

NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES

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CHAPTER Env-Dw 300 SOURCES OF WATER

PART Env-Dw 302 LARGE PRODUCTION WELLS AND WELLS FOR LARGE COMMUNITY WATER SYSTEMS

Statutory Authority: RSA 485:3; RSA 485:41

REVISION NOTE #1:

Document #9008, effective 10-19-07, readopted with amendments and renumbered former Part Env-Ws 379, titled "Site Selection of Large Production Wells for Community Water Systems," under a new subtitle as Part Env-Dw 302 titled "Large Production Wells for Community Water Systems." The redesignation from subtitle Env-Ws to subtitle Env-Dw was done pursuant to a rules reorganization plan for Department rules approved by the Director of the Office of Legislative Services on 9-7-05.

Document #9008 replaced all prior filings for rules formerly in Part Env-Ws 379. The prior filings for rules in former Part Env-Ws 379 included the following documents:

#6521, eff 6-4-97                      #6979, eff 4-21-99                      #8871, INTERIM, eff 4-21-07, EXPIRES: 10-18-07

REVISION NOTE #2:

Document #11061, effective 4-1-16, readopted with amendments Part Env-Dw 302, titled "Large Production Wells for Community Water Systems", last filed under Document #9008, effective 10-19-07, and now titled "Large Production Wells and Wells for Large Community Water Systems." Document #11061 deleted many definitions in the former Part Env-Dw 302 which were adopted by Document #11060, effective 4-1-16, in Part Env-Dw 301. Document #11061 also extensively amended and renumbered other existing rules within the former Part Env-Dw 302. Document #11061 replaces all prior filings for rules in the former Part Env-Dw 302 as filed under Document #9008.

The former Part Env-Dw 302 had last been filed under Document #9008, effective 10-19-07. These rules did not expire on 10-19-15 since they were extended pursuant to RSA 541-A:14-a until replaced by the rules in Document #11061 and Document #11160, as appropriate, effective 4-1-16.

Env-Dw 302.01 Purpose. The purpose of these rules is to implement those portions of RSA 485, the New Hampshire Safe Drinking Water Act, pertaining to the department's obligation to approve public water systems, by establishing procedures and standards for the development of large production wells for community water systems (CWS) in order to ensure that such wells will be capable of producing an adequate supply of water that meets drinking water quality standards.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.02 Applicability. These rules shall apply to anyone intending to:

- (a) Develop a new production well for a large CWS, regardless of whether the well is a small production well or a large production well;
- (b) Develop a new large production well for any CWS;
- (c) Develop a new back-up large production well;
- (d) Replace an existing large production well with a new large production well;
- (e) Deepen or otherwise improve an existing large production well to increase its capacity; or
- (f) Reactivate an inactive large production well or a large production well that has been removed from monitoring responsibility in accordance with Env-Dw 708.11 or its predecessor rule, Env-Ws 321.17.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

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### Env-Dw 302.03 Definitions.

- (a) “Back-up well” means a new production well that is installed to provide redundancy for an existing primary production well that operates and impacts water users and resources in a similar manner as the primary production well.
- (b) “Background well” means a monitoring well outside the expected area of influence of the test well that serves to identify regional background conditions throughout the pumping test program.
- (c) “Cone of depression” means a depression in the potentiometric surface of a body of groundwater that develops around a well from which water is being withdrawn and corresponds to the zone of influence of the withdrawal.
- (d) “Flow net” means a map showing lines of equal hydraulic head with lines showing the direction of groundwater flow such that the amount of groundwater flow through all sections of the net is equal.
- (e) “Large bedrock production well” means a large production well that is a bedrock well.
- (f) “Large overburden production well” means a large production well that is an overburden well.
- (g) “Large production well” means a production well having a permitted production volume of equal to or greater than 57,600 gallons in a 24-hour period.
- (h) “Monitoring well” means a well that is used to observe or sample groundwater.
- (i) “Porous media assumption” means groundwater flow that conforms to Darcy's Law, mainly flow through porous media that is laminar and of low velocity.
- (j) “Test well” means a well that is used during a pumping test from which groundwater is withdrawn or pumped, which might or might not become the large production well.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.04 Pre-Approval Required.

- (a) A person shall obtain approval from the department in accordance with Env-Dw 302.05 through Env-Dw 302.31 prior to:
  - (1) Developing a new production well for a large CWS, regardless of whether the well is a small production well or a large production well;
  - (2) Requesting an increase in the permitted production volume of an existing well currently connected to a large CWS; or
  - (3) Requesting an increase in the permitted production volume of an existing small production well connected to any CWS if the increase would result in a permitted production volume of equal to or greater than 57,600 gallons in a 24-hour period.
- (b) Any person proposing to construct a back-up production well for a large CWS and any person proposing to construct a back-up well for a small CWS where the well would qualify as a large production well shall submit a request to the department in accordance with Env-Dw 302.34.
- (c) Any person proposing to replace a large production well shall submit a request to the department in accordance with Env-Dw 302.35.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

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Env-Dw 302.05 Process for Obtaining Approval.

(a) Any person seeking approval pursuant to Env-Dw 302.04(a) shall first submit a preliminary report to the department that contains the following:

(1) The cover page specified in Env-Dw 302.06, which has been signed as specified in Env-Dw 302.07; and

(2) The information and maps identified in Env-Dw 302.08.

(b) The preliminary report submitted pursuant to (a), above, shall be:

(1) Dated, signed, and sealed by the professional of record;

(2) Submitted with a preliminary application prepared in accordance with Env-Wq 403 if the new well meets the definition of a large groundwater withdrawal; and

(3) Submitted to the department electronically in a portable document format.

(c) The department shall review the preliminary report as specified in Env-Dw 302.16.

(d) If the department approves the preliminary report and the applicant wishes to continue, the applicant shall proceed as specified in Env-Dw 302.18.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.06 Preliminary Report: Cover Page. The cover page required by Env-Dw 302.05(a)(1) shall contain the following:

(a) Information to identify the persons involved, as follows:

(1) The applicant's name, mailing address, daytime telephone number including area code, and website URL, if any;

(2) The name, daytime telephone number including area code, and email address, if any, of an individual authorized by the applicant to represent the applicant for purposes of the department's review of the preliminary report;

(3) The name, mailing address, email address, and daytime telephone number with area code of the water system owner and the owner of the property on which the well is or is proposed to be located, if other than the applicant; and

(4) The name, mailing address, daytime telephone number including area code, and email address of the person engaged by the applicant to perform the pumping test and water quality sampling program;

(b) A description of the purpose of each well for which approval is being sought and who is or will be served by the well; and

(c) The proposed permitted production volume for all new sources of water for the CWS.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.07 Signatures; Certifications.

(a) The signatures required for the preliminary report, the final report, the compliance report, or any request related thereto shall be provided as follows:

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- (1) If the applicant or supplier of water, as applicable, is an individual, the applicant shall sign and date the report; and
  - (2) If the applicant or supplier of water, as applicable, is other than an individual, the applicant shall authorize an official of the applicant to sign the report, and the authorized individual shall sign and date the application and print or type his or her name and title;
- (b) All signatures provided under this part, including those provided by the professional of record, shall constitute certification that:
- (1) The information for which the signer is responsible that is contained in or otherwise submitted with the report is true, complete, and not misleading to the knowledge and belief of the signer; and
  - (2) The signer understands that:
    - a. The submission of false, incomplete, or misleading information is grounds for:
      1. Not approving the report or request;
      2. Revoking any approval or request that is granted based on the information;
      3. Referring the matter to the joint board for potential action against the professional license held by the signer; and
      4. If the signer is acting as or on behalf of a listed engineer as defined in Env-C 502.10, debarring the listed engineer from the roster; and
    - b. He or she is subject to the penalties specified in New Hampshire law, currently RSA 641:3, for making unsworn false statements.
- (c) Any signature provided by an applicant pursuant to (a), above, shall also constitute certification that the applicant agrees to comply with all applicable rules and conditions of the approval if one is issued.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.08 Required Information and Maps for Preliminary Reports. The applicant shall provide the following pursuant to Env-Dw 302.05(a)(2):

- (a) A general description of the current use and 50 year history of the property where the well is or is proposed to be located;
- (b) A description of all existing and proposed land use activities within the sanitary protective area;
- (c) Documentation to demonstrate that the sanitary protective area is or will be under the direct legal control of the applicant and will be maintained as required by Env-Dw 302.10;
- (d) The following maps and diagrams, to demonstrate that the location and sanitary protective area of each existing or proposed well meets the requirements of Env-Dw 302.09 and Env-Dw 302.10:
  - (1) A USGS map on which the following are clearly marked:
    - a. The location of each well for which approval is being sought;
    - b. The location of each known contamination source, each potential contamination source, and each water resource and use inventoried as required by (g), below;
    - c. The estimated wellhead protection area determined as specified in Env-Dw 302.11;
    - d. The limits of the delineated potential impact area; and
    - e. The title, scale, and date of the quadrangle;

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(2) One or more copies of a municipal tax map or a survey map that identifies the following for each well for which approval is being sought:

- a. The tax map and lot number of the property on which the well is or is proposed to be located;
- b. The property lines and the owner of each lot into which the sanitary protective area extends, and all easements on or over such lots;
- c. The location of the well and the sanitary protective area of the well;
- d. All public and private water supply wells located within 1,000 feet of the well;
- e. The 100-year flood elevation, the flood plain, and all surface waters and wetlands within 100 feet of the well;
- f. All land uses, including any paths, trails, structures, storage, landscaping, or other alteration of the natural terrain; and
- g. All stormwater discharge areas and drainage structures; and

(3) A copy of the Flood Insurance Rate Map on which the location of each well for which approval is being sought is clearly marked;

(e) A conceptual hydrogeologic model of the withdrawal and potential impact area that has been prepared in accordance with Env-Wq 403.07;

(f) A preliminary estimate of the wellhead protection area and a proposed method for refining the estimate in accordance with Env-Dw 302.11;

(g) A preliminary contamination source inventory and water resource and user inventory in accordance with Env-Dw 302.12;

(h) Identification and evaluation of any known contamination source in accordance with Env-Dw 302.13;

(i) A proposal for a pumping test in accordance with Env-Dw 302.14; and

(j) A proposal for a water quality sampling program in accordance with Env-Dw 302.15.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.09 Well Location Relative to Surface Water.

(a) No well shall be located closer than 50 feet from the normal high water line of any surface water.

(b) No well shall be located closer than 50 feet from wetlands that are inundated with standing or flowing water for more than 30 continuous days.

(c) No well shall be subject to flooding at the 100-year recurrence interval. The applicant may fill to elevate the permanent well casing for flood protection purposes, provided that all required permits for placing fill in wetlands and flood plains have been obtained.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.10 Sanitary Protective Area.

(a) The sanitary protective area shall be a circle, centered on the well, having a radius based on the permitted production volume of the well as set forth in Table 302-1:

Table 302-1 Sanitary Protective Area Radii

Permitted Production Volume (gallons in a 24-hour period)	Radius (feet)
less than 14,400	150
14,401 to 28,800	175
28,801 to 57,599	200
57,600 to 86,400	250
86,401 to 115,200	300
115,201 to 144,000	350
greater than 144,000	400

(b) When more than one well is within a sanitary protective area, the individual sanitary protective area for each well shall be based on the combined permitted production volume of all of the wells, unless the applicant proves by clear and convincing evidence that the wells are not hydraulically connected.

(c) The department shall not approve a source unless the applicant owns the land within the sanitary protective area, provided that if the applicant does not own and cannot purchase the land, the applicant shall control the land by perpetual easement, covenant, or similarly legally-binding means.

(d) If the well is approved, the sanitary protective area shall be maintained in a natural state at all times except as necessary for:

- (1) Limited land clearing and terrain alteration required for well access and construction of a pump house or other structure(s) related to the well or water system; and
- (2) Activities necessary for the use and maintenance of the production wells that do not pose a contamination risk to groundwater.

(e) No person shall discharge to the sanitary protective area any drainage from:

- (1) Any area where fertilizer or pesticides, or both, have been applied;
- (2) Any roadway, parking lot, or other area on which motor vehicles of any type travel or are parked; or
- (3) Any detention or retention pond, infiltration ditch, drainage swale, or similar structure.

(f) No underground utilities shall be installed in the sanitary protective area except for drinking water supply and electrical or communications conduits.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.11 Preliminary Estimate of Wellhead Protection Area; Proposed Refinement Method.

(a) Subject to (b), below, the preliminary estimate of the wellhead protection area shall be derived using the applicable standard method specified in (c) through (g), below.

(b) If sufficient data is not available for a standard method, the preliminary estimate shall be a circle centered on the well having a radius of 4,000 feet.

(c) The standard method for estimating a wellhead protection area for a large overburden production well shall be the flow net technique as specified in (d), below, if sufficient information exists to construct a flow net.

(d) The flow net technique shall comprise:

- (1) Constructing an ambient regional potentiometric surface map;

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- (2) Calculating a cone of depression for groundwater being withdrawn at the pumping test production rate for a period of 180 days with no net recharge;
  - (3) Constructing an ambient regional potentiometric surface map with the calculated cone of depression superimposed upon it;
  - (4) Constructing a flow net for the map with the superimposed cone of depression, in which contours are reported in feet or meters referenced to the national geodetic vertical datum;
  - (5) Delineating the wellhead protection area as that area from which groundwater flow lines are captured by the proposed well by extending the area of captured groundwater flow lines up gradient to a groundwater divide;
  - (6) Identifying the recharge mechanisms in the wellhead protection area that will support the proposed permitted production volume; and
  - (7) Refining the wellhead protection area with respect to no-flow boundaries, surface waters, existing pumping wells, well interference, and any other hydraulic influences.
- (e) The hydrogeologic mapping technique shall be used for overburden production wells when:
- (1) Sufficient regional potentiometric information is not reasonably available to construct a flow net for delineating the wellhead protection area; or
  - (2) An aquifer is sufficiently confined such that the method described in (d), above, would not be technically correct.
- (f) The hydrogeologic mapping technique for an overburden production well shall be used to estimate the area from which groundwater flow lines originate and are captured by the well based on the following hydrogeologic information:
- (1) Surface watershed boundaries within which the production well is contained;
  - (2) Surface water elevations where applicable;
  - (3) Pumping test data;
  - (4) Geologic maps;
  - (5) Soil maps;
  - (6) Exploratory soil boring and monitoring well logs;
  - (7) Topographic maps; and
  - (8) All other available information that is pertinent to delineating the wellhead protection area.
- (g) The standard method for developing a preliminary estimate of the wellhead protection area for a large bedrock production well shall estimate the area from which groundwater flow lines originate and are captured by the well based on the following hydrogeologic information:
- (1) Hydrogeologic mapping information including lineament and bedrock mapping or other remote sensing analyses;
  - (2) Observations gathered from bedrock drilling logs;
  - (3) Geophysical data, if available;
  - (4) Recharge mechanisms and an assessment of areas of induced recharge;
  - (5) Hydraulic influences including:

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- a. No flow boundaries;
  - b. Surface waters;
  - c. Existing pumping wells; and
  - d. Well interference; and
- (6) All other available supporting information that is pertinent to delineating a wellhead protection area in a bedrock aquifer.
- (h) The proposed method for refining the wellhead protection area shall include:
- (1) A detailed description of the proposed method for refinement; and
  - (2) A description of how the refinement will be documented in the final report.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.12 Preliminary Contamination Source and Water Resource and Use Inventories.

(a) The preliminary contamination source inventory and the water resource and use inventory required by Env-Dw 302.08(g) shall be:

- (1) Completed before the pumping test and water quality sampling program proposals required by Env-Dw 302.08(i) and (j) are developed; and
  - (2) Compiled from a search of the following information sources:
    - a. Records at the department;
    - b. Records at the municipality; and
    - c. A windshield survey of all properties within the estimated wellhead protection area.
- (b) The contamination source inventory shall:
- (1) Identify and describe all known contamination sources and all potential contamination sources in the estimated wellhead protection area; and
  - (2) Include the following information for each known contamination source and each potential contamination source:
    - a. The site name and address;
    - b. The name, mailing address, and daytime telephone number of each property owner or operator;
    - c. For each known contamination source, a description of the nature and extent of the investigation and the status of any remedial action that has been or is being performed; and
    - d. For each potential contamination source, the type of potential contamination source(s) at the facility.
- (c) The water resource and use inventory shall be performed in accordance with Env-Wq 403.09.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.13 Known Contamination Source Evaluation.

(a) The applicant shall review the applicable department site file(s) on each known contamination source identified in accordance with Env-Dw 302.12 and evaluate its potential to degrade water quality at the well.

(b) The applicant shall present in the preliminary report a description of how the pumping test and the water quality sampling program will account for the known contamination sources.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.14 Proposal for Pumping Test.

(a) The pumping test proposed pursuant to Env-Dw 302.08(i) shall be designed and conducted to gather site-specific information necessary to:

- (1) Demonstrate that the permitted production volume is sustainable;
- (2) Demonstrate the water quality of each proposed new well;
- (3) Assess impacts from the proposed well on surrounding water resources and water uses;
- (4) Address critical data gaps identified in the conceptual hydrogeologic model;
- (5) Refine the conceptual hydrogeologic model and the estimated wellhead protection area and justify the selected refinement methodology;
- (6) Develop a contamination control program for each known contamination source;
- (7) Develop a wellhead protection program for all contamination sources identified in accordance with Env-Dw 302.13; and
- (8) Demonstrate the system source capacity required by Env-Dw 402, Env-Dw 404 or Env-Dw 405, as applicable.

(b) A standard pumping test shall:

- (1) Have an antecedent period, a pumping period, and a recovery period as described in (d), below;
- (2) Pump and discharge water as described in (e), below;
- (3) Measure groundwater as described in (f), below;
- (4) Measure surface water as described in (g), below;
- (5) Monitor wells as described in (h), below; and
- (6) Track ambient conditions as described in (i), below.

(c) The pumping test proposal shall include the following:

- (1) The proposed pumping test production rate;
- (2) A site sketch showing locations of:
  - a. Each test well;
  - b. Each monitoring well;
  - c. Each surface water staff gauge or other water level measuring device;
  - d. All other monitoring and recording locations; and

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- e. Each discharge location;
  - (3) A description of and justification for monitoring well layout, construction, and screening;
  - (4) A description of borehole drilling and sampling techniques;
  - (5) A table showing the schedule for the collection of water level measurements;
  - (6) A table of the horizontal distance between observation points and each test well;
  - (7) A description of the construction of any surface water level staff gauges;
  - (8) Supporting information demonstrating the discharge location complies with (e)(1), below;
  - (9) A description of the method and equipment that will be used to ensure a constant pumping rate is maintained;
  - (10) A schedule for measurement of discharge;
  - (11) A copy of the notification letter that extends an offer to monitor water levels in wells identified in accordance with (h), below;
  - (12) A description of how any other of the system's wells will be operated during the pumping test program;
  - (13) The anticipated pumping test duration; and
  - (14) The construction details for each test well.
- (d) The 3 required pumping test periods shall be as follows:
  - (1) The antecedent period shall be the 7-day period immediately preceding the start of pumping, during which non-pumping hydrologic conditions are monitored;
  - (2) The pumping period shall be as follows:
    - a. For large overburden production wells, 5 days or until the average change in water level in the pumping well, or in an observation well within 5 feet of the pumping well, is 0.5 feet or less over a period of at least 24 hours, except that the pumping period shall be no less than 3 days in duration;
    - b. For large bedrock production wells, 7 days or until the average change in water level in the pumping well is 0.5 feet or less over a period of at least 24 hours except that the pumping period shall be no less than 5 days in duration; or
    - c. For a new source for a large CWS that does not qualify as a large production well, not less than 72 hours; and
  - (3) The recovery period, during which the aquifer system recovers from the stress of pumping, shall begin immediately upon cessation of pumping and continue for:
    - a. A duration at least equivalent to the pumping period; or
    - b. The water level in the test well or the nearest well within 5 feet of the pumping well has recovered to 90% of the pre-pumping level, provided the recovery period monitoring is not less than 24 hours.
- (e) The pumping of and discharge from each test well and the system's other production wells, if any, shall be as follows:
  - (1) The pumped water shall be discharged outside the estimated contributing area of the test wells so there is no effect on the pumping test results;

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- (2) The pumping rate in each test well shall be recorded at least as often as water level measurements, after the first 10 minutes of pumping;
  - (3) The discharge rate from the test well shall be measured using at least one of the following methods:
    - a. With a circular orifice weir, provided that:
      1. A physical description of the weir is provided in the preliminary report; and
      2. A table of gauge or manometer readings with calculated discharge rates is provided in the final report;
    - b. With a cumulative flow meter or other equivalent device provided that:
      1. Each discharge measurement includes at least 2 meter readings that are collected over a period that is not greater than one minute; and
      2. The meter has been calibrated in accordance with manufacturer specifications within one year prior to the pumping test; or
    - c. With a device that can be demonstrated to record measurements that are accurate to within 5% of the discharge rate;
  - (4) The discharge from other system wells shall be measured using cumulative flow meters or equivalent devices;
  - (5) Each test well shall be pumped at a single, constant rate that, when multiplied by 24 hours, produces the proposed permitted production volume; and
  - (6) The system's other wells shall be operated continually at their permitted production volumes or established capacities, unless data is provided to demonstrate that the wells will not affect aquifer response to pumping the proposed production well.
- (f) Groundwater level measurements shall be made:
- (1) To the nearest 0.01 foot;
  - (2) At the following locations:
    - a. Each test well;
    - b. Each of the water system's other production wells, if within the estimated area influence of the test well(s);
    - c. One background monitoring well located outside the expected influence of the test well(s);
    - d. For large overburden production wells, at least 4 monitoring wells within the expected area of influence of the test well(s);
    - e. For large bedrock production wells, at such locations as to gather sufficient site specific information such as that obtainable from monitoring wells or geophysical techniques;
    - f. Other water supply wells in accordance with (4), below; and
    - g. Such additional locations as are necessary to meet the objectives of the pumping test;
  - (3) During the antecedent period, twice daily in the background well, each test well and one selected monitoring well, when such wells are used in a pumping test;
  - (4) During the pumping period, beginning at one minute after the start of pumping until shut down, so that at least 10 data points per log cycle of time in minutes are recorded for each test well and each selected monitoring well; and

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- (5) During the recovery period, beginning at one minute after shut down of the pump until the end of the recovery period, so that at least 10 data points per log cycle of time, in minutes, are recorded for each test well and each selected monitoring well.
- (g) Surface water levels in waters within 1,000 feet of the test wells shall be measured to the nearest 0.01 foot not less than once every 6 hours during the antecedent, pumping, and recovery periods, provided that the applicant shall propose a more frequent monitoring schedule if the surface water elevation is affected by a dam or other control structure.
- (h) Water levels in private and public wells shall be monitored as follows:
- (1) At least 14 days prior to the start of the pumping test program, the applicant shall send a written request for permission to monitor a well via certified mail, return receipt requested, or by another method that provides documentation that the notice has been delivered, to:
    - a. The owner of each private well and each public well located within 1,000 feet of the proposed new source; and
    - b. The owners of representative wells within 1,000 feet of the estimated cone of depression, determined based on the conceptual hydrogeologic model developed as required by Env-Dw 302.08(e);
  - (2) The applicant shall propose a schedule on which the water levels in the wells will be monitored and the method by which the water levels will be measured and recorded; and
  - (3) The applicant shall monitor the water levels in accordance with the approved preliminary report.
- (i) Ambient conditions shall be monitored as follows:
- (1) Rainfall shall be measured to the nearest 0.1 inch throughout the pumping test program at the proposed well site;
  - (2) If the aquifer is subject to confining conditions, barometric pressure shall be measured throughout the pumping test program at the proposed well site on a schedule consistent with water level monitoring performed on the production well; and
  - (3) Site activities and weather conditions shall be observed and logged daily throughout the pumping test program at the well site.
- (j) For a large production well, the applicant may propose an alternative pumping test method provided the alternative:
- (1) Meets the objectives stated in (a), above;
  - (2) Will provide the data necessary to refine the preliminary estimate of the wellhead protection area;
  - (3) Will produce results that are superior or equivalent to the results obtained using the method described in (d) through (i), above; and
  - (4) Will be justified in the final report based on observations collected during the pumping test.
- (k) The proposal for an alternative pumping test shall include the information specified in (c), above, together with information demonstrating that the alternative meets the requirements specified in (j), above.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.15 Proposal for Water Quality Sampling.

(a) The water quality sampling program required by Env-Dw 302.08(j) shall be designed and conducted to gather the information necessary to establish the water quality of each proposed new well and develop, if necessary, a contamination control program for the desired permitted production volume.

(b) The water quality sampling program shall include the collection of one water quality sample from each test well at each of the following times during the pumping period:

- (1) Between the first and the fifth hour of the pumping period;
- (2) Midway through the pumping period; and
- (3) Within the last 3 hours of the pumping period.

(c) The first 2 water quality samples collected shall be analyzed for the following parameters:

- (1) Volatile organic compounds;
- (2) Iron;
- (3) Manganese;
- (4) pH;
- (5) Specific conductance;
- (6) Hardness;
- (7) Chloride;
- (8) Sodium; and
- (9) Nitrate.

(d) The third sample shall be analyzed for:

- (1) Those parameters required to be monitored in groundwater systems per Env-Dw 707 through Env-Dw 713;
- (2) 1,4-Dioxane; and
- (3) Radon.

(e) Samples shall be collected for microscopic particulate analysis within the last 24 hours of the pumping test if the location of the proposed new production well meets either of the following criteria:

- (1) For overburden wells, if the well is within 100 feet of the normal high water line of any surface water; or
- (2) For bedrock wells, if the well is within 200 feet of the normal high water line of any surface water.

(f) Samples collected in accordance with (e), above, shall:

- (1) Be analyzed in accordance with the Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate analysis (MPA), EPA 910/9-92-029F, USEPA 1992 or an equivalent method;
- (2) Be collected only after monitoring of screening parameters indicates stabilization in accordance with the following:

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a. For a period of no less than 10 hours, hourly screening of discharge water for pH, specific conductance and temperature does not vary by:

1. More than 0.2 standard units for pH;
2. More than 3 percent for specific conductance; and
3. More than 2 degrees Celsius for temperature; and

b. Screening of the discharge water for pH, specific conductance and temperature shall continue throughout the duration of sample collection once stabilization in accordance with a., above, has been met; and

(3) Include screening of pH, specific conductance and temperature in the surface water closest to the proposed new production well at the same monitoring frequency as the discharge water.

(g) Proposed new production wells shall be exempt from sampling for microscopic particulates if the applicant demonstrates through site-specific observations and monitoring that:

- (1) A continuous confining unit is present between the proposed new production well and the surface water; and
- (2) Through water level monitoring performed during the pumping test in accordance with Env-Dw 302.14, a direct hydraulic connection does not appear to exist between the proposed new production well and the surface water.

(h) All analyses shall be performed by a laboratory that is accredited for all applicable drinking water categories and methods in accordance with Env-C 300.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.16 Criteria and Procedures for Approval of the Preliminary Report.

(a) The department shall approve or deny the preliminary report in writing within 45 days of:

- (1) Closure of the written public comment period required pursuant to RSA 485-C:21, if applicable; or
- (2) Receipt of all information required by Env-Dw 302.05(a), if RSA 485-C:21 does not apply.

(b) The department shall approve the preliminary report upon determining that:

- (1) The report contains all information required by Env-Dw 302.05(a);
- (2) The information contained in the report is complete and correct; and
- (3) Public notification requirements required by RSA 485-C:21 have been completed.

(c) If the report fails to meet any of the criteria listed in (b), above, the notice sent pursuant to (a), above, shall specify the area(s) in which the report is deficient.

(d) The department shall advise the applicant not to proceed further in the well siting process if information concerning known contamination sources evaluated in accordance with Env-Dw 302.13 indicates that an adequate contamination control program can not be implemented to prevent degradation of water quality at the proposed well.

(e) The department shall advise the applicant when, based on the information provided in the preliminary report, a waiver will be required for a specific requirement of these rules.

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(f) The department shall require additional sampling to be conducted at the production well or other monitoring points if review of the preliminary report indicates the possible presence of contamination sources.

(g) The department shall include such conditions in the preliminary report approval as are necessary to ensure compliance with this part and protection of public health and the environment.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.17 Duration of Preliminary Report Approval; Effect of Expiration.

(a) The preliminary report approval shall expire 4 years from the date of approval if a final report has not been received by the department prior to that date.

(b) Any person wishing to develop a well after a preliminary report approval has expired shall submit a new preliminary report in compliance with this part.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.18 Completion of Approval Process. Upon receipt of department approval of the preliminary report, the applicant shall:

(a) Perform the pumping test and water quality sampling program in accordance with Env-Dw 302.19 and any conditions specified in the approval;

(b) Demonstrate that under existing land use and aquifer conditions, acceptable water quality can be produced by the well, provided that for parameters that exceed primary or secondary maximum contaminant levels specified in Env-Dw 702 through Env-Dw 706, treatment or other management techniques may be used when approved by the department in accordance with Env-Dw 404;

(c) Establish the permitted production volume in accordance with Env-Dw 302.20;

(d) Refine the conceptual hydrogeologic model in accordance with Env-Dw 302.21;

(e) Refine the wellhead protection area delineation in accordance with Env-Dw 302.22;

(f) Update and revise the contamination source inventory and the water resources and uses inventory in accordance with Env-Dw 302.23;

(g) Establish a contamination control program in accordance with Env-Dw 302.24 for any known source of contamination evaluated in accordance with Env-Dw 302.13;

(h) Establish a wellhead protection program in accordance with Env-Dw 302.25;

(i) Provide information demonstrating the well complies with Env-Dw 302.26;

(j) Submit a final report to the department in accordance with Env-Dw 302.27; and

(k) Submit and obtain approval for a water conservation plan prepared in accordance with Env-Wq 2101.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.19 Performing the Pumping Test and Water Quality Sampling.

(a) Subject to (e), below, the applicant shall perform the pumping test in accordance with the pumping test proposal as approved in the preliminary report.

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- (b) The applicant shall notify the department of the anticipated start date at least one week prior to the start of the pumping test.
- (c) Prior to conducting the pumping test, the applicant shall provide a copy of the temporary groundwater or surface water discharge permit obtained for the pumping test pursuant to Env-Wq 402.
- (d) The pumping test shall be supervised by a person who is qualified based on education and experience in hydrogeology to quantitatively analyze and interpret the results of the test.
- (e) The applicant shall postpone or prolong the pumping test if high recharge conditions are likely to result in test data that cannot be used for the purposes specified in Env-Dw 302.14(a). This determination shall be made jointly by the applicant and the department based on site-specific conditions at the time of testing. If high recharge conditions are present but postponing or prolonging the test is not reasonably feasible, the applicant shall include a justification for not postponing or prolonging the test in the final report and adjust the collected data using conservative assumptions to reflect average conditions.
- (f) The applicant shall undertake water quality sampling in accordance with the approved proposal.
- (g) If the applicant wishes to change any aspect of the pumping test or water quality sampling program, the applicant shall submit a written request to the department that identifies the requested change(s) and explains why the change(s) should be approved.
- (h) The department shall approve a requested change if the modification does not affect the integrity of the data collected and the resulting modified testing protocol will produce the necessary information.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.20 Permitted Production Volume.

- (a) The permitted production volume shall be the volume produced during the pumping test by pumping at the constant pumping rate for the final 24 continuous hours of the pumping test.
- (b) The actual rate at which water is withdrawn from an approved well may vary, but shall not exceed the permitted production volume.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.21 Conceptual Hydrogeologic Model Refinement.

- (a) The conceptual hydrogeologic model submitted with the preliminary report shall be refined as specified in Env-Wq 403.15 using the results of the pumping test completed in accordance with Env-Dw 302.19.
- (b) Conceptual hydrogeologic model refinement shall include a refinement of the potential impact area estimate for the proposed withdrawal.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.22 Wellhead Protection Area Refinement.

- (a) The applicant shall refine the estimated wellhead protection area presented in the preliminary report using one of the methods described in Env-Dw 302.11 or an alternate method described pursuant to (d), below, as explained in the preliminary report.
- (b) If the applicant wishes to change the refinement method described in the preliminary report, the applicant shall submit a written request to the department that includes a detailed description of the requested change and the reason(s) why the change is being requested.

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(c) The department shall approve a request to alter the refinement method if the method as proposed to be changed results in a wellhead protection area that is technically equal to, or more conservative than, the wellhead protection area that the original method would have produced.

(d) An alternative wellhead protection area refinement method shall be an analytical or numerical model that incorporates aquifer parameter values derived from the pumping test, provided that model's assumptions are not violated and conservative estimates of aquifer parameter values are used. The use of models that rely on porous media assumptions shall be allowed only for use with a bedrock production well if those assumptions are demonstrated to be valid for the well site.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.23 Contamination Source and Water Resource and Use Inventories Update and Revision. The applicant shall update and revise the preliminary contamination source inventory and water resources and uses inventory for the refined wellhead protection area as follows:

(a) If fewer than 90 days have elapsed since the preliminary inventories were completed, the applicant shall determine whether any new contamination sources or water resources and uses, or both, have been located in the area within the preliminary estimate of the wellhead protection area and, if so, add them to the preliminary inventories for the final report; and

(b) If 90 days or more have elapsed since the inventories were completed and for any area that is in the revised wellhead protection area that was not in the preliminary estimate, the applicant shall perform all of the procedures required for the preliminary inventories as specified in Env-Dw 302.12.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.24 Contamination Control Program.

(a) The applicant shall establish a contamination control program that minimizes the risk of contamination at the well from known contamination sources.

(b) The program shall establish requirements, including a schedule, for monitoring and any necessary remediation of residual contamination from known contamination sources in the wellhead protection area.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.25 Wellhead Protection Program.

(a) The applicant shall establish a wellhead protection program that includes:

(1) Updating the contaminant source inventories as specified in Env-Dw 302.23 at intervals no greater than 3 years; and

(2) Sending written notification as provided in (b), below, to the owner of each known contamination source and each potential contamination source listed in the inventory within 90 days of connection of the new source to an existing system or startup of the new system and at intervals no greater than 3 years thereafter.

(b) The notification required by (a)(2), above, shall include:

(1) The name and address of the supplier of water;

(2) A statement that the property is in a wellhead protection area of a community water system;

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- (3) Identification of the present use of the property and a statement that such use is considered to have potential for groundwater contamination and might be subject to Env-Wq 401 relative to best management practices for groundwater protection;
- (4) A copy of groundwater protection education material that the department has developed;
- (5) Notification that any non-permitted discharges to groundwater are prohibited by RSA 485-A:13 and that contamination of groundwater is illegal under RSA 485-A, RSA 485-C, and other statutes; and
- (6) The name and telephone number of the supplier of water and of an employee of the department to whom questions can be referred.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.26 Well Installation.

(a) The applicant shall engage a New Hampshire licensed water well contractor to install the well in compliance with the rules adopted by the New Hampshire water well board pursuant to RSA 482-B, We 100 et seq.

(b) In addition to any construction standards included in (a), above, the following shall apply:

- (1) To prevent surface water from channeling along the well casing, the void area outside the well casing shall be filled with cement grout, bentonite grout, or a cement-bentonite grout mixture to within at least 6 feet of the ground surface from:
  - a. For bedrock production wells, the bottom of the pilot hole; and
  - b. For overburden production wells, an appropriate depth determined by the NH-licensed water well contractor based on well design and the type of unconsolidated material encountered when installing the well; and
- (2) The well casing shall:
  - a. Extend at least 18 inches above the ground surface for production wells that are not installed within the 100-year flood zone; or
  - b. Extend at least 3 feet above the base flood elevation or highest known flood elevation, whichever is higher, for production wells that are installed within the 100-year flood zone.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

### Env-Dw 302.27 Final Report Required.

(a) The applicant shall submit a final report as specified in (c), below, to the department while the approval of the preliminary report is in effect.

(b) The final report submitted pursuant to (a), above, shall be:

- (1) Dated, signed, and sealed by the professional of record;
- (2) Submitted at the same time as the final report developed in accordance with Env-Wq 403 if the new production well meets the definition of a large groundwater withdrawal; and
- (3) Submitted electronically in a portable document format.

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- (c) The final report shall contain:
  - (1) A cover page as specified in Env-Dw 302.28, which has been signed as specified in Env-Dw 302.07; and
  - (2) The information identified in Env-Dw 302.29.
- (d) The department shall review the final report as specified in Env-Dw 302.30.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.28 Final Report: Cover Page. The cover page required by Env-Dw 302.27(c)(1) shall contain the following:

- (a) Information to identify the persons involved, as follows:
  - (1) The applicant's name, mailing address, daytime telephone number including area code, and website URL, if any;
  - (2) The name, daytime telephone number including area code, and email address, if any, of an individual authorized by the applicant to represent the applicant for purposes of the department's review of the report;
  - (3) The name, mailing address, email address, and daytime telephone number with area code of the water system owner and the owner of the property on which the well is located, if other than the applicant; and
  - (4) The name, mailing address, daytime telephone number including area code, and email address of the person responsible for performing the pumping test and water quality sampling program; and

(b) If any of the information provided pursuant to Env-Dw 302.06(b)-(c) has changed, updated information.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.29 Final Report: Contents. The applicant shall provide the following pursuant to Env-Dw 302.27(c)(2):

- (a) If the applicant did not have legal control of the sanitary protective area at the time the preliminary report was submitted, documentation of legal control of the sanitary protective area;
- (b) Documentation to support:
  - (1) The refined conceptual hydrogeologic model required by Env-Dw 302.21;
  - (2) The refined wellhead protection area required by Env-Dw 302.22, including documentation of the refinement method used; and
  - (3) The updated contamination source inventory and water resource and use inventory required by Env-Dw 302.23;
- (c) A description of the contamination control program and supporting evaluations and documentation;
- (d) A description of the wellhead protection program, including:
  - (1) The name, title, mailing address, daytime telephone number including area code, and email address, if any, of the individual responsible for implementing the wellhead protection program;

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- (2) A list of the name and address of each intended recipient of the mailing required by Env-Dw 302.25;
  - (3) A statement as to the intent of the CWS to initiate a best management practices inspection and survey program for potential contaminant sources that are within the wellhead protection area identified in accordance with Env-Dw 302.22 and that are subject to Env-Wq 401, or, as an alternative, identification of the anticipated date when the wellhead protection area is to be reclassified to GAA per RSA 485-C:9, II; and
  - (4) Identification of the process and schedule for adoption of any local policies, procedures, or regulatory requirements necessary for implementing best management practices for prevention of groundwater contamination in the wellhead protection area;
- (e) A description of the pumping test including:
- (1) All of the data collected;
  - (2) A description of how each pumping test requirement in the approved preliminary report was met;
  - (3) If an alternate pumping test method was approved in the preliminary report, all data and analyses as proposed in the preliminary report and the justification for the alternative method required by Env-Dw 302.14(j)(4); and
  - (4) The following information as part of the pumping test data analyses and presentation:
    - a. A table of the time elapsed from the initiation of the pumping test that includes:
      1. The pumping rate;
      2. The recorded water level at each monitoring location;
      3. Groundwater levels corrected for other hydraulic influences; and
      4. Rainfall data;
    - b. A daily log of site activity and weather conditions;
    - c. Plots of recorded and corrected water level data versus time, as log-log and semi-logarithmic graphs, with time plotted on the logarithmic axis, in each of the following formats:
      1. Drawdown versus time, with time expressed in minutes of elapsed time and plotted on the logarithmic axis;
      2. Extrapolation of drawdown in each test well indicated by a straight line drawn through the water level data on a semi logarithmic plot with a slope based on data points from the end of the pumping test and extended to 180 days, or 259,200 minutes; and
      3. Recovery versus time, with time expressed in minutes of elapsed time and plotted on the logarithmic axis;
    - d. Semi-logarithmic plots of drawdown at the end of the pumping period versus distance from the test wells plotted with distance on the logarithmic axis, specifying well names with all data points; and
    - e. For overburden wells:
      1. Estimates of transmissivity and storage coefficient based on time-drawdown and distance-drawdown plots; and

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2. An explanation of the estimating method that is based on a comparison of the assumptions underlying the method and aquifer characteristics observed during the pumping test;

(f) A description of the water quality sampling program, with specific note of any deviations from the program as approved in the preliminary report, and copies of all laboratory results;

(g) A proposed permitted production volume and a description of the means by which it was established in accordance with Env-Dw 302.20;

(h) An estimate of the effect pumping the permitted production volume from each well will have on:

(1) Water levels in private and public wells within 1,000 feet of each test well;

(2) Water levels in nearby surface waters and wetlands;

(3) Existing groundwater contamination plumes; and

(4) Saltwater intrusion into the freshwater aquifer;

(i) A vulnerability assessment of potential impacts to the well from natural hazards, if necessary based on the well's location relative to surrounding topographic and hydrologic features that pose a reasonable threat to the facility's structural integrity or functionality, or both; and

(j) A copy of the well completion report prepared in accordance with We 800 or successor rules.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.30 Criteria and Procedures for Approval of New Production Wells.

(a) The department shall approve or not approve the well documented in the final report in writing:

(1) Within 45 days of closure of the written public comment period required pursuant to RSA 485-C:21, if applicable; or

(2) If RSA 485-C:21 does not apply, within 45 days of receipt of all information required by Env-Dw 302.27(a).

(b) Subject to (c) and (d), below, upon determining that the final report contains all required information and is correct and complete, the department shall approve the well(s) and notify the applicant in writing in accordance with (a), above.

(c) If the final report fails to meet all criteria in (b), above, the notice sent pursuant to (a), above, shall identify each deficiency.

(d) The department shall not approve any proposed new production well if any of the following are true:

(1) One or more contamination sources is present in the wellhead protection area and the contamination control program prepared in accordance with Env-Dw 302.24 does not ensure that contamination will not degrade water quality at the well;

(2) The well was not constructed in accordance with Env-Dw 302.26 and any other applicable requirements;

(3) The applicant does not have legal control of the well site and sanitary protective area;

(4) The extrapolated 180-day drawdown exceeds 90% of the available drawdown in the proposed production well at the production volume sought for approval;

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- (5) If applicable, public notification requirements required by RSA 485-C:21 have not been completed;
- (6) If applicable, the applicant failed to obtain a large groundwater withdrawal permit in accordance with Env-Wq 403;
- (7) The applicant failed to submit and obtain approval for a water conservation plan in accordance with Env-Wq 2101;
- (8) The applicant has not submitted an acceptable wellhead protection program; or
- (9) The applicant has failed to perform any activity or to meet any of the requirements contained in these rules.

(e) The department shall include such conditions in the approval for a new production well as are necessary to ensure compliance with this part and protection of public health and the environment.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.31 Duration of Final Approval; Effect of Expiration.

(a) Approval of a well issued pursuant to Env-Dw 302.30 shall lapse 6 years after issuance if the well is not connected to a water system within that time.

(b) After approval has lapsed pursuant to (a), above, if the applicant wishes to reinstate the approval the applicant shall submit a written request to the department that includes:

- (1) Information demonstrating the previously-approved well still meets the well siting requirements of Env-Dw 302.09 and Env-Dw 302.10;
- (2) An update of the contamination source inventory and the water resource and use inventory in accordance with Env-Dw 302.23;
- (3) An update of the wellhead protection program in accordance Env-Dw 302.25 using information obtained pursuant to (2), above; and
- (4) A plan that includes:
  - a. Completion of a short term pumping test at least 48 hours in duration at the previously-approved permitted production volume; and
  - b. Collection of a water quality sample from the production well at the end of the pumping test for parameters identified in Env-Dw 302.15.

(c) The department shall authorize the applicant to conduct the pumping test and water quality sampling presented in the plan under (b)(4), above, if the materials provided pursuant to (b)(1)-(3) demonstrate that ambient conditions have not materially changed since the well was approved or, if ambient conditions have materially changed, the change(s) can be addressed so that the well will provide acceptable water quality.

(d) The department shall reinstate the lapsed approval for a period of 6 years within 30 days of receiving information that demonstrates:

- (1) The short-term pumping test has been completed; and
- (2) The water quality sample collected from the well indicates acceptable water quality.

(e) Any approval reinstated pursuant to (d), above, shall lapse as provided in (a), above.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

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Env-Dw 302.32 On-going Compliance with Wellhead Protection Program.

(a) The supplier of water shall demonstrate ongoing compliance with the wellhead protection program by providing a compliance report to the department as specified in (b), below, once every 3 years concurrent with the education mailing program.

(b) The compliance report required by (a), above, shall comprise the following information on or with an Educational Mailing Completion form obtained from the department:

- (1) The name of the supplier of water and the name and title of the individual authorized by the supplier to sign the compliance report;
- (2) The CWS name, PWS identifier, and source identifier;
- (3) The town in which the CWS is located;
- (4) The date the educational mailing was completed; and
- (5) The following details of the best management practices (BMP) inspection and survey program, using the BMP questionnaire for large CWS obtained from the department:
  - a. The CWS name and PWS identifier;
  - b. Whether there are potential contamination sources (PCSs) within the wellhead protection area that are subject to Env-Wq 401; and
  - c. If there are PCSs within the wellhead protection area that are subject to Env-Wq 401:
    1. Whether the CWS is current with its BMP survey obligations;
    2. The name and date of visitation for each facility from the most recent round of surveys; and
    3. Whether the individual conducting the BMP surveys has been trained by department staff and if so, the date of the training.

(c) The individual authorized by the supplier of water shall sign the compliance report in accordance with Env-Dw 302.07.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.33 Modifying the Wellhead Protection Area.

(a) A supplier of water that wishes to modify the wellhead protection area of one or more wells shall submit a written request to the department.

(b) A request filed pursuant to (a), above, shall include new or updated information that is directly relevant to the determination of a wellhead protection area as specified in Env-Dw 302.11 and Env-Dw 302.22.

(c) The department shall approve a request to modify the wellhead protection area if the new or updated information provided with the request demonstrates that modifying the wellhead protection area will not materially increase the risk of contamination of the water drawn from the well.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.34 Constructing a Back-up Large Production Well.

(a) Any supplier of water proposing to construct a back-up large production well shall meet the requirements of Env-Wq 403.34.

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- (b) In addition to the requirements of (a), above, the CWS owner siting the back-up well shall:
- (1) Locate the back-up well in accordance with Env-Dw 302.09;
  - (2) Establish a sanitary protective area for the back-up well in accordance with Env-Dw 302.10;
  - (3) Develop a wellhead protection area for the back-up well in accordance with Env-Dw 302.11 and Env-Dw 302.22 unless, through prior pumping test data, the water system shows that the zone of contribution of the back-up well is within the wellhead protection area developed for an existing well;
  - (4) Perform a pumping test of the back-up well in accordance with Env-Dw 302.14 to establish the permitted production volume for the well;
  - (5) Collect a water quality sample, in accordance with Env-Dw 302.15(d) and (e) within the last 3 hours of the pumping test conducted pursuant to (4), above; and
  - (6) Submit and obtain approval of a water conservation plan in accordance with Env-Wq 2101.

(c) If the CWS has a wellhead protection program, the CWS owner shall include the wellhead protection area developed for the back-up well in its wellhead protection program.

(d) If the CWS does not have a wellhead protection program, the CWS owner shall develop and implement a wellhead protection program in accordance with Env-Dw 302.25 for the back-up well and the existing well(s) for which the back-up well is being provided.

(e) Prior to approval of the back-up well, the CWS owner shall submit a report that describes and provides supporting documentation for the following:

- (1) Information pursuant to the requirements in (a) and (b), above;
- (2) The pumping test performed and the proposed permitted production volume for the back-up well;
- (3) Results of water quality sampling demonstrating that the back-up well will meet all water quality standards required by Env-Dw 707 through 713;
- (4) A site map depicting the following:
  - a. The back-up well location;
  - b. The sanitary protective area;
  - c. The wellhead protection area; and
  - d. The location of the back-up well in relation to surface water, wetlands, and the 100-year flood zone;
- (5) The wellhead protection program developed for the CWS; and
- (6) A copy of the well completion report for the back-up well, filed in accordance with We 800, that demonstrates compliance with the well construction criteria of Env-Dw 302.26.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.35 Replacing an Existing Large Production Well.

(a) A supplier of water proposing to replace an existing large production well with a new production well may do so under reduced regulatory requirements provided:

- (1) Supporting documentation is provided demonstrating that:

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- a. A decline in yield from an existing production well prevents the system from maintaining the water supply source capacity requirements of existing customers; or
  - b. Water quality in the existing well does not meet current drinking water standards and treatment is not possible or feasible; and
- (2) The replacement well shall:
- a. Not be used for water use beyond the approved or established capacity of the well to be replaced;
  - b. Meet the requirements specified in Env-Dw 403.34; and
  - c. Derive water from the same zone of contribution as the well that is being replaced.
- (b) A CWS proposing to replace any active large production well shall submit a request to the department that contains the following information:
- (1) A description of the project including:
    - a. The applicant's name, mailing address, and daytime telephone number and, if available, an e-mail address and fax number;
    - b. The consultant's name, mailing address, and daytime telephone number, if applicable and, if available, an e-mail address and fax number;
    - c. The name of the water system;
    - d. The federal identification number for the existing large production well being replaced; and
    - e. The water supply requirements for the system.
  - (2) A site plan and description of all land uses in the sanitary protective area of the replacement well and any measures taken to achieve compliance with Env-Dw 302.10;
  - (3) A current tax map showing property boundaries, well location, eased areas, sanitary protective areas and lot owners;
  - (4) A site plan and description of the replacement well in relation to surface water, wetlands and the 100-year flood zone and any department-approved measures, if applicable, taken to elevate the permanent well casing;
  - (5) A general description of current water quality in the existing well, if available;
  - (6) A plan for completing the following:
    - a. Performance of a constant rate pumping test that conforms to Env-Dw 302.14(b); and
    - b. Collection of water quality samples in accordance with Env-Dw 302.15; and
  - (7) A plan for sealing the well that is to be replaced in accordance with We 600, provided that if the well will not or cannot be sealed the applicant shall submit a water conservation plan in accordance with Env-Wq 2101.
- (c) The department shall approve the replacement well, provided the supporting documentation and data submitted by the applicant demonstrates the following:
- (1) The applicant has provided the pumping test data and demonstrated a long-term sustainable yield for the replacement well;
  - (2) The applicant has provided the water quality results and laboratory reports from the sampling conducted during the pumping test;

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(3) A statement has been provided by a NH licensed water well contractor that the existing well has been sealed in accordance with We 600, or a water conservation plan developed in accordance with Env-Wq 2101 has been approved;

(4) The applicant has provided the department with a copy of the well completion report for the replacement well, filed in accordance with We 800;

(5) The applicant has documented that sanitary protective area requirements, in accordance with Env-Dw 302.10, have been met, or improvements have been made to minimize the risk of contamination; and

(6) The applicant has documented that the surface water setbacks established in Env-Dw 302.09 have been met, or improvements have been made to minimize the potential for surface water influence on water pumped from the replacement well.

(d) The replacement well shall be approved for the previously approved or established capacity of the well being replaced or the long-term sustainable yield as tested, whichever is less.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

Env-Dw 302.36 Waivers. Any applicant or supplier of water who would be adversely impacted by the strict application of a rule in this part and who wishes to request a waiver of the rule shall do so in accordance with Env-Dw 202.

Source. (See Revision Notes #1 and #2 at part heading for Env-Dw 302) #11061, eff 4-1-16

**APPENDIX A: STATUTES IMPLEMENTED**

<b>Rule Section(s)</b>	<b>State Statute(s) Implemented</b>
Env-Dw 302.01 - Env-Dw 302.35	RSA 485:2,V; RSA 485:3, IX and XII; RSA 485:8; RSA 485:48
Env-Dw 302.36	RSA 541-A:22, IV

**APPENDIX B: STATUTORY DEFINITIONS**

**RSA 482-A:2**

X. “Wetlands” means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

**RSA 485:1-a**

XIII. “Person” means any individual, partnership, company, public or private corporation, political subdivision or agency of the state, department, agency or instrumentality of the United States, or any other legal entity.

**RSA 485-C:2**

IV. “Contributing area” means the land above a class of groundwater, which is the vertical projection of the defined class on the land surface.

VIII. “Groundwater” means subsurface water that occurs beneath the water table in soils and geologic formations.

IX-a. “Large groundwater withdrawal” means any withdrawal from groundwater of 57,600 gallons or more of water in any 24-hour period at a single property or place of business except withdrawals associated with short-term use.

XIII. “Regulated contaminant” means any physical, chemical, biological, radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment.

XIII-a. “Replacement well” means a new well installed to replace or back-up an existing well that operates and impacts water users and water resources in substantially the same manner as the well that is being replaced.

XVII. “Well” means a hole or shaft sunk into the earth to observe, sample, or withdraw groundwater.

XVIII. “Wellhead protection area” means the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield.