

DRINKING WATER SOURCE PROTECTION PLAN

for

The Village of New Concord

P.O. Box 10
2 West Main Street
New Concord, Ohio 43762

**PWS ID#
6001711**

Ohio EPA Endorsement: 10/22/2010

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This document presents the Drinking Water Source Protection Plan for the Village of New Concord, Ohio. The 1996 Amendments to the Safe Drinking Water Act established the Source Water Assessment and Protection Program. The Source Water Assessment and Protection Program was established to help public water systems develop plans to protect their drinking water resources. This document is based on Ohio EPA's "Developing Source Water Protection Plans for Public Drinking Water Systems Using Inland Surface Waters."

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Appendix A: Drinking Water Source Assessment for the Village of New Concord

INTRODUCTION

Source water protection planning is an important tool to keep water safe to drink and treatment costs low. A source water protection plan is a locally designed and implemented plan to mitigate current and potential contaminants. Plans identify and study potential threats to drinking water supplies and identify strategies to alleviate those threats. The protection plan may be implemented as a completely voluntary effort, or if necessary, local ordinances can be used to enforce certain measures.

The key to source water protection is to prevent costly contamination in order to save the health and financial resources of communities, while ensuring a long-term supply of safe and affordable drinking water remains available for future generations.

Why should a community do a source water protection plan?

It is essential for communities to complete a source water protection plan because water is a vital part of all facets of our communities. Water is a basic building block for all life on earth and keeps our bodies and ecosystem healthy. Besides oxygen, water is the most important nutrient for the human body, evident by the fact that somewhere between fifty and seventy percent of the human body is water. In addition, clean, affordable, water can be an important economic driver. Many manufacturing plants use significant amounts of water and can even decide plant locations based on the availability of quality water. Clean water, provided at a reasonable cost, can attract new business and residents which help fuel economic growth and prosperity.

What if your water is already clean? Governments already invest a significant amount of money and time in their water treatment and distribution, *so keeping the water source clean keeps costs as low as possible*. When contamination occurs, it can have a huge financial impact on communities and entire financial reserves can be wiped out. Contaminations also disrupt lives and businesses, creating a negative economic effect for the local community. Most importantly, however, when drinking water is contaminated, the health of our families and fellow citizens is put at risk.

Because it only takes one major event to drastically change the quality of your water source, it is critical to plan ahead. Protection planning can prevent a future event entirely, minimize a potential threat, or simply prepare the community for when something does happen to the water supply. A source water protection plan can also be used when evaluating potential development opportunities that may affect drinking water supplies in the future.

- ✓ It helps the village provide the safest and highest quality drinking water to its customers at the lowest possible cost.
- ✓ It establishes strategies to minimize the potential threats to the source of drinking water.
- ✓ It helps to plan for expansion, development, zoning, and emergency response issues.
- ✓ It can provide more opportunities for funding in order to improve infrastructure, purchase land in the protection area, and other improvements to the water system.

Program History

Source water assessment and protection (SWAP) is a non-regulatory state program administered by the Ohio Environmental Protection Agency. The program started as the Wellhead Protection Program, which was part of the 1986 amendments to the federal Safe Drinking Water Act. These amendments required states to administer a source water protection program for their systems using ground water. In 1992 Ohio's Wellhead Protection Program was approved by the U.S. Environmental Protection Agency. The wellhead protection program provided guidance and technical assistance to public water systems, who were encouraged to complete assessments and protection plans using their own resources. Ohio EPA staff reviewed the assessments and formally endorsed them, when complete.

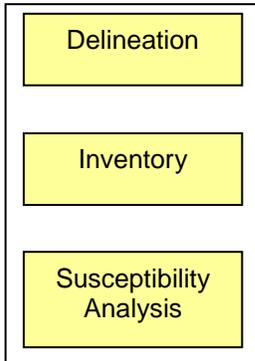
In 1996, the Safe Drinking Water Act was amended again. Section 1453 was added, providing states with the necessary federal funding to complete source water assessments for their public water systems. At that time, the program was extended to include surface water systems and was renamed "Source Water Protection." Starting in 2000, Ohio EPA staff began assessing Ohio's water systems and by January 2006, this phase was complete for over 95% of Ohio's public water systems. It was the intent of Congress that public water systems use the information in their source water assessment to develop a drinking water source protection plan. It is currently a requirement by the Ohio EPA to have a plan in place when installing a new well for public drinking water.

SOURCE WATER PROTECTION PLANNING PROCESS

Process Outline

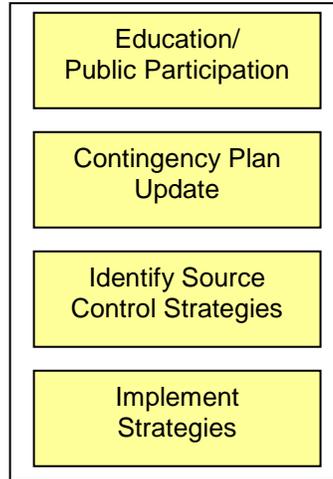
1. *Assessment*: Completed by the Ohio EPA in 2003 and attached as Appendix (A). It includes:
 - Delineation: This is a map of the portion of the watershed that drains into North Crooked Creek upstream from the intake.
 - Potential contaminant source inventory: This identifies potential contaminant sources within the delineated area that could pose a threat to drinking water.
 - Susceptibility analysis: This is a determination of the susceptibility of the source water to contamination. (In Ohio, all surface waters are ranked highly susceptible.
2. *Development of Protection Plan*: The plan may be completed in consultation with the Ohio EPA, Ohio Rural Water Association, or a private consultant.
 - Start a planning team: The first step to effective planning is to collect the proper people to help design it and do future implementation. Team members can include local government officials, community members, other government agency representatives, consultants, business representatives, watershed groups, or other interested parties.
 - Update protection area and potential contaminant list: The planning team should review the assessment and see if any additions or corrections need to be looked at. They should also prioritize which potential contaminants pose the greatest threat.
 - Identify protective strategies: For each prioritized contaminant source, a protective strategy should be identified with implementable goals.
 - Design local outreach and public education effort: All good protection planning requires public participation. An outreach and education effort can help instill good environmental stewardship and ensure the plan addresses all the community's needs.
 - Create an emergency plan and contingency plan: An emergency plan provides information and procedures for local responders in case something happened to the drinking water supply. A contingency plan looks at alternative drinking water supplies to ensure water is available during an emergency.
 - Seek Ohio EPA endorsement.
3. *Implement Protection Plan*: Implemented by the village with assistance from state agencies and the Ohio Rural Water Association
 - Work with contaminant sources to mitigate threats.
 - Continue outreach and education efforts.
 - Apply for potential funding sources.
 - Update plan at least every five years.

**Assessment
(Technical Information)**



+

**Protection Planning and Implementation
(Developed by local team)**



=

**Protected
source of
drinking
water**

VILLAGE OF NEW CONCORD PLANNING TEAM

Village officials in New Concord acknowledge the importance of protecting the drinking water supply. The Village recognizes the importance of developing a drinking water source protection plan and selected a drinking water source protection planning team (Protection Team) to develop and implement this Protection Plan.



The Village of New Concord held a source water protection planning meeting attended by Chris Huebner, Superintendent, and John Huey, Village Administrator on June 29, 2010. The Village named John Huey to oversee development of this Protection Plan.

System Decision Makers Meeting

Date of presentation to decision makers: June 29, 2010

Person in charge of oversight of the protection plan development:

Name: John Huey Title: Administrator

Protection Team

Date Protection Team Formed: 6/29/10

Name	Organization	Title	Phone Number
Chris Huebner	Village	Water & Wastewater	(740) 255-6385
John Huey	Village	Administrator	(740) 826-7671
Brent Gates	Village	Fire Chief	(740) 826-4986
Ed Stewart	Village	Police Chief	(740) 826-7616
Jeff Wiler	Village	Operator	(740) 826-7246
John Morrow	Village	Operations Manager	(740) 255-6386
Kyle Bohland	ORWA	Source Water Spec.	(614) 296-0174
Sandy Chenal	Wills Creek Watershed	Coordinator	(330) 339-4517

DESCRIPTION OF SOURCE WATER AREA

North Crooked Creek serves as the surface water source for the Village of New Concord. The village is in the Wills Creek watershed area, emptying into the Muskingum River. North Crooked Creek is approximately six miles in length, with a drainage area of approximately 17.8 square miles. Past the reservoir it flows to Crooked Creek and subsequently to Wills Creek, which drains to the Muskingum River. The area around New Concord has a very limited supply of ground water. The area contains alternating layers of shale and sandstone over bedrock. A well at ninety feet can be expected to yield no more than three gallons per minute.

There are no estimates of stream travel for any of the main unnamed tributaries feeding the reservoirs or for North Crooked Creek. However, Crooked Creek is a relatively swiftly-flowing stream, with an average fall of 30-35 feet per mile. The upper mainstream elevation is 1,101 feet above mean sea level and the reservoir elevation is approximately 850 feet above mean sea level. North Crooked Creek is fed by Fox Creek, some unnamed intermittent tributaries and surrounding drainage. Fox Creek drains 3.8 square miles and is 3.2 miles in length. It drops an average of 50.6 feet per mile and has a high elevation of 1,018 feet above sea level and a low elevation of 856 feet with the confluence of North Crooked Creek. Fox Creek was designated Limited Warm Water habitat for aquatic life use designation in the 1978 water quality standards and remains so today (OAC 3745-01-24). It is limited due to acid mine drainage and has varied criteria year round. It is exempt from the total dissolved solids (TDS) criteria for warm water habitat. It maintains an agricultural and industrial water supply use designation (AWS, IWS) and a primary contact recreational use designation (PCR). It has not been recently assessed by Ohio EPA.

The total drainage area associated with the drinking water source protection area is 4,929.7 acres or 7.7 square miles. The Corridor Management Zone (CMZ) is an area along streams and tributaries within the protection area that warrants delineation, inventory and management. Typically, the CMZ runs a total of ten miles upstream from the intake, and includes the tributaries that drain into it. The CMZ is 1,000 feet wide on each side of the North Crooked Creek mainstream and 500 feet wide on each side of any tributaries. The Corridor Management Zone encompasses approximately 2,450.7 acres or 3.8 square miles.

The Emergency Management Zone (EMZ) is defined as an area in the immediate vicinity of the surface water intake in which the public water system operator has little or no time to respond to a spill. It typically is delineated as a semi-circle that extends 500 feet upstream and 100 feet downstream of the intake. The EMZ for the upper reservoir encompasses 71.8 acres or 0.112 square miles and the EMZ for the lower reservoir encompasses 43.8 acres or 0.06 square miles.

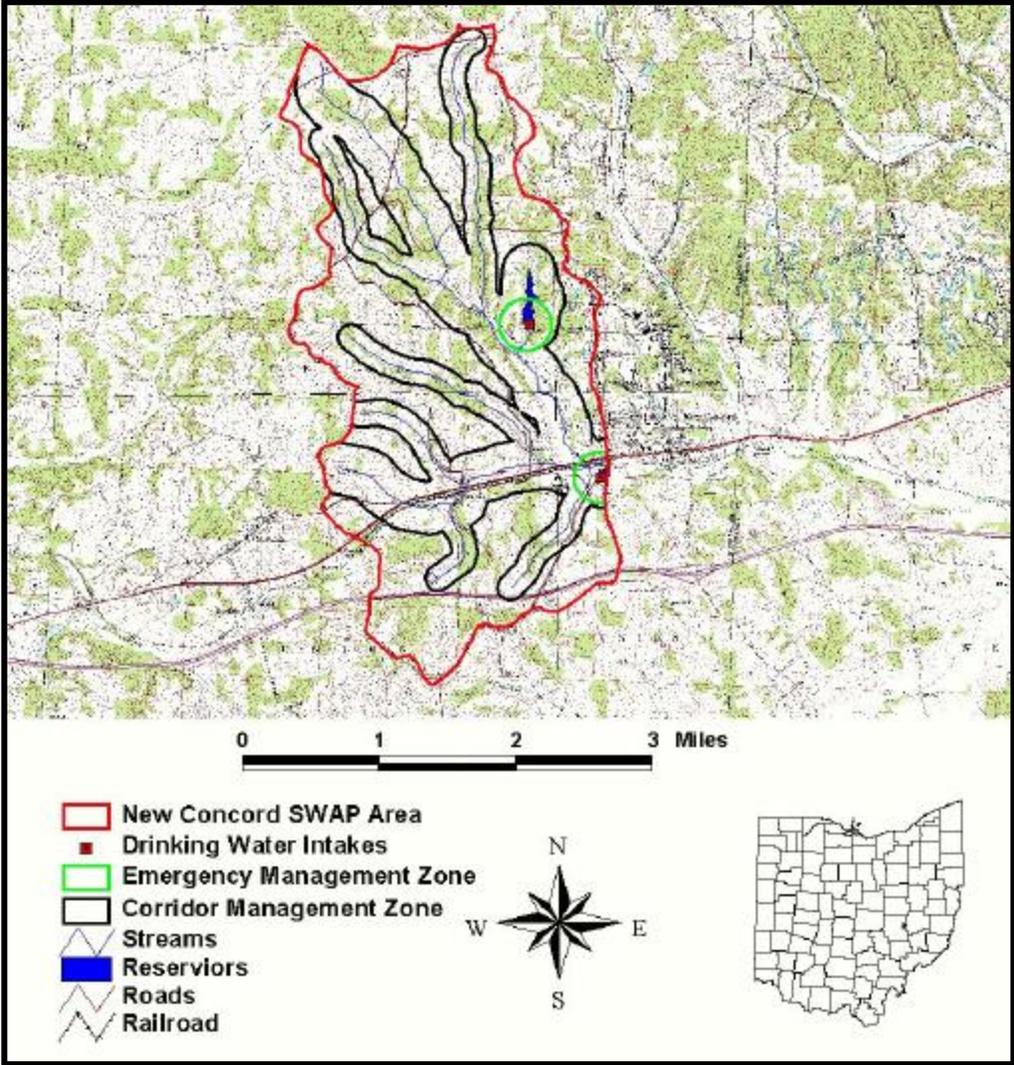
The Village of New Concord is a Class III surface water system that serves a population of about 2,550 people with about 700 metered connections. The water treatment system is

Lower Reservoir Looking North Towards Treatment Plant



capable of obtaining its raw water from two different reservoirs. The 10 million gallon lower reservoir is located adjacent to the village of New Concord and is fed by natural springs and North Crooked Creek. The reservoir commonly referred to as the upper reservoir contains approximately 60 million gallons and is located about one mile north of State Route 40 and two miles east of Shady Drive. The Village of New Concord maintains three intake stations with two on the reservoirs and one on North Crooked Creek. The principal intake on the lower reservoir is located near the water treatment plant. A raw water line connects North Crooked Creek with the lower reservoir. The valve is usually left open but can be closed if contamination is suspected in North Crooked Creek. When drought lowers water levels in the lower reservoir and North Crooked Creek, water from the upper reservoir is pumped into the lower reservoir.

The total pumping capacity is approximately 750,000 gallons per day, but current average production is 240,000 gallons per day. The New Concord water treatment plant was last upgraded in 1994. The plant is owned by the Village of New Concord and performs clarification, filtration, phosphate addition, disinfection, and fluoridation as its treatment process.



Source Water Protection Area for the Village of New Concord

POTENTIAL CONTAMINANT CONTROL STRATEGIES

The goal of this section is to develop protective strategies for the potential contaminant sources in Village of New Concord protection area. The potential contaminant sources listed in the Assessment Report (see Appendix A) were evaluated. The Village considered the protective strategies recommended by Ohio EPA in the Assessment Report and developed specific protective strategies the community will use to protect its drinking water from the types of potential contaminant sources identified.

The inventory from the Assessment Report was updated and prioritized. (See Table 2 in the original Assessment Report.) The main roads that travel through the protection area and the train tracks that run directly adjacent to the treatment plant and primary reservoir were added. The settling ponds were eliminated from the inventory because they are no longer in service. The potential contaminants were prioritized based on previous testing results and the proximity to the water treatment plant and main reservoir.

Highways and Roads

1. Busy highways can present a major problem for source water protection areas. Interstate Highway 70, U.S. Route 40, and State Highway 83 all run through the protection area, with U.S. Route 40 running directly adjacent to the water treatment plant and



Interstate 70 looking east to the New Concord exit

lower reservoir. There are two major problems with roads and water quality, contamination from de-icing and an accident. To date, chloride levels have not presented a significant issue for the village. Chloride will continue to be monitored and further steps will be taken if necessary. A much larger potential problem, however, is the threat of an accident, especially one with hazardous materials. The village will be posting protection signs to warn people they are entering a water protection zone and to provide a contact number in the event of a spill. Having an emergency response and contingency plan is also paramount.



Railroad runs next to the water treatment plant

Railroad

2. Railroads are potential dangers to drinking water because trains can release chemicals during normal operation and in the event of an accident. Although rare, train accidents do happen and can be catastrophic to local watersheds. The village will notify the rail company of their proximity to the water sources and include them in emergency response planning. The village will suggest the rail company prioritize routine maintenance and inspection

around the water treatment plant. The village will also consult with the Natural Resources Conservation Service about proper application of weed control on and around the tracks.

Warehouse

3. The property directly west of the water treatment plant is a general warehouse that Colgate-Palmolive uses. The site is at the confluence of North Crooked Creek and Fox Creek. The potential of an accident at this site threatens the lower reservoir, which the water treatment plant primary pulls water from. The village will work with the owners of the warehouse and Colgate-Palmolive to inform them of their proximity to drinking water and inform them of emergency

management procedures. The village will also work with the owners of the warehouse on a storm water management plan to control contamination from runoff.

Creek southeast of warehouse



Typical oil and gas well in the area



Oil and Gas Wells

4. Based off the assessment from the Ohio EPA, there are approximately 75 oil and gas wells in the New Concord protection zone. Oil and gas are both hazardous materials that can be harmful to human health. Proper installation, maintenance, and sealing are required to ensure fluids do not escape. The village will consult the Ohio Department of Natural Resources to identify active and abandoned wells and their owners. These owners will be made

aware of their location in a drinking water protection zone and provided with appropriate expert advice on best management practices.

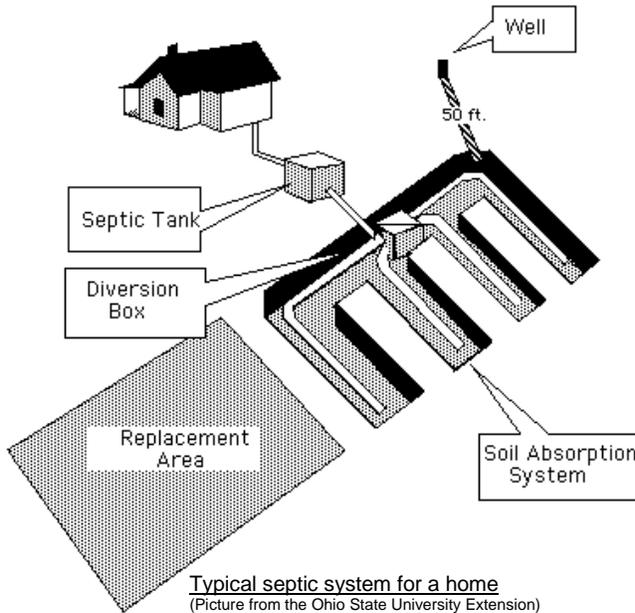
Farmland

5. About half of the protection zone is covered by pasture land where livestock graze, sometimes directly in the creeks that feed the reservoirs. Waste from these animals can add nutrients (particularly nitrogen and phosphorus), pathogens, organic matter, and ammonia to water. In addition to causing odors, these pollutants can be harmful to health, cause low levels of dissolved oxygen, eutrophication, toxic algal blooms, and fish kills. Less than five percent of the protection zone has row crops, but these can introduce



Livestock around Fox Creek

similar problems as pasture land in addition to the health effects of pesticides. The village will contact the land owners to inform them of their location in the water protection zone, with special emphasis to those in the corridor management zone (those closest to the creeks and reservoirs). The village will also work with the USDA Farm Service Agency and Natural Resources Conservation Service to provide best management practices and pursue any available funding, if deemed necessary.



Septic Systems

6. There are almost 600 homes and business in the protection zone that are not connected to a central sewer system. Septic systems need ongoing maintenance to properly dispose of household waste. Similar to livestock operations, septic systems can release nutrients (phosphorous and nitrogen) and other toxic chemicals into groundwater. The village will contact these property owners to inform them of their location in the water protection zone and provide best management practices for septic systems.

Cemetery

7. Cemeteries can present problems to drinking water because the chemicals used in embalming, namely formaldehyde and previously arsenic, can leak into drinking water. Because of the location, at the edge of the protection zone, and small size of the cemetery, the Protection Team did not deem this a serious risk and does not recommend any protection strategies.



New Concord Cemetery

Summary of Potential Contaminant Sources and Strategies

Potential Contaminant Source	Priority/Level of Threat	Protective Strategies	Timeline for Implementation	Who Will Implement? [Name/Title]
Roads (St. Rt. 40/22/83 and I-70)	1	ODOT source water protected signs along the routes within the protective area	Before January 1, 2011	John Morrow, Operations Manager
Train tracks	2	Contact owner of rail line and notify of proximity to drinking water source.	Before January 1, 2011	John Huey, Administrator
General Warehouse	3	Send a letter from the village advising them of their close proximity to the village reservoir. Request notification of a chemical release. Work with the owners on a storm water management plan.	Before January 1, 2011 for notification. Before January 1, 2012 for storm water management plan.	John Huey, Administrator
Oil & Gas wells	4	Locate the owners of each well with the Ohio Department of Natural Resources. Send a letter from the village advising them of their close proximity to the village reservoirs and request notification of any spills.	Before July 1, 2011	John Huey, Administrator
Pasture, Agriculture, Animal Husbandry	5	Notify land owners with a village letter advising them of their close proximity to the village reservoirs. Send land owners educational material provided by USEPA on better land management practices. Work with NRCS to identify implementable steps to protect the drinking water.	Send letters before January 1, 2011. Have initial meeting before July 1, 2011. Meet annually.	John Huey, Administrator
Residential Septic Systems	6	Contact residents and send educational material about proper septic tank maintenance. Work with the county health department on prioritizing inspections around the corridor management zone.	Before July 1, 2011. Repeat every year.	John Huey, Administrator
Cemetery	7	No action recommended.	N/A	N/A

EDUCATION AND PUBLIC OUTREACH STRATEGIES

The purpose of the Protection Team's education and outreach efforts is to inform people who live and work in New Concord 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.

Target Audience: Customers (CU), General Public (GP), Students (ST), Other (write out)

Education and Outreach Strategies	Target Audience	Time line for Implementation	Who (name and title) will implement this strategy?
Consumer Confidence Report: send to residents and post on website	GP	Annually in March	John Huey, Administrator
Contact residents and send educational material about proper septic tank maintenance	GP	Annually in March	John Huey, Administrator
Work with county health department on prioritizing septic system inspections in the CMZ (Director of Environmental Health, Mike Kirsch)	GP	Within six months of OEPA Endorsement, then ongoing	John Huey, Administrator
Post signs along ST. RT. 22/40/83	GP	Before January 1, 2011	ODOT or John Morrow, Operations Manager
Source water education in news paper	GP	Annually in March	John Huey, Administrator
Post map of protection area at municipal building	GP	Upon delivery from ORWA	John Huey, Administrator
Post educational material in village hall	GP	Immediately, then update as needed	John Huey, Administrator
Water Plant Tours	ST	Upon Request	Chris Huebner, Water & Wastewater Superintendent
Work with agricultural land owners in the protection zone on implementing best management practices. Consult with Steve Hibinger (NRCS-Zanesville) and Clif Little (OSU Extension)	Agriculture land owners	Hold initial public meeting before July 1, 2011, then ongoing	John Huey, Administrator
Coordinate, where applicable, with the Wills Creek Restoration (http://www.crossroadsrwd.org/wills/index.htm) and Muskingum Watershed Conservancy District (http://www.mwcd.org/)	GP	Ongoing	John Huey, Administrator

DRINKING WATER SHORTAGE/EMERGENCY RESPONSE

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 system personnel with respect to each specific emergency condition. The Village of New Concord has developed procedures to address specific situations that can be expected to arise, and these are documented in the Village of New Concord'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.

Drinking Water Shortage – Loss of Upper Reservoir

If New Concord experiences contamination in the upper reservoir it will:

- Close the raw water line valve on the dam.
- Close the valve in the overflow.
- Close the inlet valve between Crooked Creek and the lower reservoir.
- Notify EPA and the County Health Department.
- Determine source and extent of contamination.
- If necessary, flush any contaminated finished water.

Drinking Water Shortage – Loss of Lower Reservoir

If New Concord experiences contamination in the lower reservoir it will:

- Close valve between raw pumps and plant and manually turn pumps off.
- Close inlet valve between Crooked Creek and reservoir.
- Draw raw water directly from upper reservoir.
- Notify EPA and the County Health Department.
- Determine source and extent of contamination.
- If necessary, flush any contaminated finished water.

Drinking Water Shortage – Long-Term Loss of Source

If New Concord experiences a long-term loss of its drinking water source it will:

- Determine estimated duration of planned shutdown and amount of finished water storage on hand. Determine whether estimated demand exceeds storage capacity.
- Open an existing emergency line with Western Guernsey Service Company and the City of Cambridge. Current excess treatment capacity for other systems is 100,000 gallons per day.
- Implement mandatory water conservation and drinking water advisory.
- Notify local emergency services, Ohio EPA, and County Health Department.

New Concord can provide water from existing storage for up to two days, provided it is not necessary to flush out the entire distribution system.

Funding for Water Emergencies

New Concord currently has \$50,000 budgeted for emergency use. The Village Administrator can authorize the expenditures from this account. If additional monies are required emergency funds can be borrowed from the Ohio Public Works Commission.

Planning for the Future

- | |
|---|
| A. Current average daily pumpage = 240,00 gallons per day (as of 2010) |
| B. Current daily system design capacity) = 400,000 gallons per day (as of 2010) |
| C. Pumping capacity = 750,000 per day |

New Concord is currently is pumping about 46% of its design capacity of 520,000 gallons.

Census figures indicate that New Concord has maintained a steady population over the past ten years, fluctuating between 2,553 and 2,726. Currently, no significant growth or decline of population is anticipated. Also, at this time New Concord is not aggressively developing and does not anticipate a sudden spike in industrial use of the water.

Based on this, the New Concord does not anticipate the need to expand the treatment plant or significantly increase pumpage within the next decade.

Emergency Response to a Toxic Spill/Release in Protection Area

The New Concord contingency plan addresses accidental chemical spills and releases in 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 pages 1-3 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 in pages 1-3 of the contingency plan:

JOHN HUEY – 740-255-6383
CHRIS HUEBNER – 740-255-6385
JOHN MORROW – 740-255-6386

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 system 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 system needs to be temporarily shut down as a result of the spill, the procedures can be found on pages 4-11 of the contingency plan. Plans for short term loss of source can be found on pages 4-11 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.
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

WATER QUALITY MONITORING

Surface water monitoring is not required by Ohio EPA but Public Water Systems are required to assess the need for monitoring when preparing the Protection Plan. The Village's Protection Team assessed the need for surface water monitoring and will continue current raw water monitoring procedures.

Daily: Turbidity, pH, Alkalinity, Hardness, Fluoride

Monthly: Total Organic Carbon

PROTECTION PLAN UPDATES AND REVIEW

A protection plan is not a static document. Over time many issues related to protection planning will change- 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.

New Concord commits to reviewing the Drinking Water Source Protection Plan every five years, beginning with January 1, 2011.

Updating the SWAP Assessment

Delineation Updates

- Has the amount of pumping increased or decreased since the date Ohio EPA provided the Drinking Water Source Assessment report?
- Have any wells been added?
- Has a new reservoir been added or are there any plans for a new or expanded reservoir?
- Is there new hydro geologic 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, New Concord will contact Ohio EPA's Source Water Assessment and Protection Program staff in the Southeast 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, New Concord will update the inventory or conduct a new inventory. New Concord 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?

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, New Concord will consider the following types of questions and write any changes into the Protection Plan.

- 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 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 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 system 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 system 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?

Raw Water Monitoring:

- Have we followed our raw 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 raw water monitoring plan need to be updated for any reason?

Revising the Plan

Upon review, if any revisions of the SWAP Assessment Report are needed, New Concord will contact Ohio EPA's Southeast District office and the Ohio Rural Water Association for guidance. Also, if the local planning team makes any substantial changes to the New Concord'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

Ohio EPA's Drinking Water Source Assessment For the Village of New Concord