CALL TO ORDER – PLEDGE OF ALLEGIANCE – 7:00 P.M.

ROLL CALL

APPROVAL OF AGENDA – OR CHANGES

APPROVAL OF CONSENT AGENDA
  Regular Board Meeting Minutes- May 22, 2018
  Treasurer's Report
  Clerk's Warrants and Bills

COMMUNICATIONS
  1. Livingston County Sheriff Report
  2. Ronthi complaint letter of neighbor.

PUBLIC REMARKS

UNFINISHED BUSINESS
  1. Yasin LLC Cemetery Site Plan and Special Land Use Permit.

PUBLIC HEARING – POLICE & FIRE PROTECTION SPECIAL ASSESSMENT
  The purpose of the public hearing is to consider objections and comments
  regarding the proposed special assessment district for police and fire protection.

PUBLIC HEARING – PROPOSED TOWNSHIP HALL RENOVATIONS
  The purpose of the public hearing is to receive public comments regarding the
  proposed township hall building renovations.

NEW BUSINESS
  1. Resolution to establish the boundary of the special assessment district,
     determine the levy for police and fire protection and schedule second public
     hearing and mail statutory notices.
  2. Request of Lake Shannon Association for a Display Fireworks Permit.
  3. Quote to sand and finish the wood floor in the historical township hall.
  4. Scanning services for blue prints.
  5. Approval of the Assessor's contract.

MISCELLANEOUS BUSINESS

PUBLIC REMARKS

ADJOURNMENT

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Supervisor Mike Cunningham     Clerk Marcella Husted

Please note: The Public Remarks section appears twice on the agenda - once after Communications and once before Adjournment. Anyone wishing to address the Township Board may do so at these times. The Tyrone Township Board of Trustees has established a policy limiting the time a person may address the Township Board at a regular or at a special meeting during the Public Remarks section of the agenda to three minutes. The Board reserves the right to place an issue under the New Business section of the agenda if additional discussion is warranted or to respond later either verbally or in writing through an appropriately appointed Township Official. Individuals with disabilities requiring auxiliary aids or services should contact the Tyrone Township Clerk at (810) 629-8631 at least seven days prior to the meeting.
CONSENT AGENDA
CALL TO ORDER
Supervisor Cunningham called the meeting of the Tyrone Township Board to order with the Pledge of Allegiance on May 22, 2018 at 7:00 p.m. at the Tyrone Township Hall.

ROLL CALL

PUBLIC HEARING
The purpose of the public hearing was to explain and answer questions pertaining to the Roll and to hear objections to the Roll for the Lake Shannon Road Improvement Project. Supervisor Cunningham opened the public hearing at 7:00 pm. There were no comments. The Supervisor closed the public hearing at 7:01 and reopened the regular meeting.

APPROVAL OF AGENDA – OR CHANGES
Trustee Schultz moved to approve the agenda as amended. (Trustee Pedersen seconded.) The motion carried; all ayes.

The modification is as follows:

Removed New Business #4 Fenton Township Fire Service contract, replaced with MTA Dues approval.

APPROVAL OF CONSENT AGENDA
Regular Board Meeting Minutes- May 1, 2018
Treasurer's Report
Clerk’s Warrants and Bills

Trustee Schultz moved to approve the consent agenda as presented. (Trustee Pedersen seconded.) The motion carried; all ayes.

COMMUNICATIONS
1. Planning Commission Meeting Synopsis- May 15, 2018
2. Fire Run Report- April 2018

Trustee Schultz moved to receive and place on file Communications #1-2 as presented. (Trustee Pedersen seconded.) The motion carried; all ayes.

PUBLIC REMARKS
None.
NEW BUSINESS

1. Request to adopt Resolution #180503 to confirm the Lake Shannon Road Improvement Project special assessment roll.

RESOLUTION #180503
TYRONE TOWNSHIP, LIVINGSTON COUNTY

RESOLUTION #6 – LAKE SHANNON ROAD IMPROVEMENT PROJECT (2018)

RESOLUTION CONFIRMING SPECIAL ASSESSMENT ROLL

WHEREAS, the Township Board has taken the necessary actions under Act No. 188, Public Acts of Michigan, 1954, as amended ("Act 188") to proceed with the Lake Shannon area road improvements, as described in Exhibit A (the “Project”), and for the establishment of the Tyrone Township Lake Shannon Road Improvement Project (2018) Special Assessment District (the “Special Assessment District”);

WHEREAS, the Township Board has determined that it is necessary to cause special assessments to be levied against the lands especially benefited by the Project to pay the Township’s obligations on the Project;

WHEREAS, the Township Board has directed the Township Supervisor to prepare a proposed special assessment roll (the “Special Assessment Roll”) against the lands especially benefited by the Project;

WHEREAS, the Township Supervisor has prepared the Special Assessment Roll and has filed the Special Assessment Roll with the Township Clerk;

WHEREAS, the Township Board has scheduled a public hearing on the proposed Special Assessment Roll and notice of the hearing has been properly provided;

WHEREAS, the Township Board conducted the public hearing on the proposed Special Assessment Roll on May 22, 2018.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. Roll Confirmed. In accordance with Act No. 188 and the laws of the State of Michigan, the Township Board hereby confirms the special assessment roll for the Tyrone Township Lake Shannon Road Improvement Project (2018) (the “Roll”).
2. **Future Installments - Principal.** The Township Board determines that each special assessment may be paid in ten (10) annual installments. The first installment shall be due on December 1, 2018. Each subsequent installment shall be due at intervals twelve (12) months from the due date of the first installment.

3. **Future Installments - Interest.** All unpaid installments shall bear interest, payable annually on each installment due date, at a rate equal to one percent (1%) above the average interest rate on the Township bonds sold to finance the Project. Interest on such unpaid installments shall accrue from August 1, 2018.

4. **Warrant.** The Township Clerk is hereby directed to attach a warrant (in the form of Exhibit B to this resolution) to the Roll and to deliver such warrant and the Roll to the Township Treasurer, who shall thereupon collect the special assessments in accordance with the terms of this resolution, the Clerk’s warrant and the statutes of the State of Michigan.

5. **Inconsistent Prior Resolutions.** All previously adopted resolutions that are in conflict with this resolution are repealed to the extent of such conflict.

**RESOLVED BY:** Trustee Schultz  
**SUPPORTED BY:** Trustee Pedersen

**VOTE:** Schultz, yes; Pedersen, yes; Eden, yes; Cunningham, yes; Husted, yes; Walker, absent; Pool, absent.

**ADOPTION DATE:** May 22, 2018

**CERTIFICATION OF THE CLERK**

The undersigned, being the duly qualified and acting Clerk of Tyrone Township, Livingston County, Michigan, hereby certifies that (1) the foregoing is a true and complete copy of a resolution adopted by the Township Board at a regular meeting, held on May 22, 2018, at which meeting a quorum was present and remained throughout, (2) the original thereof is on file in the records in my office, (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

[Signature]

Marcella Husted  
Township Clerk
Exhibit A
Description of the Project

The Project will consist of crushing/shaping existing asphalt in certain roadways and milling/removing existing asphalt in other roadways, and placing a new hot mix asphalt on the roadways. The roadways in the Township on which the improvements are proposed to be made consist of Driftwood, Parkwood, Parkwood Court, Ore Knob, Ore Knob Court, Surfwood, Ledgewood, Lake Shannon Court, Ledgewood Hills, Starwood, Sandwood, and portions of McGuire and Dean.

Exhibit B
Warrant

WARRANT

TO: Treasurer
Tyrone Township
Livingston County, Michigan

I certify that attached to this Warrant is a true copy of the special assessment roll for the Tyrone Township Lake Shannon Road Improvement Project (2018) confirmed by the Township Board on May 22, 2018 (the “Confirming Resolution”). You are hereby directed to proceed to collect the amounts due on such roll in accordance with this Warrant, the Confirming Resolution and the statutes of the State of Michigan.

[Signature]
Marcella Husted
Tyrone Township Clerk

2. Request to adopt the Bond Authorizing Resolution #180504 for the Lake Shannon Road Improvement Project.

RESOLUTION #180504
TYRONE TOWNSHIP, LIVINGSTON COUNTY

RESOLUTION #7 – LAKE SHANNON ROAD IMPROVEMENT PROJECT (2018)
BOND AUTHORIZING RESOLUTION
WHEREAS, the necessary proceedings have been taken by the Township Board to make certain road improvements in the special assessment district for the Tyrone Township Lake Shannon Road Improvement Project (2018) (the “District”) and such road improvements are described in Exhibit A attached hereto (the “Project”);

WHEREAS, such proceedings provide for the payment of the cost of the Project by special assessments levied against the benefited lands in the District (the “Assessments”), and a special assessment roll has been confirmed by the Township Board for the District; and

WHEREAS, it has been determined by the Township Board to issue bonds in the amount herein authorized in anticipation of the collection of the Assessments and to allocate the Assessments to pay the principal of and interest on the Bonds (as defined below);

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Project. The construction of the Project and the period of usefulness of the Project, and the Township’s proceedings with respect to the Assessments for the Project, are hereby approved and confirmed. It is hereby determined that each respective Assessment will be proportionate to the benefits that each respective parcel of property will derive from the Project.

2. Bond Details. The Township shall borrow not to exceed $1,310,000 and issue its Bonds therefor (the “Bonds”) for the purpose of paying the total cost of the Project. The Bonds shall be designated as “Tyrone Township Lake Shannon Road Improvement Project Special Assessment Bonds, Series 2018 (Limited Tax General Obligation)” and shall be dated such date as the Township Supervisor, the Township Clerk or the Township Treasurer (together, the Authorized Officers and each an “Authorized Officer”) shall provide prior to the sale of the Bonds, and shall bear interest from that date. The Bonds shall be fully registered Bonds, both as to principal and interest, in any denomination which is $1,000, or any integral multiple thereof up to a single maturity, or as otherwise authorized by an Authorized Officer prior to the sale of the Bonds, numbered from 1 upwards, and shall mature on July 1 of each year as set forth in the following maturity schedule, or alternatively on such other dates and in such other amounts as may be determined by an Authorized Officer prior to the sale of the Bonds.

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>2019</td>
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<td>2028</td>
<td>135,000</td>
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</table>
The Bonds shall be in substantially the form attached as Exhibit B with such changes, additions or deletions as are not inconsistent with this Resolution.

3. **Interest Payment and Date of Record.** The Bonds shall bear interest payable on January 1 and July 1 of each year, beginning January 1, 2019, or such other date or dates as may be determined by an Authorized Officer prior to the sale of the Bonds. Interest shall be paid by check or draft mailed by first class mail to the registered owner of each Bond as of the applicable date of record; provided, however, that an Authorized Officer may agree with the Bond Registrar on a different method of payment. If interest is paid differently, the Bond form attached as Exhibit B shall be changed accordingly. The date of record shall be the fifteenth day of the month immediately preceding the month in which such interest is payable.

4. **Optional Redemption.** The Bonds shall be subject to redemption at the option of the Township prior to maturity to the extent and as determined by an Authorized Officer prior to the sale of the Bonds, provided that no redemption premium shall be paid in connection with such optional redemptions.

5. **Notice of Sale.** Sealed bids for the purchase of the Bonds shall be accepted up to a time to later be determined by an Authorized Officer. The Official Notice of Sale for the Bonds shall be published once in accordance with law in The Bond Buyer, in a form approved by an Authorized Officer. Any Authorized Officer may cause the Official Notice of Sale to be published in additional publications, as such Authorized Officer deems appropriate.

6. **Provisions for the Sale and Award of the Bonds.** The Township shall sell the Bonds in conformance with 1954 Michigan Public Act 188, as amended, and the laws of the State of Michigan, and the rules and regulations of the Michigan Department of Treasury. Any Authorized Officer is authorized to award the sale of the Bonds to the bidder whose bid produces the lowest true interest cost to the Township, as determined by the Township’s financial advisor, provided that such winning bid complies with the following parameters:

   (a) The interest rate for any maturity or maturities of the Bonds shall not exceed six percent (6%) per annum;

   (b) The true interest cost for the Bonds, as computed by the Township’s financial advisor, shall not exceed five percent (5%) per annum;

   (c) The purchase price for the Bonds, not including underwriter’s discount, shall not be less than ninety-nine and one-half percent (99.5%) and shall not be greater than one hundred and two percent (102%) of the principal amount of the Bonds; and

   (d) The underwriter’s discount in connection with the sale of the Bonds shall not exceed one percent (1%) of the principal amount of the Bonds.
7. Bond Registrar, Transfer and Paying Agent. The Bonds shall be registrable upon the books maintained by a financial institution to be designated by an Authorized Officer prior to the sale of the Bonds, and such financial institution shall serve as bond registrar, transfer agent and authenticating agent for the Bonds (the “Bond Registrar”).

8. Transfer or Exchange of Bonds. Any Bond shall be transferable on the bond register maintained by the Bond Registrar with respect to the Bonds at any time upon the surrender of the Bond together with an assignment executed by the registered owner or his or her duly authorized attorney in form satisfactory to the Bond Registrar. Upon receipt of a properly assigned Bond, the Bond Registrar shall authenticate and deliver a new Bond or Bonds in equal aggregate principal amount and like interest rate and maturity to the designated transferee or transferees.

Bonds may likewise be exchanged at any time for one or more other Bonds with the same interest rate and maturity in authorized denominations aggregating the same principal amount as the Bond or Bonds being exchanged. Such exchange shall be effected by surrender of the Bond to be exchanged to the Bond Registrar with written instructions signed by the registered owner of the Bond or his or her attorney in form satisfactory to the Bond Registrar. Upon receipt of a Bond with proper written instructions, the Bond Registrar shall authenticate and deliver a new Bond or Bonds to the registered owner of the surrendered Bond or his or her properly designated transferee or transferees or attorney.

The Bond Registrar is not required to honor any transfer or exchange of Bonds during the 15 days preceding an interest payment date. Any service charge made by the Bond Registrar for any such registration, transfer or exchange shall be paid for by the Township. The Bond Registrar may, however, require payment by a bondholder of a sum sufficient to cover any tax or other governmental charge payable in connection with any such registration, transfer or exchange.

9. Execution and Delivery. The Township Supervisor and the Township Clerk are authorized and directed to execute the Bonds for and on behalf of the Township by manually executing the Bonds or by having facsimiles of their signatures affixed to the Bonds. Upon execution of the Bonds, they shall be delivered to the Township Treasurer, or an agent thereof, who is hereby authorized and directed to deliver the Bonds to the purchaser upon receipt in full of the purchase price for the Bonds.

10. Full Faith and Credit Pledged. The Bonds are being issued in anticipation of the collection of future due installments of the Assessments. The Assessments and interest and investment income thereon are projected to be sufficient to pay the principal of and interest on the Bonds when due and such funds are pledged as security for the payment of the principal of and interest on the Bonds. Additionally, the Township hereby irrevocably pledges its limited tax full faith and credit as additional security for the payment of the principal of and interest on the Bonds. Pursuant to such pledge, should Assessment collections be insufficient to pay the principal of and interest on the Bonds when due, the Township shall pay the principal of and
interest on the Bonds as a first budget obligation from its general funds, including the collection of any ad valorem taxes which the Township is authorized to levy, but any such levy shall be subject to applicable constitutional, charter and statutory tax rate limitations.

11. **Bond Payment Fund.** The Township shall establish a separate depository account to be designated “Lake Shannon Road Improvement Project Special Assessment Bonds, Series 2018, Bond Payment Fund” (the “Bond Payment Fund”). All accrued interest and premium, if any, received from the purchaser of the Bonds, together with any portion of the Bond proceeds designated by an Authorized Officer to fund a capitalized interest reserve, and all amounts (including principal, interest and penalties) at any time received in payment of the Assessments shall be deposited in the Bond Payment Fund. Moneys in the Bond Payment Fund shall be used, except as described above, solely to pay principal of and premium, if any, and interest on the Bonds.

Moneys in the Bond Payment Fund may be continuously invested and reinvested in any legal investment for Township funds, which shall mature, or which shall be subject to redemption by the holder thereof not later than, the dates when moneys in the Bond Payment Fund will be required to pay the principal of and interest on the Bonds. Obligations purchased as an investment of moneys of the Bond Payment Fund shall be deemed at all times to be a part of such fund, and the interest accruing thereon and any profit realized from such investment shall be credited to such fund.

12. **Improvement Fund.** Except for amounts required by this resolution to be deposited in the Bond Payment Fund, the proceeds from the sale of the Bonds shall be deposited in a separate depository account to be designated “Lake Shannon Road Improvement Project Special Assessment Bonds, Series 2018, Improvement Fund” (the “Improvement Fund”).

Moneys at any time in the Improvement Fund shall be used solely to pay costs of the Project except that upon payment (or provision for payment) in full of the costs of the Project, any excess moneys remaining in the Improvement Fund shall be transferred to the Bond Payment Fund (if any Bonds are outstanding) or applied as required by law or the ordinances of the Township and shall be used for “essential government functions” as that term is used in Section 141(c)(2) of the Internal Revenue Code of 1986, as amended (the “Code”).

Moneys in the Improvement Fund may be continuously invested and reinvested in any legal investment for Township funds, which shall mature, or which shall be subject to redemption by the holder thereof not later than, the estimated dates when moneys in the Improvement Fund will be required to pay costs of the Project. Obligations purchased as an investment of moneys of the Improvement Fund shall be deemed at all times to be a part of such fund, and the interest accruing thereon and any profit realized from such investment shall be credited to such fund.

13. **Mutilated, Lost, Stolen or Destroyed Bonds.** In the event any Bond is mutilated, lost, stolen or destroyed, the Township Supervisor and the Township Clerk may, on behalf of the
Township, execute and deliver, or order the Bond Registrar to authenticate and deliver, a new Bond having a number not then outstanding, of like date, maturity, interest rate and denomination as that mutilated, lost, stolen or destroyed Bond.

In the case of a mutilated Bond, a replacement Bond shall not be delivered unless and until such mutilated Bond is surrendered to the Bond Registrar. In the case of a lost, stolen or destroyed Bond a replacement Bond shall not be delivered unless and until the Township and the Bond Registrar shall have received such proof of ownership and loss and indemnity as they determine to be sufficient, which shall consist at least of (i) a lost instrument bond for principal and interest remaining unpaid on the lost, stolen or destroyed Bond; (ii) an affidavit of the registered owner (or his or her attorney) setting forth ownership of the Bond lost, stolen or destroyed and the circumstances under which it was lost, stolen or destroyed; (iii) the agreement of the owner of the Bond (or his or her attorney) to fully indemnify the Township and the Bond Registrar against loss due to the lost, stolen or destroyed Bond and the issuance of any replacement Bond in connection therewith; and (iv) the agreement of the owner of the Bond (or his or her attorney) to pay all expenses of the Township and the Bond Registrar in connection with the replacement, including the transfer and exchange costs which otherwise would be paid by the Township.

14. **Arbitrage and Tax Covenants.** Notwithstanding any other provision of this Resolution, the Township covenants that it will not at any time or times:

(a) Permit any proceeds of the Bonds or any other funds of the Township or under its control to be used directly or indirectly (i) to acquire any securities or obligations, the acquisition of which would cause any Bond to be an “arbitrage bond” as defined in Section 148 of the Code, or (ii) in a manner which would result in the exclusion of any Bond from the treatment afforded by Section 103(a) of the Code by reason of the classification of any Bond as a “private activity bond” within the meaning of Section 141(a) of the Code or as an obligation guaranteed by the United States of America within the meaning of Section 149(b) of the Code; or

(b) Take any action, or fail to take any action (including failure to file any required information or other returns with the United States Internal Revenue Service or to rebate amounts to the United States, if required, at or before the time or times required), within its control which action or failure to act would (i) cause the interest on the Bonds to be includable in gross income for federal income tax purposes, cause the interest on the Bonds to be includable in computing any alternative minimum tax (other than the alternative minimum tax applicable to interest on all tax-exempt obligations generally) or cause the proceeds of the Bonds to be used directly or indirectly by an organization described in Section 501(c)(3) of the Code or (ii) adversely affect the exemption of the Bonds and the interest thereon from State of Michigan income taxation.

15. **Qualification of Bonds.** The Township Board hereby designates the Bonds as “qualified tax-exempt obligations” for the purpose of deduction of interest expense by financial institutions under the provisions of Section 265(b) of the Code, unless otherwise certified by an
16. **Defeasance.** If at any time,

(a) the whole amount of the principal of and premium, if any, and interest due and payable upon all outstanding Bonds shall be paid, or

(b) if sufficient moneys, or Government Obligations not callable prior to maturity, the principal of and interest on which, when due and payable will provide such sufficient moneys without reinvestment, shall be deposited with and held by a trustee for the purpose of paying principal of and premium, if any, and interest due and payable upon all outstanding Bonds, and if all outstanding Bonds to be redeemed prior to maturity shall have been duly called for redemption or irrevocable instructions to call such Bonds for redemption shall have been given to such trustee,

then the right, title and interest of the holders of the Bonds shall thereupon cease, terminate and become void and the Township shall be released from the obligations of this resolution and any moneys or other funds held pursuant to this resolution for the purpose of paying principal of and premium, if any, and interest on the Bonds then outstanding (other than the aforementioned funds on deposit with the trustee for redemption of the outstanding Bonds) shall be released from the conditions of this resolution and paid over to the Township and considered excess proceeds of the Bonds. All moneys and Government Obligations held by such trustee pursuant to this Section shall be held in trust and applied to the payment, when due, of the obligations payable therewith as provided hereinabove. As used herein the term “Government Obligations” means direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America.

The trustee or escrow agent referred to in the paragraph set forth above shall (i) be a bank or trust company permitted by law to offer and offering the required services, (ii) be appointed by an Authorized Officer and (iii) at the time of its appointment and so long as it is serving as such, have at least $25,000,000 of capital and unimpaired surplus. The same bank or trust company may serve as trustee or escrow agent and as Bond Registrar so long as it is otherwise eligible to serve in each such capacity.

17. **Additional Bonds.** Additional bonds of equal standing with the Bonds may be issued in connection with the Project. Nothing in this Resolution shall prevent the issuance by the Township of bonds to finance other projects for the Township.
18. **Continuing Disclosure.** Each Authorized Officer is hereby authorized to execute a Continuing Disclosure Undertaking with respect to the Bonds. The Bonds are hereby made subject to such Continuing Disclosure Undertaking and the Authority agrees to abide by the provisions thereof so long as any of the Bonds are outstanding.

19. **Preliminary Official Statement and Final Official Statement.** Each Authorized Officer is hereby authorized to approve for distribution a Preliminary Official Statement for the Bonds and once the Bonds have been sold, the Authorized Officers, or any one of them, are hereby authorized to execute an Official Statement with respect to the Bonds.

20. **Retention of Bond Counsel.** The firm of Dykema Gossett PLLC, Lansing, Michigan, is hereby retained to act as bond counsel for the Township in connection with the issuance, sale and delivery of the Bonds.

21. **Retention of Financial Consultants.** PFM Financial Advisors, LLC, Ann Arbor, Michigan, is hereby retained to act as financial consultant to the Township in connection with the issuance, sale and delivery of the Bonds.

22. **Conflicting Resolutions.** All resolutions and parts of resolutions in conflict with the foregoing are hereby rescinded.

23. **Effective Date.** This Resolution shall become effective immediately upon its adoption and shall be recorded in the minutes of the Township as soon as is practicable after its passage.

**RESOLVED BY:** Trustee Schultz  
**SUPPORTED BY:** Treasurer Eden

**VOTE:** Cunningham, yes; Eden, yes; Pedersen, yes; Schultz, yes; Husted, yes; Pool, absent; Walker, yes.

**ADOPTION DATE:** May 22, 2018

**CERTIFICATION OF THE CLERK**

The undersigned, being the duly qualified and acting Clerk of Tyrone Township, Livingston County, Michigan, hereby certifies that (1) the foregoing is a true and complete copy of a resolution adopted by the Township Board at a regular meeting, held on May 22, 2018, at which meeting a quorum was present and remained throughout, (2) the original thereof is on file in the records in my office, (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (4) minutes of such meeting were kept and will be or have been made available as required thereby.
Exhibit A
Description of the Project

The Project will consist of crushing/shaping existing asphalt in certain roadways and milling/removing existing asphalt in other roadways, and placing a new hot mix asphalt on the roadways. The roadways in the Township on which the improvements are proposed to be made consist of Driftwood, Parkwood, Parkwood Court, Ore Knob, Ore Knob Court, Surfwood, Ledgewood, Lake Shannon Court, Ledgewood Hills, Starwood, Sandwood, and portions of McGuire and Dean.

Exhibit B
Form of Bond

Unless this certificate is presented by an authorized representative of The Depository Trust Company, a New York corporation ("DTC"), to the Township or its agent for registration of transfer, exchange, or payment and any certificate issued is registered in the name of Cede & Co. or in such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entity as is requested by an authorized representative of DTC), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL inasmuch as the registered owner hereof, Cede & Co., has an interest herein.

UNITED STATES OF AMERICA
STATE OF MICHIGAN
COUNTY OF LIVINGSTON

Tyrone Township Lake Shannon Road Improvement Project
Special Assessment Bonds, Series 2018 (Limited Tax General Obligation)

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<th>Rate</th>
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<td>____________, 2018</td>
<td>____%</td>
<td>July 1, 20__</td>
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Registered Owner: Cede & Co.
Principal Amount: ****$__________****
FOR VALUE RECEIVED, Tyrone Township (the “Township”), Livingston County, State of Michigan, hereby acknowledges itself indebted and promises to pay on the Maturity Date specified above, to the Registered Owner specified above, or registered assigns, the Principal Amount shown above, upon presentation and surrender of this Bond at the principal office of ___________________________, __________ Michigan, as the Bond Registrar (the “Bond Registrar”), together with the interest thereon to the Registered Owner of this Bond on the applicable date of record at the Interest Rate per annum specified above payable on January 1, 2019, and semiannually thereafter on the first day of July and January in each year. The date of record for payments of interest shall be December 15 with respect to payments made on January 1 and June 15 with respect to payments made on July 1.

This Bond is one of a series of bonds (the “Bonds”) of like date and tenor except as to denomination, date of maturity and interest rate, numbered from 1 upwards, aggregating the principal sum of $__________ issued by the Township under and pursuant to and in full conformity with the Constitution and statutes of the State of Michigan, including pursuant to Act No. 188, Public Acts of Michigan, 1954, as amended, and a resolution duly adopted by the Township Board of Trustees on May 22, 2018. The Bonds are being issued for the purpose of paying a portion of the cost of making certain improvements in a special assessment district in the Township. The Bonds are issued in anticipation of the collection of, and are payable primarily from, certain special assessments made against the benefitted lands in such district. Additionally, the Township has irrevocably pledged its limited tax full faith and credit as security for the payment of the principal of and interest on the Bonds. Pursuant to such pledge, if such special assessments collections are insufficient to pay such principal and interest, the Township is required to pay the principal of and interest on the Bonds as a first budget obligation from its general funds, including the collection of any ad valorem taxes which the Township is authorized to levy, but any such levy shall be subject to applicable constitutional, charter and statutory tax rate limitations.

Bonds maturing in years 20__ to 20__, inclusive, are not subject to optional redemption prior to maturity. Bonds maturing in the years 20__ and thereafter are subject to optional redemption, in whole or in part in such order as the Township shall determine, in integral multiples of $5,000 on any date on or after July 1, 20__, at par plus accrued interest to the redemption date.

With respect to partial redemptions, any portion of a Bond outstanding in a denomination larger than the minimum authorized denomination may be redeemed provided such portion and the amount not being redeemed each constitutes an authorized denomination. If less than the entire principal amount of a Bond is called for redemption, upon surrender of the Bond to the Bond Registrar, the Bond Registrar shall authenticate and deliver to the registered owner of the Bond a new Bond in the principal amount of the principal portion not being redeemed.

Notice of redemption shall be sent to the registered holder of each Bond being redeemed by first class United States mail at least 30 days before the date fixed for redemption, which notice shall fix the date of record with respect to the redemption. Any defect in any notice of
redemption shall not affect the validity of the redemption proceedings. Bonds so called for redemption shall not bear interest after the date fixed for redemption provided funds or sufficient government obligations then are on deposit with the Township to redeem such Bonds.

This Bond is transferable on the bond registration books of the Bond Registrar upon surrender of this Bond together with an assignment executed by the Registered Owner or his or her duly authorized attorney in form satisfactory to the Bond Registrar. Upon such transfer, one or more fully registered bonds with denominations of $1,000, or any multiple of $1,000, in the same aggregate principal amount and the same maturity and interest rate, will be issued to the designated transferee or transferees. The Bond Registrar shall not be required to honor any transfer of Bonds during the period from the applicable date of record preceding an interest payment date to such interest payment date.

It is hereby certified, recited and declared that all acts, conditions and things required to exist, happen and be performed precedent to and in connection with the issuance of this Bond existed, have happened and have been performed in due time, form and manner as required by the Constitution and statutes of the State of Michigan, and that the total indebtedness of the Township, including this series of Bonds, does not exceed any constitutional limitation.

This Bond is designated as a “qualified tax-exempt obligation” under Section 265(b) of the Internal Revenue Code of 1986, as amended.

IN WITNESS WHEREOF, Tyrone Township, Livingston County, Michigan, has caused this Bond to be executed in its name with the facsimile signatures of its Supervisor and its Clerk, all as of the Date of Issuance.

Tyrone Township

By: __________________________
   Township Supervisor

By: __________________________
   Township Clerk

CERTIFICATE OF AUTHENTICATION

This Bond is one of the series of Bonds designated “Tyrone Township Lake Shannon Road Improvement Project Special Assessment Bonds, Series 2018 (Limited Tax General Obligation).”
ASSIGNMENT

For value received, the undersigned sells, assigns and transfers into ________________ this Bond and all rights hereunder and hereby irrevocably appoints ____________________ attorney to transfer this Bond on the books kept for registration thereof with full power of substitution in the premises.

Dated: ____________

___________________________________
Signature

NOTICE: The signature to this assignment must correspond with the name as it appears upon the face of this Bond in every particular.

3. Request to adopt Resolution #180505 to proceed with a special assessment district for police and fire service in the township and to send notices of the first public hearing.

RESOLUTION #180505
TYRONE TOWNSHIP, LIVINGSTON COUNTY

POLICE AND FIRE PROTECTION SPECIAL ASSESSMENT DISTRICT NO. X0082

DECLARATION OF INTENT TO LEVY SPECIAL ASSESSMENT; TENTATIVE DESIGNATION OF SPECIAL ASSESSMENT DISTRICT; NOTICE OF PUBLIC HEARING

WHEREAS, there exists a need for Police and Fire Protection Services in Tyrone Township; and
WHEREAS, Section 1(3) of Act 33, Public Acts of Michigan, 1951, as amended (“Act 33”) provides that the Tyrone Township Board may proceed to defray the cost of purchasing and housing equipment, for the operation of the equipment, or both, for Police and Fire protection, by special assessment on the lands and premises in Tyrone Township except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893; and

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Tyrone Township Board intends to proceed pursuant to Act 33 to provide Police and Fire Protection Services in Tyrone Township and defray the cost of purchasing and housing equipment, for the operation of the equipment, or both, for Police and Fire protection, by special assessment on the lands and premises in Tyrone Township except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893.

2. The Tyrone Township Board has authorized the preparation of estimates of the cost and expense of providing Police and Fire protection and that estimate has been filed with the Tyrone Township Clerk.

3. The Tyrone Township Board hereby tentatively designates a special assessment district known as the Tyrone Township Police and Fire Protection Special Assessment District (“Special Assessment District”) consisting of all lots and parcels of property located within the boundaries of Tyrone Township. The cost in the amount of $605,550.00 for Police and Fire Protection shall be assessed against the taxable lots and parcels of land located within the Special Assessment District.

4. The Tyrone Township Board shall hold a public hearing on June 19, 2018 at 7:00 pm at the Tyrone Township Hall located at 10408 Center Road, Fenton, Michigan 48430, to hear and consider comments and objections to the estimate of cost, the creation of a special assessment district, the special assessment district tentatively designated herein, and defraying the expenses of the special assessment district on the properties benefiting, except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893.

5. The Tyrone Township Clerk shall cause to be published in a newspaper of general circulation in the proposed Special Assessment District a notice stating the time, place, and purpose of the meeting. This notice shall be published not less than 5 days before the hearing. Proof of publication of the notice shall be filed with the Tyrone Township Clerk.

6. The Tyrone Township Clerk Notice shall also provide notice stating the time, place, and purpose of the meeting to each owner of, or party in interest in, property to be assessed whose name appears upon the last local tax assessment records by mailing by first class
mail addressed to that owner or party at the address shown on the tax records at least 10 days before the date of the hearing.

7. The form of the Notice of the Public Hearing to be mailed and published, as required herein, shall be substantially as set forth in Exhibit A, attached, with such changes as are approved by the Tyrone Township Supervisor.

RESOLVED BY: Trustee Schultz
SUPPORTED BY: Treasurer Eden

VOTE: Pedersen, yes; Cunningham, yes; Husted, yes; Eden, yes; Schultz, yes; Walker, absent; Pool, absent.

ADOPTION DATE: May 22, 2018

CERTIFICATION OF THE CLERK

The undersigned, being the duly qualified and acting Clerk of Tyrone Township, Livingston County, Michigan, hereby certifies that (1) the foregoing is a true and complete copy of a resolution adopted by the Township Board at a regular meeting, held on May 22, 2018, at which meeting a quorum was present and remained throughout, (2) the original thereof is on file in the records in my office, (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

_____________________________
Marcella Husted
Township Clerk

Exhibit A

TOWNSHIP OF TYRONE
LIVINGSTON COUNTY, MICHIGAN
1951 PA 33 PROCEEDINGS
Notice of Public Hearing on the Police and Fire Protection
Special Assessment District No. X0082

NAME
ADDRESS
CITY, STATE ZIP

PARCEL TAX ID
TO THE RESIDENTS AND PROPERTY OWNERS OF THE TOWNSHIP OF TYRONE, LIVINGSTON COUNTY, MICHIGAN AND ANY OTHER INTERESTED PERSONS:

**PLEASE TAKE NOTICE** that on motion of the Township Board, the Township of Tyrone proposes that a special assessment district be established for the purpose of providing police and fire protection throughout the entire Township, under the authority of MI Public Act 33 of 1951, as amended. The Township Board proposes to establish a special assessment for the recovery of the cost of those services by the qualified properties benefited by those services.

**PLEASE TAKE FURTHER NOTICE** that the District within which the assessment is proposed to take place and within which the cost is proposed to be assessed are more particularly described as follows: all real property located within the municipal boundaries of the Township of Tyrone, except those properties exempt from the collection of taxes under the general property tax act, 1893 PA 206, as amended.

**PLEASE TAKE FURTHER NOTICE THAT** the Township Board has received a cost estimate for the project in the approximate amount of $605,550.00, which will be assessed against each parcel of land within the District as follows: a) vacant parcels, $75.00; b) parcels with residential structures, $150.00; c) parcels containing structures or trailers with multiple units, $250.00, plus an additional $20.00 per unit; and (d) all other parcels, $250.00; which has been placed on file in the Clerk’s office and has passed a Resolution tentatively declaring its intent to establish the Special Assessment District. The term of the Special Assessment District is five years.

**PLEASE TAKE FURTHER NOTICE THAT** the estimates and Special Assessment District may be examined at the office of the Township Clerk from the date of this Notice until and including the date of the public hearing and may further be examined at such public hearing.

**PLEASE TAKE FURTHER NOTICE THAT** a public hearing upon such plans, the boundaries of the Special Assessment District and cost estimate will be held at the Township Hall, 10408 Center Road, Fenton, MI commencing at 7:00 P.M. on June 19, 2018.

At such hearing, the Board will consider any written objections and comments to any of the foregoing matters which are filed with the Clerk at or prior to the time of the hearing, and any objections or comments raised at the hearing; and at the hearing (or any adjournment of the hearing which may be made without further notice) the Board may revise, correct, amend, or change the plans, or estimates of costs of the Special Assessment District. Written objections or comments may be filed with the Clerk at the address set out above.

The Township Board may determine to proceed to make this special assessment for police and fire protection without an election unless the owners of at least 10% of the land to be made into the Special Assessment District file a petition calling for an election on the question of raising money by special assessment for such police and fire protection, with the Township Clerk, prior to the date the assessment roll for the special assessment is confirmed.

The appearance and protest at this hearing is required in order to appeal the amount of the special assessment to the State Tax Tribunal if an appeal should be desired. A property owner or party in interest, or his or her agent, may appear in person at the hearing to protest the special assessment or may file his or her appearance by letter delivered to the Township Clerk at or prior to the hearing to be held, and upon the filing of such a letter, his or her personal appearance shall not be required.
The property owners or any person having an interest in the property subject to the proposed special assessment may file a written appeal of the special assessment with the State Tax Tribunal within 30 days after confirmation of the special assessment roll if that special assessment was protested at this hearing.

All interested persons are invited to be present at the aforesaid time and place and to submit comments concerning any of the foregoing. Please contact Marcella Husted, Township Clerk, at (810) 629-8631 for additional information.

**PLEASE TAKE FURTHER NOTICE THAT** that if the Township Board determines to proceed with the special assessments, it will cause a special assessment roll to be prepared and another hearing will be held, after notice to record owners of property proposed to be specially assessed, to hear public comments concerning the proposed special assessments.

All interested persons are invited to be present at the aforesaid time and time in person or by representative and to submit comments concerning the foregoing.

Marcella Husted, CLERK
Township of Tyrone

4. Request to enter into the Charter Township of Fenton Fire & Emergency Services contract. *(Removed from agenda)*

4. Michigan Township Association (MTA) dues.

Trustee Pedersen moved to authorize payment of the annual Michigan Townships Association (MTA) membership dues in the amount of $5787.57. (Clerk Husted seconded.) The motion carried; all ayes.

5. Request to approve the Hogan Road gravel improvement project.

Trustee Schultz moved to approve the Hogan Road gravel road improvement project; the cost will be shared with the road commission and Deerfield Township. (Trustee Pedersen seconded.) The motion carried; all ayes.

6. Request to authorize carpet cleaning in township office.

Clerk Husted moved to accept the quote of $250 from Absolute ProCare to clean the office carpets. (Treasurer Eden seconded.) The motion carried; all ayes.

7. Request of the Clerk to purchase election supplies.

Trustee Schultz moved to authorize the purchase of election supplies in the amount of $1908.51 (not including shipping fees). (Treasurer Eden seconded.) The motion carried; all ayes.
8. Approval of quote from KCI to mail out summer tax bills and newsletter.

Trustee Schultz moved to accept the proposal of $2,925.67 from KCI to print and mail the summer tax bills and newsletters. (Trustee Pedersen seconded.) The motion carried; all ayes.

**UNFINISHED BUSINESS**

1. Building remodel discussion.

The Supervisor asked the board how they wanted to proceed with the proposed building renovations. It was decided to schedule a public hearing to explain the necessity of a remodel and to hear and concerns from the residents. The public hearing was scheduled to be held on June 19, 2018.

**MISCELLANEOUS BUSINESS**

None.

**PUBLIC REMARKS**

Two residents asked general questions about the Lake Shannon Road Improvement special assessment.

**ADJOURNMENT**

Trustee Pedersen moved to adjourn. (Trustee Schultz seconded.) The motion carried; all ayes. The meeting adjourned at 7:35 p.m.
<table>
<thead>
<tr>
<th>TOWNSHIP FUNDS</th>
<th>INVESTMENTS</th>
<th>MICHIGAN CLASS</th>
<th>FLG PEG CD</th>
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<td>Interest Ckg</td>
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</tr>
<tr>
<td>General 101</td>
<td>$1,000,658.56</td>
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<td>0.40%</td>
</tr>
<tr>
<td>Tech Fund 141</td>
<td>$65,066.85</td>
<td>5,000.00</td>
<td>0.40%</td>
</tr>
<tr>
<td>Building &amp; Site 145</td>
<td>$31,134.39</td>
<td>297,500.00</td>
<td>0.40%</td>
</tr>
<tr>
<td>Beautification 160</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.40%</td>
</tr>
<tr>
<td>Parks/Recreation 208</td>
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<td>0.40%</td>
<td>$5,934.23</td>
</tr>
<tr>
<td>Liquor Control 212</td>
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<tr>
<td>Road 245</td>
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<td>404,224.80</td>
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<tr>
<td>Revolving 246</td>
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<tr>
<td>Right of Way 260</td>
<td>$9,885.06</td>
<td>$9,885.06</td>
<td>0.40%</td>
</tr>
<tr>
<td>Peg 274</td>
<td>$108,708.88</td>
<td>$183,122.26</td>
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<tr>
<td>Lk Tyrone Grant 281</td>
<td>$9,550.00</td>
<td>$9,550.00</td>
<td>0.40%</td>
</tr>
<tr>
<td>Beaverton 264</td>
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<tr>
<td>Walnut Shores Lts 219</td>
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<tr>
<td>Shannon Glen Rubbish 225</td>
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<td>$3,703.78</td>
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</tr>
<tr>
<td>Jayne Hill Rubbish Removal 226</td>
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</tr>
<tr>
<td>Apple Orchard Rubbish Removal 227</td>
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<td>Parkin Lake Snow 231</td>
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<tr>
<td>Great Oak Dr 232</td>
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<td>$-</td>
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<td>$-</td>
<td>0.6%</td>
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<tr>
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**Account Totals:**

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<th>Balance</th>
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<tr>
<td>General 101</td>
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<tr>
<td>Tech Fund 141</td>
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<tr>
<td>Township Trust and Agency 701 Checking</td>
<td>$12,561.26</td>
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**Total Township Monies:**

$ 9,107,831.52
## Check Register for Tyrone Township

**Check Date from 05/17/2018 - 06/12/2018**

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<td>BLUE CROSS BLUE SHIELD OF MICHIGAN</td>
<td>HEALTH INSURANCE PREMIUM JUNE 2018</td>
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<td>001</td>
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<td>786.76</td>
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<td>001</td>
<td>21426</td>
<td>FENTON LOCK &amp; SAFE, INC.</td>
<td>DOOR LOCK SYSTEM, KEYS, FOBS</td>
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<tr>
<td>05/23/2018</td>
<td>001</td>
<td>2147</td>
<td>GRIFFIN PEST SOLUTIONS, INC</td>
<td>HALL PEST CONTROL 5.21.18</td>
<td>42.00</td>
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<td>05/23/2018</td>
<td>001</td>
<td>21428</td>
<td>J W CLEANING</td>
<td>OFFICE CLEANING 4X APR. 2018</td>
<td>340.00</td>
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<tr>
<td>05/23/2018</td>
<td>001</td>
<td>21429</td>
<td>MCKENNA ASSOCIATES, INC.</td>
<td>TWP PLANNER</td>
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<td>MICHIGAN.COM</td>
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<td>21432</td>
<td>PITNEY BOWES GLOBAL</td>
<td>POSTAGE METER LEASE 3.10.18 TO 6.9.18</td>
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<td>SPICER GROUP</td>
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<td>KCI</td>
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### CHECK REGISTER FOR TYRONE TOWNSHIP

#### CHECK DATE FROM 05/17/2018 - 06/12/2018

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**Total Totals:**

- **022 TOTALS:**
  - Total of 4 Checks: 8,411.07
  - Less 0 Void Checks: 0.00
  - Total of 4 Disbursements: 8,411.07

- **102 TOTALS:**
  - Total of 3 Checks: 149,710.28
  - Less 0 Void Checks: 0.00
  - Total of 3 Disbursements: 149,710.28

- **108 TOTALS:**
  - Total of 6 Checks: 155,222.52
  - Less 0 Void Checks: 0.00
  - Total of 6 Disbursements: 155,222.52

- **203 TOTALS:**
  - Total of 9 Checks: 9,162.71
  - Less 1 Void Checks: 1,693.50
  - Total of 8 Disbursements: 7,525.21

- **205 TOTALS:**
  - Total of 8 Checks: 28,907.50
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**REPORT TOTALS:**

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| Total of 50 Disbursements: | 389,515.39 |
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COMMUNICATION #2
June 13, 2018

Ronald Ronthi
9334 White Lake Rd.
Fenton, MI 48430

To Tyrone Township,

I have been a resident of Tyrone Twp. For over 20 years and have enjoyed living in the area. For the last couple of warm months, that has not been the case.

The homeowner at 9300 White Lake Rd. has one or two roosters, chickens, and what sounds like ducks. These roosters crow whether it is day or night. I cannot leave my windows open in the evening or enjoy sitting outside because of these roosters.

I have gone through open heart surgery (2011) and all this CROWING is very stressful. Listening to this rooster crow makes my chest tighten up and my blood pressure skyrocket. I try not to let it bother me, but I cannot block the sound of the rooster crowing. We have neighbors that own motorcycles, they are loud when they start up but in minutes they’re gone. Not the same as roosters that crow 24/7.

I didn’t move in next to a farm or commercial property, this is a residential neighborhood. When this person moved in he had at least six semi-truck loads of pool and landscape material dumped on the lower portion of his property. He continues to have deliveries in his driveway and moves the material around after dark, down the hillside. He also tried to install another driveway to the right of my mailbox which the Department of Transportation stopped.

This “neighbor” shows no respect for others, he does what he wants when he wants. The police cannot approach him because of the large gate across his driveway, they cannot TRESPASS. The township is the only resolution to this problem. As I am typing this letter the rooster has not stopped crowing since 8:00am and it is now going on 11:00 am.

Please take care of this problem so my other neighbors and I can enjoy life on White Lake Road.

Sincerely,

Ronald Ronthi
UNFINISHED BUSINESS #1
Environmental Impact Assessment
Proposed Family Cemetery
Denton Hill Road
Part of Southeast Quarter of Section 26
Tyrone Township, Livingston County, Michigan

June 8, 2018

Prepared for:

Yasin, LLC
17195 Silver Pkwy #184
Fenton, Michigan, 48430

Lakeshore Environmental, Inc.

Project Number:
18-611-01
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# Figures

Figure 1 - Site Location Map (USGS)  
Figure 2 - Site Features Map 

# Appendices

Appendix A - Proposed Development Information  
Appendix B - Research and Resource Excerpts  
Appendix C - Registered Sanitarian Documentation
Introduction

Lakeshore Environmental, Inc. (LEI) was hired to perform an environmental impact assessment (EIA) on behalf of Yasin, LLC, the developer of a proposed natural or “green” burial cemetery. The proposed project location and details are discussed below. This work was conducted at the request of the Tyrone Township Planning Commission in an effort to address potential or perceived environmental concerns at the prospective facility. As such, the format of this report follows generally acceptable topics pertaining to EIAs and is not intended to satisfy local, state, or federal requirements since none pertain to the facility based on the proposed use.

The following sources were utilized to conduct this assessment:

- Review of Tyrone Township Zoning documents
- Site walkover/inspection – May 23, 2018
- Shallow soil borings to <18” – May 23, 2018 (LEI)
- Review of soil borings and Livingston County Environmental Health Department preliminary cemetery approval documentation
- Review of engineering and special use permit application documents
- Review of April 12, 2017 Wetland Determination Report (Marx Wetlands, LLC)
- Review of soil surveys (NRCS)
- Review of National Register of Historic Places
- Review of National Wetland Inventory
- Review of US Fish & Wildlife Service Critical Habitat Database
- DEQ Wetland Database
- DEQ Wellhead Protection Map
- DEQ GeoWebFace – Bedrock and Quaternary Geology
- DEQ Critical Dune Database/Maps
- DEQ Environmental Mapper
- DEQ Water Well Viewer
- DEQ Public Land Database & Maps
- Aerial photos 1999-2017
- Interviews and documentation by a Michigan-licensed environmental sanitarian

The purpose of this document is to summarize LEI’s work and findings.
1.0 Description of Proposed Project

Yasin, LLC plans to construct a family cemetery on a ten acre parcel located approximately one-quarter mile south of Germany Road on Denton Hill Road, Section 26, Tyrone Township, Livingston County, Michigan (Study Site). Figure 1 is a Site Location Map based upon the 2017 West Highland, Michigan USGS 7.5-minute topographic map and Figure 2 is a proposed Site Features Map depicting property boundaries and noted features at the Study Site.

The Study Site is comprised of around 10 acres of land to be divided from a parent parcel totaling over 80 acres. The proposed development includes the installation of an access road and landscaping. A total 1,586 graves have been platted in the proposed design, all graves will be within the driveway loop resulting in green space around the margins of the property. The proposed design can be found in Appendix A with this report.

The designation of this proposed design as a “green burial” cemetery necessitates that all bodies must be interred within 48 hours of death and may not be embalmed. Bodies may or may not be contained in caskets or other containers within the ground, based on the desire of the patron. Burial depth will be no less than six feet below ground surface (BGS), total excavation depth. At this time, LEI is not aware of any other existing or planned corporate policies regarding interment at this location.

1.1 Existing Land Uses and Hydrogeologic Setting

The Study Site is presently zoned “FR Farming Residential” and is primarily agricultural land (hay [various species] and other wild broadleaf plant species). Wooded areas are present in the extreme western portion of the Study Site and along the southern margin. The Study Site also exhibits a few smaller stands of trees in rocky areas and a low, wet area in the extreme northeastern corner. One farmstead/residence is centrally-located in the Study Site. The elevation of the Study Site ranges from around 1015 feet above mean sea level (AMSL) along the western margin to 1050 feet AMSL in the central portion; the topography is rolling, the high portion of the site represents the northern half of a hill that extends offsite to the south and topography drops radically from the hill but primarily to the west.

Two shallow ponds were observed at the Study Site, both along the southern property margin/property boundary. These did not appear to be connected to any other surface water features and may have been manmade. Silty/clayey soil types were observed (see below) and recent rainfall appeared to have contributed to standing surface water in these locations. Regionally, an unnamed tributary to the North Ore Creek is present west of the Study Site, in the western portion of the parent parcel. Surface water flows to the south in this area. Two miles southwest of the Study Site, North Ore Creek flows northwesterly and ultimately connects with the Shiawassee River near Argentine, Michigan at a distance of over nine miles from the Study Site.

Soil types at the Study Site primarily consisted of the Hillsdale-Miami loams (HmB) and Miami loam (MoB) at 2 to 6 percent slopes. These soil types are described as well drained with moderate to high hydraulic conductivity. According to the soil survey, groundwater is present at a depth of “more than 80 inches” (please refer to Sections 2.4 and 3.1 for estimated groundwater depth based on water well logs). As discussed below, groundwater likely flows to the west, toward the unnamed tributary to the North Ore Creek. A soil map report for the Study Site has been included with this assessment in Appendix B. Additional information pertaining to Study Site soils can be
reviewed in the Livingston County Environmental Health Department interim cemetery approval document.

1.2 Alternatives

Alternative locations were considered for the proposed project; all were similar in land use and natural setting. This location was selected based on several factors including access to transportation, land availability, regional settings, and economics.

The no-action alternative was also considered and did not meet the fundamental needs of the proposed project.
2.0 Evaluation of Potential Impacts

The following section describes the systematic evaluation of standard potential impacts pertaining to the study site.

2.1 Socioeconomic, Land Use, Farm Land, and Recreation Resources

The current use and zoning of the Study Site is “Farming Residential.” Tyrone Township Zoning Ordinance describes the FR zone as, “The intent of the FR Farming Residential District is to protect lands best suited to agricultural uses from the encroachment of incompatible uses, while designating an area appropriate to the type of single family residential development that does not alter the general agricultural character of the district. Moreover, the intent also is to protect vital natural resources, including wetlands, inland lake water quality, groundwater supplies, fertile and stable soils, and significant stands of wood lots and vegetative cover.” (Article 4, Section 4.00). The zoning ordinance specifically notes that cemeteries are permissible following special land use review by zoning administration (Article 4, Section 4.03 (C)). As such, the proposed uses of the Study Site do not appear to conflict or significantly differ from the current use of the Study Site or present a concern regarding zoning or site use.

2.2 Air Quality

The proposed use of the Study Site will not result in any air quality concerns. Preliminary construction activities may result in a temporary increase in airborne dust (during road construction, for example) therefore site workers should assess dust conditions and apply water as necessary.

2.3 Noise

Except during initial construction, the proposed use of the Study Site will not result in an increase in ambient noise levels. Only minimal and occasional increased traffic will occur along Denton Hill Road which may present a slight increase in traffic noise during daylight hours. Given the existing uses of Denton Hill Road as a secondary thoroughfare, nuisance noise conditions at the property boundary are not anticipated.

2.4 Geological Resources

No geological resources will be used or impacted at the Study Site with the proposed use. Limited volumes of groundwater may be used for the irrigation of grass lawns and flowers. The anticipated water use is not expected to present an adverse resource impact since the preferred water bearing zone (aquifer) encountered at the Study Site is at a depth of over 70 feet below ground surface (BGS); this aquifer is separated from shallow groundwater and surface waters by multiple clay layers of varying thickness (Schmidt well, 7072 Denton Hill Rd., Fenton, MI 48430, completed 1973, ID: 47000016998 and Marquis well, 12495 Germany Rd., Fenton, MI 48430, completed 1976; ID: 47000017015).

Bedrock geology at the Study Site has been identified as the Marshall Sandstone below over 198 feet of unconsolidated glacial drift sediments described as end moraines of fine to medium textured till. Till sediments frequently include the clayey and silty soils observed in borings conducted at the Site.
2.5 **Ecological Resources**

The following assessments were made of pertinent ecological resources at the Study Site.

2.5.1 **Storm Water Quality**

With respect to storm water quality, the design of the facilities will include acceptable storm water best management practices to prevent adverse impacts to storm water quality emanating from the Study Site. No “significant material” use, storage, and handling will occur. Pavement at the facility will be asphalt.

The selected contractor hired to perform initial construction activities must assure that proper construction storm water best management practices are employed to avoid unnecessary erosion and run-off.

2.5.2 **Background Groundwater Quality**

Site-specific baseline groundwater quality has not been assessed. LEI reviewed the state’s online reports of general groundwater quality by county, based on water well sampling; this section summarizes these findings:

**Arsenic:**
According to the Michigan DEQ, “earth materials such as bedrock, sand, and gravel may contain arsenic bearing minerals. Arsenic may be dissolved by, and absorbed into, the drinking water we withdraw from the ground.” Additional potential sources include industrial and agricultural sources; arsenic was frequently used for embalming in the 19th century and as a pesticide in orchards in the early to mid-20th century.

- Background concentrations of dissolved arsenic ranged from non-detect to <10 µg/L in the Study Site area. These concentrations are acceptable based on current Drinking Water standards.

**Nitrates:**

Nitrates in the groundwater can be attributed to various sources including the natural degradation of plant material, human wastes, and agricultural fertilizers. According to the DEQ, “large amounts of nitrate in drinking water can cause serious illness in infants under six months of age” and doctors have also established nitrates as a concern for older persons.

- Background concentrations of nitrates in the groundwater in the vicinity of the Study Site ranged from non-detect to <5 µg/L. These concentrations are acceptable based on current Drinking Water standards.

**Volatile Organic Compounds (VOCs):**

As noted by the Michigan DEQ, “when found in drinking water, the source of VOCs is generally associated with an industrial solvent release, landfill leachate, chemical transportation spill, a fuel spill and leak, illegal waste disposal etc. VOCs do not generally occur naturally in ground water.” LEI also notes that VOCs in water well samples is frequently attributable to solvents used in the construction of the well itself and, upon further development and re-sampling, frequently passes out of the water well and is no longer detected.

- While generally not detected, on water well north of the Study Site (on Germany Rd.) exhibited detectable concentrations of VOCs. Based on the absence of additional
information or other site of concern nearby, this detection does not appear to present a threat to the Study Site.

2.5.3  **Future Groundwater Quality**

The proposed development of the Study Site is as a family cemetery utilizing natural burial (also known as “green burial”) techniques. As such, human remains will be interred (buried) onsite without any form of embalming or chemical treatment. Furthermore, bodies will not be required to be placed in any form of vault or casket. This use has been approved by the Livingston County Health Department based upon soil test pits conducted at the Study Site on October 26, 2017 and December 19, 2017. As part of this assessment, LEI reviewed the boring logs for test pits conducted at the Study Site and they appear to agree with the USDA Soil Survey discussed in Section 1.1. As to be expected in soils of this type, some mottling was observed in one test pit, based on LEI’s site walkover inspection on May 23, 2018, however, mottling in shallow soils is likely indicative of seasonal “perched” groundwater in this location and not related to groundwater in an aquifer. As noted above, drinking water wells in the vicinity of the Study Site are screened in a sand and gravel aquifer that is much deeper and below the surficial clayey, silty, and “loamy” soils found at the surface to between 25 and 40 feet of depth (BGS). Additionally, the Study Site is located upon a hill which likely extends the depth to the drinking water aquifer.

Based upon the type of proposed activity at the Study Site and planned burial depth, the Study Site appears well suited for this purpose and the use is not expected to have any adverse effects upon the groundwater in the vicinity. For addition information pertaining to potential health effects of natural burial at the Study Site and a more detailed examination of groundwater and health risk, please refer to Section 3.0.

2.5.4  **Aquatic Ecology**

No impacts to aquatic flora and fauna are anticipated due to the absence of surface water on the Study Site.

2.5.5  **Wetlands/Hydric Soils**

The Michigan Wetlands Map and National Wetlands Inventory (NWI) Database identified a broad area of suspect wetlands along the western portion of the parent parcel and to the north of the Study Site; these potential wetland areas extended into the extreme northeastern portion of the Study site, along Denton Hill Road. These maps corroborated the NRCS Soil Maps which identified areas of Carlisle muck (Unit Cc) in the northeastern portion of the Study Site (approximately 0.6 acres according to the report). This area had standing water at the time of the site inspection/walkover and appeared to drain to the northwest, commensurate with indications on the USGS topographic map. The NRCS map also identified one small “wet spot” along the southern margin of the Study Site. This corresponds with the manmade pond observed during the site visit. Upon further investigation by LEI staff, these wetland areas appeared perched upon clayey and/or silty soils and not directly connected to surface or groundwater features.

A formal wetlands survey was conducted at the Study Site in April 2017. This survey confirmed the NWI and DEQ general maps. The 2017 report further corroborated LEI’s observations that surface water at the Study Site was likely storm water runoff related (ponding of rain and meltwater) rather than groundwater fed. Additionally, LEI staff made key observations during the site inspection/walkover on May 23, 2018 and a limited number of shallow soil borings were also conducted to establish soil types to confirm and corroborate the database sources discussed below.
2.5.6 Critical Dunes
No critical dunes are present at the Study Site.

2.5.7 Other Critical Habitats
No critical habitats are present at the Study Site.

2.6 Anthropologic Resources

2.6.1 Historical Places & Properties
LEI reviewed the National Register of Historic Places as part of this assessment. One site was identified within five miles of the Study Site, located at 8880 Hickory Ridge Rd, approximately 2.25 miles to the northeast. Based on information in the National Parks Service website, this is a registered historic farm. Based on regional hydrology and traffic routes, the development of the Study site will have no effect on this location.

2.6.2 Parks, Recreation Areas, and Wildlife & Waterfowl Refuges
No parks, recreation areas, or refuges were noted. No wildlife or waterfowl refuges were noted at or nearby the Study Site.

2.6.3 Archeological Sites & Burial Grounds
LEI reviewed various lists of archeological sites and Native American burial grounds (and burial mounds) in Michigan. No known archeological sites are present within the Study Site.

2.7 Review of Environmental Databases
LEI accessed the Michigan DEQ “Environmental Mapper” program to look for sites of potential environmental concern in the area. Once site was identified east of the Study Site, detailed as follows:

- 7072 Denton Hill Rd.: This address was plotted directly east of the Study Site, however, LEI believes the listing to be southeast of our area of concern. This address was listed in the states underground storage tank (UST), leaking UST, and baseline environmental assessment (BEA) databases. Based on information reviewed, the address maintains (or formerly maintained) three USTs containing gasoline and diesel fuel. A Confirmed release was reported from these tanks on June 21, 2004. The presence of a BEA at this location indicates the established presence of soil and/or groundwater contamination. At the time of publication of this report, the DEQ has been contacted to obtain additional information through a Freedom of Information Act (FOIA) request, however, no information has been returned.

The established presence of environmental contamination at a potentially upgradient property presents some environmental concern, however, based on the location of the property relative to the Study Site (south and east), this does not appear to present a significant risk to the proposed development since impact would likely migrate westerly and not toward the Study Site.

2.8 Review of Historic Aerial Photos
LEI reviewed aerial photos depicting the Study Site from various months ranging from 1999 to 2017. Aerial photos depicted the Study Site and surrounding vicinity much as it was observed during the May 2018 site inspection/walkover. No concerns were noted during the review of historical aerial photos.
3.0 Additional Services

At the request of the Tyrone Township Planning Commission, Yasin, LLC has requested LEI to further assess, “bacteria or viral disease that pose [a] health threat to surrounding homes’ soil and water to include but not limited to wells, aquifers, etc.” Section 2.5.3 details LEI’s general opinion regarding the potential of this development to impact the groundwater, however, this section provides additional detail regarding potential epidemiological “vectors” that could present a specific threat to human health and the environment in general.

3.1 Hydrogeology

No water wells, monitoring wells, or piezometers were present at the Study Site to establish or confirm groundwater depth or flow direction, however, general conclusions can be derived based on sound hydrogeological principals, a review of the DEQ wellhead protection map, and a detailed review of water well logs for the area. As mentioned previously, groundwater in the vicinity likely flows to the west, toward an unnamed tributary to North Ore Creek. This tributary is located about one third mile (over 1,650 feet) west of the westernmost burial area. The proposed development is not located in a wellhead protection area, but maps of nearby wellhead protection areas confirm that North (and South) Ore Creeks dominate the hydrogeologic regime in this area, inducing westerly groundwater flow.

Based on water well logs, topography, and textbook aquifer conductivity values, conservative anticipated groundwater flow velocities could be expected in the range of 2 to 3 feet per day or 700 to 1,100 feet per year, faster groundwater velocities would be less likely due to the overlying clay and lack of aquifer recharge to the east.

Based on this information, and the perceived west-southwesterly groundwater flow direction, there are no drinking water receptors downgradient within one-half mile of the Study Site; furthermore, the nearest downgradient well is west of the surface water tributary which likely acts as a groundwater/surface water outlet prohibiting shallow groundwater migration westward.

3.2 Potential Contaminants

Based on a review of published information, potential contaminants include, but are not limited to:

- Normal human bacteria and viruses
- Residual medicine and antibiotics
- Carbon dioxide, sulfur dioxide, hydrogen sulfide, and methane gas
- Ammonia, phosphorous, and sulfur
- Lipids, fatty acids, carbohydrates, and alcohols
- Carbonates, including alkalinity

These chemicals each have established “half-lives” in subsurface soil and in the atmosphere and vary from hours to days based upon a variety of conditions. In addition to chemical half-life, these residual compounds are also broken down further by naturally occurring aerobic and anaerobic organisms in the subsurface and through oxidation and ultraviolet (UV) light destruction in the atmosphere. Longer-term chemical compounds listed above typically include the manmade compounds found in antibiotics and medicines and carbonate alkalinity from the
very long-term decay of bones. These longer-term components then undergo simple chemical
treatment and dilution in the subsurface.

Based on LEI’s review of potential contaminants, chemical half-lives, groundwater flow velocities
and directions, there is no plausible chance that decomposition compounds or residual chemicals
could reach human or surface water receptors at or near the Study Site. As described above, the
nearest hydrogeologically downgradient drinking water receptor is over one-half mile west of the
western portion of the Study Site which is over two years travel time, when conservatively
calculated, and over one year of travel time to the potential surface water receptor.

3.4 Review of Setbacks Compared to Other Potential Contaminants

LEI reviewed required set-backs for several other source and receptors for comparison purposes:

- **Sanitary Landfills**: (Michigan Part 115 Rules) - “100 feet to adjacent property lines, road
  rights-of-way, or lakes and perennial streams or closer than 300 feet to domiciles that
  exist at the time of issuance of a construction permit.” High groundwater shall not be less
  than 4 feet from the bottom of the landfill liner.

- **Industrial Wastewater Land Application**: (Michigan Part 22 Rules) – 100 feet to adjacent
  property lines, road rights-of-way, or lakes and perennial stream, at least 3 feet from top
  of the aquifer.

- **Human Sewage & Biosolids**: (Michigan Part 24 Rules) – R 323.2410(11)

<table>
<thead>
<tr>
<th>ISOLATION DISTANCE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation from existing:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Municipal well (type I or type IIA)**</td>
</tr>
<tr>
<td>Non-community public water supply (type IIb or type III)</td>
</tr>
<tr>
<td>Domestic well</td>
</tr>
<tr>
<td>Homes</td>
</tr>
<tr>
<td>Commercial Buildings</td>
</tr>
<tr>
<td>Surface waters***</td>
</tr>
</tbody>
</table>

- **Burial of Animal Carcasses**: (Michigan PA 239 of 1982) – Greater than 200 feet of any
  existing groundwater well used to supply potable drinking water and must not come into
  contact with any groundwater or surface water.

- **Subsurface Sewage Disposal**: (Michigan PA 368 of 1978 and PA 249 of 1929) – 50 foot
  minimum from single family homes, 75 feet from Type Iib and III wells, 200 feet from Type
  I and Iia wells; one foot above high floodplain, and no less than 4 feet above the top of
  the aquifer (water table).
The proposed development at the Study Site is greater than 300 feet north of the nearest residence (to the south and hydraulically cross-gradient of the Study Site) and over 2,500 feet from the nearest potential downgradient water well. The nearest surface water receptor is, as previously mentioned, the unnamed tributary to North Ore Creek, which is over 1,650 feet downgradient of the westernmost grave. Potential wetlands, as identified in the NWI map, are over 1,100 feet west, downgradient of the proposed development. Wetlands at the Study Site (in the northeastern corner) are hydraulically upgradient of the proposed development and should not receive any groundwater from the burial area.

3.3 Review by Licensed Sanitarian

As mentioned above, Yasin, LLC has obtained tentative approval for the development of a Cemetery by the Livingston County Environmental Health Department. To provide an additional assessment of the proposed natural burial cemetery on Denton Hill Rd., LEI contacted Mr. Thomas Barnes, RS, an independent, experienced environmental health sanitarian registered and licensed in the State of Michigan by the Department of Licensing and Regulatory Affairs. Correspondence with Mr. Barnes was conducted by telephone and email to provide research and reference to this Study.

As detailed in the attached letter (Appendix C), Mr. Barnes has studied the potential effects of natural or “green burial” of human remains in the environment and has determined that human sewage represents a suitable analogy since it too can contain all of the same bacteria, viruses, organic/inorganic compounds, and medicines/antibiotics as the decaying human body itself. As such, he references the Michigan Criteria for Subsurface Sewage Disposal (April 1994, derived from Michigan PA 368 of 1978 and PA 249 of 1929), also noted in Section 3.2 above.

It is Mr. Barnes’ conclusion that, “...there is no health risk to the public and no environmental concern for the proposed cemetery, if pertinent sections of the ‘Criteria’ are properly applied.”
4.0 Conclusions of EIA

After a site walkover/inspection and thorough review of environmental, hydrogeological, sociological, and historical resources, LEI concludes that the proposed development of the Study Site is unlikely to have an adverse impact on the environment, groundwater, or human health given the currently-proposed extent of development.

Based on all resources reviewed and work conducted onsite, Study Site soils are ideal to minimize the migration of potential contaminants into the subsurface due to their limited permeability while still providing adequate subsurface treatment of bacteria, viruses, chemicals, and chemical compounds as they depart from the decaying remains. In the unlikely event that contaminants depart the immediate vicinity of the grave, the vertical distance to groundwater and horizontal or lateral distances to nearby potential receptors is so great that impacts to surface water or drinking water receptors is not plausible given current recharge rates, groundwater flow velocities, and Study Site conditions.
5.0 Signatures

This work was completed by Mr. Jason E. Poll, CPG and reviewed by Ms. Alexandra Bergquist, EIT, both of Lakeshore Environmental, Inc. The information contained herein is true and correct to the best of our knowledge at the time of publication. LEI does not warrant that Study Site conditions will not change over time or that unidentified environmental conditions do not exist. In conducting this EIA, LEI relied upon various reports and databases completed or maintained by others and believed those sources to be true and accurate.

Readers of this report are encouraged to contact its authors if they have any questions.

___________________________  __________________
Jason E. Poll, CPG                  Date
Senior Hydrogeologist/Project Manager

___________________________  __________________
Alexandra Bergquist, EIT    Date
Environmental Engineer
NOTE: AERIAL IMAGERY FROM GOOGLE EARTH, DATED 04-07-2017, APPROX. PARCEL BOUNDARIES ADAPTED FROM LIVINGSTON COUNTY GIS.
Appendix A:

Proposed Development Information
PARCEL SKETCH

PARCEL 1

PART OF THE SOUTHEAST 1/4 OF SECTION 26, TAN-REE, TOWNSHIP OF TYRONE, LIVINGSTON COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE EAST 1/4 CORNER OF SECTION 26; THENCE DUE SOUTH ALONG THE EAST LINE OF SECTION 26 A DISTANCE OF 1,337.79 FEET TO THE SOUTH 1/4 LINE OF SECTION 26; THENCE S90º04'20"W 2,050.93 FEET TO THE NORTH AND SOUTH 1/4 LINE OF SECTION 26 AS PREVIOUSLY SURVEYED AND MONUMENTED; THENCE N00º01'42"W ALONG SAID NORTH AND SOUTH 1/4 LINE A DISTANCE OF 1,339.33 FEET TO THE INTERIOR 1/4 CORNER OF SECTION 26; THENCE N89º31'05"E ALONG THE EAST AND WEST 1/4 LINE OF SECTION 26, A DISTANCE OF 2,667.94 FEET TO THE POINT OF BEGINNING, CONTAINING 83.59 ACRES OF GROSS LAND AND BEING SUBJECT TO THE RESERVATION OF FENTON ROAD AND GERMANY ROAD SO CALLED. ALSO BEING SUBJECT TO ANY EASEMENTS AND OR RIGHT OF WAYS OF RECORD.
Appendix B:
Research and Resource Excerpts
EXPLANATION OF CARTOGRAPHIC SYMBOLS

The numbers upon the map indicate townships, which are listed in Chapter X, "Notes Upon the Archaeological Features of the Country." The word "vague" beside a symbol indicates that the location was not determined nearer than a section of land.

- Mound
- Figures indicate exact number of mounds in a group
- Letter V indicates that the number of mounds in group is undetermined
- Circular inclosure
- Incomplete circular inclosure
- Rectangular inclosure
- Incomplete rectangular inclosure

- Irregular earthwork
- Village
- Burial ground
- Garden bed
- Trail
- Trail, location not necessarily determined
- Ancient excavation for copper
Storage Tank Facilities List

(NOTE: Tank information was last updated November 21, 2016. For more information on tanks, see the DLARA Storage Tank Division web site)

Facility and Tank Details

Facility Information:
Facility ID: 50005506
Denton Hill LLC
7072 Denton Hills Rd, Fenton, MI 48430
Phone #: (248) 350-4000

Owner Information:
Denton Hill LLC
23155 N Western Hwy, Southfield, MI 48075
Phone #: (248) 350-4000

<table>
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<th>Tank ID</th>
<th>Tank Status</th>
<th>Capacity (in gallons)</th>
<th>Installation Date</th>
<th>Substance Stored</th>
<th>Tank Release Detection</th>
<th>Piping Release Detection</th>
<th>Piping Material</th>
<th>Piping Type</th>
<th>Construction Material</th>
<th>Impressed Device</th>
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<td>Non-Registered Tank</td>
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<td>Unknown</td>
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<td>Non-Registered Tank</td>
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<td></td>
<td>Gasoline</td>
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<td>Unknown</td>
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<td></td>
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<td>Non-Registered Tank</td>
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Release Information

(NOTE: Release information is updated regularly. For more information on releases, contact: DEQ - Leaking Underground Storage Tank Program)

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<tr>
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<th>Discovery Date</th>
<th>Substance Released</th>
<th>Release Status</th>
<th>Closed Date</th>
<th>Evaluation</th>
<th>Land Use Restrictions</th>
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<tr>
<td>C-0036-06</td>
<td>Denton Hill LLC</td>
<td>06/21/2004</td>
<td>Gasoline,Gasoline,Diesel</td>
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Michigan.gov Home | DEQ Home | Online Services | Permits | Programs | Contact DEQ | State Web Sites | Privacy Policy | Link Policy | Accessibility,
Policy | Security Policy

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**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

---

**Import ID:** 47047625004
**Tax No:** 004-25-100-008
**County:** Livingston
**Township:** Tyrone
**Well ID:** 47000016983

**Elevation:** 1075 ft.
**Latitude:** 42.7178948093
**Longitude:** -83.7014657645

**Method of Collection:** Interpolation-Map

---

**Well Owner:** KIRK, CARL
**Well Address:** 13091 GERMANY
**Owner Address:** 13091 GERMANY

---

**Drilling Method:** Hollow Rod
**Well Depth:** 161.00 ft.
**Well Use:** Household

**Well Type:** Replacement
**Date Completed:**

**Casing Type:** Unknown
**Height:**

**Casing Joint:** Threaded & coupled
**Casing Fitting:** Drive shoe

**Diameter:** 4.00 in. to 157.00 ft. depth

---

**Screen Installed:** Yes
**Screen Diameter:** 4.00 in.
**Screen Material Type:**

**Slot** | **Length** | **Set Between** |
---|---|---|
10.00 | 4.00 ft. | 157.00 ft. and 161.00 ft. |

**Fittings:** Neoprene packer

---

**Static Water Level:** 68.00 ft. Below Grade
**Well Yield Test:**

**Yield Test Method:** Unknown

Pumping level 126.00 ft. after 3.00 hrs. at 26 GPM

---

**Formation Description** | **Thickness** | **Depth to Bottom** |
---|---|---|
Yellow Clay & Gravel | 15.00 | 15.00 |
Sand & Gravel | 95.00 | 110.00 |
Blue Clay & Gravel | 39.00 | 149.00 |
Sand Wet/Moist | 12.00 | 161.00 |

---

**Well Yield Test Method:**

**Filter Packed:** No
**Blank:** 0.00 ft. Above

---

**Wellcrafted:** Neoprene packer

---

**Well Grouted:** Yes
**Grouting Method:** Unknown

**Grouting Material Bags Additives Depth**
---|---|---|
Other | 0.00 | None | 0.00 ft. to 0.00 ft. |

---

**Wellhead Completion:** Pitless adapter

---

**Nearest Source of Possible Contamination:**

**Type** | **Distance** | **Direction** |
---|---|---|
Unknown | 0 ft. | |

---

**Abandoned Well Plugged:** No
**Reason Not Plugged:**

---

**Drilling Machine Operator Name:**
**Employment:** Unknown
**Contractor Type:** Unknown
**Reg No:** 25-0032
**Business Name:**
**Business Address:**

---

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**
**Date**

---

**Other Remarks:** Grouting Material 1:Listed as other in Wellkey
Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 47047625019

<table>
<thead>
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<td>Livingston</td>
<td>Tyrone</td>
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</table>

Well ID: 47000016998

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<td>Latitude</td>
<td>42.7118117357</td>
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<tr>
<td>Longitude</td>
<td>-83.70303644</td>
</tr>
<tr>
<td>Method of Collection</td>
<td>Interpolation-Map</td>
</tr>
</tbody>
</table>

Well Owner: SCHMIDT, KARL

<table>
<thead>
<tr>
<th>Well Address</th>
<th>Owner Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>7072 DENTON HILL</td>
<td>7072 DENTON HILL</td>
</tr>
<tr>
<td>FENTON, MI 48430</td>
<td>FENTON, MI 48430</td>
</tr>
</tbody>
</table>

Drilling Method: Cable Tool

| Well Depth | 126.00 ft. |
| Well Use | Household |
| Well Type | Replacement |
| Date Completed | 8/4/1973 |

Casing Type: Unknown

| Casing Joint | Threaded & coupled |
| Casing Fitting | Drive shoe |

Diameter: 4.00 in. to 122.00 ft. depth

Pressure Tank Installed: No

Static Water Level: 80.00 ft. Below Grade

| Well Yield Test | Yield Test Method | Unknown |
| Pumping level 91.00 ft. after 0.00 hrs. at 0 GPM |

Screen Installed: Yes

| Screen Diameter | 4.00 in. |
| Blank | 0.00 ft. Above |
| Screen Material Type | |

| Slot | Length | Set Between |
| 10.00 | 4.00 ft. | 122.00 ft. and 126.00 ft. |

Fittings: Neoprene packer

Wellhead Completion: Pitless adapter

| Nearest Source of Possible Contamination | Distance | Direction |
| Septic tank | 60 ft. | West |

| Abandoned Well Plugged | No |
| Reason Not Plugged | |

| Drilling Machine Operator Name | Unknown |
| Employment | Unknown |

| Contractor Type | Unknown |
| Reg No | |
| Business Name | |
| Business Address | |

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

| Signature of Registered Contractor | Date |
| EQP-2017 (4/2010) | Page 1 of 1 |
| LHD | 2/17/2000 11:20 PM |
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

---

**Import ID:** 47047626003

**Tax No:** 004-26-200-006

**County:** Livingston

**Township:** Tyrone

**Well ID:** 47000017007

- **Elevation:** 1000 ft.
- **Latitude:** 42.7175084931
- **Longitude:** -83.7114997978
- **Method of Collection:** Interpolation-Map

---

**Well Owner:** MURRAY, EDWARD

**Well Address:**

- 12271 GERMANY
- FENTON, MI 48430

**Owner Address:**

- 12271 GERMANY
- FENTON, MI 48430

---

**Drilling Method:** Rotary

- **Well Depth:** 56.00 ft.
- **Well Use:** Household
- **Well Type:** New
- **Date Completed:** 8/4/1990

**Pump Installed:** Yes

- **Manufacturer:** F.E. Myers
- **Pump Type:** Submersible
- **Model Number:**
- **Pump Capacity:** 0 GPM
- **Pump Voltage:**
- **Draw Down Seal Used:** No
- **Pressure Tank Installed:** No
- **Pressure Relief Valve Installed:** No

---

**Casing Type:** PVC plastic

- **Height:**

**Screen Installed:** Yes

- **Filter Packed:** No
- **Screen Diameter:** 4.00 in.
- **Blank:** 2.00 ft. Above

**Screen Material Type:**

- **Slot**
- **Length**
- **Set Between**
- 12.00
- 4.00 ft.
- 52.00 ft. and 56.00 ft.

**Fittings:** Neoprene packer

---

**Well Grouted:** Yes

- **Grouting Material:** Bentonite slurry
- **Bags:** 0.00
- **Additives:** None
- **Depth:** 0.00 ft. to 51.00 ft.

**Wellhead Completion:** Pitless adapter

---

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank
- **Distance:** 75 ft.
- **Direction:** East

**Drilling Machine Operator Name:** W O'BRIEN

- **Employment:** Unknown

**Contractor Type:** Unknown

- **Reg No:** 47-1924

**Business Name:**

**Business Address:**

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<th>Depth to Bottom</th>
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<tbody>
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<tr>
<td>Brown Sand</td>
<td>7.00</td>
<td>21.00</td>
</tr>
<tr>
<td>Brown Sand &amp; Gravel</td>
<td>27.00</td>
<td>48.00</td>
</tr>
<tr>
<td>Gray Sand &amp; Gravel</td>
<td>8.00</td>
<td>56.00</td>
</tr>
</tbody>
</table>

**Geology Remarks:**

- **Formation Description**
- **Thickness**
- **Depth to Bottom**

---

**Other Remarks:**

- General Remarks: 12" ABOVE GRADE

---

**Signature of Registered Contractor**

**Date**

---


Page 1 of 1

LHD 2/17/2000 11:20 PM
Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 47047626007

Tax No: 004-26-300-002
Permit No: 
County: Livingston
Township: Tyrone

Well ID: 47000017011
Elevation: 1065 ft.
Latitude: 42.7153630074
Longitude: -83.7158425548
Method of Collection: Interpolation-Map

Well Owner: MANTELA, GERALD
Owner Address: 
Well Address: 12210 GERMANY FENTON, MI 48430

Drilling Method: Cable Tool
Well Depth: 115.00 ft.
Well Type: Replacement
Date Completed: 10/1/1971
Casing Type: Unknown
Casing Joint: Threaded & coupled
Casing Fitting: Drive shoe
Diameter: 4.00 in. to 115.00 ft. depth

Borehole:
Static Water Level: 80.00 ft. Below Grade
Well Yield Test: 
Yield Test Method: Unknown
Pumping level 90.00 ft. after 8.00 hrs. at 15 GPM

Screen Installed: Yes
Screen Diameter: 3.50 in.
Screen Material Type: 
Slot: 12.00
Length: 4.00 ft.
Set Between: 110.00 ft. and 114.00 ft.
Fittings: Neoprene packer

Well Grouted: No
Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type: Septic tank
Distance: 80 ft.
Direction: North

Abandoned Well Plugged: No
Reason Not Plugged: 

Drilling Machine Operator Name: P.A. PRATHER
Employment: Unknown
Contractor Type: Unknown
Reg No: 47-0027
Business Name: 
Business Address: 

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor: 
Date: 

Geology Remarks:

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand &amp; Gravel</td>
<td>22.00</td>
<td>22.00</td>
</tr>
<tr>
<td>Gravel Wet/Moist</td>
<td>18.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Boulders W/Gravel</td>
<td>30.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Clay Hard</td>
<td>10.00</td>
<td>80.00</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>12.00</td>
<td>92.00</td>
</tr>
<tr>
<td>Sand</td>
<td>22.00</td>
<td>114.00</td>
</tr>
<tr>
<td>Clay</td>
<td>1.00</td>
<td>115.00</td>
</tr>
</tbody>
</table>

General Remarks:
Other Remarks: Pump Manufacturer: RAPIDAYTON
### Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

<table>
<thead>
<tr>
<th>Import ID:</th>
<th>47047626008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax No:</td>
<td>004-26-300-011</td>
</tr>
<tr>
<td>Permit No:</td>
<td></td>
</tr>
<tr>
<td>County:</td>
<td>Livingston</td>
</tr>
<tr>
<td>Township:</td>
<td>Tyrone</td>
</tr>
<tr>
<td>Well ID:</td>
<td>47000017012</td>
</tr>
</tbody>
</table>

**Elevation:** 1060 ft.

**Latitude:** 42.7164011091

**Longitude:** -83.7152903228

**Method of Collection:** Interpolation-Map

**Distance and Direction from Road Intersection:**

**Well Owner:** KORTGE, JAMES

**Owner Address:**

- 12270 GERMANY
- FENTON, MI 48430

**Well Address:**

- 12270 GERMANY
- FENTON, MI 48430

**Drilling Method:** Cable Tool

**Well Depth:** 82.00 ft.

**Well Use:** Household

**Well Type:** Replacement

**Date Completed:**

**Casing Type:** Unknown

**Height:** 0.00 ft. below grade

**Casing Joint:** Threaded & coupled

**Casing Fitting:** Drive shoe

**Diameter:** 4.00 in. to 28.00 ft. depth

**Borehole:**

**Static Water Level:** 60.00 ft. Below Grade

**Well Yield Test:**

- **Yield Test Method:** Unknown
- **Pumping level:** 75.00 ft. after 2.00 hrs. at 20 GPM

**Screen Installed:** Yes

**Screen Diameter:** 4.00 in.

**Screen Blank:** 0.00 ft. Above

**Screen Material Type:**

- **Slot:** 12.00
- **Length:** 4.00 ft.
- **Set Between:** 78.00 ft. and 82.00 ft.

**Fittings:** Neoprene packer

**Well Grouted:** Yes

**Grouting Method:** Unknown

**Grouting Material:**

- **Bags:** 0.00
- **Additives:** None
- **Depth:** 0.00 ft. to 0.00 ft.

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank
- **Distance:** 75 ft.

**Abandoned Well Plugged:** No

**Reason Not Plugged:**

**Drilling Machine Operator Name:**

**Employment:** Unknown

**Contractor Type:** Unknown

**Reg No:** 47-0026

**Business Name:**

**Business Address:**

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**

**Date**

---

**Other Remarks:**

---

---

---

---
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

| Import ID: | 47047626011 |
| Tax No: | 004-26-200-025 |
| Permit No: | |
| County: | Livingston |
| Township: | Tyrone |
| Town/Range: | 04N 06E |
| Section: | 26 |
| Well Status: | |
| WSSN: | |
| Source ID/Well No: | |
| Distance and Direction from Road Intersection: | |

**Well ID:** 47000017015

- **Elevation:** 1030 ft.
- **Latitude:** 42.7174761867
- **Longitude:** -83.7060655101
- **Method of Collection:** Interpolation-Map

**Well Owner:** MARQUIS, ANNETTE

**Well Address:** 12495 GERMANY

**Owner Address:** 12495 GERMANY

**Drilling Method:** Cable Tool
**Well Depth:** 82.00 ft.
**Well Use:** Household
**Well Type:** Replacement
**Date Completed:** 10/25/1976

**Pump Installed:** Yes
**Pump Installation Only:** No
**Manufacturer:** Red Jacket
**Model Number:** HP
**Model Number:** Submersible
**Pump Voltage:** 0 GPM
**Drop Pipe Length:** 42.00 ft.
**Drop Pipe Diameter:** Drilling Record ID
**Draw Down Seal Used:** No
**Pressure Tank Installed:** No
**Pressure Relief Valve Installed:** No

**Casing Type:** Unknown
**Height:** 0.00 ft. below grade
**Casing Joint:** Welded
**Casing Fitting:** None
**Diameter:** 4.00 in. to 82.00 ft. depth

**Borehole:**

**Static Water Level:** 999.99 ft. Below Grade
**Well Yield Test:** Yield Test Method: Unknown
**Pumping level 40.00 ft. after 1.00 hrs. at 25 GPM**

**Screen Installed:** Yes
**Filter Packed:** No
**Screen Diameter:** 3.00 in.
**Blank:** 0.00 ft. Above
**Screen Material Type:**
**Slot**
**Length**
**Set Between**
25.00
3.00 ft.
79.00 ft. and 82.00 ft.

**Fittings:** None

**Well Grouted:** Yes
**Grouting Method:** Unknown
**Grouting Material Bags:**
**Additives Depth**
Unknown
0.00 None
0.00 ft. to 0.00 ft.

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**
**Type**
**Distance**
**Direction**
Septic tank
75 ft.
North

**Abandoned Well Plugged:** No
**Reason Not Plugged:**

**Geology Remarks:**

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay &amp; Gravel</td>
<td>21.00</td>
<td>21.00</td>
</tr>
<tr>
<td>Sand &amp; Clay</td>
<td>53.00</td>
<td>74.00</td>
</tr>
<tr>
<td>Gravel &amp; Sand</td>
<td>8.00</td>
<td>82.00</td>
</tr>
</tbody>
</table>

**Drilling Machine Operator Name:**
**Employment:** Unknown

**Contractor Type:** Unknown
**Reg No:** 63-1154

**Business Name:**
**Business Address:**

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor:**
**Date:**

**General Remarks:** 12" ABOVE GRADE

**Other Remarks:**

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Import ID: 47047635001

Tax No: 004-35-200-008

Well ID: 47000017219

Elevation: 991 ft.
Latitude: 42.7078717099
Longitude: -83.7119433269
Method of Collection: Interpolation-Map

Well Owner: HAMPTON, SHARON

Owner Address:
12345 SLCOY
FENTON, MI 48430

Well Address:
12345 SLCOY
FENTON, MI 48430

Drilling Method: Cable Tool
Well Depth: 46.00 ft.
Well Type: Replacement
Date Completed: 4/22/1978

Casing Type: Unknown
Height: 1.20 ft. above grade
Casing Joint: Threaded & coupled
Casing Fitting: Drive shoe

Screen Installed: Yes
Screen Diameter: 3.00 in.
Blank: 0.00 ft. Above
Screen Material Type:
Slot Length
15.00 4.00 ft.
Set Between
42.00 ft. and 46.00 ft.

Fittings: Neoprene packer

Well Grouted: No

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type: Septic tank
Distance: 85 ft.
Direction: South

Abandoned Well Plugged: No
Reason Not Plugged:

Drilling Machine Operator Name:
Employment: Unknown
Contractor Type: Unknown
Reg No:
Business Name:
Business Address:

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor
Date

General Remarks:
Other Remarks: Pump Manufacturer: VALLEY

Page 1 of 1
LHD 2/17/2000 11:24 PM
Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 47047635002
Tax No: 004-35-200-011

Well ID: 47000017220
Elevation: 1001 ft.
Latitude: 42.7072819638
Longitude: -83.7159494814
Method of Collection: Interpolation-Map

Well Owner: PUSTELNIK, JOHN
Well Address: 1221 ALCOY
Owner Address: 1221 ALCOY
FENTON, MI 48430
FENTON, MI 48430

Drilling Method: Cable Tool
Well Depth: 45.00 ft.
Well Use: Household
Well Type: Replacement
Date Completed: 11/3/1977

Casing Type: Unknown
Casing Joint: Threaded & coupled
Casing Fitting: Drive shoe

Diameter: 4.00 in. to 41.00 ft. depth

Borehole:
Static Water Level: 13.00 ft. Below Grade
Well Yield Test: Yield Test Method: Unknown
Pumping level 15.00 ft. after 2.00 hrs. at 20 GPM

Screen Installed: Yes
Screen Diameter: 3.75 in.
Blank: 0.00 ft. Above
Screen Material Type:
Slot Length Set Between
12.00 4.00 ft. 41.00 ft. and 45.00 ft.

Fittings: Neoprene packer

Well Grouted: Yes
Grouting Method: Unknown
Grouting Material
Bags Additives Depth
Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type Distance Direction
Unknown 0 ft.

Abandoned Well Plugged: No
Reason Not Plugged:

Well Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor Date

General Remarks:
Other Remarks: Pump Manufacturer: REDA
## Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

**Import ID:** 47047635003  
**Tax No:** 004-35-200-012  
**County:** Livingston  
**Permit No:** 004-35-200-012  
**Township:** Tyrone

<table>
<thead>
<tr>
<th>Town/Range: 04N 06E</th>
<th>Section: 35</th>
<th>Well Status:</th>
<th>WSSN:</th>
<th>Source ID/Well No:</th>
</tr>
</thead>
</table>

**Distance and Direction from Road Intersection:**

**Well Owner:** ESTES, CARL  
**Owner Address:** 1220 ALCYO  
FENTON, MI 48430

**Well ID:** 47000017221

- **Elevation:** 997 ft.  
- **Latitude:** 42.7064760718  
- **Longitude:** -83.7160674356  
- **Method of Collection:** Interpolation-Map

### Drilling Details

- **Drilling Method:** Cable Tool  
- **Well Depth:** 59.00 ft.  
- **Well Type:** Replacement  
- **Well Status:** Date Completed: 5/10/1973

### Casing Details

- **Casing Type:** Unknown  
- **Casing Joint:** Threaded & coupled  
- **Casing Fitting:** Drive shoe  
- **Diameter:** 4.00 in. to 59.00 ft. depth

### Borehole

- **Static Water Level:** 15.00 ft. Below Grade  
- **Well Yield Test:** Yield Test Method: Unknown  
- **Screen Installed:** Yes  
- **Filter Packed:** No  
- **Screen Diameter:** 4.00 in.  
- **Blank:** 0.00 ft. Above  
- **Screen Material Type:**  
- **Slot:** 10.00  
- **Length:** 4.00 ft.  
- **Set Between:** 53.00 ft. and 57.00 ft.

### Fittings

- **Neoprene packer

### Wellhead Completion

- **Pitless adapter

### Nearest Source of Possible Contamination

- **Septic tank:** Distance: 75 ft.  
- **Direction:** South

### Abandoned Well Plugged

- **No

### Geology Remarks

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay</td>
<td>12.00</td>
<td>12.00</td>
</tr>
<tr>
<td>Clay Sandy</td>
<td>29.00</td>
<td>41.00</td>
</tr>
<tr>
<td>Clay</td>
<td>12.00</td>
<td>53.00</td>
</tr>
<tr>
<td>Sand Wet/Moist</td>
<td>4.00</td>
<td>57.00</td>
</tr>
<tr>
<td>Sand Wet/Moist</td>
<td>2.00</td>
<td>59.00</td>
</tr>
</tbody>
</table>

### Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**

**Date**

**General Remarks:**

**Other Remarks:** Pump Manufacturer: DEMPSTER

**Reg No:** 47-0027  
**Business Address:**

**Contractor Type:** Unknown  
**Business Name:**

**Drilling Machine Operator Name:** BILL FRANKLIN  
**Employment:** Unknown

**Well Yield Test Method:**

Pumping level 30.00 ft. after 8.00 hrs. at 10 GPM

**Yield Test Method:**

Unknown

**Wellhead Completion:**

Pitless adapter

**Nearest Source of Possible Contamination:**

Septic tank  
Distance: 75 ft.  
Direction: South

**Abandoned Well Plugged:**

No

**Reason Not Plugged:**

No

**Other Remarks:**

Pump Manufacturer: DEMPSTER

**General Remarks:**

**Other Remarks:**

Pump Manufacturer: DEMPSTER
### Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

**Import ID:** 47047635005  
**Tax No:** 004-35-200-014  
**County:** Livingston  
**Township:** Tyrone

---

**Well ID:** 47000017223

- **Elevation:** 1001 ft.
- **Latitude:** 42.7064695688
- **Longitude:** -83.7146583876
- **Method of Collection:** Interpolation-Map

---

**Well Owner:** THOMPSON, EUGENE  
**Well Address:** 12280 ALCOY  
**Fenton, MI 48430**

**Owner Address:** 12280 ALCOY  
**Fenton, MI 48430**

---

**Drilling Method:** Rotary  
**Well Depth:** 59.00 ft.  
**Well Use:** Household  
**Well Type:** Replacement  
**Date Completed:**

**Casing Type:** PVC plastic  
**Height:**

**Casing Joint:** Unknown  
**Casing Fitting:** None

**Diameter:** 5.00 in. to 51.00 ft. depth

**Borehole:** 7.87 in. to 51.00 ft. depth

---

**Pump Installed:** Yes  
**Pump Installation Only:** No  
**Pump Installation Date:** HP:

**Manufacturer:** Tait  
**Model Number:**

**Pump Type:** Submersible  
**Pump Capacity:** 0 GPM

**Drop Pipe Length:** 40.00 ft.  
**Drop Pipe Diameter:**

**Draw Down Seal Used:** No  
**Pressure Tank Installed:** No  
**Pressure Relief Valve Installed:** No

---

**Static Water Level:** 30.00 ft. Below Grade  
**Well Yield Test:**

- **Yield Test Method:** Unknown
- **Pumping level 35.00 ft. after 0.50 hrs. at 20 GPM**
- **Pumping level 35.00 ft. after 1.00 hrs. at 20 GPM**

---

**Formation Description** | **Thickness** | **Depth to Bottom**
---|---|---
Brown Clay | 15.00 | 15.00
Brown Sand & Clay | 25.00 | 40.00
Brown Sand Water Bearing | 19.00 | 59.00

---

**Screen Installed:** Yes  
**Filter Packed:** No  
**Screen Diameter:** 4.00 in.  
**Blank:** 0.00 ft. Above  
**Screen Material Type:**

**Slot** | **Length** | **Set Between**
---|---|---
7.00 | 8.00 ft. | 51.00 ft. and 59.00 ft.

**Fittings:** Neoprene packer

---

**Well Grouted:** Yes  
**Grouting Method:** Unknown  
**Grouting Material Bags** | **Additives** | **Depth**
---|---|---
Bentonite slurry | 0.00 | None | 0.00 ft. to 25.00 ft.

**Wellhead Completion:** Pitless adapter

---

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank  
- **Distance:** 200 ft.  
- **Direction:** North

**Abandoned Well Plugged:** No  
**Reason Not Plugged:**

---

**Drilling Machine Operator Name:**

**Employment:** Unknown

**Contractor Type:** Unknown  
**Reg No:** 63-1879

**Business Name:**

**Business Address:**

---

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor:**

**Date:**

---

**General Remarks:** 12" ABOVE GRADE

**Other Remarks:**
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

<table>
<thead>
<tr>
<th>Tax No: 004-35-200-014</th>
<th>Permit No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>County: Livingston</td>
<td>Township: Tyrone</td>
</tr>
<tr>
<td>Well ID: 47000017224</td>
<td></td>
</tr>
<tr>
<td>Elevation: 1002 ft.</td>
<td></td>
</tr>
<tr>
<td>Latitude: 42.7068711154</td>
<td></td>
</tr>
<tr>
<td>Longitude: -83.714726119</td>
<td></td>
</tr>
<tr>
<td>Method of Collection: Interpolation-Map</td>
<td></td>
</tr>
</tbody>
</table>

**Well Owner:** THOMPSON, EUGENE

<table>
<thead>
<tr>
<th>Well Address: 12280 ALCOY</th>
<th>Owner Address: 12280 ALCOY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FENTON, MI 48430</td>
<td>FENTON, MI 48430</td>
</tr>
</tbody>
</table>

**Drilling Method:** Rotary

**Well Depth:** 60.00 ft.

**Well Use:** Household

**Well Type:** Replacement

**Date Completed:** 12/18/1973

**Casing Type:** Unknown

**Height:**

**Diameter:** 2.00 in. to 56.00 ft. depth

**Borehole:**

**Static Water Level:** 30.00 ft. Below Grade

**Well Yield Test:** Yield Test Method: Unknown

Pumping level 50.00 ft. after 1.00 hrs. at 10 GPM

**Formation Description**

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Clay</td>
<td>10.00</td>
</tr>
<tr>
<td>Gravel</td>
<td>4.00</td>
</tr>
<tr>
<td>Brown Clay</td>
<td>26.00</td>
</tr>
</tbody>
</table>

**Screen Installed:** Yes

**Screen Diameter:** 2.00 in.

**Blank:** 0.00 ft. Above

**Screen Material Type:**

<table>
<thead>
<tr>
<th>Slot</th>
<th>Length</th>
<th>Set Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.00</td>
<td>4.00 ft.</td>
<td>56.00 ft. and 60.00 ft.</td>
</tr>
</tbody>
</table>

**Fittings:** None

**Well Grouted:** Yes

**Grouting Method:** Unknown

<table>
<thead>
<tr>
<th>Bentonite slurry</th>
<th>Bags</th>
<th>Additives</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>None</td>
<td>None</td>
<td>30.00 ft. to 56.00 ft.</td>
</tr>
</tbody>
</table>

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

<table>
<thead>
<tr>
<th>Septic tank</th>
<th>Distance</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 ft.</td>
<td>South</td>
<td></td>
</tr>
</tbody>
</table>

**Abandoned Well Plugged:** No

**Reason Not Plugged:**

---

**Water Well Contractor’s Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor: [Signature]

Date: [Date]

---

**Other Remarks:**

General Remarks:

---

**Reg No:** 25-0099

**Business Name:** Water Well Contractor's Certification

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 47000017225

Elevation: 1011 ft.
Latitude: 42.7077387824
Longitude: -83.7160034272
Method of Collection: Interpolation-Map

Well Owner: LUTOMSKI, GEORGE
Owner Address: 12197 ALCOY
FENTON, MI 48430

Drilling Method: Cable Tool
Well Depth: 53.00 ft.  Well Use: Household
Well Type: Replacement  Date Completed: 1/5/1988

Casing Type: Steel - black  Height: 4.00 in. to 49.00 ft. depth
Casing Joint: Threaded & coupled
Casing Fitting: Drive shoe

Borehole:

Static Water Level: 25.00 ft. Below Grade
Well Yield Test: Unknown
Well Yield Test Method: Yield Test Method: Unknown
Pumping level 40.00 ft. after 1.00 hrs. at 30 GPM

Screen Installed: Yes  Filter Packed: No
Screen Diameter: 3.00 in.  Blank: 1.00 ft. Above
Screen Material Type:
Slot Length Set Between
15.00 4.00 ft. 49.00 ft. and 53.00 ft.

Fittings: Neoprene packer

Well Grouted: No

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type  Distance  Direction
Septic tank 65 ft.  North

Abandoned Well Plugged: No  Reason Not Plugged:

Drilling Machine Operator Name: CHRIS PRITCHARD
Employment: Unknown
Contractor Type: Unknown  Reg No: 58-1765
Business Name:
Business Address:

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor  Date

General Remarks: 12" ABOVE GRADE
Other Remarks:

Import ID: 47047635007  Tax No: 004-35-200-018  Permit No:  County: Livingston  Township: Tyrone
Distance and Direction from Road Intersection:

Well Address: 12197 ALCOY  FENTON, MI 48430
Owner Address: 12197 ALCOY  FENTON, MI 48430

Pump Installed: Yes  Pump Installation Only: No
Pump Installation Date: HP
Manufacturer: Webtrol  Pump Type: Submersible
Model Number: 0 GPM
Drop Pipe Length: 38.00 ft.  Pump Voltage:
Drop Pipe Diameter:  Draw Down Seal Used: No
Pressure Tank Installed: No  Pressure Relief Valve Installed: No

Formation Description  Thickness  Depth to Bottom
Brown Clay 40.00 40.00
Gray Clay 5.00 45.00
Gray Sand 8.00 53.00

Geology Remarks:

Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 47047635008
Tax No: 004-35-200-019
Permit No: County: Livingston
Town: Tyrone

Well ID: 47000017226
Elevation: 1021 ft.
Latitude: 42.7083780518
Longitude: -83.7160014247
Method of Collection: Interpolation-Map

Well Owner: MORAN, MICHAEL

Well Address: 12181 ALCOY
Owner Address: 12181 ALCOY
FENTON, MI 48430 FENTON, MI 48430

Drilling Method: Rotary
Well Depth: 88.00 ft.  Well Use: Household
Well Type: New  Date Completed: 12/22/1986

Casing Type: Unknown  Height: Diameter: 5.00 in. to 80.00 ft. depth
Casing Joint: Welded  Casing Fitting: Drive shoe

Borehole:
Static Water Level: 39.00 ft. Below Grade
Well Yield Test: Yield Test Method: Unknown
Pumping level 70.00 ft. after 1.00 hrs. at 10 GPM

Screen Installed: Yes  Filter Packed: No
Screen Diameter: 4.00 in.  Blank: 0.00 ft. Above
Screen Material Type: Slot  Length  Set Between
12.00  4.00 ft.  81.00 ft. and 85.00 ft.

Fittings: Neoprene packer

Well Grouted: Yes  Grouting Method: Unknown
Grouting Material Bags  Additives  Depth
Bentonite slurry  0.00  None  0.00 ft. to 80.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination: Type  Distance  Direction
Septic tank  50 ft.

Drilling Machine Operator Name: AL BUSH
Employment: Unknown

Contractor Type: Unknown
Business Name: Unknown
Business Address: Unknown

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor
Date

Well Yield Test Method: Unknown

Formation Description  Thickness  Depth to Bottom
Topsoil  3.00  3.00
Sand & Gravel  22.00  25.00
Brown Clay & Sand  32.00  57.00
Gray Clay  5.00  62.00
Sand  25.00  87.00
Gray Clay  1.00  88.00

Geology Remarks:

Other Remarks:
Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID: 47047635009

Well ID: 47000017227

Elevation: 1020 ft.
Latitude: 42.7068617748
Longitude: -83.7040360581
Method of Collection: Interpolation-Map

Well Owner: STEINMETZ, JOHN
Owner Address: 12500 ALCOY
FENTON, MI 48430

Well Address: 12500 ALCOY
FENTON, MI 48430

Town/Range: 04N 06E
Section: 35
Well Status: Replacement
Source ID/Well No: WSSN:

Pump Installed: Yes
Pump Installation Date: 1/27/1988
Pump Installation Only: No
Manufacturer: Red Jacket
Pump Type: Submersible
Model Number: HP:
Pump Capacity: 0 GPM
Drop Pipe Length: 60.00 ft.
Drop Pipe Diameter: 5.00 in. to 80.00 ft. depth
Drilling Record ID:

Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Drilling Method: Rotary
Well Depth: 80.00 ft.
Well Use: Household
Well Type: Replacement
Date Completed: 1/27/1988
Casing Type: PVC plastic
Height: 40.00
Casing Joint: Unknown
Casing Fitting: None

Diameter: 5.00 in. to 80.00 ft. depth
Borehole: 8.50 in. to 80.00 ft. depth

Static Water Level: 30.00 ft. Below Grade
Well Yield Test: Yield Test Method: Unknown
Pumping level 80.00 ft. after 0.50 hrs. at 30 GPM

Screen Installed: Yes
Filter Packed: No
Screen Diameter: 5.00 in.
Blank: 0.00 ft. Above
Screen Material Type:

Slot: 10.00
Length: 10.00 ft.
Set Between: 70.00 ft. and 80.00 ft.

Fittings: None

Well Grouted: Yes
Grouting Method: Unknown
Grouting Material: Bags: Other
Additives: None
Depth: 0.00 ft. to 80.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type: Septic tank
Distance: 60 ft.
Direction: Southwest

Abandoned Well Plugged: No
Reason Not Plugged:

Drilling Machine Operator Name: ED BIRKMEIER
Employment: Unknown
Contractor Type: Unknown
Reg No: 78-1607
Business Name: Unknown
Business Address:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor Date

General Remarks:

Other Remarks: Grouting Material 1: Listed as other in Wellkey

Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 47000017228

- Elevation: 1011 ft.
- Latitude: 42.706768042
- Longitude: -83.7050480301
- Method of Collection: Interpolation-Map

Well Owner: ZIPP, WILLIAM

Well Address: 12496 ALCOY
Owner Address: 12496 ALCOY
FENTON, MI 48430
FENTON, MI 48430

Drilling Method: Rotary
Well Depth: 64.00 ft.
Well Use: Household
Well Type: New
Date Completed: 12/17/1987

Casing Type: PVC plastic
Casing Joint: Unknown
Casing Fitting: None
Diameter: 5.00 in. to 64.00 ft. depth
Borehole: 8.50 in. to 64.00 ft. depth

Static Water Level: 8.00 ft. Below Grade
Well Yield Test: Yield Test Method: Unknown
Pumping level 50.00 ft. after 1.00 hrs. at 30 GPM

Screen Installed: Yes
Screen Diameter: 5.00 in.
Blank: 0.00 ft. Above
Screen Material Type:
Slot Length Set Between
12.00 10.00 ft. 53.00 ft. and 63.00 ft.

Fittings: None
Well Grouted: Yes
Grouting Method: Unknown
Grouting Material:
Other bags additives depth
0.00 none 0.00 ft. to 63.00 ft.

Wellhead Completion: Pitless adapter

Nearest Source of Possible Contamination:
Type Distance Direction
Septic tank 100 ft. Southeast

Drilling Machine Operator Name: BARRY BROWN
Employment: Unknown
Contractor Type: Unknown
Reg No: 78-1607
Business Name:
Business Address:

Water Well Contractor's Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor Date

General Remarks:

Other Remarks: Grouting Material 1: Listed as other in Wellkey

EQP-2017 (4/2010) Page 1 of 1
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

**Import ID:** 47047635011

**Tax No:** 004-35-200-025

**County:** Livingston

**Township:** Tyrone

**Well ID:** 47000017229

**Elevation:** 1021 ft.

**Latitude:** 42.7063416341

**Longitude:** -83.7112640172

**Method of Collection:** Interpolation-Map

**Distance and Direction from Road Intersection:**

**Well Address:** 12330 ALCOY

**Owner Address:** 12330 ALCOY

**County:** Livingston

**Township:** Tyrone

**Well Owner:** GREEN, H.J.

**Well Address:** 12330 ALCOY

**Owner Address:** 12330 ALCOY

**Well Depth:** 53.00 ft.

**Well Use:** Household

**Well Type:** Replacement

**Date Completed:** 1/21/1978

**Casing Type:** Unknown

**Height:**

**Drilling Method:** Cable Tool

**Well Depth:** 53.00 ft.

**Well Use:** Household

**Well Type:** Replacement

**Date Completed:** 1/21/1978

**Casing Joint:** Threaded & coupled

**Casing Fitting:** Drive shoe

**Diameter:** 4.00 in. to 48.00 ft. depth

**Screen Installed:** Yes

**Filter Packed:** No

**Screen Diameter:** 4.00 in.

**Blank:** 0.00 ft. Above

**Slot:** 10.00

**Length:** 6.00 ft.

**Set Between:** 47.00 ft. and 53.00 ft.

**Fittings:** Neoprene packer

**Screen Material Type:**

**Formation Description** | **Thickness** | **Depth to Bottom**
---|---|---
Yellow Sand & Gravel | 6.00 | 6.00
Clay & Gravel | 41.00 | 47.00
Sand Wet/Moist | 6.00 | 53.00

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septic tank</td>
<td>75 ft.</td>
<td></td>
</tr>
</tbody>
</table>

**Abandoned Well Plugged:** No

**Reason Not Plugged:**

**Geology Remarks:**

**Well Yield Test:**

**Yield Test Method:** Unknown

Pumping level 4.00 ft. after 15.00 hrs. at 0 GPM

**Formation Description** | **Thickness** | **Depth to Bottom**
---|---|---
Yellow Sand & Gravel | 6.00 | 6.00
Clay & Gravel | 41.00 | 47.00
Sand Wet/Moist | 6.00 | 53.00

**Drilling Machine Operator Name:** J HARTWICK

**Employment:** Unknown

**Contractor Type:** Unknown

**Reg No:** 47-0027

**Business Name:**

**Business Address:**

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**

**Date**

**General Remarks:**

**Other Remarks:** Pump Manufacturer:DEMPSTER
**Well ID:** 47000017234  

**Elevation:** 1041 ft.  
**Latitude:** 42.7087360059  
**Longitude:** -83.6999510427  
**Method of Collection:** Interpolation-Map

**Well Owner:** HEMMENGER, ALBERT  
**Well Address:** 13099 OLD U.S. 23  
**Owner Address:** 13099 OLD U.S. 23

**Drilling Method:** Rotary  
**Well Depth:** 86.00 ft.  
**Well Use:** Household  
**Well Type:** Replacement  
**Date Completed:** 12/8/1972  
**Casing Type:** Unknown  
**Height:** 0.00 ft. below grade  
**Casing Joint:** Threaded & coupled  
**Casing Fitting:** Drive shoe  
**Diameter:** 4.00 in. to 82.00 ft. depth

**Borehole:**

**Static Water Level:** 40.00 ft. Below Grade  
**Well Yield Test:** Yield Test Method: Unknown  
**Pumping level 80.00 ft. after 2.00 hrs. at 20 GPM**

**Screen Installed:** Yes  
**Filter Packed:** No  
**Screen Diameter:** 4.00 in.  
**Blank:** 0.00 ft. Above  
**Screen Material Type:**

<table>
<thead>
<tr>
<th>Slot</th>
<th>Length</th>
<th>Set Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.00</td>
<td>4.00 ft.</td>
<td>82.00 ft. and 86.00 ft.</td>
</tr>
</tbody>
</table>

**Grouting:**

<table>
<thead>
<tr>
<th>Grouting Material</th>
<th>Bags</th>
<th>Additives</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bentonite slurry</td>
<td>0.00</td>
<td>None</td>
<td>0.00 ft. to 0.00 ft.</td>
</tr>
</tbody>
</table>

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septic tank</td>
<td>75 ft.</td>
<td></td>
</tr>
</tbody>
</table>

**Abandoned Well Plugged:** No  
**Reason Not Plugged:**

**Drilling Machine Operator Name:** Unknown  
**Employment:** Unknown

**Contractor Type:** Unknown  
**Reg No:** 47-0026

**Business Name:**

**Business Address:**

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**

**Date:**

**General Remarks:** 12" ABOVE GRADE

**Other Remarks:**

---

**Formation Description**

<table>
<thead>
<tr>
<th>Formation</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Clay</td>
<td>20.00</td>
<td>20.00</td>
</tr>
<tr>
<td>Gray Clay</td>
<td>20.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Gravel</td>
<td>46.00</td>
<td>86.00</td>
</tr>
</tbody>
</table>

**Geology Remarks:**

---

**Import ID:** 47047636001  
**Tax No:** 004-36-100-004  
**County:** Livingston  
**Township:** Tyrone

---
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

**Import ID:** 47047636003

- **Tax No:** 004-36-100-007
- **Permit No:**
- **County:** Livingston
- **Township:** Tyrone
- **Town/Range:** 04N 06E
- **Section:** 36
- **Well Status:**
- **WSSN:**
- **Source ID/Well No:**

**Well ID:** 47000017236

- **Elevation:** 1050 ft.
- **Latitude:** 42.7084354491
- **Longitude:** -83.7007277806
- **Method of Collection:** Interpolation-Map

**Well Owner:** HAMER, ROY

**Well Address:**
13063 OLD OAK DRIVE
FENTON, MI 48430

**Owner Address:**
13063 OLD OAK DRIVE
FENTON, MI 48430

**Drilling Method:** Cable Tool

**Well Depth:** 82.00 ft.

**Well Use:** Household

**Well Type:** Replacement

**Date Completed:**

**Casing Type:** Unknown

**Height:** 1.50 ft. above grade

**Casing Joint:** Welded

**Casing Fitting:** Drive shoe

**Diameter:** 4.00 in. to 78.00 ft. depth

**Borehole:**

- **Static Water Level:** 45.00 ft. Below Grade

**Well Yield Test:**

- **Yield Test Method:** Unknown

- **Pumping level 50.00 ft. after 1.00 hrs. at 30 GPM**

**Screen Installed:** Yes

**Screen Diameter:** 3.63 in.

**Blank:** 0.00 ft. Above

**Screen Material Type:**

- **Slot:** 12.00

- **Length:** 4.00 ft.

- **Set Between:** 78.00 ft. and 82.00 ft.

**Fittings:** Neoprene packer

**Well Grouted:** No

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank

- **Distance:** 75 ft.

**Abandoned Well Plugged:** No

**Reason Not Plugged:**

**Drilling Machine Operator Name:**

- **Employment:** Unknown

**Contractor Type:** Unknown

**Reg No:** 38-0645

**Business Name:**

**Business Address:**

**Water Well Contractor's Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**

**Date**

---

**General Remarks:**

**Other Remarks:**

---


**Page 1 of 1**
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

**Import ID:** 47047636007

**Tax No:** 004-36-100-024  **Permit No:**

**County:** Livingston  **Township:** Tyrone

**Well ID:** 47000017240

- **Elevation:** 1089 ft.
- **Latitude:** 42.7064303443
- **Longitude:** -83.7001436592
- **Method of Collection:** Interpolation-Map

**Distance and Direction from Road Intersection:**

- **Well Owner:** WILSON, TINA
- **Owner Address:** 13130 OAL OAKS, FENTON, MI 48430

**Well Address:** 13130 OAL OAKS, FENTON, MI 48430

**Well Status:** Town/Range: 04N 06E  **Section:** 36  **Valid Status:**

**Source ID/Well No:**

**Well Owner:** WILSON, TINA  **Owner Address:** 13130 OAL OAKS, FENTON, MI 48430

**Distance and Direction from Road Intersection:**

**Well Address:** 13130 OAL OAKS, FENTON, MI 48430

**Well Owner:** WILSON, TINA  **Owner Address:** 13130 OAL OAKS, FENTON, MI 48430

**Well Owner:** WILSON, TINA  **Owner Address:** 13130 OAL OAKS, FENTON, MI 48430

**Well Head Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank
- **Distance:** 75 ft.
- **Direction:** North

**Wellhead Completion:** Pitless adapter

**Well Yield Test:**

- **Yield Test Method:** Unknown
- **Pumping level:** 100.00 ft. after 1.00 hrs. at 8 GPM

**Screen Installed:** Yes  **Filter Packed:** No  **Screen Diameter:** 3.00 in.  **Blank:** 1.50 ft. Above

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand &amp; Gravel</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Clay &amp; Gravel</td>
<td>40.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Sand &amp; Clay</td>
<td>30.00</td>
<td>100.00</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>18.00</td>
<td>118.00</td>
</tr>
</tbody>
</table>

**Screen Material Type:**

- **Slot:** 10.00
- **Length:** 8.00 ft.
- **Set Between:** 110.00 ft. and 118.00 ft.

**Fittings:** Neoprene packer

**Well Grouted:** Yes  **Grouting Method:** Unknown

- **Grouting Material:** Bentonite slurry  **Bags:** 0.00  **Additives:** None  **Depth:** 0.00 ft. to 110.00 ft.

**Geology Remarks:**

**Formation Description**  **Thickness**  **Depth to Bottom**

| Sand & Gravel | 30.00 | 30.00 |
| Clay & Gravel | 40.00 | 70.00 |
| Sand & Clay   | 30.00 | 100.00|
| Sand & Gravel | 18.00 | 118.00|

**Wellhead Completion:** Pitless adapter

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank
- **Distance:** 75 ft.
- **Direction:** North

**Abandoned Well Plugged:** No  **Reason Not Plugged:**

**Water Well Contractor’s Certification**

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

**Signature of Registered Contractor**  **Date**

**Other Remarks:**

**General Remarks:**
Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Well ID: 47000017241

Elevation: 1070 ft.
Latitude: 42.7066150366
Longitude: -83.7013996908
Method of Collection: Interpolation-Map

Well Owner: WILSON, WILLIAM
Well Address: 13100 OLD OAKS
Owner Address: 13100 OLD OAKS
FENTON, MI 48430
FENTON, MI 48430

Drilling Method: Cable Tool
Well Depth: 112.00 ft.
Well Type: Replacement
Date Completed: 12/15/1973
Casing Type: Unknown
Height: 0.00 ft. below grade
Casing Joint: Threaded & coupled
Casing Fitting: Drive shoe
Diameter: 4.00 in. to 108.00 ft. depth

Pump Installed: Yes
Pump Installation Date: HP:
Manufacturer: Red Jacket
Model Number: Pump Capacity: 0 GPM
Drop Pipe Length: 84.00 ft.
Drop Pipe Diameter: Pump Voltage:
Draw Down Seal Used: Drilling Record ID:
Pressure Tank Installed: No
Pressure Relief Valve Installed: No

Static Water Level: 80.00 ft. Below Grade
Well Yield Test: Yield Test Method: Unknown
Pumping level 95.00 ft. after 2.50 hrs. at 20 GPM

Screen Installed: Yes
Filter Packed: No
Screen Diameter: 4.00 in.
Blank: 0.00 ft. Above
Screen Material Type:
Slot Length
12.00 ft.
4.00 ft.
108.00 ft. and 112.00 ft.

Fittings: None
Well Grouted: No

Geology Remarks:

Wellhead Completion: Unknown

Nearest Source of Possible Contamination:
Type Distance Direction
Septic tank 75 ft.

Abandoned Well Plugged: No
Reason Not Plugged:

Water Well Contractor’s Certification
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor
Date

General Remarks:
Other Remarks:
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

**Import ID:**

**Tax No:** 4704-25-300-012  
**Permit No:** 00-0835NW  
**County:** Livingston  
**Township:** Tyrone

<table>
<thead>
<tr>
<th>Town/Range: 04N 06E</th>
<th>Section: 25</th>
<th>Well Status: Active</th>
<th>WSSN:</th>
<th>Source ID/Well No:</th>
</tr>
</thead>
</table>

**Distance and Direction from Road Intersection:**
3/10 MILE EAST OF FENTON RD ON SOUTH SIDE OF GERMANY RD

**Well Owner:** RON & MARY GARANT  
**Owner Address:** 4261 STRACHCONA, HIGHLAND, MI 48357

**Well ID:** 47000019094  
**Method of Collection:** Interpolation-Map

**Import ID:**

**Tax No:** 4704-25-300-012  
**Permit No:** 00-0835NW  
**County:** Livingston  
**Township:** Tyrone

<table>
<thead>
<tr>
<th>Well Depth: 145.00 ft.</th>
<th>Well Use: Household</th>
<th>Well Type: New</th>
<th>Date Completed: 10/11/2000</th>
</tr>
</thead>
</table>

**Drilling Method:** Rotary  
**Casing Type:** PVC plastic  
**Casing Joint:** Unknown  
**Casing Fitting:** None  
**Diameter:** 5.00 in. to 137.00 ft. depth  
**Borehole:** 8.50 in. to 137.00 ft. depth

**Pump Installed:** Yes  
**Pump Installation Only:** No  
**Pump Installed Date:** HP: 1.50  
**Pump Installation Date:**  
**Manufacturer:** Goulds  
**Model Number:** 18SB15  
**Pump Capacity:** 18 GPM  
**Drop Pipe Length:** 121.00 ft.  
**Drop Pipe Diameter:**  
**Draw Down Seal Used:** No

**Pressure Tank Installed:** Yes  
**Pressure Tank Type:** Unknown  
**Manufacturer:** Champion  
**Model Number:** 302  
**Tank Capacity:** 86.0 Gallons  
**Pressure Relief Valve Installed:** No

**Static Water Level:** 90.00 ft. Below Grade  
**Well Yield Test:** Yield Test Method: Test pump  
Pumping level 100.00 ft. after 1.00 hrs. at 25 GPM

**Screen Installed:** Yes  
**Filter Packed:** Yes  
**Screen Diameter:** 3.00 in.  
**Blank:**  
**Screen Material Type:** Stainless steel-wire wrapped  
**Slot**  
<table>
<thead>
<tr>
<th>Length</th>
<th>Set Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.00</td>
<td>8.00 ft.</td>
</tr>
</tbody>
</table>

**Fittings:** Neoprene packer  
**Well Grouted:** Yes  
**Grouting Material:** Bentonite slurry  
**Bags:** 10.00  
**Additives:** None  
**Depth:** 0.00 ft. to 127.00 ft.

**Geology Remarks:**

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Clay &amp; Gravel</td>
<td>95.00</td>
<td>95.00</td>
</tr>
<tr>
<td>Blue Clay</td>
<td>30.00</td>
<td>125.00</td>
</tr>
<tr>
<td>Gray Sand &amp; Gravel Water Bearing</td>
<td>20.00</td>
<td>145.00</td>
</tr>
</tbody>
</table>

**Wellhead Completion:** Pitless adapter, 12 inches above grade

**Nearest Source of Possible Contamination:**  
**Type:** Septic tank  
**Distance:** 125 ft.  
**Direction:** Northwest

**Drilling Machine Operator Name:** JAMES ZELONY  
**Employment:** Employee

**Contractor Type:** Water Well Drilling Contractor  
**Reg No:** 63-1879  
**Business Name:** ZELONY WELL DRLG INC  
**Business Address:**

<table>
<thead>
<tr>
<th>Water Well Contractor's Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>This well was drilled under my supervision and this report is true to the best of my knowledge and belief.</td>
</tr>
</tbody>
</table>

**Signature of Registered Contractor**

State of Michigan  
5/16/2002 11:41 AM

**General Remarks:**

**Other Remarks:**
**Water Well And Pump Record**

Completion is required under authority of Part 127 Act 368 PA 1978.

Failure to comply is a misdemeanor.

**Import ID:**

**Tax No:**

**Permit No:** 01-1057

**County:** Livingston

**Township:** Tyrone

**Well ID:** 47000019694

- **Elevation:** 1047 ft.
- **Latitude:** 42.71688563
- **Longitude:** -83.70340123
- **Method of Collection:** Address Matching-House Number

<table>
<thead>
<tr>
<th>Town/Range</th>
<th>Section</th>
<th>Well Status</th>
<th>WSSN</th>
<th>Source ID/Well No</th>
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</thead>
<tbody>
<tr>
<td>04N 06E</td>
<td>25</td>
<td>Active</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Distance and Direction from Road Intersection:**

3/4 MILE EAST OF DENTON HILL AND 300 FEET NORTH OF GERMANY

**Well Owner:** RICHARD AND SHELLY CRUZ

- **Import ID:**
- **Tax No:**
- **Permit No:** 01-1057

**County:** Livingston

**Township:** Tyrone

**Well Address:** 13269 GERMANY

FENTON, MI 48430

**Owner Address:** 1448 S. HOLLY

FENTON, MI 48430

**Well Owner:** RICHARD AND SHELLY CRUZ

**Well Address:** 13269 GERMANY

FENTON, MI 48430

**Owner Address:** 1448 S. HOLLY

FENTON, MI 48430

**Well ID:** 47000019694

**Well Type:** New

**Date Completed:** 7/8/2002

**Well Owner:** RICHARD AND SHELLY CRUZ

**Well Address:** 13269 GERMANY

FENTON, MI 48430

**Owner Address:** 1448 S. HOLLY

FENTON, MI 48430

**Drilling Method:** Rotary

**Well Depth:** 198.00 ft.

**Well Use:** Household

**Casing Type:** PVC plastic

**Height:** 1.00 ft. above grade

**Casing Joint:** Solvent welded/glued

**Casing Fitting:** None

**Diameter:** 5.00 in. to 189.00 ft. depth

**Borehole:** 7.88 in. to 198.00 ft. depth

**Drilling Machine Operator Name:** BRIAN SUNDE

**Employment:** Employee

**Contractor Type:** Water Well Drilling Contractor

**Reg No:** 25-1710

**Business Name:** GIL SUNDE WELL DRILLING INC

**Business Address:** G8035 CORUNNA RD, FLINT, MI, 48532

**Pressure Tank Installed:** Yes

**Pressure Tank Type:** Diaphragm/bladder

**Manufacturer:** Well-Mate

**Model Number:** WM14

**Tank Capacity:** 42.0 Gallons

**Pressure Relief Valve Installed:** No

**Wellhead Completion:** Pitless adapter

**Shallow Wells:**

**Drilling Record ID:**

**Drop Pipe Diameter:** 1.00 in.

**Draw Down Seal Used:** No

**Static Water Level:** 135.00 ft. Below Grade

**Well Yield Test:**

**Yield Test Method:** Air

Pumping level 180.00 ft. after 2.00 hrs. at 15 GPM

**Screen Installed:** Yes

**Filter Packed:** No

**Screen Diameter:** 4.00 in.

**Blank:** 0.25 ft. Above

**Screen Material Type:** Stainless steel-slotted

**Slot**

<table>
<thead>
<tr>
<th>Length</th>
<th>Set Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.00</td>
<td>8.00 ft.</td>
</tr>
<tr>
<td>190.00 ft. and 198.00 ft.</td>
<td></td>
</tr>
</tbody>
</table>

**Static Water Level:** 135.00 ft. Below Grade

**Well Yield Test:**

**Yield Test Method:** Air

Pumping level 180.00 ft. after 2.00 hrs. at 15 GPM

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Sand &amp; Clay</td>
<td>18.00</td>
<td>18.00</td>
</tr>
<tr>
<td>Blue Clay</td>
<td>36.00</td>
<td>54.00</td>
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<tr>
<td>Sand &amp; Clay</td>
<td>81.00</td>
<td>135.00</td>
</tr>
<tr>
<td>Blue Clay</td>
<td>43.00</td>
<td>178.00</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>20.00</td>
<td>198.00</td>
</tr>
</tbody>
</table>

**Nearest Source of Possible Contamination:**

- **Type:** Septic tank
- **Distance:** 75 ft.
- **Direction:** South

**Geology Remarks:**

- **Formation Description**
- **Thickness**
- **Depth to Bottom**

**Well Grouted:** Yes

**Grouting Method:** Grout pipe outside casing

**Grouting Material Bags Additives Depth**

| Bentonite slurry | 10.00 | None | 0.00 ft. to 189.00 ft. |

**Wellhead Completion:** Pitless adapter

**Drilling Machine Operator Name:** BRIAN SUNDE

**Employment:** Employee

**Contractor Type:** Water Well Drilling Contractor

**Reg No:** 25-1710

**Business Name:** GIL SUNDE WELL DRILLING INC

**Business Address:** G8035 CORUNNA RD, FLINT, MI, 48532

**Well Drilled Under:** My supervision

**Report True:**

**Signature of Registered Contractor:**

**Date:** 7/10/2002

---

**Other Remarks:**

**General Remarks:**

---
Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

Import ID:  
Tax No:  
Permit No:  
County: Livingston  
Township: Tyrone

Well ID: 47000019736

| Elevation: |  
| Latitude: | 42.70779962  
| Longitude: | -83.69970248  
| Method of Collection: | Address Matching-House Number |

Well Owner: STEVE GORNICK
Owner Address: 13170 OLD OAKS  
FENTON, MI 48430

Well Address:  
13170 OLD OAKS  
FENTON, MI 48430

| Distance and Direction from Road Intersection: |

| Well ID: | 47000019736  
| Well Use: | Household  
| Well Type: | New  
| Date Completed: | 2/22/2001 |

| Drilling Method: | Rotary  
| Well Depth: | 88.00 ft.  
| Well Use: | Household  
| Well Type: | New  
| Date Completed: | 2/22/2001 |

| Casing Type: | PVC plastic  
| Casing Joint: | Unknown  
| Casing Fitting: | None  
| Diameter: | 5.00 in. to 84.00 ft. depth  
| Borehole: | 8.50 in. to 88.00 ft. depth |

| Pump Installed: | Yes  
| Pump Installation Only: | No  
| Pump Installation Date: |  
| Pump Type: | Submersible  
| HP: | 1.00 |

| Model Number: | 100CNSW  
| Manufacturer: | Red Jacket  
| Pump Capacity: | 25 GPM  
| Drop Pipe Length: | 50.00 ft.  
| Drop Pipe Diameter: |  
| Drilling Record ID: |  
| Draw Down Seal Used: | No  
| Pressure Tank Installed: | Yes  
| Pressure Tank Type: | Unknown  
| Manufacturer: | Well-Mate  
| Model Number: | WM25  
| Tank Capacity: | 88.0 Gallons  
| Pressure Relief Valve Installed: | No |

| Static Water Level: | 70.00 ft. Below Grade  
| Well Yield Test: |  
| Yield Test Method: | Air  
| Pumping level 50.00 ft. after 1.00 hrs. at 20 GPM |

| Screen Installed: | Yes  
| Filter Packed: | No  
| Screen Diameter: | 3.62 in.  
| Blank: | 1.00 ft. Above  
| Screen Material Type: | Stainless steel-wire wrapped  
| Slot | Length | Set Between |
| 12.00 | 4.00 ft. | 84.00 ft. and 88.00 ft. |

| Fittings: | Neoprene packer |

| Well Grouted: | Yes  
| Grouting Method: | Unknown  
| Grouting Material: | Bentonite slurry  
| Bags | Additives | Depth |
| 5.00 | None | 0.00 ft. to 80.00 ft. |

| Wellhead Completion: | Pitless adapter, 12 inches above grade |

| Nearest Source of Possible Contamination: |  
| Type | Distance | Direction |
| Septic tank | 75 ft. | South |

| Drilling Machine Operator Name: | BRIAN  
| Employment: | Employee |

| Contractor Type: | Water Well Drilling Contractor  
| Reg No: | 63-1926  
| Business Name: | JAMES LAYMAN  
| Business Address: |  
| Water Well Contractor's Certification: |

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

General Remarks:  
Other Remarks:  

ECP-2010-1189  
State of Michigan  
7/12/2002 10:19 AM
Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Import ID:

Tax No: -26-100-004
Permit No: WEL2002
County: Livingston
Township: Tyrone

Well ID: 47000020301

Elevation: 1001 ft.
Latitude: 42.71655873
Longitude: -83.71355583
Method of Collection: Address Matching-House Number

Well Owner: ELLEN SCHRICK

Well Address:
12251 GERMANY
FENTON, MI 48430
Owner Address:
12251 GERMANY
FENTON, MI 48430

Drilling Method: Rotary
Well Depth: 135.00 ft.
Well Type: Replacement
Date Completed: 8/9/2002
Casing Type: PVC plastic
Height: 1.00 ft. above grade
Casing Joint: Welded
Casing Fitting: None
Diameter: 5.00 in. to 130.00 ft. depth
4.00 in. to 135.00 ft. depth
Borehole: 8.75 in. to 135.00 ft. depth

Static Water Level: 50.00 ft. Below Grade
Well Yield Test:
Pumping level 130.00 ft. after 2.00 hrs. at 50 GPM

Screen Installed: Yes
Filter Packed: Yes
Screen Diameter: 4.00 in.
Screen Material Type: PVC-slotted
Slot: 12.00
Length: 4.00 ft.
Set Between: 131.00 ft. and 135.00 ft.

Fittings: None

Well Grouted: Yes
Grouting Method: Grout pipe outside casing
Grouting Material: Bentonite slurry
Bags: 12.00
Additives: None
Depth: 0.00 ft. to 125.00 ft.

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:
Type: Septic tank
Distance: 50 ft.
Direction: North

Abandoned Well Plugged: Yes
Casing Removed:

Well Yield Test Method: Air

Formation Description
Thickness
Depth to Bottom
Brown Clay: 13.00
Brown Sand & Gravel: 7.00
Gravel: 30.00
Gray Clay: 2.00
Brown Sand & Gravel: 48.00
Gray Sand: 35.00

Geology Remarks:

General Remarks: OLD 4 INCH WELL ABANDONED 08/09/2002 TO A DEPTH OF 103 FEET USING 3 BAGS OF BENTONITE SLURRY.

Well Owner Name: ELLEN SCHRICK

Date: 8/9/2002

Other Remarks:

EQP-2017 (4/2010) Page 1 of 1
Water Well And Pump Record

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

<table>
<thead>
<tr>
<th>Import ID:</th>
<th>Permit No:</th>
<th>County:  Livingston</th>
<th>Township:   Tyrone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well ID: 47000023694</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Elevation:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latitude: 42.71659</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longitude: -83.713764</td>
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<td></td>
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<tr>
<td>Method of Collection: Section - Centroid</td>
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<table>
<thead>
<tr>
<th>Town/Range: 04N 06E</th>
<th>Section: 26</th>
<th>Well Status: Active</th>
<th>WSSN:</th>
<th>Source ID/Well No:</th>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>

Distance and Direction from Road Intersection:

<table>
<thead>
<tr>
<th>Well Owner: PARADIGM</th>
<th>Well Address:</th>
<th>Owner Address:</th>
<th>7436 MABLEY</th>
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<table>
<thead>
<tr>
<th>Drilling Method: Rotary</th>
<th>Well Use: Household</th>
<th>Date Completed: 4/12/2001</th>
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<tbody>
<tr>
<td>Well Depth: 150.00 ft.</td>
<td></td>
<td></td>
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<td>Well Type: New</td>
<td></td>
<td></td>
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</table>

Casing Type: PVC plastic

Height: 5.00 in. to 140.00 ft. depth

Diameter: 8.00 in. to 160.00 ft. depth

Borehole: 8.00 in. to 160.00 ft. depth

Static Water Level: 8.00 ft. Below Grade

Well Yield Test: Yield Test Method: Air

Pumping level 100.00 ft. after 1.00 hrs. at 20 GPM

<table>
<thead>
<tr>
<th>Formation Description</th>
<th>Thickness</th>
<th>Depth to Bottom</th>
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</thead>
<tbody>
<tr>
<td>Sand</td>
<td>40.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>40.00</td>
<td>80.00</td>
</tr>
<tr>
<td>Sand &amp; Gravel</td>
<td>80.00</td>
<td>160.00</td>
</tr>
</tbody>
</table>

Screen Installed: Yes

Filter Packed: No

Screen Diameter: 4.00 in.
Blank: 2.00 ft. *u

Screen Material Type: Stainless steel-wire wrapped

Slot Length Set Between
20.00 8.00 ft. 140.00 ft. and 150.00 ft.

Fittings: Unknown

Well Grouted: Yes

Grouting Method: Unknown

Grouting Material Bags Additives Depth
Bentonite slurry 8.00 None 0.00 ft. to 120.00 ft.

Wellhead Completion: Pitless adapter, 12 inches above grade

Nearest Source of Possible Contamination:

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Septic tank</td>
<td>85 ft.</td>
<td>West</td>
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</table>

Drilling Machine Operator Name: TIM KIRKLIN

Employment: Unknown

Contractor Type: Water Well Drilling Contractor

Reg No: 44-2047

Business Name: KIRKLIN WELL

Business Address:

Water Well Contractor's Certification

This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor

Date

General Remarks:

Other Remarks:

Water Well And Pump Record
Completion is required under authority of Part 127 Act 368 PA 1978.
Failure to comply is a misdemeanor.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tr>
<td>Import ID:</td>
<td>Wel 2009-00268</td>
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<tr>
<td>Well ID:</td>
<td>470000028821</td>
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<td>Elevation:</td>
<td>42.70659</td>
</tr>
<tr>
<td>Longitude:</td>
<td>-83.716</td>
</tr>
<tr>
<td>Method of Collection:</td>
<td>GPS Std Positioning Svc SA Off</td>
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<tr>
<td>Well Type:</td>
<td>Replacement</td>
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<tr>
<td>Well Status:</td>
<td>Active</td>
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<tr>
<td>SSSN:</td>
<td>SRC</td>
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<tr>
<td>Source ID/Well No:</td>
<td>Wel 2009-00268</td>
</tr>
<tr>
<td>County:</td>
<td>Livingston</td>
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<tr>
<td>Township:</td>
<td>Tyrone</td>
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<tr>
<td>Permit No:</td>
<td>Wel 2009-00268</td>
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<tr>
<td>Tax No:</td>
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<table>
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<tr>
<th>Field</th>
<th>Value</th>
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<tr>
<td>Distance and Direction from Road Intersection:</td>
<td>1/2 mile west of Fenton Rd. on the end of Alcoy</td>
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<tr>
<td>Well Owner:</td>
<td>Carl Estes</td>
</tr>
<tr>
<td>Owner Address:</td>
<td>12200 Alcoy Dr.</td>
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<td>Town/Range:</td>
<td>04N 06E</td>
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<tr>
<td>Section:</td>
<td>35</td>
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<td>Well Status:</td>
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<td>WSSN:</td>
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<td>Well Address:</td>
<td>12200 Alcoy Dr.</td>
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<td>Elevation:</td>
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<td>Latitude:</td>
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<td>Longitude:</td>
<td>-83.716</td>
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<tr>
<td>Method of Collection:</td>
<td>GPS Std Positioning Svc SA Off</td>
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<td>Well Type:</td>
<td>Replacement</td>
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<td>Well Status:</td>
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<td>SSSN:</td>
<td>SRC</td>
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<td>County:</td>
<td>Livingston</td>
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<table>
<thead>
<tr>
<th>Field</th>
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<tbody>
<tr>
<td>Drilling Method:</td>
<td>Rotary</td>
</tr>
<tr>
<td>Well Depth:</td>
<td>50.00 ft.</td>
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<tr>
<td>Well Use:</td>
<td>Household</td>
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<td>Well Type:</td>
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<td>County:</td>
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<td>Tax No:</td>
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</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Casing Type:</td>
<td>PVC plastic</td>
</tr>
<tr>
<td>Height:</td>
<td>1.00 ft. above grade</td>
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<td>Casing Joint:</td>
<td>Solvent welded/glued</td>
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<tr>
<td>Casing Fitting:</td>
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<td>Diameter:</td>
<td>5.00 in. to 45.00 ft. depth SDR: 21.00</td>
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<tr>
<td>Borehole:</td>
<td>8.50 in. to 50.00 ft. depth</td>
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<tr>
<td>Static Water Level:</td>
<td>6.00 ft. Below Grade</td>
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<tr>
<td>Well Yield Test:</td>
<td>YWY Test Method: Air</td>
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<tr>
<td>Pumping level 50.00 ft. after 1.00 hrs. at 30 GPM</td>
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<tr>
<td>Screen Installed:</td>
<td>Yes</td>
</tr>
<tr>
<td>Screen Diameter:</td>
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<tr>
<td>Screen Material Type:</td>
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<td>45.00 ft. and 50.00 ft.</td>
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<td>Screen Packed:</td>
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<td>Grouting Material:</td>
<td>Bentonite slurry</td>
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<td>Bags:</td>
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<tr>
<td>Additives:</td>
<td>None</td>
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<tr>
<td>Depth:</td>
<td>0.00 ft. to 35.00 ft.</td>
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<tr>
<td>Wellhead Completion:</td>
<td>Pitless adapter</td>
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<tr>
<td>Wellhead Completion:</td>
<td>Pitless adapter</td>
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<tr>
<td>Nearest Source of Possible Contamination:</td>
<td>Sepic tank 100 ft. West</td>
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<tr>
<td>Type:</td>
<td>Distance: 100 ft. Distance: West</td>
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<tr>
<td>Casing Removed:</td>
<td></td>
</tr>
<tr>
<td>Abandoned Well Plugged:</td>
<td>Yes</td>
</tr>
<tr>
<td>Water Well Contractor's Certification:</td>
<td>This well was drilled under my supervision and this report is true to the best of my knowledge and belief.</td>
</tr>
</tbody>
</table>

Signature of Registered Contractor | Date
Contractor: 12/5/2009 6:13 PM
Livingston County Arsenic Samples

Results, in µg/L

- Not Detected
- ≤ 10
- > 10 - 20
- > 20 - 50
- > 50

County boundary

Source: DEQ WaterChem Database, 1983-2003 samples
Livingston County Positive VOC Samples

Source: DEQ WaterChem Database, 1983-2002 samples
Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil
scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.
Custom Soil Resource Report
Soil Map (Yasin, LLC - Ten)

Map Scale: 1:2,060 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator  Corner coordinates: WGS84  Edge tics: UTM Zone 17N WGS84

Soil Map may not be valid at this scale.
The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Livingston County, Michigan
Survey Area Data: Version 15, Oct 6, 2017

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

Date(s) aerial images were photographed: Jul 17, 2011—Oct 11, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Map Unit Legend (Yasin, LLC - Ten)

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cc</td>
<td>Carlisle muck, 0 to 2 percent slopes</td>
<td>0.6</td>
<td>4.8%</td>
</tr>
<tr>
<td>HmB</td>
<td>Hillsdale-Miami loams, 2 to 6 percent slopes</td>
<td>9.0</td>
<td>70.3%</td>
</tr>
<tr>
<td>MoB</td>
<td>Miami loam, 2 to 6 percent slopes</td>
<td>3.2</td>
<td>24.8%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>12.8</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Map Unit Descriptions (Yasin, LLC - Ten)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or
landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a soil series. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.
Livingston County, Michigan

Cc—Carlisle muck, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2w5mf
Elevation: 700 to 1,010 feet
Mean annual precipitation: 30 to 41 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 200 days
Farmland classification: Farmland of local importance

Map Unit Composition
Carlisle and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the map unit.

Description of Carlisle
Setting
Landform: Depressions on glacial drainage channels, depressions on outwash plains, depressions on till plains, depressions on moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Woody organic material

Typical profile
Oa1 - 0 to 13 inches: muck
Oa2 - 13 to 37 inches: muck
Oa3 - 37 to 80 inches: muck

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 0.6
Available water storage in profile: Very high (about 23.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes
Minor Components

Linwood
Percent of map unit: 4 percent
Landform: Depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Wallkill
Percent of map unit: 4 percent
Landform: Depressions on glacial drainage channels, depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Adrian
Percent of map unit: 2 percent
Landform: Depressions on moraines, depressions on outwash plains, depressions on outwash plains, drainageways on glacial drainage channels, drainageways on outwash plains, drainageways on moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

HmB—Hillsdale-Miami loams, 2 to 6 percent slopes

Map Unit Setting
National map unit symbol: 695p
Elevation: 850 to 1,150 feet
Mean annual precipitation: 31 to 32 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Hillsdale and similar soils: 50 percent
Miami and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
Description of Hillsdale

Setting
- **Landform**: Moraines
- **Landform position (two-dimensional)**: Footslope, toeslope, backslope, shoulder, summit
- **Landform position (three-dimensional)**: Rise
- **Down-slope shape**: Linear
- **Across-slope shape**: Convex
- **Parent material**: Loamy till

**Typical profile**
- **Ap - 0 to 10 inches**: loam
- **E - 10 to 16 inches**: loam
- **Bw - 16 to 21 inches**: sandy loam
- **Bt1 - 21 to 38 inches**: sandy clay loam
- **Bt2 - 38 to 50 inches**: sandy loam
- **BC - 50 to 65 inches**: sandy loam
- **C - 65 to 80 inches**: sandy loam

**Properties and qualities**
- **Slope**: 2 to 6 percent
- **Depth to restrictive feature**: More than 80 inches
- **Natural drainage class**: Well drained
- **Runoff class**: Low
- **Capacity of the most limiting layer to transmit water (Ksat)**: Moderately high to high (0.20 to 6.00 in/hr)
- **Depth to water table**: More than 80 inches
- **Frequency of flooding**: None
- **Frequency of ponding**: None
- **Calcium carbonate, maximum in profile**: 30 percent
- **Available water storage in profile**: High (about 9.0 inches)

**Interpretive groups**
- **Land capability classification (irrigated)**: None specified
- **Land capability classification (nonirrigated)**: 2e
- **Hydric Soil Group**: B
- **Hydric soil rating**: No

Description of Miami

Setting
- **Landform**: Moraines
- **Landform position (two-dimensional)**: Footslope, toeslope, backslope, shoulder, summit
- **Landform position (three-dimensional)**: Rise
- **Down-slope shape**: Linear
- **Across-slope shape**: Convex
- **Parent material**: Loamy till

**Typical profile**
- **Ap - 0 to 9 inches**: loam
- **E - 10 to 12 inches**: loam
- **B/E - 12 to 17 inches**: clay loam
- **Bt1 - 17 to 27 inches**: clay loam
- **Bt2 - 27 to 31 inches**: clay loam
C - 31 to 80 inches: loam

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 9.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydric soil rating: No

Minor Components

Oakville
Percent of map unit: 4 percent
Landform: Deltas on moraines, knolls on outwash plains on moraines
Landform position (two-dimensional): Backslope, shoulder, summit, toeslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Spinks
Percent of map unit: 4 percent
Landform: Knolls on outwash plains on moraines, knolls on outwash plains on till plains
Landform position (two-dimensional): Summit, toeslope, footslope, backslope, shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Conover
Percent of map unit: 4 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Brookston
Percent of map unit: 3 percent
Landform: Depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoB—Miami loam, 2 to 6 percent slopes

Map Unit Setting
   National map unit symbol: 6963
   Elevation: 830 to 1,130 feet
   Mean annual precipitation: 31 to 33 inches
   Mean annual air temperature: 47 to 48 degrees F
   Frost-free period: 136 to 173 days
   Farmland classification: All areas are prime farmland

Map Unit Composition
   Miami and similar soils: 90 percent
   Minor components: 10 percent
   Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami

Setting
   Landform: Moraines, till plains
   Landform position (two-dimensional): Footslope, backslope, shoulder, summit
   Landform position (three-dimensional): Rise
   Down-slope shape: Linear
   Across-slope shape: Convex
   Parent material: Loamy till

Typical profile
   Ap - 0 to 9 inches: loam
   E - 9 to 12 inches: loam
   B/E - 12 to 17 inches: clay loam
   Bt1 - 17 to 27 inches: clay loam
   Bt2 - 27 to 31 inches: clay loam
   C - 31 to 80 inches: loam

Properties and qualities
   Slope: 2 to 6 percent
   Depth to restrictive feature: More than 80 inches
   Natural drainage class: Well drained
   Runoff class: Low
   Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
   Depth to water table: More than 80 inches
   Frequency of flooding: None
   Frequency of ponding: None
   Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Spinks

Percent of map unit: 2 percent
Landform: Knolls on outwash plains on moraines, knolls on outwash plains on till plains
Landform position (two-dimensional): Footslope, backslope, shoulder, summit, toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Brookston

Percent of map unit: 2 percent
Landform: Depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Conover

Percent of map unit: 2 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Owosso

Percent of map unit: 2 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Backslope, shoulder, summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Oakville

Percent of map unit: 1 percent
Landform: Deltas on till plains, knolls on outwash plains on till plains
Landform position (two-dimensional): Footslope, backslope, shoulder, summit, toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No
Linwood

Percent of map unit: 1 percent
Landform: Depressions on lake plains, depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes
References


Appendix C:
Registered Sanitarian Documentation
June 8, 2018

Mr. Jason E. Poll, CPG
Lakeshore Environmental, Inc.
803 Verhoeks St.
Grand Haven, MI 49417

RE: Assessment of Health Risk at Proposed “Green” Cemetery
Tyrone Twp., Livingston Co., Michigan

Dear Mr. Poll:

Please allow me to introduce myself and provide a short bio. I, Thomas Barnes, am a life-long resident of Michigan. I have been a practicing Sanitarian since 1973 with local and state health departments and Michigan Dept. of Agriculture. I have been a Registered Sanitarian since 1977, received a governor’s appointment to the State Board of Sanitarians, and hold associate, bachelors and master’s degrees in environmental health and public administration.

At concern here is the adequate protection of soil, surface water, ground water and surrounding properties from biological and chemical contamination from bodily decomposition for this proposed green burial cemetery. Chemical contamination from embalming formaldehyde type compounds will not be a concern because those chemicals are not used in “green” bodily preparation for interment.

Harmful bacteria and viruses within the body are said to become inert within hours or days after death. Any surviving organisms and organisms of decomposition can be viewed as analogous to those organisms commonly found in human sewage from living humans. Human sewage is successfully treated in subsurface sewage disposal systems (septic systems) universally. Within the Department of Environmental Quality’s “Michigan Criteria for Subsurface Sewage Disposal”, standards for soil filtration/permeability/isolation are set for the proper on-site treatment of human sewage that would potentially contain the same organisms as a decomposing human body. The “Criteria” details specific isolation distances from seasonal high water table and property lines to the bottom of a sewage disposal system. If those isolation distances and soil recommendations are applied to a burial site, potential contaminants will be contained until they become inert and groundwater will be protected.

In my opinion, there is no health risk to the public and no environmental concern for the proposed cemetery, if pertinent sections of the “Criteria” are properly applied.

Respectfully,

Thomas Barnes, RS
6533-111th Ave.
Fennville, MI 49408

Attachments:
Michigan Sanitarian Registration, License No. 670100595, Expires 11/30/2018
NEW BUSINESS #1
RESOLUTION #180601
TYRONE TOWNSHIP, LIVINGSTON COUNTY
POLICE AND FIRE PROTECTION
SPECIAL ASSESSMENT DISTRICT NO. X0082

ESTABLISHMENT OF BOUNDARY OF SPECIAL ASSESSMENT DISTRICT;
DETERMINATION OF LEVY FOR POLICE AND FIRE PROTECTION;
ESTABLISHMENT AND NOTICE FOR PUBLIC HEARING.

WHEREAS, there exists a need for Police and Fire Protection Services in Tyrone Township; and

WHEREAS, Section 1(3) of Act 33, Public Acts of Michigan, 1951, as amended ("Act 33") provides that the Tyrone Township Board may proceed to defray the cost of purchasing and housing equipment, for the operation of the equipment, or both, for Police and Fire protection, by special assessment on the lands and premises in Tyrone Township except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893; and

WHEREAS, the Tyrone Township Board authorized the preparation of estimates of the cost and expense of providing Police and Fire protection and that estimate was filed with the Tyrone Township Clerk and was available for public inspection; and

WHEREAS, the Tyrone Township Board tentatively designated a special assessment district known as the Tyrone Township Police and Fire Protection Special Assessment District ("Special Assessment District") consisting of all lots and parcels of property located within the boundaries of Tyrone Township for purposes defraying the cost of purchasing and housing equipment, for the operation of the equipment, or both, for Police and Fire protection; and

WHEREAS, the Tyrone Township Board, by resolution, scheduled a public hearing for this date at the Tyrone Township Hall located at 10408 Center Road, Fenton, Michigan 48430 to hear and consider comments and objections to the estimate of cost, the creation of a special assessment district, the special assessment district tentatively designated herein, and defraying the expenses of the special assessment district on the properties benefiting, except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893; and

WHEREAS, such public hearing was preceded by proper notice in the Tri-County Times and the Livingston Press & Argus, newspapers of general circulation in the Township, and by first-class mail notice to each property owner of record within the District and upon the assessment roll: and
WHEREAS, the Tyrone Township Board held the public hearing on this date at the Tyrone Township Hall and heard and considered comments and objections to the estimate of cost of purchasing and housing equipment, for the operation of the equipment, or both, for Police and Fire protection, the creation of a special assessment district, the special assessment district tentatively designated herein, and defraying the expenses of the special assessment district on the properties benefiting, except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893; and

WHEREAS, a record of those present to protest, and of written protests submitted at or before the public hearing was made a part of the minutes of the hearing.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Tyrone Township Board determines that the boundaries of the Special Assessment District be the boundaries of Tyrone Township and encompassing all lands within Tyrone Township.

2. The Tyrone Township Board determines that the amount of the special assessment levy for Police and Fire Protection Services against the taxable lots and parcels of land located within the Special Assessment District shall be as follows: a) vacant parcels, $75.00; b) parcels with residential structures, $150.00; c) parcels containing structures or trailers with multiple units, $250.00, plus an additional $20.00 per unit; and (d) all other parcels, $250.00.

3. The Tyrone Township Supervisor shall spread the special assessment levy on all of the lands and premises in the special assessment district benefiting from Police and Fire protection, except lands and premises exempt from the collection of taxes under the general property tax act, Act 206, Public Acts of Michigan, 1893 to defray the expense of Police and Fire Protection.

4. The Tyrone Township Board shall hold a public hearing on July 17, 2018 at 7:00 pm at the Tyrone Township Hall located at 10408 Center Road, Fenton, Michigan 48430 to hear and consider comments and objections to the distribution of the special assessment levy for Police and Fire Protection.

5. The Tyrone Township Clerk shall cause to be published in a newspaper of general circulation in the proposed Special Assessment District a notice stating the time, place, and purpose of the meeting. This notice shall be published not less than 5 days before the hearing. Proof of publication of the notice shall be filed with the Tyrone Township Clerk.
6. The Tyrone Township Clerk Notice shall also provide notice stating the time, place, and purpose of the meeting to each owner of, or party in interest in, property to be assessed whose name appears upon the last local tax assessment records by mailing by first class mail addressed to that owner or party at the address shown on the tax records at least 10 days before the date of the hearing.

7. The form of the Notice of the Public Hearing to be mailed and published, as required herein, shall be substantially as set forth in Exhibit A, attached, with such changes as are approved by the Tyrone Township Supervisor.

RESOLVED BY:  
SUPPORTED BY:  
VOTE:  
ADOPTION DATE: June 19, 2018  

CERTIFICATION OF THE CLERK

The undersigned, being the duly qualified and acting Clerk of Tyrone Township, Livingston County, Michigan, hereby certifies that (1) the foregoing is a true and complete copy of a resolution adopted by the Township Board at a regular meeting, held on June 19, 2018, at which meeting a quorum was present and remained throughout, (2) the original thereof is on file in the records in my office, (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

____________________________________
Marcella Husted
Township Clerk
Notice of Public Hearing on the Assessment Roll for the Police and Fire Protection Special Assessment District No. X0082

To the residents and property owners of the Township of Tyrone, Livingston County, Michigan and any other interested persons:

Please take notice that the Supervisor and assessing officer of the Township have reported to the Township Board and filed in the office of the Township Clerk for public examination a special assessment roll prepared by him covering all the properties within the Special Assessment District benefited by the proposed assessment. The assessment roll has been prepared for the purpose of assessing the costs of providing police and fire protection within the assessment district as more particularly shown on the plans on file with the Township Clerk at 10408 Center Road, Fenton, MI, which assessment is in the total amount of $605,550.00.

Please take further notice that the assessing officer has further reported that the assessment against each parcel of land within the district is to such relative portion of the whole sum levied against all parcels of land within the district as to the benefit of such parcels bears to the total benefit to all parcels within the district. Each parcel shall be assessed as follows: a) vacant parcels, $75.00; b) parcels with residential structures, $150.00; c) parcels containing structures or trailers with multiple units, $250.00, plus an additional $20.00 per unit; and (d) all other parcels, $250.00.

Please take further notice that the Township Board will meet at the Township Hall, 10408 Center Road, Fenton, MI commencing at 7:00 P.M. on July 17, 2018, for the purpose of reviewing the special assessment roll and hearing any objections thereto. The roll may be examined at the office of the Township Clerk during regular business hours of regular business days until the time of the hearing and may further be examined at the hearing. Appearance and protest at the hearing held to confirm the special assessment roll is required in order to appeal the amount of the special assessment to the Michigan Tax Tribunal.

An owner or party in interest, or his or her agent, may appear in person at the hearing to protest the special assessment, or shall be permitted to file his or her appearance or protest by letter and his or her personal appearance shall not be required. The owner or person having an interest in the real property who protests in person or in writing at the hearing may file a written appeal of special roll with the Michigan Tax Tribunal within 30 days after the confirmation of the special assessment roll.

Marcella Husted, CLERK
Township of Tyrone

Resolution #180601
Police and Fire Protection
NEW BUSINESS #2
2018 Application for Fireworks Other Than Consumer or Low Impact

TYPE OF PERMIT(S) (Select all applicable boxes)

- Agricultural or Wildlife Fireworks
- Pyrotechnic
- Private Display
- Special Effects Manufactured for Outdoor Pest Control or Agricultural Purposes

NAME OF APPLICANT
MICHAEL FREELAND

NAME OF PERSON OR RESIDENT AGENT REPRESENTING CORPORATION, LLC, DBA OR OTHER
NA

ADDRESS OF APPLICANT
425 LAFAYETTE LANE

AGE OF APPLICANT 18 YEARS OR OLDER
Y

NAME OF PERSON OR RESIDENT AGENT REPRESENTING CORPORATION, LLC, DBA OR OTHER
NA

ADDRESS OF PERSON OR RESIDENT AGENT REPRESENTING CORPORATION, LLC, DBA OR OTHER
N/A

PARTICIPATING PERSON OR MUZZLE DETERMINATION
N/A

AGE OF PERSON OR MUZZLE DETERMINATION 18 YEARS OR OLDER
Y

NAME OF PYROTECHNIC OPERATOR
CHRIS REVENA

ADDRESS OF PYROTECHNIC OPERATOR
1311 MAIN STREET, G.R., Ml

AGE OF PYROTECHNIC OPERATOR 18 YEARS OR OLDER
Y

NO. YEARS EXPERIENCE
250

NO. DISPLAYS
250

WHERE
MI, OH, IN, WI, ND, WI

NAME OF ASSISTANT
TBD

ADDRESS OF ASSISTANT
N/A

AGE OF ASSISTANT 18 YEARS OR OLDER
Y

NAME OF OTHER ASSISTANT
TBD

ADDRESS OF OTHER ASSISTANT
N/A

AGE OF OTHER ASSISTANT 18 YEARS OR OLDER
Y

DATE AND PLACE OF DISPLAY
30 JUN 2018 @ 2200 EST (EDT)

TIME OF PROPOSED DISPLAY
10:00 PM EST

GENERAL LOCATION OF PROPOSED DISPLAY
FROM TWO HILLS IN JODIN, OH TO TRENTHAM, MI (FENTON, MI)

NO ONSITE STORAGE; DIRECT SHIPMENT FROM OUR FUTURE APPROVAL

AMOUNT OF BOND OR INSURANCE TO BE HELD BY LOCAL GOVERNMENT
TEN MILLION DOLLARS $10,000,000.00

NAME OF BONDING CORPORATION OR INSURANCE COMPANY
THE PARTNERS GROUP, LTD.

ADDRESS OF BONDING CORPORATION OR INSURANCE COMPANY
11225 S.E. 4TH ST., SUITE 410, BELLEVUE, WA, 98004

NUMBER OF FIREWORKS

| 505 | 3" AERIAL SHELLS |
| 144 | 4" AERIAL SHELLS |
| 72  | 5" AERIAL SHELLS |
| 42  | 6" AERIAL SHELLS |
| 110 | 1" TO 2" 1.3G CASE ITEMS MULTI-TUBE |
| 1   | LAKE FRAMES 1.3G |

KIND OF FIREWORKS TO BE DISPLAYED (Please provide additional page as needed)

SIGNATURE OF APPLICANT

DATE
30 APR 2018
CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/9/2018

PRODUCER:
The Partners Group Ltd
11225 SE 8th St., Suite 110
Bellevue WA 98004

INSURED:
Ace Pyro, LLC
13001 E. Austin Rd
Manchester MI 48158

CONTACT NAME: Janet Nau
PHONE: (425) 655-5840
FAX: (425) 655-6727
E-MAIL: jnau@bg7.com

INSURER(S) AFFORDING COVERAGE:

REVISION NUMBER:

CERTIFICATE NUMBER: 1554280462

COVERAGES:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERMS OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

<table>
<thead>
<tr>
<th>TYPE OF INSURANCE</th>
<th>SUBJURED LIMITS</th>
<th>POLICY NUMBER</th>
<th>EXPIRY DATE</th>
<th>POLICY LIMIT</th>
<th>LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A GENERAL LIABILITY</td>
<td>CLAIMS-MADE</td>
<td>CPPA0442303</td>
<td>11/1/2017</td>
<td>11/1/2018</td>
<td>EACH OCCURRENCE: $1,000,000</td>
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<td>DAMAGE TO PROPERTY: $100,000</td>
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<td>MED EXP (Any one person): $50,000</td>
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<td>PERSONAL &amp; ADL INJURY: $1,000,000</td>
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<td>GENERAL AGGREGATE: $500,000</td>
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<td>PRODUCTS - COM/PUB AGG: $2,000,000</td>
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<td>AUTOMOBILE LIABILITY</td>
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<td>COMBINED SINGLE LIMIT (Any one accident): $500,000</td>
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<td>BODILY INJURY (Per person): $500,000</td>
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<td>PROPERTY DAMAGE (Per accident): $50,000</td>
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<td>PROPERTY DAMAGE (Any one accident): $500,000</td>
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<td>GENERAL LIABILITY</td>
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<td>ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER EMBLEM EXCLUDED (Mandatory in NH)</td>
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<td>OTHERS</td>
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<td></td>
<td>EL. EACH ACCIDENT: $50,000</td>
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<td>EL. DISEASE - EA EMPLOYEE: $50,000</td>
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<td>EL. DISEASE - POLICY LIMIT: $500,000</td>
</tr>
</tbody>
</table>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Operations Schedule, if more space is required):

The following are Additional Insured on General Liability as their interest may appear as respects operations performed by or on behalf of the Named Insured, as required by written contract:

Additional Insured: Lake Shannon Homeowners Association, Tyrone Township as officers & their volutneers or assigns
Event Location: North & South Shinnock Islands in Shannon Lake, Tyrone Township, MI
Event Date: 6/30/2018 IID: 7/11/2018

CERTIFICATE HOLDER:

Lake Shannon Homeowner's Association
7276 Parkwood Drive
Fenton MI 48430

CANCELLATION:

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE:

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ACORD 25 (2010/08) The ACORD name and logo are registered marks of ACORD
May 23, 2018

To: Tyrone Township Board
10408 Center Rd.
Hartland, MI 48340

Re.: Lake Shannon Homeowners Association application for fireworks display.

Upon review of the information provided by the applicant (including the completed Fireworks Display forms with a site map and insurance as agreed upon by the Township of Tyrone) regarding a fireworks display scheduled for June 30, 2018 (with a rain date of July 1st, 2018) at dusk, to be launched from the island of Lake Shannon, we recommend approval of the display contingent upon the following:

1.) Ace Pyrotechnics LLC. is responsible for ensuring that NFPA 1123 is followed.
2.) No one will be allowed within 100 yards of the launch site during the display.
3.) Smoking and open flame will not be permitted within 50 feet of the launch site. Exception: Items required for the ignition of the displays.
4.) The display will not begin until all persons are clear of the no boating zone of Lake Shannon. The display will be stopped in the event anyone ventures onto that portion of the lake, and the display will not be resumed until that zoned area of the lake is cleared of people and watercraft of any type. Please see attachment of Lake Shannon for restricted locations.
5.) It is understood that the Fire Marshal or Fire Chief (AHU) can revoke or restrict any approval to conduct an outdoor display whenever conditions such as site location, weather, traffic, communication, security procedures, available public protection, or other safety precautions make such action necessary to safeguard the health, safety, or welfare of the public.
6.) Whenever any condition deemed hazardous by the Fire Marshal, Fire Chief, or the operator arises before or during an outdoor display, the display should be interrupted or postponed until the condition is corrected or the hazard is abated. Such conditions might include adverse weather conditions or crowd behavior.
7.) Final approval and permitting by the Tyrone Township Board.

Should you have any other questions, or we could be of further assistance, please call.

Yours In Fire Safety,

Jennifer Whitbeck
Fire Inspector
LAKE SHANNON FIREWORKS
SHOWING DISPLAY FALLOUT AREA FOR 30 JUNE 2018 DISPLAY

Legend

- Lake Sharon viewed from the lake association boat access site
- Line Measure
- Shannon Lake

Google Earth
© 2023 Google
NEW BUSINESS #3
<table>
<thead>
<tr>
<th>Qt</th>
<th>Item</th>
<th>Description</th>
<th>Cost</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>832</td>
<td>6100</td>
<td>--- Re-Sand &amp; Finish Old Hardwood Flooring --- trying to keep natural color.</td>
<td>3.00</td>
<td>2,496.00</td>
</tr>
<tr>
<td>832</td>
<td>C520</td>
<td>Up-Grade Traffic - 2 Component Acrylic/Water Wood Floor Finish System (3x Sealer Costs system) Last coat of will Traffic by Bona-Kemi (<a href="http://www.BonaKemi.com">www.BonaKemi.com</a>) - Optional.</td>
<td>0.75</td>
<td>624.00</td>
</tr>
<tr>
<td>220</td>
<td>75001</td>
<td>Red Oak Shoe-Kicking 1/2&quot; x 3/4&quot; Installed &amp; finished to match.</td>
<td>2.50</td>
<td>300.00</td>
</tr>
</tbody>
</table>

All work is under warranty.
will use 98% dust free system.

Any Questions please call Rob Sayge 248 410-3390

Office 248 625-1099

Customer Signature
NEW BUSINESS #4
April 12, 2018

Mike Cunningham, Supervisor  
Tyrone Township  
10408 Center Rd  
Fenton, MI 48430

RE: Plan Scanning

Mr. Cunningham:

Spicer Group is pleased to offer the following proposal to Tyrone Township for the scanning of plan documents:

UNDERSTANDING
Tyrone Township has possession of approximately 150 sets of 24” x 36” plan drawings, each with about twelve sheets, which the Township would like digitized and attached to parcel data in BS&A software.

SCOPE OF SERVICES
We propose to provide an on-site scanning service at the Township Hall to prepare, scan, and re-staple each plan set. The high-resolution scans will be in pdf format and have text recognition capabilities. Files will be sorted and saved with a logical naming convention. Then, files will be migrated to a directory on your server and attached to the appropriate parcel data in BS&A. For us to accomplish this step, we will require access to a Township computer with a Township network connection.

FEE
We propose to complete this work at the fee breakdown below:

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Prepare PDF files of all plans</td>
<td>$2,200</td>
</tr>
<tr>
<td>Attach PDF files to parcels in BS&amp;A</td>
<td>$1,400</td>
</tr>
<tr>
<td><strong>Total Fee</strong></td>
<td><strong>$3,600</strong></td>
</tr>
</tbody>
</table>

We have calculated this fee based on our understanding of what you want us to do and what you have told us. In the event the scope is changed or our understanding was incorrect, we will notify you and discuss with you the option of adjusting the amount of the fee or adjusting the scope of services.
April 12, 2018
Page 2 of 2

If this proposal meets with your approval, please acknowledge this approval with an authorized signature below and return the enclosed copy to us. We deeply appreciate your confidence in Spicer, and we look forward to working with you and for you on your project.

Sincerely,

Philip A. Westmoreland, P.E.
Senior Project Manager
SPICER GROUP, INC.
125 Helle Blvd., Suite 2
Dundee, MI  48131

________________________________________

Above proposal accepted and approved by Owner.

Tyrone Township

By:______________________________
   Authorized Signature

Date:_______________
NEW BUSINESS #5
Assessor Employment Agreement
Tyrone Township with Bruce A Little

This Agreement made the ____ day of June 2018, between Tyrone Township, Livingston County, Michigan hereinafter referred to as "The Township", and Bruce A Little, 5015 Meridian Rd. Williamston, Michigan 48895, hereinafter referred to as "The Assessor".

The purpose of the agreement between the parties is to provide a service agreement whereby The Assessor is to continue the functions and responsibilities of assessing real and personal property and preparing the assessment rolls for The Township beginning June 1,____ and continuing for a ____ year period ending May 31 ________, said contract to be automatically extended for an additional year on June 1st of each year beginning June 1 2018. Terms may be renegotiated during this contract based upon economic changes or changes to desired service.

The Assessor Warrants that he is a Michigan Department of Treasury Certified Master Assessor, (Previously called a Level IV Assessor) and will remain at all times during this contract period.

The Assessor will maintain a cell phone and provide the cell phone number for contact with Township Officials and Staff. The number will not be shared with the public. Public can contact The Assessor during normal business hours at the township or via the township office phone.

The Township will provide clerical help for the purpose of filing various forms and property record cards.

It is recognized that Tyrone Township job description for The Assessor has been reviewed and mutually agreed upon by both parties. Any changes to the job description with be mutually agreed upon by both parties.

The Assessor will represent Tyrone Township at Michigan Tax Tribunal. Full Tribunals may require the use of an Attorney.

In consideration for the performance of The Assessor responsibilities, The Township agrees to pay The Assessor the sum of $49,805 for the period of June 1 2018 to May 31st 2019 and increasing each year at the rate of 3% annually beginning June 1st 2019. The rate is to be paid in 12 monthly installments beginning June 1st 2018. The Subsequent years not defined in this contract will renew automatically with a rate increase of 3% annually until notice of termination of contract is given by either The Township or The Assessor.

This agreement can be terminated upon 90 days written notice by either party, compensation hereunder shall be prorated to the date of termination.
The parties recognize that The Assessor is an employee of The Township and is not an independent contractor. The Assessor agrees to establish set office hours at The Township Offices for the purpose of meeting with public and working with staff. The assessor will be in office for a minimum of 6 hours over two days with a total of 16 hours within The Township on a weekly basis. Notice of Vacation will be given by The Assessor to The Township at least 10 days prior to vacation being taken. Vacation will be 3 weeks annually equivalent to 48 hours over the term of the contract.

In witness thereof, the parties have executed this contract in duplicate and have approved the same.

IN THE PRESENCE OF:

________________________________________________________________________
Mike Cunningham, Supervisor

________________________________________________________________________
Marcie Husted, Clerk

________________________________________________________________________
Bruce Little, Assessor