

**MARION TOWNSHIP
ZONING BOARD OF APPEALS**

Monday, January 4, 2021

7:30 p.m.

**Due to COVID-19 considerations and consistent with State Policy:
The Township Zoning Board of Appeals will meet virtually January 4, 2021 at 7:30 pm
Should the order still be in place. Otherwise it will be in the Hall.**

Instructions to participate in the meeting are posted on www.mariontownship.com

AGENDA

CALL TO ORDER

PLEDGE OF ALLEGIENCE

INTRODUCTION OF MEMBERS

APPROVAL OF AGENDA

January 4, 2021

CALL TO PUBLIC

APPROVAL OF MINUTES FOR:

October 5, 2020 Regular Meeting

October 27, 2020 Training Meeting

OLD BUSINESS:

NEW BUSINESS:

1) ZBA Case #07-20 Vern Brockway 1388 Lucy road Howell, MI 48843

Seeking variance for Section 10.01E3a, b, c, setbacks and

6.13.B.1 buffers 25' and 50' down to 10'

Industrial District parcel 4710-01-400-005.

CALL TO PUBLIC:

ADJOURNMENT:

Submitted by: S. Longstreet

Approved: _____

**MARION TOWNSHIP
ZONING BOARD OF APPEALS
REGULAR MEETING
OCTOBER 5, 2020**

MEMBERS PRESENT: Larry Fillinger, Linda Manson-Dempsey, Larry Grunn, Dan Lowe, and Diane Bockhausen

MEMBERS ABSENT: None

OTHERS PRESENT: Dave Hamann, Zoning Administrator

CALL TO ORDER

Larry Fillinger called the meeting to order at 7:30 p.m. The meeting is also available online.

MEMBERS PRESENT

The members of the Zoning Board of Appeals introduced themselves.

APPROVAL OF AGENDA

Linda Manson-Dempsey motioned to approve the agenda. Larry Grunn seconded. **Motion carried.**

CALL TO THE PUBLIC

No response.

APPROVAL OF MINUTES

September 14, 2020 Regular Meeting: Linda Manson-Dempsey motioned to approve the minutes as amended. Diane Bockhausen seconded. **Motion carried.**

NEW BUSINESS

ZBA Case #06-20—Nicolas Deyo, 2720 Clivedon, Howell, MI, Tax Code #4710-27-103-001; seeking a variance for Section 8.01 F 3 c—Rear Setback

Dave Sementilli from Artistic Pools was present, along with the property owner, to request a 15' variance on the rear setback, to allow for installation of an inground pool. It was recommended that the property owner locate the stakes or get a survey to be sure where the rear lot line is, as it's unclear whether the tree line is on Mr. Deyo's property.

Call to the Public

Ann Stewart, 2873 Clivedon, said she was curious where the fence line was going? Mr. Sementilli said they would keep the fence as close to the property line as possible, but still on their property. The HOA would like shrubs between the fence and the property line.

Paul Chabot, 2737 Clivedon, said he feels the property line should be determined to protect both the township and the property owner. It's not clear whether the trees are on Mr. Deyo's lot.

Motion

Dan Lowe motioned for ZBA Case #06-20— Nicolas Deyo, 2720 Clivedon, Howell, MI, Tax Code #4710-27-103-001, to grant a variance to the rear yard setback with a minimum of 10' from the water's edge to the property line, subject to the zoning administrator verifying the property line with a survey provided by the property owner or location of the markers, referencing the drawing showing the pool is 6' from the deck and 10' from the house, as submitted. The ZBA granted this variance considering the following criteria:

1. That the restrictions of the township zoning ordinance would unreasonably prevent the owner from using the property for a permitted use. *Due to topography, the pool can't be in the northeast corner; the only reasonable area is the rear yard.*
2. That the variance would do substantial justice to the applicant and a lesser relaxation than that requested would not give a substantial relief to the owner of the property. *Due to the topography of the lot, the rear yard is the only place a pool could be placed.*
3. That the request is due to the unique circumstances of the property. *The lot has challenging topography and the rear yard is the only place that is flat enough.*
4. That the alleged hardship has not been created by a property owner. *The hardship was not created by the owner; the hardship is the topography.*
5. That the difficulty shall not be deemed solely economic. *The property owner has exhausted all other possible locations and none are feasible.*

Diane Bockhausen seconded. Roll call vote: Lowe—yes; Grunn—yes; Fillinger—yes; Manson-Dempsey—no; Bockhausen—yes. **Motion carried 4-1.**

OLD BUSINESS

Review Changes to ZBA Application: The ZBA members approved of the modifications to the application; an item will be added to the checklist that the property owner will locate the survey markers or provide a survey.

CALL TO THE PUBLIC

Dave Hamann said that the Planning Commission would like to have a joint meeting with the ZBA to discuss expectations. The ZBA members agreed that the meeting could be held one hour prior to the next PC meeting, on Tuesday, October 27 at 6:30 pm. Mr. Hamann said he would invite the ZBA alternates, and have John Enos put something together.

ADJOURNMENT

Linda Manson-Dempsey motioned to adjourn at 8:51 pm. Diane Bockhausen seconded. **Motion carried.**

*Approved by: _____
Larry Grunn, *Chairperson*

Date: _____

**MARION TOWNSHIP PLANNING COMMISSION
& ZONING BOARD OF APPEALS
SPECIAL MEETING MINUTES
October 27, 2020 / 6:30PM**

P.C. MEMBERS PRESENT: LARRY GRUNN – *CHAIRPERSON*
BOB HANVEY
CHERYL RANGE – *SECRETARY*
BRUCE POWELSON – *VICE CHAIR*
JAMES ANDERSON

Z.B.A. MEMBERS PRESENT: LARRY FILLINGER – *CHAIRPERSON*
DAN LOWE
LINDA MANSON-DEMPSEY
DIANE BOCKHAUSEN
JEAN ROOT
EDMUND GALUBENSKY

OTHER MEMBERS ABSENT: DAVID HAMANN - *ZONING ADMINISTRATOR*
JOHN ENOS - *CARLISLE WORTMAN*

CALL TO ORDER:

Larry Grunn called the meeting to order at 6:30 p.m.

PLEDGE OF ALLEGIANCE

APPROVAL OF AGENDA:

Linda Manson-Dempsey motioned to approve the agenda. Larry Fillinger seconded. ***MOTION CARRIED***

CALL TO THE PUBLIC:

NONE

NEW BUSINESS:

1. TRAINING WORKSHOP WITH JOHN ENOS FROM CARLISLE WORTMAN COVERING ZONING BOARD OF APPEALS & PLANNING COMMISSION TOPICS

John Enos discussed the various duties that fall under the Planning Commission and The Zoning Board of Appeals. Topics such as Land Use Decisions, Statutory Authorities, Site Plan Reviews, ZBA Duties and Powers, Variances, Site Visits, Decision Principles, Risk Management and other related topics.

CALL TO THE PUBLIC:

NONE

ADJOURNMENT:

Linda Manson-Dempsey made a motion to adjourn the meeting at 7:35pm. Jim Anderson seconded. **MOTION CARRIED**

APPLICATION TO ZONING BOARD OF APPEALS

ZBA Case # 07-20
Tax Code 4710-01-400-005
Current Zoning INDUSTRIAL
Fee Paid 1000.
Date Received 12-12-2020
Received by DH

Applicant VERN BROCKWAY
Address 6523 OAK GROVE ROAD, HOWELL, MI 48855
Telephone 517-202-0913
(Home) (Work)

Applicant is (check one): Owner Purchaser Representative

Purchaser or Representative needs a letter of permission from owner

Nature of Request (check applicable one)

- Administrative Review (per Section 5.05 A)
- Interpretation of Ordinance (per Section 5.05 B 1, 2, 3 or 4)
- Variance Request (see below)

1. Zoning Ordinance Section

Section 10.01.E.3. (Yard and Setback requirements)
Section 6.13.B & D (Screening Between Land Uses & Greenbelt Buffer)

- 2. Letter stating reason request should be granted (per Section 5.05 C)
- 3. Plot Plan—example and checklist attached (requirement per Section 4.03 D)
- 4. Required Livingston County Health Department evaluation

Refer to checklist on last page for additional instructions

By signing this application, permission is granted for official representative(s) of Marion Township to do onsite inspections.

Vern Brockway
Signature

11/10/20
Date

Office Use Only	
Meeting Date <u>12-7-2020</u>	Action Taken _____
Conditions (if applicable) _____	
Signed _____	

Section 5.05

Authorized Appeals

The Zoning Board of Appeals shall hear the following specified categories of appeals in accordance with the following standards:

- A. **Administrative Review:** The Zoning Board of Appeals shall hear and decide appeals where it is alleged by the appellant that there is an error in any order, requirement, permit, decision or refusal made by any Township official or by the Planning Commission in administering or enforcing the provisions of the Zoning Ordinance.
- B. **Interpretation of the Ordinance:** The Zoning Board of Appeals shall hear and decide upon requests to:
1. Interpret the provisions of the Zoning Ordinance when it is alleged that certain provisions are not clear or that they could have more than one meaning. In deciding upon such request, the Zoning Board of Appeals shall ensure that its interpretation is consistent with the intent and purpose of the Zoning Ordinance, the Article in which the language in question is contained, and all other relevant provisions in the Zoning Ordinance.
 2. Determine the precise location of the boundary lines between zoning districts when there is dissatisfaction with a decision made by the Zoning Administrator. (See Section 7.04.)
 3. Classify a use that is not specifically mentioned as a part of the use regulations of any zoning district so that it conforms to a comparable permitted or prohibited use, in accordance with the purpose and intent of each district. Where there is no comparable permitted or prohibited use, the Zoning Board of Appeals shall so declare, the effect being that use is not permitted in the Township until or unless the text of the Zoning Ordinance is amended to permit it.
 4. Determine the parking space requirements of any use not specifically mentioned by classifying it with one of the groups listed in Article XIV by an analysis of the specific needs. If no comparable use is found, the Zoning Board of Appeals shall so inform the petitioner and indicate that the parking space requirements will have to be established by amendment of the Zoning Ordinance.

C. Variances

The ZBA shall have the power to authorize, upon appeal, specific variances from such dimensional requirements as lot area and width regulations, building height and square foot regulations, yard width and depth regulations, such requirements as off-street parking and loading space, and sign regulations and other similar requirements as specified in the ordinance. The existence of nonconforming structures or buildings on other lands, or in other districts, shall not create a precedent, or be the basis for a variance. To obtain a variance, the applicant shall submit sufficient information to enable the Board of Appeals to determine that a practical difficulty exists, if applicable, by explaining:

1. That the restrictions of the Township Zoning Ordinance would unreasonably prevent the owner from using the property for a permitted use.
2. That the variance would do substantial justice to the applicant and a lesser relaxation than that requested would not give substantial relief to the owner of the property.
3. That the request is due to the unique circumstances of the property.
4. That the alleged hardship has not been created by a property owner.

5. The difficulty shall not be deemed solely economic.

Following review and consideration of the above and in order to grant a variance, the Board of Appeals:

Shall find that the reasons set forth in the application and as explained above justify the granting of the variance and that it is the minimum variance that will make possible the reasonable use of the land, building or structure; and

Shall further find that the granting of the variance will be in harmony with the intent of this ordinance and will not be injurious to the neighborhood or otherwise be detrimental to the public interest.

The ZBA shall not approve an application for a variance unless it has found positively that a practical difficulty exists under the five preceding criteria. If any criteria does not apply, the Zoning Board of Appeals shall justify why it does not apply.

Use variances are strictly prohibited. A variance shall not permit the establishment, within any district, of any use, which is not permitted by right, special use permit or by a temporary land use.

- D. **Conditions:** In granting any variance, the Zoning Board of Appeals may prescribe appropriate conditions and safeguards in conformity with this Ordinance (see Section 6.15.) Violations of such conditions and safeguards, when made a part of the terms under which the variance is granted, shall be deemed a violation of this Ordinance and shall automatically invalidate the variance.

E. **Approval Period**

The decision of the Zoning Board of Appeals shall expire after one year unless a building permit for the construction is obtained and construction is started in accordance with the terms of the permit and the requirements of the Zoning Board of Appeals. The Zoning Board of Appeals may grant no more than one extension, for up to one year, provided the applicant demonstrates that they have been diligently working toward completion and the delay is due to conditions beyond their control.

- F. **Rehearing:** No rehearing on an application denied by the Zoning Board of Appeals shall be reconsidered except upon the grounds of newly discovered evidence or a falsehood previously relied upon which is found upon inspection by the Zoning Board of Appeals to be valid. A rehearing shall be processed in the same manner as the original application, including payment of the required fee. A request for rehearing shall be made on behalf of the applicant by either the Township Board or Zoning Board of Appeals within eight (8) days. No land use permit shall be granted which relies upon a variance before eight (8) days following the decision of the Zoning Board of Appeals have expired.

- G. **Reapplication:** After eight (8) days following a decision by the Zoning Board of Appeals, no application for a variance, Ordinance interpretation, or appeal which has been denied, wholly or in part, by the Zoning Board of Appeals shall be resubmitted for a period of one (1) year from the date of the last denial, except on proof of changed conditions found upon inspection by the Board to be valid.

Section 5.06

Appeal Procedures

- A. **Notice of Appeal:** Appeal requests for Ordinance interpretation and requests for variances may be made to the Zoning Board of Appeals by any person aggrieved, or by an officer, or department, board, or bureau of the state or of the Township, by filing a written Notice of Appeal with the Township Clerk on forms established for that purpose and accompanied with such information as is necessary to decide such request. At a minimum, eight (8) copies of the information required to be submitted for a land use permit (either a plot plan or site plan) in Section 4.03.D. shall be submitted. Upon receipt of a Notice of Appeal, the Township Clerk shall promptly transmit the records concerning the appealed action, as well as any related information to the chairperson of the Zoning Board of Appeals. Any appeal from the ruling of the Zoning

Administrator concerning the enforcement of the provisions of this Ordinance shall be filed within thirty (30) days after the date of the Zoning Administrator's decision or the decision shall be final.

- B. **Stay:** An appeal shall stay all proceedings in furtherance of the action appealed from unless the Zoning Administrator certifies to the Zoning Board of Appeals after notice of appeal has been filed with he or she, that by reason of facts stated in the certificate a stay would, in the Zoning Administrator's opinion, cause imminent peril to life or property, in which case the proceedings shall not be stayed otherwise than by a restraining order, issued by the Zoning Board of Appeals or by a court of record.
- C. **Hearing:** Upon receipt of a Notice of Appeal or of an application for Ordinance interpretation, or variance request, the chairperson of the Zoning Board of Appeals shall schedule a reasonable time and date for a public hearing and give notice as provided in section 103 of PA 110 of 2006, as amended.

Upon receipt of a Notice of Appeal seeking an interpretation of the Zoning Ordinance, or an appeal of an administrative decision, a notice stating the time, date, and place of the public hearing shall be published in a newspaper of general circulation within the Township and shall be sent to the person requesting the interpretation not less than fifteen (15) days before the public hearing.

If the request for an interpretation or appeal of an administrative decision involves a specific parcel, written notice stating the nature of the interpretation request and the time, date, and place of the public hearing on the interpretation request shall be sent by first-class mail or personal delivery to all persons to whom real property is assessed within three hundred (300) feet of the boundary of the property in question and to all occupants of all structures within three hundred (300) feet of the boundary of the property in question. If a tenant's name is not known, the term "occupant" may be used.

- D. **Appearance:** At the hearing, a party may appear in person or by agent or attorney. The Zoning Board of Appeals may recess such hearing from time to time, and, if the time and place of the continued hearing are announced at the time of adjournment, no further notice shall be required.
- E. **Decision:** The Zoning Board of Appeals shall render its decision within sixty (60) days of filing of a Notice of Appeal, or application for Zoning Ordinance interpretation or variance, unless in the opinion of Zoning Board of Appeals, an extension of time is necessary to review information pertinent to making the decision. The concurring vote of a majority of the members of the Zoning Board of Appeals shall be necessary to reverse an order, requirement, decision, or determination of the administrative official or body, to decide in favor of the applicant on any matter upon which the Zoning Board of Appeals is required to pass under the Zoning Ordinance or to grant a variance in the Zoning Ordinance.
- F. **Fee:** A fee as established by the Township Board shall be paid to the Township Clerk at the time the petitioner files an application with the Zoning Board of Appeals. The purpose of such fee is to cover, in part, the necessary advertisements, investigations, hearing records and other expenses incurred by the Board in connection with the appeal. No fee shall be charged if the Township is the moving party.
- G. **Performance Guarantee:** In authorizing any variance, or in granting any temporary dwelling permits, the Zoning Board of Appeals may require that a cash deposit, certified check, irrevocable bank letter of credit, or similar instrument acceptable to the Township covering the estimated cost of conditions or improvements associated with a project for which zoning approval is sought, be deposited with the Township Clerk to insure faithful conformance with the conditions or completion of the improvements. Such performance guarantee shall be collected and returned pursuant to the requirements of Section 4.06.

Section 5.07

Review By Circuit Court

The decision of the Zoning Board of Appeals shall be final. A party aggrieved by the decision may appeal to the circuit court for Livingston County as provided for in PA 110 of 2006, as amended.

Plot Plan Checklist

- Street name(s)
- Street address
- Drawing scale (optional)
- North arrow
- Location of driveway and sidewalks
- Label existing buildings & structures and indicate usage
- Label proposed buildings/structures and indicate usage
- Dimensions from existing buildings and structures to property lines
- Dimensions from proposed buildings/structures to property lines
- Dimensions of existing buildings and structures
- Dimensions of proposed buildings/structures
- Dimensions of property lines
- Location of well and septic

SAMPLE DOCUMENT ADDRESSING SECTION 5.05 C, ITEMS 1 THROUGH 5

1. How the restrictions of the Township Zoning Ordinance would unreasonably prevent the owner from using the property for a permitted use.
2. How the variance would do substantial justice to the applicant and a lesser relaxation than that requested would not give substantial relief to the owner of the property.
3. How the unique circumstances of the property create the need for a variance.
4. How the alleged hardship was not created by the property owner
5. The difficulty shall not be deemed solely economic.

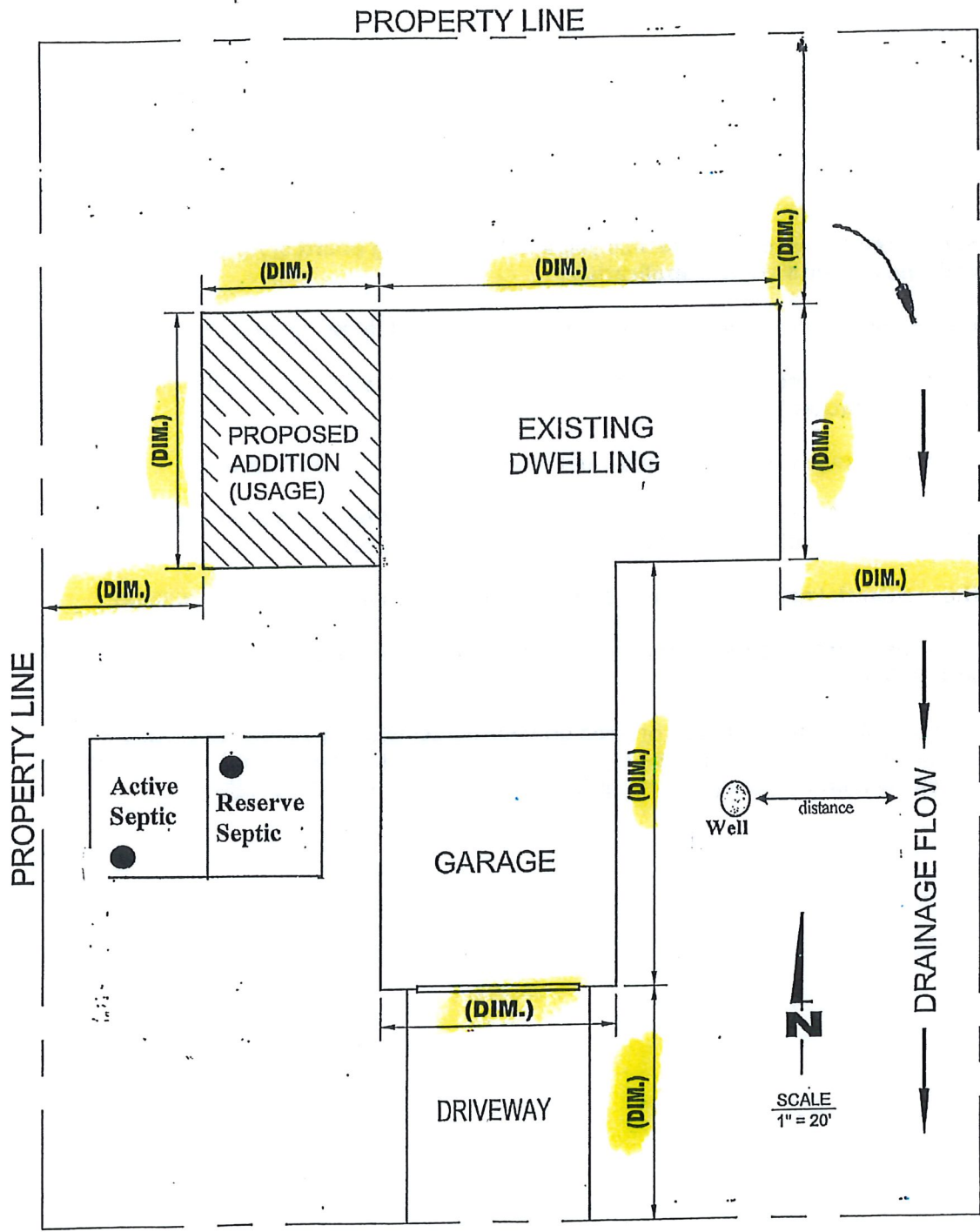
Signature

Date

Zoning Board of Appeals meetings are generally held on the first Monday of the month; please refer to the township's meeting schedule for dates at www.mariontownship.com

- **Submit ten copies of all materials you want the Zoning Board of Appeals to review with the exception of the application**
- **Provide plot plan (example attached); ensure that all items on checklist are included**
- **Applicant must include signed document addressing 5.05 C items 1 through 5 (sample attached)**
- **Submit package three weeks prior to the meeting you choose to attend**
- **Provide well & septic documents from the Livingston County Environmental Health showing the location of well/septic field and reserve area**
- **The residential application fee is \$400.00; all other applications are \$1,000.00**
- **If the applicant is representing the owner, the owner must provide a signed letter of permission**
- **If applicable, mark or stake the area on your parcel where you are requesting a variance; place the orange ZBA sign (provided by the township) so the ZBA members can easily identify your property at least one week prior to the meeting**

RESIDENTIAL ADDITION PLOT PLAN EXAMPLE



YOUR NAME
STREET ADDRESS
CITY, STATE ZIP

STREET NAME



Monument Engineering Group Associates, Inc.
 298 Veterans Drive, Fowlerville, MI 48836
 (517) 223-3512
 monumentengineering.com
Developing Lifelong Relationships



Thursday, November 12, 2020

Marion Township
Zoning Board of Appeals
 2877 W Coon Lake Road
 Howell, Michigan 48843

RE: 1388 Lucy Road Zoning Board of Appeals Variance Letter

To Zoning Board of Appeals,

Monument Engineering Group Associates, Inc. (MEGA) has composed this letter to support the granting of a variance to the bulk regulations (Section 10.01.E.3 Building Setbacks) and landscape buffer (Section 6.13.B.1 Landscape Buffer) for the site located at 1388 Lucy Road.

The following variances are being requested:

Section 10.01.E.3 Building Setbacks

	Required	Proposed	Variance Requested
Front	100'	51'	49'
Side (north)	80'	54'	26'
Side (south)	80'	69.6'	10.4'
Rear	80'	49'	31'

Section 6.13.B.1 Landscape Buffer

	Required	Proposed	Variance requested
Front	50'	10'	40'
Side	25'	10'	15'
Rear	25'	10'	15'

The site is located at the end of Lucy Road. On the border of both City of Howell and Oceola Township. Lucy Road is a dead-end gravel road perpendicular to Interstate 96. It has a derelict 1,350 SF building; built outside of the required building setbacks and visible from Interstate 96-West. The gravel pavement on site is in poor condition, with no defined access, debris piles and miscellaneous storage. The owner is planning a Repair Shop. This major renovation would drastically improve the overall function, appearance, and value of the site and adheres to the spirit of the Township Ordinance. The Zoning Board of Appeals requires a letter addressing the following five concerns:

1. *That the restrictions of the Township Zoning Ordinance would unreasonably prevent the owner from using the property for a permitted use.*
 - a. The site is a legally non-conforming parcel for both "Minimum Lot Area" and "Minimum Frontage". The required building setbacks and landscape buffer make the site undevelopable. The site is approximately one-fourth the size of a conforming parcel. Its dimensions resemble that of a Lot within an Industrial Park and its usage is permitted by

1388 Lucy Road

right in its zone. The buildable area (312 SF) created by the required building setback results in an unreasonable Lot Coverage of 1%. This is a fraction of the allowed Lot Coverage of 40% (~14,000 SF) as defined in the Township Ordinance. The Lot Coverage of the proposed conditions is 15% (6,000 SF). The proposed conditions are considerably less than the maximum Lot Coverage and conforms to the spirit of the Township Ordinance.

- b. The required landscape buffer of 25' further restricts the development of this parcel by inhibiting the placing of required design elements closer to the property lines as allowed. This includes the retention basin and the onsite disposal filed locations. Both of which are allowed within 10' of the property line.
 - c. Strict adherence to the zoning ordinance for either of these requirements would make the parcel undevelopable
2. *That the variance would do substantial justice to the applicant and a lesser relaxation than that requested would not give substantial relief to the owner of the property.*
- a. The owner has determined that the size of the building proposed is what is necessary to carry out the proposed use that is permitted by right and its size conforms to the require Lot Coverage by a wide margin. Lesser relaxation would not provide relief substantial enough to allow the owner to conduct his business that is permitted by right in a Light Industrial zone.
 - b. Being a legally non-conforming lot greatly restricts the owner from properly developing the parcel should the owner be required to strictly adhere to the zoning ordinance.
3. *That the request is due to the unique circumstances of the property.*
- a. This site is a legally non-conforming parcel zoned Light Industrial. The site is on the border between the City of Howell and Oceola Township. Creating a "island" of parcels within Marion Township in the far northeast corner of the Township. All these parcels are zoned residential except the subject property. Creating a unique circumstance not caused by the owner.
4. *That the alleged hardship has not been created by a property owner.*
- a. The hardship is caused by the site's designated zone and its legally non-conforming size as described above. Neither of which was created by the property owner.
5. *The difficulty shall not be deemed solely economic.*
- a. The property owner has already made considerable economic investments into this parcel and its site improvements. Granting this variance would provide no economic relief relative to scope of the project. The owner is still required to provide all the necessary design elements. Granting of the variances doesn't reduce this providing no economic relief.

1388 Lucy Road

Sincerely,
Monument Engineering Group Associates, Inc.

A handwritten signature in black ink, appearing to read "Allan W. Pruss". The signature is fluid and cursive, with the first name being the most prominent.

Allan W Pruss, PE, PS
President

A handwritten signature in black ink, appearing to read "David Davis". The signature is cursive and clearly legible.

David M. Davis
Project Engineer



Carlisle | Wortman

ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

TO: Marion Township Zoning Board of Appeals

FROM: John L. Enos, AICP, Township Planner

DATE: November 5, 2020

SUBJECT: 1388 Lucy Road

On October 27th, 2020, the Planning Commission approved a preliminary site plan for a major renovation to the above site. Specifically, an approximately 1,354 square foot building will be removed and replaced with a larger 6,000 square foot repair shop and office building. Storage containers, mature trees, gravel parking and an existing poor condition building make up most of the site. As part of the project, access will be more clearly defined with a new drive on Lucy Road, stormwater basins will be constructed, and a drain field for septic service will be installed. The proposed use is a permitted use in the Light Industrial District.

Because of the age of the site, several dimensional non-conformities exist, and variances are required as part of the conditional site plan approval by the Planning Commission. The required dimensions and required variances are listed in the below table.

Required and Provided Dimensions of the Proposed Building

	Required	Provided	Compliance
Minimum Lot Area	4 acres	.99 acres*	✓
Minimum Frontage	330 feet	234 feet*	✓
Setbacks:			
Front Yard(Building)	100 feet	51 feet	Variance Required
Side Yards	80 feet	69.6 feet & 54 feet	Variances Required
Rear Yard	80 feet	49 feet	Variance Required
Lot Coverage	40%	15%	✓
Maximum Height	40 feet	<40 feet	✓
Landscape Buffer	25 feet (Rear/Side) 50 feet (Front)	10 feet 10 feet	Variance Required Variance Required

*LEGALLY NON-CONFORMING NOT REQUIRING A VARIANCE TO DEVELOP THE SITE

The plan indicates the front setback being measured from the closest to the building front property line (51 feet), not the right of way line. The Ordinance defines setbacks as the minimum unoccupied distance between the lot line and the principal and accessory structures.

RECOMMENDATIONS

The Zoning Board of Appeals should carefully consider the requested variances as noted in the provided table and as required by Section 5.05.C of the Zoning Ordinance, specifically;

To obtain a variance, the applicant shall submit sufficient information to enable the Board of Appeals to determine that a practical difficulty exists, if applicable, by explaining:

- 1. That the restrictions of the Township Zoning Ordinance would unreasonably prevent the owner from using the property for a permitted use.*
- 2. That the variance would do substantial justice to the applicant and a lesser relaxation than that requested would not give substantial relief to the owner of the property.*
- 3. That the request is due to the unique circumstances of the property.*
- 4. That the alleged hardship has not been created by a property owner.*
- 5. The difficulty shall not be deemed solely economic.*

We are of the opinion that the required setbacks were created for lots that meet or exceed the required four (4) acre lot area. Because of the small existing lot (.99) acres, it is difficult to meet those larger setbacks creating a practical difficulty for the property owner.

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.
PROMO, DONALD LEE	BROCKWAY, VERN	0	01/22/2003	QC	INVALID	3828/0625	REG OF DEEDS	100.0
Property Address								
1388 LUCY RD								
Owner's Name/Address								
BROCKWAY VERN 6523 OAK GROVE RD. HOWELL MI 48843								
P.R.E.	0%							
MAP #:	1							
	2021 Est TCV 105,788 TCV/TFA: 81.38							
X Improved	Vacant							

Class: INDUSTRIAL - IMPR		Zoning: INDUS		Building Permit(s)		Date		Number		Status	
School: HOWELL PUBLIC SCHOOLS											
* Factors *		Front		Depth		Rate		%Adj.		Reason	
Description		1.00		Total Acres		75,000		100		75,000	
Value		1.00		Total Acres		75,000		100		75,000	

Public Improvements	Description	Front	Depth	Rate	%Adj.	Reason	Value
X	Dirt Road			0	100		0
	Gravel Road						
	Paved Road						
	Storm Sewer						
	Sidewalk						
	Water						
	Sewer						
	Electric						
	Gas						
X	Curb						
	Street Lights						
	Standard Utilities						
	Underground Utils.						
Topography of Site							
	Level						
	Rolling						
	Low						
	High						
	Landscaped						
	Swamp						
	Wooded						
	Pond						
	Waterfront						
	Ravine						
	Wetland						
	Flood Plain						

Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/Other	Taxable Value
2021	37,500	15,400	52,900			21,259C
2020	37,500	15,700	53,200			20,966C
2019	22,500	7,500	30,000			20,576C
2018	22,500	8,200	30,700			20,094C

SEC. 1 T2N, R4E COM. SE COR. OF SEC. 1.
 N0* 22' W 392.7 FT. N 0* 48' W 84.76 FT.
 N 85* 5' W 60.3 FT. FOR A PT. OF BEG.. N
 85* 5' W 160.8 FT. N 0* 48' W 219.04 FT.
 N 89* 11' E 220 FT. S 0* 48' E 120.56 FT.
 S 89* 11' W 60 FT. S 0* 48' E 114.5 FT.

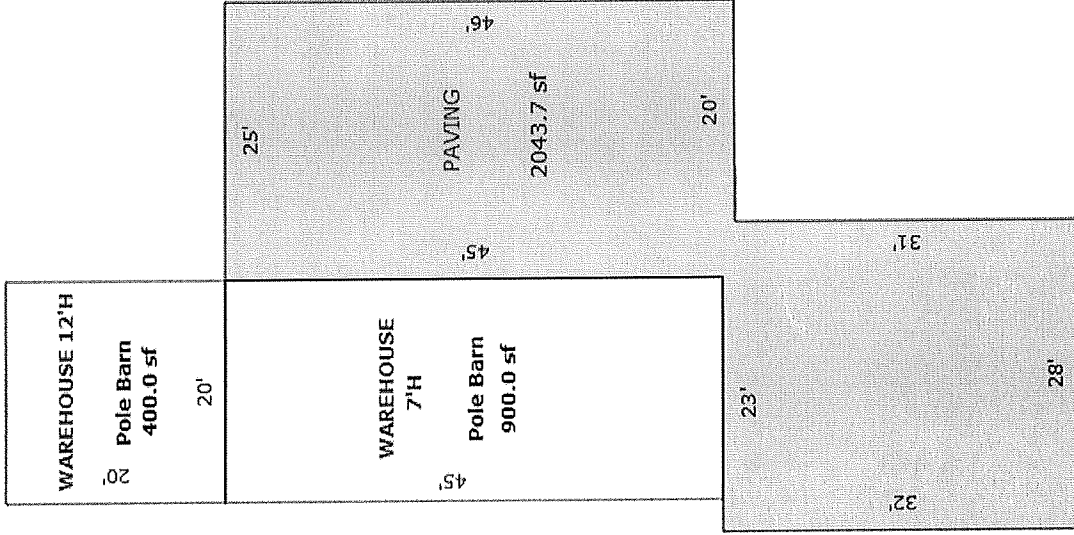


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 Licensed To: Township of Marion, County of Livingston, Michigan

*** Information herein deemed reliable but not guaranteed***

<p>Desc. of Bldg/Section: Calculator Occupancy: Warehouses - Storage</p> <p>Class: D, Pole Floor Area: 900 Gross Bldg Area: 1,300 Stories Above Grd: 1 Average Sty Hght : 8 Bsmnt Wall Hght</p> <p>Depr. Table : 2.5% Effective Age : 38 Physical %Good: 38 Func. %Good : 100 Economic %Good: 100</p> <p>Year Built Remodeled</p> <p>Overall Bldg Height</p> <p>Comments:</p>	<p>Construction Cost</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>High</td> <td>Above Ave.</td> <td>Ave.</td> <td>X</td> <td>Low</td> </tr> <tr> <td>** **</td> <td>Calculator Cost Data</td> <td>** **</td> <td>** **</td> <td>** **</td> </tr> </table> <p>Quality: Low Cost Heat#1: Space Heaters, Radiant 100 Heat#2: No Heating or Cooling 0% Ave. SqFt/Story: 900 Ave. Perimeter: 110 Has Elevators: *** Basement Info ***</p> <p>Area: Perimeter: Type: Heat: Hot Water, Radiant Floor * Mezzanine Info * * Sprinkler Info *</p>	High	Above Ave.	Ave.	X	Low	** **	Calculator Cost Data	** **	** **	** **	<p><<<<<< Calculator Cost Computations Class: D, Pole Quality: Low Cost Stories: 1 Story Height: 8 Perimeter: 110</p> <p>Base Rate for Upper Floors = 28.58 (10) Heating system: Space Heaters, Radiant Cost/SqFt: 5.30 100% Adjusted Square Foot Cost for Upper Floors = 33.88 Total Floor Area: 900 Base Cost New of Upper Floors = 30,492 Eff. Age: 38 Phy. %Good/Abnr. Phy./Func./Econ./Overall %Good: 38 /100/100/100/38.0 Total Depreciated Cost = 11,587</p> <p>ECF (INDUSTRIAL UNDER 10,000 SQ FT) 0.900 => TCV of Bldg: 1 = 10,428 Replacement Cost/Floor Area= 33.88 Est. TCV/Floor Area= 11.59</p>																				
High	Above Ave.	Ave.	X	Low																												
** **	Calculator Cost Data	** **	** **	** **																												
<p>(1) Excavation/Site Prep:</p>	<p>(7) Interior:</p>	<p>(11) Electric and Lighting:</p>																														
<p>(2) Foundation:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>X Poured Conc</td> <td>Brick/Stone</td> <td>Block</td> </tr> </table>	X Poured Conc	Brick/Stone	Block	<p>(8) Plumbing:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Many Above Ave.</td> <td>Average Typical</td> <td>Few None</td> </tr> <tr> <td colspan="3">Total Fixtures</td> </tr> <tr> <td>3-Piece Baths</td> <td>Urinals</td> <td></td> </tr> <tr> <td>2-Piece Baths</td> <td>Wash Bowls</td> <td></td> </tr> <tr> <td>Shower Stalls</td> <td>Water Heaters</td> <td></td> </tr> <tr> <td>Toilets</td> <td>Wash Fountains</td> <td></td> </tr> <tr> <td></td> <td>Water Softeners</td> <td></td> </tr> </table>	Many Above Ave.	Average Typical	Few None	Total Fixtures			3-Piece Baths	Urinals		2-Piece Baths	Wash Bowls		Shower Stalls	Water Heaters		Toilets	Wash Fountains			Water Softeners		<p>Outlets:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Few Average</td> <td>Average</td> </tr> <tr> <td>Many Unfinished Typical</td> <td>Many Unfinished Typical</td> </tr> <tr> <td>Flex Conduit Rigid Conduit Armored Cable Non-Metallic Bus Duct</td> <td>Incandescent Fluorescent Mercury Sodium Vapor Transformer</td> </tr> </table> <p>(13) Roof Structure: Slope=0</p>	Few Average	Average	Many Unfinished Typical	Many Unfinished Typical	Flex Conduit Rigid Conduit Armored Cable Non-Metallic Bus Duct	Incandescent Fluorescent Mercury Sodium Vapor Transformer
X Poured Conc	Brick/Stone	Block																														
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Gas Oil	Coal Stoker	Hand Fired Boiler																														
<p>(5) Floor Cover:</p>	<p>(39) Miscellaneous:</p>																															
<p>(6) Ceiling:</p>	<p>>>>>>></p>																															

*** Information herein deemed reliable but not guaranteed***



Sketch by Apex Sketch

*** Information herein deemed reliable but not guaranteed***

Desc. of Bldg/Section: Calculator Occupancy: Warehouses - Storage		Construction Cost High Above Ave. Ave. X Low		<<<<<< Calculator Cost Computations >>>>>>	
Class: C Floor Area: 400 Gross Bldg Area: 1,300 Stories Above Grd: 1 Average Sty Hght: 10 Bsmnt Wall Hght		** ** Calculator Cost Data ** ** Quality: Low Cost Heat#1: Space Heaters, Gas with Fan 0% Heat#2: Space Heaters, Gas with Fan 0% Ave. SqFt/Story: 400 Ave. Perimeter: 60 Has Elevators:		Class: C Quality: Low Cost Stories: 1 Story Height: 10 Perimeter: 60 Base Rate for Upper Floors = 42.76 Adjusted Square Foot Cost for Upper Floors = 42.76 Total Floor Area: 400 Base Cost New of Upper Floors = 17,104 Eff.Age:43 Phy.%Good/Abnr.Phy./Func./Econ./Overall %Good: 42 /100/100/100/42.0 Total Depreciated Cost = 7,184 ECF (INDUSTRIAL UNDER 10,000 SQ FT) Replacement Cost/Floor Area= 42.76 0.900 => TCV of Bldg: 2 = 6,465 Est. TCV/Floor Area= 16.16	
Year Built Remodeled Overall Bldg Height Comments:		*** Basement Info *** Area: Perimeter: Type: Heat: Hot Water, Radiant Floor * Mezzanine Info * * Sprinkler Info *		(11) Electric and Lighting: Outlets: Few Average Many Unfinished Typical Flex Conduit Rigid Conduit Armored Cable Non-Metallic Bus Duct Fixtures: Few Average Many Unfinished Typical Incandescent Fluorescent Mercury Sodium Vapor Transformer (13) Roof Structure: Slope=0 (14) Roof Cover:	
(1) Excavation/Site Prep: (2) Foundation: Footings X Poured Conc Brick/Stone Block (3) Frame: (4) Floor Structure: (5) Floor Cover: (6) Ceiling:		(7) Interior: (8) Plumbing: Many Above Ave. Average Typical Few None Total Fixtures Urinals 3-Piece Baths Wash Bowls 2-Piece Baths Water Heaters Shower Stalls Wash Fountains Toilets Water Softeners (9) Sprinklers: (10) Heating and Cooling: Gas Coal Hand Fired Oil Stoker Boiler		(39) Miscellaneous: (40) Exterior Wall: Thickness Bsmnt Insul.	

*** Information herein deemed reliable but not guaranteed***



Livingston County Health Department

Environmental Health Division
2300 E. Grand River - Suite 200 - Howell, MI 48843
Fax (517) 546-9853 - Phone (517) 546-9858

www.lchd.org

Soils Evaluation For Sub-Surface Sewage Disposal System

PSEV2020-00393

Case No.

10-01-400-005

Current Desc. #

Marion Township

Township

Location: 1388 LUCY RD

Lot:

Subdivision:

Acerage: 1.00

Parcel:

Applicant

BROCKWAY VERN
6523 OAK GROVE RD
HOWELL MI 48843
(517) 202 0913

Owner

BROCKWAY VERN
6523 OAK GROVE RD
HOWELL MI 48843
(517) 202 0913

Soil Description

<u>Date</u>	<u>Boring #</u>	<u>Soil Type</u>	<u>Soil Desc</u>	<u>Beg Depth</u>	<u>End Depth</u>	<u>SWT Depth</u>	<u>WT Depth</u>
10/22/2020	01	Clay Loam	Fill	0.00	2.00	2.00	4.00
10/22/2020	01	Loamy Sand	Mottled	2.00	4.00	2.00	4.00
10/22/2020	01	Fine Sand	Wet	4.00	6.00	2.00	4.00
10/22/2020	02	Clay Loam	Fill	0.00	0.50	3.50	None
10/22/2020	02	Loamy Sand		0.50	5.00	3.50	None
10/22/2020	03	Clay Loam	Fill	0.00	0.50	3.50	None
10/22/2020	03	Loamy Sand		0.50	5.00	3.50	None

Within 800 of a potential or known source of contamination: No

Further Info Needed (Refer to Comments)

Alternative Review: No

Conditions:

Oversize: No

The review of this site by the Livingston County Health Dept. by no means guarantees that a permit will be issued. However, soil conditions indicate that soils are suitable for the disposal of onsite waste water in the area of borings # 2 & # 3. Each development is site specific and it must be shown that adherence to Act 399, P.A. 1976 of the Michigan Safe Drinking Water Act and Michigan Criteria for Subsurface Disposal can be met.

Aaron Aumock
Environmental Health Representative

10/22/2020
Date

Soils Evaluation based on criteria stated in Livingston County Sanitary Code, effective January 4th, 1993.

This is NOT a permit. A suitable soils rating is NOT a guarantee that a permit to construct an on-site subsurface sewage disposal system will be granted. Changing conditions that might result in a permit denial are explained in more detail on the reverse side.



Livingston County Health Department

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Location: 1388 LUCY RD

Lot:

Subdivision:

Acerage: 1.00

Parcel:

A soil evaluation is conducted by the Environmental Health Division of the Livingston County Health Department to determine the suitability of utilizing onsite subsurface sewage treatment for a particular parcel of property. Comments might be made regarding the utilization of an onsite water well supply based on historical information in the general area, but in no instance can the information on this evaluation be specific for any particular parcel. We advise any prospective buyer to contact a licensed well driller, familiar with the area, for more specific information on water quality, yield, depth of wells, etc. The following discussion describes those factors which are evaluated during a soil evaluation and their effect on the operation of subsurface sewage treatment systems.

1. Soil type and permeability is a quality of a soil that enables it to transmit water or air. Slow permeable soils, such as clays and silts, are not suitable for utilizing onsite subsurface sewage treatment. Wetland soils such as muck and marl are poorly drained and therefore unsuitable for subsurface sewage treatment.
2. Highest known groundwater evaluation is an important consideration in determining if a site is suitable for the utilization of subsurface sewage treatment. In addition to the problems associated with saturated conditions, bacteria and viruses can survive if allowed to move in a water medium. Groundwater is our drinking water and must be protected from contamination by maintaining adequate isolation distances. Where the highest zone of groundwater saturation is less than 24 inches below the original ground surface the site will be considered unsuitable.
3. Deep excavations or cut-down systems can only be accepted under the following conditions:
 - a. Adequate and suitable material is within 20 ft. of the original grade.
 - b. The soils encountered shall not be saturated.
 - c. The drinking water aquifer will not become contaminated as a result of the wastewater discharge.
4. Other considerations evaluated during a soils evaluation include but are not limited to:
 - a. Adequate suitable area for a replacement system.
 - b. Isolation distances to water well supplies, surface waters, severe slopes, and property lines.
 - c. If the site is subject to flooding.

A determination of "suitable" soils does not guarantee that this property will be approved for development. It is the responsibility of the owner/purchaser to perform their due diligence with respect to other local, county, state, or federal requirements and/or restrictions that may impact the development potential of this property. These requirements and/or restrictions may void or restrict this soil evaluation.

This soil evaluation is valid for a specific building site. Any change in the legal description or a division of the original parcel into smaller parcels may void the original soils evaluation. A suitable soils evaluation does not necessarily mean that a permit to construct a subsurface sewage treatment system will automatically be issued. Some factors that might change the rating for permit approval include:

- a. Revisions to the current Sanitary Code Requirements for Permit Approval. This soils evaluation was conducted under the criteria for Permit Approval stated in the Livingston County Sanitary Code effective April 1, 2009.
- b. Grading, filling or excavation on the parcel.
- c. Construction on neighboring properties where location of water wells and/or sewage treatment systems encroach on required isolation distances.
- d. A soils evaluation for commercial property is only valid if specific wastewater flow is stated.
- e. Should some other condition of the property become known after the date of this soil evaluation that could impact the feasibility of development, or impact the quality of drinking water due to the discovery of a previously unknown source of contamination, the potential development of the property could be impacted. These discoveries may void or restrict this soil evaluation.

SWT - Seasonal Water Table

GW - Ground Water

WT - Water Table

LEGEND - Soil Description

MOT	Mottled	SAT	Saturated
GRE	Grey	LIG	Light
HEA	Heavy	DRY	Dry
WET	Wet		

Aaron Aumock

Environmental Health Representative

10/22/2020

Date

Soils Evaluation based on criteria stated in Livingston County Sanitary Code, effective January 4th, 1993.

This is NOT a permit. A suitable soils rating is NOT a guarantee that a permit to construct an on-site subsurface sewage disposal system will be granted. Changing conditions that might result in a permit denial are explained in more detail on the reverse side.



Livingston County Health Department
 Environmental Health Division
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Soils Evaluation For Sub-Surface Sewage Disposal System

PSEV2020-00393
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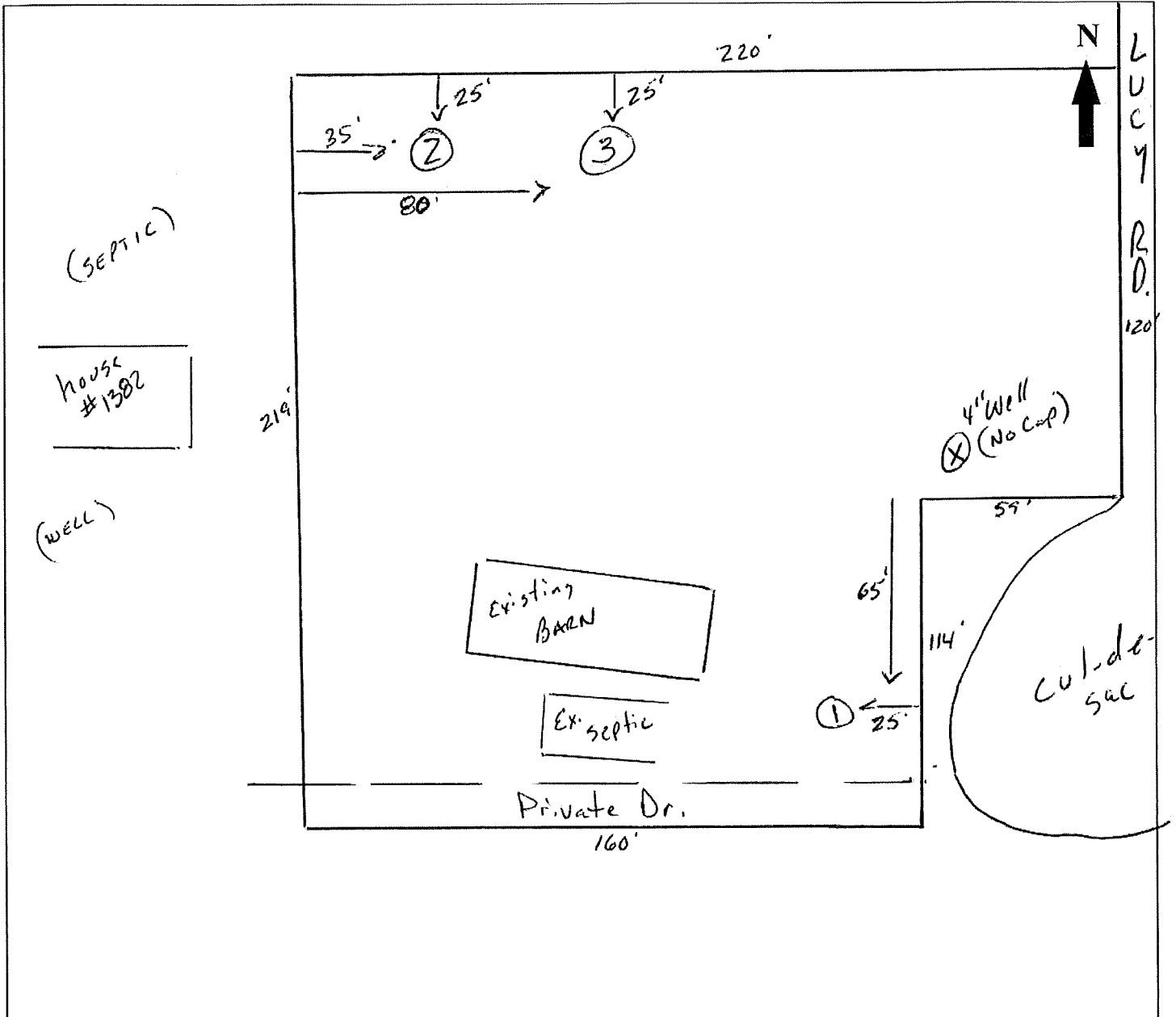
Location: 1388 LUCY RD

Lot:

Subdivision:

Acerage: 1.00

Parcel:



Aaron Aumock
 Environmental Health Representative

10/22/2020
 Date

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LIVINGSTON COUNTY HEALTH DEPARTMENT
Environmental Health Division
 2300 E. Grand River, Suite 102, Howell, Michigan 48843-7578
 (517) 546-9858 * Fax (517) 546-9853 www.lchd.org

**REQUEST FOR SOILS EVALUATION
 SUBSURFACE SEWAGE TREATMENT SYSTEMS**

Please PRINT or TYPE - See reverse side for directions and explanations.

Applicant

Name VERN BROCKWAY
 Address 6523 OAK GROVE ROAD
 City HOWELL State MICH Zip 48855
 Telephone No. 517-202-0913
 E-Mail Address: _____

Property Owner

Name A SAME
 Address _____
 City _____ State _____ Zip _____
 Telephone No. _____
 E-Mail Address: _____

Location of Property

Road 1388 LUCY ROAD Township MARION Sect. No. _____
 Directions GRAND RIVER TO LUCY RD TO END OF ROAD ABOUT 1 MILE
LAST PLOT ON DEEP ENA ROAD ON WEST SIDE
 Subdivision/Acreage 1 ACR
 Parcel No. _____ Lot No. _____ Tax ID# A710-01-AUG 005

Nature of Intended Use

Single Family Multi-Family Residence Commercial
 Two-Family Dwelling Other (Specify) _____
 Person or Firm conducting excavation ROYAL RISING & DEMOLITION
 Telephone No. 517-202-0913

Available Water Supply

Private (Individual Wells) Public (Municipal Water)
 Utilities County Drains Yes No

Attachments

Certificate of Survey YES or Legal Description and Preliminary Sketch _____

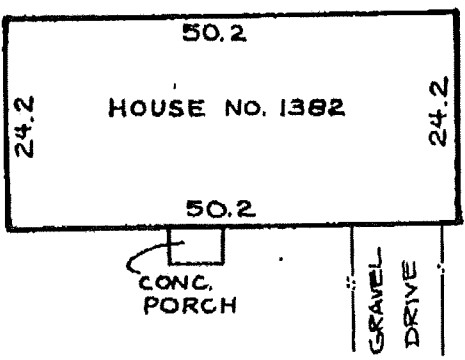
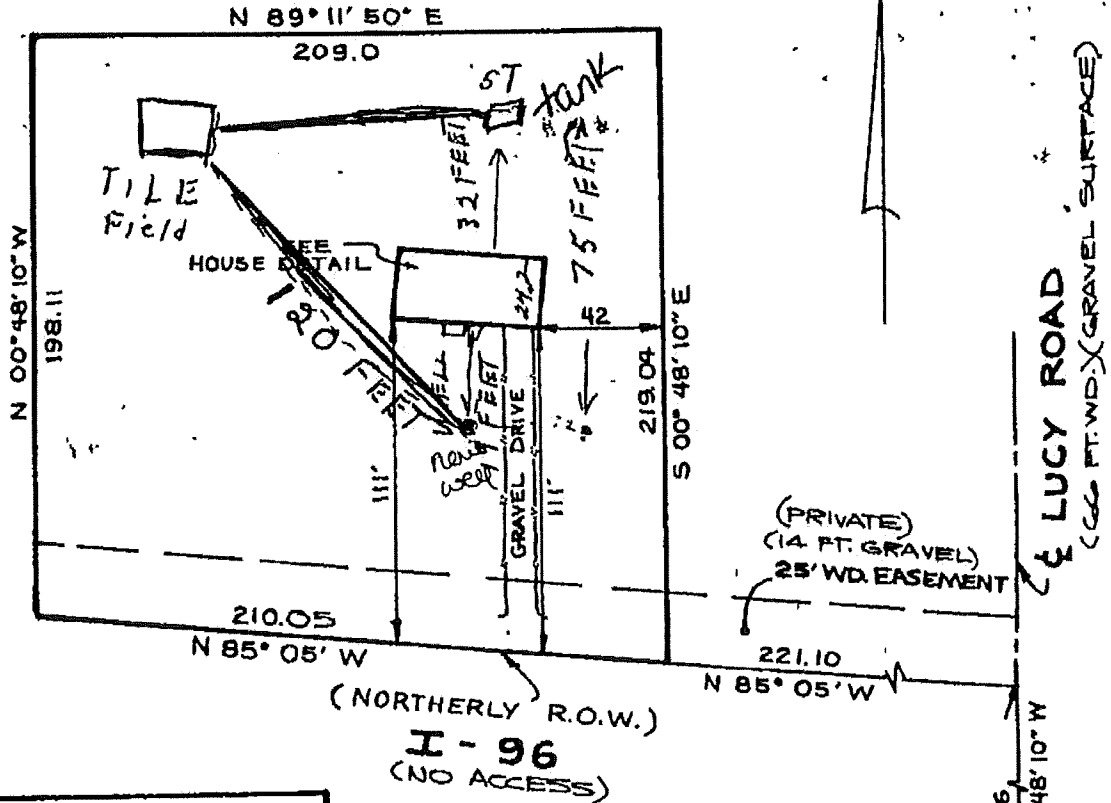
The undersigned being duly authorized certifies the statements herein contained are true and correct and further acknowledges he/she is the property owner or is acting as an authorized representative on behalf of the property owner.

Signature Vern Brockway Date OCT 5, 2020

If mailing, allow adequate time before calling for an appointment.

FOR LIVINGSTON COUNTY HEALTH DEPARTMENT	
Appointment (date & time)	<u>Thursday October 22ND @ 10:30 AM w/ Aaron</u>
Soil Evaluation I.D. No.	<u>PSEV2020-00393</u> Receipt No. <u>N/C</u>
Comments	_____
NOTE: APPLICANT SUBJECT TO ADDITIONAL FEE FOR FAILING TO KEEP APPOINTMENT	

APPROVED
 Livingston County Health Department
 Name Mark Doyle
 Date 8/28/89



ONE STORY
 WOOD FRAME
 FULL BASEMENT
 ALUMINUM EXTERIOR

Neighbor

- HOUSE DETAIL -
 SCALE: 1" = 20'

SE COR
 SEC. 1
 T2N-R4E

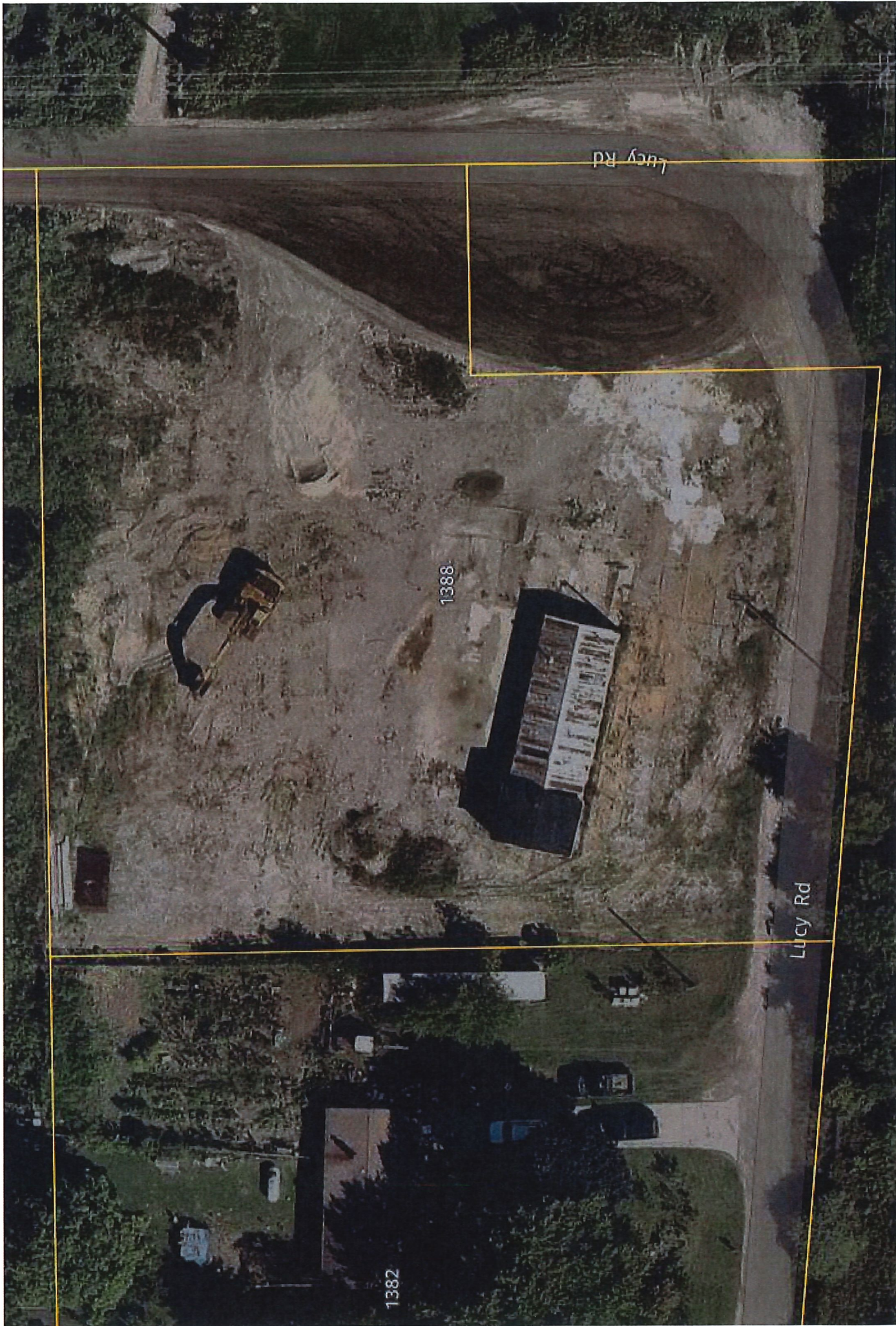
This report is for mortgage purposes only and has been completed using property descriptions furnished by others and is not to be used to establish lines for the erection of fences or other buildings. See attached description and certification information.

Scale: 1" = 50'
 Job No.: M 13603
 Date: APRIL 5, 1983

LEGEND
 ● IRON FOUND MONUMENT
 - - - FENCE



BOSS ENGINEERING COMPANY
 3121 E. GRAND RIVER, HOWELL, MICHIGAN
 (517) 548-4838 48843



Lucy Rd

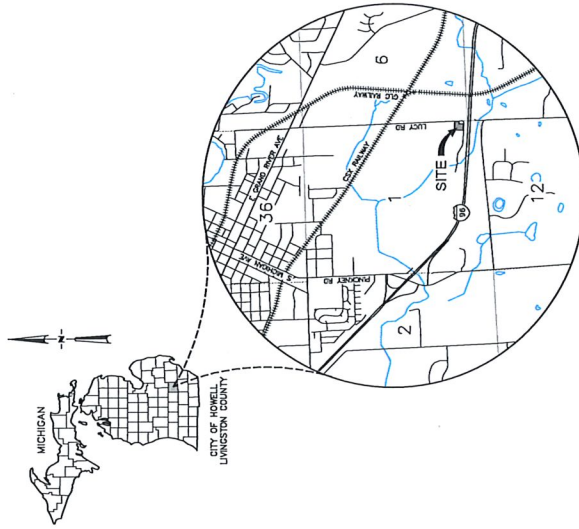
1388

Lucy Rd

1382

SEPTEMBER 2020

SITE PLAN DRAWINGS FOR 1388 LUCY ROAD



LOCATION MAP
SCALE: 1"=200'

CLIENT

VERN BROCKWAY
6523 OAK GROVE ROAD,
HOWELL, MI 48855

DESIGN ENGINEER/SURVEYOR

MONUMENT ENGINEERING GROUP ASSOCIATES, INC
INNOVATIVE GEOSPATIAL &
ENGINEERING SOLUTIONS
298 VETERANS DRIVE,
FOWLERVILLE, MI 48836
ALLAN W PRUSS, PE, PS
PHONE: 517-223-3512



NOT FOR CONSTRUCTION

G-10

PROJECT NO: 20-102
SCALE: N/A
DATE: 8/23/2020
ORIGINAL DATE: 9/23/2020

DATE	8/23/2020
CONCEPT PLAN	10/13/2020
SITE PLAN SUBMITTAL	11/25/2020
SITE PLAN RESUBMITTAL	11/25/2020
SITE PLAN RESUBMITTAL	11/25/2020
SITE PLAN RESUBMITTAL	11/25/2020

COVER
1388 LUCY ROAD
PART OF SE 1/4 OF SEC. 1, T2N-R4E
MARION TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

CLIENT:
VERN BROCKWAY
6523 OAK GROVE ROAD
HOWELL, MI 48855



PLAN SUBMITTALS	DATE	DESCRIPTION
CONCEPT PLAN	8/23/2020	SITE PLAN SUBMITTAL
SITE PLAN RESUBMITTAL	11/10/2020	SITE PLAN SUBMITTAL
SITE PLAN RESUBMITTAL	11/20/2020	SITE PLAN SUBMITTAL
SITE PLAN RESUBMITTAL	11/25/2020	SITE PLAN SUBMITTAL

GENERAL	DATE	DESCRIPTION
SHEET C-1.0 COVER	8/23/2020	CONCEPT PLAN
SHEET V-1.0 TOPOGRAPHIC SURVEY	8/23/2020	CONCEPT PLAN
SHEET V-1.1 SOIL BORING LOGS	8/23/2020	CONCEPT PLAN
SHEET V-2.0 ADJUSTED VERTICAL CURVE	8/23/2020	CONCEPT PLAN
SHEET C-1.1 SITE PLAN	8/23/2020	CONCEPT PLAN
SHEET C-1.2 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-1.3 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-2.0 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-2.1 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-2.2 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-3.0 UNIT PLAN	8/23/2020	CONCEPT PLAN
SHEET C-3.1 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-3.2 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-3.3 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.0 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.1 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.2 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.3 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.4 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.5 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.6 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.7 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
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SHEET C-4.24 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.25 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.26 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.27 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.28 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.29 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.30 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.31 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.32 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.33 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.34 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.35 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.36 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.37 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.38 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.39 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.40 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.41 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.42 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.43 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.44 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.45 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.46 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.47 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.48 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
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SHEET C-4.55 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.56 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.57 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.58 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.59 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.60 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.61 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.62 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.63 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.64 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.65 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.66 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.67 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.68 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.69 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.70 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.71 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.72 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.73 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.74 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.75 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.76 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.77 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.78 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.79 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.80 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.81 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.82 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.83 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.84 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.85 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.86 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.87 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.88 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.89 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.90 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.91 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.92 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.93 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.94 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.95 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.96 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.97 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.98 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.99 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN
SHEET C-4.100 DIMENSIONS & FINISH	8/23/2020	CONCEPT PLAN

SHEET INDEX

LEGAL DESCRIPTION (AS PROVIDED)
(PER WARRANTY DEED AS RECORDED IN DOC. #2016R-01688R, LIVINGSTON COUNTY RECORDS)

PARCEL TAX NUMBER: 4710-01-400-009
A PART OF THE SOUTHEAST 1/4 OF SECTION 1, TOWN 2 NORTH, RANGE 4 EAST, MICHIGAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SECTION 1, THENCE NORTH 0 DEGREES 22 MINUTES 15 SECONDS EAST 60.0 FEET TO A POINT OF BEGINNING OF THE LAND TO BE DESCRIBED; RUNNING THENCE NORTH 85 DEGREES 05 MINUTES WEST 160.8 FEET ALONG THE NORTHERLY RIGHT OF WAY OF I-96; THENCE NORTH 0 DEGREES 48 MINUTES 20 SECONDS WEST 219.04 FEET ALONG THE RIGHT OF WAY OF I-96; THENCE NORTH 0 DEGREES 48 MINUTES 20 SECONDS WEST 219.04 FEET ALONG THE RIGHT OF WAY OF I-96; THENCE SOUTH 0 DEGREES 48 MINUTES 10 SECONDS EAST 220.56 FEET ALONG SECTION LINE; THENCE SOUTH 89 DEGREES 11 MINUTES 10 SECONDS WEST 60.0 FEET; THENCE SOUTH 0 DEGREES 48 MINUTES 10 SECONDS EAST 114.5 FEET TO POINT OF BEGINNING.

BEARING REFERENCE
BEARINGS ARE BASED ON PROJECT COORDINATE SYSTEM:
MICHIGAN STATE PLANE COORDINATE SYSTEM, NAD83 (CONUS) [M01] (GRS80), SOUTH ZONE 2113, [LAT: 42°32'12.47", LON: 83°54'43.37", ELEV: 919', SCALE FACTOR: 1.00013351].

PROPOSED LAND USE NARRATIVE
THE SITE IS LOCATED AT THE CORNER OF LUCY ROAD, ON THE BORDER OF THE CITY OF HOWELL AND THE CITY OF TOWNSHIP ALICE/LEOLA. A DEDICATED GRAVEL ROAD PERPENDICULAR TO INTERSTATE 96, IT HAS A DEDICATED 1,850 SF BUILDING; BUILT OUTSIDE OF THE REQUIRED BUILDING SETBACKS AND VISIBLE FROM INTERSTATE 96-WEST, THE GRAVEL PAVEMENT ON SITE IS IN POOR CONDITION, WITH NO DEFINED ACCESS, DRIVE PILES AND MISCELLANEOUS STORAGE.
THE OWNER, VERN BROCKWAY INTENDS TO OPERATE A REPAIR SHOP WITH OFFICE BUILDING AT THIS LOCATION. THE PROPOSED BUILDING WILL BE A 1,850 SF BUILDING WITH OFFICE BUILDING, AND STRIPPED PARKING SPACES, GRAVEL PARKING LOT, STORM WATER MANAGEMENT SYSTEM, WELL, AND SEPTIC DISPOSAL FIELD.



Call MING DING
 15 MINUTES RESPONSE RATE
 24 HOURS SERVICE
 4000 WESTLAND AVENUE
 WESTLAND, MI 48090
 WWW.MINGDING.COM

CLIENT:
 VERN BROCKWAY
 8033 OAK GROVE ROAD
 HOWELL, MI 48843

SOIL BORING LOGS
 1388 LUCY RD
 PART OF SE 1/4 OF SEC. 1, T2N-R4E
 MARION TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

DATE: 8/12/2020
 PLAN SHEETS/FIGURES: 1/1
 PROJECT NO: 20-102
 SCALE: 1" = 20'
 SHEET NO: 307
 SHEET TOTAL: 307
 DRAWN BY: B.W. JIN
 CHECKED BY: J.P.
 NOT FOR CONSTRUCTION

HARTLEY GEOTECHNICAL GROUP

SEE REMARKS FOR SOIL CLASSIFICATION

DEPTH (FEET)	SOIL TYPE	SOIL CLASSIFICATION	REMARKS
1	CLAY	CLAY	...
2	CLAY	CLAY	...
3	CLAY	CLAY	...
4	CLAY	CLAY	...
5	CLAY	CLAY	...
6	CLAY	CLAY	...
7	CLAY	CLAY	...
8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

HARTLEY GEOTECHNICAL GROUP

SEE REMARKS FOR SOIL CLASSIFICATION

DEPTH (FEET)	SOIL TYPE	SOIL CLASSIFICATION	REMARKS
1	CLAY	CLAY	...
2	CLAY	CLAY	...
3	CLAY	CLAY	...
4	CLAY	CLAY	...
5	CLAY	CLAY	...
6	CLAY	CLAY	...
7	CLAY	CLAY	...
8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

HARTLEY GEOTECHNICAL GROUP

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DEPTH (FEET)	SOIL TYPE	SOIL CLASSIFICATION	REMARKS
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3	CLAY	CLAY	...
4	CLAY	CLAY	...
5	CLAY	CLAY	...
6	CLAY	CLAY	...
7	CLAY	CLAY	...
8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

HARTLEY GEOTECHNICAL GROUP

SEE REMARKS FOR SOIL CLASSIFICATION

DEPTH (FEET)	SOIL TYPE	SOIL CLASSIFICATION	REMARKS
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8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

HARTLEY GEOTECHNICAL GROUP

SEE REMARKS FOR SOIL CLASSIFICATION

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5	CLAY	CLAY	...
6	CLAY	CLAY	...
7	CLAY	CLAY	...
8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

HARTLEY GEOTECHNICAL GROUP

SEE REMARKS FOR SOIL CLASSIFICATION

DEPTH (FEET)	SOIL TYPE	SOIL CLASSIFICATION	REMARKS
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3	CLAY	CLAY	...
4	CLAY	CLAY	...
5	CLAY	CLAY	...
6	CLAY	CLAY	...
7	CLAY	CLAY	...
8	CLAY	CLAY	...
9	CLAY	CLAY	...
10	CLAY	CLAY	...
11	CLAY	CLAY	...
12	CLAY	CLAY	...
13	CLAY	CLAY	...
14	CLAY	CLAY	...
15	CLAY	CLAY	...
16	CLAY	CLAY	...
17	CLAY	CLAY	...
18	CLAY	CLAY	...
19	CLAY	CLAY	...
20	CLAY	CLAY	...

NO. of Blows Required
 Depth Intervals: 0-10 ft, 10-20 ft, 20-30 ft
 A.S.T.M. Penetration Test

Livingston County Health Department
 Environmental Health Division
 2300 E. Grand River - Suite 200 - Howell, MI 48843
 Fax: (517) 546-8503 - Phone: (517) 546-8588

Soils Evaluation For Sub-Station Waste Disposal System

Location	Soil Type	Soil Description	Depth (ft)	Soil Class.	Moist. Cont.	WT. Depth	VC Depth
1	CLAY	CLAY	0.00	CL	2.00	3.00	4.00
2	CLAY	CLAY	2.00	CL	4.00	2.00	4.00
3	CLAY	CLAY	4.00	CL	6.00	2.00	4.00
4	CLAY	CLAY	6.00	CL	8.00	3.00	None
5	CLAY	CLAY	8.00	CL	10.00	3.00	None
6	CLAY	CLAY	10.00	CL	12.00	5.00	3.00
7	CLAY	CLAY	12.00	CL	14.00	5.00	3.00
8	CLAY	CLAY	14.00	CL	16.00	5.00	3.00
9	CLAY	CLAY	16.00	CL	18.00	5.00	3.00
10	CLAY	CLAY	18.00	CL	20.00	5.00	3.00
11	CLAY	CLAY	20.00	CL	22.00	5.00	3.00
12	CLAY	CLAY	22.00	CL	24.00	5.00	3.00
13	CLAY	CLAY	24.00	CL	26.00	5.00	3.00
14	CLAY	CLAY	26.00	CL	28.00	5.00	3.00
15	CLAY	CLAY	28.00	CL	30.00	5.00	3.00
16	CLAY	CLAY	30.00	CL	32.00	5.00	3.00
17	CLAY	CLAY	32.00	CL	34.00	5.00	3.00
18	CLAY	CLAY	34.00	CL	36.00	5.00	3.00
19	CLAY	CLAY	36.00	CL	38.00	5.00	3.00
20	CLAY	CLAY	38.00	CL	40.00	5.00	3.00

V-20

DATE: 9/23/2020
 PLAN SHEETS/TOTALS: 1/1
 SHEET NO.: 20

PROJECT: MV-20-102
 ORIGINAL DATE: 9/23/2020

SCALE: 1" = 20'

DATE: 9/23/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/7/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

DATE: 11/2/2020
 PLAN SHEETS/TOTALS: 1/1

AERIAL VIEW
 1388 LUCY ROAD
 PART OF SE 1/4 OF SEC. 1, T2N-R4E
 MARION TOWNSHIP, LMNSTON COUNTY, MICHIGAN

CLIENT: VERN BROCKWAY
 8533 DAY DRIVE ROAD
 HOWELL, MI 48855

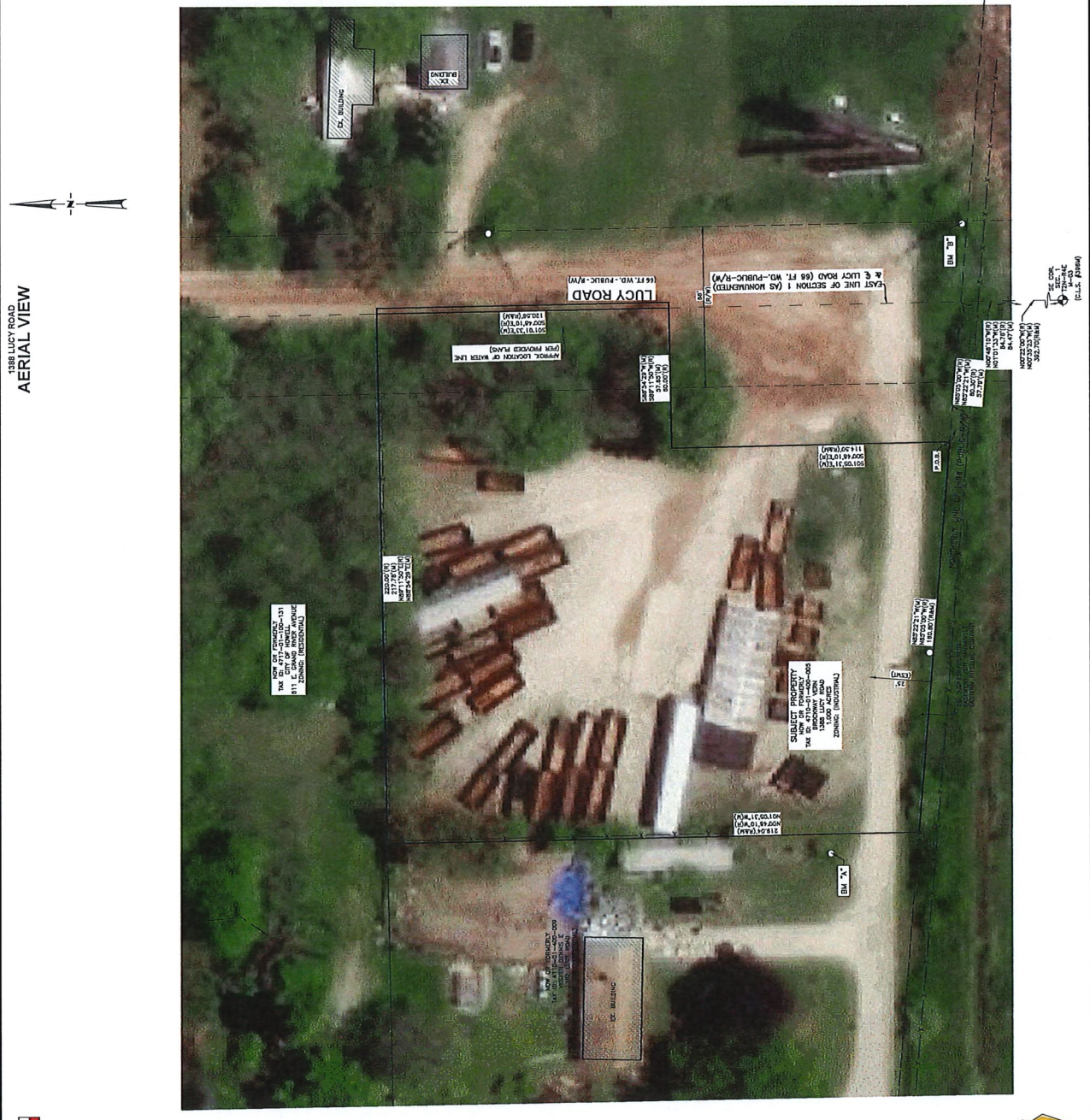
DATE: 9/23/2020
 PROJECT: MV-20-102
 ORIGINAL DATE: 9/23/2020

SCALE: 1" = 20'

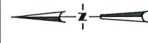
Professional Engineer Seal for James M. Brockway, License No. 26317, State of Michigan. Includes Michigan State Seal of the Board of Engineers and Surveyors.

AERIAL NOTE
 AERIAL SOURCED FROM USGS

NOTE
 SITE HAS SINCE BEEN CLEARED UP, ONLY THE EXISTING BUILDING REMAINS.



1388 LUCY ROAD
AERIAL VIEW



CD-10

DATE: 9/13/2020
DRAWN BY: BJK, AN
CHECK BY: JJP

SCALE: 1" = 20'
PROJECT: HQ-20-102

DATE: 9/13/2020
CONCEPT PLAN
PLAN SHEET NO./REVISED

DATE	9/13/2020
SITE PLAN SUBMITTAL	10/13/2020
SITE PLAN REVISION	11/25/2020
SITE PLAN REVISION	11/25/2020
SITE PLAN REVISION	11/25/2020

DEMOLITION PLAN
1388 LUCY ROAD
PART OF SE 1/4 OF SEC. 1, T2N-R4E
MARION TOWNSHIP, LAMINGTON COUNTY, MICHIGAN

CLIENT: VERN BROCKWAY
8033 OAK GROVE ROAD
HOWELL, MI 48855

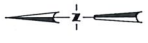
CALL MISC DIB
124 WEST FERRIS AVE
ANN ARBOR, MI 48106
PHONE: 734.769.1100
FAX: 734.769.1101
WWW.MICHIGANENGINEERS.COM

STATE OF MICHIGAN
JAMES W. BROWN
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 12/31/2024

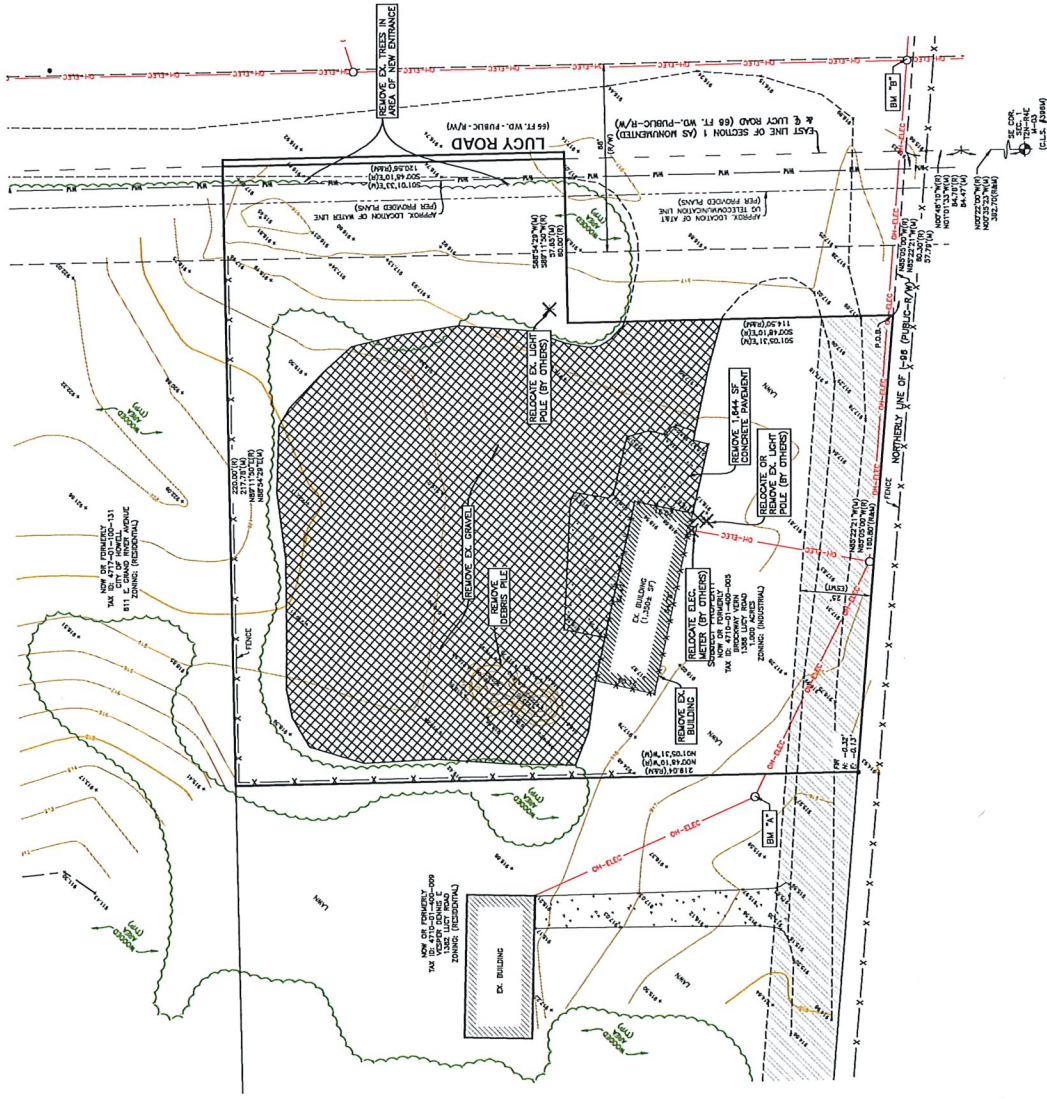
MICHIGAN SOCIETY OF PROFESSIONAL ENGINEERS
MICHIGAN SOCIETY OF PROFESSIONAL ENGINEERS
MICHIGAN SOCIETY OF PROFESSIONAL ENGINEERS

300 WESTLAND DRIVE
ANN ARBOR, MI 48106
WWW.MICHIGANENGINEERS.COM
MICHIGAN SOCIETY OF PROFESSIONAL ENGINEERS
STATE OF MICHIGAN

- DEMOLITION LEGEND
- ABANDON IN PLACE
 - ABANDON UNDER FEATURE
 - ////// SAWCUT
 - REMOVE UNDER FEATURE
 - REMOVE CONDUIT
 - REMOVE PAVEMENT



1388 LUCY ROAD
DEMOLITION PLAN



CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

NOTES

- DUMPSTER ENCLOSURES SHALL BE CONSTRUCTED OF THE SAME BRICK MATERIAL AS THE ADJACENT EQUIPMENT.
- SEWERING SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT.
- PARKING LOT ISLANDS SHALL BE FINISHED IN GRASS, GRASS COVER OR MULCH.

PAVEMENT LEGEND

- DC, CONCRETE
- DK, GRAVEL
- PK, CONCRETE
- PL, GRAVEL

NOTES FOR CONSTRUCTION

- DUMPSTER ENCLOSURES SHALL BE CONSTRUCTED OF THE SAME BRICK MATERIAL AS THE ADJACENT EQUIPMENT.
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PROPOSED PAVING PLAN

CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3

MECA ENGINEERS
Professional Engineer
ALAN V. ...
1000 ...

CLIENT :
VERN BROCKWAY
8533 OW GROVE ROAD
HOWELL, MI 48855

PROPOSED PAVING PLAN

ONE (1) SPACE FOR EACH EMPLOYEE IN LARGEST WORKING SHIFT.

TOTAL PARKING REQUIRED: 9
PARKING SPACES PROVIDED: 9
TOTAL PARKING PROVIDED: 9

REQUIRED VARIANCES

- FRONT, SIDE & REAR SETBACKS PER SECTION 10.0.B.1.J. OF THE MARION TOWNSHIP ZONING ORDINANCE.
- THE MARION TOWNSHIP ZONING ORDINANCE.

ZONING INFORMATION

THIS ZONING MAP AREA IS TAKEN FROM THE MARION TOWNSHIP ZONING ORDINANCE
DATED: MARCH 14, 1996

SUBJECT PARCEL ZONING CLASSIFICATION:
LIGHT INDUSTRIAL

INTENDED USE:
REPAIR

REPAIR	REQUIRED	PROVIDED
BUILDING SETBACKS:		
SIDE (NORTH):	10'	10'
SIDE (SOUTH):	10'	10'
FRONT (EAST):	10'	10'
FRONT (WEST):	10'	10'
REAR (NORTH):	10'	10'
REAR (WEST):	10'	10'

LANDSCAPE SETBACKS:
FRONT (EAST): 10'
FRONT (WEST): 10'
SIDE (NORTH): 10'
SIDE (SOUTH): 10'
REAR (NORTH): 10'
REAR (WEST): 10'

SUBJECT PARCEL AREA: 4.0 AC
PROPOSED BUILDING: 6,000 SF
BUILDING HEIGHT: 10'

MAX LOT COVERAGE: 40%
ADJACENT ZONING: RESIDENTIAL
SOUTH: INDUSTRIAL
EAST: INDUSTRIAL
WEST: RESIDENTIAL

CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3

MECA ENGINEERS
Professional Engineer
ALAN V. ...
1000 ...

CLIENT :
VERN BROCKWAY
8533 OW GROVE ROAD
HOWELL, MI 48855

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FRONT (WEST):	10'	10'
REAR (NORTH):	10'	10'
REAR (WEST):	10'	10'

LANDSCAPE SETBACKS:
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FRONT (WEST): 10'
SIDE (NORTH): 10'
SIDE (SOUTH): 10'
REAR (NORTH): 10'
REAR (WEST): 10'

SUBJECT PARCEL AREA: 4.0 AC
PROPOSED BUILDING: 6,000 SF
BUILDING HEIGHT: 10'

MAX LOT COVERAGE: 40%
ADJACENT ZONING: RESIDENTIAL
SOUTH: INDUSTRIAL
EAST: INDUSTRIAL
WEST: RESIDENTIAL

CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3

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Professional Engineer
ALAN V. ...
1000 ...

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REAR (WEST): 10'

SUBJECT PARCEL AREA: 4.0 AC
PROPOSED BUILDING: 6,000 SF
BUILDING HEIGHT: 10'

MAX LOT COVERAGE: 40%
ADJACENT ZONING: RESIDENTIAL
SOUTH: INDUSTRIAL
EAST: INDUSTRIAL
WEST: RESIDENTIAL

CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3

MECA ENGINEERS
Professional Engineer
ALAN V. ...
1000 ...

CLIENT :
VERN BROCKWAY
8533 OW GROVE ROAD
HOWELL, MI 48855

PROPOSED PAVING PLAN

ONE (1) SPACE FOR EACH EMPLOYEE IN LARGEST WORKING SHIFT.

TOTAL PARKING REQUIRED: 9
PARKING SPACES PROVIDED: 9
TOTAL PARKING PROVIDED: 9

REQUIRED VARIANCES

- FRONT, SIDE & REAR SETBACKS PER SECTION 10.0.B.1.J. OF THE MARION TOWNSHIP ZONING ORDINANCE.
- THE MARION TOWNSHIP ZONING ORDINANCE.

ZONING INFORMATION

THIS ZONING MAP AREA IS TAKEN FROM THE MARION TOWNSHIP ZONING ORDINANCE
DATED: MARCH 14, 1996

SUBJECT PARCEL ZONING CLASSIFICATION:
LIGHT INDUSTRIAL

INTENDED USE:
REPAIR

REPAIR	REQUIRED	PROVIDED
BUILDING SETBACKS:		
SIDE (NORTH):	10'	10'
SIDE (SOUTH):	10'	10'
FRONT (EAST):	10'	10'
FRONT (WEST):	10'	10'
REAR (NORTH):	10'	10'
REAR (WEST):	10'	10'

LANDSCAPE SETBACKS:
FRONT (EAST): 10'
FRONT (WEST): 10'
SIDE (NORTH): 10'
SIDE (SOUTH): 10'
REAR (NORTH): 10'
REAR (WEST): 10'

SUBJECT PARCEL AREA: 4.0 AC
PROPOSED BUILDING: 6,000 SF
BUILDING HEIGHT: 10'

MAX LOT COVERAGE: 40%
ADJACENT ZONING: RESIDENTIAL
SOUTH: INDUSTRIAL
EAST: INDUSTRIAL
WEST: RESIDENTIAL

CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3

MECA ENGINEERS
Professional Engineer
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CLIENT :
VERN BROCKWAY
8533 OW GROVE ROAD
HOWELL, MI 48855

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INTENDED USE:
REPAIR

REPAIR	REQUIRED	PROVIDED
BUILDING SETBACKS:		
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SIDE (SOUTH):	10'	10'
FRONT (EAST):	10'	10'
FRONT (WEST):	10'	10'
REAR (NORTH):	10'	10'
REAR (WEST):	10'	10'

LANDSCAPE SETBACKS:
FRONT (EAST): 10'
FRONT (WEST): 10'
SIDE (NORTH): 10'
SIDE (SOUTH): 10'
REAR (NORTH): 10'
REAR (WEST): 10'

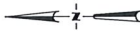
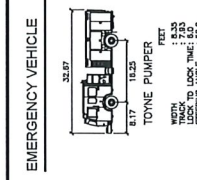
SUBJECT PARCEL AREA: 4.0 AC
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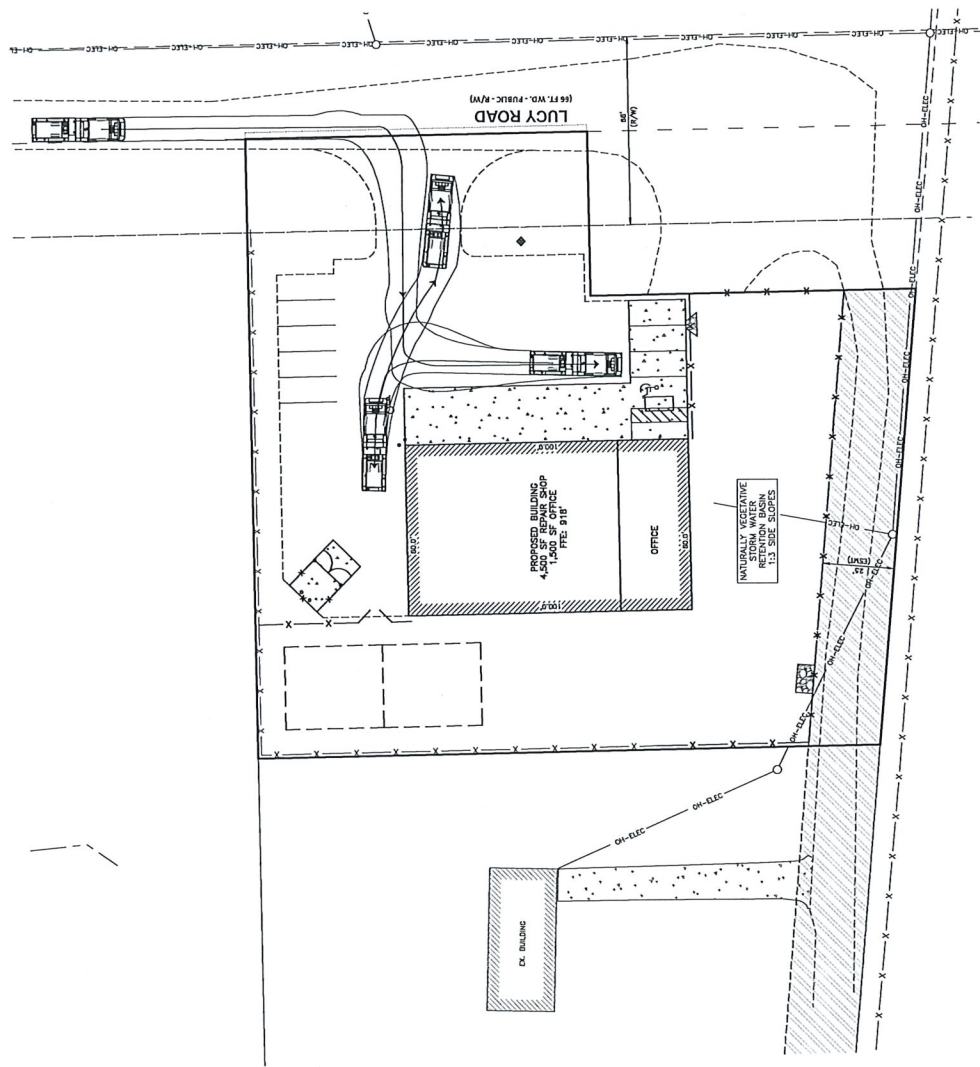
CONCRETE PAVEMENT SECTION
Applies to DUMPSTER PAD & APRON

GRAVEL PAVEMENT SECTION
Applies to DRIVEWAY AND PARKING LOT

DUMPSTER ENCLOSURE DETAIL
SECTION 3-3



1388 LUCY ROAD
EMERGENCY VEHICLE
CIRCULATION PLAN



MEMBER OF MICHIGAN ASSOCIATION OF ENGINEERS & ARCHITECTS

MIE
MICHIGAN INSTITUTE OF ENGINEERS

324 VETERANS DRIVE
ANN ARBOR, MI 48106
PH: 734.769.1818
WWW.MICHIGANINSTITUTE.COM

STATE BAR OF MICHIGAN
MEMBER

PROFESSIONAL ENGINEER
MICHIGAN LICENSE #0000000000

John W. ...

CHEM MESSING
714 NORTH ...
ANN ARBOR, MI 48106
PH: 734.769.1818
WWW.MICHIGANINSTITUTE.COM

PROFESSIONAL ENGINEER
MICHIGAN LICENSE #0000000000

CLIENT: VERN BROADWAY
8533 OAK GROVE ROAD
HOWELL, MI 48855

DATE: 9/12/2020
CONCEPT PLAN
SITE PLAN SPLITTING
10/13/2020
SITE PLAN REVISION
11/25/2020
SITE PLAN REVISION
11/25/2020
SITE PLAN REVISION
11/25/2020
DATE

PLAN SHEETS/REVISIONS

PROJECT: NO.20-1-102
9/12/2020

SCALE: 1" = 20'

DATE: 9/12/2020
DRAWN BY: SHL, AN
CHECKED BY: GP
PROJECT: NO.20-1-102

1388 LUCY ROAD
PART OF SE 1/4 OF SEC. 1, T2N-R4E
MARION TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

VEHICLE CIRCULATION PLAN

C-2.1

DATE	9/12/2020
PLAN SHEET NO./TOTAL SHEETS	
CONCEPT PLAN	9/12/2020
SITE PLAN SUBMITTAL	10/12/2020
SITE PLAN REVISION	11/16/2020
SITE PLAN REVISION	11/23/2020
SITE PLAN REVISION	11/23/2020
SITE PLAN REVISION	11/23/2020
DATE	

VEHICLE CIRCULATION PLAN
 1388 LUCY ROAD
 PART OF SE 1/4 OF SEC. 1, T2N-R4E
 MARION TOWNSHIP, LANSING COUNTY, MICHIGAN

CLIENT :
 VERN BROCKWAY
 8523 OAK GROVE ROAD
 HOWELL, MI 48855

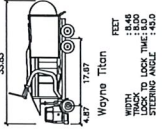
ALAN W. GALE
 PROFESSIONAL ENGINEER
 LICENSE NO. 66019
 STATE OF MICHIGAN

CALL: 517.522.2100
 114 EAST GALE STREET, SUITE 200
 EAST LANSING, MI 48022
 WWW.AWGALE.COM

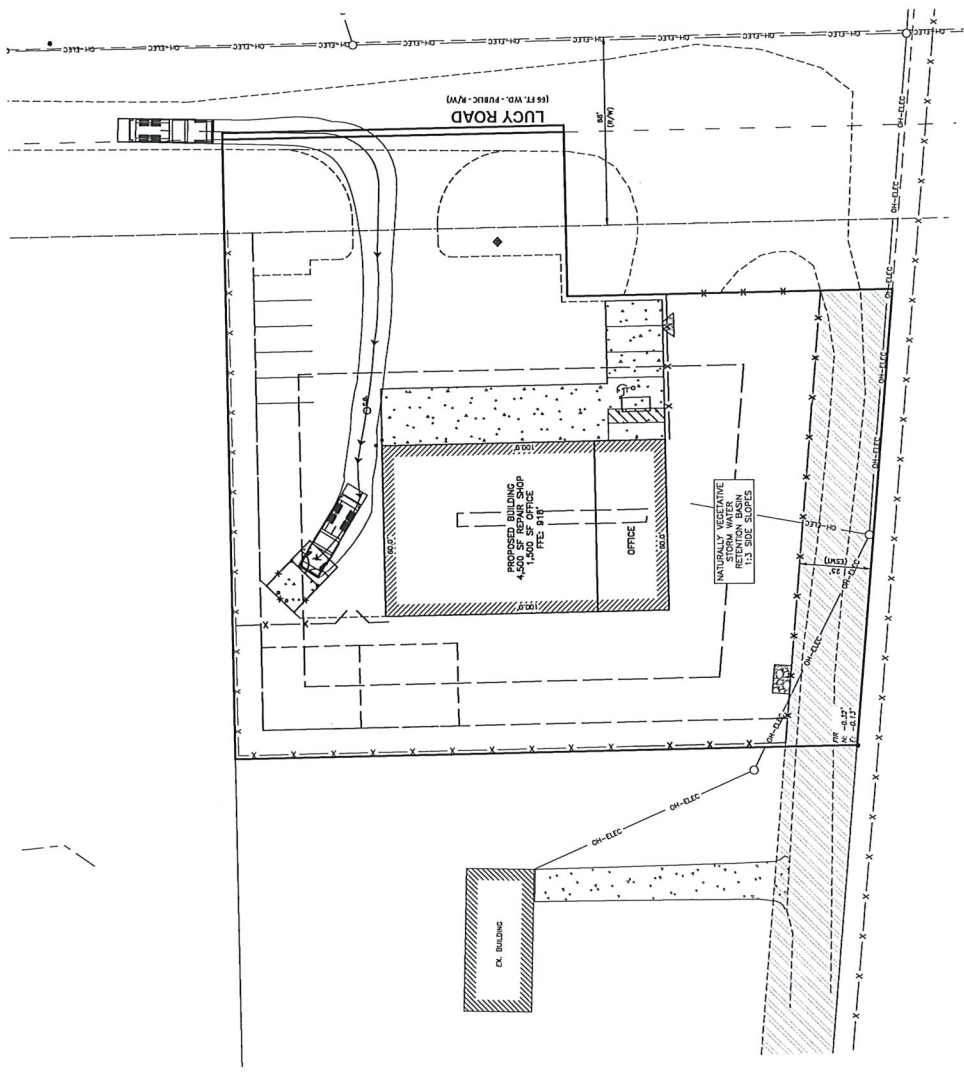
MIE GA
 MICHIGAN ENGINEERS ASSOCIATION

386 VETERANS DRIVE
 ANN ARBOR, MI 48106
 734.769.4400
 WWW.MICHIGANENGINEERS.COM
 STATE BOARD OF EXAMINERS
 STATE REGISTRATION

REFUSE VEHICLE



**1388 LUCY ROAD
 REFUSE VEHICLE
 CIRCULATION PLAN**



GRADING & SEIC PLAN
PART OF SE 1/4 OF SEC. 1, T2N-R4E
MARION TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

SOIL EROSION CONTROL MAINTENANCE SCHEDULE AND NOTES.
1. SOIL EROSION CONTROL MAINTENANCE SHALL BE MAINTAINED AS SHOWN ON THE PLAN.
2. EARTHWORK SHALL BE LIMITED TO THE PROPOSED SITE AS SHOWN ON THE PLAN.
3. CONTRACTOR SHALL INSPECT THE SOIL EROSION CONTROL MEASURES TO BE MAINTAINED AND REPAIR AS NECESSARY WITHIN 24 HOURS OF A RAINFALL EVENT WHICH EXCEEDS 0.5 INCHES.
4. ALL MAINTENANCE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
5. SOIL FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT-UP VEGETATION OR WEEDS TO MAINTAIN THE FENCE AT THE PROPOSED HEIGHT OF 50 INCHES.
6. SOIL FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT-UP VEGETATION OR WEEDS TO MAINTAIN THE FENCE AT THE PROPOSED HEIGHT OF 50 INCHES.
7. ACCESS ROADS SHALL BE MAINTAINED AS NECESSARY TO KEEP THEM EFFECTIVE.
8. INLET FILTERS SHOULD BE INSPECTED FOR BUILDUP OF SILT AND OTHER DEBRIS.
9. INLET FILTERS SHOULD BE MAINTAINED AS NECESSARY TO KEEP THEM EFFECTIVE.
10. NEW LAYERS OF STONE MAY BE ADDED AS OLD LAYERS BECOME COMPACTED.
11. PONDING WATER APPEARS.
12. INLET FILTERS SHOULD BE INSPECTED FOR BUILDUP OF SILT AND OTHER DEBRIS.
13. THIS IS ESSENTIAL TO PREVENT FLOODING OF THE SITE.
14. BRITTLE BROODER OR SQUARE POINT SHOULD BE USED TO REPAIR THE FENCE.
15. REPAIR, IT MAY BE NECESSARY TO REPLACE BOTH THE 500 AND GEOTEXTILE FILTER.
16. SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED FOR THE SITE.
17. THE PROPER EROSION CONTROL AUTHORITY MUST BE NOTIFIED.

CLIENT :
VERN BROCKWAY
8523 OAK GROVE ROAD
HOWELL, MI 48855

EROSION CONTROL STANDARDS
1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF LIVINGSTON COUNTY DRAIN COMMISSIONERS OFFICE.
2. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION CONTROL MEASURES. REPAIRS SHALL BE MADE IMMEDIATELY.
3. EROSION AND SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS.
4. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. CONTRACTOR SHALL MAINTAIN THESE MEASURES THROUGHOUT CONSTRUCTION.
5. STAGING OF THE WORK SHALL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO INSURE PROGRESSIVE STABILIZATION OF EXPOSED AREAS.
6. SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE CONSIDERED AS A PREREQUISITE FOR ANY TRANSPORTING OF SILT OFF THE SITE.
7. A CERTIFIED WATER OPERATOR WILL BE NAMED ON THE ASSET NOTICE OF COVER AND FOR WIPES AS REQUIRED.
8. ALL DISTURBED AREAS ARE TO BE TOP SOILED AND SEEDED WITH THE FOLLOWING MIXTURE:
MIN RATE: GRASS SEED 210 LB PER ACRE FERTILIZER 150 LB PER ACRE STRAW MULCH 3" DEPTH 1.5 TO 2 TONS PER ACRE.

CONTRACTOR:
CAF MESSING
210 WILSON ROAD
MARIETTA, MI 49756
1-800-422-7271
www.cafmessing.com

REGISTERED PROFESSIONAL ENGINEER:
MICHAEL J. GRIFFIN
1525 WILSON ROAD
MARIETTA, MI 49756
248-422-7271
www.mjginc.com

REGISTERED PROFESSIONAL ENGINEER:
MICHIGAN ENGINEERS ASSOCIATION
1525 WILSON ROAD
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SOIL EROSION & SEDIMENTATION CONTROL MEASURES
MATERIAL SPECIFIED BY ENGINEER, MARION COUNTY, MI DISTRICT (DWM)

EROSION CONTROLS

TEST METHOD/INSTRUMENT	SYMBOL	NOTE (USED)
ES 1/2" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 3/4" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1 1/2" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 2" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 3" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 4" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 6" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 8" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 10" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 12" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 18" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 20" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 24" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 30" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 36" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 42" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 48" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 54" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 60" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 72" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 84" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 96" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 108" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 120" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 144" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 168" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 192" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 216" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 240" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 270" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 300" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 324" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 360" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 378" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 408" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 432" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 456" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 480" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 504" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 528" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 552" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 576" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 600" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 648" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 720" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 792" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 864" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 936" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1008" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1080" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1152" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1224" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1296" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1368" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1440" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1512" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1584" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1656" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1728" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1800" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1872" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 1944" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 2016" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 2088" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 2160" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 2232" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 2376" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 2808" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 2952" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 3024" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 3168" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 3672" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 3744" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 3888" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 4104" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 4752" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 4896" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 4968" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 5040" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 5112" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 5184" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 5256" MESH	[Symbol]	FOR TESTING SOIL LOSS
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ES 13320" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13392" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13464" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13536" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13608" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13680" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13752" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13824" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13896" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 13968" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14040" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14112" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14184" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14256" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14328" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14400" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14472" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14544" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14616" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14688" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14760" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14832" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14904" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 14976" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15048" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15120" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15192" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15264" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15336" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15408" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15480" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15552" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15624" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15696" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15768" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15840" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15912" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 15984" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16056" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16128" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16200" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16272" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16344" MESH	[Symbol]	FOR TESTING SOIL LOSS
ES 16416" MESH		

1388 LUCY ROAD
STORM WATER MANAGEMENT
RETENTION BASIN DETAILS



 VERN BROCKMEYER
 8033 DAY GROVE ROAD
 HOWELL, MI 48855
 CLIENT:



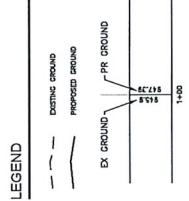
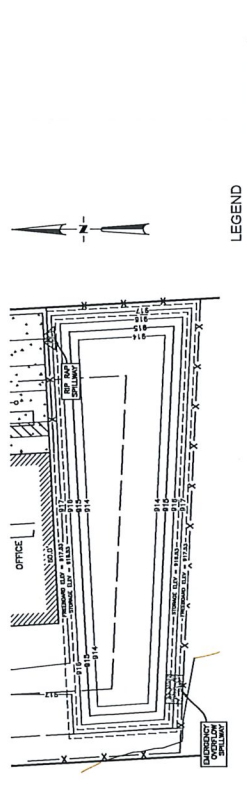
 CARL MADSEN
 14400 WOODBURN DRIVE
 FARMINGTON HILLS, MI 48334
 1-800-485-7171
 PROJECT NO. 20-102

DATE	PLAN SHEETS/REVIEWS
9/23/2020	CONCEPT PLAN
10/13/2020	SITE PLAN SUBMITTAL
11/19/2020	SITE PLAN REVISIONS
11/26/2020	SITE PLAN REVISIONS
11/26/2020	SITE PLAN REVISIONS
11/26/2020	SITE PLAN REVISIONS

PROJECT NO: 20-102
 SCALE: N/A
 DRAWN BY: BJK, AN
 CHECK BY: BJK
 DATE: 9/23/2020

NOT FOR CONSTRUCTION
 1388 LUCY ROAD
 PART OF SE 1/4 OF SEC. 1, T2N-R4E
 MAYNOR TOWNSHIP, LAMONSTON COUNTY, MICHIGAN

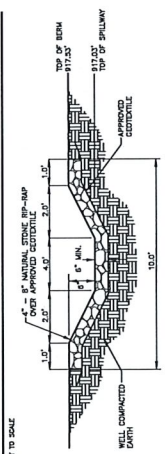
RETENTION BASIN PLAN & PROFILE



ELEVATION	AREA (SQ FT)	VOLUME (CF)
910	912.4	912.4
915	915.0	915.0
920	917.2	917.2

RETENTION BASIN

EMERGENCY OVERFLOW SPILLWAY DETAIL



RETENTION BASIN CALCULATIONS

TRIBUTARY AREA (A)	0.798 AC	
RUNOFF COEFFICIENT (C)	0.49	
REQUIRED RETENTION VOLUME		
TWO CONSECUTIVE 100 YEAR STORMS		
WITH 1' OF FREEBOARD		
2 x 16,500 A x C		12,853 ft ³
COMPOUND RUNOFF COEFFICIENT		
AREA (AC)	34.783	0.798
CONTRIBUTING	34.783	0.798
FLOWING OFF	0	0.000
EX PAVEMENT	0	0.00
PR CONCRETE	2,873	0.90
PR BUILDING	6,000	0.90
PR GRAVEL	8,440	0.65
NATURAL	0.00	0.00
TOTALS	34.783	16,956
COMPOUND C	16,956	0.49
TOTAL A x C	34.783	
PROPOSED RETENTION BASIN VOLUME		
ELEVATION (FT)	AVG. AREA (SQ FT)	INC. VOLUME (CF)
913.42	2,690	1,660
914	3,122	3,000
915	4,079	4,593
916	5,107	6,568
917	6,208	8,515
917.53	6,821	9,883
TOTAL		32,836
STORAGE ELEVATIONS		
TWO CONSECUTIVE 100 YEAR STORMS		
ELEVATION 1	916.00	VOLUME 1
ELEVATION 2	917.00	VOLUME 2
1' FREEBOARD ELEVATION (2B)	918.53	VOLUME 3
1' FREEBOARD ELEVATION (2B)	917.53	

CLIENT :
VERN BROADWAY
 8833 OAK CREEK ROAD
 HOWELL, MI 48843

SPECIFICATIONS
 PART OF SECTION 1, 17N-R4E
 MARION TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

DATE	CONTRACT PLAN NUMBER	PROJECT NO. 20-102	SCALE: H/A	DATE
9/12/2020	17N-R4E	20-102	1" = 12' - 0"	9/12/2020
10/12/2020	17N-R4E	20-102	1" = 12' - 0"	10/12/2020
11/25/2020	17N-R4E	20-102	1" = 12' - 0"	11/25/2020
11/25/2020	17N-R4E	20-102	1" = 12' - 0"	11/25/2020

GENERAL NOTES

1. FOUNDATIONS AND SPECIAL NOTES TO THE GENERAL NOTES SHALL BE OBSERVED BY THE CONTRACTOR AT ALL TIMES.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.
10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.

EROSION CONTROL STANDARDS

1. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
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10. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

STORM SEWER SPECIFICATIONS

1. STORM SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.
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WATER MAIN SPECIFICATIONS

1. WATER MAIN SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.
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10. WATER MAIN SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

SANITARY SEWER SPECIFICATION

1. SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.
2. SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.
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9. SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.
10. SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

CONTRACTOR'S OBLIGATIONS:
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OBTAINING OF ALL NECESSARY PERMITS AND FOR THE OBTAINING OF ALL NECESSARY APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OBTAINING OF ALL NECESSARY APPROVALS FROM THE LOCAL AND STATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OBTAINING OF ALL NECESSARY APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.

GENERAL NOTES:
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EROSION CONTROL STANDARDS:
 EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

STORM SEWER SPECIFICATIONS:
 STORM SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

SANITARY SEWER SPECIFICATION:
 SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

WATER MAIN SPECIFICATIONS:
 WATER MAIN SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

CONCRETE:
 ALL CONCRETE SHALL BE 3000 PSI STRENGTH WITH 4% AIR ENTRAINMENT.

REBAR:
 ALL REBAR SHALL BE #4 UNLESS OTHERWISE NOTED.

PIPE:
 ALL PIPE SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

FINISHES:
 ALL FINISHES SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, BRIDGES AND STRUCTURES, LATEST EDITIONS.

SANITARY SEWER SPECIFICATIONS:
 SANITARY SEWER SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

CONCRETE:
 ALL CONCRETE SHALL BE 3000 PSI STRENGTH WITH 4% AIR ENTRAINMENT.

REBAR:
 ALL REBAR SHALL BE #4 UNLESS OTHERWISE NOTED.

PIPE:
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