

City Hall: 218-692-2688  
Planning & Zoning: 218-692-2689  
Fax: 218-692-2687



13888 Daggett Bay Rd  
Crosslake, Minnesota 56442  
[www.cityofcrosslake.org](http://www.cityofcrosslake.org)

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## **CITY OF CROSSLAKE**

### **PLANNING COMMISSION/BOARD OF ADJUSTMENT**

**November 17, 2023**

**9:00 A.M.**

Crosslake City Hall  
13888 Daggett Bay Rd, Crosslake MN 56442  
(218) 692-2689

### **PUBLIC HEARING NOTICE**

**Applicant:** Robert W & Barbara J Eng

**Authorized Agent:** Wes Hanson Builders

**Site Location:** 37241 Twin Bay Dr, Crosslake, MN 56442 on Rush Lake - GD

**Variance for:**

- Lake setback of 40 feet where 75 feet is required to proposed dwelling
- Lake setback of 45 feet where 75 feet is required to proposed septic system
- Side yard setback of 5 feet where 10 feet is required to proposed septic system
- Dwelling setback of 17 feet where 20 feet is required to proposed septic drainfield

**To construct:**

- 1,169 square foot dwelling along with 257 square foot covered deck and steps
- A new septic system

**Notification:** Pursuant to Minnesota Statutes Chapter 462, and the City of Crosslake Zoning Ordinance, you are hereby notified of a public hearing before the City of Crosslake Planning Commission/Board of Adjustment. Property owners have been notified according to MN State Statute 462 & published in the local newspaper. Please share this notice with any of your neighbors who may not have been notified by mail.

**Information:** Copies of the application and all maps, diagrams or documents are available at Crosslake City Hall or by contacting the Crosslake Planning & Zoning staff at 218-692-2689. Please submit your comments in writing including your name and mailing address to Crosslake City Hall or ([crosslakepz@crosslake.net](mailto:crosslakepz@crosslake.net)).



## STAFF REPORT

Property Owner/Applicant: Robert W & Barbara Eng

Parcel Number(s): 14070613, 14070614

Application Submitted: October 13, 2023

Action Deadline: December 11, 2023

City 60 Day Extension Letter sent / Deadline: NA / NA

Applicant Extension Received / Request: NA / NA

City Council Date: NA

**Authorized Agent:** Wes Hanson Builders

**Variance for:**

- Lake setback of 40 feet where 75 feet is required to proposed dwelling
- Lake setback of 45 feet where 75 feet is required to proposed septic system
- Side yard setback of 5 feet where 10 feet is required to proposed septic system
- Dwelling setback of 17 feet where 20 feet is required to proposed septic drainfield

**To construct:**

- 1,169 square foot dwelling along with 257 square foot covered deck and steps
- A new septic system

**Current Zoning:** Shoreland District

**Existing Impervious Coverage:**

16.1%

**Proposed Impervious Coverage:**

18.9%

- A stormwater management plan was submitted with the variance application
- Compliant septic compliance inspection on file dated
- Septic design was submitted with the application for approval pending variance outcome

**Parcel History:**

- Anderson's Twin Bay Shores Plat established in 1967
- October 1991 – Variance of 5 foot from cabin and guest cabin
- November 1991 – 29x29 Basement under existing home
- April 1992 – Update septic
- March 1993 – 24x26 Garage
- January 2004 – Replace roof – change in pitch, no increase in living area
- September 2006 – Reconstruct existing 280 sq ft guest home
- July 2011 – Removal of 6 trees
- June 2016 – Walkway, water-oriented accessory structure (WOAS), and dirt moving
- June 2020 – variance approved for addition; deck; steps; septic

**Agencies Notified and Responses Received:**

**County Highway Dept: N/A**

**DNR: No comment received before packet cutoff date**

**City Engineer: N/A**

**Lake Association: No comment received before packet cutoff date**

**Crosslake Public Works: No comment received before packet cutoff date**

**Crosslake Park, Recreation & Library: N/A**

**Concerned Parties: Comment(s) received**

**POSSIBLE MOTION:**

To approve/table/deny the variance to allow:

- Lake setback of 40 feet where 75 feet is required to proposed dwelling
- Lake setback of 45 feet where 75 feet is required to proposed septic system
- Side yard setback of 5 feet where 10 feet is required to proposed septic system
- Dwelling setback of 17 feet where 20 feet is required to proposed septic drainfield

**To construct:**

- 1,169 square foot dwelling along with 257 square foot covered deck and steps
- A new septic system

As shown on the certificate of survey dated 10-19-2023



# CERTIFICATE OF SURVEY

LOT 14 AND PART OF LOT 13, BLOCK 1, ANDERSON'S TWIN BAY SHORES,  
SECTION 7, TOWNSHIP 137 NORTH, RANGE 27 WEST,  
CROW WING COUNTY, MINNESOTA

### LEGAL DESCRIPTION PER DOCUMENT NUMBER A-847434

All of Lot Fourteen (14), Block One (1), and that part of Lot Thirteen (13), Block One (1), Anderson's Twin Bay Shores, lying East of the following described line: Beginning at the northwest corner of said Lot 13; thence running South 13 degrees 23 minutes 20 seconds East 174 feet more or less to the northerly shore of the Pine River Channel overflow and there terminating. For the purpose of this description, the North line of said Lot 13 is considered to be due East and West line.

together with all hereditaments and appurtenances belonging thereto.

### IMPERVIOUS CALCULATIONS

EXISTING	IMPERVIOUS AREA (sq.ft.)	Net Area (sq.ft.)	Percent Impervious (sq.ft.)
House	799	18,790	4.3%
Guest Cabin	292	18,790	1.6%
Garage	647	18,790	3.4%
Grass Driveway	434	18,790	2.3%
Pavers & Concrete	856	18,790	4.6%
<b>Total</b>	<b>3,028</b>	<b>18,790</b>	<b>16.1%</b>

### IMPERVIOUS CALCULATIONS

PROPOSED	IMPERVIOUS AREA (sq.ft.)	Net Area (sq.ft.)	Percent Impervious (sq.ft.)
Proposed House	1,169	18,790	6.2%
Guest Cabin	292	18,790	1.6%
Garage	647	18,790	3.4%
Grass Driveway	434	18,790	2.3%
Proposed Covered Deck	257	18,790	1.4%
Exist. & Proposed Conc. & Pavers	750	18,790	4.0%
<b>Total</b>	<b>3,549</b>	<b>18,790</b>	<b>18.9%</b>

### RUN OFF CALCULATIONS

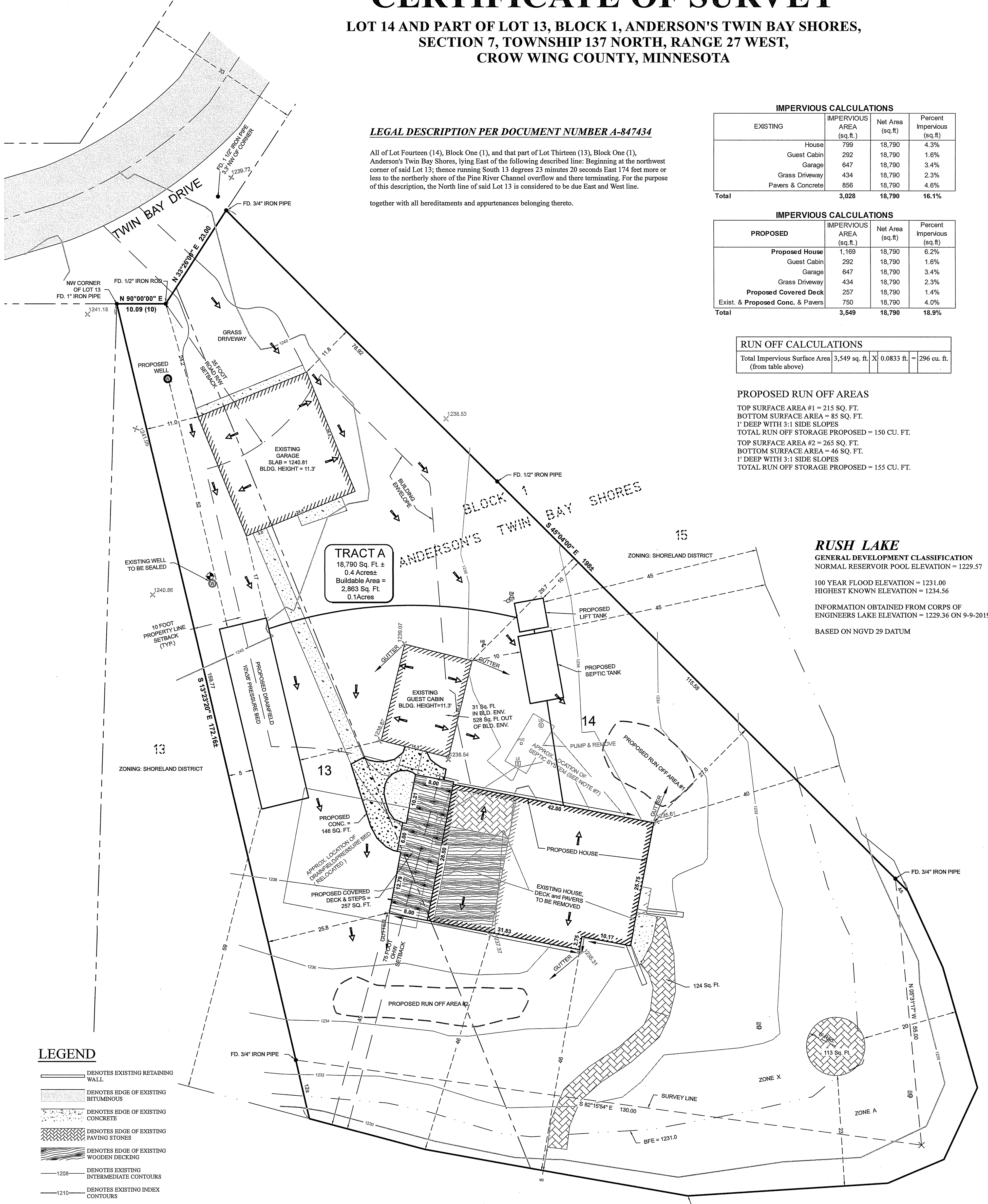
Total Impervious Surface Area (from table above)	3,549 sq. ft.	X	0.0833 ft.	=	296 cu. ft.
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### PROPOSED RUN OFF AREAS

TOP SURFACE AREA #1 = 215 SQ. FT.  
BOTTOM SURFACE AREA = 85 SQ. FT.  
1' DEEP WITH 3:1 SIDE SLOPES  
TOTAL RUN OFF STORAGE PROPOSED = 150 CU. FT.  
TOP SURFACE AREA #2 = 265 SQ. FT.  
BOTTOM SURFACE AREA = 46 SQ. FT.  
1' DEEP WITH 3:1 SIDE SLOPES  
TOTAL RUN OFF STORAGE PROPOSED = 155 CU. FT.

### RUSH LAKE

GENERAL DEVELOPMENT CLASSIFICATION  
NORMAL RESERVOIR POOL ELEVATION = 1229.57  
100 YEAR FLOOD ELEVATION = 1231.00  
HIGHEST KNOWN ELEVATION = 1234.56  
INFORMATION OBTAINED FROM CORPS OF ENGINEERS LAKE ELEVATION = 1229.36 ON 9-9-2019  
BASED ON NGVD 29 DATUM

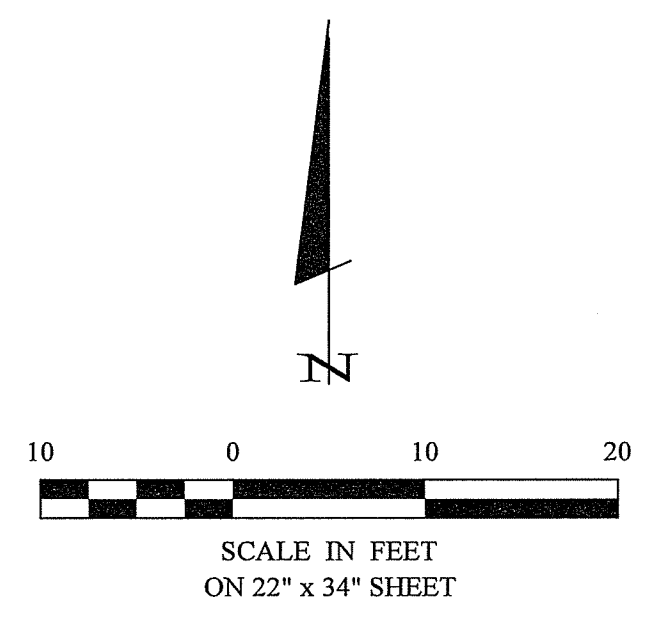


**TRACTA**  
18,790 Sq. Ft. ±  
0.4 Acres ±  
Buildable Area =  
2,863 Sq. Ft.  
0.1 Acres

- ### LEGEND
- DENOTES EXISTING RETAINING WALL
  - DENOTES EDGE OF EXISTING BITUMINOUS
  - DENOTES EDGE OF EXISTING CONCRETE
  - DENOTES EDGE OF EXISTING PAVING STONES
  - DENOTES EDGE OF EXISTING WOODEN DECKING
  - DENOTES EXISTING INTERMEDIATE CONTOURS
  - DENOTES EXISTING INDEX CONTOURS
  - DENOTES SPOT ELEVATION (EXISTING GRADE)
  - DENOTES EXISTING UTILITY POLE
  - DENOTES EXISTING ELECTRIC METER
  - DENOTES EXISTING ELECTRIC OUTLET
  - DENOTES EXISTING WELL
  - DENOTES EXISTING HOSE BIB
  - DENOTES EXISTING SEPTIC VENT, SEPTIC CLEANOUT, & SEPTIC TANK LID
  - DENOTES EXISTING SEPTIC LIFT STATION
  - DENOTES CALCULATED POSITION
  - BENCHMARK:**  
HIGH POINT OF WELL  
ELEV. = 1241.06
  - DENOTES MONUMENT FOUND

### NOTES:

- Contour interval as shown = 2 foot. Based on NGVD 29 datum. Contours shown have been obtained using standard survey topographic methodologies. Field located on 9-9-2019.
- Zoning for subject tract = "Shoreland District".
- There are no bluffs within surveyed property.
- Property is in "Zone X" and "Zone A" as per the FIRM, Flood Insurance Rate Map. "Zone A" definition: Areas of 100-year flood base elevations and flood hazard factors not determined. "Zone X" definition: Areas of minimal flooding.
- Parcel ID of subject parcel: 14070613.
- The property address of subject parcel: 37241 Twin Bay Drive.
- Approximate location of existing septic system per sketch prepared by Martin Joyce Septic Service, LLC.
- Approximate location of proposed septic system per sketch prepared by Martin Joyce Septic Service, LLC.
- No wetlands were found on September 25th, 2023 at the site per Ben Meister, Meister Environmental, LLC. MN Certified Wetland Delineator #1031.
- Cut/Fill Calculation: Net zero (280 cu.ft. cut - 280 cu.ft. fill).

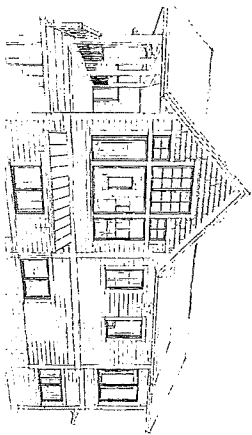


ORIENTATION OF THIS BEARING SYSTEM IS BASED ON THE NORTH LINE OF LOT 13 TO HAVE AN ASSIGNED BEARING OF N 90°00'00" E.

LETTERS	CERTIFICATE OF SURVEY		PROJECT MANAGER:	PROJECT No.:	DATE:	REVISIONS		I HEREBY CERTIFY THAT THIS SURVEY, PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.		30206 Rasmussen Road Suite 1 P. O. Box 874 Pequot Lakes, MN 56472 218-568-4940 www.stonemarksurvey.com
	1	Robert Eng	CMH	23254	9-6-2023	DATE	DESCRIPTION			
1	7894 Ithaca Lane North	CHECKED BY:	FILE NAME:	SCALE:	10-5-2023	Revisions per City Comments	CMH	CYNTHIA M. HILDE PLS#44881 DATE 10/19/2023 LIC. NO. 44881		
	Maple Grove, MN 55311	BY:	C23254.dwg	HORZ. 1"=10'	10-9-2023	Added gutters and revised runoff area	CMH			
		DRAWN BY:	FIELD BOOK:	VERT. NONE	10-19-2023	Revised Stormwater	CMH			

# ENG'S ESCAPE

## 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE



### BID NOTES:

- GENERAL NOTES:  
 1) DEMO EXISTING CABIN DOWN TO EXISTING FOUNDATION  
 2) RESIDE EXISTING GARAGE TO MATCH CABIN (VERIFY DIMENSIONS)

### EXTERIOR:

- 1) STOVE
- 2) SHED: 8'0" X 10'0" PERIM. W/ 6 3/4" REVEAL  
 - CEDAR WOOD SHAKES (STRAIGHT EDGES)
- 3) TRIM  
 - CORNER TRIM  
 - DOOR AND WINDOW  
 - HEADS = 5/8" X 8" (RAIN 1" PAST SIDES)  
 - SIDES = 5/4" X 4" @ 15 DEGREE ANGLE (RAIN 1" PAST SIDES)  
 - RIBBLE SHED FREEZE = 2 X 2
- 4) WINDOWS: ELEVATE - SEE SCHEDULE FOR DETAILS
- 5) DOORS: SEE SCHEDULE FOR DETAILS  
 - MAIN ENTRY = 3'0" X 8'0" - HALF-LITE - (KNOTTY ALDER)  
 - LL DOOR = 3'0" X 8'0" - HALF-LITE
- 6) SOFFIT  
 - CEDAR WOOD - VENTED - INTERIO CORNER
- 7) FAS: CEDAR WOOD - VENTED 1" OVER 1" @ (COLOR TBD)
- 8) OUTLET  
 - BLACK - MATCH FASCA
- 9) ROOFING  
 - STANDING SEAM METAL (COLOR TBD)  
 - CHARCOAL
- 10) DECKING  
 - STANDING SEAM METAL (COLOR TBD)
- 11) DECK RAILING  
 - STAINED CEDAR 2" X BOTTOM RAIL (COLOR TBD)
- 12) BRACKET & POSTS  
 - STAINED CEDAR 2" X 4" POSTS

### INSULATION:

- 1) FOUNDATION INSUL @ EXTERIOR
- 2) SPRAY FOAM @ INTERIOR
- 3) FLOOR INSUL
- 4) FLOOR  
 - MAIN LEVEL: G-100 INSUL OVER LOWER LEVEL BEDROOMS  
 - LOWER LEVEL: FLOOR @ BEDROOMS
- 5) EXTERIOR: SOLID BATT INSUL @ BEDROOMS
- 6) INTERIOR: R-24 BLOWN IN BATT INSUL @ BEDROOMS
- 7) ATTIC  
 - R-80 BLOWN IN

### INTERIOR:

- 1) SHIM/STOCK
- 2) MEDIUM KNOCKDOWN CEILING
- 3) FLOOR: ENGINEERED HARDWOOD - HICKORY
- 4) CEILING: TILE - MR BATH SHOWER
- 5) CEILING: T-15 G KNOTTY PINE (TBD) - GREAT ROOM - SUNROOM
- 6) DOORS  
 - MATERIAL = KNOTTY ALDER  
 - STYLE = PANEL FLAT
- 7) DOOR HARDWARE  
 - FINISH = STAINED (COLOR TBD)  
 - STYLE = LEVER
- 8) COLOR = BLACK  
 - BLACK: BLACK OIL COGNAC, BLACK  
 - HEAD = 5/4" X 1 1/2" (RAIN 3/4" PAST SIDES)  
 - SILL = 5/4" X 1 1/2" (RAIN 3/4" PAST SIDES)  
 - FINISH = 3/4" X 3 1/2" - MAIN LEVEL  
 - BRUSH = 3/4" X 3 1/2" - ON LOWER LEVEL
- 9) PAINT: 1/2" X 4" PINE TRIM W/ 2 X 4 PINE TOP RAIL  
 - BLACK W/ OUGHT IRON SPINDLES

### CABINETS:

- 1) KITCHEN: BATHS, LAUNDRY, DRINK AREAS  
 - DOOR STYLE = SHAKER  
 - DRAWER STYLE = WEDGE CORNER FL  
 - FINISH = STAIN - KNOTTY ALDER  
 - SOFT CLOSE
- 2) PANTRY - SHELVE
- 3) INTERIORS = WHITE MELAMINE

### COUNTERTOPS:

- 1) KITCHEN: WHITE MARBLE BATHROOM, DRINK AREA
- 2) GRANITE BATHROOM, DRINK AREA, LL BATH, LL BATH
- 3) CULTURED MARBLE = CROWN, LL BATH, LL BATH
- 4) LAMINATE = LAUNDRY

### BAR/GRILL:

- 1) LL FAMILY ROOM  
 - HARD STONE  
 - RANDED HEARTH (MATERIAL TBD)  
 - WOOD MANTEL

### PLUMBING:

- 1) SEE ELECTRICAL SHEET FOR DETAILS
- 2) SEE ELECTRICAL SHEET FOR DETAILS

### ELECTRICAL:

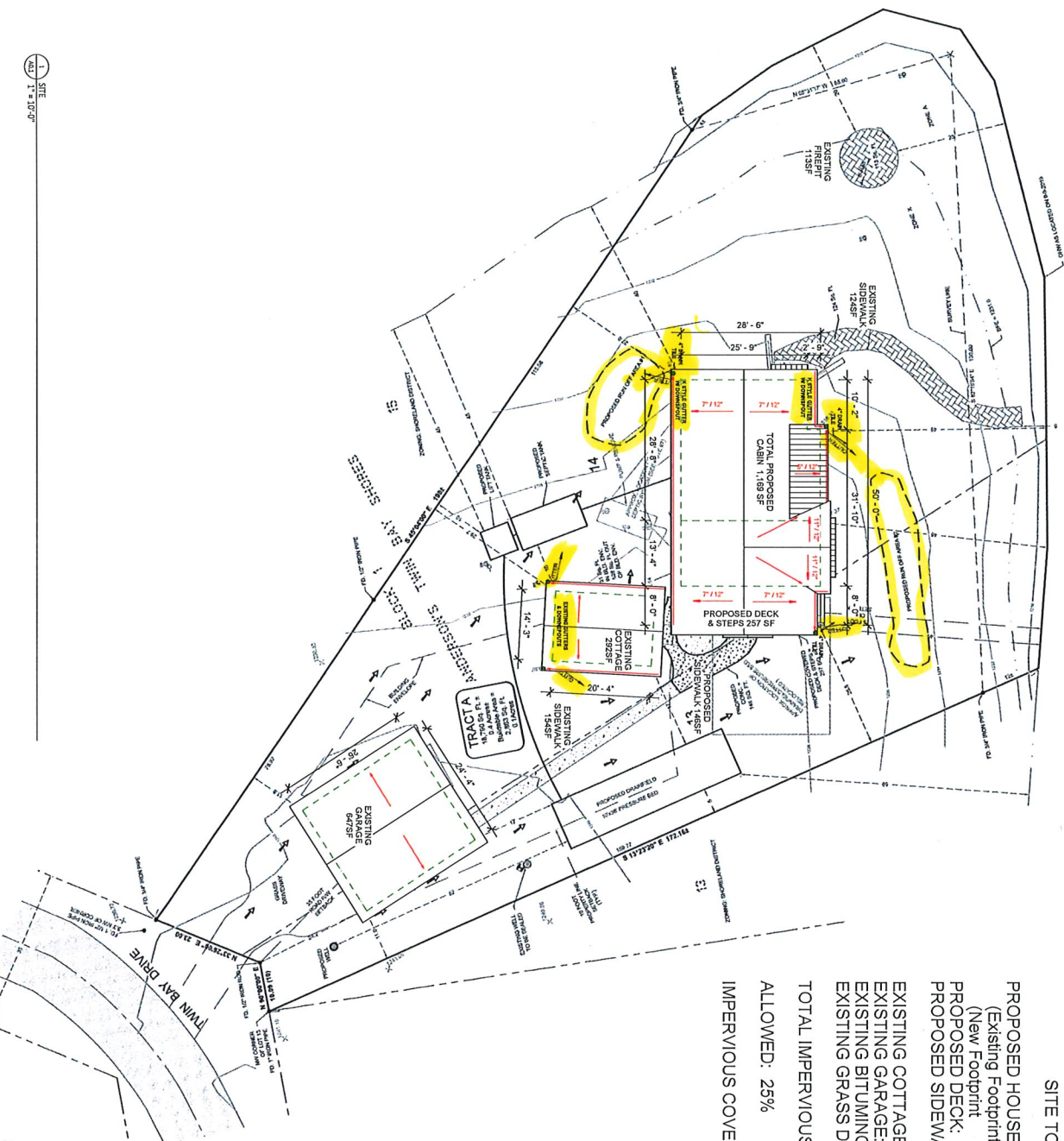
- 1) SEE PLAN FOR LIGHTING / SWITCH LOCATION

NUMBER	TITLE	SHEET INDEX
001	GENERAL NOTES	1
002	EXTERIOR	2
003	INSULATION	3
004	INTERIOR	4
005	CABINETS	5
006	COUNTERTOPS	6
007	BAR/GRILL	7
008	PLUMBING	8
009	ELECTRICAL	9

PROPERTY OF WES HANSON BUILDERS, INC.

<b>TO.O</b>	REVISIONS	
ENG'S ESCAPE ENG, ROBERT + BARBARA 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE	BUILDERS Inc <b>WES HANSON</b> GENERAL CONTRACTORS AND PROFESSIONAL DESIGN	34103 COUNTY ROAD 3 CROSSLAKE, MN 56442 PHONE (218) 692-1760 FAX (218) 692-1770
TITLE SHEET		

1 SITE  
 1/4" = 10'-0"



SITE TOTAL: 18,790SF

PROPOSED HOUSE: (Existing Footprint 799sf) (New Footprint 370sf)	1,169SF
PROPOSED DECK:	257SF
PROPOSED SIDEWALK:	1465F
EXISTING COTTAGE:	292SF
EXISTING GARAGE:	647SF
EXISTING BITUMINOUS:	604SF
EXISTING GRASS DRIVE:	434SF
TOTAL IMPERVIOUS SURFACE:	3,549SF
ALLOWED: 25%	4,697.5SF
IMPERVIOUS COVERAGE:	18.9%

PROPERTY OF WES HANSON BUILDERS, INC.



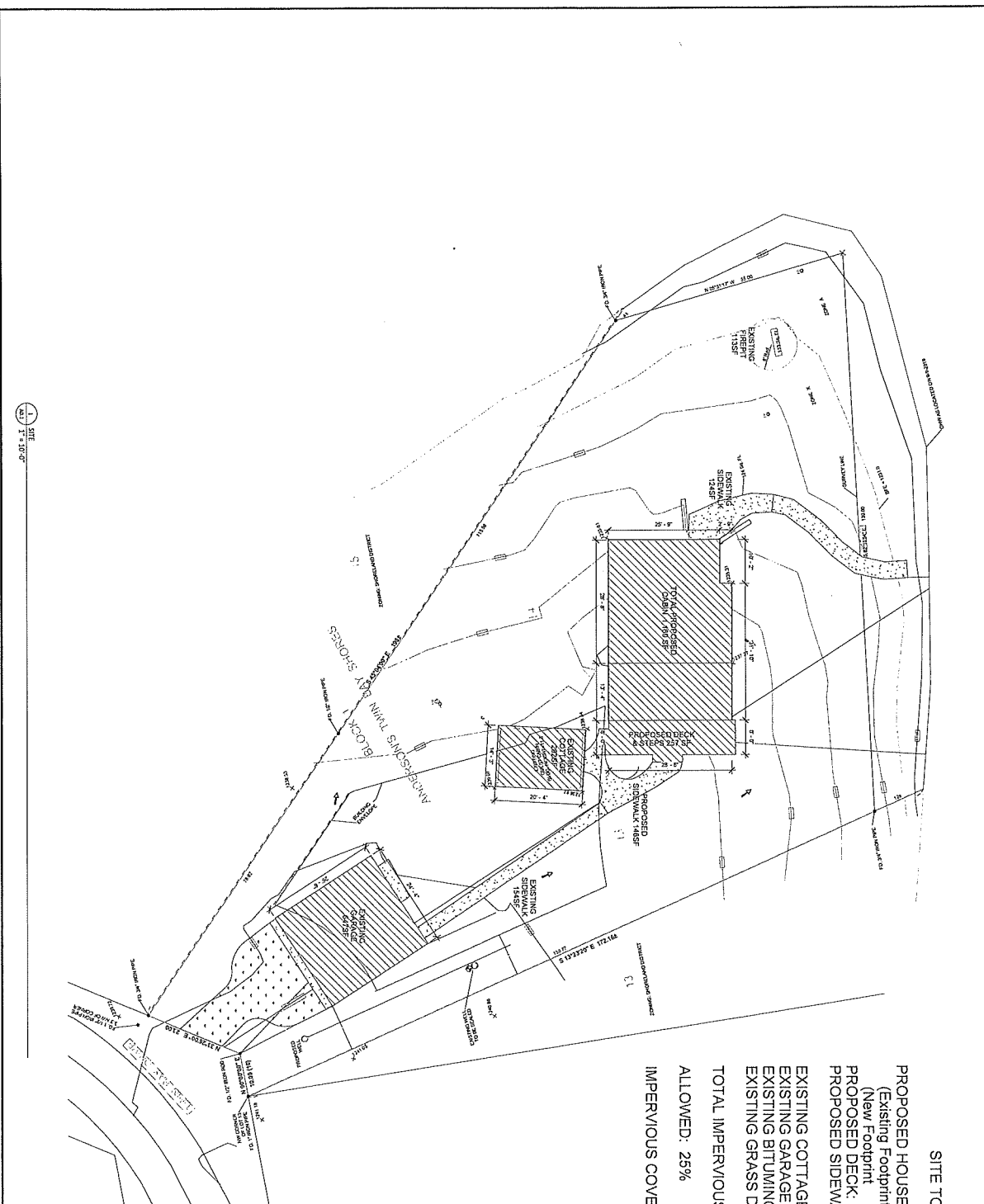
A0.1

ENG'S ESCAPE  
 ENG, ROBERT + BARBARA  
 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE  
 ARCHITECTURAL SITE PLAN

REVISIONS

**WES HANSON BUILDERS INC.**  
 GENERAL CONTRACTORS AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
 CROSSLAKE, MN 55442  
 PHONE (218) 692-1760  
 FAX (218) 692-1770



SITE TOTAL: 18,790SF

PROPOSED HOUSE: (Existing Footprint 799sf) PROPOSED DECK: PROPOSED SIDEWALK:	1,169SF 257SF 146SF
EXISTING COTTAGE: EXISTING GARAGE: EXISTING BITUMINOUS: EXISTING GRASS DRIVE:	292SF 647SF 604SF 434SF
TOTAL IMPERVIOUS SURFACE:	3,549SF
ALLOWED: 25%	4,697.5SF
IMPERVIOUS COVERAGE:	18.9%

1 SITE  
1" = 30'-0"

PROPERTY OF WES HANSON BUILDERS, INC.

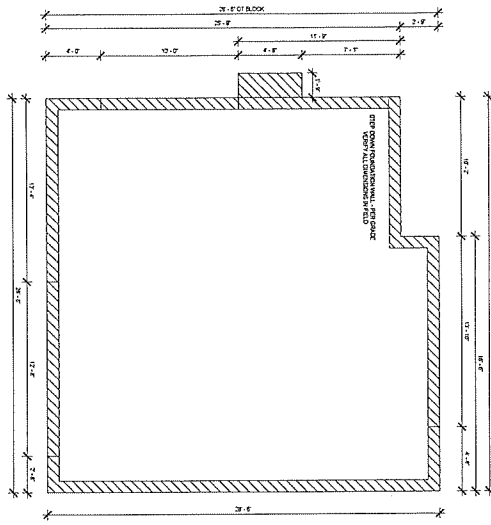


A0.1	ENGINEER	ENG'S ESCAPE
	ARCHITECT	ENG, ROBERT + BARBARA
	PROJECT	37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE
	DATE	ARCHITECTURAL SITE PLAN

REVISIONS

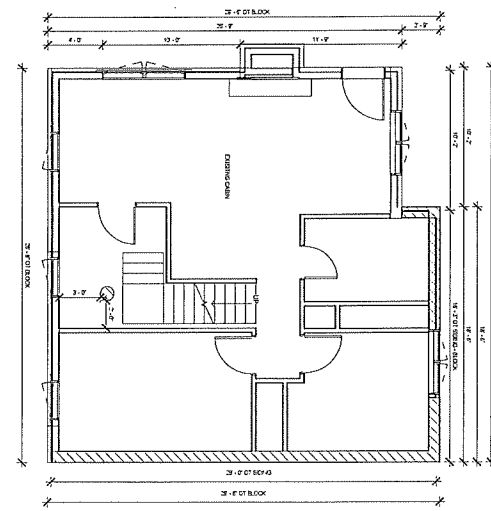

**WES HANSON BUILDERS INC.**  
 GENERAL CONTRACTORS  
 AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
 CROSSLAKE, MN 56442  
 PHONE (218) 692-1760  
 FAX (218) 692-1770

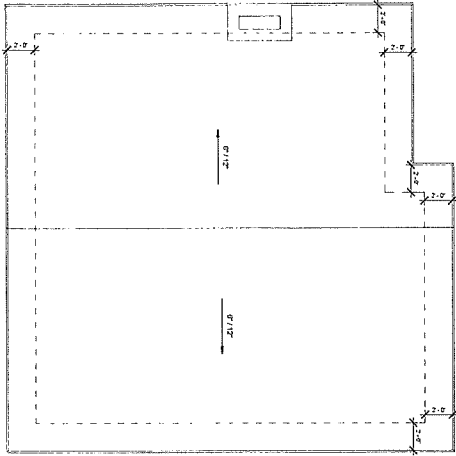


1-1 EXISTING FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"

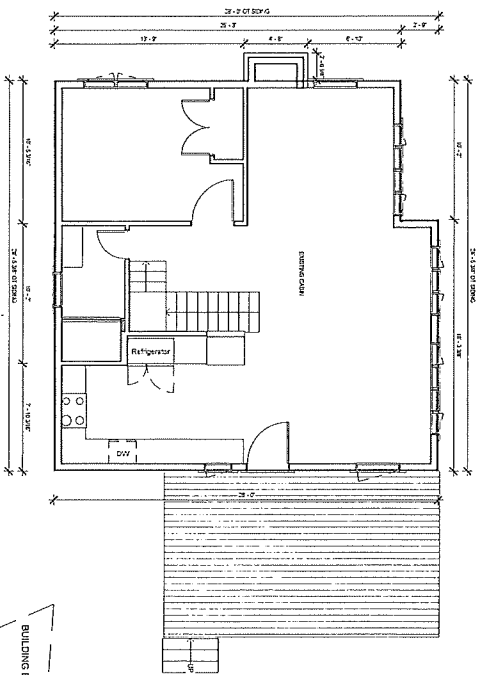
FOUNDATIONS SHALL BE EXISTING OR NEW  
AS SHOWN AND APPROVED BY THE  
APPLICABLE AGENCIES.



1-2 EXISTING LOWER LEVEL FLOOR PLAN  
SCALE: 1/4" = 1'-0"



1-3 EXISTING ROOF PLAN  
SCALE: 1/4" = 1'-0"



1-4 EXISTING MAIN LEVEL FLOOR PLAN  
SCALE: 1/4" = 1'-0"

BUILDING ENVELOPE

PROPERTY OF WES HANSON BUILDERS, INC.

REVISIONS

NO.	DATE	DESCRIPTION

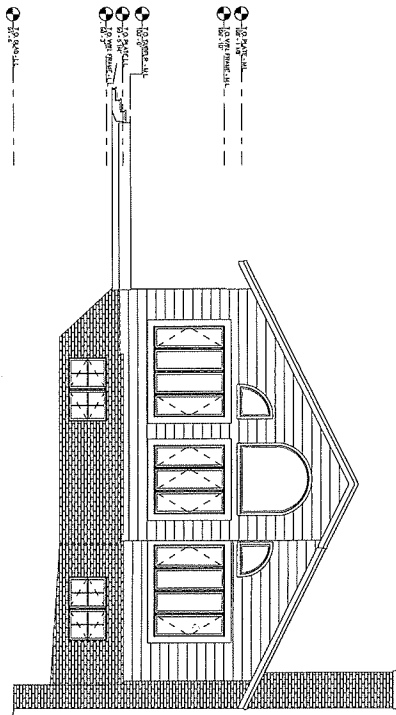
**WESHANSON** BUILDERS, INC.  
GENERAL CONTRACTORS  
AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
CROSSLAKE, MN 56442  
PHONE (218) 692-1760  
FAX (218) 692-1770

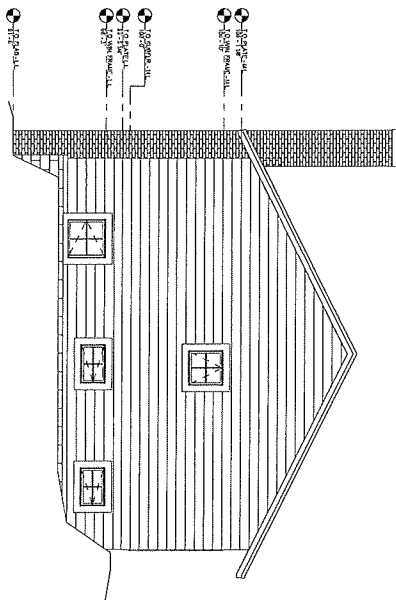
AA1.2

ENG'S ESCAPE  
ENG. ROBERT + BARBARA  
37241 TWIN BAY DRIVE, CROSSLAKE, MN - RUSH LAKE  
EXISTING FOUNDATION + LOWER + MAIN LEVEL FLOOR + ROOF PLAN  
DRAWN BY: ECH  
CHECKED BY: WWS  
DATE: 5.13.23

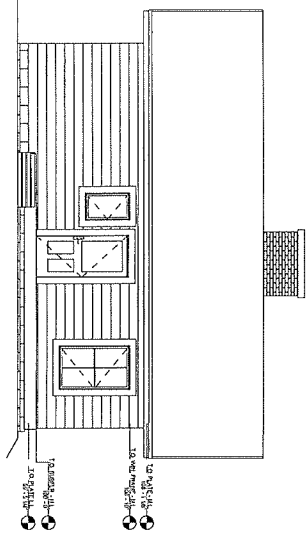




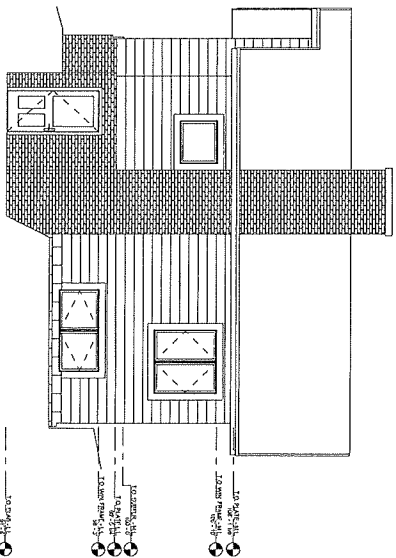
1 EXISTING NORTH ELEVATION  
SCALE: 1/4" = 1'-0"



1 EXISTING SOUTH ELEVATION  
SCALE: 1/4" = 1'-0"



1 EXISTING EAST ELEVATION  
SCALE: 1/4" = 1'-0"



1 EXISTING WEST ELEVATION  
SCALE: 1/4" = 1'-0"

PROPERTY OF WES HANSON BUILDERS, INC.

AA2.1

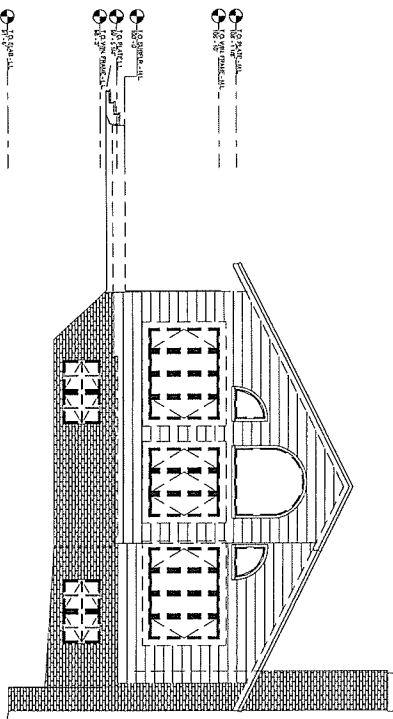
ENG'S ESCAPE  
 ENG. ROBERT + BARBARA  
 37241 TWIN BAY DRIVE, CROSSLAKE, MN - RUSH LAKE  
 EXISTING EXTERIOR ELEVATION

REVISIONS

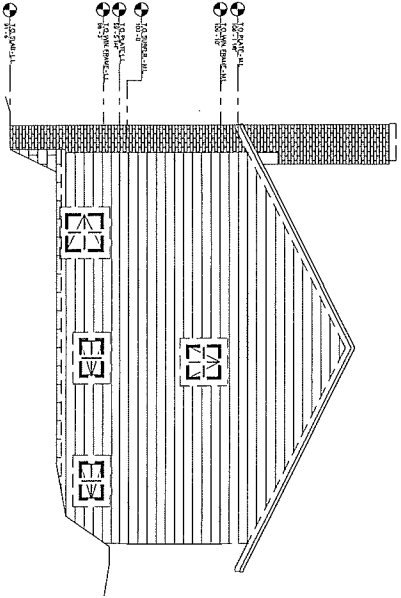
**WES HANSON** BUILDERS Inc.  
 GENERAL CONTRACTORS  
 AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
 CROSSLAKE, MN 56442  
 PHONE (218) 692-1780  
 FAX (218) 692-1770

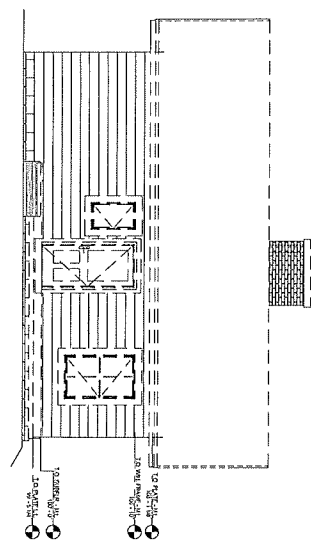




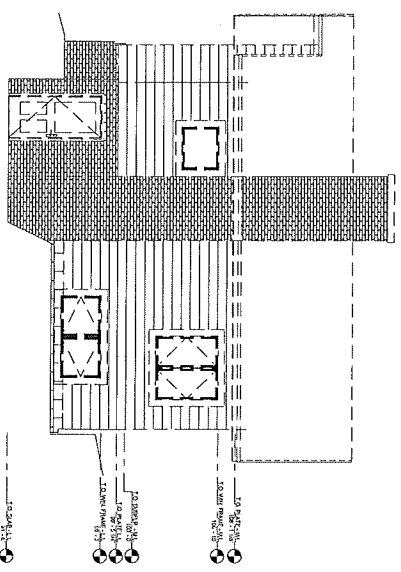
2.1 DEMO NORTH ELEVATION  
1/4" = 1'-0"



2.2 DEMO SOUTH ELEVATION  
1/4" = 1'-0"



2.3 DEMO EAST ELEVATION  
1/4" = 1'-0"



2.4 DEMO WEST ELEVATION  
1/4" = 1'-0"

PROPERTY OF WES HANSON BUILDERS, INC.

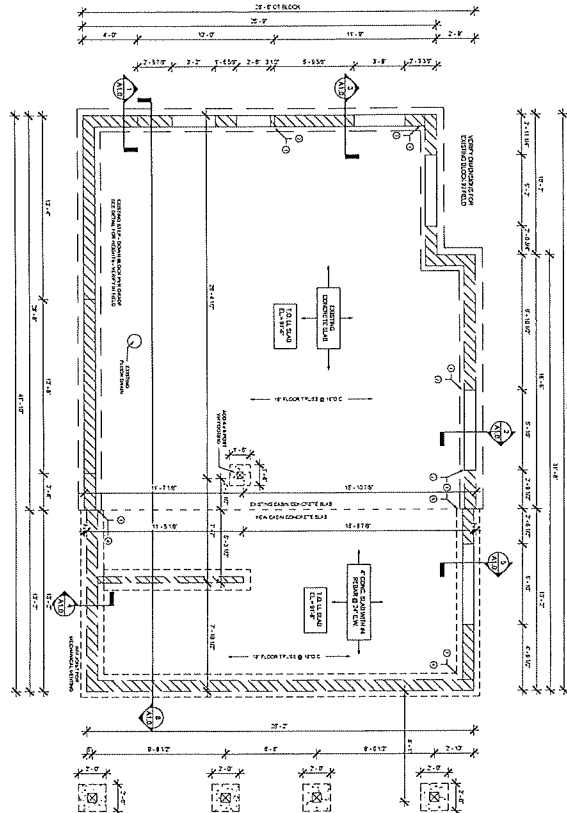
REVISIONS



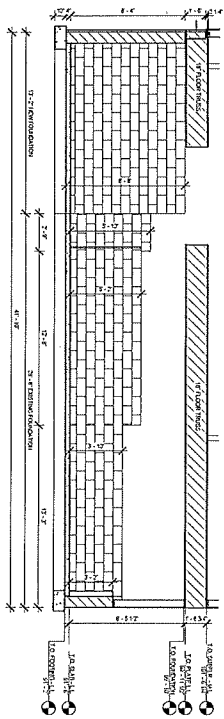
34103 COUNTY ROAD 3  
CROSSLAKE, MN 55442  
PHONE (218) 692-1760  
FAX (218) 692-1770

ENG'S ESCAPE  
ENG, ROBERT + BARBARA  
37241 TWIN BAY DRIVE, CROSSLAKE, MN - RUSH LAKE  
DEMO ELEVATIONS

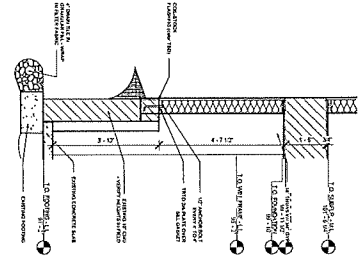
D2.1  
DRAWN BY: JMS  
CHECKED BY: JMS  
DATE: 10/22/23



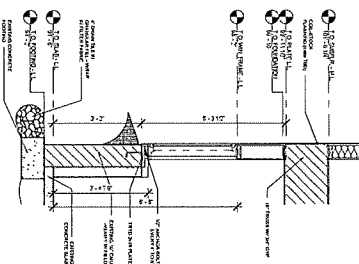
1.0 SLAB COTTAGE  
1/4" = 1'-0"



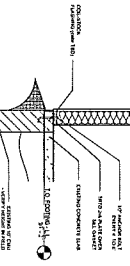
FOUNDATION WALL  
1/4" = 1'-0"



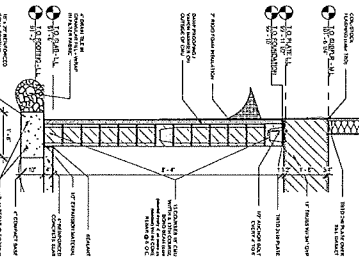
EXISTING MAIN WALL  
1/4" = 1'-0"



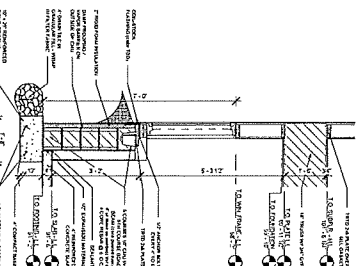
EXISTING WINDOW  
1/4" = 1'-0"



EXISTING WALK OUT  
1/4" = 1'-0"



NEW MAIN EAST  
1/4" = 1'-0"



NEW WINDOW  
1/4" = 1'-0"



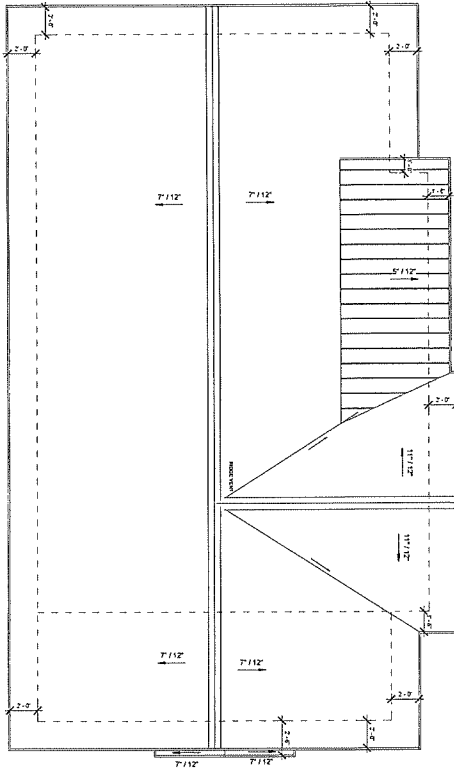
PROPERTY OF WES HANSON BUILDERS, INC.

A1.0	ENG'S ESCAPE
	ENG, ROBERT + BARBARA 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE
FOUNDATION PLAN	

REVISIONS
-----------

**WES HANSON** BUILDERS, INC.  
GENERAL CONTRACTORS  
AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
CROSSLAKE, MN 56442  
PHONE (218) 692-1760  
FAX (218) 692-1770



1 ROOF PLAN  
1/4" = 1'-0"

### LL WINDOW SCHEDULE

MARK	DESCRIPTION	QTY	UNIT	FINISH	REMARKS
101	1 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	1 1/2" x 6" DOUBLE GLAZED WINDOW
102	2 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	2 1/2" x 6" DOUBLE GLAZED WINDOW
103	3 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	3 1/2" x 6" DOUBLE GLAZED WINDOW
104	4 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	4 1/2" x 6" DOUBLE GLAZED WINDOW
105	5 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	5 1/2" x 6" DOUBLE GLAZED WINDOW
106	6 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	6 1/2" x 6" DOUBLE GLAZED WINDOW
107	7 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	7 1/2" x 6" DOUBLE GLAZED WINDOW
108	8 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	8 1/2" x 6" DOUBLE GLAZED WINDOW
109	9 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	9 1/2" x 6" DOUBLE GLAZED WINDOW
110	10 1/2" x 6" DOUBLE GLAZED WINDOW	2	SQ	OPF-ALUMINUM	10 1/2" x 6" DOUBLE GLAZED WINDOW

LL WINDOW SCHEDULE

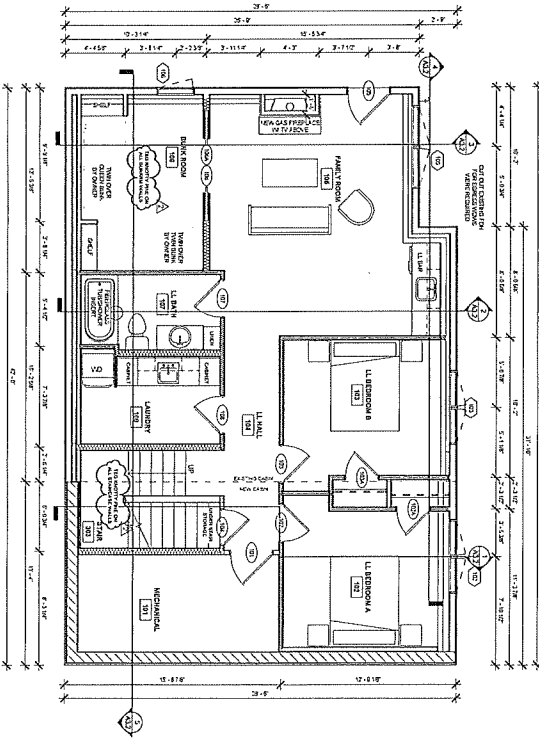
### LL DOOR SCHEDULE

MARK	DESCRIPTION	QTY	UNIT	FINISH	REMARKS
101	6'0" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	6'0" x 8'0" DOUBLE GLAZED DOOR
102	6'6" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	6'6" x 8'0" DOUBLE GLAZED DOOR
103	7'0" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	7'0" x 8'0" DOUBLE GLAZED DOOR
104	7'6" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	7'6" x 8'0" DOUBLE GLAZED DOOR
105	8'0" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	8'0" x 8'0" DOUBLE GLAZED DOOR
106	8'6" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	8'6" x 8'0" DOUBLE GLAZED DOOR
107	9'0" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	9'0" x 8'0" DOUBLE GLAZED DOOR
108	9'6" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	9'6" x 8'0" DOUBLE GLAZED DOOR
109	10'0" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	10'0" x 8'0" DOUBLE GLAZED DOOR
110	10'6" x 8'0" DOUBLE GLAZED DOOR	2	EA	OPF-ALUMINUM	10'6" x 8'0" DOUBLE GLAZED DOOR

LL DOOR SCHEDULE

### LL LOWER LEVEL FLOOR PLAN

1 LOWER LEVEL FLOOR PLAN  
1/4" = 1'-0"



BIM CHANGES: 7.10.23  
 GREAT ROOM: Replace window on deck to 3 panel patio door  
 SUNROOM: Replace swing door to pocket door  
 POST BIM CHANGES: 8.5.23  
 EXTERIOR: Change LP Siding, Trim, Soffit & Fascia to Wood ( Cedar)  
 INTERIOR: Soffit - white, W/ Beam - 5 wall, Banister - white

PROPERTY OF WES HANSON BUILDERS, INC.



A1.1

ENG'S ESCAPE  
 ENG, ROBERT + BARBARA  
 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE  
 LOWER LEVEL FLOOR + ROOF PLAN

REVISIONS

**WES HANSON** BUILDERS INC  
 GENERAL CONTRACTORS  
 AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
 CROSSLAKE, MN 56442  
 PHONE (218) 692-1763  
 FAX (218) 692-1770

### ML ROOM FINISH SCHEDULE

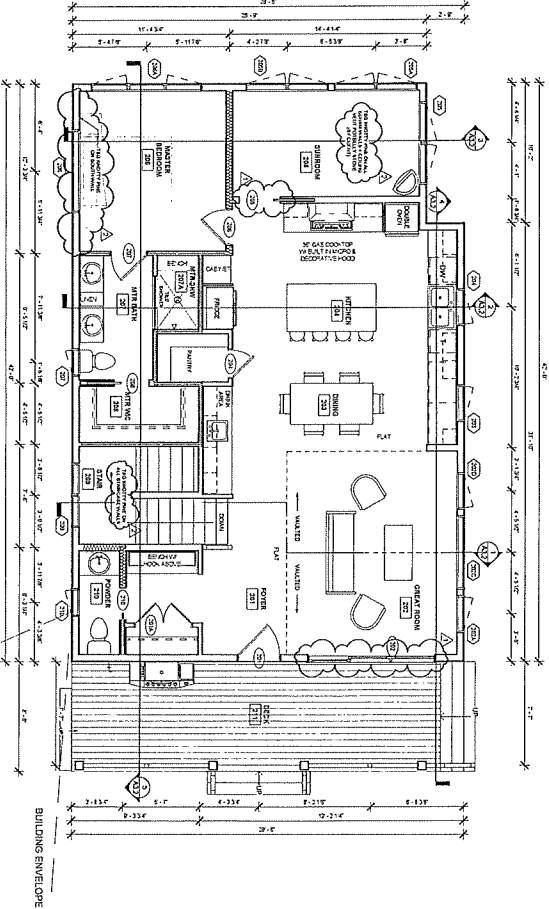
MARK	DESCRIPTION	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS
201	CEILING	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
202	WALL	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
203	FLOOR	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC
204	DOOR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
205	WINDOW	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
206	STAIR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
207	MECHANICAL	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH
208	ELECTRICAL	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
209	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT
210	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH

### ML DOOR SCHEDULE

MARK	DESCRIPTION	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS
201	CEILING	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
202	WALL	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
203	FLOOR	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC
204	DOOR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
205	WINDOW	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
206	STAIR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
207	MECHANICAL	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH
208	ELECTRICAL	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
209	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT
210	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH

### ML WINDOW SCHEDULE

MARK	DESCRIPTION	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS	MT	MA	MD	MS
201	CEILING	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
202	WALL	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP	POP
203	FLOOR	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC	CONC
204	DOOR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
205	WINDOW	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
206	STAIR	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
207	MECHANICAL	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH	MECH
208	ELECTRICAL	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC	ELEC
209	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT	PAINT
210	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH	FINISH



1 MAIN LEVEL FLOOR PLAN  
1/4" = 1'-0"

### REVISIONS

NO.	DESCRIPTION

**WES HANSON**  
BUILDERS INC.  
GENERAL CONTRACTORS  
AND PROFESSIONAL DESIGN

34103 COUNTY ROAD 3  
CROSSLAKE, MA 05442  
PHONE (218) 692-1760  
FAX (218) 692-1770

**ENG'S ESCAPE:**  
ENG, ROBERT + BARBARA  
37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE

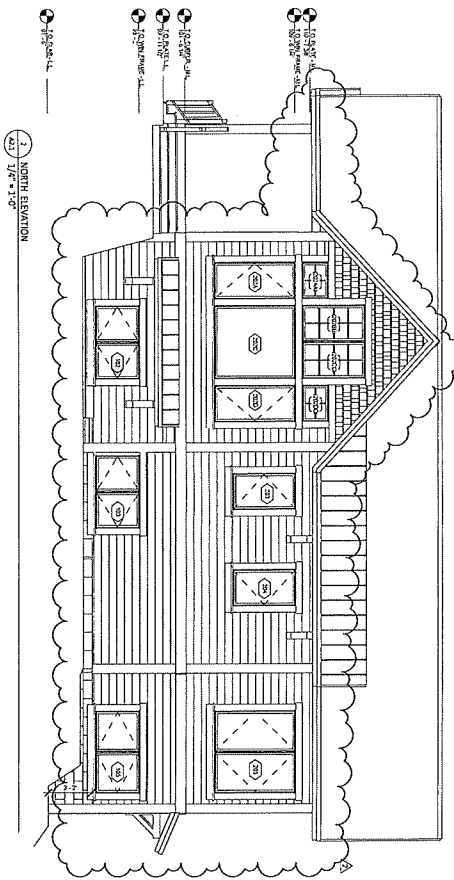
**MAIN LEVEL FLOOR PLAN**

DATE: 3/20/20

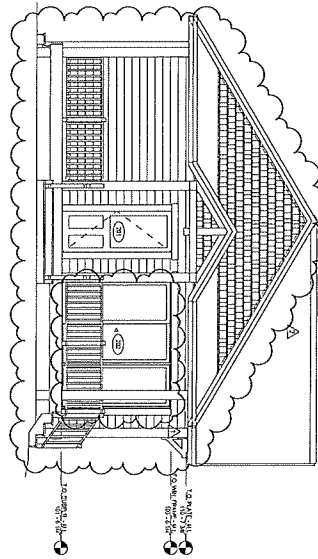
DRAWN BY: ECG  
CHECKED BY: AWB

A1.2

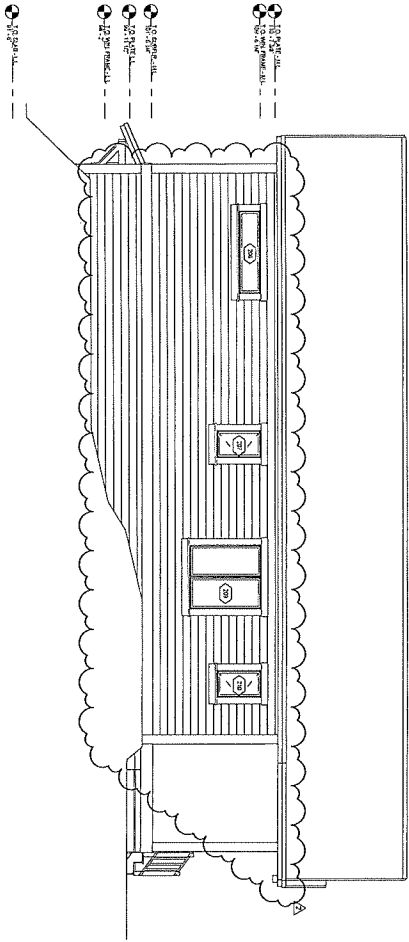
PROPERTY OF WES HANSON BUILDERS, INC.



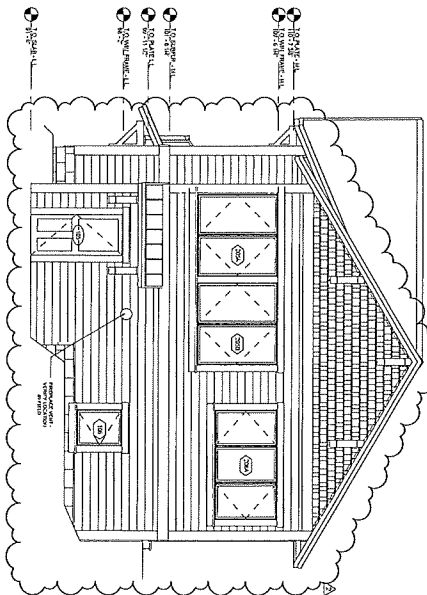
1 NORTH ELEVATION  
1/4" = 1'-0"



1 EAST ELEVATION  
1/4" = 1'-0"



1 SOUTH ELEVATION  
1/4" = 1'-0"



1 WEST ELEVATION  
1/4" = 1'-0"

818 QUINCY ST. A2.2  
 GREAT ROOM: Replace window on deck to 3 panel patio door  
 SUNROOM: Replace swing door to pocket door  
 POST BID CHANGES: 8.5.21  
 EXTERIOR: Change LP Siding, Trim, Sill & Fascade to Wood (Cedar)  
 INTERIOR: Add 1x6 Knotty Pine Sunroom walls + ceiling  
 Sillings: vinyl, 1x6 Sillings: 3 vinyl, Sillings: walls

PROPERTY OF WES HANSON BUILDERS, INC.

REVISIONS

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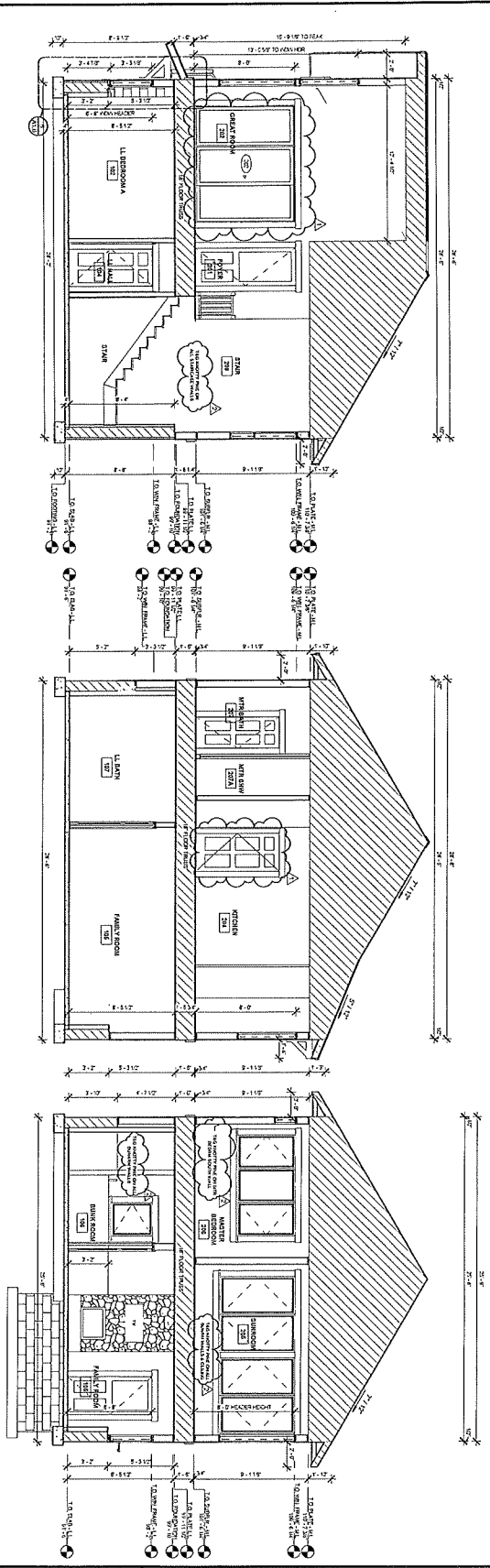
**WES HANSON** BUILDERS Inc.  
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 AND PROFESSIONAL DESIGN

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 CROSSLAKE, MN 55442  
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ENG'S ESCAPE  
 ENG, ROBERT + BARBARA  
 37241 TWIN BAY DR, CROSSLAKE - RUSH LAKE  
 EXTERIOR ELEVATION

DRAWING BY: ENG  
 CHECKED BY: JMW  
 DATE: 8.22.23

A2.1

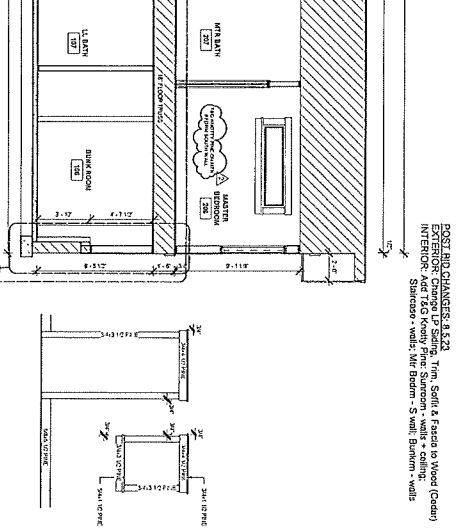
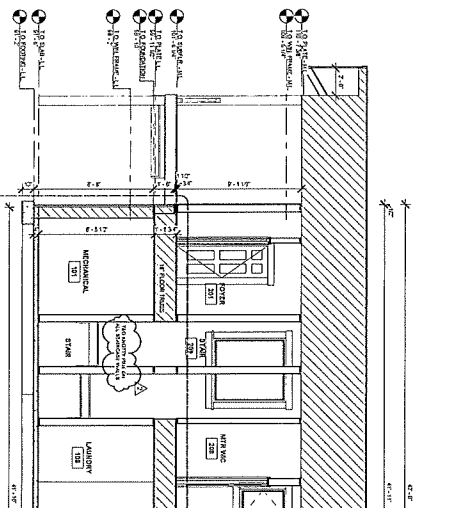
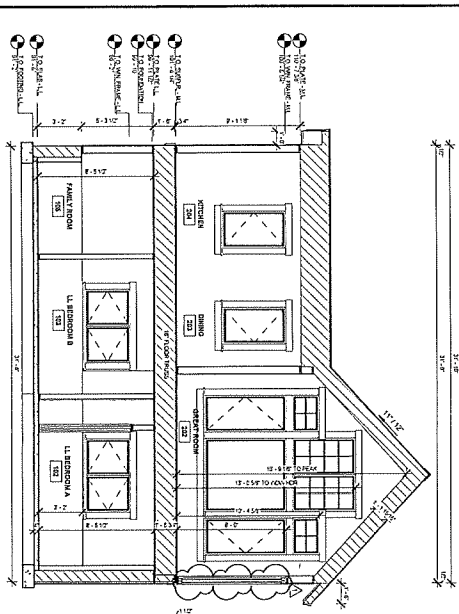


1 Sunlit Mt. Side  
1/4" = 1'-0"

2 Front  
1/4" = 1'-0"

3 Great Room Peak  
1/4" = 1'-0"

RIDGEMOUNT 7.10.23  
 GREAT ROOM: Replace window on deck to 3 pane patio door  
 SUNROOM: Replace swing door to pocket door  
 POSE RIDGEMOUNT 8.5.23  
 EXTERIOR CHANGES: L.P. Siding, Trim, Soffit & Fascia to Wood (Cedar)  
 INTERIOR CHANGES: Kitchen - 5 wall, Barium - walls  
 Staircase - walls, Mt. Side - 5 wall, Barium - walls



4 Sunlit Mt. Side  
1/4" = 1'-0"

5 Front  
1/4" = 1'-0"

6 Interior Trim  
3/8" = 1'-0"

RIDGEMOUNT 7.10.23  
 GREAT ROOM: Replace window on deck to 3 pane patio door  
 SUNROOM: Replace swing door to pocket door  
 POSE RIDGEMOUNT 8.5.23  
 EXTERIOR CHANGES: L.P. Siding, Trim, Soffit & Fascia to Wood (Cedar)  
 INTERIOR CHANGES: Kitchen - 5 wall, Barium - walls  
 Staircase - walls, Mt. Side - 5 wall, Barium - walls

A3.2  
 DRAWN BY: ENG  
 CHECKED BY: AMG  
 DATE: 5.22.23  
 PROPERTY OF WES HANSON BUILDERS, INC.

NO.	REVISIONS

**WES HANSON BUILDERS** INC.  
 GENERAL CONTRACTORS  
 AND PROFESSIONAL DESIGN  
 34103 COUNTY ROAD 3  
 CROSSLAKE, MN 56442  
 PHONE (218) 692-1760  
 FAX (218) 692-1770





# Crow Wing County Trench/Pressure Bed Design

Property Owner: Robert & Barbara Eng

Date: 4/17/2020

Mailing Address: 7894 Ithaca Lane N

Reviewed and approved  
10/4/2023 by Martin Joyce

City: Maple Grove

State: MN

Zip: 55311

Home Phone Number: Eric Carder

Cell: 218-820-4060

Site Address: 37241 Twin Bay Dr

City: Crosslake

State: MN

Zip: 56442

Driving directions if no address issued:

**APPROVED**

By Greg Kossan at 12:06 pm, Sep 14, 2020

Legal Description: All of Lot 14 Block 1 Anderson's Twin Bay Shores

Sec: 7      Twp: 137      Range: 27      Twp Name: Crosslake

Parcel Number: 14070613

Lake/ River: Whitefish

Lake/River Classification: GD

## Flow Data

Number of Bedrooms: 3

Dwelling Classification: I

System Type: I

GPD: 450

Estimated Flow in Gallons per Day (GPD)			
Bedrooms	Class I	Class II	Class III
2	300	225	180
3	450	300	218
4	600	375	256
5	750	450	294
6	900	525	332
7	1050	600	370
8	1200	675	408

## Wells

Deep Well: Proposed and Existing

Shallow Well: None

Wells to be sealed (if applicable)? Existing deep well.

## Setbacks

Tank(s) to: Well +50

House 10

Property Line 10

Drainfield to: Well 50

House 10

Property Line 5

Sewer Line to well: +50

Air Test: No

w/  
Variance

## Additional System Notes and Information: NEW SSTS

Need variances approved for the system to fit.

Designer Name: Martin Joyce

License Number: 2129

Address:

City:

State:

Zip:

Home Phone Number:

Cell: 218-820-2621

E-Mail Address: joycem@brainerd.net

I hereby certify that I have completed this work in accordance with all applicable requirements.

Designer Signature: 

Date: 4/17/2020

# Crow Wing County Trench/Pressure Bed Design

Property Owner: Robert & Barbara Eng

Date: 4/17/2020

Designer's Initials:

## Tank Sizing

- A. Septic Tank Capacity: 2250 Gallons  
 Tank Type: 2 Compartments Filter: Yes  
 Garbage Disposal/Basement Lift Station: Disposal and Lift
- B. Pump Tank Capacity: 500 Gallons (7080.2100)  
 a. Alarm Type: Electric

Septic Tank Capacity		
Bedrooms	Minimum	GD/BL
5 or less	1,500	2,250
6 or 7	2,000	3,000
8 or 9	2,500	3,750

## Soils

- C. Depth to Restricting Layer: 6ft.  
 D. Native SSF: .83  
 (Perc. Rate [Optional] MPI)

**\*\*Enter GPD next to the type of system\*\***

## Rock Trenches

- E. 6 in. Trench Depth                       $GPD \times D = 0.0sq. ft.$                       Cubic Yards of Rock: 0 yds<sup>3</sup>  
 F. 12 in. Trench Depth                       $GPD \times D \times .8 = 0.0sq. ft.$                       Cubic Yards of Rock: 0 yds<sup>3</sup>  
 G. 18 in. Trench Depth                       $GPD \times D \times .66 = 0.0sq. ft.$                       Cubic Yards of Rock: 0 yds<sup>3</sup>  
 H. 24 in. Trench Depth                       $GPD \times D \times .6 = 0.0sq. ft.$                       Cubic Yards of Rock: 0 yds<sup>3</sup>  
 I. Divide (E-H) by Trench Width for lineal feet:  $0.0 \div =$

## Chamber Trenches

- J. Brand:    Dimensions of one chamber (L x W):      ft. x      ft.  
 K. 6-11 in. Chamber Depth                       $GPD \times D = 0.0sq. ft.$   
 L. 12 in. Chamber Depth                       $GPD \times D \times .8 = 0.0sq. ft.$   
 M. Select from (K-L) if installing Chamber Trenches: 0.0  
 N. Divide (M) by Trench Width for lineal feet:  $0.0 \div 0 =$       Lineal Feet  
 O. Total Chambers Needed (**Round Up**):      Chambers

## Seepage/Pressure Beds

- P. Seepage Bed                       $GPD \times D \times 1.5 = 0.0sq. ft.$   
 a. Bed Dimensions                      ft. x      ft.  
 b. Cubic Yards of Rock      Bed Length x Bed Width x Rock Depth      ft.  $\div 27 = 0 yds^3$   
 Q. Pressure Bed       $450 GPD \times D = 373.5sq. ft.$   
 a. Bed Dimensions                      10ft. x 38ft.  
 b. Cubic Yards of Rock      Bed Length x Bed Width x Rock Depth  $1ft. \div 27 = 14 yds^3$

## Additional System Notes and Information:

NEED VARIANCES FOR DF TO LAKE, DF TO SIDEYARD, DF TO CABIN, AND TANKS TO LAKE.

# Crow Wing County Trench/Pressure Bed Design

Property Owner: Robert & Barbara Eng  
Date: 4/17/2020

Designer's Initials:

## Determine Pump Capacity

1) Gravity Distribution Pump Capacity Range: 10 - 45 GPM

\*Skip to Pump Head Requirements if pumping to gravity

2) Pressure Distribution:

a) Number of laterals: 3

b) Lateral Size: 1.5in.

c) Perforation spacing: 3ft.

d) Check Table 4 to see the maximum number of perforations per lateral.

3) Lateral Length (choose):

a) End manifold: rock bed length: 38 - 2 ft. = 36ft.

b) Center manifold: rock bed length /2: - 1 ft. = -1ft.

c) Choose 3a or 3b: 36ft.

4) Total Perforation Determination:

a) (3c): 36ft. ÷ (2c): 3ft. + 1 = 13 Perforations / Lateral

b) (4a):  $13 \times (2a): 3 = 39$  Total Number of Perforations

c) Select perforation discharge from Table 1 = .74 GPM/Perf.

d) (4b):  $39 \times (4c): 0.74 \text{ GPM/Perf.} = 29$  GPM

## PUMP HEAD REQUIREMENTS

5) Elevation difference:

a) Elevation difference between pump and point of discharge 8ft.

b) If pumping to a pressure distribution system, (5a) + 5 = 13ft.

c) Choose 5a if pumping to gravity or 5b for pressure: 13ft.

6) Friction loss:

a) Select a value from Table 2: 1.55ft. / 100 ft. of pipe

b) Pipe length to drainfield: 60ft.  $\times$  1.25 = 75ft.

c) (6a):  $1.55 \times (6b): 75 \div 100 = 1.16$  Total Friction Loss

7) Drainback:

a) Actual Pipe length 60ft.  $\times$  .17 gal/ft. (Table 3) = 10.2 gal

8) (5c): 13ft. + (6c): 1.16ft. = 14.16 Total Head Required

9) Minimum Pump Size 29 GPM (4d) & 14ft. of dynamic head (8)

Ft. of Head	7/32" Perf	1/4" Perf
1.0	0.56	0.74
2.0	0.80	1.04

Use 1.0 for single homes, 2.0 for everything else

Flow (GPM)	1.5"	2"	3"
20	2.47	0.73	0.11
25	3.73	1.11	0.16
30	5.23	1.55	0.23
35	6.96	2.06	0.30
40	8.91	2.64	0.39
45	11.07	3.28	0.48
50	13.46	3.99	0.58
55		4.76	0.70
60		5.60	0.82
65		6.48	0.95
70		7.44	1.09

Pipe Diameter	Gal/Ft.
1.25 in.	0.078
1.5 in.	0.11
2.0 in.	0.17

Perf. Spacing	1.25" Pipe	1.5" Pipe	2" Pipe
2.5 ft.	14	18	28
3 ft.	13	17	26
3.3 ft.	12	16	25
4 ft.	11	15	23
5 ft.	10	14	22

## Crow Wing County Trench/Pressure Bed Design

Property Owner: Robert & Barbara Eng

Date: 4/17/2020

Designer's Initials:

Please record the depths of all horizons, redoximorphic features, restricting layers, and saturated soils. Include all chroma and hue values.

### #1 Proposed Site

Depth (in.)	Texture	Color
0-6	Sandy Loam	10YR 3/2
6-18	Loamy Sand	10YR 4/4
18-72	Sand	10YR 5/4

### #1 Alternate Site

Depth (in.)	Texture	Color

### #2 Proposed Site

Depth (in.)	Texture	Color

### #2 Alternate Site

Depth (in.)	Texture	Color

### Soil Sizing Factors/Hydraulic Loading Rates

Perc. Rate	Texture	SSF	HLR	Perc. Rate	Texture	SSF	HLR
<0.1	Coarse Sand			16 to 30	Loam	1.67	0.60
0.1 to 5	Sand	0.83	1.20	31 to 45	Silt Loam	2.00	0.50
0.1 to 5	Fine Sand	1.67	0.60	46 to 60	Clay Loam	2.20	0.45
6 to 15	Sandy Loam	1.27	0.79	> 60	Clay Loam	****	0.24

### Description of Soil Treatment Areas

	Proposed Site		Alternate Site	
	Proposed #1	Proposed #2	Alternate #1	Alternate #2
Disturbed Areas?	No			
Compacted Areas?	No			
Flooding Potential?	No			
Run on Potential?	No			
Limiting Layer Depth	Proposed #1 72"	Proposed #2	Alternate #1	Alternate #2
Slope % and Direction	1% South			
Landscape Position	Flat			
Vegetation Types	Lawn/Pines			
Soil Texture	Sand			
Soil Sizing Factor	0.83		Select One	

# Martin Joyce Septic Service, LLC

27604 County Road 3, Merrifield, MN 56465

## Septic System Management Plan

Property Owner: Robert & Barbara Eng Phone: \_\_\_\_\_ Date: 4/17/2020  
Mailing Address: 7894 Ithaca Lane N City: Maple Grove Zip: 55311  
Site Address: 37241 Twin Bay Dr City: Crosslake Zip: 56442

This management plan will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic service provider.

System Designer: check every \_\_\_\_\_ months  
Local Government: check every \_\_\_\_\_ months  
State Requirement: check every 36 months

My system needs to be checked  
every 36 months

### Homeowner Management Tasks (performed monthly unless otherwise stated)

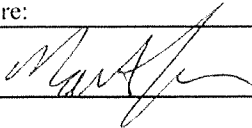
- Leaks* - Check (look,listen) for leaks in toilets and dripping faucets. Repair leaks promptly
- Surfacing sewage* - Regularly check for wet or spongy soil around your soil treatment area.
- Effluent filter* - *Inspect and clean twice a year or more*
- Alarms* - Alarm signal when there is a problem: contact Service Provider any time an alarm signals
- Event counter or water meter* - Monitor your average daily water use (if it applies)

### Professional Management Tasks

- Check and clean the in-tank effluent filter
- Check the sludge/scum layer levels in all septic tanks
- Recommend if tank should be pumped
- Pump all compartments of septic tank at least every 36 months
- Check inlet and outlet baffles
- Clean drainfield laterals (if it applies)
- Check the drain field effluent levels in the rock layer
- Check the pump and alarm system functions (if it applies)
- Check wiring for corrosion and function (if it applies)
- Check dissolved oxygen and effluent temperature in tank
- Provide home owner with list of results and any action to be taken

Replacement system for this residence, a secondary site has not been identified.

" I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in this Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."

Property Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Designer Signature:  \_\_\_\_\_ Date: \_\_\_\_\_  
Permitting Authority Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Map Unit Description (MN)

Crow Wing County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

### D78B--Graycalm-Grayling-Meehan complex, 1 to 8 percent slopes

#### Graycalm

*Extent:* 15 to 50 percent of the unit  
*Landform(s):* rises on outwash plains  
*Slope gradient:* 2 to 8 percent  
*Parent material:* outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .15  
*Land capability, nonirrigated* 4s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	Loamy sand	rapid	0.35 to 0.43 in	4.5 to 5.5
Bw1 -- 4 to 20 in	Loamy sand	rapid	1.29 to 1.61 in	5.0 to 6.0
Bw2 -- 20 to 31 in	Sand	rapid	0.44 to 0.66 in	5.0 to 6.0
E and Bt -- 31 to 79 in	Sand	rapid	2.38 to 3.81 in	5.5 to 6.5

#### Meehan

*Extent:* 23 to 35 percent of the unit  
*Landform(s):* rises on outwash plains  
*Slope gradient:* 1 to 3 percent  
*Parent material:* outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .10  
*Land capability, nonirrigated* 4w  
*Hydric soil:* no  
*Hydrologic group:* A/D  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	Loamy sand	rapid	0.71 to 0.85 in	3.5 to 7.3
Bw -- 7 to 28 in	Sand	very rapid	1.25 to 2.30 in	3.5 to 6.5
C -- 28 to 79 in	Coarse sand	very rapid	1.02 to 3.56 in	3.5 to 7.3

## Map Unit Description (MN)

Crow Wing County, Minnesota

### D78B--Graycalm-Grayling-Meehan complex, 1 to 8 percent slopes

#### Grayling

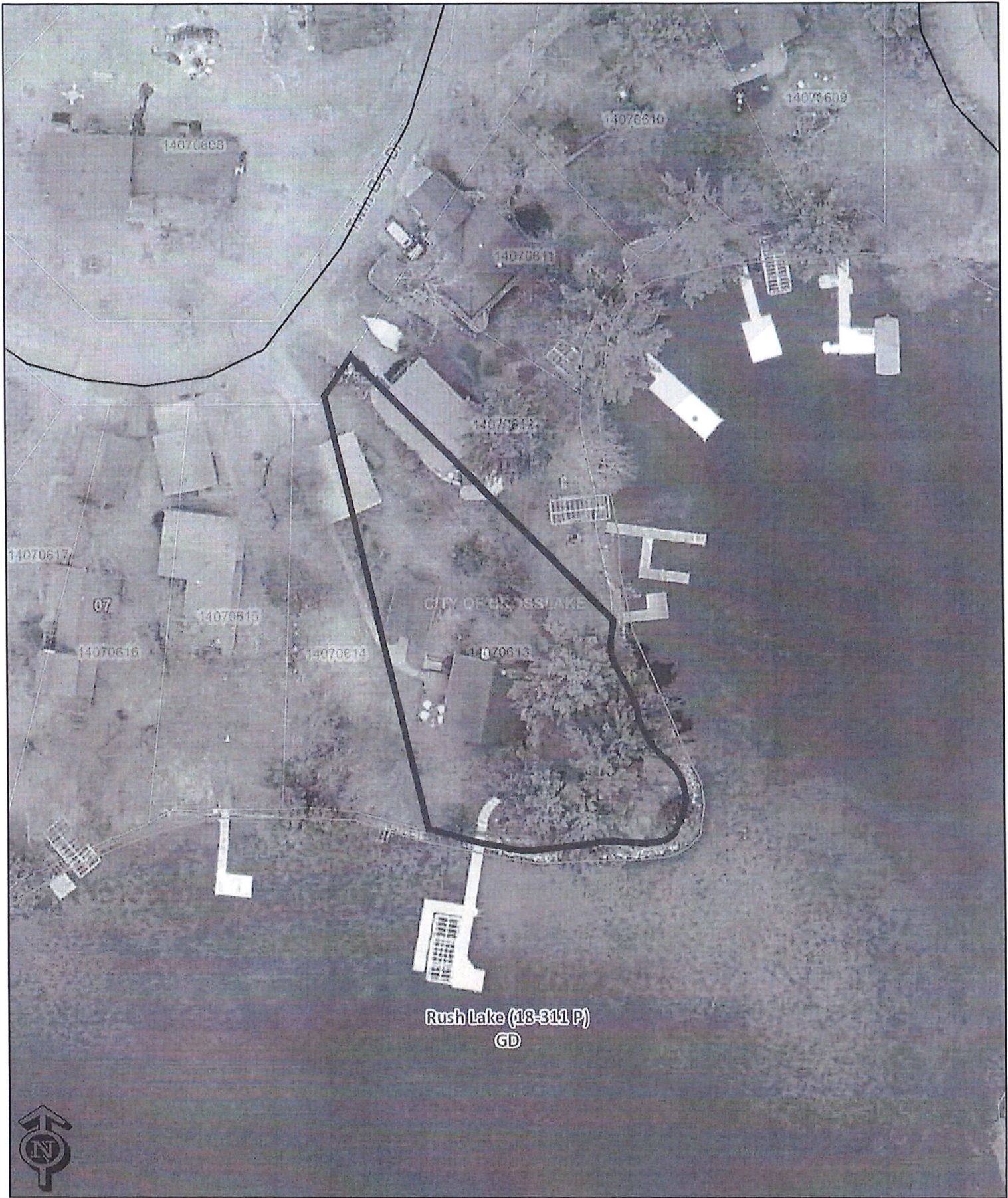
*Extent:* 25 to 40 percent of the unit  
*Landform(s):* rises on outwash plains  
*Slope gradient:* 2 to 8 percent  
*Parent material:* outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* excessively drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 2  
*Wind erodibility index (WEI):* 134  
*Kw factor (surface layer)* .20  
*Land capability, nonirrigated* 4s  
*Hydric soil:* no  
*Hydrologic group:* A  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	Loamy sand	rapid	0.63 to 0.87 in	5.1 to 6.5
Bw -- 8 to 47 in	Sand	rapid	1.95 to 4.29 in	5.1 to 6.5
BC -- 47 to 79 in	Sand	rapid	1.59 to 2.23 in	5.1 to 6.5

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.





Rush Lake (18-311 P)  
GD

These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

Date: 5/12/2020 Time: 10:33:17 AM





**From:** [Barb Ungs](mailto:BarbUngs)  
**To:** [crosslakepz@crosslake.net](mailto:crosslakepz@crosslake.net)  
**Cc:** [jon@nationallooncenter.org](mailto:jon@nationallooncenter.org)  
**Subject:** public hearing notice Nov 17, 2023  
**Date:** Wednesday, November 1, 2023 2:29:57 PM

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Planning Commission/Board of Adjustment  
November 17, 2023  
9:00 am  
Crosslake City Hall, 1388 Daggett Bay Rd, Crosslake, MN 56442

Applicant: Robert and Barbara Eng  
Authorized Agent: Wes Hanson Builders

Site Location: 37241 Twin Bay Dr, Crosslake, MN on Rush Lake

To construct:

1,169 sq foot dwelling along with **257 Square Foot covered deck and steps**

A new septic system

To whom it may concern:

Is this new construction on the existing foundation and therefore grandfathered in or are you making a variance and thereby encroaching on water quality and wildlife habitat? I assume that it is the latter if it requires a hearing.

From the survey it looks like the new cabin will be unchanged in distance from the bay but 8 feet closer to the channel. Is that correct? I am especially concerned about the 5 foot setback for the septic system and the impact on the loon nest if the new building is closer to the water. of the bay.

Loons have nested in that bay on a platform for at least 19 years, green herons nest near there, and great blue herons hunt there morning and evening.

Please protect our community and water quality by enforcing the laws you took an oath to enforce. Continuing to allow variances that change the building and sewer waterfront set back requirements threaten our water quality, the aesthetic of the lake, wildlife habitat, and is happening far too frequently. I hope that is not the case in this Public Hearing.

Sincerely,

Barbara Ungs

cabin address: 12186 Anchor Point Road, Crosslake

mailing address: 4671 Woodridge Rd, Minnetonka, MN, 55345



**Variance Application**  
 Planning and Zoning Department  
 13888 Daggett Bay Road, Crosslake, MN 56442  
 218.692.2689 (Phone) 218.692.2687 (Fax) [www.cityofcrosslake.org](http://www.cityofcrosslake.org)

Receipt Number: 244032

Permit Number: 230262V

Property Owner(s): Robert & Barbara Eng

Mailing Address: 20045 Grassland Way, Maple Grove, MN 55311

Site Address: 37241 Twin Bay Drive, Crosslake, MN 56442

Phone Number: 1-612-554-7000

E-Mail Address: asapconsult@yahoo.com

Parcel Number(s): 14070613 + 14070614

Legal Description: All of Lot fourteen (14), block one (1), and part of lot thirteen (13)...

Sec 7 Twp 137 Rge 26  27  28

Lake/River Name: Rush Lake - Whitefish

Do you own land adjacent to this parcel(s)?  Yes  No

If yes list Parcel Number(s) \_\_\_\_\_

Authorized Agent: Wes Hanson Builders Inc

Agent Address: PO Box 456, Crosslake, MN 56442

Agent Phone Number: 1-218-692-1760

<u>Variations</u>	
(Check applicable requests)	
<input checked="" type="checkbox"/>	Lake/River Setback <i>Covered Deck 45' requires 75' Dwelling 40' requires 75'</i>
<input type="checkbox"/>	Road Right-of-Way Setback
<input type="checkbox"/>	Bluff Setback
<input type="checkbox"/>	Side Yard Setback
<input type="checkbox"/>	Wetland Setback
<input checked="" type="checkbox"/>	Septic Tank Setback <i>45' requires 75' from lake</i>
<input checked="" type="checkbox"/>	Septic Drainfield Setback <i>5' requires 10' from side yard</i>
<input type="checkbox"/>	Impervious Coverage
<input type="checkbox"/>	Accessory Structure
<input type="checkbox"/>	Building Height
<input type="checkbox"/>	Patio Size
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

Signature of Property Owner(s) \_\_\_\_\_ Date \_\_\_\_\_

Signature of Authorized Agent(s) Emile W. Stas Date 9-8-23

- All applications must be accompanied by a signed Certificate of Survey
- Fee \$500 for Residential and Commercial Payable to "City of Crosslake"
- No decisions were made on an applicant's request at the DRT meeting. Submittal of an application after DRT does not constitute approval. Approval or denial of applications is determined by the Planning Commission/Board of Adjustment at a public meeting as per Minnesota Statute 462 and the City of Crosslake Land Use Ordinance.

For Office Use:

Application accepted by CS Date 10-13-23 Land Use District SD

Lake Class GD Septic: Compliance na SSTS Design 10-4-23 Installation Review need, Variance



## Practical Difficulty Statement

Pursuant to City of Crosslake Ordinance Article 8 – Variances may be granted when it is found that strict enforcement of the Land Use Ordinance will result in a “practical difficulty”.

Please answer the following questions regarding the “practical difficulty” for your variance request.

1. Is the Variance request in harmony with the purposed and intent of the Ordinance?

Yes  No

Why:

**Defer to the Planning Commission/Board of Adjustment**

2. Is the Variance consistent with the Comprehensive Plan?

Yes  No

Why:

**Defer to the Planning Commission/Board of Adjustment**

3. Is the property owner proposing to use the property in a reasonable manner not permitted by the Land Use Ordinance?

Yes  No

Why:

We are proposing to use the existing cabin foundation with an addition towards the side yard and roadway of the lot.

This will increase the existing footprint while not increasing the existing nonconformities of the structure based on the building envelopes dual sided lake setbacks.

4. Will the issuance of a Variance maintain the essential character of the locality?

Yes  No

Why:

The proposed cabin will keep with the aesthetics of the surrounding properties & will be upgraded to fit in with the greater Crosslake area.

5. Is the need for a Variance due to circumstances unique to the property and not created by the property owner?

Yes  No

Why:

The unique peninsula shape of the lot, having water on two (2) sides creates the difficulties.

The property therefore has a small building envelope.

6. Does the need for a Variance involve more than economic considerations?

Yes  No

Why:

After many iterations, the best solution is to use the existing foundation to create a new cabin that expands away from the lake.

This will bring the cabin closer to the building envelope without increasing nonconformity and be the least invasive path.



City of Crosslake Planning Commission/Board of Adjustment

FINDINGS OF FACT

SUPPORTING / DENYING A VARIANCE REQUEST

*A Variance may be granted by the Planning Commission/Board of Adjustment when it is found that strict enforcement of the Land Use Ordinance will result in a “practical difficulty” according to Minnesota Statute Chapter 462. The Planning Commission/Board of Adjustment should weigh each of the following questions to determine if the applicant has established that there are “practical difficulties” in complying with regulations and standards set forth in the Land Use Ordinance.*

1. Is the Variance request in harmony with the purposes and intent of the Ordinance?

Yes                      No

Why:

2. Is the Variance consistent with the Comprehensive Plan?

Yes                      No

Why:

3. Is the property owner proposing to use the property in a reasonable manner not permitted by the Land Use Ordinance?

Yes                      No

Why:

4. Will the issuance of a Variance maintain the essential character of the locality?

Yes          No

Why:

5. Is the need for a Variance due to circumstances unique to the property and not created by the property owner?

Yes          No

Why?

6. Does the need for a Variance involve more than economic considerations?

Yes          No

Why: