

Nathan W. Coey
Utilities Manager
1020 Old Columbus Road
Wooster, OH 44691
330-263-5284
ncoey@woosteroh.com



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Public Water System Disruption of Service Reporting Policy Guidance

On November 1, 2018, the Ohio EPA enacted "*The Water Distribution System Disruption of Service Rule*" via the state legislature through **OAC 3745-83-02**. Relative to the OEPA rule, it is appropriate to provide staff guidance and narrative regarding Wooster Water Utilities compliance with the rule. This guidance document serves as a summary intended to provide documentation related to the rule. This document intent is to ensure adherence to the rule for guidance and clarity. The summary is intended to reflect, not replace, formal guidance documents and application of the rule as required by the OEPA.

This document includes summary, the OEPA's "Public Water System Disruption of Service Reporting" document, OAC section 3745-83-02, and OEPA flow chart on disruption in areas with lead service lines. *Wooster is lead free based on historical service line review and previous reporting.

Summary

Type 1 Event

Event means a controlled pipe repair where positive pressure is continuously maintained during the repair, and there are no signs of contamination intrusion.

Type 2 Event

Event means a controlled repair of a distribution system component where positive pressure is maintained until a controlled shutdown of the affected area can be completed, and there are no signs of contamination intrusion.

Type 3 Event

Event means a disruption of service or water line repair where there is one or more of the following: a loss of positive pressure at the repair site and localized depressurization adjacent to the repair; an uncontrolled shutdown; or there are signs of possible contamination intrusion.

Type 4 Event

Event means a catastrophic failure with widespread depressurization in the system or action contamination intrusion.

Type 1 and 2 Events

- PWS are not required to report this to the OEPA.
- The disruption of service tool may be use, but does not need to be submitted to OEPA. This can be kept for facility record purposes.
- Drinking water quality advisories are not required for these events, unless otherwise required in the guidance for areas with lead service lines.

- During a water line repair or other disruption, PWS that do not monitor and record pressure upstream and downstream of the affected area, in accordance with the rule, shall treat the event as a Type 3 event.

Type 3 and 4 Events

- Require initial notification to Ohio EPA **only** when the event affects 10% of the customers or 100 service connections (not customers), whichever is least.
- Boil advisories are required to be issued for Type 3 and 4 events. This is now a requirement and failure to issue a boil advisory and appropriate public notification as required may result in a notice of violation.
- For all Type 3 and 4 events, PWS **must** submit an after action report to the OEPA district office within 48 hours or next business day, whichever is later, but using the disruption of service tool.
- Provisions in place regarding areas containing or likely to contain lead lines.

OEPA Notification / Reporting Requirements

- The initial notification for Type 3 and 4 events that exceed threshold levels must be reported by phone and the reporting party must speak with a person. The initial report shall go to the appropriate District Office during normal business hours and the Ohio EPS's emergency hotline 1-800-282-9378 after hours.
- PWS should no longer use fax, email or the reporting application tool for initial notifications to Ohio EPA.
- The Ohio EPS's disruption of service tool has been revised to be used as an after action report for any type of disruption. Systems can fill out information regarding their disruption of service and print a copy of the report for their records.

Sampling Requirements to Lift Advisory

- The rule defines the minimum number of special purpose total coliform samples required to lift an advisory. Please reference Table 1 of the rule.
- The number of samples required is very different than the number previously recommended under pas policy no longer in effect.
- PWS can take additional samples to ensure representative sampling is done.

Additional OEPA Guidance Summary

Reportable Incidents

The following types of incidents should be reported to Ohio EPA:

Type 4 (One of the following)

- Catastrophic failure with widespread depressurization.
- Contamination intrusion.
- Failure to meet the criteria to be a Class 3.

Type 3 (One of the following)

- A loss of positive pressure at the repair site.
- Depressurization adjacent to the repair.
- Uncontrolled shutdown.
- Signs of possible contamination intrusion.
- Failure to complete the event response for a Type 2 disruption of service.

Type 2 (All of the following)

- Controlled component repair.
- Positive pressure is maintained until controlled shutdown of affected area completed.
- No signs of contamination intrusion.
- Failure to complete the event response for a Type 1 disruption of service.

Type 1 (All of the following)

- Controlled pipe repair.
- Positive pressure is continuously maintained during repair.
- No signs of contamination intrusion.

Event Response

Type 3 and 4

- Activate notification according to contingency plan.
- Document actual or possible contamination.
- Issue precautionary boil advisory to all affected customers.
- Disinfect, repair and flush in accordance with AWWA C651-14 section 4.11.3.3.
- Test for chlorine residual and ensure maintain chlorine residual is maintained.
- Collect special purpose total coliform samples.

Type 2

- Pit excavated to below the area of repair.
- Water level maintained below area of repair.
- Critical users in affected area notified in accordance with the contingency plan.
- Controlled shutdown of the affected area.
- Line disinfected and flushed in accordance with AWWA C651-14 section 4.11.3.2.
- Line repaired.
- Test or verify chlorine residual.
- Document activities on a Form approved by the Director.

Type 1

- Pit excavated to below the area of repair.
- Water level maintained below area of repair.
- Line disinfected in accordance with AWWA C651-14 section 4.11.3.1.
- Line repaired under positive pressure.
- Test or verify chlorine residual.
- Document activities on a Form approved by the Director.

Reporting

Type 3 and 4

- Report to Ohio EPA immediately when greater than 10% of the PWS population or 100 service connections whichever is least.
- Submit reporting form to the District Office within 48 hours of correcting the disruption of service.
- In affected areas that are known or likely to contain lead service lines, public water systems shall follow applicable notification requirements. (Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines)

Type 2

- In affected areas that are known or likely to contain lead service lines, public water systems shall follow applicable notification requirements. (Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines)

Type 1

- No reporting requirement, but systems should maintain documentation of activities that occurred during the repair.

OEPA Public Water System Service Disruption Reporting Webpage

<https://www.epa.ohio.gov/ddagw/pws/disruptionreporting#179475255-reporting>



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Public Water System Service Disruption Reporting

On Nov. 1, 2018, OAC Rule 3745-83-02 Water Distribution System Disruption of Service became effective. This rule establishes new requirements for distribution system disruptions of service. This rule replaces Ohio EPA's "Policy for Evaluating and Responding to Water Distribution Systems and Subsystems that have Depressurized" OPR-06-001. This rule was developed in coordination with members of the Ohio Section AWWA. Key provisions in the rule include:

DEFINITIONS OF THE TYPES OF INCIDENTS 1-4 (LOWEST TO HIGHEST RISK OF CONTAMINATION AND PUBLIC HEALTH IMPACTS)

- Recognizes that Type 1 and 2 events constitute a reduced risk and includes appropriate tiered responses.

TYPE 1 AND 2 EVENTS

- PWSs **should not report** to Ohio EPA.
- Systems may use the **disruption of service tool** as the "Director Approved" after action report form.
- Boil advisories are **not required** to be issued for Type 1 and 2 events.
- However, if systems do not maintain operational data they are required to issue a public notice because they are unable to demonstrate contamination was prevented.

TYPE 3 AND 4 EVENTS

- **Require notification to Ohio EPA only** when the event affects 10% of the population or 100 service connections (not population), whichever is least.
- Boil advisories **are required** to be issued. This is now a requirement and failure to issue a boil advisory and appropriate public notification as required may result in a notice of violation.
- During a water line repair or other incident, PWSs that do not monitor and record pressure upstream and downstream of the affected area, in accordance with the rule, shall treat the event as a Type 3 event.
- For all Type 3 and 4 events, PWSs must submit an after action report to their Ohio EPA district office within 48 hours or next business day, whichever is later, by using the **disruption of service tool**.
- Includes provisions for dealing with areas containing or likely to contain lead lines.

OHIO EPA NOTIFICATION/REPORTING REQUIREMENTS

- The initial report must be done by phone and the reporting party must speak with a person. The initial report shall go to the appropriate District Office during normal business hours and the Ohio EPA's emergency hotline 1-800-282-9378 after hours. See the [Public Water System Disruption of Service](#)



View the Public Water System Disruption of Service Reporting Requirements

QUICK LINKS

- ▶ **Revised Total Coliform Rule**
Forms and Instructions
- ▶ **Operator Certification**
Exam Information, Contact Hours, Operator Lists
- ▶ **Rules**
Rules, Laws, Policies and Guidance
- ▶ **Engineering and Plan Approval**
Current versions of related documents and forms
- ▶ **Reporting**
eDWR, eBusiness Center, Forms
- ▶ **Drinking Water Watch**
Drinking water data and public water system inventory
- ▶ **Laboratory Certification**
Certified Labs and Sample Analysis
- ▶ **Enforcement**
PWSs, Operators, IUC, Labs, Certified Analysts

OEPA Web based disruption service tool

https://ohioepa-opa.custhelp.com/ohioepa_opa/owda/0/investigate/PWSIncident/en-US/ScreenOrder~Main~qs%248fab9a96-50cc-4927-a17f-3c07b678443b%24global%24global

Ohio Environmental Protection Agency

Instructions Reporter's Info Public Water System Information Incident Information Review and Submit

Navigating Your Application

Screen 1 **Next (Save Progress)**

Section Headings - You can click any Train Stop (section heading) at the top of the application that you have completed to return to the section.

Screen Drop Down Menu - allows you to navigate between the screens in the current Train Stop of the application by clicking the down arrow to see a list of the screens in the current train stop.

- A checkmark next to a screen in the list means it is completed.
- A pencil next to a screen in the list means it is the current screen.
- No icon next to a screen means that it has not been started.

Back Button - go back to the previous screen.

Next Button - save the information on the screen and go to the next screen.

Exit by closing the browser window - Exits out of the application. All information and attachments entered before the most recent click of the Next button have been saved. Changed information on the current screen will not be saved. You can resume on the current screen when you return.

Submit Button - Near the end of the application, you will see a Submit Final Form button, clicking this button will submit the application and attachments to Ohio EPA.

Erase All and Start Over - Warning: the Erase All and Start Over button will delete all information and attachments in this application and start over with a blank application form. If you hit "Erase All and Start Over" before you have submitted your application to Ohio EPA your information is gone and cannot be recovered!

Erase the Application and Start Over

The members of the City of Wooster Utilities Department have taken a solemn oath to operate and protect the public utility infrastructure. We seek to be proactive and intentional in our efforts to meet the expectations of the regulatory community and the citizens we serve. Our mission and focus, centers on serving the public as stewards to effectively and intentionally manage the treatment infrastructure in a way that honors public trust. We are devoted in our mission of service and pursuit of Safety, Reliability, and Excellence!

Please see additional policy guidance from the Ohio EPA relative to this rule. This guidance will be included in the WWU Contingency Plan and subject to annual review.

3745-83-02 Water distribution system disruption of service.**(A) Definitions for this rule.**

For the purpose of this rule, the following terms shall be defined as follows:

- (1) "Affected area" means the portion of a distribution system where the pressure of the system has dropped below twenty pounds per square inch (psig) at ground level.
- (2) "Contamination intrusion" includes, but is not limited to sewage, unintended chemical waste or other waste in the pit or pipe, or muddy water or other unintended material entering the pipe.
- (3) "Positive pressure" means any continuous outflow of water above zero psig at ground level from the pipe on each side of the break.
- (4) "Special purpose total coliform samples" or "special purpose samples," means those samples taken to determine whether disinfection practices are sufficient following a disruption of service event.
- (5) "Type 1" event means a controlled pipe repair where positive pressure is continuously maintained during the repair, and there are no signs of contamination intrusion.
- (6) "Type 2" event means a controlled repair of a distribution system component where positive pressure is maintained until a controlled shutdown of the affected area can be completed, and there are no signs of contamination intrusion.
- (7) "Type 3" event means a disruption of service or water line repair where there is one or more of the following: a loss of positive pressure at the repair site and localized depressurization adjacent to the repair; an uncontrolled shutdown; or there are signs of possible contamination intrusion.
- (8) "Type 4" event means a catastrophic failure with widespread depressurization in the system or actual contamination intrusion.
- (9) "Repair" means any incident that requires the installation of pipe which does not exceed one section of pipe or twenty feet when dealing with fusible pipe material.
- (10) "Replacement" means any incident that requires installation of pipe which exceeds one section of pipe or twenty feet when dealing with fusible pipe material.

(B) In the event a public water system is unable to maintain a minimum pressure of twenty psig at ground level at all points in the distribution system the incident shall be deemed a disruption of service. Non-transient non-community systems with a population less than one thousand people and all transient non-community systems shall immediately provide bottled water or an equivalent remedy as determined by the director or authorized representative until such time as pressure is returned and E. coli samples are negative. Non-transient non-community systems serving a population of at least one thousand people and all community water systems shall comply with the following:

(1) Monitoring.

During a water line repair or other incident, pressure upstream and downstream of the area shall be monitored and recorded to determine if a disruption of service has occurred and the extent of the affected area. Methods of monitoring can be in-line pressure monitors, hydrant pressure recorders, storage tank or tower water level, or any other method approved by the director. Public water systems which maintain functioning and accurate hydraulic models may utilize these models to identify affected

area from a line break in lieu of using pressure gauges, storage tank water levels, or pump station records. Public water systems that use a hydraulic model for a particular event shall ensure personnel knowledgeable in running the model are available during all times of the particular event to ensure timely use of the models. In the event a water system chooses not to monitor pressure in accordance with this rule, the system shall treat the event as a Type 3 event and follow the response requirements in paragraph (B)(4) of this rule.

- (2) Type 1 event response. During this type of event, a boil advisory, sampling for total coliform and notification to the Ohio EPA are not required if the following criteria are met:
- (a) The pit is excavated to below the area to be repaired.
 - (b) The water level in the pit is maintained below the area to be repaired.
 - (c) The line is disinfected in accordance with American water works association (AWWA) standard C651-14, section 4.11.3.1.
 - (d) The line is repaired under positive pressure.
 - (e) After completion of repair, test or verify disinfectant presence by either conducting a chlorine residual analysis or comparing a 0.5 milligrams per liter (mg/L) free chlorine standard to an appropriately sized sample with free chlorine reagent added.
 - (f) The public water system shall document activities and events during the repair on a form approved by the director to demonstrate the public water system followed the Type 1 event response as established in this rule.
 - (g) If the public water system does not complete the Type 1 event response in accordance with this rule, the incident is elevated to a Type 2 event and the public water system shall comply with the requirements of paragraph (B)(3) of this rule.
- (3) Type 2 event response. During this type of event, a boil advisory, sampling for total coliform and notification to the Ohio EPA are not required if the following criteria are met:
- (a) The pit is excavated to below the area to be repaired.
 - (b) The water level in the pit is maintained below the area to be repaired.
 - (c) Critical users, as established in the contingency plan in accordance with rule 3745-85-01 of the Administrative Code, within the affected area shall be notified, if applicable, in accordance with the system's contingency plan as soon as possible, but within twenty-four hours. Efforts should be made to notify critical users in advance of beginning the repair.

If the public water system does not have a contingency plan, the system shall notify customers who have a critical need of water as soon as possible, but within twenty-four hours.
 - (d) A controlled shutdown of the affected area is performed.
 - (e) The line is disinfected in accordance with AWWA standard C651-14 section 4.11.3.2.
 - (f) In affected areas that are known or are likely to contain lead service lines, public water systems shall follow the applicable notification requirements of paragraph (B)(6) of this rule.

- (g) The water line is repaired.
 - (h) The water line flushed in accordance with AWWA standard C651-14 section 4.11.3.2.
 - (i) After repair, test or verify disinfectant presence by either conducting a chlorine residual analysis or comparing a 0.5 mg/L free chlorine standard to an appropriately sized sample with free chlorine reagent added.
 - (j) The public water system shall document activities and events on a form approved by the director during the repair to demonstrate that the public water system followed the Type 2 event response as established in this rule.
 - (k) If the public water system does not complete the Type 2 event response in accordance with this rule, the incident is elevated to a Type 3 event and the system shall comply with the requirements of paragraph (B)(4) of this rule.
- (4) Type 3 event response. A public water system shall comply with the following:
- (a) Activate the notification procedures in the public water system's contingency plan.
 - (b) If the disruption affects greater than ten per cent of a public water system's customers or greater than one hundred service connections, whichever is least, the public water system shall notify the appropriate Ohio EPA district representative or the Ohio EPA's environmental response hotline in accordance with rule 3745-85-01 of the Administrative Code as soon as possible, but within twenty-four hours. During this type of response, the public water system shall ensure that they speak with a person. The use of email or voicemail will not satisfy this notification requirement.
 - (c) Document possible contamination.
 - (d) Issue a precautionary boil advisory or water use advisory to all potentially affected consumers as soon as possible but no later than twenty-four hours after the event.
 - (e) In affected areas that are known or are likely to contain lead service lines, public water systems shall follow the applicable notification requirements of paragraph (B)(6) of this rule.
 - (f) Disinfect, repair, and flush in accordance with AWWA standard C651-14 section 4.11.3.3.
 - (g) Test for chlorine residual and comply with the minimum chlorine residual established in paragraph (C)(1) of rule 3745-83-01 of the Administrative Code and the maximum residual disinfectant level (MRDL) established in paragraph (C) of rule 3745-81-10 of the Administrative Code.
 - (h) After repairs are made, pressure has been restored to twenty psig or above and the chlorine residual is within acceptable limits, the public water system shall collect special purpose total coliform samples at locations representative of the affected area in accordance with table 1 of this rule.
 - (i) If any special purpose sample is total coliform positive, consult with Ohio EPA and continue sampling until total coliform is not detected in representative samples.
 - (ii) If no special purpose samples are positive for E. coli, the boil advisory may be lifted.
 - (iii) If any special purpose sample is positive for E. coli, the event is to be considered an acute risk to human health and the boil advisory shall remain in effect until the public water system meets the requirements for removing the boil advisory established in rule 3745-81-32 of the

Administrative Code.

- (iv) A public water system shall consult with Ohio EPA to withdraw a water use advisory.
 - (i) During the event, document activities and events on a form approved by the director, to demonstrate the Type 3 event response was followed. The form shall be submitted to the district office in which the system is located within forty-eight hours or next business day, whichever is later, of the disruption of service being corrected.
 - (j) If the Type 3 event is no longer localized to the area adjacent to the repair, the incident is elevated to a Type 4 event and the public water system shall comply with the requirements of paragraph (B)(5) of this rule.
- (5) Type 4 event response. A public water system shall comply with the following criteria during this type of event:
- (a) Activate the notification process in the public water system's contingency plan.
 - (b) If the disruption affects greater than ten per cent of a public water system's customers or greater than one hundred service connections, whichever is least, the public water system shall notify the appropriate Ohio EPA district representative or the Ohio EPA's environmental response hotline in accordance with rule 3745-85-01 of the Administrative Code as soon as possible, but within twenty-four hours. During this type of response, the public water system shall ensure that they speak with a person. The use of email or voicemail will not satisfy this notification requirement.
 - (c) Document actual contamination.
 - (d) After consultation with Ohio EPA, issue a boil advisory or water use advisory to all customers in the affected area as soon as possible but no later than twenty-four hours after the disruption of service.
 - (e) In affected areas that are known or are likely to contain lead service lines, public water systems shall follow the applicable notification requirements of paragraph (B)(6) of this rule.
 - (f) Disinfect, repair, and flush in accordance with AWWA standard C651-14 section 4.11.3.3.
 - (g) Test for chlorine residual and comply with the minimum chlorine residual established in paragraph (C)(1) of rule 3745-83-01 of the Administrative Code and the MRDL established in paragraph (C) of rule 3745-81-10 of the Administrative Code.
 - (h) After repairs are made, pressure has been restored to twenty psig or above, and the chlorine residual is within acceptable limits, the public water system shall collect special purpose total coliform samples at locations representative of the affected area, in accordance with table 1 of this rule.
 - (i) If any special purpose samples are total coliform positive, consult with Ohio EPA and continue sampling until total coliform is not detected in representative samples.
 - (ii) If no special purpose samples are positive for E. coli, the boil advisory may be lifted.
 - (iii) If any special purpose sample is positive for E. coli, the event is to be considered an acute risk to human health and the boil advisory shall remain in effect until the public water system meets the requirements for removing the boil advisory established in rule 3745-81-32 of the Administrative Code.

- (iv) A public water system shall consult with Ohio EPA to withdraw a water use advisory.
- (i) During the event, document activities and events on a form approved by the director, to demonstrate the Type 4 event response was followed. The form shall be submitted to the district office in which the system is located within forty-eight hours or next business day, whichever is later, of the disruption of service being corrected.

Table 1

Service Connections Affected	Minimum Number of Total Coliform Samples Required
0 - 15	1
16 - 1,000	2
1,001 - 2,000	4
2,001 - 3,000	6
3,001 - 4,000	8
4,001 - 5,000	10
5,001 - 6,000	12
6,001 - 7,000	14
7,001 - 8,000	16
8,001 - 9,000	18
9,001 - 10,000 *	20

*After ten thousand service connections, an additional two samples shall be added for every one thousand service connections up to the maximum one hundred samples. Public water systems that have multiple treatment plants may use a proportional sampling method if established in the contingency plan or in the initial distribution system evaluation.

- (6) In affected areas that are known or likely to contain lead service lines, that experience a disruption of service event, public water systems shall provide public notification as follows:
- (a) In areas where repairs are conducted in Type 2, 3 and 4 events, the public water system shall provide a notice acceptable to the director.
- (b) In areas where replacement is conducted, the public water system shall comply with provisions contained in rule 3745-81-84 of the Administrative Code.

[Comment: "AWWA Standard C651-14, Disinfecting Water Mains," effective date Feb. 1, 2015. This rule incorporates this standard or specification by reference. A copy may be obtained from "AWWA Bookstore 6666 W. Quincy Avenue, Denver, CO 80235," (303) 794-7711, www.awwa.org. This standard is available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH 43215."]

Effective: 11/1/2018
Five Year Review (FYR) Dates: 11/01/2023

Promulgated Under: 119.03
Statutory Authority: 6109.04
Rule Amplifies: 6109.04

Public Water System Disruption of Service Reporting

In situations when the pressure in the distribution system drops below 20 pounds per square inch gauge (PSIG) at ground level a public water system may be required to report to Ohio EPA, issue a boil advisory and collect special purpose total coliform samples. Please see OAC 3745-83-02 Water Distribution System Disruption of Service for complete rules. Incidents are categorized as Type 1-4. The tables below show the types of incidents, the required event response and the reporting requirements for nontransient noncommunity public water systems with a population ≥ 1000 and all community public water systems.

Table 1. Reporting to Ohio EPA is required for Type 3 and Type 4 disruptions of service as described below. The initial notification to Ohio EPA must be reported by phone and the reporting party must speak with a person. The initial report shall go to the appropriate District Office during normal business hours and the Ohio EPA's emergency hotline 1-800-282-9378 after hours.

Type of Incident	Event Response	Reporting
<p>Type 4 (One of the following)</p> <ul style="list-style-type: none"> • Catastrophic failure with widespread depressurization. • Contamination intrusion. • Failure to meet the criteria to be a Class 3 	<ul style="list-style-type: none"> • Activate notification according to contingency plan. • Document actual or possible contamination. • Issue precautionary boil advisory to all affected customers. • Disinfect, repair and flush in accordance with AWWA C651-14 section 4.11.3.3. • Test for chlorine residuals and ensure minimum chlorine residuals are maintained. • Collect special purpose total coliform samples. 	<ul style="list-style-type: none"> • Report to Ohio EPA immediately when greater than 10% of the PWS population or 100 service connections whichever is least. • Submit reporting form (After Action Report) to the District Office within 48 hours of correcting the disruption of service. • In affected areas that are known or likely to contain lead service lines, public water systems shall follow applicable notification requirements. (Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines)
<p>Type 3 (One of the following)</p> <ul style="list-style-type: none"> • A loss of positive pressure at the repair site and depressurization adjacent to the repair. • Uncontrolled shutdown. • Signs of possible contamination intrusion. • Failure to complete the event response for a Type 2 disruption of service. 		

Table 2. No Report to the Ohio EPA required and no boil advisory required.

Type of Incident	Event Response	Reporting
<p>Type 2 (All of the following)</p> <ul style="list-style-type: none"> • Controlled component repair. • Positive pressure is maintained until controlled shutdown of affected area completed. • No signs of contamination intrusion. • Failure to complete the event response for a Type 1 disruption of service. 	<ul style="list-style-type: none"> • Pit excavated to below the area of repair. • Water level maintained below area of repair. • Critical users in affected area notified in accordance with the contingency plan. • Controlled shutdown of the affected area. • Line disinfected and flushed in accordance with AWWA C651-14 section 4.11.3.2. • Line repaired. • Test or verify chlorine residuals. • Document activities on a Form approved by the Director. 	<ul style="list-style-type: none"> • In affected areas that are known or likely to contain lead service lines, public water systems shall follow applicable notification requirements. (Guidelines for Water Line Repairs and Replacements in Areas with Lead Service Lines)
<p>Type 1 (All of the following)</p> <ul style="list-style-type: none"> • Controlled pipe repair. • Positive pressure is continuously maintained during repair. • No signs of contamination intrusion. 	<ul style="list-style-type: none"> • Pit excavated to below the area of repair. • Water level maintained below area of repair. • Line disinfected in accordance with AWWA C651-14 section 4.11.3.1. • Line repaired under positive pressure. • Test or verify chlorine residuals. • Document activities on a Form approved by the Director. 	

Important Definitions

- Affected Area -** The portion of a distribution system where the pressure of the system has dropped below twenty psig at ground level.
- Positive pressure -** Any continuous outflow of water above zero psig at ground level from the pipe on each side of the break.
- Repair -** Any incident that requires the installation of pipe which does not exceed one section of pipe or twenty feet when dealing with fusible pipe material.
- Replacement -** Any incident that requires installation of pipe which exceeds one section of pipe or twenty feet when dealing with fusible pipe material.

1.3 Definitions

Below are definitions of terms used throughout this guidance document.

Table 1: Definitions

OAC Rule 3745-83-02

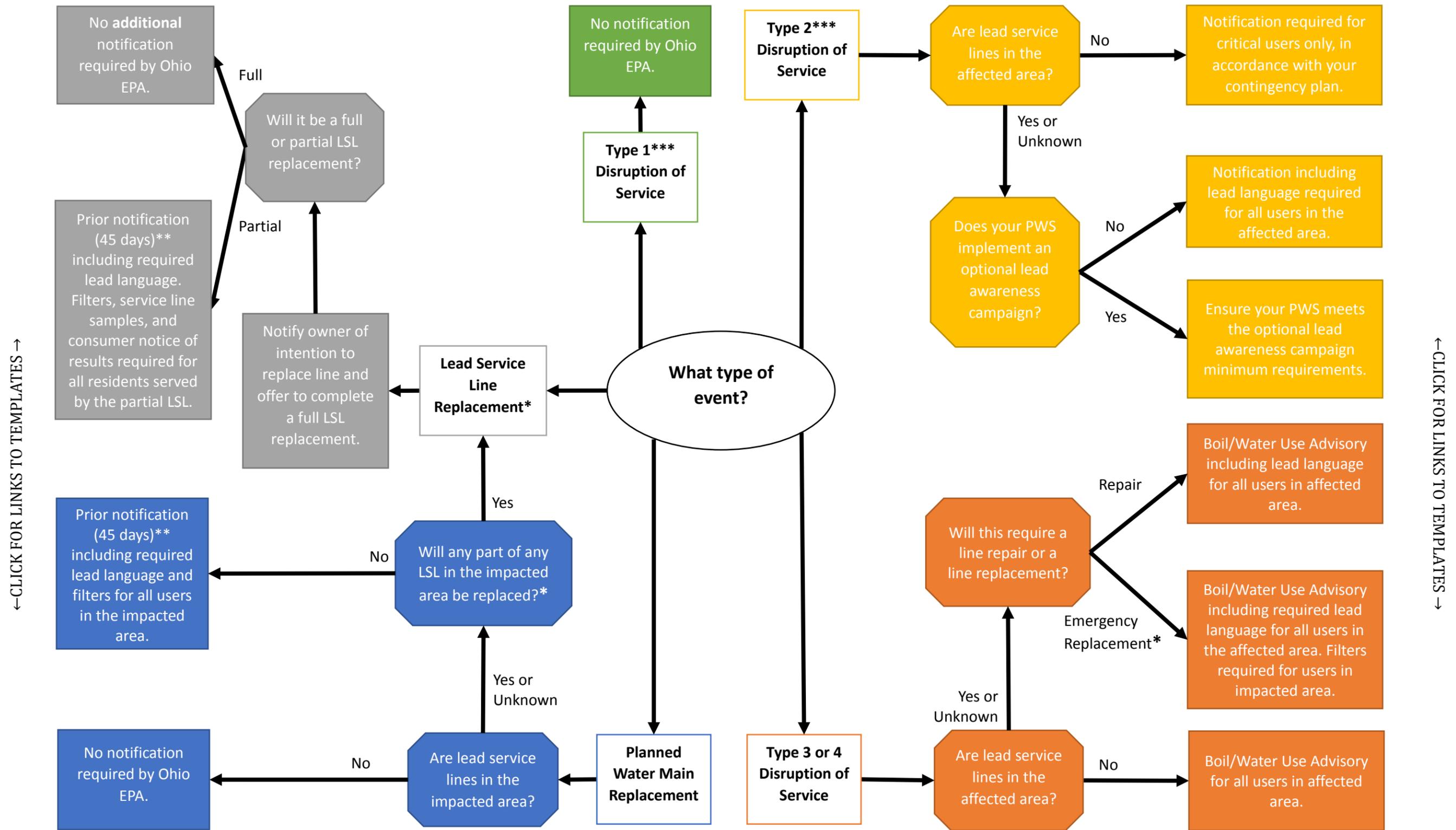
Affected Area (Main Repair)	<i>The portion of the distribution system where the pressure of the system has dropped below 20 pounds per square inch gauge (psig) at ground level.</i>
Main Repair	<i>Any incident that requires the installation of pipe which does not exceed one section of pipe or 20 feet when using fusible pipe material.</i>
Main Replacement	<i>Any incident that requires installation of pipe which exceeds one section of pipe or 20 feet when using fusible pipe material. An emergency main replacement is a disruption of service that requires the replacement of more than one section of pipe.</i>

OAC Rule 3745-81-84

Full LSL Replacement	<i>Replacing both the PWS-owned portion of the LSL and the consumer-owned portion of the service line or replacing the entirety of the portion of the service line made of lead where no lead pipe remains in any portion of the service line.</i>
Impacted Area (Main Replacement)	<i>Any service lines that are moved, replaced, or reconnected to the main during the main replacement.</i>
Impacted Area (LSL replacement)	<i>Buildings, residences, or lines served by the service line being replaced (either partially or fully)</i>
Partial LSL Replacement	<i>Replacing only the portion of an LSL necessary to make the repair and/or reconnection to a service line or the replacement of just the portion of an LSL owned by the water system, where lead pipe remains in any portion of the service line between the water main and the structure.</i>
Main Replacement	<i>Any incident that requires installation of pipe which exceeds one section of pipe or 20 feet when using fusible pipe material. An emergency main replacement is a disruption of service that requires the replacement of more than one section of pipe.</i>

2. Disruption of Service Summary Tools

Ohio EPA has developed several tools and templates for water systems to comply with these regulations. **Figure 1: Disruption of Service Summary Flowchart** provides an overview of the utility-to-consumer notification requirements for different types of events. This flowchart is interactive; depending on the scenario, users can click on the text to be directed to the appropriate notification template. All notification templates, as well as Ohio EPA-approved language for the notifications, can be found in the appendices at the end of this document. **Table 2: Disruption of Service Summary Table** outlines the OAC requirements for different types of line work, including disruption of service events, main replacements, and LSL replacements. The headings in Table 2 link to the corresponding sections of this guidance.



*If an LSL is replaced in conjunction with a disruption of service event, LSL replacement requirements must be met for those served by the line.
 **Less than 45 days' notice is allowed in instances of emergency repairs, emergency replacements, or other mitigating circumstances.
 *** If pressure is not monitored during what would otherwise be considered a Type 1 or Type 2 repair, a Type 3 response must be conducted as a precaution, including Type 3 notification requirements.

Figure 1: Disruption of Service Summary Flowchart

Table 2: Disruption of Service Summary Table

	<i>Type 1 Event</i>	<i>Type 2 Event</i>	<i>Type 3 Event</i>	<i>Type 4 Event</i>	<i>Main Replacement</i>	<i>LSL Replacement</i>
Definition & Elevation	Controlled pipe repair where positive pressure is continuously maintained during the repair and there are no signs of contamination. <i>Elevate to Type 2 if Type 1 event response cannot be completed.</i>	Controlled repair of a distribution system component where positive pressure is maintained until a controlled shutdown of affected area can be completed and there are no signs of contamination. <i>Elevate to Type 3 if Type 2 event response cannot be completed.</i>	Disruption of service or water line repair where there is a loss of pressure at repair site and localized depressurization adjacent to repair, an uncontrolled shutdown, and/or there are signs of possible contamination intrusion. <i>Elevate to Type 4 if event cannot be localized to area adjacent to repair.</i>	Catastrophic failure with widespread depressurization in the system or actual contamination intrusion.	Newly constructed potable water main or disruption of service requiring the use of more than one length of pipe (or 20 feet when dealing with fusible material).	A partial LSL replacement occurs when only the portion of an LSL necessary to make the repair and/or the portion of an LSL owned by the water system is replaced, where lead pipe remains in any portion of the service line between the water main and the structure. After a full LSL replacement, no lead pipe remains in any portion of the service line.
	Note: Elevate to Type 3 if pressure is not monitored upstream and downstream or some other Director approved method is not used.		Note: If a Type 3 or 4 event requires greater than one length of pipe, replacement requirements must also be met.			Note: If LSLs are replaced during a main replacement or disruption of service, LSL replacement requirements must also be met.
Repair/Replacement Requirements	<ul style="list-style-type: none"> Monitor and record pressure upstream/ downstream of repair or follow director approved procedure. Excavate below repair and maintain pit water level below repair Repair under positive pressure and disinfect using AWWA Standard C651-14 Section 4.11.3.1 Test chlorine residual or verify disinfectant presence 	<ul style="list-style-type: none"> Monitor and record pressure upstream/downstream of repair or follow director approved procedure. Excavate below repair and maintain pit water level below repair Conduct controlled shut-down of affected area and disinfect using AWWA Standard C651-14 Section 4.11.3.2 Test chlorine residual or verify disinfectant presence 	<ul style="list-style-type: none"> Disinfect, repair, and flush using AWWA Standard C651-14 Section 4.11.3.3 Test for chlorine residual and comply with minimum chlorine residual 	<ul style="list-style-type: none"> Disinfect, repair, and flush using AWWA Standard C651-14 Section 4.11.3.3 Test for chlorine residual and comply with minimum chlorine residual 	<ul style="list-style-type: none"> As applicable, comply with AWWA Standard C651-14 Test for chlorine residual and comply with minimum chlorine residual 	<ul style="list-style-type: none"> As applicable, comply with AWWA Standard C651-14 Ohio EPA recommends completing all LSL replacements in accordance with AWWA Standard C810-17 Replacement and Flushing of Lead Service Lines
Documentation & Ohio EPA Communication	<ul style="list-style-type: none"> Document Type 1 response after repair in operation and maintenance records 	<ul style="list-style-type: none"> Document Type 2 response after repair in operation and maintenance records 	<ul style="list-style-type: none"> Document possible contamination Notify Ohio EPA as soon as possible, but within 24 hours if disruption affects 10% of users or more than 100 service connections Document Type 3 response throughout and submit to Ohio EPA following event 	<ul style="list-style-type: none"> Document actual contamination In consultation with Ohio EPA as soon as possible, but within 24 hours if disruption affects 10% of users or more than 100 service connections Document Type 4 response throughout and submit to Ohio EPA following event 	<ul style="list-style-type: none"> For water main replacements in areas that contain or are likely to contain LSLs, comply with record keeping requirements of OAC Rule 3745-81-90(J). 	<ul style="list-style-type: none"> Comply with record keeping and reporting requirements of OAC Rule 374-81-90
Consumer Notification	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Notify critical users as soon as possible, but within 24 hours Notify users in areas of LSLs unless utility has an Optional Lead Awareness Campaign 	<ul style="list-style-type: none"> Issue precautionary boil advisory/water use advisory to affected users as soon as possible, but within 24 hours in accordance with contingency plan process Notify users in areas of LSLs 	<ul style="list-style-type: none"> Issue boil advisory/water use advisory to affected users as soon as possible, but within 24 hours in accordance with contingency plan process Notify users in areas of LSLs 	<ul style="list-style-type: none"> Notify consumers in impacted areas 45 days in advance (or less during an emergency) 	<ul style="list-style-type: none"> All LSL replacements: notify owner of the intention to replace the PWS-owned portion of the SL, and offer to replace customer-owned portion Partial LSL Replacement: notify consumers served by the line 45 days in advance (or less during an emergency)
Sample	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Special purpose Total Coliform samples 	<ul style="list-style-type: none"> Special purpose Total Coliform samples 	<ul style="list-style-type: none"> Sample using AWWA Standard C651-14 Section 5.1 	<ul style="list-style-type: none"> LSL sample following a partial LSL replacement
Filters	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> In areas of LSLs, required if more than one pipe length is used and replacement requirements must also be met Required if an LSL is partially replaced and LSL requirements must be met 	<ul style="list-style-type: none"> In areas of LSLs, required if more than one pipe length is used and replacement requirements must also be met Required if an LSL is partially replaced and LSL requirements must be met 	<ul style="list-style-type: none"> Required for consumers in the impacted area in areas of LSLs (SLs served by replaced main), unless no lead remains on public or private side 	<ul style="list-style-type: none"> Full LSL replacement: None Partial LSL replacement: Required to those served by SL

Appendix F: Ohio EPA Contact Information



Central Office
 Lazarus Government Center
 50 W. Town St., Suite 700
 Columbus, OH 43215
 (614) 644-3020

Central District Office
 Lazarus Government Center
 50 W. Town St., Suite 700
 Columbus, OH 43215
 (614) 728-3778
 (800) 686-2330

Northwest District Office
 347 N. Dunbridge Rd.
 Bowling Green, OH 43402
 (419) 352-8461
 (800) 686-6930

Southeast District Office
 2195 E. Front Street
 Logan, OH 43138
 (740) 385-8501
 (800) 686-7330

Northeast District Office
 2110 E. Aurora Rd.
 Twinsburg, OH 44087
 (330) 963-1200
 (800) 686-6330

Southwest District Office
 401 E. Fifth St.
 Dayton, OH 45402
 (937) 285-6357
 (800) 686-8930

*Toll-free numbers are for citizens with questions or concerns about environmental issues.
 The regulated community should use the business line for routine business.
 Spills and emergencies should be reported to (800) 282-9378.*