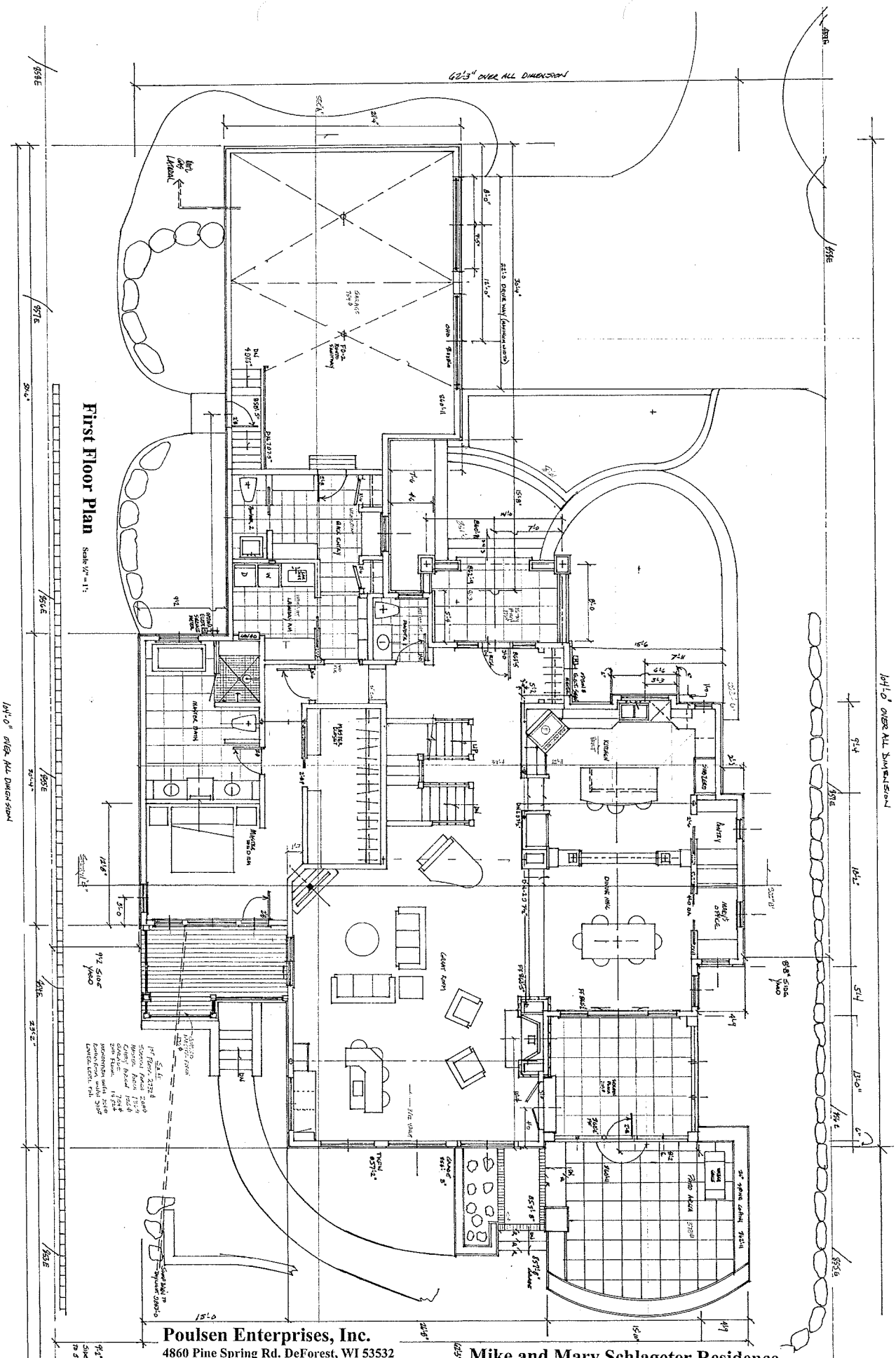
Drawn By: Scott Poulsen Date: May 22,2012



Lower Level Floor Plan Scale: 1/4" = 1'-0"

Prepared By:
Poulsen Enterprises, Inc.
4860 Pine Spring Rd. DeForest, WI 53532
wspoulsen@netscape.net 608-444-0419
Drawn By: Scott Poulsen Date: May 22,2012

Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705



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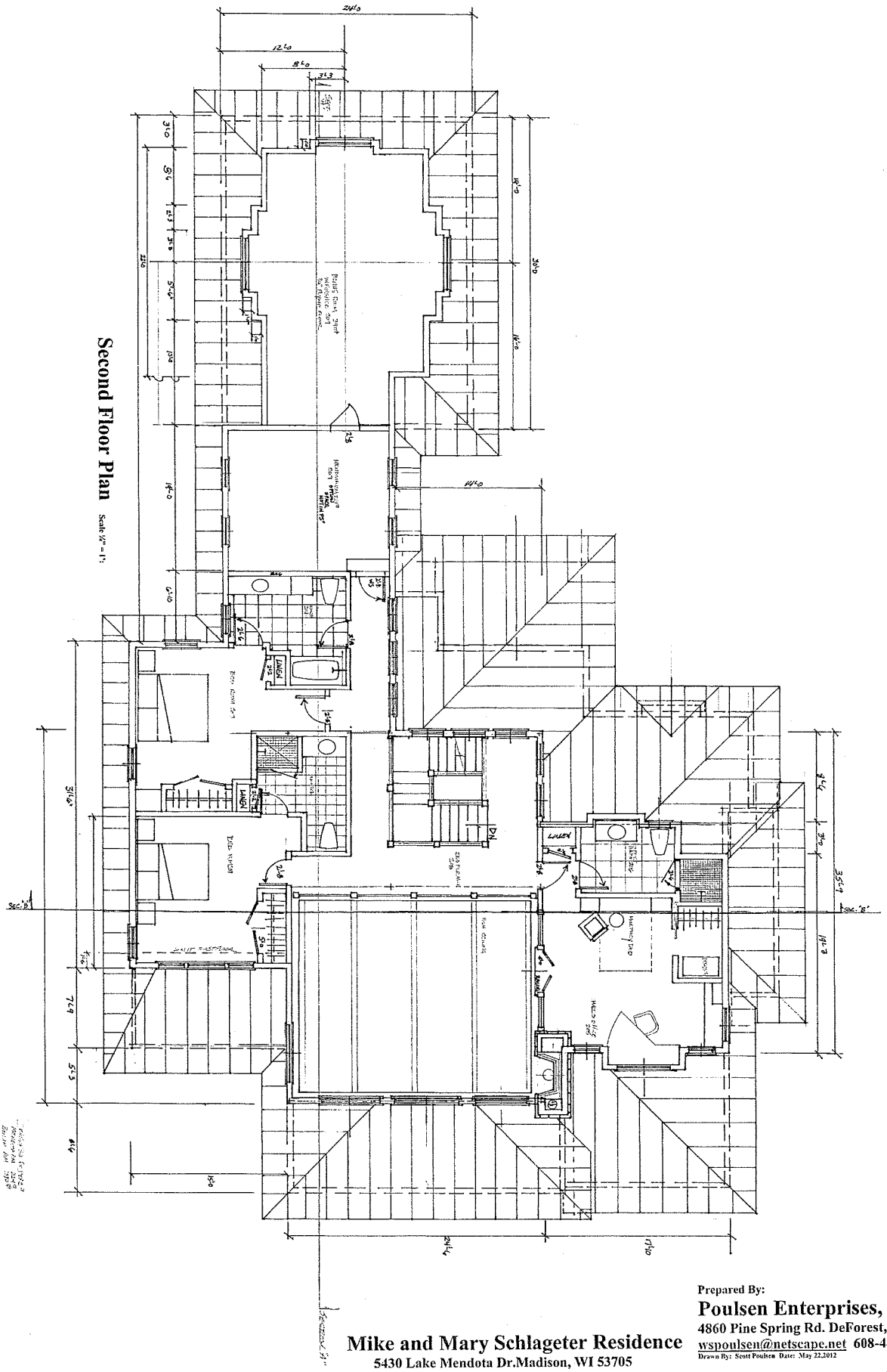
wspoulsen@netscape.net 608-444-0419
Drawn By: Scott Poulsen Date: May 22,2012

Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705



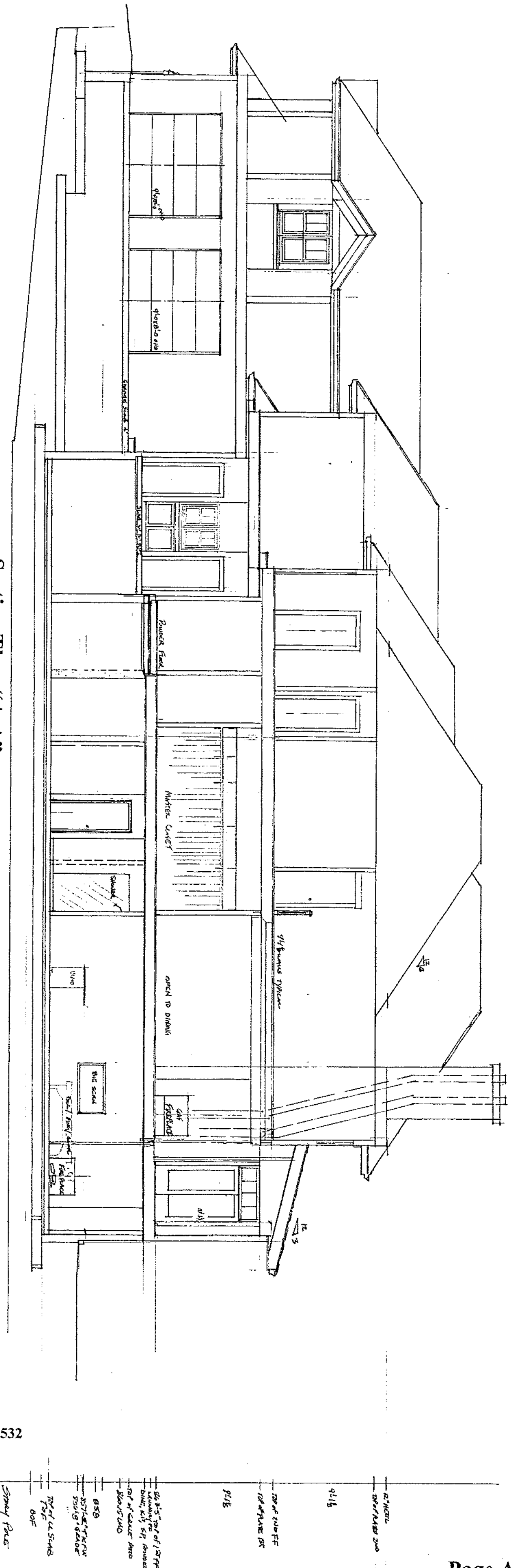
Second Floor Plan

Scale: ½" = 1'-0"

Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705

Prepared By:
Poulsen Enterprises, Inc.
4860 Pine Spring Rd. DeForest, WI 53532
wspoulsen@netscape.net 608-444-0419

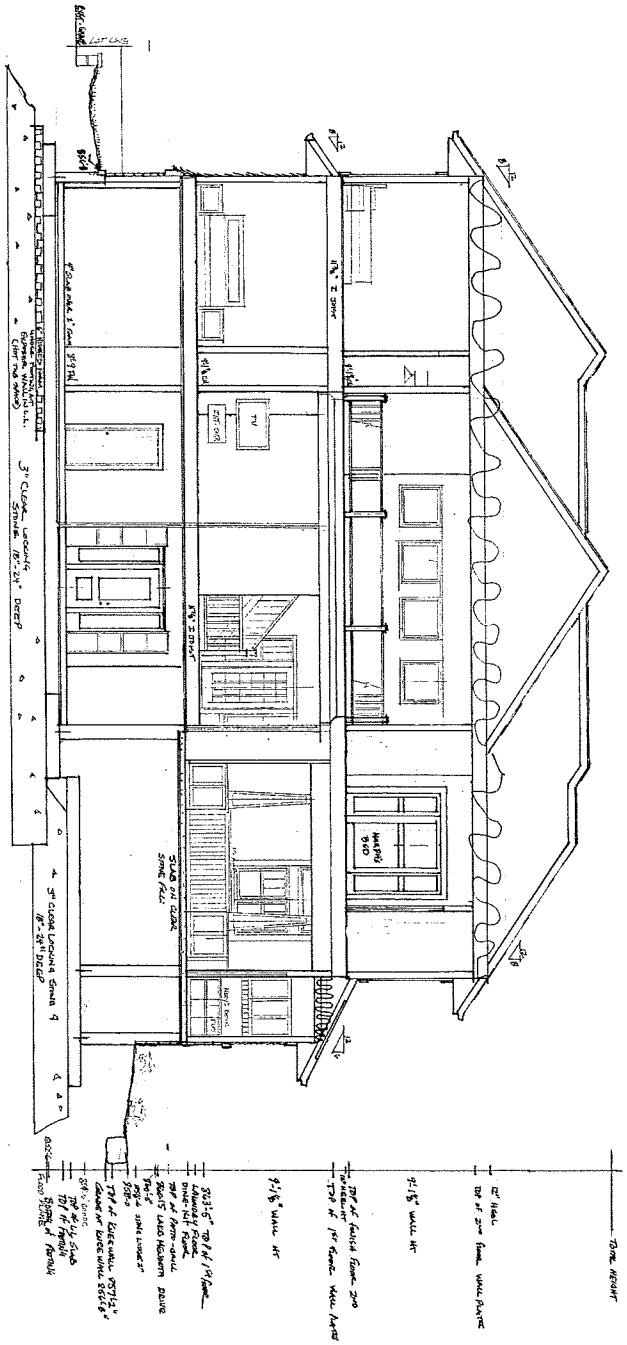
Drawn By: Scott Poulsen Date: May 22,2012



Section Thru "A-A" Scale 1/4"=1'

Prepared By:
Poulsen Enterprises, Inc.
4860 Pine Spring Rd. DeForest, WI 53532
wspoulsen@netscape.net
House Plan for:

House Plan for:
Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705



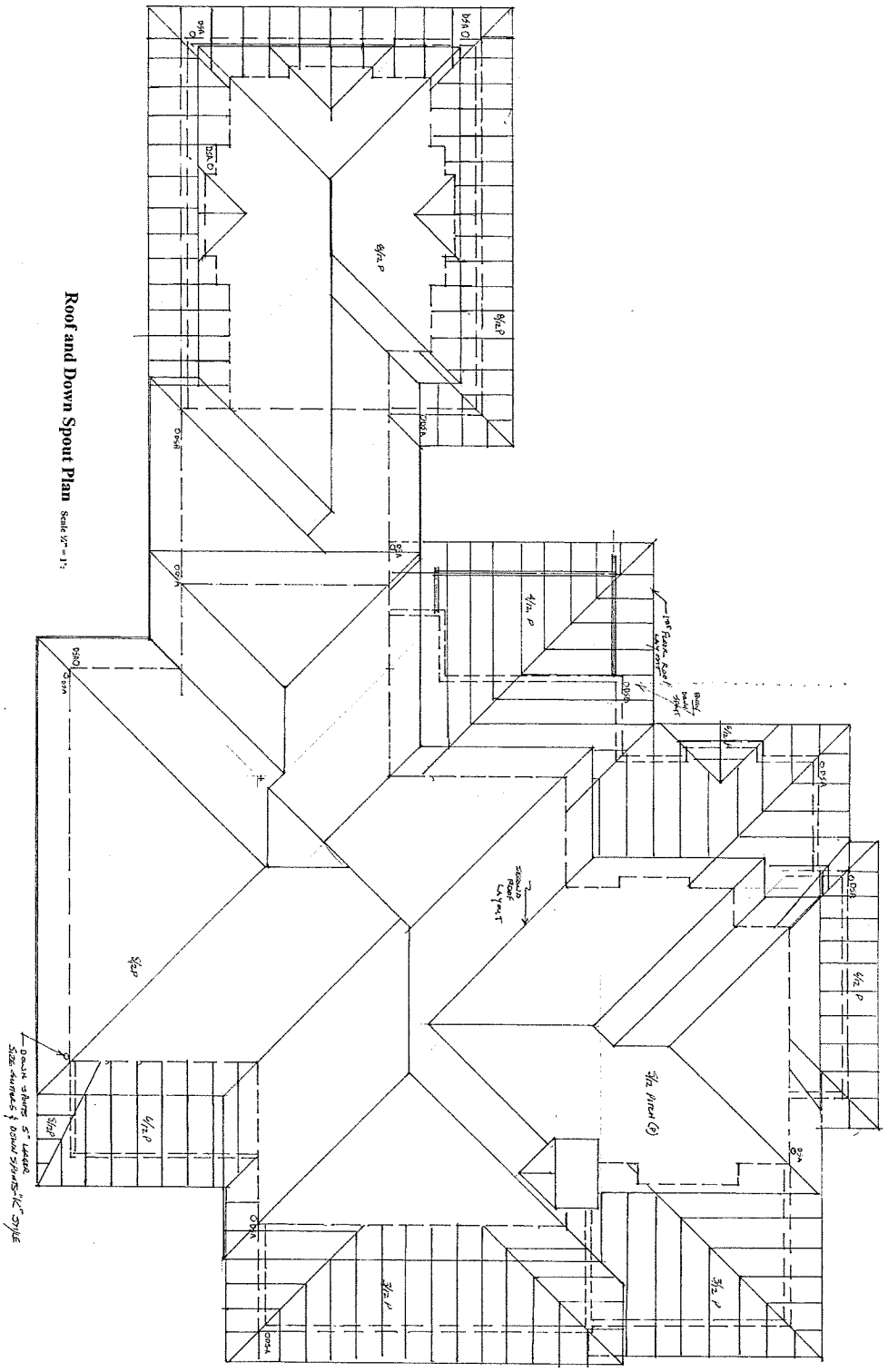
Section Thru "B-B"

Scale: 1/4" = 1'-0"

House Plan for:
Mike and Mary Schlageter Residence
5430 Lake Mendota Dr.Madison, WI 53705

Prepared By:
Poulsen Enterprises, Inc.
4860 Pine Spring Rd. DeForest, WI 53532
wspoulsen@netscape.net

Roof and Down Spout Plan Scale 1/4" = 1'



House Plan for:

Mike and Mary Schlageter Residence

5430 Lake Mendota Dr.Madison, WI 53705

Prepared By:

Poulsen Enterprises, Inc.

4860 Pine Spring Rd. DeForest, WI 53532

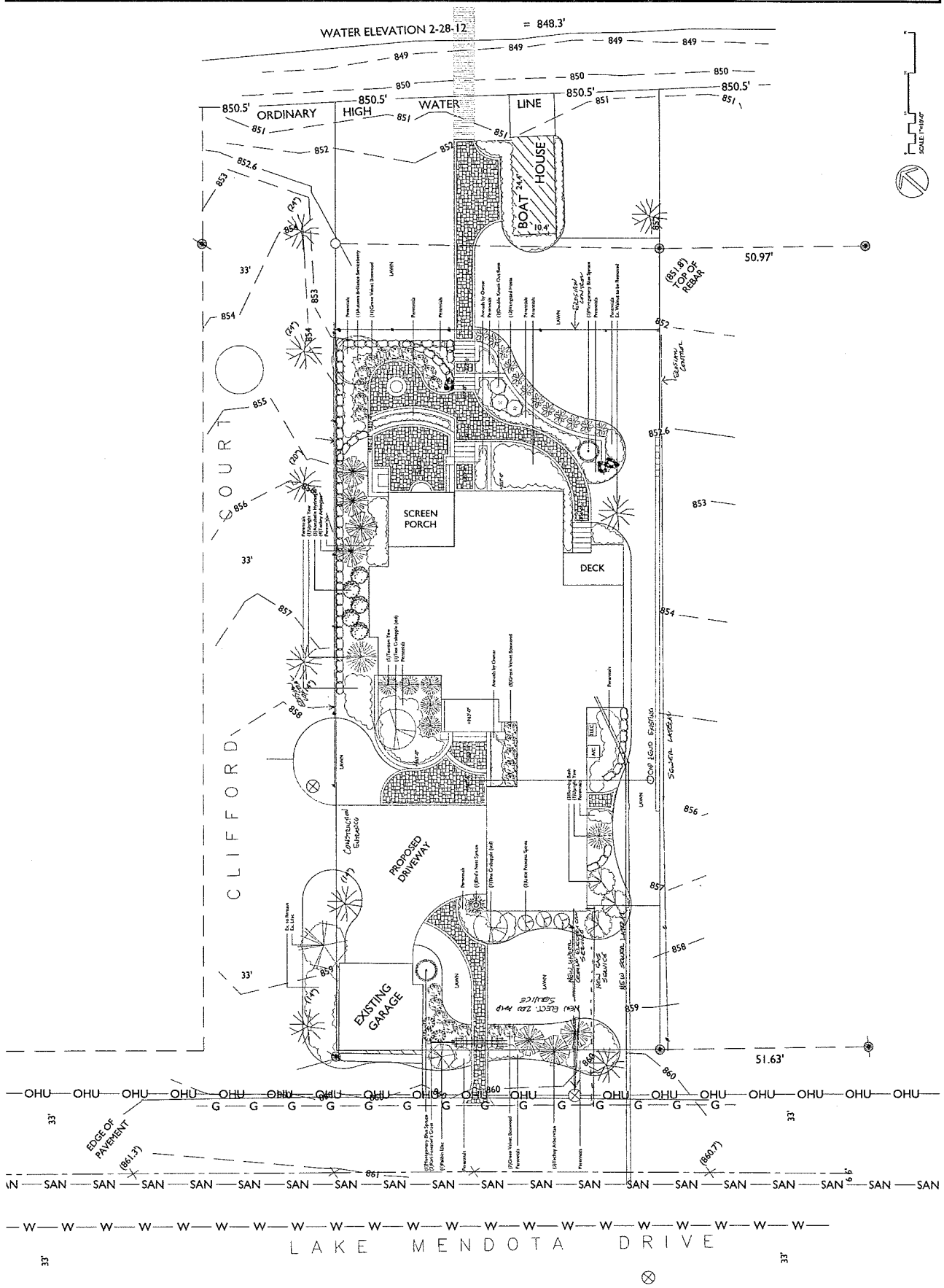
wspoulsen@netscape.net 608-444-0419

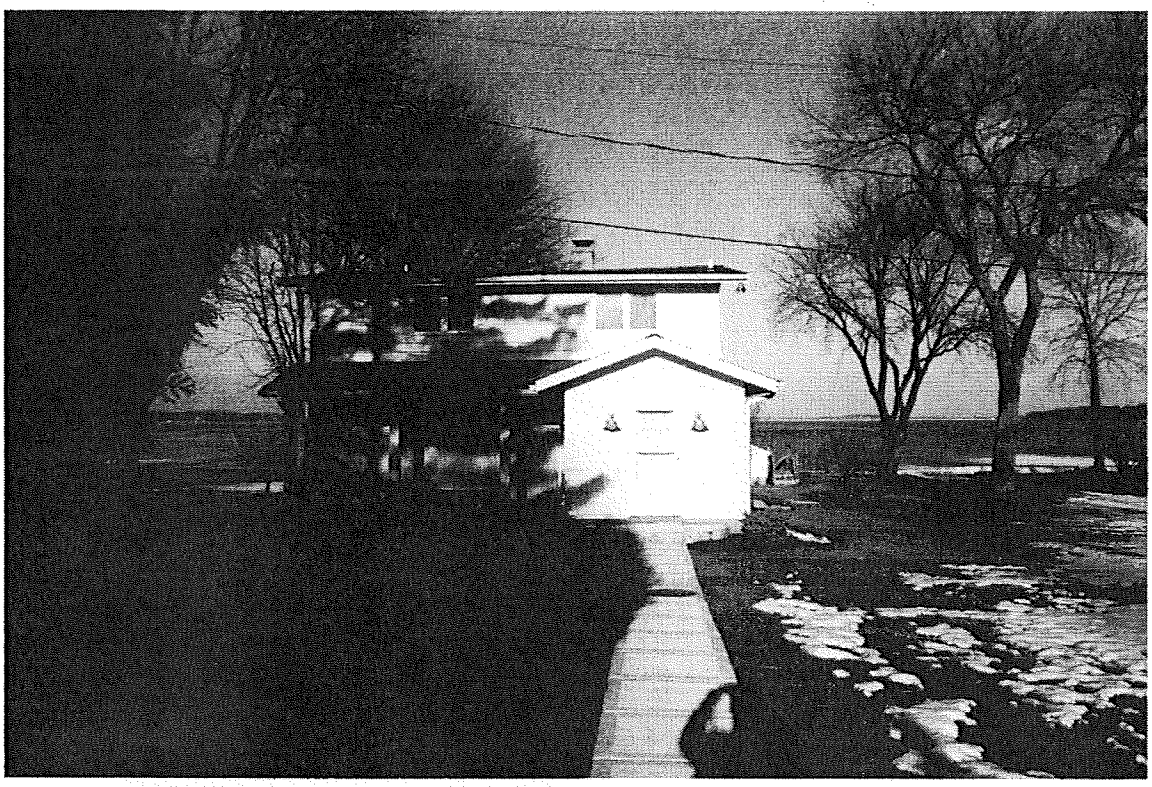
Drawn By: Scott Poulsen Date: May 22,2012

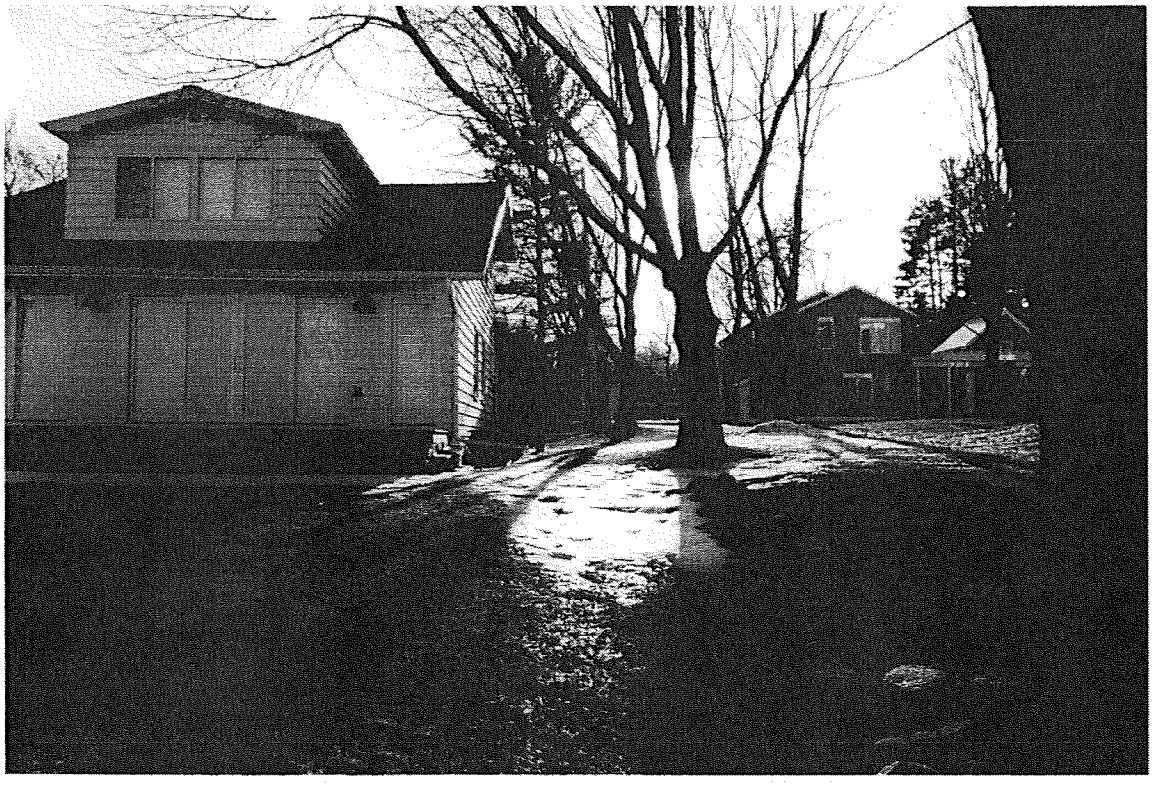
01

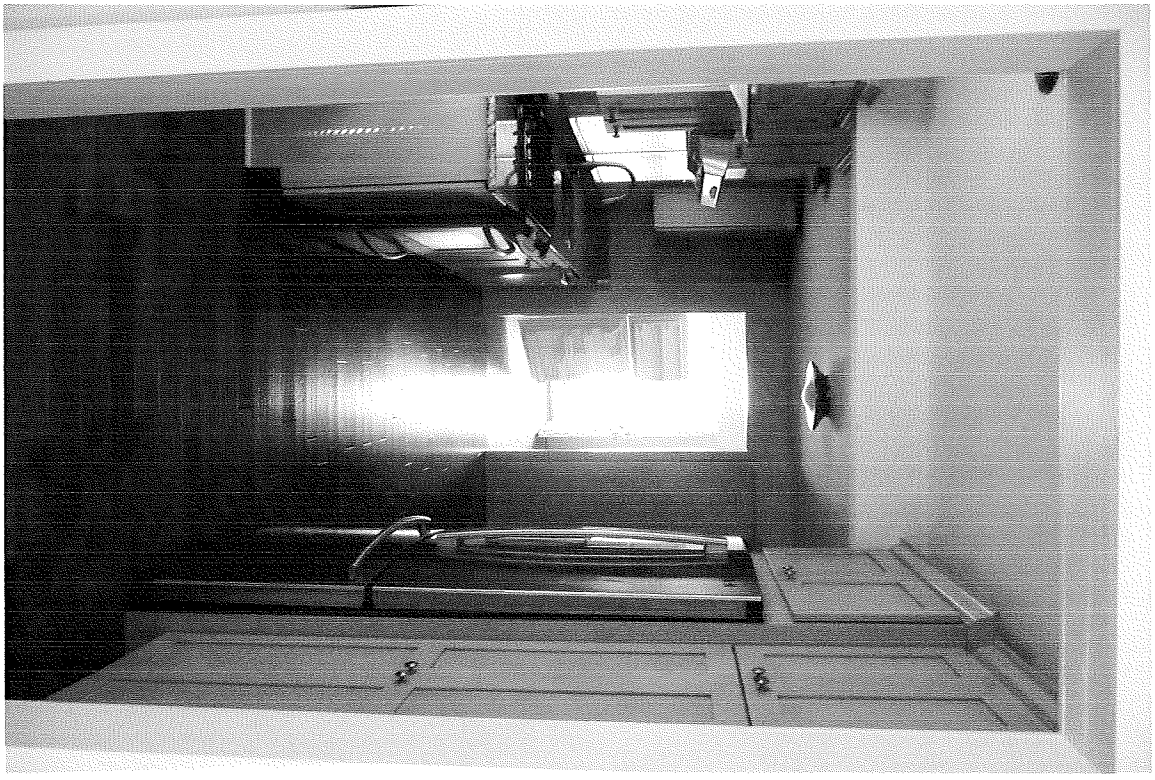
THE SCHLAGETER RESIDENCE

L1









NTS NUMMELIN TESTING SERVICES, INC.

CENTRAL WISCONSIN AREA:
332 N. Georgia Street
Stevens Point, WI 54481
(715) 341-7974 • Fax (715) 341-8654

MADISON AREA:
5620 Woodland Drive
Waunakee, WI 53597
(608) 849-9120 • Fax (608) 849-9122

Paulson Enterprises, Inc.
4860 Pine Spring Road
DeForest, WI 53532

April 9, 2012

Report: 7664201_obs

ATTN: Mr. Scott Paulson

PROJECT: Proposed House
5430 Lake Mendota Drive
City of Madison, Dane Co., Wisconsin

SOILS OBSERVATIONS

A. INTRODUCTION

As requested, Nummelin Testing Services, Inc. (NTS) visited the above-named site on April 3, 2012. The purpose of this visit was to observe soils exposed within test pits and roughly evaluate the bearing capacity of those soils. Two test pits were excavated at locations determined by Mr. Scott Paulson and this writer.

Soil bearing capacity was roughly evaluated by inserting a one-half-inch diameter steel rod, and noting the resistance to penetration. Unconfined compressive strength of clayey soils was estimated with a pocket penetrometer. For typical clayey soils, the unconfined compressive strength can be assumed to be roughly equal to the bearing capacity.

Observed soil conditions are noted below. Be aware that soils away from test pit locations may differ from those observed at the test pit locations. If different soil conditions are noted during construction it may be necessary to modify our recommendations.

At the location of this site, Lake Mendota Drive runs northwest-southeast, and the site is northeast of the road. For the purpose of this report, Lake Mendota Drive is assumed to run east-west, with the site being north of the roadway.

A house currently occupies the site. This house will be razed. The new house is expected to have a walk-out basement (walk-out facing north, toward Lake Mendota). The floor elevation for the house has not been established, and it will somewhat be based on soil and water conditions noted in the test pits.

B. OBSERVATIONS

General Site and Soil Conditions

The site consisted of a typical residential lot, with mowed grass and trees and bushes of various sizes. The north edge of the lot consists of the Lake Mendota shoreline. The site sloped down to the north, with an elevation change of four to five feet across the proposed building location.

The site is mapped as lacustrine plain and ice-contact stratified deposits. Lacustrine plain is glacial lake bottom where materials generally consist of silts and clays, although sand is often present near former shorelines and stream inlets. Ice-contact stratified deposits consist of sand and gravel deposited in contact with ice.

Observations, Test Pit #1

Test Pit #1 was located approximately 115' north and 10' west of the southeast property corner. Two inches of black silty sand topsoil occurred at the surface, followed by four inches of tan fine sand fill, and 1.5 feet of black clay/clayey silt fill. Gray silty clay occurred between 2.0 and 7.0 feet. This clay had an estimated unconfined compressive strength between 1.5 and 1.75 tons per square foot (tsf) near the top of the layer, and an estimated unconfined compressive strength of 0.5 tsf near the bottom of the layer. Medium-dense brown clayey sand occurred from 7.0' to the end of the test pit at 7.5'. Water seeped into the pit below a depth of 6.0 feet.

Observations, Test Pit #2

Test Pit #2 was located approximately 60' north and 5' east of the southwest property corner. Black and tan sand fill occurred from the surface to a depth of 1.5' at this location. Gray silty clay occurred between 1.5 and 7.3 feet. This clay had an estimated unconfined compressive strength between 0.5 and 1.0 tons per square foot (tsf). Medium-dense tan silty fine sand occurred from 7.3' to the end of the test pit at 8.0'. Water seeped into the pit below a depth of 7.3 feet.

C. RECOMMENDATIONS

Site Preparation

The existing house will be razed prior to construction of the new house. Care should be taken to remove the house and foundation with as little disturbance to the underlying soils as possible. All utilities should be property abandoned unless they will be used for the new house. Note that any fill located in old utility trenches may not be suitable for support of the new house and may have to be undercut and replaced with engineered fill. Outside the existing house location, remove vegetation and topsoil from the proposed house location.

Several feet of clay occurs at this site and we recommend that the bottom of this clay layer not be penetrated, if possible, to help reduce the potential for significant up-flow of groundwater.

Be aware that the clay at this site is very sensitive. This clay will soften considerably if disturbed. Therefore, keep construction traffic and vibrations to a minimum.

Undercut

Prior to placing the foundation, we recommend undercutting the entire footprint of the house a minimum of 1.5 feet below the bottom-of-footing elevation and immediately backfilling with 1.5-inch or larger clearstone. This will help to provide a stable working platform. The undercut should extend outside all foundation edges a distance no less than the depth of undercut below bottom-of-footing grade. Due to the significant potential for soils to loosen due to the up-flow of groundwater, undercut and backfill small areas, continuing with adjacent areas until completed. Undercut backfill should be stockpiled within reach of the backhoe to minimize the time the excavation remains open. Backfilling in this manner will waste some rock as adjacent areas are excavated but will significantly reduce the potential for soils to loosen due to the up-flow of groundwater. Tamp the rock into the base of the excavation with the heel of the backhoe bucket. As stated above, we recommend leaving a layer of clay at the base of the undercut excavation. This will help reduce the up-flow of groundwater. Due to the risk of soil loosening due to the up-flow of groundwater at this site, at no time should an undercut excavation be allowed to remain open.

Footings and Foundation Walls

Actual footing loads have not been determined, but rather light loads are expected. Based on the soils observed in the test pits, clay having a medium to stiff consistency is expected to occur at footing grade. As stated above, we recommend undercutting and placing a layer of rock below footing grade. We recommend that footings and foundation walls be designed as a grade-beam-type foundation that is rigid enough to withstand potential differential settlement and at least 10 feet of zero-support conditions. Foundation walls should be attached to footings, walls and footings should be heavily-reinforced with reinforcing properly lapped, tied, and continuous around corners. If possible, avoid the use of individual spread footings and incorporate interior bearing walls into the foundation system. We recommend designing for an allowable bearing pressure of not more than 700 pounds per square foot. This assumes that the site grade outside the building footprint will be raised by not more than 3.0 feet. However, regardless of bearing capacity, we recommend that footings not be less than two feet wide, formed rather than bank-poured.

Floors

No unusual floor loads are expected. Soils observed below the fill are expected to provide adequate floor support if undisturbed. Due to the potential for high groundwater at this site, we

recommend that the basement floor be placed at as high an elevation as possible.

Groundwater Concerns

We understand that a shallow basement is proposed. If the house will have a basement, we recommend an extensive under-drain system with a backup sump pump because high groundwater is a concern at this site. We expect that groundwater will occur at a higher elevation than that observed at the time of these observations due to seasonal fluctuations. Also, groundwater seepage through clay tends to be very slow and it is possible that the groundwater table was higher than the noted elevation of seepage at the time the test pits were performed.

Interior and exterior perimeter drain lines should be utilized and interior drain lines should be placed beneath the basement floor, spaced a maximum of 15 feet (preferably 10 feet) apart. All drain tiles should be part of one system. Material directly beneath the floor slab and surrounding drain tile should be free-draining. Based on our recommendation to undercut and backfill the undercut, we expect that the drain tile will be placed in clearstone. Consider using two sump pits in this drain system, with one preferably being outside the house. Both sump pits should be part of one drain system. The exterior pit should be accessible through a manhole and be deep enough to allow continuous pumping with a large-capacity pump. A permanent pump is not required in the exterior sump pit. A portable pump may be placed within the pit during periods of high groundwater or when the groundwater is to be temporarily lowered. A backup power source is recommended, preferably one that will turn on automatically should the main power be lost.

Clearstone is not a filter and will allow fine soils to travel with water. At this site it appears that the rate of inflow of groundwater into the clearstone will be rather slow and therefore the risk of fine soils migrating with groundwater is significantly reduced. NTS can provide recommendations for reducing the potential for fine-soil migration if this appears to be a concern at this site during excavation.

To reduce the amount of surface water entering the under-drain system, the upper one foot or so of wall backfill, beneath a topsoil layer, should consist of clay. Wall backfill below this clay layer should consist of clean sand.

An additional step to reduce the potential for water to infiltrate the wall backfill would be treatment with powdered bentonite. Where this treatment is used, mix approximately two pounds of powdered bentonite per square foot of treated area into approximately two inches of soil. Bentonite is very sticky and messy so this material should be placed below any topsoil layer. Also, slope this layer away from the foundation to provide proper drainage.

Driveway

Soft clayey fill occurs at the location of the proposed driveway. Also, backfill of the test pit

performed at/near the proposed location of the driveway is expected to be soft. Expect to undercut the location of the driveway at least two feet and backfill with crushed rock to provide a stable subgrade.

Other Concerns

The recommended foundation system would be capable of withstanding differential settlement and significantly reduce problems related to differential settlement, basically evening out effects of settlement. With a properly-designed foundation, differential settlement may occur but the house and openings (doors and windows) would be expected to remain square. Also, sidewalks, driveways, and stoops, as well as landscaping, may be effected by settlement, potentially resulting in trip hazards.

Since there remains some uncertainty regarding potential settlement at this site, we recommend that all utilities have a flexible connection where they pass through or beneath the foundation wall. This would be expected to reduce the potential for utilities to break should settlement occur.

It is critical that the building footprint be properly undercut and the undercut backfill be placed on undisturbed soil. We recommend that NTS be retained to observe and direct the undercutting and backfilling process.

The reader may call with questions regarding this report.

Respectfully,

Michael J. Krawczyk, P.E.
NUMMELIN TESTING SERVICES, INC.
mjk/ecl