



Shelburne Falls Fire District

121 State Street

Shelburne Falls, MA 01370-1017

413.625.6392 fax 413.625.6718

March 14, 2019

To: The Town of Colrain: Planning Board, Zoning Board of Appeals and Board of Health

Re: Wellhead Protection Zoning

Dear Board Members:

The Massachusetts Department of Environmental Protection (MassDEP) requires all water systems to protect (or attempt to protect) their sensitive well recharge areas (Zone II) from adverse land uses that could potentially contaminate the public water supply. The Shelburne Falls Fire District has two high production wells that are located along Call Road in the Town of Colrain. These wells provide drinking water and fire protection services to approximately 2000 residents in the towns of Colrain, Shelburne Falls and Buckland. The wells produced on average about 135,000 gallons per day and provide 1 million gallons of storage in two 500,000 gallon tanks located on the Shelburne and Buckland sides of the Deerfield River.

The difficulty of enacting protective wellhead zoning for public wells that are located in neighboring communities is one of the most daunting tasks that public water operators face. I hope to in the near future to attend your board meetings and begin discussions with the Town of Colrain to consider a Zone II overlay. The Zone II overlay is designed to protect the wells from **future** land uses. Present land uses and industrial zones are grandfathered uses and are monitored for contaminations issues in the present only.

Please see the enclosures I have provided that include a map of the Zone II for our wells, the compliance letter from the MassDEP and a copy of Massachusetts Wellhead Protection Regulations that other communities have enacted to protect their water supplies from contamination.

I look forward to working with the Town of Colrain on this important public health measure. Thank you.

Best regards,

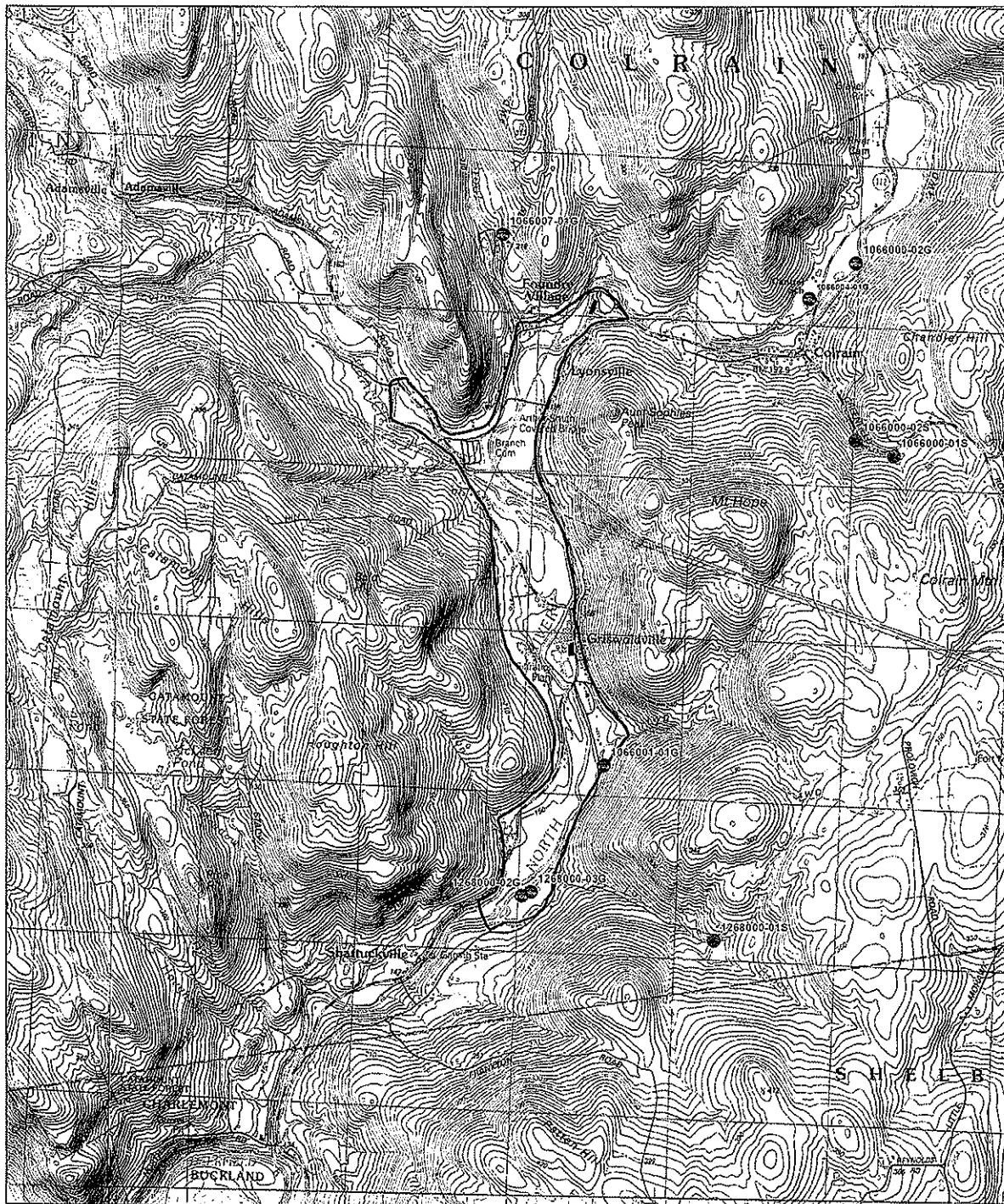
Rebekah McDermott – Superintendent
Shelburne Falls Fire District
121 State Street
Shelburne Falls, MA 01301

413-625-6392



SHELBURNE FALLS FIRE DISTRICT

SHELBURNE



Map Scale 1:25,000

0 0.25 0.5 1 Miles

Legend

- DEP Approved Zone II of interest
- Other Zone II Areas*
- Public Water Supply Source

Disclaimer
This map shows the Zone II Boundary and Public Water Supply sources that are associated with it at the date of publication.
* Only one Zone II is shown in bold per map sheet, for clarity. There may be others in this area, and they may overlap the present zone.
Zone 2 Are Number: 232
11/20/2013
DEP GIS Program
G:\MAPS\GIS\232\GISInfo\info_232.pdf

Name(s) of Water Supply:

NEW WELL #1 & WELL #2

Municipality

SHELBURNE

PWS Identification #

1268000

Water Purveyor

SHELBURNE FALLS FIRE DISTRICT

USGS Quadrangle Name(s)

COLRAIN

Source Identification

1268000-02G,03G

Date of Study Submittal

04/26/2013

Signature:

Date:

Water Purveyor:

Consultant:

Project Proponent:

Regional Water Supply Chief:





Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

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Governor

Karyn E. Polito
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Matthew A. Beaton
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Martin Suuberg
Commissioner

September 27, 2018

Mr. Harold Wheeler
Shelburne Falls Fire District
121 State Street
Shelburne Falls, MA 01370

RE: Colrain, Wellhead Protection Best Effort Requirement - Wells 1268000 - 02G and 03G

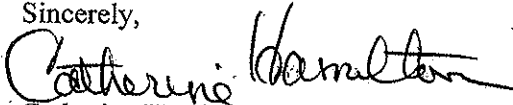
Dear Mr. Wheeler:

This letter is to provide you with information you need for satisfying MassDEP's Best Effort Requirement, 310 CMR 22.21(1). The Best Effort Requirement applies to non-municipal public water systems, and when a Zone II is located in a neighboring community. Our records indicate that the Shelburne Falls Fire District satisfied the Best Effort Requirement in 1998; however it is not clear if the Town of Colrain has adopted controls to protect this Zone II.

Please note that compliance with the Best Effort Requirement must be met until the Zone II is fully protected. Protection must met through local controls that meet the Wellhead Protection Regulations, 310 CMR 22.21(2). For detailed information about the Best Effort Requirement, please refer to the enclosed guide. This document explains why you must comply with the Best Effort Requirement again, and the steps to take for achieving compliance. For your convenience I have also enclosed a copy of your Zone II, the Wellhead Protection Regulations, and wellhead protection fact sheets. Please provide this information to the local boards when requesting protection.

As noted in the guide, you are only subject to demonstrating you have used your *best efforts*. When I receive documentation of your *best efforts*, I will issue you a letter of compliance. If the Town of Colrain adopts municipal controls that fully meet 310 CMR 22.21(2), please forward me a copy and I will send you an updated compliance letter. If you, or the Town of Colrain, have any questions concerning wellhead protection, please feel free to contact me at 617-556-1070 or email Catherine.sarafinas-hamilton@mass.gov.

Sincerely,


Catherine Hamilton
Drinking Water Program
MassDEP/Boston

cc: J. Bumgardner, MassDEP/Drinking Water Program/WERO

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

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Wellhead Protection Guidance The Best Effort Requirement 310 CMR 22.21(1) (updated 1/2015)

1. WHAT IS THE BEST EFFORT REQUIREMENT?

Massachusetts Drinking Water Regulations, 310 CMR 22.00, require public water systems (PWS) to protect Zone II recharge areas with municipal controls (bylaws, ordinances or health regulations). Local controls must meet Massachusetts Department of Environmental Protection (MassDEP) Wellhead Protection Regulations 310 CMR 22.21(2). However, when a PWS is not part of the municipality in which the Zone II is located, it is not always an easy task for the water supplier to obtain the required protection. For these PWS an alternative wellhead protection compliance standard is provided for under the Best Effort Requirement, 310 CMR 22.21(1).

2. WHO DOES THE BEST EFFORT REQUIREMENT APPLY TO?

The Best Effort Requirement applies to:

- All non-municipal PWS with a MassDEP approved Zone II; and
 - All municipal PWS with a MassDEP approved Zone II located in (or extending into) another community.
- Non-Municipal PWS [310 CMR 22.21(1)(d)]: *No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the public water system is owned or controlled by an entity other than a municipality, the proponent must demonstrate to the Department's satisfaction that it has used its best efforts to have all cities and towns in which the Zone II is located establish such zoning or non-zoning controls.*

- Municipal PWS [310 CMR 22.21(1)(e)]: *No public water supply well or wellfield designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the Zone II of a municipal public water system extends into another municipality, the must also demonstrate to the Department's satisfaction that it has used its best efforts to have all cities and towns into which the Zone II extends establish such zoning or non-zoning controls within the Zone II.*

3. HOW DOES A PWS COMPLY WITH THE BEST EFFORT REQUIREMENT?

To achieve compliance the PWS must demonstrate they have used their *best efforts* in encouraging the community to protect the Zone II. At a minimum the PWS must:

1. Request local officials (i.e. Planning Board, Board of Health, Board of Selectmen) to protect the Zone II with local controls that prohibit the land uses cited in 310 CMR 22.21(2)(a)(1) through (b)(7); and
2. Provide local officials with a copy of the Zone II map and Wellhead Protection Regulations 310 CMR 22.21(2); and
3. Provide MassDEP with documentation that steps 1 and 2 above have been accomplished. Documentation may include:
 - ✓ a copy of the letter requesting protection of the Zone II; or
 - ✓ a copy of the meeting minutes describing discussions held with local officials to protect the Zone II.

Upon submittal of the required documentation, MassDEP will provide the PWS with a *Letter of Compliance with the Best Effort Requirement*.

4. WHAT IF THE COMMUNITY PROTECTS THE ZONE II AFTER THE PUBLIC WATER SUPPLIER HAS SUBMITTED THEIR BEST EFFORT DOCUMENTATION ?

Municipal officials need time to review the wellhead protection information. The adoption or amendment process of bylaws/ordinances can often take a year or more. While some communities enact Board of Health Regulations (as these can be adopted quickly), most communities choose zoning controls to protect Zone IIs. As a result it is not uncommon for a PWS to have submitted their best effort documentation while a community is actively pursuing the requested protection.

If a municipality adopts protection measures after the PWS has met the Best Effort Requirement the PWS should send MassDEP a copy of the protection controls. If the controls sufficiently prohibit all the land uses under 310 CMR 22.21(2), MassDEP will provide the PWS with a *Letter of Compliance with MA Wellhead Protection Regulations*. Once a Zone II is fully protected by

the community, the PWS is no longer subject to meeting the Best Effort Requirement for that particular Zone II (as delineated).

5. WHAT IF THE COMMUNITY ALREADY PROTECTS THE ZONE II?

If the community already protects the Zone II with local controls the PWS should submit these documents. If the municipal protection controls adequately prohibit **all** of the land uses in 310 CMR 22.21(2); MassDEP will issue the PWS a *Letter of Compliance with Wellhead Protection Regulations*.

If the community's protection controls meet only some of the Wellhead Protection Regulations, or if the designated protection area (as cited in the local control, such as an Aquifer Protection District) covers only part of the Zone II, then the PWS must satisfy the Best Effort Requirement.

6. WHAT IF THE COMMUNITY DOES NOT RESPOND TO THE REQUEST FOR PROTECTING THE ZONE II?

The PWS is only subject to meeting the Best Effort Requirement. Once the PWS has submitted the proper documentation to MassDEP they have satisfied the Best Effort Requirement.

However if the community does not pursue the requested protection, the PWS will (at some time) again be subject to meeting the Best Effort Requirement. The following activities may trigger a repeat demonstration of *best effort*:

- ✓ New source approval;
- ✓ Monitoring waiver application;
- ✓ Water withdrawal permit reviews or amendments;
- ✓ Zone II re-delineations;
- ✓ Sanitary Survey stipulations; and
- ✓ Other events requiring a MassDEP review (i.e replacement well) and it is more than 3 years since the last *best effort* demonstration by the PWS.

The goal of the Best Effort Requirement is to fully protect public drinking water supplies.

Having to conduct a repeat of the *best effort* is really an opportunity for the PWS. Local boards often change members every few years. New members mean a new chance for the PWS to discuss the importance of drinking water quality, and the necessity of having comprehensive local protection controls.

For additional information about the Best Effort Requirement, please contact the MassDEP Drinking Water Program at 617-292-5700 or visit the Drinking Water Program webpage at: <https://www.mass.gov/drinking-water-program>.



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A DRINKING WATER PROGRAM FACT SHEET

Massachusetts Wellhead Protection Regulations

310 CMR 22.21(2)

Massachusetts Drinking Water Regulations, 310 CMR 22.00, require public water suppliers to protect their drinking water sources from land uses and activities that have the potential to contaminate their water supply. Wellhead protection is achieved when the municipality has adopted bylaws/ordinances and/or health regulations that prohibit the land uses and activities cited in the Wellhead Protection Regulations 310 CMR 22.21(2).

What Area Must Be Protected?

The prohibited land uses and activities apply to the *Zone II recharge area* of a public drinking water well. The Zone II is the land area overlying an aquifer that contributes water to a drinking water well. The boundaries of a Zone II are determined through hydro-geological study in which the well is tested under the most severe pumping conditions that can be realistically anticipated (180 days of pumping with no recharge from precipitation). A DEP approved Zone II delineation is required for all new wells permitted to pump more than 100,000 gallons per day, and for existing wells increasing their water withdrawal by more than 100,000 gallons per day.

What Land Uses Are Prohibited in the Zone II?

The following land uses must be prohibited through municipal bylaws/ordinances or Board of Health regulations.

- Landfills and open dumps;
- Sludge or septage monofills;
- Automobile graveyards and junkyards;
- Petroleum, fuel oil or heating oil bulk stations and terminals;
- Facilities that generate, treat, store or dispose of hazardous waste;
- Non-sanitary wastewater treatment or disposal works;
- Stockpiling and disposal of snow or ice removed from highways and streets located outside of the Zone II; and
- Existing floor drains that discharge to the ground, without a permit, in commercial and industrial facilities¹.

¹ Local control must address existing uses. A zoning bylaw/ordinance may not be used to meet compliance

What Activities Are Restricted in the Zone II?

The following activities must meet specific criteria :

- Storage of sludge and septage *unless* storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31,
- Storage of deicing chemicals, commercial fertilizers, or animal manure; *unless* stored within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- Storage of liquid hazardous materials and liquid petroleum products *unless* stored within a building in above ground tanks and on an impervious surface, or stored outdoors in containment designed to hold 10% of the total possible storage capacity of all containers or 110% of the largest container's storage capacity;
- Rendering impervious any lot or parcel, more than 15% or 2,500 square feet *unless* a system of artificial recharge is provided; and
- Removal of soils or earth material to within 4' of the groundwater table *unless* re-deposited within 45 days.

When is Wellhead Protection Compliance Required?

- ✓ Prior to the operation of a new well designed to pump more than 100,000 gallons per day;
- ✓ By the due date specified in the public water system's Water Management Act Water Withdrawal Permit (or permit related documents); and
- ✓ Prior to obtaining a Monitoring Waiver.

Do the Wellhead Protection Regulations apply to Non-Municipal Public Water Systems?

Yes. However non-municipal systems, such as water districts and water companies, must rely on the municipality to adopt protection controls. MassDEP provides a modified compliance standard under the **Best Effort Requirement** 310 CMR 22.21(1). Non-municipal water systems must demonstrate they have used their *best efforts* in encouraging the community to adopt controls that meet MA Wellhead Protection Regulations. At a minimum, the water supplier must:

- ✓ Provide municipal officials with a copy of the approved Zone II delineation and the MA Wellhead Protection Regulations; and
- ✓ Request in writing (or at documented meeting) the municipality adopt local controls to protect the Zone II recharge area.

For more information about the Best Effort Requirement see MassDEP's Best Effort Guidance Document.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRINKING WATER PROGRAM

Wellhead Protection Regulations 310 CMR 22.21(2)¹

with an excerpt from the Groundwater Protection Regulations 310 CMR 22.21

310 CMR 22.21(1)(c)(3) No public water supply well, wellfield or spring designed to withdraw, or spring which flows, 100,000 gallons per day or more shall be constructed, expanded or replaced unless the Department finds in writing that the proponent has **drafted wellhead protection zoning or non-zoning controls that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b)....**

310 CMR 22.21(2) Wellhead Protection

- (a) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), **shall collectively prohibit** the siting of the following land uses within the Zone II of the proposed well or wellfield, whichever is applicable:
1. landfills and open dumps, as defined in 310 CMR 19.006;
 2. landfills receiving only wastewater residuals and/or septage (wastewater residuals "monofills")
 3. automobile graveyards and junkyards, as defined in MGL. c. 140B, §1;
 4. stockpiling and disposal of snow or ice removed from highways and streets located outside of Zone II that contains sodium chloride, chemically treated abrasives or other chemicals used for snow and ice removal;
 5. petroleum, fuel oil and heating oil bulk stations and terminals, including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5171 and 5983, not including liquefied petroleum gas. SIC Codes are established by the U.S Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual and any subsequent amendments thereto;
 6. treatment or disposal works subject to 314 CMR 5.00, for wastewater other than sanitary sewage. This prohibition includes, but is not limited to, treatment or disposal works related to activities under the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6) (Title 5), except the following:
 - a. the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s);
 - b. treatment works approved by the Department designed for the treatment of contaminated ground or surface waters and operated in compliance with 314 CMR 5.05(3) or 5.05(13); and
 - c. publicly owned treatment works, or POTW;
 7. facilities that generate, treat, store or dispose of hazardous waste that are subject to MGL. c. 21C and 310 CMR 30.000, except for the following:
 - a. very small quantity generators, as defined by 310 CMR 30.000;
 - b. household hazardous waste collection centers or events operated pursuant to 310 CMR 30.390;
 - c. waste oil retention facilities required by MGL. c. 21, § 52A; and
 - d. treatment works approved by the Department designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters
 8. any floor drainage systems in **existing** facilities, in industrial or commercial hazardous material and/or hazardous waste process areas or storage areas, which discharge to the ground without a DEP permit or

¹ as amended through 2001

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRINKING WATER PROGRAM

authorization. Any existing facility with such a drainage system shall be required to either seal the floor drain (in accordance with the state plumbing code, 248 CMR 10.00²), connect the drain to a municipal sewer system (with all appropriate permits and pre-treatment), or connect the drain to a holding tank meeting the requirements of all appropriate DEP regulations and policies.

- (b) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following land uses within the Zone II, or Zone III if the criteria of 310 CMR 22.21(1)(f) have been met, of the proposed well or wellfield, whichever is applicable, unless designed in accordance with the specified performance standards:
1. storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
 2. storage of sodium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
 3. storage of commercial fertilizers; unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
 4. storage of animal manures, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
 5. storage of liquid hazardous materials, as defined in MGL. c. 21E, and/or liquid petroleum products unless such storage is above ground level AND on an impervious surface in container(s) AND either;
 - (a). in above ground tank(s) within a building on an impervious surface OR;
 - (b). outdoors in covered container(s) or above ground tank(s) in an area that has a containment system designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater;
 6. the removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table elevation (as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey), unless the substances removed are re-deposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark, and except for excavations for the construction of building foundations, the installation of utility works, or wetland restoration work conducted in accordance with a valid Order of Condition issued pursuant to MGL. c. 131, § 40 .
 7. land uses that result in the rendering impervious any lot or parcel more than 15% or 2500 square feet, whichever is greater, unless a system for artificial recharge of precipitation is provided that will not result in the degradation of groundwater quality.

² Formerly 248 CMR 2.00. Amended 2005.