



Cross Connection Control Program

WSSN 2760 – Grand Haven Charter Township

July 26, 2024

Table of Contents

Section 1	Introduction
Section 2	Water Supply Cross Connection Rules
Section 3	Backflow Prevention Devices and Testing
Section 4	Cross Connection Hazards
Section 5	Inspections
Section 6	Re-inspections
Section 7	Containment, Isolation and Piping Identification
Section 8	Acceptable Means of Protection
Section 9	Records

Section 1 – Introduction

In accordance with the requirements set forth by the Michigan Department of Environmental Quality (M.D.E.Q.) and Public Act 399 of 1976, Grand Haven Charter Township formally acknowledges and supports the requirements of a comprehensive and effective Cross Connection Control Program (C.C.C.P.) to protect the public water supply from contaminants and the continuation of ensuring public health. The purpose of the C.C.C.P. is to avoid any contamination of the public water supply by preventing and eliminating cross connections.

Definitions:

1. *Backflow* is defined as the undesirable reversal of the flow of water of questionable quality, wastes or other contaminants into the public water supply. By definition, the term backflow includes situations caused by either backpressure or backsiphonage.
2. A *backflow assembly* is defined as a mechanical apparatus that is designed to prevent backflow or back pressure or both and approved by the American Society of Sanitary Engineering (A.S.S.E.) or the Canadian Standards Association (C.S.A.) that is also designed to be tested to ensure proper protection against backflow, back pressure or both.
3. A *backflow device* is defined as a mechanical apparatus that is designed to prevent backflow or back pressure or both and approved by the American Society of Sanitary Engineering (A.S.S.E.) or the Canadian Standards Association (C.S.A.) that is not designed to be tested.
4. *Backpressure* is a backflow caused by a downstream pressure that is greater than the upstream or supply pressure in a public water system. Backpressure can result from an increase in the downstream pressure created by pumps, boilers, elevation differences, and air or steam pressure just to name a few. There is a high risk of backflow if these interconnections are not properly protected.
5. *Backsiphonage* is a backflow caused by negative or reduced pressure in the supply piping when there is a drop in water system pressure due to a water main break, hydrant flushing, nearby firefighting, or other water supply problems.
6. The *Township* is defined as Grand Haven Charter Township.
7. *Containment of a Cross Connection* is defined as a means to protect the public water system from backflow by installing a proper backflow preventer on the service line that enters a facility.
8. A *cross connection* is defined as a connection or arrangement of piping or appurtenances through which a backflow of water could occur.

9. A *Double Check Detector Check Valve Assembly*, commonly referred to as a D.C.D.A., is a mechanical device that provides adequate protection for the public water supply system from backsiphonage. It consists of two double check devices and a water meter to measure low flow water use on fire lines.
10. A *High Hazard Account* is defined as any service connection that has any potential to backflow water that is not potable and is a potential health concern to the public water supply. Any account that has a reduced principle backflow preventer (R.P.Z.) or pressure vacuum breaker (P.V.B.) installed shall automatically be deemed a high hazard account based on the acceptable plumbing assignments allowed after the assemblies according to the Michigan Plumbing Code, or any account that has a secondary water source on the property.
11. A *Hose Bib Vacuum Breaker*, commonly referred to as an H.B.V.B., is a mechanical device that provides adequate protection for the public water supply system from backsiphonage. This device cannot have continuous pressure or have a valve installed downstream and is installed on the threads of a boiler drain or hose bib.
12. *Isolation of a Cross Connection* is defined as means to protect the public water system from backflow by installing a proper backflow preventer at every cross connection within a facility.
13. A *Low Hazard Account* is defined as any service that is not a high hazard account.
14. A *non-residential account* is defined as any water service account that Grand Haven Charter Township supplies water to that is **not** a single family, two-unit, three-unit, or four-unit residential use.
15. A *Pressure Vacuum Breaker*, commonly referred to as a P.V.B., is a mechanical device that provides adequate protection for the public water supply system from backsiphonage while being under continuous longer-term pressure and can have a shutoff valve installed downstream.
16. The *public water supply* or *system* is defined as any pipes or appurtenances that conveys and furnishes potable water to the public for consumption or other purposes.
17. A *Reduced Pressure Principle Backflow Assembly*, commonly referred to as a R.P.Z., is a mechanical device that provides adequate protection for the public water supply system from either backpressure or backsiphonage.
18. A *residential account* is defined as any water service account that the Grand Haven Charter Township supplies water to that is used solely for the purpose of a single family or a multi-unit dwelling of no more than four units.

19. A *safe air gap* is defined as the minimum distance of a water inlet or opening above the maximum high water level or overflow rim in a fixture, device, container to which public water is furnished. The safe air gap shall be at least 2 times the inside diameter of the water inlet pipe, but not less than 1 inch and need not be more than 12 inches.
20. A *secondary water supply* is defined as a water supply system maintained in addition to a municipal type public water supply, including, but not limited to, water from ground or surface sources not meeting the requirements of Act No. 98 of the Public Acts of 1913 as amended being sections 325.201 to 325.214 of the Compiled Laws of 1948, or water from a public water supply which in any way has been treated, processed, or exposed to any possible contaminant or stored in other than an approved storage facility. A private water storage tank supplied from the Township water supply shall be deemed a secondary water supply unless it is designed and approved for potable water usage.
21. A *Spill Resistant Vacuum Breaker* is a mechanical device that provides adequate protection for the public water supply system from backsiphonage while being under continuous longer term pressure, can have a valve installed downstream and minimizes spillage from the device.
22. A *submerged inlet* is defined as a water pipe or extension thereto from public water supply terminating in a tank, vessel, fixture, or appliance which may contain water of questionable quality, waste, or any other contaminant and which is unprotected against backflow.

Section 2 – Water Supply Cross Connection Rules

Cross Connections Prohibited:

All cross connections to the Township water supply system are strictly prohibited. If a cross connection to the Township water supply is identified, then proper protection of the public water supply by implementation of this program will be required at the expense of the property owner. Examples of cross connections to the Township water supply include but are not limited to:

1. Between the Township water supply and secondary water supply
2. By submerged inlet
3. Between the Township water supply and piping which may contain sanitary waste or a chemical contaminant
4. Between the Township water supply system and piping immersed in a tank or vessel not approved for potable water or which may contain a contaminant
5. Between a lawn irrigation system and the Township water supply

Discontinuance of water service:

The Public Services Department is hereby authorized and directed to discontinue water service 72 hours after a disconnection notice has been posted at the residence, or up to the necessary agreed upon time frame. When a cross connection exists within a property served by the Township's water system that

violates any portion of this program, the Township will take such other precautionary measures deemed necessary to eliminate any danger of contamination of the Township water system. Water service to such property shall not be restored until the cross connection(s) have been eliminated or proper protective devices have been installed and tested which comply with all provisions of the C.C.C.P. If a service is discontinued for a violation of the C.C.C.P., then any appropriate agency shall be notified including but not limited to: local health departments, fire departments, local law enforcement or appropriate community officials.

Violations:

The Township is authorized to discontinue water service after reasonable notice to any person, firm, or corporation owning any property where a cross connection in violation of this section exists or for delinquent testing of a backflow device. The Township may take such other precautionary measures as necessary to eliminate any danger of the contamination of the System water supply, including physical separation of the System. Water service to such property shall not be restored until the cross connection has been eliminated or delinquent testing has been completed, and until all fees, if any, for restoration of service have been paid. (amend ord. no. 589, eff April 17, 2021)

Section 3 – Backflow Prevention Device and Assembly Testing

Any user of the Township water supply shall bear the expense of elimination or proper protection of any cross connections to the Township water supply. The total time allowed for completion of the necessary corrections shall be contingent upon the degree of hazard involved and include the time required to obtain, install, and test the backflow prevention device or assembly. If the cross connection has not been removed or properly protected within the specified time, the Public Services Department shall physically separate the Township water supply from the onsite piping system in such a manner that the two systems cannot again be connected by any unauthorized person. The cost of physically separating the piping systems shall be charged to the property owner upon reconnection.

Testing of all testable assemblies shall be completed by a licensed backflow device tester at the property owner's expense on the following schedule:

1. At the time of installation or relocation. This includes reinstallation of seasonal assemblies that are taken out of service for a period of time and reinstalled
2. After any repair of a device
3. Every year for high hazard devices located at non-residential accounts
4. Every three years for low hazard devices at non-residential accounts
5. Every three years for high hazard devices located at residential accounts

High hazard assemblies include Reduce Principal Backflow Preventers (R.P.Z.) and Pressure Vacuum Breakers (P.V.B.). Low hazard assemblies include Double Check Detector Check Valve Assemblies (DBL. CHK.) and Spill Proof Vacuum Breakers (S.V.B.).

Any assembly that fails a test must be immediately repaired and retested by an approved and certified tester or physically disconnect the cross connection until such repairs have been completed to the assembly and successfully retested.

The Public Services Department will only accept test results performed by certified testers using certified equipment. All completed assembly test reports must be submitted electronically to the Public Services Department.

If an assembly is required to be tested according to the above schedule, notices will be mailed to the billing address on file for each account. The notices will begin to be mailed on or about February 1st of the year testing is required. If a satisfactory completed test form is not on file 30 days from the date of the first notice, a second notice will be sent restating the testing requirement and that completion is required within 30 days. If compliance has not been met after the second due date, a third notice will be sent stating the water service will be disconnected to the property if compliance is not met. If the property is still not compliant after another 30 days, the property will be posted with a disconnection notice. If compliance is not met, or arrangements agreed upon, the water will be disconnected on the fourth (4th) day after the notice was posted. The water will remain disconnected until such time that the satisfactory test report is on file, or the cross connection is physically separated and inspected by the Public Services Department.

The Public Services Department may supply hose bib vacuum breakers to accounts that it deems cost effective to do so to avoid re-inspections.. If the Public Services Department supplies a hose bib vacuum breaker for a specific hose bib located at a serviced property, no future hose bib vacuum breakers will be offered to correct a missing or failed hose bib vacuum breaker at that specific hose bib.

Section 4 – Cross Connection Hazards

The Public Services Department shall categorize each account into a low or high hazard based on the degree of hazard outlined in EGLE’s most recent Cross Connection Rules Manual.

Section 5 – Inspections

The Public Services Department or its authorized agent(s) shall conduct an initial inspection of all connections to the Township water supply system at the time the connection to the system commences (this includes both non-residential and residential connections).

The Public Services Department or its authorized agent(s) shall have the right to enter a property that is connected to the public water supply system for reasons associated with inspections or verification of corrections regarding potential or confirmed cross connections. On request, the owner of any property served shall furnish the inspector any pertinent information regarding the piping system or systems on such property. The refusal of access, when requested, shall be deemed evidence of the presence of a cross connection and shall be subject to Section 2 of this program regarding discontinuance of service.

When a non-residential account is due for an inspection, the Public Services Department will make an attempt to gain access to a property first by completing an unscheduled inspection of the property at the Township’s discretion. If the date or time an inspector arrives is not convenient for the property owner,

a timed appointment for a later date can be made with the Public Services Department office. If an appointment is not made by the property owner or their representative, a letter will be mailed stating a date and time of the new appointment. If the scheduled appointment is not kept, then a 30 day notice of service discontinuance will be mailed to the property. If compliance is still not met after 30 days, the property will be posted with a disconnection notice. If compliance is not met, or arrangements agreed upon, the water will be disconnected on the fourth (4th) day after the notice was posted. The water will remain disconnected until such time that the satisfactory test report is on file, or the cross connection is physically separated and inspected by the Public Services Department.

Initial Residential Inspections of Existing Accounts:

The Public Services Department shall inspect all existing residential water service accounts for cross connections on a 10-year inspection schedule starting March of 2022. The Public Services Department will inspect approximately 600 accounts annually.

Initial Residential Inspection of New Accounts:

Whenever a new residential service is connected or a new account is created, an initial inspection shall be completed by the Plumbing Inspector and forwarded to the Public Services Department prior to a certificate of occupancy is issued.

Section 6 – Re-inspections

Non-residential accounts shall be re-inspected based on degree of hazard. High hazard accounts shall be re-inspected annually or when plumbing changes to the property have been identified by the Public Services Department. Low hazard accounts shall be re-inspected every three years.

Residential accounts shall be re-inspected every 10 years.

Section 7 – Containment, Isolation, and Piping Identification

Isolation of Cross Connections:

It shall be the primary method of the Grand Haven Charter Township's C.C.C.P. to isolate and protect cross connections from the public water supply at the point of the cross connection rather than containment of the facility at the service line entrance. This focus allows all occupants of the building to be protected from potential contamination within the property's own potable water supply system.

Containment of Cross Connections:

The primary focus of the Grand Haven Charter Township's C.C.C.P. is to protect the public water supply distribution system against the entrance of contaminants. However, the secondary focus is to protect any occupant utilizing a property being served by the Grand Haven Charter Township water system. In some cases, as determined by Grand Haven Charter Township, it may be necessary to utilize the containment approach in assuring complete protection of the public water supply at the entrance point to the property. The containment method should only be used if all practical measures to isolate a cross connection are exhausted or if the property owner insists on using the containment method versus the isolation method.

If containment of the property against cross connections is chosen by either the Public Services Department or the property owner, then a formal letter shall be sent to the property owner stating such designation of the property and that the occupants of the facility may not be protected from a cross connection and the internal potable water system.

Piping Identification:

Whenever a property is found to have a secondary water source in addition to the Township water supply, exposed Township water and secondary water piping shall be identified by distinguishing colors or tags as specified hereafter in the Cross Connection Control Program and so maintained that each pipe may be traced readily in its entirety. If piping is so installed that it is impossible to trace it in its entirety, it will be necessary to protect the Township water supply at the service connection in a manner acceptable to the Public Services Department.

The Michigan Plumbing Code (M.P.C.) requires newly constructed buildings with two or more distributions systems (one potable, the others non-potable) to have piping identification by color marking or metal tags, including labeling of the pipe contents and direction of flow arrows. The Public Services Department encourages existing facilities to also conform to this new standard as a practical approach to identifying potable and non-potable piping systems.

Section 8 – Acceptable/Unacceptable Means of Protection

All fire hydrant connections shall be protected by an approved air gap or an R.P.Z. When or if appropriate, an air gap is the preferred method of protection from a potential cross connection. If an air gap is not appropriate due to circumstances surrounding the hydrant use, an R.P.Z. is required. R.P.Z.'s are available for rent with a hydrant meter. All R.P.Z.'s that are supplied by the Township shall be tested annually or after any defects or repairs are completed.

When a cross connection to the public water supply is found, the determination of the proper backflow device required shall be based on the most recent edition of the Michigan Cross Connection Rules Manual, the most recent edition of the Michigan Plumbing Code or as specifically outlined in P.A. 399 of 1976 as amended.

Unacceptable devices and methods include all single check valves, removable spool connections, swing plug valves and 4-way plug valves as defined by the most recent edition of the M.D.E.Q. Cross Connection Rules Manual.

Section 9 – Records

It shall be the responsibility of the Public Services Department to maintain all records pertaining to any inspections, assembly test results or correspondence with any account including but not limited to required testing frequencies, violations or required corrective actions to the onsite plumbing.

The records can be in paper or electronic form and shall be maintained until the account or service connections have been disconnected from the public water system.