

# Procedure for Class IV Groundwater Reclassification

Approved By:



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07/05/18

Date

## **I. Authority**

This procedure is adopted pursuant to 10 V.S.A., Chapter 48 and the Groundwater Protection Rule and Strategy and supersedes the "Procedure for Class IV Groundwater Reclassification," dated November 20, 2000. The purpose of this Procedure is to outline the steps necessary to seek a reclassification of groundwater in order to protect public health and the environment.

## **II. Documents Required for Reclassification**

- (a) Minimum Requirements for a Reclassification Petition. At a minimum a reclassification petition shall include the following:
- (1) For contaminated sites managed pursuant to the Investigation and Remediation of Contaminated Properties Rule (IRCPR) or the National Contingencies Plan (NCP), compliance with those rules shall constitute the reclassification petition. To be considered a complete petition, the institutional control plan submitted under the IRCPR or NCP must include the components listed in (2)(C-E) of this section.
  - (2) For all other reclassification petitions:
    - (A) Compilation of sufficient data to support the development of the Conceptual Site Model (CSM) or the reclassification petition in general. This may include, but is not limited to, field data, published reports, including previously submitted reports or permit applications. All materials that have not previously been submitted to the Secretary shall be provided in a pdf text searchable file, or spreadsheet format if requested by the Secretary.
    - (B) A Conceptual Site Model (CSM) that includes:
      - (i) A description of the aquifer structure and groundwater flow regime developed by a qualified hydrogeologist. This description shall address the following components, as applicable, within the area proposed to be reclassified:
        - (I) bedrock and surficial geology (e.g. rock type, depositional environment);
        - (II) geologic structure (e.g. fracture pattern, jointing, lineaments);
        - (III) soils (e.g. thickness, stratification, hydraulic properties);
        - (IV) aquifer types;
        - (V) groundwater flow and direction, including estimating recharge and discharge areas as needed;
        - (VI) all existing uses of groundwater proposed to be reclassified; and
        - (VII) potential sources causing or contributing to contamination.

(ii) A description of the fate and transport of the substances in the groundwater that exceed the groundwater enforcement standards at a point of compliance, as needed this may include:

(I) The extent of the area contaminated with substances that exceed the groundwater enforcement standards.

(II) Description of the stability of the contaminant plume (stable, declining, expanding).

(III) The distribution of substances in the groundwater, soil, and bedrock, as appropriate.

(C) A narrative description of the following:

(i) The current groundwater quality within the proposed reclassification area, including identification of contamination at monitoring locations that have been identified as points of compliance.

(ii) Existing uses of groundwater within the proposed reclassification area.

(iii) The method and justification to delineate the boundaries of the area proposed to be reclassified (a suggested method that has been determined to be acceptable by the Secretary is included as Appendix A of this procedure).

(iv) Identification of the substances in the groundwater that exceed the groundwater enforcement standards at a point of compliance, including an identification of the source or sources that are causing or contributing to the exceedance of the groundwater enforcement standards, if known.

(D) Maps - including the location of the site, a legend, graphical scale bar, and a base map source reference. Reclassification map(s) shall include the following items:

(i) boundaries of the proposed reclassification area;

(ii) property lines and SPANs, within the reclassification area and for all properties adjacent to the properties on which the proposed reclassification area extends;

(iii) roads;

(iv) surface waters; and

(v) existing groundwater withdrawal locations, including monitoring wells, public water sources and sources of water for potable water supplies, and the well tags and Vermont State Plane northing and easting coordinates associated with such locations, within the proposed reclassification area and within 300 feet of the proposed boundaries.

(E) Digital Data - a GIS shapefile, in Vermont State Plan coordinate system, that delineates the proposed reclassification boundary

(3) The Secretary may require additional information as necessary, such as applicable numerical modeling, for making a final reclassification decision.

### III. Review and Public Process for Reclassification

- (a) At the point of submittal, the petitioner shall provide a list of names and contact information for all landowners of properties within the proposed classification area and adjoining landowners, indexed with the properties' SPANs. The term adjoining landowner includes a landowner of property that either shares a property boundary with a tract of land on which the proposed reclassification area extends or is adjacent to a tract of land on which the proposed reclassification area extends and is separated only by a river, stream, or public highway from that tract of land.
- (b) The Secretary shall provide notice of the proposal through the Environmental Notice Bulletin when the petition is administratively complete.
- (c) Upon a determination that the petition is administratively complete, the applicant shall provide notice of the petition by:
  - (1) advertisement in a newspaper of general circulation in the area proposed for classification or reclassification;
  - (2) written notice to all persons identified in subsection (a) of this section;
  - (3) written notice to the appropriate town clerk;
  - (4) written notice to the appropriate Regional Planning Commission; and
  - (5) written notice to the Groundwater Coordinating Committee.
- (d) The Secretary's decision regarding reclassification:
  - (1) shall be completed pursuant to the requirements identified in the Groundwater Protection Rule and Strategy; and
  - (2) pursuant to 10 V.S.A. § 1394, may authorize, subject to conditions, the use of the groundwater as a source of potable water supply or other use.
- (e) When the Secretary has issued a draft decision, the Secretary shall provide notice through the environmental notice bulletin of the draft decision. This shall include a posting of the draft decision and instruction on how to request copies of the complete record associated with the proposal.
- (f) After notice is provided, the Secretary shall provide a public comment period on the draft decision for no less than 30 days. The Secretary may solicit comments from the Groundwater Coordinating Committee during this time.
- (g) Any person may request a public informational meeting within 14 days of the draft decision notice on the Environmental Notice Bulletin. If a public informational meeting is requested:
  - (1) the Secretary shall provide 14 days' notice of the location, date, and time of the public informational meeting;

- (2) the notice shall be provided to all persons who received notice of the draft decision through the Environmental Notice Bulletin; and
  - (3) the public comment period may be extended such that it does not end until at least seven days following the public informational meeting.
- (h) When the Secretary has issued a final decision, the Secretary shall provide notice of the decision and a copy of that decision.

## Appendix A

The following steps describe one method acceptable to the Secretary for delineating the boundaries of the area proposed to be reclassified. The hydrogeologic setting, the chemical and physical properties of the contaminants and groundwater and contaminant transport times and flow paths, as described by the CSM, shall be considered when evaluating boundaries of the reclassification area.

**1. Project a vertical line to the ground surface around the outermost limits of the projected VGES exceedance of the area being reclassified.**

The basis of the boundary estimate will be derived from the current and five-year estimate of the contaminant plume extent developed and presented in the CSM and in consultation with the Secretary. It is probable that some uncertainty may exist regarding groundwater flow and contaminant migration in the horizontal, lateral and vertical direction following the development of the CSM. This may be due to a lack of data, or uncertainty regarding localized hydrogeologic conditions. It may be appropriate to apply some additional protective buffer to the predicted horizontal extent of the contaminant exceedance plume.

**2a. Justify why a buffer distance adjustment is not necessary; or**

**2b. Calculate the necessary buffer distance to be applied to hydrologically cross-gradient (lateral) and down-gradient boundary.**

This can be completed by the following:

- i. Determine whether there is a definitive hydrogeological or engineered boundary that will contain the contaminated groundwater. If there is, then the reclassification boundary shall incorporate this definitive hydrogeologic or engineered boundary;
  - ii. Calculate the area of contribution for a hypothetical 1 gallon per minute well installed in the aquifer of concern.
    - a. If the calculated radius of this area of contribution is greater than 200 feet, use the calculated value as the buffer distance.
    - b. If the calculated distance from (a) above is less than 200-feet, apply a 200-foot buffer along the reclassification boundary.
  - iii. Determine whether there are any permitted or non-permitted wells outside of, and in proximity to the proposed reclassification boundary. If it is reasonably expected that these wells may withdraw greater than 1 gallon per minute, enlarge the buffer to incorporate these wells and their area of contribution.
- 3. After the above process is completed, make minor adjustments where necessary to ensure the ease of field verification of the reclassification boundary.**

This may include adjustment of the boundary to property parcel lines or significant geographic markers (e.g. roads, streams, rivers).