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**Village of Decatur, Van Buren County  
September 2015**

**Prepared for:**



**Prepared by:**



**Michigan Rural Water Association**

*Original Plan Prepared September 2001  
Updated Plan Prepared September 2015*

**Disclaimer**

*This information is designed to provide the Village of Decatur with an assessment of their water system and provides recommendations on management strategies that may assist in the safeguarding of the public water supply system. This report is based on information provided by the Village of Decatur, local residents, Michigan Department of Environmental Quality (MDEQ), Michigan Rural Water Association (MRWA), Gove Associates Inc. and others. MRWA makes recommendations; it is the Village's responsibility to implement these recommendations.*

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# **Wellhead Protection Program Village of Decatur, Michigan**

**September 2015**

## **1.0 INTRODUCTION**

In the United States, groundwater is the source of drinking water for half of the total population and 95% of the rural population. Groundwater is also used for raising livestock, agriculture, and industry. Within Michigan, approximately 50% of the population relies on groundwater to supply their drinking water needs. Community drinking water systems are at risk from many possible contamination sources and no community wants to face the loss of its drinking water.

In an effort to protect this valuable resource, 1986 amendments to the Federal Safe Drinking Water Act provided for the establishment of Wellhead Protection Programs (WHPPs). WHPPs develop long-term strategies that are aimed at protecting community drinking water supplies. Grant monies to be used in the implementation of WHPPs became available under the 1996 amendments to the Federal Safe Drinking Water Act. Realizing the importance of groundwater protection, the State of Michigan established a WHPP and a Wellhead Protection Grant Program. Michigan's WHPP is voluntary and designed to be locally initiated and implemented, with the Michigan Department of Environmental Quality (MDEQ) playing a supporting role. The Michigan Rural Water Association (MRWA) provides the expertise of their Groundwater Specialist to aid in the implementation of WHPPs.

A Wellhead Protection Area (WHPA) is defined as the surface and subsurface areas surrounding a water well or well field, which supplies a public water system, and through which contaminants are reasonably likely to move toward and reach the water well or well field within a 10-year time-of-travel (MDEQ 1). The purpose of developing a WHPP is to identify the WHPA and take the necessary steps to safeguard the area from contaminants. The State of Michigan requires communities to identify seven elements to be included in the WHPP. These elements along with a brief description are below.

- **Roles and Responsibilities** – Identify individuals responsible for the development, implementation, and long-term maintenance of the local WHPP.
- **WHPA Delineation** – Determine that area which contributes groundwater to the public water supply wells.
- **Contaminant Source Inventory** – Identify known and potential sites of contamination within the WHPA and include in a contaminant source inventory list and map.
- **Management Strategies** – Provide mechanisms which will reduce the risk of existing and potential sources of contamination from reaching the public water supply wells or well field.
- **Contingency Planning** – Develop an effective contingency plan in case of a water supply emergency.

- **Siting of New Wells** – Provide information on existing groundwater availability, the ability of the PWSS to meet present and future demands and the vulnerability of the existing wells to contamination.
- **Public Education and Outreach** – Generate community awareness in the WHPP by focusing on public education and the dissemination of WHPP information.

## ***1.1 Location and Village History***

The Village of Decatur is located in south central Van Buren County. This small, rural community is located roughly twenty-three miles southwest of Kalamazoo, Michigan and supports a population of 1,819 as of the 2010 census (Wikipedia, 2015). The nearly one square mile of land occupied by the Village is surrounded by a variety of agricultural operations such as sod farms, pickle fields and grain fields. Driving through the Village via M-51, the highway travels in an east-west jog through town, splitting the Village into north and south halves. Seven miles north of town, M-51 intersects Interstate 94 (I-94) at exit 56. The Penn Central railway passes directly through the Village on a southwest to northeast diagonal. Paw Paw, the Van Buren county seat, is situated ten miles to the northeast (Village of Decatur Final WHPP Report, 2001).

## ***1.2 Description of the Public Water Supply***

The Village of Decatur's public water supply system consists of two main operating production wells (PW) and one backup well. PW-3 and PW-4 are the primary production wells and they are located just east of the Village. PW-3 was drilled in 1977 and PW-4 was drilled in 1979 by Peerless Midwest. PW-2, the backup well, was drilled by Layne Northern in 1930 and is located near the Department of Public Works (DPW) barn. A detailed description of each well which contains each well's depth, casing diameter, capacity and treatment are outlined on Table 1.

The Village of Decatur monitors the production wells in accordance with state and federal regulations. Data from the water monitoring indicates that the Village meets all required criteria for safe, potable water. An annual Consumer Confidence Report (CCR) is provided to the Village's water customers on an annual basis.

**Table 1 Village of Decatur Production Well Information**

<b>Well</b>	<b>Depth of Well (feet)</b>	<b>Casing Diameter (inches)</b>	<b>Capacity in Gallons Per Minute</b>	<b>Location</b>	<b>Installed Treatment</b>
<b>2</b>	116	10	250 GPM	Next to DPW Barn	--
<b>3</b>	188	12	500 GPM	200 feet north of 86 <sup>th</sup> Avenue	Standby Chlorinator
<b>4</b>	192	12	1,000 GPM	200 feet north of	Standby

				PW-3	Chlorinator
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WSSN	Population Served	Number of Service Connections
1750	2,000	733

### ***1.3 Local Geology***

The following text was taken directly from the Village of Decatur WHPP Final Report. Additional geologic information is also available within the original report. The bedrock surface underlying Van Buren County, as shown in the Hydrogeologic Atlas of Michigan, is the Coldwater Shale, with the exception of the southwest corner of the county, where the Ellsworth Shale is located. The Coldwater Shale in southern Michigan consists of interbedded shales with lenses of limestone and sandstone. These sediments were deposited in shallow seas throughout the Michigan Basin during the Paleozoic Age.

The elevations of bedrock plateaus underlying Van Buren County range from 500 feet above mean sea level to 600 feet and higher. As glacial meltwaters flowed toward the northwest, streams cut deep valleys into the soft shale to depths of nearly 300 feet. Several of these deep valleys were incised into the bedrock along with smaller tributary stream valleys.

Decatur sits directly above one of the 500-foot bedrock plateaus underneath Van Buren County. To the northeast and southwest, bedrock valleys exist, which were carved in the soft Coldwater Shale as glacial ice melted. Water eroded these valleys as it flowed to the northwest toward what is now Lake Michigan. When these bedrock valleys were formed, glacial meltwaters flowed to the Gulf of Mexico and not toward the St. Lawrence River.

Glacial drift thickness around Decatur is roughly 175 to 275 feet thick. Most of the surficial geological features in Van Buren County run in a southwest-northeast direction. Decatur is situated at the southwestern tip of a glacier till end moraine in an area of glacial outwash.

Glacial outwash deposits underlying the Decatur area support some of the best producing water wells in the county. Wells at depths of 200 feet are capable of supporting high yield production of 1,000 gallons/minute or more. The aquifer system in Decatur is made up of a shallow, unconfined aquifer and a deeper confined aquifer. The aquifer for the Decatur wellfield is considered confined or leaky confined, with the possibility of water levels in some area wells being affected by nearby pumping. Abrupt fluctuations could occur as the result of drawdown and recovery when pumps are turned on and off. When two pumping wells are close together, as might occur in an irrigation setting or at a public

water supply wellfield, there may be interference between wells reducing the quantity of water available to either well.

The 1996 amendments to the federal Safe Drinking Water Act require that states complete a source water assessment on all public water supply systems. The source water assessments consist of determinations of "geologic sensitivity" and public water supply system "susceptibility." The geologic sensitivity is inherent to the aquifer from which the Village's groundwater originates. Public water supply system susceptibility is determined by the MDEQ in large part by the number and type of contamination sources within a WHPA. Information from the WHPA delineation confirmed that the aquifer from which the village of Decatur obtains groundwater is "leaky-confined." Leaky-confined aquifers are geologically categorized as "moderately sensitive."

## ***1.4 Land Usage***

Land usage can be divided into several categories. For the purpose of this report, the following categories were used:

1. Agricultural – Area used primarily for agricultural purposes (cultivated fields, grazing, orchards, etc.).
2. Residential—Area consisting primarily of residential homes. Typically includes subdivisions or stretches of roadway dominated by residential properties.
3. Industrial—Facilities that manufacture, extract or process raw materials or whose goal is concerned with the output of a specified product or service. Sites would include manufacturing facilities or heavy commercial facilities.
4. Commercial – Area used for the sale of goods or services. Little to no manufacturing of products. Typical uses include car sales/service, antique shops, and miscellaneous sales.

The Village of Decatur is situated in an area once covered by glacial ice that generally left a covering of outwash in the area. These deposits formed surrounding land features that are generally flat, making it good for agricultural use. There is a central business district consisting of retail and public service providers. Agricultural land use dominates the area surrounding Decatur, which employs the largest percentage of residents. The WHPA for PW-2 and the WHPA for PW-3 and PW-4 are located within Decatur Township. Within the WHPA for PW-2, there is some commercial property to the south and some residential and agricultural property throughout. Within the WHPA for PW-3 and PW-4, there are some industrial properties near the northwest with the remaining part of the WHPA being primarily residential and agricultural.



## ***1.5 Local Wellhead Protection Activities***

In 2001, a report titled, “Village of Decatur Wellhead Protection Area Delineation” and a report titled “Village of Decatur Final WHPP Report” were completed by Gove Associates Inc. On October 26, 2001 the delineation report was approved by the Michigan Department of Environmental Quality (MDEQ) and on November 21, 2001, the WHPP Plan was approved by the MDEQ.

In 2014, the Village contacted the Source Water Specialist from the MRWA to assist with the development, implementation and update of the local WHPP Plan. In May of 2014, the Village applied for a grant through the MDEQ. A new team of people were identified to meet quarterly and discuss the implementation of the WHPP Plan. The first meeting was held on October 22, 2014 at the Village Office. Team members discussed an overview of the WHPP, local goals and objectives and the Contaminant Source Inventory. At the second meeting, held January 19, 2015, team members discussed potential management strategies along with a timetable for completion. At the third meeting, held April 22, 2015, the team discussed public education activities to pursue. At the fourth meeting, held August 8, 2015, the team discussed final WHPP Plan items.

When the initial WHPP Plan was completed, a delineation report was not completed for the Village’s backup well, PW-2. Since that time and in 2015, the MDEQ developed a provisional WHPA for PW-2. A map of the provisional WHPA for PW-2 is included in Appendix A.

After approval, the team should meet at least two times throughout the year to discuss the program’s progress. In particular, management approaches and public education activities should be reviewed. Future meetings will be decided by the Village.

## ***1.6 Local Wellhead Protection Goals and Objectives***

During the 2014-2015 update of the WHPP Plan, the team decided on the following goals and objectives.

- Provide the local governmental framework, such as regulations and policies, to prevent groundwater contamination from occurring at businesses and industries which store, use or generate quantities of hazardous wastes in the WHPA.
- Provide for the protection of Decatur’s drinking water supply through comprehensive planning provisions for the Village.

- Enhance communication and coordination between local and state agencies on pollution incidents to assure adequate cleanup for natural resource and public health protection.
- Work with local, state and federal agencies to ensure identified contamination sites do not impact groundwater resources.
- Implement a public education program to inform residents, businesses and farmers on the importance of groundwater protection and what they can do to protect their drinking water.
- Establish a WHPA based on the 10 year capture zone identified in the delineation process when new wells are developed (if necessary). The Village will first plan to work with the Michigan Department of Environmental Quality to develop a provisional WHPA.
- Update the inventory and mapping of all potential sources of contamination within the WHPA every six years.
- Monitor existing and future activities within the WHPA that have been identified as potential sources of contamination.
- Maintain an up-to-date emergency response plan for alternative drinking water supplies to help mitigate contamination of the current water supply.
- Site new wells properly to maximize yield and minimize potential contamination.
- Educate property owners within the WHPA to assure that land uses on their property do not threaten the drinking water supply.

# Michigan



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## **2.0 ROLES AND RESPONSIBILITIES**

This section is intended to identify all individuals and agencies responsible for the development and implementation of the Wellhead Protection Program (WHPP). This WHPP Plan is intended to be a working document that details long-term activities aimed at protecting the Village of Decatur public water supply system (PWSS). In order to be effective, this document must be used and updated. Updates should occur every six years. The WHPP Plan was last updated by the Village in 2001. The November 2001 approval letter is attached in Appendix A.

The Village of Decatur Manager has agreed to update the WHPP Plan every six years to ensure accuracy. Specialists from the Michigan Rural Water Association (MRWA) can assist the Village with program updates. Each chapter of this Plan has been reviewed and discussed by the Village and the local WHPP Team. Contact information for team members and other organizations are below.

### **2.1 *Lead Agency***

The WHPP for the Village of Decatur will be implemented and updated by the Village Manager, with assistance from the MRWA. Comments, questions, or concerns can be addressed to the following:

Village of Decatur  
114 N. Phelps  
Decatur, MI 49045  
Phone: 269-423-6114  
Contact Person: James Krizan

### **2.2 *Federal, State and Local Agencies***

#### **U.S. Environmental Protection Agency - Region 5**

77 West Jackson Boulevard  
Chicago, IL 60604-3507  
<http://www.epa.gov/region5/>  
Phone: (312) 353-2000  
Fax: (312) 353-4135  
Toll free within Region 5: (800) 621-8431

#### **MDEQ**

Office of Drinking Water and Municipal Assistance  
Gaylord District Office  
2100 West M-32  
Gaylord, Michigan 49735-9282  
Phone: (989) 705-3420  
Contact: Jason Berndt

**Van Buren County Health Department**

Environmental Health  
57418 CR 681  
Hartford, MI 49057  
Phone: (269) 657-5516

**2.3 Other Organizations****MRWA**

780 West Spruce Street  
PO Box 960  
Harrison, Michigan 48625  
Phone: (989) 539-4111

**MSU Extension Office-Van Buren**

219 E Paw Paw St., Suite 201  
Paw Paw, Michigan 49079-1077  
Email Address: [msue80@msu.edu](mailto:msue80@msu.edu)  
Phone: (269) 657-8213  
Fax: (269) 657-6678

**Van Buren County Conservation District**

1035 E Michigan Ave  
Paw Paw, MI 49079  
Phone: (269) 657-4030

**2.4 Wellhead Protection Committee Members**

The WHPP Team has the responsibility of meeting quarterly and developing and implementing the WHPP. Below is a description of each WHPP team members' importance and responsibility.

***Jimmy Ebeling, Village of Decatur—Department of Public Works (DPW) Foreman***

The DPW Foreman will assist in the implementation of the WHPP Plan. The Foreman manages the daily operations of the Village's water supply, provides information related to the operation and maintenance of the system, and will be a primary responder in the event of a water emergency. This person will be responsible for reviewing the contingency plan and preparing employees for potential threats.

***James Krizan, Village of Decatur—Village Manager***

The Village Manager will be responsible for providing support and guidance as the WHPP Plan is implemented. This person will also promote the importance of the WHPP to Village Council, administrators and other staff members. This person will assist in the implementation and update of the WHPP Plan and will work to implement activities outlined in Section 5 (Management

Approaches) and Section 8 (Public Education). This person will act as the liaison with all others having roles and/or responsibilities on the local WHPP Team.

***Alison Brucks, Van Buren County Conservation District—District Administrator***

The District Administrator from the Van Buren County Conservation District can educate the WHPP Team about resources that are available for groundwater protection. This person can also assist with the public education and outreach component of the WHPP along with the management activities.

***Jack Conklin, Fire Chief—Decatur Township Fire Department***

The Fire Chief is the emergency management and fire department representative on the Team. This representative provides information on hazardous spill response and cleanup, emergency situations response, and hazardous material storage at local facilities.

***Blaine Rex, Decatur Planning Commission—Chair Person***

The Chair Person for the Decatur Planning Commission can educate the planning commission about the local WHPP. In doing so, this person can ensure that the decisions made by the planning commission will not cause harm to the WHPA. This person also has knowledge about zoning and planning within the Village.

***Kevin Kusmack, Decatur Township—Supervisor***

The Decatur Township Supervisor will serve as a liaison between the Township and the Village of Decatur. This person will be responsible for communicating to Decatur Township and educating them about the Wellhead Protection Program.

***Kelly Hon, MRWA—Specialist***

The MRWA Specialist can assist the Village with the development of the WHPP Plan. In addition, this person can educate the Village about public education and outreach ideas and management approaches that have worked well within other communities. This person can also generate materials (i.e. brochures, placemats, etc.) that can be tailored to fit the Village's WHPP. In addition, this person serves as a liaison between the MDEQ and the Village of Decatur. Finally, this person can assist the Village in applying for the Michigan Wellhead Protection Grant Program and updating the Plan.

**Table 2      Wellhead Protection Program Committee**

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Address</b>	<b>Phone</b>	<b>Email</b>
<b>Jimmy Ebeling</b>	DPW Foreman	Village of Decatur	114 N. Phelps Decatur, MI 49045	269-423-6114	JEbeling@decaturmi.org
<b>James Krizan</b>	Village Manager	Village of Decatur	114 N. Phelps Decatur, MI 49045	269-423-6114	JKrizan@decaturmi.org
<b>Alison Brucks</b>	District Administrator	Van Buren Conservation District	1035 Michigan Ave. Paw Paw, MI 49079	W269-657-4030 Extension 5	alison.brucks@mi.nacdnet.net
<b>Jack Conklin</b>	Fire Chief	Village of Decatur	420 W. Delaware Decatur, MI 49045	269-423-2601	Jlcj1941@yahoo.com
<b>Blaine Rex</b>	Chairman	Decatur Planning Commission			
<b>Kevin Kusmack</b>	Supervisor	Decatur Township	PO Box 33 Decatur, MI 49045	269-423-6114	
<b>Kelly Hon</b>	Specialist	MRWA	PO Box 960 Harrison, MI 48625	989-621-2361	Kellyhon1@yahoo.com

### **3.0 WELLHEAD PROTECTION AREA DELINEATION**

The State of Michigan WHPP requirements for the delineation of a WHPA necessitate completion of a hydrogeologic study. The hydrogeologic study must include an initial compiling of readily available information, the completion of field work to obtain a better understanding of the hydrogeologic system and ground water modeling to identify the WHPA.

The State of Michigan defines a WHPA as “the surface and subsurface areas surrounding a water well or well field, which supplies a public water supply system, and through which contaminants are reasonably likely to move toward and reach the water well or well field within a 10-year time-of-travel.” Michigan has selected a minimum time of travel of ten (10) years as the threshold value. This value provides that the water at the edge of the WHPA will take ten years to reach the well. Longer times can be used if factors lead the system to believe that ten years does not provide adequate protection.

In October of 1999, Peerless Midwest Inc. performed an aquifer analysis on PW-4 at the Decatur public water supply wellfield. The report was submitted to the MDEQ. By 2001, a delineation study was completed for PW-3 and PW-4 by Gove Associates Inc. For the surrounding area, approximately 175 well logs were available and acquired from the Van Buren County Health Department. To determine groundwater flow direction and gradient, permission was granted by 25 owners to utilize their well for obtaining static water levels. Once static water levels were acquired, the tops of these 22 well casings were geographically located and the elevations above sea level were obtained by employing the Global Positioning System network. The east-west coordinate system was an arbitrary system set up to provide the relative positions of the wells. The arbitrary system assigned a value of 10,000-10,000 to the base station, which was set up roughly halfway between municipal wells 3 and 4. The arbitrary system was then correlated to the MIRIS base map by comparing points common to both systems, such as road intersections. Due to the lack of deeper wells in the area of the wellfield, shallow wells were used to model the unconfined aquifer. Some of the shallow wells did not have well logs and were assumed to be suitable for developing an unconfined water table model (Village of Decatur Final WHPP Report, 2001).

The piezometric surfaces were developed using Surfer, a commercial contouring program software. It was thought that the shallow water table would mirror the deeper aquifer, but the lower elevations and southerly-flow direction were not consistent with the deep aquifer; hence, only the deep aquifer was used in the model. Modeling the delineated area was achieved by utilizing the WHPA Program software developed by the United States Environmental Protection Agency (U.S. EPA), Office of Groundwater Protection. This is an integrated two-dimensional program of analytical and semi-analytical solutions to the groundwater flow equation coupled with particle tracking. For Decatur, the numeric option portion of the WHPA model known as GPTRAC was utilized and has been widely used to delineate WHPAs (Village of Decatur Final WHPP Report, 2001).



The deeper well logs for the delineation were mostly located down-gradient from the main well field. The static water levels from these wells did indicate groundwater flows toward Decatur from the northwest and southeast and discharges for the southwest through Lake of the Woods and Dowagiac Drain into the Dowagiac River. The aquifer in Decatur was treated as a confined aquifer for the purposes of creating a model; however, the tritium tests indicate that the aquifer is vulnerable to surface contamination and care should be taken to prevent surface contamination from entering the subsurface water table where contaminants could impact the municipal wells (Village of Decatur Final WHPP Report, 2001).

The information was gathered into a report and submitted to the Michigan Department of Environmental Quality (MDEQ) and approved on October 26, 2001. A copy of the MDEQ approval letter along with a map of the WHPA is included in Appendix A.

#### **Updates since the Wellhead Protection Plan Approval (2001)**

Since 2001, the Village has not installed any additional drinking water wells. In 2005, the Village extended the water system to Special Lite, the largest industry in the Village. In addition, they have done routine maintenance such as the painting of the water tower. In 2014, the MRWA worked with the MDEQ to develop a provisional WHPA for PW-2. A map of the provisional WHPA is included in Appendix A.

## **4.0 CONTAMINANT SOURCE INVENTORY**

Because both surface and subsurface activities impact the public drinking water supply system, it is important to inventory potential and existing sites of contamination within the Wellhead Protection Area (WHPA). The State of Michigan identifies nine sites that must be reviewed when conducting the Contaminant Source Inventory (CSI) (MDEQ 1). These include:

- Sites of Environmental Contamination (201 Sites)
- Underground Storage Tank Sites
- Leaking Underground Storage Tank Sites
- Oil and Gas Contamination Sites
- Hazardous Waste Generator Sites
- Groundwater Discharge Permit Sites
- Landfills and Solid Waste Disposal Sites
- Federal National Priorities List (CERCLA and Superfund)
- Other Sites of Concern
- Federal Permits for Class V Wells (Underground Injection Control Program) (Optional)

In addition to those sites identified by the State of Michigan, there are a number of other common operations that pose considerable risk to the drinking water wells. Table 3 lists

these common operations and the problems that they present if they are not properly managed (Environmental Permitting of Junkyards and Oregon Department of Environmental Quality).

**TABLE 3      Operations That Pose Potential Risks to Groundwater**

TYPE OF OPERATION	POLLUTION RISKS
All businesses	Sanitary sewage, parking lot runoff (fuels, oils)
Agricultural Operations (especially large scale feeding operations)	Fertilizers, pesticides, animal waste, manure spreading, oils and fuels
Auto Service/Body Repair and Oil Changing Stations	Oil, antifreeze, solvents, fuels, paints, metal residues
Car Washes	Road salt, gasoline, antifreeze, cleaners, wash and rinse waters
Dry Cleaning	Solvents, filters
Furniture Repair/Manufacturing	Paints, solvents, varnishes, shellac
Gas Stations	Gasoline, oil, diesel fuel, kerosene
Industrial Facilities	Cooling water, grease, chemicals, by-products,
Junk/Scrap/Salvage Yards	Petroleum, crude oil, mercury, motor oil, antifreeze, wiper fluid, car batteries, brake fluid, gasoline, tires, carburetor cleaners, rags used to work with hazardous chemicals, and degreaser
Laundromats	Dirty wash water, detergents, laundry pre-wash solvents
Medical Facilities	Pharmaceuticals, medical waste, hazardous waste
Metal Plating/Finishing/Fabricating	Alkaline solutions, solvents, phosphate solutions, metal residues, rinse waters, oil and greases
Paint Mixing	Paints, solvents, pigments
Plastics/Synthetics Producers	Bisphenol A (BPA), phthalates, polybrominated diphenyl ethers, other hazardous chemicals

Photo Processing/Printing/Copy Services	Process chemicals, inks
Residential Properties	Septic systems, lawn fertilizers, pesticides, oils and fuel, household hazardous chemicals, paints, furniture strippers, fuel oil, swimming pool chemicals
Restaurants	Grease, cooling water, food scraps, salt
Wood/Pulp/Paper Processing and Mills	Scrap waste, chemicals

#### ***4.1 C.S.I. Search Methods***

Beginning in 2000, the Village of Decatur, assisted by Gove Associates Inc., compiled a CSI list for the WHPA for PW-3 and PW-4. Sites were located with data obtained from EcoSearch Inc. and MDEQ database searches. In 2014-2015, the MRWA Specialist updated the CSI for the Village for the WHPA of PW-3 and PW-4. In addition, the Village received the provisional WHPA for PW-2. A CSI similar to that done for PW-3 and PW-4 was conducted. A search was conducted within the WHPA for each of the nine sites listed above. Searches were done on federal and state databases. Next, information on all potential and existing sources of contamination was reviewed by the WHPP team for error. Finally, team members indicated previous sites of contamination that were not revealed on any lists (i.e. previous establishments). Results are provided in Section 4.2. Contaminant Source Inventory maps are provided in Appendix B.

#### ***4.2 C.S.I. Search Results***

This section includes the results from the CSI search. A list and map of the Inventory are included in Appendix B.

### **Part 201 Sites of Environmental Contamination**

#### ***WHPA for PW-2***

There were no Part 201 sites of environmental contamination within the Village of Decatur WHPA for PW-2.

#### ***WHPA for PW-3 and PW-4***

There was one Part 201 site of environmental contamination within the WHPA for PW-3 and PW-4.

- Decatur Fruit Company, 201 S. George Street

*Source: MDEQ Environmental Mapper*

### **Active Underground Storage Tank Sites**

#### ***WHPA for PW-2***

There were two active Underground Storage Tank (UST) sites within the WHPA for PW-2.

- Knolls Gas/General Sales and Service, 110 N. M-51
- Decatur One Stop, 107 E. Delaware Street

#### ***WHPA for PW-3 and PW-4***

There was one active UST site within the WHPA for PW-3 and PW-4.

- Decatur One Stop, 107 E. Delaware Street

*Source: MDEQ Environmental Mapper*

### **Closed Underground Storage Tank Sites**

#### ***WHPA for PW-2***

There were seven closed UST sites within the WHPA for PW-2.

- Decatur Public Schools, 114 Eli Street
- Knolls Gas/General Sales and Service, 110 N. M-51
- Village of Decatur Department of Public Works, 114 Eli Street
- Hickmott Oil, 208 S. George Street
- Decatur One Stop, 107 E. Delaware Street
- Brooke Rosebaum, 101 N. Phelps Street
- Carop Agency, 102 W. Delaware

#### ***WHPA for PW-3 and PW-4***

There were twelve closed UST sites located within the WHPA for PW-3 and PW-4.

- Highs Marine, 409 E. Delaware Street
- Jeff Hemenway, 408 E. Delaware Street
- Dan's Service, 204 Paw Paw Street
- Mark's Bros and Company Inc., 110 E. Sherwood Street

- Dole, 101 Bronson
- Broekhuizen Produce Inc., 204 Park Street
- Village of Decatur Department of Public Works, 114 Eli Street
- Decatur Public Schools, 114 Eli Street
- Hickmott Oil, 208 S. George Street
- Decatur One Stop, 107 E. Delaware Street
- Brooke Rosenbaum, 101 N. Phelps Street
- Carop Agency, 102 W. Delaware

*Source: MDEQ Environmental Mapper*

### **Open Leaking Underground Storage Tank Sites**

#### ***WHPA for PW-2***

There were two open Leaking Underground Storage Tank (LUST) sites located within the WHPA for PW-2.

- Knolls Gas/General Sales and Service, 110 N. M-51
- Brooke Rosenbaum, 101 N. Phelps Street

#### ***WHPA for PW-3 and PW-4***

There were two open LUST sites located within the WHPA for PW-3 and PW-4.

- Broekhuizen Produce, 204 Park Street
- Brooke Rosenbaum Property, 101 N. Phelps Street

*Source: MDEQ Environmental Mapper*

### **Closed Leaking Underground Storage Tank Sites**

#### ***WHPA for PW-2***

There were no closed LUST sites located within the WHPA for PW-2.

#### ***WHPA for PW-3 and PW-4***

There was one closed LUST site located within the WHPA for PW-3 and PW-4.

- Dole, 101 Bronson

*Source: MDEQ Environmental Mapper*

## **Oil and Gas Contamination Sites**

### ***WHPA for PW-2***

There were no oil and gas wells located within the WHPA for PW-2.

### ***WHPA for PW-3 and PW-4***

There were no oil and gas wells located within the WHPA for PW-3 and PW-4. There is a state pipeline that runs through the WHPA near PW-3 and PW-4

## **Hazardous Waste Generators/Landfills/Solid Waste Disposal Sites**

### ***WHPA for PW-2***

There were six Hazardous Waste Generator sites located within the WHPA for PW-2.

- Knolls Gas/General Sales and Service, 110 N. M-51
- Michigan Department of State Police, 114 N. Phelps
- Michigan Department of State Police, 81979 44<sup>th</sup> Street
- Van Buren County Sheriff's Department, M-51 and Burke Street
- Decatur One Stop, 107 E. Delaware Street
- Van Buren County Sheriff's Department, 108 E. Delaware Street

### ***WHPA for PW-3 and PW-4***

There were eight Hazardous Waste Generator sites located within the WHPA for PW-3 and PW-4.

- Cargill, 201 S. George Street
- Dole, 101 Bronson Street
- Diane Day, 82371 42<sup>nd</sup> Street
- Hickmont Oil, 28 S. George Street
- Van Buren County Sheriff's Department, M-51 and Burke Street
- Van Buren County Sheriff's Department, 304 N. George Street
- Decatur One Stop, 107 E. Delaware Street
- Van Buren County Sheriff's Department, 108 E. Delaware Street

The Village Market, located at 106 E. Delaware is located within both WHPAs. They are not listed on the hazardous waste generator list, but do house a pharmacy.

Source: [www.deq.state.mi.us/tsd/](http://www.deq.state.mi.us/tsd/) and [www.deq.state.mi.us/wdspi/](http://www.deq.state.mi.us/wdspi/) and Environmental Mapper

### Groundwater Discharge Permit Sites

#### ***WHPA for PW-2***

There were no groundwater discharge permit sites located within the WHPA for PW-2.

#### ***WHPA for PW-3 and PW-4***

There were no groundwater discharge permit sites located within the WHPA for PW-3 and PW-4.

*Source: Village of Decatur and the MDEQ*

### Federal National Priority List Sites

There were no federal national priority list sites located within either WHPA.

*Source: [www.superfund/sites/npl/npl.htm](http://www.superfund/sites/npl/npl.htm) and [www.epa.gov/R5Super/npl/michigan/MID980410617.htm](http://www.epa.gov/R5Super/npl/michigan/MID980410617.htm)*

### Other Sites of Concern

#### ***WHPA for PW-2***

There are three cemeteries located throughout the WHPA for PW-2. These are located at 410 N. Phelps Street, 107 E. Edgar Bergen Boulevard and 107 Veterans Memorial.

#### ***WHPA for PW-3 and PW-4***

Salt is stored at the Department of Public Works (DPW) building which is located at 114 Eli Street. The building is enclosed though and poses little, if any, risk. The majority of the farms located throughout the WHPA harvest beans and corn. There is one cemetery within the WHPA for PW-3 and PW-4 that is located at 401 Harrison Street.

### ***4.3 C.S.I. Updates***

The Village of Decatur will annually review and if necessary update the CSI. The updated inventory will be examined and the data will be evaluated to determine its effect on the WHPA. Should there be a future change in land usage status within either WHPA, an amendment will be made to the existing Wellhead Protection Program Plan.

## **5.0 MANAGEMENT APPROACHES**

One of the most important aspects of the Wellhead Protection Program is the incorporation of management strategies. The following are typical management approaches that can be utilized:

## 1. REGULATORY

- Land use controls; existing or adding additional protection
- Impose agricultural chemical regulations and/or restrictions
- Implement a Groundwater Protection Zoning Ordinance
  - Requirements for installing private wells
  - Requirements for plugging abandoned wells
  - Requirements for certain “designated uses” within the WHPA
  - Requirements for specified amounts of contaminants within the WHPA
  - Requirements that specific contaminants and/or structures be prohibited from the WHPA
  - Requirements for fines/penalties in the event that the ordinance is violated
- Conduct site plan reviews (each proposed development is reviewed and compared with zoning ordinance standards)
- Develop and implement an environmental permits checklist (alerts businesses to environmental permit requirements)
- Transfer development rights from areas within the WHPA to areas outside of the WHPA
- Incorporate other local management tools

## 2. HEALTH REGULATIONS

- Monitor or ban underground fuel storage systems within the WHPA
- Establish minimum setback requirements around public wells
- Prohibit privately owned wastewater treatment plants within the WHPA
- Prohibit the application of certain septic cleaners within the WHPA
- Require that all septic systems be periodically inspected and upgraded
- Impose regulations that require proper handling and disposal of toxic and hazardous materials and waste

## 3. NON-REGULATORY

- Search and plug abandoned wells
- Educate and encourage Pollution Prevention (P2) Programs
- Establish groundwater quality monitoring programs
- Provide technical assistance
- Develop intergovernmental agreements or contracts
- Implement watershed management practices
  - Work with local watershed group to collaborate efforts
- Implement storm water management practices
  - Install holding chambers and treatment areas
  - Utilize best management practices
  - Develop bio-retention rain gardens and other filters
  - Disperse storm water into vegetated swales and other “problematic” sites
  - Stencil storm drains to discourage littering and improper disposal of materials



- Implement onsite wastewater management practices
  - Develop educational materials that can be given to local residents
  - Educate the public about signs of failing septic systems and proper maintenance
- Implement business and industry management practices
  - Encourage P2 Programs (also mentioned above)
  - Promote brownfield redevelopment
  - Host workshops to educate businesses
  - Develop other education and outreach materials
- Implement agricultural management programs and practices
  - Educate farmers about the following programs:
    - Michigan Clean Sweep
    - Michigan Emergency Tube/Emergency Planning
    - Farm A Syst
    - Field A Syst
    - P2 Programs
- Implement residential management practices
  - Host a Household Hazardous Waste Collection Day
  - Educate residents about the Home A Syst Program
  - Host workshops/demonstrations on groundwater education and protection
  - Educate residents about the proper use/disposal of chemicals

#### 4. LEGISLATIVE

- Acquire land within the WHPA
- Develop Regional Wellhead Protection Area Districts (communities come together and establish districts with the same standards and ideals)

### ***5.1 Local Management Approaches***

Since the WHPP Plan approval in 2001, the Village adopted a resolution for wellhead protection. They also recently plugged observation wells. The Village does require a mandatory connection to the public water supply system, however, they also allow irrigation wells. Because the Village system was installed in 1895, they do not believe there are many abandoned wells. Other items that the Village will pursue in the future are included below.

#### **Wellhead Protection in the Master Plan**

Placing wellhead protection language in the Master Plan will require a meeting between Decatur Township, Hamilton Township and the Village. The MRWA provided the Village with wellhead protection language that can be included in the Master Plan. It will be reviewed by all three Planning Commissions and language will be included in the Master Plan.

### **Resolution**

Previously, the Village adopted a resolution that demonstrates their support and commitment for wellhead protection efforts. An adjacent community resolution is also attached that can be shared with Decatur Township. This would show their support for the Village's drinking water protection efforts.

### **Zoning Ordinance for WHP**

The Village has received an example zoning ordinance for wellhead protection. The Planning Commission will review the template to determine if it would be beneficial to adopt in the Village.

### **Site Plan Review Criteria**

The Village has also received an example site plan review that includes specific elements aimed at groundwater protection measures. They are interested in comparing this example with their current site plan review standards to see if additional measures should be added.

### **Environmental Permits Checklist**

The Village is also planning to incorporate the updated Environmental Permits Checklist into their current site plan review standards.

### **Household Hazardous Waste Collection Day**

Van Buren County hosts an annual household hazardous waste collection day.

Examples of some of these management strategies are included in Appendix D.

**TABLE 4 Management Activities and Implementation Dates**

<b>Management Activity</b>	<b>Implementation Date</b>
WHP in Master Plan	2015 (Review) 2016 (Implement)
Resolution	Previously implemented. In 2015, will pass along to other Townships.
Zoning Ordinance	June 2015 (Review) 2016 (Implement)
Site Plan Review Standards for Groundwater Protection	2015 (Review) 2016 (Implement)
Environmental Permits Checklist	2015 (Review) 2016 (Implement)
Household Hazardous Waste Collection	Annual Event

## **6.0 CONTINGENCY PLANNING**

Developing an Emergency Response Plan to deal with emergency threats to groundwater is a key portion of the Wellhead Protection Program (WHPP). All community water systems are required by the Michigan Department of Environmental Quality (MDEQ) to have an Emergency Response Plan in place. Beefing up the Emergency Response Plan to include a response protocol in the event of a hazardous substance spill, an identified emergency water supplier (bottled, bulk, etc.) and policies and procedures related to water supply replacement are requirements of the WHPP. Since the Plan was last approved in 2001, there have not been any water supply emergencies.

### ***6.1 Plan Testing, Review, and Update***

This Emergency Response Plan's efficacy will be evaluated, reviewed, and updated using an annual review. The Water Superintendent will review any personnel or situational changes and make adjustments to the Plan at least annually.

### ***6.2 Personnel Training***

To be effective, Emergency Response Plans must rely on properly trained people operating within a well-organized and effective system with up-to-date information. County and state emergency responders have been professionally trained to deal with hazmat responses. Local personnel should also be trained in initial hazmat response since they could be the first to arrive on site. Police officers receive basic hazmat response training as part of their officer-training program. With a basic level of training, local personnel will also be able to adequately and appropriately identify and contain many hazardous materials. In responding to any incident, however, the Village relies on upper command to take control of the situation and follow the guidelines outlined in the Emergency Response Plan. Currently, the Village Manager is working on revamping personnel policies and procedures. One thing that will be added is the training of employees.

### ***6.3 Logistical and Financial Resources***

The Village of Decatur should participate in an emergency response situation only to the extent of providing assistance and information regarding the water system and the particular needs of the community. Although containment may be appropriate, the Village should not attempt cleanup efforts alone. The responsible party is legally obligated to report and clean up chemical releases. Appropriate cleanup measures will be dependent on the type and quantity of chemical released. The Village may need to finance contamination cleanup and/or treatment if the responsible party is unknown or is the Village itself.

Potential funding sources include:

- Apply for State and Federal Emergency funds
- Increase Village cash reserves
- Create a surcharge on water bills
- Collect fines for violating water conservation standards
- Issue a bond measure for replacement, treatment, or cleanup needs

A copy of the Emergency Response Plan is included in Appendix C.

## **7.0 PLANNING FOR NEW WELLS**

The purpose for developing a Wellhead Protection Program (WHPP) Plan is to afford protection for the community's drinking water supply for an indefinite period of time. These same principles will also be applied to the siting of new public water supply wells. Currently, the Village has enough firm capacity and will not need to install new production wells within the next five years.

PW-2, the Village's backup well, is set at 116 feet while the other production wells are set considerably deeper at 188 and 192 feet. Because water could be drawn from two separate areas, it is unlikely that both would become non-potable water at the same time. A problem could arise if both deeper wells became unfit for drinking. In the event of a contamination incident, the Village would explore all possibilities to treat and mitigate the contamination.

Planning for new water supply wells takes a great deal of preparation and analysis. The Village would need to explore whether a new well could be sited in the same location as an existing well or would need to be placed in a different location or aquifer. The location of the new well or the depth of the new well may also change through the planning process if geological conditions are different than expected or if the aquifer does not produce an adequate supply of water once the well is drilled. The aquifer may also produce a sufficient amount of water, but naturally occurring contaminants, such as radium or arsenic may be discovered in the water. These contaminants require expensive treatment to meet federal drinking water standards. In other situations, taste and odor problems arise from unregulated contaminants, such as iron or manganese.

New wells would need to be sited in a location that would provide for the Village's needs in conformance with MDEQ regulations. Isolation distances from current and/or future sources of contamination would also be considered. Reviewing previous plans such as delineation studies that discuss the direction and flow of groundwater movement and local geology are also important. Throughout the process, it is necessary to work closely with the MDEQ, the local engineer and others that may have valuable input.

This report will deal with a new well location relative to susceptibility of contamination to the existing wellfield only and should not be confused with a requirement for additional water well development to keep up or meet firm capacity. For example, if

Decatur were to lose PW-3 or PW-4 to something other than contamination, it would be sensible because of the existing water supply infrastructure to develop a replacement well located in the same wellfield. The best probable location for a new well in Decatur is based on the following criteria:

- The inability to meet required setback distances for additional wells at the backup production well (PW-2) site leaves all remaining Village production wells in a single wellfield.
- Groundwater flow in the drift aquifer seems to be to the west and northwest
- According to the potential sources of contamination, any existing problems with groundwater quality degradation would be located in the downtown area and north of the existing wellfield.

It is suggested that Decatur consider new well development, to meet WHPP purposes, along the northern boundary of the Village by School Street. This road is also referred to as Stapleton Road or 44<sup>th</sup> Street. A more legal description would be the southeast  $\frac{1}{4}$  of the southeast  $\frac{1}{4}$  of Section 18 of Decatur Township, Van Buren County. The Decatur Water Department should consider the budgeting of money to purchase land, when and if possible, it becomes available in this suggested area.

Other reasoning for a new well location in the northern section of the Village limits is that existing well log and aquifer data indicate that the area would be excellent for drilling into the drift and establishing a productive well. Once a new well was installed, the Village would look into having a new well delineated or work with the MDEQ to “receive” a provisional delineation.

## **8.0 PUBLIC EDUCATION**

Education of the community is a vital part of the WHPP. The residents of Decatur should have an opportunity to understand the importance of, and participate in, the protection of the ground water that supplies drinking water to the community. A successful WHPP includes assistance from all the members of a community to help keep the drinking water safe.

There are a number of educational activities and paraphernalia that can be developed. The following are typical activities that can be done:

- Presentations to local schools, community employees, community events, council meetings, local officials and other organizations
- Poster Contests
- Media advertisements and interviews (television, cinema, radio)
- Teacher training camps on groundwater protection
- Children’s water festivals

- WHPP booth at a local fair
- WHPP website
- Water taste testing contests

The following are typical WHPP paraphernalia that can be developed or purchased:

- Newsletters
- Newspaper articles
- Brochures
- Road signs
- Placemats
- Mugs
- Clothing with WHPP logo (shirts, coats, hats, etc.)
- Coloring books
- Pens/pencils
- Magnets
- Groundwater Models
- Software for WHPP and groundwater education (CD)
- Rulers
- Stickers
- PowerPoint presentations
- Posters
- Water conservation materials
- Factsheets
- Notepads

### ***8.1 Local Public Education Strategies***

Since 2001, the Village has done some public education and outreach program. The Village has held wellhead protection meetings and they have put information in the window at the Village Office. The Village has purchased water wheels, sponges and other giveaways for drinking water protection. These items have been given to local students and handed out at local events. Over the next several years, the Village will work to implement the following educational activities.

#### **Placemats**

The Village received placemat templates from the MRWA. The Village would like to provide local restaurants with placemats that can be distributed.

#### **Brochures**

The Village also received a WHPP brochure and an Abandoned Well brochure. These brochures can be placed at the Village Office and other appropriate sites. The Village may also mail them with the water bills. These materials can also be placed in retail outlets throughout the Village.

**Article Series for Source Water Protection**

The Village will also receive an article series for source water protection from the MRWA. Articles range in topics from proper disposal of pharmaceuticals to onsite septic maintenance. The Village plans to put these articles on their website and Facebook page and send them out in their newsletters.

**Village Website and Facebook**

The Village will also place WHPP materials and information on the website and on their Facebook page.

Examples of some of these items are included in Appendix E.

**TABLE 5      Public Education Activities and Implementation Dates**

<b>Public Education Activity</b>	<b>Implementation Date</b>
Placemats	2016-2017
Brochures	2016-2017
Article Series	2017-2018
Village Website and Facebook	2015-?

## 9.0 REFERENCES

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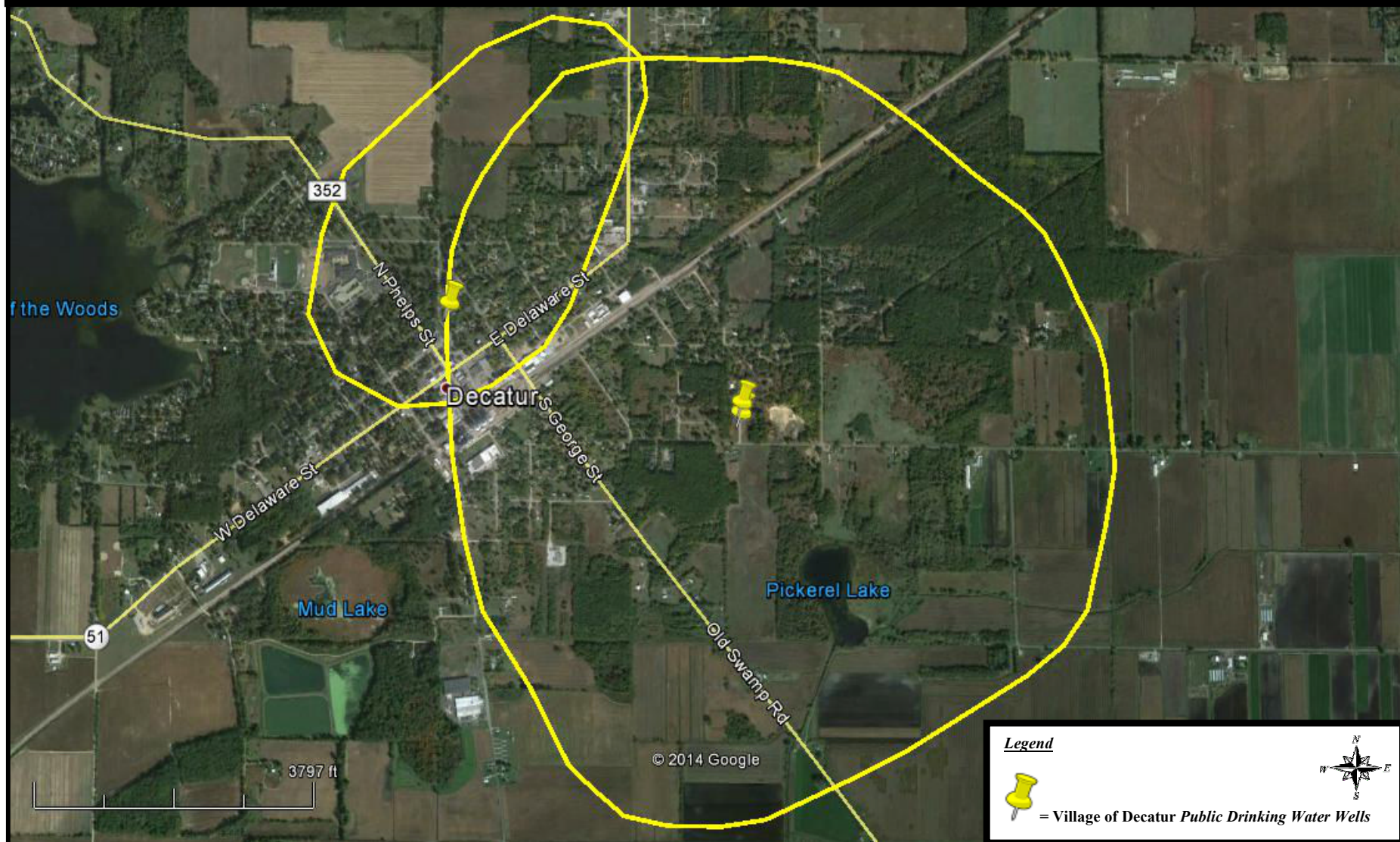


# *Appendices*

# **APPENDIX A**

## **Wellhead Protection Area Maps, Correspondence and Public Well Information**

## Village of Decatur – Wellhead Protection Areas for PW-2, PW-3 and PW-4



# **APPENDIX B**

## **Contaminant Source Inventory List and Maps**

## CONTAMINANT SOURCE INVENTORY SUMMARY LIST

### PW-2

Name of Site	Site Owner	Address	Potential Hazard	Comments
<b>Brooke Rosenbaum</b>		101 N. Phelps Street	Closed Underground Storage Tank (UST) Site; Open Leaking Underground Storage Tank (UST) Site	<b>Also referred to as Rosenbaum Property and John's Sunoco. According to the Village, there were seven tanks removed. Leak discovered on 5/21/2007. This site has been cleaned up by the Van Buren County Brownfield Authority</b>
<b>Carop Agency</b>		102 W. Delaware	Closed UST Site	<b>Three tanks removed.</b>
<b>Cemetery</b>		401 Harrison Street	Other Sites of Concern	
<b>Decatur One Stop</b>		107 E. Delaware Street	Active Underground Storage Tank (UST) Site; Closed UST Site; Hazardous Waste Generator Site	<b>Four active tanks onsite. One closed tank.</b>
<b>Decatur Public Schools</b>		114 Eli Street	Closed UST Site	Listed on the MDEQ site as 110 Cedar Street, but the team indicated that this was the billing address. One tank was removed and it was located near the DPW.
<b>Hickmott Oil</b>		208 S. George Street	Closed UST Site	<b>Four tanks removed.</b>
<b>Knolls Gas/General Sales</b>		110 N. M-51	Active UST Site; Closed UST Site; Open LUST Site; Hazardous Waste Generator Site	There are six active tanks on the property. Someone recently

<b>and Service</b>				purchased and the name will change. There are two closed tanks. Leaks were discovered on 11/19/1998, 8/25/1999, 10/26/1999, 11/2/1999 and 4/4/2002.
<b>Michigan Department of State Police</b>		114 N. Phelps Street	Hazardous Waste Generator Site	<b>This site could have been a meth operation.</b>
<b>Michigan Department of State Police</b>		81979 44 <sup>th</sup> Street	Hazardous Waste Generator Site	This site could have been a meth operation.
<b>Van Buren County Sheriff's Department</b>		M-51 and Burke Street	Hazardous Waste Generator Site	
<b>Van Buren County Sheriff's Department</b>		108 E. Delaware Street	Hazardous Waste Generator Site	
<b>Village of Decatur DPW</b>		114 Eli Street	Closed UST Site; Other Sites of Concern	<b>One tank removed. This building houses road salt, but it is enclosed.</b>
<b>Village Market</b>		106 E. Delaware	Other Sites of Concern	<b>This site includes a pharmacy.</b>

## CONTAMINANT SOURCE INVENTORY SUMMARY LIST

### PW-3 and PW-4

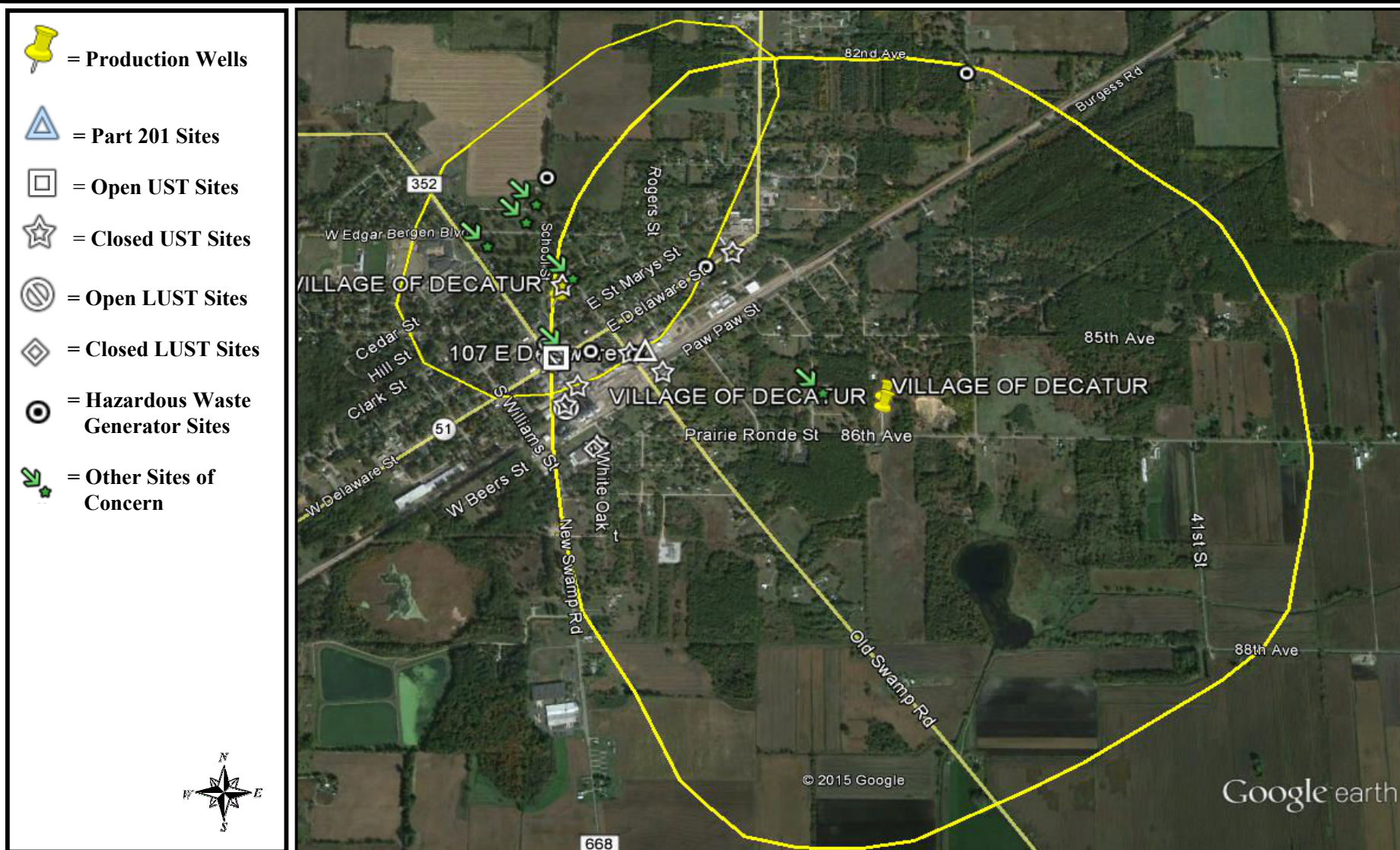
Name of Site	Site Owner	Address	Potential Hazard	Comments
<b>Broekhuizen Produce</b>		204 Park Street	Closed Underground Storage Tank (UST) Site; Open Leaking Underground Storage Tank (LUST) Site	One tank was removed. A leak was discovered on 4/17/1998. According to the Village, these tanks have been filled.
<b>Brooke Rosenbaum</b>		101 N. Phelps Street	Closed UST Site; Open LUST Site	<b>Also referred to as Rosenbaum Property and John's Sunoco. According to the Village, there were seven tanks removed. Leak discovered on 5/21/2007. This site has been cleaned up by the Van Buren County Brownfield Authority</b>
<b>Cargill</b>		201 S. George Street	Hazardous Waste Generator Site	This site was previously Huron Farms Food Products Inc.
<b>Carop Agency</b>		102 W. Delaware	Closed UST Site	<b>Three tanks removed.</b>
<b>Cemetery</b>		410 N. Phelps Street	Other Sites of Concern	
<b>Cemetery</b>		107 E. Edgar Bergen Boulevard	Other Sites of Concern	
<b>Cemetery</b>		107 Veterans Memorial	Other Sites of Concern	
<b>Dan's Service</b>		204 Paw Paw Street	Closed UST Site	<b>Two tanks were closed.</b>
<b>Decatur Fruit</b>		201 S. George Street	Part 201 Site of Environmental Contamination	This site was formerly Cargill

<b>Company</b>				Ag Horizons. They bring in corn/liquid fertilizers and chemicals.
<b>Decatur One Stop</b>		107 E. Delaware Street	Active Underground Storage Tank (UST) Site; Closed UST Site; Hazardous Waste Generator Site	<b>Four active tanks onsite. One closed tank.</b>
<b>Decatur Public Schools</b>		114 Eli Street	Closed UST Site	Listed on the MDEQ site as 110 Cedar Street, but the team indicated that this was the billing address. One tank was removed and it was located near the DPW.
<b>Diane Day Dole</b>		82371 42 <sup>nd</sup> Street	Hazardous Waste Generator Site	
		101 Bronson	Closed UST Site; Closed LUST Site; Hazardous Waste Generator Site	This site is referred to as Hanson Cold Storage, Decatur Division. One tank was removed. This LUST site was closed on 1/6/1994. The Village spoke with the store and they have removed the tank. Any tank they have now is aboveground.
<b>Hickmott Oil</b>		208 S. George Street	Closed UST Site	<b>Four tanks removed.</b>
<b>Highs Marine</b>		409 E. Delaware Street	Closed UST Site	One tank was removed.
<b>Jeff Hemenway</b>		408 E. Delaware Street	Closed UST Site	<b>According to the Village, three tanks were filled with sand and this is an empty building now.</b>
<b>Mark's Brothers and Company Inc.</b>		110 E. Sherwood Street	Closed UST Site	One tank was removed.



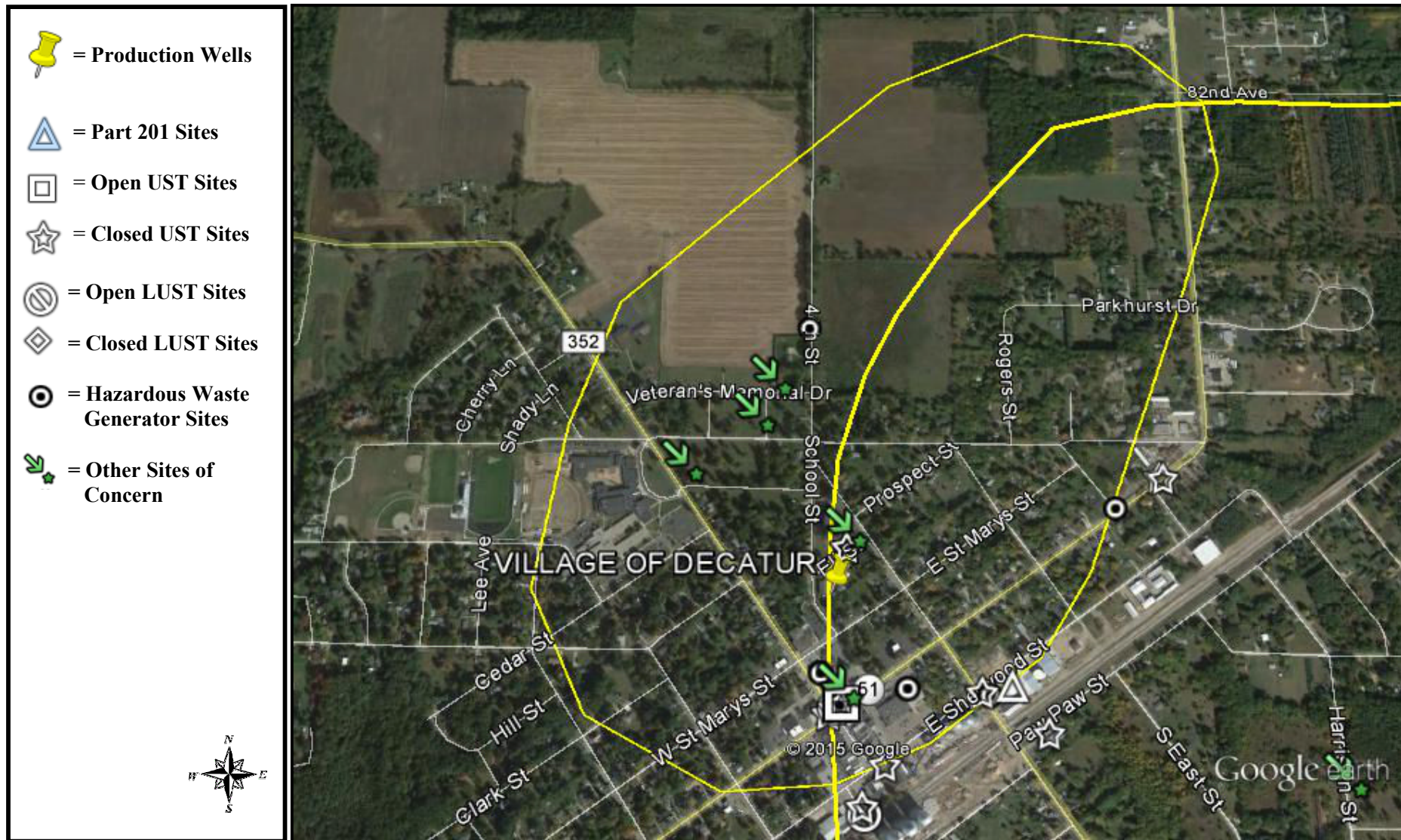
<b>Van Buren County Sheriff's Department</b>		M-51 and Burke Street	Hazardous Waste Generator Site	
<b>Van Buren County Sheriff's Department</b>		108 E. Delaware Street	Hazardous Waste Generator Site	
<b>Village of Decatur DPW</b>		114 Eli Street	Closed UST Site; Other Sites of Concern	<b>One tank removed. This building houses road salt, but it is enclosed.</b>
<b>Village Market</b>		106 E. Delaware	Other Sites of Concern	<b>This site includes a pharmacy.</b>

## Village of Decatur – Contaminant Source Inventory Map for PW-2, PW-3 and PW-4





## Village of Decatur – Contaminant Source Inventory Map for PW-3 and PW-4



# **APPENDIX C**

## **Emergency Response Plan**

## **EMERGENCY RESPONSE PLAN - CONTINGENCY PLAN**

For the **Village of Decatur** Water Supply System Date: 08-27-15 (Revised)

Considerations: Loss of pressure, inadequate quantities of water available, and contamination.

### **General**

#### **1. Personnel**

List personnel available during emergency conditions (include position, job duties, telephone number, and whether available during strike):

James Krizan, Village Manager	Work 269-423-6114	Cell 269-487-8475
Jim Ebling, General Foreman	Work 269-423-7360	Cell 269-487-8475
Mike Mott, Public Works Tech	Work 269-423-7360	Cell 269-591-4021
Gerald Slaughter, Public Works Tech	Work 269-423-7360	Cell 269-767-6745
Tim Shroyer, Public Works Tech	Work 269-423-7360	Cell 269-423-2838
David McLeese, Chief of Police	Work 269-423-2171	Cell 269-655-7022
Aaron Mitchell, Village Clerk	Work 269- 423-6114	Cell 269-501-1863

#### **2 Miscellaneous**

List other telephone numbers which may need to be utilized during emergencies:

A. Michigan Department of Environmental Quality:

Wood Chooi (Area Engineer):	269-567-3611
Heather Bishop (Environmental Analyst)	269-330-9153
Emergency Number	1-800-292-4706

B. Appropriate Municipal Officials:

Carl Wickett, Village President	Home: 269-423-7254	Cell: 269-436-0564
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C. Local Health Department:

Van Buren County Health Department	269-621-3143
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D.	Department of Agriculture:	800-292-3939
E.	Police: (Area code for all numbers is 269)	
	▪ Decatur Police Dept.	269-423-2171
	• On Duty Cell Unit	#1 655-7023
	▪ Van Buren County Sheriff Department	269-657-3101
F.	Fire Department:	
	▪ Station	269-423-2601
	▪ Fire Chief (Jack Conklin)	269-370-4407 cell
G.	Newspapers:	
	▪ Decatur Republican	269-423-2411
	▪ Kalamazoo Gazette	269-345-3511
H.	Radio Stations:	
	▪ WKZO 590 4200 W. Main	269-345-7121
I.	Nearby Water Utilities:	
	▪ Paw Paw, MI	269-657-3169
J.	Nearby Laboratories:	
	▪ Paw Paw Labs	269-657-3169
	▪ Kalamazoo Reclamation	269-385-8149
	▪ Kar Lab (Kalamazoo)	269-381-9666
K.	Other:	
	▪ AEP (Power Co.), Fort Wayne, IN (emergency service)	888-237-2221
	▪ Consumers Energy (natural gas supplier)	800-477-5050
	▪ Bloomingdale Communications, <a href="http://www.btc.com">www.btc.com</a>	800-377-3130

### 3. **Contractors**

List of telephone numbers of reputable contractors which may need to be utilized during Emergencies:

- a) Excavators:
  - Bob Flory, Jr., 78250 39<sup>th</sup> St. Decatur, MI 269-423-2507
  - Kevin Kusmack, 41361 74<sup>th</sup> St., Decatur, MI 269-423-8588
- b) Well Drillers
  - Peerless Midwest 219-254-9650  
574-254-9050
- c) Welders:
  - Valley Machine 269-423-8892
  - Laylin Welding (Dowagiac) 269-782-2910
- d) Electricians:
  - Bender Electric (Cassopolis) 269-445-3260
  - Peerless Midwest (Mishawaka, IN) 574-254-9050
  - Mike Kusmack 269-720-3821
- e) Plumbers
  - Valley Machine 269-423-8892
  - Laylin Welding (Dowagiac) 269-782-2910
  - Decatur Plumbing and Heating 269-423-2221

- Field Plumbing and Heating 269-674-3839
- f) Tree Trimming
  - J.C. Tree Service (Decatur) 269-423-7614

#### 4. **Suppliers**

List telephone numbers of suppliers which may need to be utilized during emergencies:

- a) Chemical Suppliers:
  - Haviland Products 269-342-9848
- b) Pump Suppliers:
  - Peerless Midwest, Mishawaka, IN 574-254-9050
  - Joel Annabelle 616-527-0050
- c) Water Main Repair Appurtenances:
  - Bob Flory, Jr., 78250 39<sup>th</sup> St. Decatur, MI 269-423-2507
  - Kevin Kusmack, 41361 74<sup>th</sup> St. Decatur, MI 269-423-8588
- d) Other:
  - Fuel: Webber Oil Service 269-637-6313

Tools: Valve wrench and curb stop wrench are in back of DPW pickup. Other tools are located in pickup tool box. Pickup and backhoe are located in the Department of Public Works Building

#### **Critical Customers**

1. List critical customers or users for whom the provision of a continuous supply of safe water is most urgent (include telephone number and address):

- Decatur Public School, 110 Cedar 269-423-6800
- Robert Murav DDS, 321 W. Delaware 269-423-7025
- Carl Druskovich DDS, 45140 M-51 269-423-7866
- Richard Moussalli DDS, 115 S. Phelps 269-423-4961

#### **Communications**

1. Methods of communication available during power outages:

Newspaper, Radio or Door to Door notification

2. Means of notifying public affected by emergency:

Public affected by emergencies are notified by radio, newspaper and television

#### **Plans & Agreements**

1. **General Layout:** Map showing of General Plans is at Public Works Barn (114 Eli St). Shows location, size, type of water main, location of hydrants, curb stops is located on East wall of shop area at the Dept. of Public Works, 114 Eli St. along with a packet containing the Personnel Safety Plans, Water Sampling & Monitoring Plans, and the latest Village of Decatur Water System Review.
2. **Personnel Safety Plans:** Location of Personnel Safety Plans is at Public Works Barn 114 Eli St. Personnel available during emergency conditions (included are position, job duties, phone number):

James Krizan, Village Manager	Work 269-423-6114	Cell 269-487-8475
Jim Ebling, General Foreman	Work 269-423-7360	Cell 269-487-8475
Mike Mott, Public Works Tech	Work 269-423-7360	Cell 269-591-4021
Gerald Slaughter, Public Works Tech	Work 269-423-7360	Cell 269-767-6745
Tim Shroyer, Public Works Tech	Work 269-423-7360	Cell 269-423-2838
David McLeese, Chief of Police	Work 269-423-2171	Cell 269-655-7022
Aaron Mitchell, Village Clerk	Work 269- 423-6114	Cell 269-501-1863

**Michigan Department of Environmental Quality:**

- Wood Chooi (Area Engineer): 269-567-361
- Heather Bishop (Environmental Analyst): 269-330-9153
- Emergency Number : 1-800-292-4706

Location of Personnel Safety Plans are included in a packet (marked Emergency Response information) located on the East Wall of the Shop Area at Village of Decatur Public Works Barn (114 Eli St.)

3. **Water Sampling and Monitoring Plans:** Sample Siting Plan attached or located at East Wall of the Shop Area at Public Works Barn.
4. **Mutual Aid Agreements:** Verbal, with surrounding towns agree to lend a hand in an emergency
  - Paw Paw—269-806-2347 (John Small) or 269-657-3169 (emergency call phone)
  - Lawton --269-624-6408
  - Mattawan—269-668-3093
5. **Emergency Supplies and Equipment Plans:** all available at 114 Eli St. Public Works Barn

All emergency equipment, replacement equipment and first aid supplies and equipment are available at the Public Works Barn (114 Eli St.).

Medical Assistance:

- Bronson Lakeview Family Care (Dr. Burkow) 319 E. Delaware St. Decatur, MI 269-423-7028
- Bronson Lakeview Hospital 408 Hazen St. Paw Paw MI 269-657-1500



**Source:**

Master Meter                      Meter located at each individual well  
Location(s) and Size(s)

**Groundwater Sources**

Well Number	Diameter (Inches)	Depth (Feet)	Capacity (GPM)	Location	Type of Treatment
#2	10"	116'	325 gal	208 School St.	
#3	12"	188'	500 gal	Prairie Rd (CR 352)	Stand by chlorinator
#4	12"	192'	1000 gal	Prairie Rd (CR 352)	Stand by chlorinator

**Surface Water Sources** N/A

Pump Number	High or Low Service	Capacity (GPM)	Location
N/A	N/A	N/A	N/A

**1. Describe method to operate wells (manually and automatically):**

- Normal operation runs under system pressure but can run manually
- Map showing location, size, type of water main, location of hydrants, curb stops are located on east wall of the shop area (Department of Public Works, 114 Eli Street)

**2. Auxiliary power available:**

Type:    > Permanent Diesel Generator for    #3 & #4 wells              Gas #2 well

Location: > Permanent Generator Located at Well 3

            Portable generator located at DPW

Capacity: > Permanent generator: 1,500 GPM #3 & #4

            Portable generator: 325 GPM Well 2

Method of operation: Manual for Well 2, Automatic for Wells 3 & 4

**Treatment:**

1. If treatment employed at wells: No Treatment
  - a). Describe method to provide auxiliary power to chemical feed pumps:  

Generator      N/A
2. If centralized treatment (iron removal, zeolite softening, etc.):
  - a). Describe method to provide auxiliary power to high service pumps:      N/A
  - b). Describe method to provide auxiliary power to chemical feed pumps:      N/A
  - c). Describe procedure to bypass treatment facility: N/A
3. If no treatment:
  - a). Describe method to provide emergency chlorination:

There are chlorine injection points for Wells 3 & 4, and none for Well 2.  
There are two chlorinators, one at Well 3 and the other at Well 4. Chlorine pump instructions are with the pump on chlorinator tank in the pump house.  
The portable generator at well site will automatically turn on during power loss.

**Detection of a Contaminant at the Wellhead**

Response to the detection of a contaminant at the well depends on whether the substance reaches or exceeds the maximum contaminant level (MCL) measured during the monitoring process. The MCL is considered to be the maximum concentration that a contaminant can be in drinking water without posing a significant health risk.

The Michigan Department of Environmental Quality (MDEQ) must be notified. If a contaminant is recorded as being at elevated levels, yet still is below the MCL for that substance, then additional monitoring should occur to track any changes in the contaminant level in the well and ensure that the contaminant remains below the MCL.

If the confirmed concentration exceeds the MCL, the following procedures should be followed by the Village of Decatur Water Department:

- Shut down the contaminated well or wells.
- Determine if reservoir is contaminated.
- Implement conservation plan if necessary.
- Send news release to local media.
- Notify residents and businesses about conservation measures needed to be taken.
- Cooperate with agencies investigating the suspected contaminant.

**Contamination from a Leaking Underground Fuel Storage Tank (LUST), Facility, or Roadway Chemical Spill:**

1. Highway accidents involving tank trucks or spills are outlined in the Van Buren County Emergency Management Plan. This plan provides the contacts for all emergencies related to spill or tank truck accidents.
2. If a call is made to the Police Department (911), the police department will immediately notify the individuals below. Contact information for these individuals is on file at the Village Hall and is listed in this plan.
  - Fire Chief

- DPW Supervisor
- Village Manager
- Village President

1. If there is a possibility that the PWSS is contaminated, the well/s will be taken out of service immediately.
2. The intensity of the spill/contamination will be evaluated. Only trained persons should approach a fire or a spill.
  - a. Avoid direct contact with the spilled material
  - b. Avoid inhalation of any gasses, fumes, vapors or smoke. All personnel should stay upwind (some gasses inhibit the sense of smell or may be dangerous at undetectable concentrations)
  - c. Move and keep people away from the incident scene
  - d. Attempt to determine and remove all ignition sources without unnecessarily endangering life
  - e. Assess the situation with regard to injuries
3. The first responsible authority on the scene should attempt to identify the material involved, hopefully with warning label information. For a transportation incident:
  - Operator of the vehicle should provide name of shipper, consignee, and manufacturer and shipping papers. Shipping papers should be in cab of vehicle on the seat or in a holder on the inside of the door; if a railway incident, papers should be in possession of the conductor or in the engine.
  - UN (United Nations) or NA (North America) material identification numbers. Black 4-digit ID numbers directly on warning placards or on individual orange panels. These numbers are hazard category codes that can be identified by contacting the National Response Center.
  - In some instances, information on containers will identify their contents, in others the name, address of shipper consignee may be found, and these parties may then be contacted directly or through the National Response Center to identify contents. The shipping company should be able to identify contents of the vehicle from the vehicle ID numbers
4. If direct identification is impossible, contact the National Response Center with the following properties:
  - Color of material
  - Physical state (gas, liquid or solid)
  - Odor
  - Noticeable sound
  - Abnormal or extreme heat
  - Pressure leaks
  - Color of flame (if present)
5. Owner/operator of the facility or activity from which the spill originated should then be located and notified immediately. It is appropriate and beneficial for local authorities to make this contact.
6. The owner/operator should be able to supply accurate information about the substance involved and to deploy initial spill counter-measures on short notice.
7. Necessary information for notification of State will be gathered (checklist attached for information needed).
8. Local Coordinator must then notify the Chemical Spill Emergency Management Division, Michigan State Police - The Emergency Management Division (EMD) is the lead state agency for responding to all hazard emergency and disaster incidents. The EMD is responsible for maintaining and implementing the Michigan Emergency Management Plan. Determination should be made if necessary to notify the National Response Center at (800) 424-8802 where trained and experienced personnel are available 24 hours a day.
9. Determine if it is necessary to notify the:
  - a. Michigan Department of Environmental Quality (MDEQ).

- b. Environmental Response Division at (800) 292-4706  
U.S. Environmental Protection Agency (EPA) (Region 5),  
Serves as the Federal on-scene coordinator for all inland environmental emergencies in Michigan. Phone: (312) 353-2000 or toll free within Region 5: (800) 621-8431.

### **Responsibility**

Responsibility to determine if the cleanup and contaminant is adequate is the responsibility of the MDEQ on the State level and the U.S. EPA on the Federal level.

If the responsible party is unknown or not on-site, a local and/or state representative should take charge of on scene operations. During the critical initial phase of response, it is imperative that the local coordinator, ranking local law enforcement official, and ranking fire official be recognized.

If any person, company, or agency (or their appointed agent) responsible for the incident has arrived on-scene and has assumed responsibility for all contaminant and cleanup operations, this person should be in charge of on-scene operations. Local and State agencies on scene should volunteer their services and assistance. The MDEQ is responsible for monitoring all removal operations and coordinating all State activities. Release of information to the news media will be coordinated with the local coordinator, Village Manager and MDEQ.

### **Disaster Declaration**

If a disaster has occurred or if the threat of disaster is imminent, a disaster declaration will be made by executive order or proclamation of the governor. Such an order activates the recovery and rehabilitation phase of the State of Michigan Emergency Management Plan.

### **Disposal**

Disposal of hazardous waste substances will be in an environmentally safe manner consistent with applicable State and Federal Laws and Regulations.

## **REFERENCE LIST OF REPORT INFORMATION NEEDED PRIOR TO CALLING THE MICHIGAN EMERGENCY RESPONSE CENTER**

### **List only information quickly and readily available**

- Date and time of spill release
- Identify or chemical name of material released or spilled as well as whether the substance is an extremely hazardous substance
- If direct identification is impossible, provide the following:
  - Color of material
  - Physical state (gas, liquid or solid)
  - Odor
  - Noticeable sound
  - Abnormal or extreme heat
  - Pressure leaks
  - Color of flame (if present)
- An estimate of the quantity of material released or spilled and the time or duration of the event
- The exact location of the spill, including name of well affected
- Source of release spill
- Name, address and telephone number of the party in charge of, or responsible for, the facility or activity associated with the spill

- The extent of the actual and potential water pollution
- The party responsible for the site (water superintendent)
- Steps being taken or proposed to contain and clean up the released or spilled material and any precautions taken to minimize impacts, including evacuation
- Extent of injuries, if any
- Any known or anticipated health risks associated with the incident and, where appropriate, advice regarding medical attention necessary for exposed individuals
- Possible hazards to the environment (air, soil, water, wildlife, etc.)
- Wind direction and approximate velocity, if this is a factor
- Identity of government and/or private sector representatives responding on scene

### **Distribution**

1. **Storage:**

<u>Elevated</u>	<u>Capacity</u>	<u>Location</u>
Ground/Elevated	200,000	114 Eli St.

  - a). Describe procedure to bypass storage facility:
    - Have 3 relief valves for system hydrants
    - Valve to close to isolate the storage facility: Valve is on north side of tank to shut off tower
2. **Pumping Stations:** (There are no booster pump stations)
  - a). Identify location and capacity of pumps:
 

#2	208 School St.	325 GPM
#3	Prairie Ronde (CR 352)	500 GPM
#4	Prairie Ronde (CR 352)	1,000 GPM
  - b). Describe method to provide auxiliary power to pumps:
    - Wells #3 & #4 are automatic with power outage
    - Well #2 is hooked up manually
3. Location and size of emergency interconnections with other supplies (include persons and telephone number): N/A
4. Available water haulers (include telephone numbers):
  - Mr. Larry Hughes, Country Fresh, Inc.  
2555 Buchanan, SW Grand Rapids, MI 49518  
616-243-0173
  - Mr. Jerry Hop, J & H Oil Co.  
2696 Chicago Drive Grand Rapids, MI 49509  
800-203-9931
5. This Emergency Response Plan shall be located at the Village of Decatur Water and Sewer Front Office on the Bulletin Board and located in a packet marked Emergency Response Plan/Contingency Plan on the East Wall of the Shop Area at the Village of Decatur Public Works barn (114 Eli St.).

It will be distributed as necessary to assure effective use by all necessary waterworks personnel and updated every year or as necessary.

Signature\_\_\_\_\_

James Ebeling, Public Works Foreman Date:\_\_\_\_\_

Signature\_\_\_\_\_

James Krizan, Village Manager      Date: \_\_\_\_\_

# **APPENDIX D**

## **Management Approaches**

## **Master Plan Policy Statement**

Plan:

### **Wellhead Protection**

The Village of Decatur relies exclusively on groundwater for its drinking water source. In response to the concern over safety of public water supplies, the Village has instituted a Wellhead Protection Program (WHPP). WHPPs develop long-term strategies aimed at protecting community drinking water supplies. The purpose of developing a WHPP is to identify the Wellhead Protection Area (WHPA) and develop long-term strategies aimed at safeguarding the area from contamination. A WHPA is defined as the surface and subsurface areas surrounding a water well or well field, which supplies a public water system, and through which contaminants are reasonably likely to move toward and reach the water well or well field. The State of Michigan requires communities to identify seven elements to be included in the WHPP. These elements along with a brief description are below.

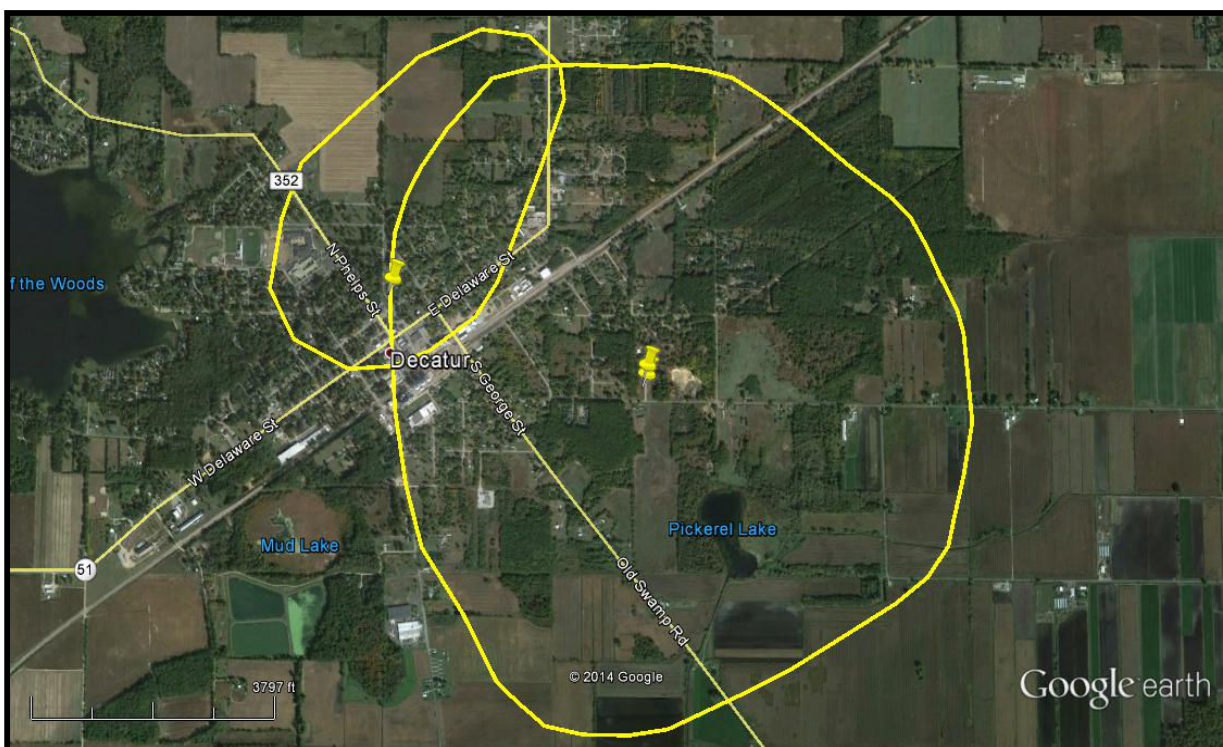
- **Roles and Responsibilities** – Identify individuals responsible for the development, implementation, and long-term maintenance of the local WHPP.
- **WHPA Delineation** – Determine that area which contributes groundwater to the public water supply wells.
- **Contaminant Source Inventory** – Identify known and potential sites of contamination within the WHPA and include in a contaminant source inventory list and map.
- **Management Strategies** – Provide mechanisms which will reduce the risk of existing and potential sources of contamination from reaching the public water supply wells or well field.
- **Contingency Planning** – Develop an effective contingency plan in case of a water supply emergency.
- **Siting of New Wells** – Provide information on existing groundwater availability, the ability of the PWSS to meet present and future demands and the vulnerability of the existing wells to contamination.
- **Public Education and Outreach** – Generate community awareness in the WHPP by focusing on public education and the dissemination of WHPP information.

It is the intent of this Master Plan to encourage protection of the Village's public water supply wells through the establishment of a Wellhead Protection Zoning Ordinance. Within the ordinance, zoning regulations will limit land uses and practices that may degrade groundwater quality within and outside the WHPA.

The most significant sources of water supply contamination are landfills, surface impoundment areas, subsurface percolation from septic tanks and cesspools, open dumps,

uncapped or improperly capped abandoned wells, injection wells and underground storage tanks. These uses represent both *point* and *non-point* contamination sources. Point source is the term used to describe contaminants, which originate in the immediate area of the well or tap. All of the above, if located in close proximity to the water supply source, are examples of potential point source polluters. Contaminants from these uses may seep directly down through the soil to the water source.

Non-point source contamination is much more difficult to control because the cause of the problem may actually be located a considerable distance from the well. This type of contamination is caused by pollutants that filter into an underground aquifer and then migrate slowly through the groundwater aquifer to off-site wells and water sources. Prevention of this type of contamination must involve a collective effort on the part of property owners and local officials from a large geographic area. It is the recommendation of this Plan that all existing and future wells be protected from both point and non-point source contamination to the greatest degree possible. It is also the intent of this Plan to recognize the importance of groundwater protection within the Village of Decatur.





## ABANDONED WELL ORDINANCE

### ORDINANCE XXXX

#### Section 18-26. OPERATION OF PUBLIC WATER SUPPLY SYSTEM.

The operation, maintenance, and management of the public water supply system (PWSS) of the **COMMUNITY NAME** shall be under the immediate supervision and control of the utilities department. (Order Number **XXXX**, **DATE**)

#### Section 18-27. DEFINITION

“Private Well” defined: exceptions. A private well is defined as an opening in the surface of the earth for the purpose of removing water through mechanical or non-mechanical means for any purpose except: treatment of the groundwater, under a plan approved by the Michigan Department of Environmental Quality. This exception applies only when all necessary permits for the well have been obtained.

Prohibitions; permits. No person shall install a private well, without first obtaining a permit from **COMMUNITY NAME** and the **XXXX** County Local Health Department. The intent of this Section is to promote public health and the general welfare and to facilitate the adequate provision of public water.

#### Section 18-28. MANDATORY CONNECTION TO THE **COMMUNITY NAME** WATER SYSTEM

- (1) To insure the payment of the **COMMUNITY TYPE (TOWNSHIP, VILLAGE, CITY)** obligations incurred relating to the creation, maintenance, and extension of the PWSS, and to insure the public health, safety and welfare, any new structure, not to include remodeling or additions, including residences, retail, office and industrial buildings for which a building permit is obtained after the effective date of this ordinance, that is to be used for human occupancy, employment, recreation, or other purposes shall be physically connected to said system and obtain its entire water supply for human consumption and sanitary purposes from said system if such structure is used for industrial purposes or is located within 200 feet of the **COMMUNITY NAME** water system.
- (2) Existing structures for human occupancy, employment, recreation or other purposes that are served by a private well, are used for industrial purposes or are located within 200 feet of the **COMMUNITY NAME** water system, and that experience well failure shall be prohibited from drilling a new well. Such structures shall be required to connect to the **COMMUNITY NAME** water system.

- (3) Any cost of extending the **COMMUNITY NAME** water system to comply with the connection requirements shall be the responsibility of the property owner unless otherwise determined and agreed to by the **COMMUNITY NAME** Board.

(Order Number **XXXX**, **Date**)

#### **Section 18-29. CONNECTION TO THE WATER SYSTEM.**

For the purposes of this ordinance, all connections to the **COMMUNITY NAME** water system shall be physically connected to the interior plumbing system of the structure within 30 days of the extension of the service line into the building, and, if applicable, the disconnection of a private well to the interior plumbing system. This requirement may be waived only at the discretion of the utilities director.

(Order Number **XXXX**, **Date**)

#### **Section 18-30. MANDATORY WELL PLUGGING.**

At the time of a connection to the **COMMUNITY NAME** water system, the existing well(s) on the premises must be abandoned and plugged. In those instances where the well is inaccessible, such as under a building/structure or covered by concrete/asphalt, the **COMMUNITY NAME engineer** shall determine if the mandatory well plugging can be waived. A licensed well driller retained and under the supervision of the **COMMUNITY NAME Engineering Department**, shall perform the plugging of the well.

(Order Number **XXXX**, **Date**)

#### **Section 18-31. EXTENSIONS TO THE WATER SYSTEM.**

Any extension to the **COMMUNITY NAME** water system shall be designed and constructed in accordance with the **COMMUNITY TYPE (TOWNSHIP, VILLAGE, CITY)** water installation standards, as amended, and applicable under state law.

#### **Section 18-32. FEES.**

All users of the water system shall be responsible for the payment of user fees based on a fee schedule adopted by the **COMMUNITY TYPE (TOWNSHIP, VILLAGE, CITY)**. The fees shall be binding upon all users of the water system, as well as their successors in interest, assigns, estates and heirs.

### **NOTICE TO DECATUR RESIDENTS**

If you own a home or business that was built prior to 1956 and are currently hooked to municipal water in the Village of Decatur, at one time you were served by a private well. State law requires that if the private well is not currently being used, it needs to be plugged by a registered well driller. Unplugged abandoned wells can threaten the quality of your drinking water. Plugging these abandoned wells protects Michigan's private and public water supply.

### **VILLAGE SEARCH OF ABANDONED WELLS**

Because abandoned wells can pose a threat to the Village of Decatur water supply, Village staff will be doing a search of abandoned wells in the coming months. If you know of an abandoned well on your property or if you are unsure if you have an abandoned well, please contact the Village at XXXX. If your well has already been plugged, the records should be on file with the State of Michigan Department of Environmental Quality. Please see the attached article for more information about abandoned water wells.

Resolution No. \_\_\_\_\_  
**ADJACENT COMMUNITY NAME**  
Of **XXXX** County, Michigan  
**WELLHEAD PROTECTION  
AND  
ADMINISTRATIVE PROCEDURES**

**PREAMBLE:**

**Statement of Purpose**

The purpose of this resolution is to set forth the policy and administrative procedures that will be used by the **Adjacent Community Name** to protect the municipal water supply.

**Background**

Groundwater is an essential source of fresh water for the public water supply system of the **Adjacent Community Name**.

Virtually any activity on the surface of the ground, which involves hazardous substances, may contaminate the groundwater. Once polluted, groundwater is difficult, and sometimes impossible, to clean. The natural microorganisms which help break down some pollutants on the surface of the ground and in the top soil layers are not present (or not present in sufficient quantities) in groundwater. The slow rates of groundwater flow, ranging from one foot per day to one foot in fifty years, limit dilution or dispersal of contaminants. Groundwater contaminated by today's land uses and activities may remain contaminated for hundreds of years.

The State Of Michigan (Department of Environmental Quality) Wellhead Protection Program is encouraging all public water suppliers to develop local Wellhead Protection Programs. A complete program submission includes the following key elements:

- Defining roles and duties of government units, water supply agencies and other key personnel.
- Delineating a Wellhead Protection Area for each water supply source.
- Identifying potential and existing contaminant sources within each Wellhead Protection Area.
- Utilizing management approaches for protection of the groundwater, including but not limited to education and regulatory approaches.
- Creating contingency plans for public water supply sources including the location of alternate drinking water sources.
- Assuring proper siting on new water sources to minimize potential contamination.
- Encouraging public participation.

As defined, the WHPA is "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or well field." In order to develop a Wellhead Protection Plan, each of the above-mentioned elements must be addressed.

The Michigan Department of Environmental Quality recognizes the importance of local leadership and commitment for effective Wellhead Protection Programs. A wide range of management strategies,

including land use planning, zoning, subdivision controls, interagency cooperation and community education may be useful in a Wellhead Protection Program Plan.

It is the intent of the **Adjacent Community Name** to alert persons applying for land use, building, or subdivision approvals about state requirements for environmental protection. Any land uses or activities which may pose a threat to the public water supply and groundwater shall be properly managed to minimize the possibility of contamination.

**RESOLUTION:**

**WHEREAS**, the **Adjacent Community Name** recognizes the importance of its groundwater supply as a natural resource used for drinking; and

**WHEREAS**, it is within the responsibility of the **System Name**, working with the **Adjacent Municipality Name** as a public water supplier, to consider the health, safety and welfare of its customers; and

**WHEREAS**, groundwater contamination can and does occur as a consequence of a variety of land use activities; and

**WHEREAS**, it is desirable to preserve and protect the quality and quantity of our groundwater resources to assure a continued safe, adequate, and useable supply both now and in the future; and

**WHEREAS**, the protection of current and potential future sources of groundwater used for drinking water is worthwhile from the standpoint of resource protection; and

**WHEREAS**, state, county and municipal laws and regulations require certain land uses to obtain permits and approvals for construction and operation; and

**WHEREAS**, state agencies are not always aware of new development proposals and the owners or developers of proposed new land uses are not always aware of state, county and municipal permit and approval requirements; and

**WHEREAS**, local government officials, through adopted zoning ordinances, have the legal authority to review and/or approve land uses for the purposes of meeting the needs of the state's residents for natural resource protection and public services, including public water supplies;

**NOW THEREFORE BE IT RESOLVED** that the **Adjacent Community Name** support the **System Name** as they agree to take action to: (1) protect the immediate Wellhead Protection Area(s) and (2) take steps to update the zone of contribution to the wells or wellfield(s) in compliance with the State of Michigan Wellhead Protection Program; and

**BE IT FURTHER RESOLVED** that the **Adjacent Community Name** supports the **System Name** as it designates budgets for expenses accrued in determining and updating the zone of contribution of the wells or wellfield(s) and to implement and update their Wellhead Protection Program Plan at such time as funds become available; and;

**BE IT ALSO RESOLVED** that the **Adjacent Community Name** issue no land use permit, zoning permit, building or occupancy permit until such time that all required federal, state, county and/or local environmental permits or approvals have been obtained, and/or there is evidence that proper application to the responsible municipal, county, state or federal agencies has been made and significant issues affecting the Wellhead Protection Area have been addressed. An Environmental Permits Checklist will hereby be adopted for administrative use when new, changed or expanded land use activities are proposed.

Adopted this \_\_\_\_\_ day of \_\_\_\_ (MONTH) \_\_, \_\_\_\_ (YEAR) \_\_.

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

## **CHAPTER 0123**

### **SITE PLAN REVIEW**

- 0123.01 Purposes of Review
- 0123.02 Site Plan Required; Authority of Planning Commission
- 0123.03 Application Procedure
- 0123.04 Site Plan Contents
- 0123.05 Review by Planning Commission
- 0123.06 Amendments to Approved Site Plans
- 0123.07 Issuance of Zoning Permits
- 0123.08 Appeals

#### **CROSS REFERENCES**

Zoning and planning in home rule cities - see M.C.L.A. Sec. 0123.4i

Regulation of location of trades, buildings and uses by local authorities - see M.C.L.A. Sec. 012.345

Regulation of buildings; authority to zone - see M.C.L.A. Sec. 012.345

Regulation of congested areas - see M.C.L.A. Sec. 012.345

Uses of land or structures not conforming to ordinances; powers of legislative bodies; acquisition of property - see M.C.L.A. Sec. 012.345a

#### **0123.01 PURPOSES OF REVIEW**

The purposes of the site plan review are to determine compliance with the provisions of this Zoning Code; to promote the orderly development of the City; to prevent the depreciation of land value because of uses or structures which do not give proper attention to siting or area protection; and to provide cooperation between applicants and

the Planning Commission so that applicants may accomplish their objectives in the utilization of their land in conformity with the provisions of this Zoning Code.

(Ord. 123. **Date Passed**)

### **0123.02 SITE PLAN REQUIRED; AUTHORITY OF PLANNING COMMISSION**

A site plan, prepared in accordance with the requirements of this chapter, shall be submitted to the Planning Commission. The Planning Commission will require a site plan for all land uses except the following:

- (a) Single and two-family dwelling units on individual lots.
- (b) Residential and agricultural accessory buildings.
- (c) Nonresidential accessory buildings less than 832 square feet in area.

Uses with approved site plans or existing buildings which propose a change constituting ten percent or less of the building floor area or ten percent or less of the required parking spaces may be reviewed, approved and administrated by the Planning Commission.

(Ord. 0123. **Date Passed**)

### **0123.03 APPLICATION PROCEDURE**

- (1) An application for site plan review shall be made to the Zoning Administrator, along with a fee as required by resolution of Council. The application shall, at a minimum, contain the following information.
  - (a) The applicant's name, address and telephone number.
  - (b) Proof that the applicant is the owner of the property or has a legal or financial interest in the property, such as a purchase agreement.
  - (c) The name, address and telephone number of the owner(s) of record, if different from the applicant.
  - (d) The address and/or parcel number of the property.
  - (e) A project description, including the number of structures, dwelling units, square feet of the building, parking spaces and employees.
  - (f) Gross and net acreage of all parcels in the project.
- (2) The Zoning Administrator shall review the plan with the applicant and attempt to resolve areas of noncompliance and concern.

- (3) A copy of the site plan may be forwarded to the Police and/or Fire Department(s) for review as deemed appropriate by the Zoning Administrator.
- (4) The Zoning Administrator shall forward the application and copies of the plan to the Planning Commission within thirty days of the receipt of the application.
- (5) Fifteen copies of the site plan shall be submitted with the application for site plan review.

#### **0123.04 SITE PLAN CONTENTS**

The site plan shall be drawn at a scale which is appropriate to the development and which is easily readable. The site plan shall contain the following information, unless compliance is waived by the Zoning Administrator:

- (a) A vicinity map illustrating the location of the site within the Community.
- (b) Structures and lot lines within 100 feet of the boundaries of the site.
- (c) The date the site plan was prepared.
- (d) The name, address and professional seal of the preparer.
- (e) A north arrow.
- (f) Existing elevations at a minimum of two-foot intervals and the site's relationship to adjoining property.
- (g) Property lines, dimensions and building setback distances.
- (h) The location of existing and proposed buildings and their intended uses, as well as the length, width and height of each building.
- (i) The location of abutting streets, rights of way, drives, curb cuts and access easements serving the site.
- (j) Proposed elevations at two-foot intervals and the direction of drainage flow.
- (k) The location and size of all water and sanitary sewer lines and storm drainage lines, as well as fire hydrants and catch basins.
- (l) The location of all sidewalks, bike paths and other walkways.
- (m) The location and size of any walls, fences or other screening provisions.
- (n) The location of all proposed landscape materials, including the size and types of plantings.



- (o) The location of all proposed accessory structures, including light poles, flag poles, storage sheds, transformers, dumpsters and signs.
- (p) Proposed parking areas and access drives, showing the number and size of spaces and aisles.
- (q) The location of utility easements.
- (r) The location and type of significant existing vegetation.
- (s) Watercourses and water bodies, including County and **Community** drains and man-made surface drainage ways, floodplains and wetlands.
- (t) Zoning on adjacent properties.
- (u) Storage and containment areas, if the use of hazardous substances is involved.
- (v) Other items as deemed necessary by the Planning Commission in order to ensure that the proposed development is in compliance with this Zoning Code and other local ordinances, as well as State and Federal statutes.

(Ord. 0123 **Date Passed**)

#### **0123.05 REVIEW BY PLANNING COMMISSION**

- (1) The Planning Commission shall review the site plan for compliance with the requirements of this Zoning Code and conformity to the following general standards:
  - (a) All elements of the site plan shall be harmoniously and efficiently organized in relation to topography, the size and type of the lot, the character of adjoining property and the size and type of buildings. The site shall be developed so as not to impede the normal and orderly development or improvement of surrounding property for uses permitted in this Zoning Code.
  - (b) The landscape shall be preserved in its natural state, insofar as practical, by minimizing tree and soil removal and by topographic modifications which result in maximum harmony with adjacent areas.
  - (c) All storm water shall be detained on site for controlled release. Special attention shall be given to proper site drainage such that the controlled release of storm waters will not adversely affect neighboring properties.

- (d) The site plan shall provide for reasonable visual and sound privacy for all dwelling units located on the site. Fences, walks, barriers and landscaping shall be used, as appropriate, for the protection and enhancement of property and for the privacy of its occupants.
- (e) All buildings or groups of buildings shall be so arranged as to permit emergency access by some practical means to all sides.
- (f) Every structure or dwelling unit shall have access to a public street, walkway or other area dedicated to common use.
- (g) There shall be provided a pedestrian circulation system which is insulated, as completely as reasonably possible, from the vehicular circulation system.
- (h) All loading and unloading areas and outside storage areas, including areas for the storage of trash, which face or are visible from Residential Districts or public thoroughfares, shall be screened by a vertical screen consisting of structural or plant materials no less than six feet in height.
- (i) Exterior lighting shall be arranged so that it is deflected away from adjacent properties and so that it does not impede the vision of traffic along adjacent streets.
- (j) With respect to vehicular and pedestrian circulation, including walkways, interior drives and parking, special attention shall be given to the location and number of access points, general interior circulation, the separation of pedestrian and vehicular traffic, and the arrangement of parking areas that are safe and convenient and that do not, insofar as practicable, detract from the design of the proposed buildings and structures and the neighboring properties.
- (j) All streets shall be built in accordance with the requirements of the community.
- (k) Site plans shall conform to all applicable requirements of State and Federal statutes, and approval may be conditioned on the applicant receiving necessary State and Federal permits before final site plan approval or an occupancy permit is granted. See the State and County Environmental Permits Checklist.
- (l) Standards for groundwater/wellhead protection, as approved by the Michigan Department of Health and the Michigan Department of Natural Resources on October 7, 1994, and in accordance with the **Community Name** Wellhead Protection Program shall be as follows:
  - The project and related improvements shall be designed to protect the natural environment, including lakes, ponds, streams, wetlands, floodplains, groundwater and steep slopes.

- General purpose floor drains shall be allowed only if they are connected to a public sewer system, an on-site holding tank, or a system authorized through a State groundwater discharge permit.
- Sites at which hazardous substances and polluting materials are stored, used or generated shall be designed to prevent spills and discharges to the air, to the surface of the ground, and to groundwater, lakes, streams, rivers or wetlands.
- State and Federal agency requirements for storage, spill prevention, record keeping, emergency response, transport and disposal of hazardous substances and polluting materials shall be met. No discharges to groundwater, including direct and indirect discharges, shall be allowed without required permits and approvals.
- Secondary containment for above-ground areas where hazardous substances and polluting materials are stored or used shall be provided. Secondary containment shall be sufficient to store the substance for the maximum anticipated period of time necessary for the recovery of any released substance.
- Outdoor storage of hazardous substances and polluting materials shall be prohibited except in product-tight containers which are protected from weather, leakage, accidental damage and vandalism.
- Secondary containment structures such as out-buildings, storage rooms, sheds and pole barns shall not have floor drains which outlet to soils, groundwater or nearby drains or rivers.
- Areas and facilities for loading or unloading of hazardous substances and polluting materials, as well as areas where such materials are handled and used, shall be designed and constructed to prevent discharge or runoff to floor drains, rivers, lakes, wetlands, groundwater or soils.
- Existing and new underground storage tanks shall be registered with the authorized State agency in accordance with requirements of the U.S. Environmental Protection Agency and the State Police Fire Marshal Division.
- Installation, operation, maintenance, closure and removal of underground storage tanks shall be in accordance with requirements of the State Police Fire Marshal Division. Leak detection, corrosion protection, spill prevention and overfill protection requirements shall be met. Records of monthly monitoring or inventory control must be retained and available for review by government officials.

- Out-of-service abandoned underground tanks shall be emptied and removed from the ground in accordance with the requirements of the State Police Fire Marshal Division and the Michigan Department of Environmental Quality.
  - Site plans shall take into consideration the location and extent of any contaminated soils and/or groundwater on the site and the need to protect public health and the environment.
  - Development shall not be allowed on or near contaminated areas of a site unless information from the Michigan Department of Environmental Quality is available indicating that clean-up will proceed in a timely fashion.
  - No above-ground storage of hazardous substances and related secondary containment facilities shall be located within fifty feet of any property line or 100 feet of any residentially zoned property.
  - No underground storage tank shall be within thirty feet of any property line or fifty feet of any residentially zoned property.
- (2) The Planning Commission shall notify the Zoning Administrator and the applicant of its decision within thirty days of the meeting at which the plan was reviewed. Failure to do so will cause the project to be approved unless the failure is beyond the ability of the Planning Commission to control. This requirement may be waived by the applicant.
- (3) In compliance with the Zoning Enabling Act (M.C.L.A. 012.345e, as amended), the Planning Commission may require, upon staff recommendation, a performance bond, letter of credit, certified check or cash bond, in an amount equal to the estimated cost of the improvements associated with the project (as defined by M.C.L.A. 012.345e, as amended). Such performance guarantee shall be deposited with the **Community** Finance Director/Treasurer at the time of the issuance of the permit authorizing the activity or project to ensure faithful completion of the improvements indicated with the approved site plan. If not completed, said performance bond shall be forfeited. The **Community** shall rebate a proportional share of cash deposits only when requested by the depositor, based on the percentage of improvements completed, as attested to by the depositor and verified by the Zoning Administrator.
- (4) A site plan approved under this section shall be valid for a period of one year. If construction has not commenced within this time period, the site plan shall become null and void. Upon a written request from the applicant, the Planning Commission may grant one extension of the site plan for a period not to exceed sixty days.

- (5) The site plan shall be approved, denied or approved subject to any conditions that the Planning Commission may reasonably deem essential for the protection of the public health, safety and welfare of the community.

(Ord. 012. **Date Passed**; Ord. 012. **Date Passed**; Ord. 012. **Date Passed**)

#### **0123.06 AMENDMENTS TO APPROVED SITE PLANS**

Amendments to an approved site plan shall be made in accordance with the provisions of this chapter.

(Ord. 012. **Date Passed**)

#### **0123.07 ISSUANCE OF ZONING PERMITS**

The Zoning Administrator shall, upon approval of the final site plan and upon application by the applicant, issue a zoning permit, provided that all other applicable **community** ordinances and codes have been complied with.

(Ord. 012. **Date Passed**)

#### **0123.08 APPEALS**

Any person or party aggrieved by a decision of the Planning Commission under this chapter may appeal such decision to the Zoning Board of Appeals in accordance with the provisions of this Zoning Code. Such appeal shall be filed within ten days of the date of a final decision on the site plan by the Planning Commission.

# **APPENDIX E**

## **Public Education Activities**

