

Salt Remediation Program

Dedicated to Safe Roadways & Environmental Stewardship

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INTRODUCTION

MassDOT, Highway Division maintains approximately 16,000 lane-miles of highway, including ramps and shoulders, and 4,950 bridges. The winter season in Massachusetts brings with it challenges associated with keeping the roads clear of snow and ice for safe travel. However, the deicing process can cause elevated salt concentrations in areas where highway run-off can infiltrate water supplies. Since 1986, MassDOT (formerly, MassHighway) has administered a program to investigate, and when necessary remediate salt contamination of private wells.

Private Well Complaints

Complaints of elevated salt concentrations in private wells will be investigated if the secondary maximum contaminant levels established by the Massachusetts Department of Environmental Protection (MassDEP) are exceeded for sodium or chloride. An investigation is warranted if:

- The chloride concentration exceeds 250 parts per million (ppm),
- A resident is on a physician documented sodium-restricted diet of 1 gram/day or 2 grams/day, and the sodium concentration exceeds 20 ppm or 40 ppm, respectively.

Note: 1 ppm = 1 mg/l. Meaning 1 mg of solute (salt constituent) per 1 liter of solvent (water). In the event the lab reports results as part per billion (ppb), multiply result by 0.001 to convert to ppm.

General Procedure

Residents should submit their complaint to the appropriate District Highway Director (DHD) (visit <http://www.massdot.state.ma.us/highway> search for "District Highway Director" to find your respective DHD). Residents must include a recent water sample analysis performed by a MassDEP-certified lab for said constituents showing the aforementioned concentrations are exceeded. MassDEP certified labs can be located by referencing their website at: <http://public.dep.state.ma.us/labcert/labcert.aspx>:

1. The complaint is forwarded to the Salt Remediation Program Supervisor. Upon receipt, an application package is sent to the complainant.
2. The resident should return the completed forms to MassDOT Highway Division.
3. MassDOT will review the completed application forms. If the resident qualifies an appointment for a site visit is scheduled. Based on the site visit, inspection and first sample analysis, a determination is made as to whether a detailed investigation is warranted, or if the complaint should be denied.

Well Sampling & Investigation

If an investigation is warranted, MassDOT will collect monthly samples on behalf of the private well owner, typically for one year. The sample data will be utilized to observe seasonal fluctuations in salt concentrations in the aquifer and determine MassDOT's contribution of salt to the aquifer, if any. Copies of the laboratory analytical data are released to the homeowner upon request.

MassDOT may provide a bottled water supply to the residents at a rate of 3.5 gallons/week/eligible person, provided one of the following criteria is met:

- A resident is on a physician documented sodium-restricted diet; or
- The chloride concentration exceeds 500 ppm and a sodium-based chemical is not being injected into the plumbing system for water softening or neutralization.

Remedial Action

If it is determined that MassDOT is the source of the elevated salt concentrations in the water supply MassDOT will perform remedial action(s). The selected remedial action will be based on its cost-effectiveness. Remedial actions may include one or more of the following:

- Connection to a public water supply
- Well replacement
- Rehabilitation of the existing well
- Water treatment installation (*Costs associated with future maintenance will be addressed as part of the release agreement. In the event the replacement well contains naturally occurring minerals not present in the existing well, MassDOT will install water treatment if the mineral concentrations exceed a primary or secondary drinking water standard.*)
- Highway drainage modification
- Salt Management BMPs

Note: Prior to expenditure of funds for remedial action, MassDOT requires a release from responsibility for the elevated concentrations in the existing water supply well.

Corrosion Studies

MassDOT will investigate potential corrosion of a resident's plumbing system if the chloride concentration exceeds 250 ppm. A request must be made in writing and submitted to the Salt Remediation Program Supervisor prior to investigation.

Denials

A salt complaint will be denied if:

- The water is not potable due to non-highway related contamination,
- It is determined that poor well construction allows surface contamination to readily enter the well,
- MassDOT is not the primary source of salt impacts to the water supply, or
- The well and septic system components are within the prohibited limits outlined in the regulations found in 310 CMR 15.00, The State Environmental Code, Title V.

Reopening of Denied Complaints

If a salt complaint is denied, the property owner may request reopening of the complaint, provided one of the following related to the original denial has occurred:

- The non-highway related contamination has been remediated. Receipted invoices and a water quality analysis indicating the contamination has been addressed must be submitted with the request;
- The poorly constructed well has been repaired. Receipted invoices for repairs and improvements must be submitted with the request;
- The source of coliform bacteria has been resolved and the water system has been disinfected. A water quality analysis indicating coliform bacteria as absent must be submitted with the request; , and confirmatory sampling by MassDOT; or
- The other source of salt impacts has been addressed and evidence is submitted to MassDOT.

CONTACT INFORMATION

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