

A Business Owner's Guide to Complying with
MA State

Drinking Water Rules



A "How-To-Guide"
for transient
non-community
water systems

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MassDEP thanks the New England Water Pollution Control Commission for letting us use this guide design, which NEIWPC's Cindy Barnard developed for a similar guide produced for New Hampshire. This New Hampshire guide has been updated to include MassDEP requirements.

IMPORTANT CONTACT INFORMATION

Complete and keep information readily available.

System Owner _____

Address _____

Telephone () - _____

System Operator _____

Address _____

Telephone () - _____

Certified Lab _____

Address _____

Telephone () - _____

Pump Company _____

Telephone () - _____

Treatment Equipment Repair _____

Telephone () - _____

IN CASE OF EMERGENCY

Police Department

Address _____

Telephone () - _____

Fire Department

Address _____

Telephone () - _____

MassDEP Emergency Response (24 hrs.)

Telephone (888) 304 - 1133 _____

Massachusetts Department of Environmental Protection

Drinking Water Program

One Winter Street, 5th Floor

Boston, MA 02108

(617) 292 - 5770

www.mass.gov/dep

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- Respond to a water sample that tests positive?
- Disinfect my water system?
- Protect my well from contamination?

What is a TNC water system?

Examples of drinking water uses of TNC include, but are not limited to, bubblers, coffee makers, post-mixed beverage machines, and restroom facilities. If your water system meets the below definition your system is a TNC.

A Transient Non-Community public water system (TNC) is any public water system that has at least 15 service connections that serves water to 25 or more different people per day for more than sixty days each year. If your business or facility has its own well or spring and has the capacity to provide services for at least 25 people every day, you operate a TNC. Common examples of TNCs include restaurants, convenience stores, ski areas, campgrounds, motels, and water vending operators.

As an owner/operator of a public water system, it is your duty to ensure that your water system is operating in a way that protects the health of you, your employees, and your customers. This guide will help you provide safe potable water for your customers and keep your water system in compliance with Massachusetts Drinking Water Regulations, 310 CMR 22.00.

To obtain more information about requirements for TNC systems, please refer to **TNC, Managing Your TNC Drinking Water System - A Guide to the Massachusetts Requirements for Transient Non-Community Public Water Systems**, available at <http://www.mass.gov/dep/water/compliance/tncman.pdf>.

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Where do I start?

Register

As an owner/operator of a public water system, you must register your water system with the Massachusetts Department of Environmental Protection (MassDEP), and keep that information current. All TNC systems must register with MassDEP's Drinking Water Program (DWP). Call (617) 292-5770 for details.

Water Quality Testing

TNCs are required to test their water for coliform bacteria, nitrate, nitrite, and sodium. Other contaminants may be required by MassDEP as needed. MassDEP will provide your system with a sampling schedule to help you meet all of the water quality monitoring requirements on time. An example of a TNC sampling schedule is provided. Once you have taken your samples, you must send them to a Massachusetts certified lab for analysis. Work with your lab to make sure that your sample has been taken properly and that you have submitted all required information to avoid delays in processing your sample. A list of state approved labs is available at <http://www.mass.gov/dep/service/compliance/wespub02.htm> or may be obtained through MassDEP's Wall Experiment Station at (978) 682-5237.

Report

The lab that performs your water quality testing must report all results of their analysis directly to MassDEP on required forms. To ensure that the proper reporting occurs, you must enter into a written agreement with an accredited lab to process your samples. This written agreement should require the lab to submit the results of all water quality analyses to you as well as to immediately contact you when your laboratory results exceed a state maximum contaminant level. You may also contract with your lab to send results directly to MassDEP. All monitoring results must be submitted to MassDEP within ten (10) days after the end of the monitoring period.

Inspect

Every five years, MassDEP will contact you to schedule an appointment for a site visit, referred to as a "sanitary survey." This site visit is completed by a MassDEP employee or designee with your cooperation. During this detailed field inspection, you and the operator of the system must be present

to provide the MassDEP employee with the access they need to complete the survey, answer any questions they have, and provide any records they request. You should also prepare for each sanitary survey by following the instructions in MassDEP's guide **Preparing for a Sanitary Survey - Information to Help Small Water Systems**, available at <http://www.mass.gov/dep/water/laws/policies.htm#dwguid>.

Record Type	Keep on File For:
Bacteria Monitoring Results	5 Years
Nitrate/Nitrite, Sodium Monitoring Results	12 Years
Sanitary Survey Records	10 Years
Public Notices Issued	3 Years

Record

You are required to keep a copy of all official monitoring reports, survey records, and violation reporting related to your system on file for a certain amount of time (see table). After the given amount of time has passed, you may dispose of the records.

Note: If you sell the property/water system you must transfer all records to the new owner and notify MassDEP.

Hire a Certified Operator

You must get the training to operate your system or have a professional operator oversee your system. You can locate a certified operator at www.mass.gov/dep/water/drinking/certop.htm.

Provide Public Notice

If your system exceeds a monitoring maximum contaminant level (MCL) for any of the contaminants monitored, fails to monitor, or does not submit monitoring reports to MassDEP as required, the public has a right to know. The system must notify the public and these public notices of violations must be posted in a conspicuous location for all customers to read.

Submit your Annual Statistical Report in January Each Year

The Annual Statistical Report provides current information about your system. It is essential to provide this information in a timely manner because it is used to calculate your annual compliance fee. If you don't file, your fee might go up.

Pay Your Annual Compliance Fee

Every public water system is assessed an annual compliance fee that provides funding for the many technical assistance programs for water systems. Prompt payment allows MassDEP to fully implement all of its drinking water protection programs.

Perform a Cross Connection Survey

Your water system needs to be protected from non-potable equipment and non-potable water (e.g. boilers and air conditioning corrosion inhibiting chemicals). A cross connection control plan is submitted with the annual statistical report.

Post a Consumer Confidence Report (CCR)

MassDEP will provide you with a report of your water quality results for the prior year. This report is commonly referred to as a CCR. You will be expected to keep this report in a conspicuous place in your facility until MassDEP sends you the next year's report.

Meter Your Source and Service Connections

It is required that your system be metered. Metering water consumption helps provide early warning of leaks and distribution problems, thus saving you money.

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Have an Emergency Response Plan

You must have a plan to protect the health of your workers and consumers in case of a problem with your water supply or system. If you serve food your plan must include the Department of Public Health emergency response steps. For a copy of the DPH guide visit http://www.mass.gov/Eeohhs2/docs/dph/environmental/foodsafety/emergency_action_plans.pdf or call your local Board of Health.

Protect Your Source of Water

The area of protection around your source is known as the Zone 1. The Zone 1 is a 100 to 400 foot protective radius around the well, which must be owned or controlled by the TNC using conservation restrictions. If you do not know the radius of your Zone 1, contact MassDEP for assistance.

To protect your well from possible sources of contamination, only activities that are directly related to the PWS and are non-threatening to the water quality are allowed in the Zone 1. Some examples are to restrict access to your well, slope parking areas away from the well, and remove septic tanks and leach fields from Zone 1.

New Construction or Replacement of a Well

Contact your MassDEP regional office for guidance and technical assistance if you are constructing a new well or replacing a well. Plans and permits must be submitted and approved by MassDEP before the well is drilled and placed on-line.

Treatment Devices and System Improvements

Your system may have treatment or you may want to install treatment such as a water softener, filter, disinfection, other chemical additives, or install other system modifications. Your system may also be required to install treatment to comply with rules like the groundwater or surface water treatment rule. All devices and major system modifications must have prior MassDEP approval. Submit plans and specifications, designed by a professional engineer, to the regional office for review and approval. You will be charged a permit fee.

New Requirements

From time to time MassDEP may promulgate new program requirements that affect TNC systems. When this occurs MassDEP will contact each TNC in writing to inform them of the requirement. The groundwater rule is the next requirement. A summary of the rule can be found at <http://www.mass.gov/dep/water/laws/regulati.htm>.

Shared Compliance

TNC systems such as restaurants and campgrounds must also comply with local Board of Health and Massachusetts Department of Health Requirements. TNCs must work closely with their local health authority.

Where can I find additional assistance?

MassDEP, Drinking Water Program

Your first stop for additional information or technical assistance should be the MassDEP Drinking Water Program. They can provide you with advice specific to your system and work with you to solve any problems that you might encounter. See back cover to locate the region for your system.

MassDEP Boston (Main Office)

(617) 292-5770
Drinking Water Program
One Winter Street, 5th Floor
Boston, MA 02108

MassDEP Western Region

(413) 784-1100
436 Dwight Street
Springfield, MA 01103

MassDEP Central Region

(508) 792-7650
627 Main Street
Worcester, MA 01608

MassDEP Northeast Region

(978) 694-3200
205B Lowell Street
Wilmington, MA 01887

MassDEP Southeast Region

(508) 946-2700
20 Riverside Drive
Lakeville, MA 02347

MassDEP Wall Experiment Station - State Laboratory

(978) 682-5237

Division of Professional Licensure

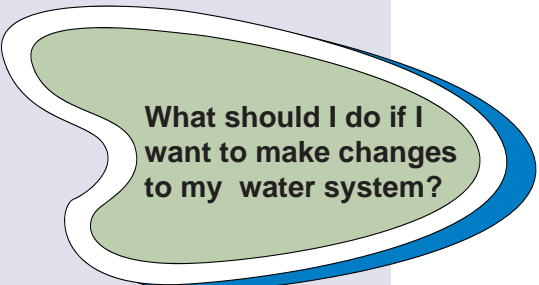
Certified Operator Requirements

Division of Professional Licensure - (617) 727-3072

MassDEP Contact - (617) 556-1191

<http://www.mass.gov/dep/water/drinking/certop.htm>

Contact for temporary certification, training certification, and training guidance.



What should I do if I want to make changes to my water system?

Most routine maintenance, including repairs and piping or valve replacements, can be completed without any design oversight or approval from MassDEP. However, changes such as changing sampling sites, adding or removing treatment, extending pipes, increasing capacity, changing the type of facility, or drilling a new well may require state review and approval. You should contact MassDEP for a full description of these requirements and any further instructions before you make any changes to your system.

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MassDEP Drinking Water Home Page

<http://www.mass.gov/dep/water/drinking.htm>

MassDEP Home Page

<http://www.mass.gov/dep/>

MassDEP Comment Box

Email the Drinking Water Program with your questions or comments on rules or regs by e-mail. The address is: Program.Director-DWP@state.ma.us.

MassDEP “In The Main”

(617) 292-5885

Newsletter published by MassDEP, Drinking Water Program to inform PWS officials about new state and federal activities, regulations, training programs, and workshops.

US Environmental Protection Agency (EPA)

Region I - Source Water Protection

(617) 565-3616 or (617) 565-4721

Contact for New England source water protection issues, cross-state source water protection and national legislation

US EPA Home Page

<http://www.epa.gov/>

Safe Drinking Water Act Hotline (EPA)

800-426-4791 (9:00 AM - 5:00 PM EST)

The Hotline’s primary function is to assist the regulated community and the public with the regulations and programs developed in response to the Safe Drinking Water Act Amendments. Also contact for information on water quality, drinking water, technical publications, public education materials, and source protection planning.

The TNC Manual

This easy-to-read guide is for TNC systems. The manual is a full directory of information on all the requirements for TNC systems and information that the owner or operator of a small public water system should be familiar with. A copy can be downloaded at <http://www.mass.gov/dep/water/compliance/tncman.pdf>

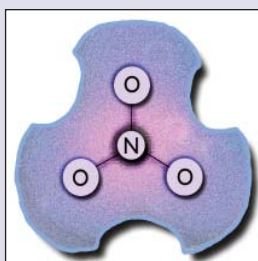
What testing is required?

The MassDEP prepared **sampling schedule** is the most important document that describes testing requirements for your public water system (An example of this sampling schedule is on the following page). Consider it your ticket to regulatory compliance. It lets you know exactly when to conduct each water quality test. It also describes where the sample(s) should be taken (the sampling point). Your sampling schedule can be obtained from your regional office.



BACTERIA

Coliform bacteria are common in the natural environment. They are found in the intestines of warm-blooded animals (including humans), and in plants, soil, air, and water. Coliform bacteria are usually not harmful, however their presence in water may indicate that the water is polluted and may contain more serious disease-causing organisms. TNCs must monitor for coliform bacteria every three months the system is in operation. Additional testing may be required depending on the type and size of your system. Consult your sampling schedule for your system's monitoring requirements and sampling location for coliform bacteria.



NITRATE/NITRITE

Nitrate and nitrite are inorganic chemicals found in fertilizer, sewage, and wastes from animals. High levels of nitrate and/or nitrite in drinking water have caused serious illness and sometimes death in infants less than six months of age. Increasing levels can indicate problems in your wellhead area and require further investigation. TNCs are required to monitor for nitrates every year, and nitrites every three years. Consult your sampling schedule for your system's monitoring requirements and sampling location for nitrate and nitrite.

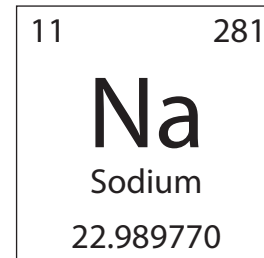
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SODIUM

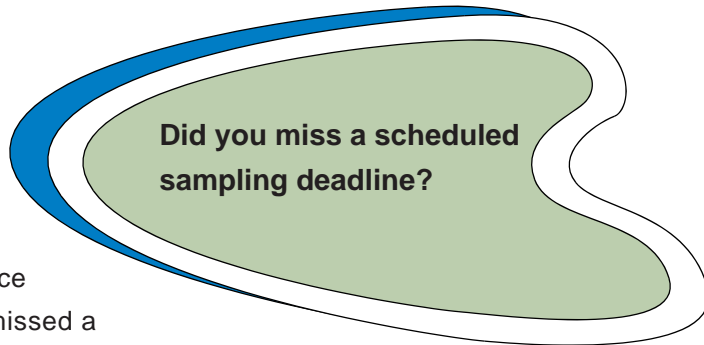
Sodium is a naturally occurring common element found in soil and water. This chemical is of concern to sodium sensitive individuals, such as those with high blood pressure, who should be aware of their sodium intake.

Sodium must be sampled at the entry point to the distribution system which is representative of each well after treatment.

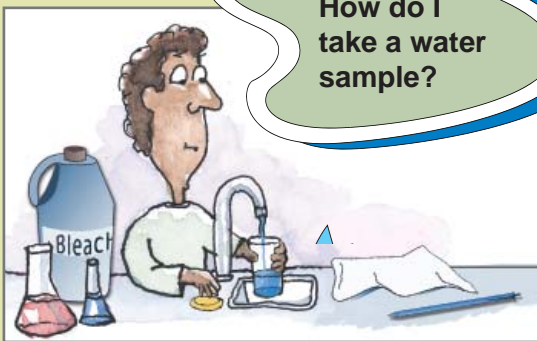
In addition to reporting sodium results to the MassDEP, you must also notify your local Board of Health and the Massachusetts Department of Public Health (DPH) of your sodium result.



If you miss a sampling deadline, it is important that you call and notify MassDEP of the oversight as soon as you become aware of the problem. Complete your required testing as soon as you can, and within thirty days, issue a public notice informing customers that you have missed a required sampling deadline. MassDEP will help guide you through this process.



How do I take a water sample?



1. Obtain sample bottles from your laboratory.
2. Collect all materials you'll need, including a cloth, bleach solution, and a waterproof pen to label your bottles.
3. Choose the tap to sample from. If the location is not designated on your sampling schedule, choose a location that is representative of your system, like a bathroom or kitchen faucet or drinking water bubbler, and notify MassDEP of the change.
4. Avoid using swivel taps or mixing valves.
5. Remove all devices from the tap, including aerators and screens. They may contaminate the sample. If they can't be

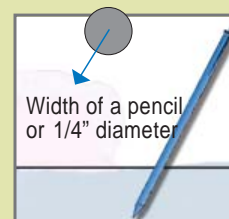


removed, it is best to choose another tap.

6. If you are collecting a bacteria sample, sterilize the faucet rim with a cloth dampened with bleach and water.

7. Turn the cold water on vigorously and let it run for 4 or 5 minutes. Reduce the flow to eliminate

splashing and air bubbles. The stream of water should be no greater than the width of a pencil.



8. Complete the label on the bottle, using a waterproof pen, including all information required by the lab.
9. Remove the cap of your sample bottle and hold it to prevent it from becoming contaminated.
10. Fill the container to just below the neck of the bottle, leaving airspace. Do not rinse the container or fill a second time, and do not remove anything that is already in the bottle. There may be a liquid or solid preservative already in the bottle.
11. Carefully replace the cap on the bottle and tighten securely.
12. Refrigerate the sample, but do not freeze it.
13. If possible, it is best to take the sample to the lab the same day. Bacteria samples must be delivered to the lab within 30 hours after collection, and nitrate samples must be delivered within 48 hours to be valid.
14. When you are ready to take the sample to the lab, place it in a cooler with ice to keep it cool. Bacteria samples should be kept at 50 degrees F and nitrate samples should be kept at about 40 degrees F.



How do I protect my well from contamination?

Taking action to protect your drinking water source is your responsibility as a public water supply owner. Many land use activities can pollute a drinking water supply, so protecting the land around your water source is your first barrier against contamination. Identifying what the potential sources of contamination are in your area, and eliminating those that you can control are two ways that you can protect your water supply.

- Know exactly where your well is located;
- Avoid excessive use of pesticides, fertilizers, and other chemicals on your property, especially near the wellhead;
- Dispose of hazardous chemicals and wastes properly, never dumping them down drains, or on your property;
- Make sure your septic system is maintained in good operating condition;
- Slope the area around the well to keep surface runoff drained away from the well;
- Keep a careful watch of activities around your well area;
- Identify potential sources of contamination nearby, such as gas stations, manufacturing facilities, live stock pens/pastures, and dry cleaners, and test for contaminants that are associated with these activities.

If your water quality samples test positive for bacteria, you must notify MassDEP, and MassDEP will let you know what you need to do to fix the problem.

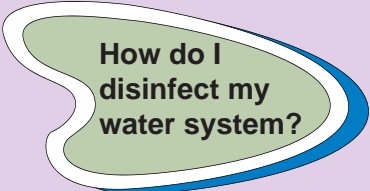
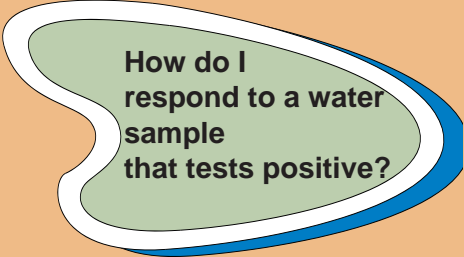
Some water quality violations are more serious than others. If nitrate (concentration over 10mg/L) or E. Coli or Fecal coliform bacteria are found **DO NOT DRINK THE WATER**. Immediately notify your employees and customers that the water is not safe to drink.

Call MassDEP for **FURTHER INSTRUCTIONS**. While you may boil the water for at least 1 minute at a rolling boil to kill the bacteria, boiling does not remove nitrate contamination.

After you find out that contamination has been found in your system, there are several things MassDEP will require you to do.

- You must let your customers and employees know of the problem as soon as possible, and issue a public notice to spread the word to anyone who may have recently used your facility.
- You must gather more water quality samples to confirm that the contamination exists.
- You should immediately find and eliminate the source of the contamination.

MassDEP will work closely with you to make sure you complete all of these steps correctly. They will help you to protect your own health, and that of your employees, and your customers. Once you've eliminated contamination from your system and completed all public notice requirements, MassDEP will consider your system in compliance. You should have information in your Emergency Response Plan on how to handle these types of emergencies.



When to disinfect your water system:

- After construction
- After repairs
- When water tests show contamination (You must contact MassDEP **before** initiating disinfection of your source)
- For seasonal systems, before opening and after closing for the season

How to disinfect your water system:

1. Disconnect, remove, or bypass all water treatment devices such as activated carbon filters and water softeners.
2. Fully open all the faucets. Run the water vigorously for several minutes to flush out any sediment in the plumbing.
3. If you have a dug well, scrub the inside of the well with a brush and chlorine bleach solution (one part

bleach to four parts water).

4. Add chlorine bleach directly into the well to achieve 50 ppm in dose. Check the table below to find the right amount of store-bought chlorine bleach for your well's depth and diameter. **Do not over chlorinate** or the chlorine will be difficult to remove.
5. Run the chlorinated water through a garden hose back into the well for an hour so the chlorinated water washes down the inside of the casing.
6. Recap the well.
7. Open one faucet at a time throughout your facility. Run the water until you smell a strong chlorine odor, then turn the tap off. Repeat for all faucets. Don't forget bathtubs, showers, washing machines, and toilets (one flush is enough). Do not consume the chlorinated water.
8. Allow the chlorinated water to sit in the entire system for at least 12 hours, and preferably 24 hours. This is the amount of time that chlorine must be in contact with your system to kill all bacteria. Minimal toilet flushing is allowed.
9. After waiting for the chlorine to disinfect the system, connect a hose to a tap or outside faucet and drain the chlorinated water to a safe, outdoor location. Do not drain the water into a septic system, a lake or stream, or a storm drain. A gravel driveway or brushy area may be a good place to drain the water. (note: chlorine will kill grass)
10. Continue draining your system until the chlorine odor is gone from the water. (note: it takes about 3-4 days of normal water usage after the

initial draining before the chlorine smell completely disappears.)

11. The well should be sampled after the odor of chlorine disappears.

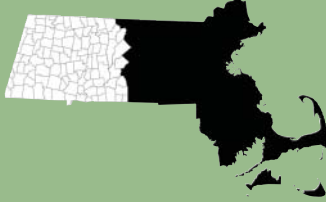
WELL DIAMETER

		6 in.	8 in.
DEPTH	50 ft.	1 cup	2 cups
	100 ft.	2 cups	1 qt.
	150 ft.	1 qt.	1/2 gal.

DUG WELL DIAMETER

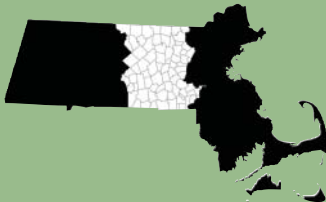
		3 ft.	4 ft.
DEPTH	5 ft.	1 qt.	1/2 gal.
	10 ft.	1/2 gal.	1 gal.
	20 ft.	1 gal.	1-3/4 gal.

MassDEP Western Region
 436 Dwight Street
 Springfield, MA 01103
 Phone: 413-784-1100
 Fax: 413-784-1149



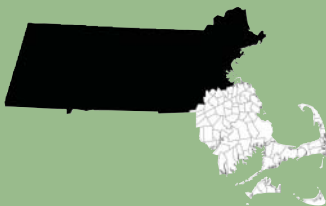
Adams	Deerfield	Huntington	Otis	Tolland
Agawam	Easthampton	Lanesborough	Palmer	Tyringham
Alford	East Longmeadow	Lee	Pelham	Wales
Amherst	Egremont	Lenox	Peru	Ware
Ashfield	Erving	Leverett	Petersham	Warren
Athol	Florida	Leyden	Pittsfield	Warwick
Becket	Gill	Longmeadow	Plainfield	Washington
Belchertown	Goshen	Ludlow	Richmond	Wendell
Bernardston	Granby	Middlefield	Rowe	Westfield
Blandford	Granville	Monroe	Royalston	Westhampton
Brimfield	Great Barrington	Montague	Russell	West Springfield
Buckland	Greenfield	Monterey	Sandisfield	West Stockbridge
Charlemont	Hadley	Montgomery	Savoy	Whately
Cheshire	Hampden	Monson	Sheffield	Wilbraham
Chester	Hancock	Mount Washington	Shelburne	Williamsburg
Chesterfield	Hatfield	New Ashford	Shutesbury	Williamstown
Chicopee	Hardwick	New Marlborough	Southampton	Windsor
Clarksburg	Hawley	New Salem	South Hadley	Worthington
Colrain	Heath	North Adams	Southwick	
Conway	Hinsdale	Northampton	Springfield	
Cummington	Holland	Northfield	Stockbridge	
Dalton	Holyoke	Orange	Sunderland	

MassDEP Central Region
 627 Main Street
 Worcester, MA 01608
 Phone: 508-792-7650
 Fax: 508-792-7621



Acton	Dudley	Leicester	Northbridge	Sturbridge
Ash	Dunstable	Leominster	North Brookfield	Sutton
Ashby	East Brookfield	Littleton	Oakham	Templeton
Auburn	Fitchburg	Lunenburg	Oxford	Townsend
Ayer	Franklin	Marlborough	Paxton	Upton
Barre	Gardner	Maynard	Pepperell	Uxbridge
Bellingham	Grafton	Medfield	Phillipston	Webster
Berlin	Groton	Medway	Princeton	Westborough
Blackstone	Harvard	Mendon	Rutland	West Boylston
Bolton	Holden	Millis	Shirley	West Brookfield
Boxborough	Hopedale	Millbury	Shrewsbury	Westminster
Boylston	Hopkinton	Millis	Southborough	Winchendon
Brookfield	Hubbardston	Millville	Southbridge	Worcester
Charlton	Hudson	New Braintree	Spencer	
Clinton	Holliston	Norfolk	Sterling	
Douglas	Lancaster	Northborough	Stow	

MassDEP Southeast Region
 20 Riverside Drive
 Lakeville, MA 02347
 Phone: 508-946-2700
 Fax: 508-947-6557
 TDD: 508-946-2795



Abington	Dartmouth	Harwich	Norwood	Somerset
Acushnet	Dennis	Hingham	Oak Bluffs	Stoughton
Aquinnah	Dighton	Holbrook	Orleans	Swansea
Attleboro	Duxbury	Hull	Pembroke	Taunton
Avon	Eastham	Kingston	Plainville	Tisbury
Barnstable	East Bridgewater	Lakeville	Plymouth	Truro
Berkley	Easton	Mansfield	Plympton	Walpole
Bourne	Edgartown	Marion	Provincetown	Wareham
Braintree	Fairhaven	Marshfield	Randolph	Wellfleet
Brewster	Fall River	Mashpee	Raynham	West Bridgewater
Bridgewater	Falmouth	Mattapoisett	Rehoboth	Westport
Brockton	Foxborough	Middleborough	Rochester	West Tisbury
Canton	Freetown	Nantucket	Rockland	Weymouth
Carver	Gosnold	New Bedford	Sandwich	Whitman
Chatham	Halifax	North Attleborough	Scituate	Wrentham
Chilmark	Hanover	Norton	Seekonk	Yarmouth
Cohasset	Hanson	Norwell	Sharon	

MassDEP Northeast Region
 205B Lowell Street
 Wilmington, MA 01887
 Phone: 978-694-3200
 Fax: 978-694-3499



Amesbury	Concord	Lincoln	Newbury	Stoneham
Andover	Danvers	Lowell	Newburyport	Sudbury
Arlington	Dedham	Lynn	Newton	Swampscott
Ashland	Dover	Lynnfield	North Andover	Tewksbury
Bedford	Dracut	Malden	North Reading	Topsfield
Belmont	Essex	Manchester-By-The-Sea	Peabody	Tyngsborough
Beverly	Everett	Marblehead	Quincy	Wakefield
Billerica	Framingham	Medford	Reading	Waltham
Boston	Georgetown	Melrose	Revere	Watertown
Boxford	Gloucester	Merrimac	Rockport	Wayland
Brookline	Groveland	Methuen	Rowley	Wellesley
Burlington	Hamilton	Middleton	Salem	
Cambridge	Haverhill	Milton	Salisbury	
Carlisle	Ipswich	Nahant	Saugus	
Chelmsford	Lawrence	Natick	Sherborn	
Chelsea	Lexington	Needham	Somerville	