

DRINKING WATER SOURCE PROTECTION PLAN

for

the VILLAGE OF LARUE

PWS ID#

5100312

JUNE 2013



Prepared by:

Village of LaRue Board of Public Affairs

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APPENDICES

- Appendix A: Source Water Assessment Report**
- Appendix B: Resolution**
- Appendix C: Education and Outreach Materials**
- Appendix D: Source Water Protection Brochure**
- Appendix E: Contingency Plan page attachments**

1.0 INTRODUCTION

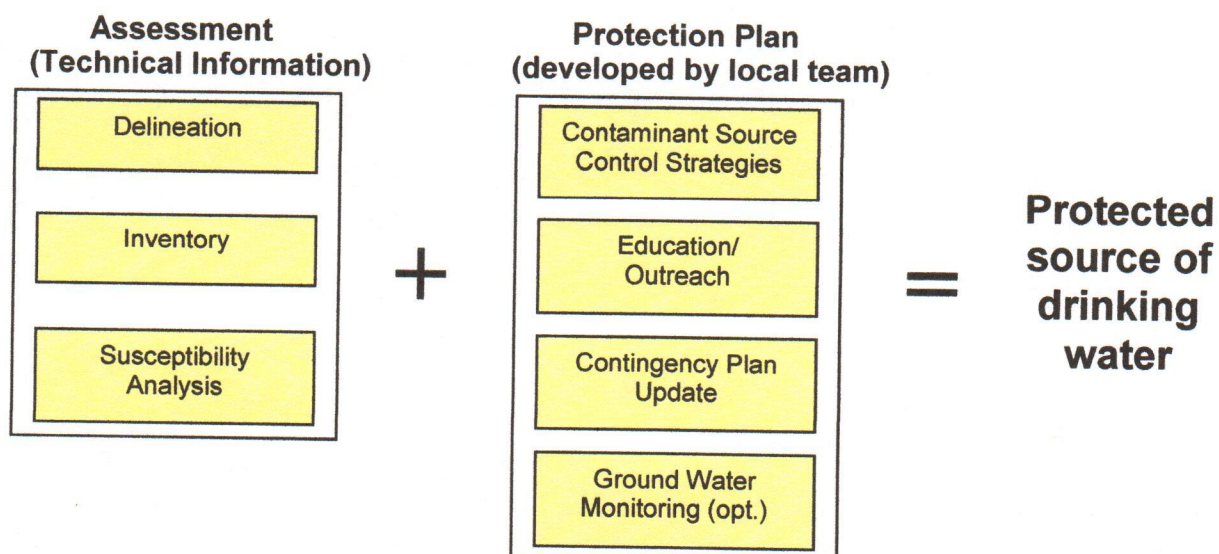
The Village of LaRue has developed a Source Water Protection Plan ("Protection Plan") to document the strategies we will implement to protect the aquifer that supplies our drinking water from land-based contamination. Components of the Protection Plan include: contaminant source control strategies, education and outreach strategies, contingency plan update, and –in some cases—ground water monitoring.

This Protection Plan builds on the Source Water Assessment Report that was completed for the Village of LaRue in May 2013 by Ohio EPA. This assessment (see Appendix A) includes delineation of the one year and five year time of travel areas, a potential contaminant source inventory and a susceptibility analysis. The potential contaminant source inventory was updated in January 2013 by Ohio EPA, to ensure the protective strategies documented here are based on currently existing contaminant sources.

1.1 BENEFITS OF A PROTECTION PLAN

A Protection Plan:

- Helps Village of LaRue provide the safest and highest quality drinking water to its customers at the lowest possible cost;
- Helps to plan for future expansion, development, zoning and emergency response issues; and
- Can provide more opportunities for funding in order to improve infrastructure, purchase land in the protection area, and other improvements to the wellfield.



1.2 SUMMARY OF VILLAGE OF LARUE'S SOURCE WATER ASSESSMENT

The Village of LaRue's water operates two wells that pump approximately 72,000 gallons of water per day from a limestone aquifer (water-rich zone) within the Village of LaRue.

The drinking water source protection areas for the Village of LaRue's wells are illustrated in the Drinking Water Source Assessment report prepared by Ohio EPA in May 2013. The source water protection area includes two zones, one inside the other. The "inner protection zone" is the area that provides ground water to the wells within one year of pumping. The "outer protection zone" is the area that contributes water when the wells are pumped for five years.

Based on relevant databases and a field inspection of the area, three potential sources of contamination were identified within the protection area. These include State Routes 37 and 95, area farmers and the railroad.

Village of LaRue's source of drinking water has a low susceptibility to contamination due to:

- the presence of a moderately thick protective layer of clay overlying the aquifer,
 - a lack of sound evidence to suggest that ground water has been impacted by any significant levels of chemical contaminants from human activities,
- and
- no apparent significant potential contaminant sources in the protection area.

2.0 FORMING A PROTECTION TEAM

The Source Water Protection Plan was developed by a local team made up of Village of LaRue staff, board members, emergency responders.

2.1 BUY-IN BY DECISION MAKERS

The Village of LaRue held a source water protection planning meeting attended by six individuals on March 4, 2013. The Village council passed a resolution that acknowledges the importance of source water protection and commits to developing and implementing a drinking water source protection plan.

A copy of the resolution is included as Appendix B.

Village of LaRue Decision Makers Meeting

Date of presentation to decision makers 3/4/2013

Was a resolution passed? X Yes No

Person in charge of oversight of the protection plan development

Mr. Milton Lightfoot,
Name

Mayor
Title

740-499-2100
Phone Number

2.2 PROTECTION TEAM MEMBERS

Date Protection Team was formed: March 4, 2013

Table 2-1. List of Protection Team Members			
Name (E-mail address)	Title	Organization	Phone Number
Thomas Tucker	President, Board of Public Affairs	Village of LaRue	740-499-3620
Mark Hardin	Board Member, Board of Public Affairs	Village of LaRue	740-396-2102
Wendy Crabtree	Board Member, Board of Public Affairs	Village of LaRue	740-499-3344
Mark Heller	Water Plant Superintendent	Village of LaRue	740-499-2100
Todd Outland	Water Plant Operator	Village of LaRue	740-499-2100
Mary Price	Clerk	Village of LaRue	740-499-2100

3.0 STRATEGIES FOR CONTAMINANT SOURCES

The goal of this section is to develop protective strategies for the potential contaminant sources in Village of LaRue's protection area. The potential contaminant sources listed in the Source Water Assessment Report (see Appendix A) were evaluated. The Village of LaRue developed specific protective strategies the community will use to protect its drinking water from the types of potential contaminant sources identified. A listing of the potential contaminant sources in the Village of LaRue's protection area and the protective strategies selected to address them is presented in the following table.

Table 3-1. Strategies to Reduce Risk of Specific Contaminant Sources				
Potential Contaminant Source	Priority / Level of Threat	Protective Strategies	Timeline for Implementation	Who Will Implement? [Name/Title]
State Route 37 & 95	2	Install road signs on Route 37 and 95.	Install by January	Mayer will contact ODOT. ODOT

4.0 EDUCATION AND OUTREACH

The purpose of the Protection Team’s education and outreach efforts is to inform people who live and work in Village of LaRue’s drinking water source protection area about where their drinking water comes from and why it is important to protect this valuable resource. Education and outreach efforts will also inform the community how their activities can potentially impact groundwater and what they can do to prevent contamination.

Table 4-1. Educational Strategies			
Education and Outreach Strategies	Target Audience	Time line for Implementation	Who (name and title) will implement this strategy?
Consumer Confidence Report – include information about actions residents can take to protect source water quality	Water customers	Distribute annually, in July	Mark HellerPWS operator
Flyer	General Public	Distribute one time and then have copies at the Village office, this is attached in Appendix D	Mark Heller and Mary Price
Elgin Local School Outreach	School aged kids	Give demonstrations on ways in which you can protect your water supply,	Richard Kroeger, OEPA NWDO

5.0 UPDATE OF CONTINGENCY PLAN

A well-formulated contingency plan enables a utility to prepare for, respond to, and recover from crisis conditions without wasting time on futile or unnecessary efforts or spending funds unnecessarily. The plan defines the duties, responsibilities, and functions of all water Village of LaRue personnel with respect to each specific emergency condition. The Village of LaRue has developed procedures to address specific situations that can be expected to arise, and these are documented in Village of LaRue's water plant contingency plan.

The following are issues that are specific to drinking water source protection. This information has been included in the water plant contingency plan.

5.1 DRINKING WATER SHORTAGE – SHORT TERM LOSS OF SOURCE

If Village of LaRue experiences a short-term loss of its drinking water source (such as through a short-lived emergency on the wellfield, collapse of a well, etc.), it will:

- Order water trucks to bring in water – see page 24 of PWS Contingency Plan for more details

Village of LaRue can provide water from existing storage for up to 2 days, provided it is not necessary to flush out the entire distribution Village of LaRue.

$\text{Current storage in gallons} / (\# \text{ of customers} \times 100 \text{ gal/day}) = \# \text{ of days of storage}$
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5.2 DRINKING WATER SHORTAGE – LONG-TERM LOSS OF SOURCE

In the event of complete loss of the current wellfield, the VILLAGE OF LARUE would most likely:

- Move to secure another wellfield in the vicinity

5.3 FUNDING FOR WATER EMERGENCIES

Village of LaRue currently has no budgeted funding for emergency use. If additional monies are required, the Village of LaRue has been in contact with RCAP for an emergency situation funding sources.

5.4 PLANNING FOR THE FUTURE

- A. Current average daily pumpage = 72,000 gallons per day (as of January 2013)
- B. Current daily Village of LaRue design capacity) = 201,000 gallons per day (as of June 30, 2011)
- C. Wellfield capacity (the maximum amount the wells can pump, based on the capacity of the pumps) is 180, 000 gallons per day.

Village of LaRue currently is pumping about 36% (A/B) of its design capacity and 40% (A/C) of its wellfield capacity

Census figures indicate that municipality has maintained a steady population of 900 to 1,000) since the late 1800s. Currently no significant growth or decline of population is anticipated. Due to the depth of the aquifer, ground water levels in the vicinity have remained fairly steady even during major drought years. Also, at this time the Village is not aggressively developing and does not anticipate a sudden spike in industrial use of the water.

Based on this, the Village of LaRue does not anticipate the need to expand the wellfield or significantly increase pumpage within the next 5-10 years.

5.5 EMERGENCY RESPONSE TO A TOXIC SPILL/RELEASE IN PROTECTION AREA

The Village of LaRue contingency plan addresses accidental chemical spills and releases in the protection area. A copy of this information is shown on the following page:

Accidental Chemical Spill or Release within the Protection Area

1. () Determine the following information:
 - Who made the first observation? What is their phone number and location?
 - When did it happen?
 - What is it?
 - Where is it? Is it isolated to one area or is it wide spread?
 - Has the spill been reported to Ohio EPA?
 - Has the fire department or hazardous materials response team been notified?
 - Has the property owner been notified?
2. () If no notifications have been made, immediately contact emergency personnel and agencies (i.e. fire dept., Ohio EPA, etc.) using the phone number(s) found on page 22 of the Contingency Plan. Notify them of the situation.
3. () Contact the following work personnel, city officials, and contractors using the phone number(s) found on page 24 of the Contingency Plan

NAME Mark Heller 740-499-210
NAME Holcomb Excavating 740-499-2868
NAME Thomas Tucker 740-499-3620

4. () If it is safe to do so visit the scene to make contact with on-scene emergency personnel and agencies. The local fire department is generally the lead response agency.
5. () Complete the following activities as soon as possible:
- a. () Perform a physical check on the Village of LaRue and its structural integrity (check wells for damage, etc.).
 - b. () If it is determined that the spill resulted in the probable introduction of contaminants into the wells, proper precautions must be taken during sampling to prevent exposure to the contaminant and/or daughter products.
 - c. () If repairs are needed, coordinate with the lead response agency and Ohio EPA to ensure the safety of the repair crew. Proper precautions must be taken to prevent exposure to the contaminant and/or daughter products.
 - d. () If the Village of LaRue needs to be temporarily shut down as a result of the spill, the procedures can be found on page 9, 10 & 12 of the contingency plan. Plans for short term loss of source can be found on page 9, 10 & 12 of the contingency plan.
6. () If the wells are secure, coordinate with the lead response agency and Ohio EPA on actions being taken to mitigate the spill. At a minimum, obtain the following information:
- Who is responsible for the cleanup? What is their phone number and other contact information?
- What contractors or consultants have been sent by the responsible party?
- What actions have they taken?
- How long is clean-up expected to take? How long must water use be stopped or reduced? (If greater than one week, options for long-term loss of source may be initiated. See pages 9-12 of Contingency Plan.)
7. () Follow-up with the on-scene responders and contractors to determine if additional, long-term actions (such as ground water treatment and/or additional raw water monitoring) are required or recommended. If so, determine:
- What kind of monitoring is needed, at what frequency
 - What levels will trigger return to normal operations
 - What kind of additional treatment may be needed

6.0 Ground Water Monitoring

The Village believes that ground water monitoring is not needed at this time because of the results from past chemical and bacterial testing and have found no known sources of contamination. Also, with the Village's wellfield at a depth of 200 feet and till thickness of approximately 120 feet this provides an adequate form of protection.

7.0 Periodic Review

A protection plan is not a static document. Over time many issues related to protection planning will change- wells will be added or removed from the wellfield, existing potential contaminant sources will close, new education and outreach opportunities will become available, new partners in protecting the drinking water source will be identified. The protection plan needs to plan for these and other events.

Village of LaRue commits to reviewing the Drinking Water Source Protection Plan every five years, beginning with July 2013.

7.1 Updating the SWAP Assessment

Delineation Updates

- Has the amount of pumping increased or decreased since the date Ohio EPA/consultant provided the Drinking Water Source Assessment report?
- Have any wells been added or removed?
- Has a new wellfield been added or are there any plans for a new wellfield?
- Is there new hydrogeologic data to refine the delineation model (e.g., flow direction, pump tests, new well logs etc.)?

If the answer to any of the above questions is yes, Village of LaRue will contact Ohio EPA's Source Water Assessment and Protection Program staff in the Northwest District office to determine whether the protection area should be re-delineated.

Potential Contaminant Source Inventory

- Has the extent of the protection area changed?
- Has the community developed rapidly?
- Have land uses in and around the protection area changed?
- Has management of businesses in the protection area changed?

If the answer to any of the above questions is yes, VILLAGE OF LARUE will update the inventory or conduct a new inventory. VILLAGE OF LARUE may contact Ohio EPA's SWAP staff in the district office for guidance or assistance in conducting the inventory.

Other

- Is the list of Protection Team members and contact numbers current?

7.2 Evaluating the Effectiveness of the Protective Strategies

In order to evaluate if the protective strategies in this Source Water Protection Plan are achieving the desired outcomes, Village of LaRue will consider the following types of questions and write any changes into the Protection Plan.

- *[If local protection area ordinances are in place]:* Has the ordinance achieved its purpose? (If not, why not?) Should it be revised to be more effective?
- *[If local protection area ordinances are not in place]:* Do we have reason to be concerned about how the drinking water source protection area may be used in the future? Should we consider trying to better protect it through a local ordinance? Would such an ordinance need to be enacted and implemented by another jurisdiction?

Pollution Source Control Strategies:

- Have we followed our own schedule of implementation/timeline (Section 2, Table 2-1) for each of the pollution source control strategies?
- Are there new potential contaminant sources that need to be addressed with new pollution source control strategies?
- Have we implemented any new protective strategies that are not documented here?
- Did any of our strategies result in removal or elimination of a potential source?
- Did any of our strategies result in business owners or individuals modifying practices to decrease the risk of contaminating the drinking water source?
- Did our coordination with other groups (SWCDs, county EMAs, local health dept., local watershed group, etc.) contribute to the implementation of protective strategies?
- Have the partnerships developed during plan implementation been productive?

Education and Outreach:

- Have we followed our own schedule of implementation/timeline (Section 3, Table 3-1) for each of the educational strategies?
- Are there any new groups in the population that we need to target with education and outreach strategies?
- Have we implemented any new educational strategies that are not already documented here?
- Has education and outreach targeting any specific group resulted in actions that reduced or could potentially reduce the risk of contaminating the drinking water source (e.g., septic Village of LaRue owners conducting regular maintenance, farmers using best management practices, properly sealing abandoned wells)?
- Have we received additional funding to continue any particular education and outreach strategy?
- Have we received any accolades, awards or recognition from outside entities or organizations for our educational efforts?
- Have we had any unsolicited requests for SWAP-related education (such as requests for plant tours, requests for presenters/speakers at events, etc.)?
- Did our coordination with other groups (SWCDs, SWEET Team, local health dept., local watershed group, etc.) contribute to the successful development and dissemination of SWAP-related information?

- Did we have sufficient staff and resources to complete all the planned educational efforts?
- Have educational efforts been cost effective? Efficient? (Consider level of attendance, attentiveness and participation by audience, comments received, etc., vs. the cost to facilitate the event) Should the frequency of the outreach be increased, decreased, or remain the same?
- Have the partnerships developed during plan implementation been productive?
- Have any of the target groups contacted the public water Village of LaRue for additional information about something they saw or heard about through these activities?

Drinking Water Shortage/Emergency Response:

- Are there any updates to the Drinking Water Shortage/Emergency Response Plan?
- Did our coordination with emergency responders at the local and county level result in better communication and handling of spill incidents that could impact our drinking water?

Ground Water Monitoring:

For Village of LaRues that are monitoring raw ground water quality:

- Have we followed our ground water monitoring plan (i.e., sampled at the specific frequency, analyzed for the appropriate parameters, etc.)?
- Have there been any significant changes to our water quality?
- Do we have sufficient water quality data or other reasons (e.g., the source was removed) to conclude that ground water monitoring can be cut back or is no longer needed?
- Are there new water quality, potential contaminant source or land use issues that would influence the need to expand our ground water monitoring network?
- Does our ground water monitoring plan need to be updated for any reason?

For Village of LaRues that are NOT monitoring raw ground water quality:

- Have there been any significant changes to our water quality?
- Are there new water quality, potential contaminant source or land use issues that may make it necessary to develop and implement a ground water monitoring program?

7.3 Revising the Plan

Upon review, if any revisions of the SWAP Assessment Report are needed, Village of LaRue will contact Ohio EPA's Northwest District Office for guidance. Also, if the local planning team makes any substantial changes to the Village of LaRue's Protection Plan, a copy will be forwarded to Ohio EPA for concurrence. The revision will be documented on the front cover by adding "Revised [date]" beneath the date at the bottom of the page.

Appendix A