

DRILLING, CONSTRUCTION AND PLUGGING OF WELLS AND BOREHOLES

NAC 534.358 Construction of well: Compliance with chapter 44SA of NAC in certain circumstances.(NRS 534.020, 534.110) If a well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the well must be constructed in accordance with chapter 445A of NAC.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.360 Construction of well: Casing.(NRS 534.020, 534.060,534.110, 534.140)

1. Except as otherwise provided in subsection 2, all wells must be cased to the bottom of the well bore and constructed to prevent contamination or waste of the groundwater.

2. If no additional water is developed in the bottom portion of a well, neat cement, cement grout or concrete grout must be placed by tremie pipe in an upward direction from the bottom of the well to the bottom of the casing. Unused pilot holes below the depth of the cased constructed well must have a minimum plug of 5 feet of neat cement or cement grout to isolate the pilot hole from the cased constructed well and may be plugged with bentonite chips below the cement plug.

3. The casing must:

(a) Except as otherwise provided in this paragraph and NAC 534.362, be of new steel or clean and sanitary used steel. Materials other than steel may be used if the design of the well or the subsurface conditions prevent the use of steel casing and a professional engineer who holds a certificate of registration issued pursuant to chapter 625 of NRS has approved the casing materials.

(b) Be free of pits and breaks.

4. The thickness of the wall of the casing must:

(a) For depths of 300 feet or less, conform to the following minimum specifications, allowing for mill tolerance:

(1) If the conductor casing is 50 feet or less in depth, the thickness of the wall must be:

(I) At least 0.141 or 9/64 of an inch if the wall is made of a material other than galvanized steel pipe that has been corrugated; or

(II) At least 0.109 or 7/64 of an inch if the wall is made of galvanized steel pipe that has been corrugated.

(2) If the depth of the conductor casing exceeds 50 feet, and for all production or intermediate casing, the wall must be sufficiently thick to conform to the casing sizes listed in

sub-subparagraphs (I) to (IV), inclusive:

(I) If the casing is smaller than 10 inches nominal size, the wall must be at least 0.188 or 3/16 of an inch thick.

(II) For 10-, 12-, 14- and 16-inch nominal size casing, the wall must be at least 0.250 or 1/4 of an inch thick.

(III) For 18- and 20-inch nominal size casing, the wall must be at least 0.312 or 5/16 of an inch thick.

(IV) For casing larger than 20 inches nominal size, the wall must be at least 0.375 or 3/8 of an inch thick.

(b) For depths of more than 300 feet, be increased in accordance with the *American Water Works Association Standard A100*.

5. The top of the casing on all wells must be at least 18 inches above the surface of the ground or the finished grade.

6. All production casing joints must be threaded and coupled or welded and be watertight. If the casing joints are welded, each joint must be welded completely. Spot welds of casing joints are prohibited.

7. The well driller shall ensure that the integrity of any casing to be used in the construction of the well has not been impaired by storage, shipping, handling, perforating or exposure to ultraviolet light.

[St. Engineer, Drilling Wells Reg. § 3.01, eff. 5-19-81)-(NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.362 Construction of well: Thermoplastic casing. (NRS 534020, 534060, 534.110, 534.140)

1. New thermoplastic water well casing made of polyvinyl chloride may be used as casing in a well if the casing:

(a) Is clearly marked as well casing; and

(b) Complies with the standards adopted by ASTM International designated as ASTM F480-12, or the current F480 designation at the time of installation, which are hereby incorporated by reference. A copy of the standards may be obtained by mail from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959, by telephone at (610) 832-9585 or at the Internet address <http://www.astm.org>, at a cost of \$57.

2. If polyvinyl chloride well casing is used:

(a) The differential pressures that may occur during the installation of casing, the development of the well and the operation of the well must be considered by the well driller and the person responsible for designing the well.

(b) The wall thickness must:

(1) For nominal diameters that are 6 inches or less, conform to a rating of schedule 40 or heavier. For example, a nominal pipe that is 6 inches in diameter and has a rating of schedule 40 must have a wall thickness of at least 0.280 inch. The ASTM standard dimension ratio that would exceed this standard is an ASTM standard dimension ratio of 21 or heavier. An ASTM standard dimension ratio of 26 would not satisfy the requirements of this subparagraph for nominal diameters that are 6 inches or less.

(2) For nominal diameters that are more than 6 inches, conform to the ASTM standard dimension ratio of 21 or heavier. The standard dimension ratio is equal to the outside diameter divided by the wall thickness. For example, a nominal pipe that is 8 inches in diameter and has an ASTM standard dimension ratio of 21 must have a wall thickness of at least 0.410 inch. A rating of schedule 40 would not satisfy the requirements of this subparagraph for a nominal pipe that is 8 inches in diameter and has a wall thickness of 0.322 inch.

(c) The joint connections must be:

(1) Flush-threaded;

(2) Threaded and coupled; or

(3) Joined with nonmetallic couplings that are sealed with elastomeric sealing gaskets and which consist of flexible thermoplastic splines that are inserted into precisely machined grooves in the casing.

• The joint connections must not be glued or joined by restraining devices that clamp into or otherwise damage the surface of the casing. If the joint connections are flush-threaded or threaded and coupled, the well driller shall ensure that the connections are not overtightened.

3. If polyvinyl chloride well casing is used in a water well or monitoring well, the well driller shall set a protective steel casing which complies with the provisions of NAC 534.360 and extends not less than 5 feet inside the sanitary seal and not less than 18 inches above the finished grade. The top of the protective casing must be fitted with a locking cap or a standard sanitary well cap.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.370 Construction of well: Prevention of contamination; securing against unauthorized entry; suspension of drilling. (NRS 534.020, 534.110, 534.140)

1. The driller shall take the precautions necessary to:

(a) Seal off any known zones of poor quality water which may affect the zones of good quality water in the well.

(b) Prevent contamination or waste of groundwater.

2. Any additive used in drilling a well must be safe and must not contaminate or induce contamination of the groundwater.

3. If it becomes necessary for the driller to discontinue the drilling operation before completion of the well, the well must be covered securely to prevent a contaminant from entering the casing or borehole and rendered secure against entry by children, domestic animals and wildlife.

4. After drilling is completed, all openings must be closed off to prevent contamination of the well. A sanitary well cap or welded plate must be welded to the well.

5. If drilling is suspended for any reason, the Division must be notified within 24 hours after drilling is suspended or before the drilling equipment is moved from the drilling site, whichever occurs first. The suspension of drilling without completing or plugging the well must be approved by the Division.

[St. Engineer, Drilling Wells Reg. §§ 3.14 & 3.15, eff. 5-19-81]-(NAC A 1-9-90; 12-30-97)

NAC 534.375 Construction of well: Measures required if contaminant or contaminated water is encountered. (NRS 534.020, 534.110, 534.140) If a contaminant or contaminated water is encountered during the construction of a well, the strata which contain the contaminant or contaminated water must be cased or sealed in such a manner that the contaminant or contaminated water does not commingle with or impair other strata or the water contained in other strata. The well driller shall, by grouting or by using special seals or packers, prevent the movement of the contaminant or contaminated water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.378 Construction of well: Measures required if artesian condition is encountered. (NRS 534.020, 534.060, 534.110, 534.140)

1. If an artesian condition is encountered in a well, the well driller shall, in addition to complying with the provisions of subsections 2 and 3 of NRS 534.060, ensure that unperforated casing extends through the confining strata above the artesian zone. The annular space between the casing and the walls of the well bore must be sealed by placing neat cement, cement grout or

bentonite chips by tremie pipe in an upward direction from the top of the artesian zone to the level necessary to prevent the leakage of artesian water above or below the surface.

2. Any flow of artesian water must be stopped completely in the manner set forth in subsection 3 of NRS 534.060 before the drill rig is removed from the drill site.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.380 Construction of well: Seals.(NRS 534.020, 534.060, 534.110, 534.140)

1. Except as otherwise provided in subsection 2, before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a minimum depth of 50 feet below ground level by:

(a) Placing neat cement, cement grout, concrete grout or bentonite chips from the sealing depth to 20 feet from the surface; and

(b) Placing neat cement, cement grout or concrete grout from 20 feet below the surface to the surface.

-. If sodium bentonite chips are placed in the annular space, the chips must be placed in such a manner that a bridge does not occur. **If** bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

2. Before the drill rig is removed from the drill site of a well, the annular space between the well bore and the casing must be sealed to a depth of greater than 50 feet below ground level if sealing to such a depth is required by subsection 1 of NAC 534.370, NAC 534.375, subsection 1 of NAC 534.378 or paragraph (b) of subsection 1 of NAC 534.390. If the well is regulated by the Bureau of Safe Drinking Water of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, the annular space must be sealed in accordance with NAC 445A.66905.

3. The casing must be centered as nearly as practicable in the well bore to allow the sanitary seal to surround the casing.

4. If a temporary conductor casing is used, it must be withdrawn during the placement of the grout

5. If a pitless adapter is used in domestic or small commercial wells:

(a) The sanitary seal must begin not more than 5 feet below ground level;

(b) The sanitary seal must extend at least 50 feet below the bottom elevation of the pitless adapter; and

(c) The portion of the casing above the sanitary seal must be backfilled to ground level with uncontaminated soil which is compacted.

6. A pipe used to feed gravel through the cement seal or to provide access to the interior of the well must be fitted with a watertight cap.

7. A licensed well driller must place the seal or directly supervise the placement of the seal.

8. The seal must be placed:

(a) In the annular space within 3 days after the casing is set and before the drill rig is removed from the drill site.

(b) In one continuous mass from the minimum depth of 50 feet below ground level to the surface.

(c) By tremie pipe in an upward direction to displace the fluid to the surface of the ground, if any fluid is standing in the well bore above the sealing depth.

9. The diameter of the well bore must be at least 4 inches larger than the largest diameter of the outside of the outermost casing to be used, including any joints or collars. If a fill pipe for gravel is installed, the diameter of the well bore must be 4 inches larger than the largest diameter of the casing plus the largest diameter of the fill pipe for gravel. A fill pipe for gravel or any other pipe to provide access to the interior of the well must be completely surrounded by the seal. A conductor casing may be used to convey the gravel pack. If a conductor casing is used:

(a) The diameter of the well bore must be at least 4 inches larger than the largest diameter of the conductor casing; and

(b) The annular space between the conductor casing and the well bore must be sealed.

10. A watertight seal must be installed at the surface level between the conductor casing and the production casing to prevent any contaminants from entering the gravel pack conductor area. A welded plate or a seal consisting of neat cement, cement grout or concrete grout from a minimum depth of 10 feet below ground level to the surface must be used. If a welded plate is used, the entire length of the plate must be welded to the conductor casing and production casing.

[St. Engineer, Drilling Wells Reg. §§ 3.02-3.13 & 3.16, eff. 5-19-81](NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.390 Construction of well: Location near river, lake, perennial stream, unlined reservoir or unlined canal; compliance with permit or waiver. (NRS 534.020, 534.060, 534.110, 534.140)

1. If a well, other than a monitoring well, is drilled within 1/4 mile of a river, lake, perennial stream, unlined reservoir or unlined canal:

(a) Perforations in the production casing are prohibited from ground level to a depth of 100 feet.

(b) The well must be sealed to a depth of 100 feet.

(c) A permanent conductor casing may be used to convey the gravel pack to the 100-foot level.

2. If a well is being drilled pursuant to a pennit or waiver, the well driller is responsible for satisfying the terms and conditions of the permit or waiver concerning the construction of the well.

[St. Engineer, Drilling Wells Reg. Part 5, eff. 5-19-81)-{NAC A 1-9-90; 12-30-97)

NAC 534.420 Plugging of well: General requirements.(NRS 534.020,534.110)

1. Except as otherwise provided in NAC 534.422, wells must be plugged in the manner prescribed in this section by a well driller licensed by the State Engineer.

2. A well driller shall:

(a) Ensure that a notice of his or her intent to plug a water well is received by the Division not less than 3 working days before the drill rig is moved to the location where the well will be plugged; and

(b) Notify the Division not less than 24 hours before beginning to plug the well.

3. Before the well driller begins to plug the well, he or she shall, if possible, obtain the log and record of work for that well from the Division or the owner of the well.

4. On abandonment or order of the State Engineer, a water well must be plugged by:

(a) Removing the pump or debris from the well bore with appropriate equipment; and

(b) If an annular cement seal was not installed, breaking the casing free with appropriate equipment so that the casing may be pulled from the well.

5. If the casing in the well:

(a) Breaks free, the well driller shall plug the borehole in the manner prescribed in NAC 534.4371 as the casing is pulled from the well. The well must be plugged from the total depth of the well to the surface of the well, in stages if necessary, to displace in an upward direction any fluid or debris in the well.

(b) Does not break free, the well driller shall perforate that portion of the casing which extends from the bottom of the well to not less than 50 feet above the top of the uppermost saturated groundwater stratum or to the surface of the well. That portion of the casing must be perforated not less than four times per each 2 linear feet to allow the plugging fluid to penetrate the annular space and the geologic formation. The perforations made in each 2 linear feet of the casing must be made along a horizontal plane of the well bore. A well with a diameter of more than 8 inches in nominal size must be perforated a sufficient number of additional times per linear foot to ensure that the plugging fluid penetrates into the annular space and formation. Except as otherwise provided in subsections 8 and 9, the well driller shall then plug the well from the total depth of the well to 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well with neat cement, cement grout, bentonite chips or

bentonite grout containing not less than 20 percent sodium bentonite by weight of water. If the neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water is not brought to within 50 feet above the uppermost saturated groundwater stratum or to within 20 feet of the surface of the well, the well driller shall:

(1) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(2) Continue to install neat cement, cement grout, bentonite chips or bentonite grout containing not less than 20 percent sodium bentonite by weight of water until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum; and

(3) Install uncontaminated fill material or one of the plugging materials described in subsection 3 of NAC 534.4371 from the top of the lower plug to within 20 feet of the surface of the well.

6. The well driller shall place a surface plug in the well consisting of neat cement, cement grout or concrete grout from a depth of at least 20 feet to the surface of the well.

7. If the well casing does not break free and there is no evidence of a sanitary seal around the well casing, the well driller shall, in addition to the requirements of subsection 5, perforate the upper 50 feet of casing before setting the surface plug. The casing must have at least four

perforations per each 2 linear feet of casing, and the surface plug must consist of neat cement and must extend from 50 feet below ground level to the surface of the well.

8. If there is evidence that water-bearing formations of different water quality or hydraulic head were encountered during the original well construction and the well casing does not break free, and if bentonite chips are used as the plugging material, the well driller must, in addition to the requirements of this section, perforate the casing, as needed, and place neat cement across each confining formation so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

9. If the well casing does not break free and there is no well log available, the well driller must plug the well in accordance with paragraph (b) of subsection 5, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

10. A well driller shall submit a log and record of work to the Division within 30 days after a water well has been plugged. The log and record of work must contain the location of the well by public land survey and county assessor's parcel number, the name of the owner of the well, the condition of the well, the static water level before plugging and a detailed description of the method of plugging, including, but not limited to:

- (a) The depth of the well;
- (b) The depth to which the materials used to plug the well were placed;
- (c) The type, size and location of the perforations which were made in the casing;
- (d) The debris encountered in, milled out of or retrieved from the well; and
- (e) The materials used to plug the well.

11. If there is any standing liquid in the interval of the well bore that is being plugged, all grout materials used pursuant to this section must be placed by tremie pipe in an upward direction.

12. If sodium bentonite chips or pellets are placed in the well, the chips or pellets must be placed in such a manner that a bridge does not occur. If bentonite chips are poured in standing water, the bentonite chips must be screened to eliminate the fines.

[St. Engineer, Drilling Wells Reg. Part 14, eff. 5-19-81]-(NAC A 19-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.422 Plugging of well: Use of exceptional method. (NRS 534.020, 534.110)

1. A well driller who wishes to plug a well in a manner that does not comply with the

provisions set forth in NAC 534.420 must request approval from the Division.

2. If the Division authorizes the well driller to plug the well in a manner other than the manner set forth in NAC 534.420, the well driller shall comply with the instructions he or she receives from the Division, if any, relating to the manner in which the well must be plugged.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.424 Plugging of well: Responsibility for cost. (NRS 534.020, 534.110)

1. If a well is located on private land, the owner of the land at the time the well is plugged is responsible for the cost of plugging the well.

2. If a well is located on public land, the person who last drilled or used the well is responsible for the cost of plugging the well. If the person who last drilled or used the well does not plug the well after receiving notice from the Division by certified mail, return receipt requested, that the well must be plugged, the Division shall notify the person who owns the land on which the well is located that it is his or her responsibility to plug the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.426 Plugging of well: Artesian conditions. (NRS 534.020, 534.110) If an artesian condition is encountered in any well such that water is flowing at the surface, the artesian water strata must be contained pursuant to NRS 534.060 and NAC 534.378 and the well must be sealed by placing concrete grout, cement grout or neat cement by tremie pipe in an

upward direction from the bottom of the well to the surface. The owner and the lessor of the land on which the well is located, the operator of the exploration project and the drilling contractor for the project shall take the necessary steps to prevent the loss of water above or below the surface and to prevent the vertical movement of water in the well bore.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.427 Mandatory plugging of certain wells. (NRS 534.020, 534.110)

1. If any type of permit, waiver or application to appropriate water from a water well is cancelled, abrogated, forfeited, withdrawn or denied, the well must be plugged in the manner prescribed in NAC 534.420.

2. Except as otherwise provided in subsection 9 of NAC 534.315, a well, other than a water well drilled for a domestic purpose, must be plugged in the manner prescribed in NAC 534.420 if:

(a) The Division has not issued a permit or waiver for the well; or

(b) The well is not located in a designated basin and there is no reasonable expectation of obtaining a valid permit, waiver or certificate of water right from the Division.

3. A well, including a water well drilled for a domestic purpose, must also be plugged in the manner prescribed in NAC 534.420 if the State Engineer sends a notice to the owner of the well pursuant to subsection 9 of NAC 534.315 and either:

(a) The State Engineer has determined that the well is in any manner defective; or

(b) The Division makes a finding that:

(1) The well tends to impair existing rights or the safety and welfare of the residents of this State;

(2) The mechanical integrity of the construction of the well has failed or is unknown;

(3) The well was not drilled in compliance with the provisions of this chapter;

(4) The well was not drilled in compliance with the provisions of chapter 534 of NRS;

(5) The well tends to cause contamination of the groundwater aquifer;

(6) There is no evidence of impending use of the well for any legal purpose or that no legal use of the well is allowed; or

(7) The well tends to cause water to be wasted above or below the surface of the well.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006)

NAC 534.430 Means to measure level of water in well required. (NRS 534.020, 534.110, 534.140)

1. Except as otherwise provided in subsection 3, each well that is drilled, deepened or reconditioned must have:

(a) An access port near the top of the casing that is not less than 1 inch in diameter;

(b) A commercially manufactured sanitary well cap that may be easily removed to determine the level of water in the well; or

(c) A reliable electronic means to measure the level of water in the well.

2. An access port must have a watertight, screw-type cap seal to prevent contamination and must be kept closed.

3. On wells that are 8 inches in diameter or smaller, the access may be a 1/2-inch hole at the top of the casing or in the casing cover with a removable plug or bolt.

4. As used in this section, "access port" means an opening in the top of a well casing in the form of a tapped hole and plug or a capped pipe welded on the casing to permit entry of a device to measure the water level of the well.

[St. Engineer, Drilling Wells Reg. Part 6, eff. 5-19-81]-4NAC A 1-9-90; 12-30-97; R039-12, 6-29-2012)

NAC 534.432 Mandatory plugging of well as result of noncompliance with requirements for well drilling. (NRS 534.020, 534.110, 534.140, 534.160) If a well was:

1. Constructed by a person who, at the time the well was constructed, was not the holder of a well-drilling license issued pursuant to NRS 534.140; or

2. Not constructed or completed in compliance with the provisions of this chapter as determined by the State Engineer, the well must be plugged in the manner prescribed in NAC 534.420 at the expense of the person who constructed the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4351 Monitoring wells: Restrictions on construction; submission of plat map, map of vicinity, and log and record of work. (NRS 534.020, 534.110, 534.140, 534.170)

1. A monitoring well must be:

(a) Drilled only by a well driller who is licensed by the State Engineer;

(b) Constructed in accordance with the provisions of this chapter, except for any provision that is waived by the State Engineer; and

(c) Drilled only for the purpose of complying with federal, state or local environmental requirements or any other federal, state or local requirements.

2. A plat map showing the actual location of the monitoring well, a map of the vicinity and a log and record of work which contains the information described in NRS 534.170 and NAC 534.340 must be submitted within 30 days after completion of the well by the person who is responsible for the well. The plat map must indicate the distance of the well from permanent reference points, including streets, roads or section lines. The map must be drawn on paper measuring 8 1/2 inches by 11 inches or 11 inches by 17 inches.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.4353 Monitoring wells: Responsibilities of owner; permits; affidavit of responsibility for plugging. (NRS 534.020, 534.060, 534.110, 534.140)

1. The owner of a monitoring well shall ensure that the well:

(a) Is constructed in accordance with the provisions of this chapter or a waiver and does not allow contamination of groundwater during its use; and

(b) Is plugged upon abandonment in accordance with NAC 534.4365 when the well is no longer monitored or when otherwise required.

2. A permit to appropriate water or a waiver from the State Engineer is not required to drill and collect data from a monitoring well unless the well is not constructed in the manner prescribed in this chapter or the well is not required by a governmental agency.

3. The well driller shall, when submitting the notice of intent to drill pursuant to NAC

534.320, submit to the Division a notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(a) For private lands, the person or authorized representative of the company that is the owner of record of the property; or

(b) For public lands, the person or authorized representative of the company that has the appropriate authorization to use the public lands. A copy of the authorization must be included with the affidavit.

4. The owner of a monitoring well shall maintain a record of the current status of the monitoring well and shall notify the Division in writing as soon as practicable after determining that the well will no longer be used.

5. If a monitoring well or any other well is to be used to remove a contaminant from groundwater, a permit to appropriate water for environmental purposes must be obtained from the State Engineer pursuant to the provisions of NRS 533.437 to 533.4377, inclusive.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4355 Monitoring wells: Casing; prevention of contamination. (NRS 534.020, 534.060, 534.110, 534.140)

1. A well driller shall install casing in a monitoring well. If polyvinyl chloride casing is used, it must comply with the standards adopted by reference pursuant to subsection I of NAC 534.362.

2. The well driller shall take the precautions necessary to prevent contamination of groundwater. The equipment used to construct a monitoring well must be decontaminated before the construction of the well is commenced.

3. The diameter of the casing must not exceed 4 inches in nominal size.

4. The connections of the casing must comply with the provisions of NAC 534.360 or 534.362. The connections must be made watertight by wrapping them with teflon tape, placing a ring or gasket between them or by any other method which will not introduce contaminants into the well.

5. Both ends of the casing must be capped.

6. The perforations must be of a width and length which will allow the strata to be observed while not permitting the infiltration of the gravel pack through the casing or allowing the contaminants or water from separate strata to commingle.

7. To ensure adequate space for the gravel pack and seals, the well bore of a monitoring well must, for the entire length of the casing placed in the well, be not less than 4 inches larger than the diameter of the casing.

8. Not more than one perforated or screened section of casing may be placed in the well bore of a monitoring well unless the vertical intervals of the well bore in between the screened sections are sealed with neat cement, cement grout, cement-bentonite grout or bentonite chips.

9. Not more than one casing may be placed in the well bore of a monitoring well unless the vertical intervals of the well bore in between the screened sections of the casings are sealed with neat cement, cement grout, cement-bentonite grout or bentonite chips.

10. Monitoring wells must be drilled an adequate distance from each other to ensure that there is no commingling of the contaminants or groundwater encountered in the wells.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4357 Monitoring wells: Placement of gravel and seals in annular space. (NRS 534.020, 534.110, 534.140)

1. If the water or vapors which are being monitored in a monitoring well are not encountered within 5 feet below the surface of the ground, the well driller shall place in the

annular space of the well:

(a) From the bottom of the well to a maximum of 2 feet above the uppermost perforation in the casing, a gravel pack which consists of quartz sand, silica or other materials which will not contaminate the groundwater or the geologic formation;

(b) From the gravel pack placed pursuant to paragraph (a) to a minimum of 2 feet above that gravel pack or to within 20 feet below the surface of the ground, a seal consisting of bentonite chips; and

(c) From the seal placed pursuant to paragraph (b) to the surface, a seal, with a minimum thickness of 20 feet below the surface, consisting of cement grout, neat cement or concrete.

2. If the water or vapors which are being monitored in a monitoring well are encountered within 5 feet below the surface of the ground, the well driller shall comply with the requirements of subsection 1, except that:

(a) The gravel pack required pursuant to paragraph (a) of subsection 1 must extend only 6 inches above the uppermost perforation in the casing; and

(b) The surface seal required pursuant to paragraph (c) of subsection 1 must be placed from 1 foot below the surface to the surface.

3. The well driller shall ensure that a bridge does not occur in the annular space during the placement of the gravel pack and seals required pursuant to this section.

4. If more than 20 continuous feet of grout are placed in the annular space of the well or if there is standing liquid in the well bore above the sealing depth, the grout must be placed by tremie pipe in an upward direction.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4359 Monitoring wells: Measures required if contaminant or contaminated water is encountered. (NRS 534.020, 534.110, 534.140) If a contaminant or contaminated water is encountered during the construction of a monitoring well, the strata which contain the contaminant or contaminated water must be cased and sealed in such a manner that the contaminant or contaminated water does not commingle with or impair other strata or the water contained in other strata. The well driller shall seal the strata by grouting or by using special seals or packers, if necessary, to prevent the movement of the contaminants or contaminated water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4361 Monitoring wells: Surface pad; prevention of unauthorized use; additional protective measures. (NRS 534.020, 534.110, 534.140)

1. Unless the area surrounding a monitoring well is paved with concrete or asphalt, a surface pad must be installed around the casing at the surface.

2. A threaded or flanged cap or compression seal must be installed to prevent unauthorized use of the well. If the top of the well is flush with the surface and the well protector required pursuant to subsection 3 is of a type which may not be locked, the cap or seal must be of a type which may be locked.

3. The well must also be protected and secured by:

(a) If it is not necessary for the well to be flush with the surface:

(1) Setting a steel surface casing which complies with the requirements set forth in NAC 534.360 and extends not less than 5 feet below the surface pad and not less than 1 foot above the surface pad;

(2) Fitting the top of the steel casing with a locking cap; and

(3) Clearly marking the well as a monitoring well; or

(b) If it is necessary for the well to be flush with the surface:

(1) Placing a well protector capable of supporting vehicular travel which extends one-half

inch above the surface pad or concrete or asphalt paving; and

(2) Clearly marking the well as a monitoring well.

4. As used in this section, "surface pad" means a formation of concrete or cement grout with a radius from the center of the well of not less than 18 inches and a thickness of not less than 3 1/2 inches which is set around a monitoring well at a slope to ensure that water flows away from the well.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4363 Monitoring wells: Artesian conditions.(NRS 534.020, 534.060, 534.110, 534.140) If an artesian condition is encountered in a monitoring well, the well driller shall ensure that the well is sealed in the manner prescribed in NAC 534.378.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4365 Monitoring wells: Plugging.(NRS 534.020,534.110)

1. Except as otherwise provided in this section, a monitoring well must be plugged within 30 days after monitoring is no longer required.

2. If the casing cannot be removed, a monitoring well must be plugged by placing neat cement by tremie pipe in an upward direction from the bottom of the well to the surface of the well. Alternatively, the appropriate volume of bentonite chips may be used from the bottom of the monitoring well to within 20 feet below the surface of the well. The well driller shall place a surface plug consisting of neat cement, cement grout or concrete grout in the well from a depth of at least 20 feet to the surface of the well.

3. If the casing in the monitoring well can be removed from the well bore, the bottom end of the casing in the monitoring well must be removed or perforated and neat cement or bentonite chips must be placed by tremie pipe in an upward direction from the bottom of the well to within 20 feet of the surface of the well as the casing is removed from the well bore. The well driller shall place a surface plug consisting of neat cement, cement grout or concrete grout in the well from a depth of at least 20 feet to the surface of the well.

4. If the integrity of the borehole remains intact as the casing is removed from the well bore, the well may be plugged as a borehole as provided in NAC 534.4371.

5. If there is evidence that water-draining formations, or water-bearing formations of different water quality or hydraulic head were encountered during the original monitoring well construction and the casing does not break free, and if bentonite chips are used as the plugging material, the driller must, in addition to the requirements of this section perforate the casing as needed and place neat cement across each confining formation so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

6. If the water-bearing formations are unknown and any casing does not break free, bentonite chips must not be used as the plugging material. The driller must perforate the casing as needed and plug the monitor well with neat cement so that the plugging fluid penetrates the annular space and the geologic formation.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4367 Drive point wells.(NRS 534.020,534.110,534.140)

1. A well driller may construct a drive point well without placing in the annular space of the well the gravel pack and seals required pursuant to NAC 534.4357.

2. The diameter of the casing used in a drive point well which is not constructed pursuant to the provisions of NAC 534.4357 must not be larger than 2 inches in nominal size.

3. A drive point well which is not constructed pursuant to the provisions of NAC 534.4357 must be plugged within 60 days after the well is constructed. Upon abandonment, the casing must be removed from the well bore and the well bore must be plugged in the manner provided in NAC 534.4371.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4369 Boreholes: Generally. (NRS 534.020, 534.110)

1. A borehole may be drilled or plugged by a person who is not a licensed well driller.

2. A person who constructs or plugs a borehole is not required to file with the Division a

notice of intent to drill or plug the borehole.

3. A borehole may be drilled without obtaining from the Division a permit to appropriate water or a waiver of the requirement to obtain such a permit.

4. A person who drills or plugs a borehole, the operator of the exploration project or the owner of the land where the borehole is located must maintain a record of the drilling operation which includes:

- (a) The dates on which the borehole is constructed and plugged;
- (b) The location of the borehole as shown by public land survey;
- (c) The depth and diameter of the borehole;
- (d) The depth at which groundwater is encountered in the borehole; and
- (e) The methods and materials used to plug the borehole.

5. The State Engineer may, at any time, require the person drilling or plugging the borehole, the operator of the exploration project or the owner of the land on which the borehole is located to submit to the State Engineer a copy of the record required pursuant to subsection 4 and any other information relating to the construction operation or plugging of the borehole that the State Engineer determines is necessary.

6. The owner and the lessor of the land on which a borehole is located, the operator of the exploration project and the drilling or plugging contractor for the project shall ensure that the groundwater is uncontaminated during the drilling, operation or plugging of the borehole.

7. A borehole must not be used to divert water for any purpose.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006)

NAC 534.4371 Boreholes: Plugging requirements. (NRS 534.020,534.110)

1. A borehole must be plugged within 60 days after it is drilled.

2. Except as otherwise provided in subsections 4, 7 and 8 and NAC 534.438, a borehole must be plugged:

(a) In the manner prescribed for plugging a well in NAC 534.420; or

(b) If the uppermost saturated groundwater stratum is above the bottom of the borehole:

(1) By placing concrete grout, cement grout, neat cement or bentonite grout by tremie pipe in an upward direction from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface;

(2) By placing bentonite chips specifically designed to be used to plug boreholes from the bottom of the borehole to within 20 feet of the surface and by placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface; or

(3) By placing any of the plugging materials described in this subsection from the total depth of the borehole to 50 feet above the uppermost saturated groundwater stratum and by placing concrete grout, cement grout, or neat cement from 20 feet below the surface to the surface.

3. If the concrete grout, cement grout, neat cement, bentonite grout or bentonite chips are not brought to within 20 feet of the surface pursuant to paragraph (b) of subsection 2, the person responsible for plugging the borehole shall:

(a) Measure the depth of the top of the lower plug with the appropriate equipment after he or she has allowed sufficient time for the lower plug to set up;

(b) Continue to install concrete grout, cement grout, neat cement, bentonite grout or bentonite chips until the top of the lower plug remains at least 50 feet above the top of the uppermost saturated groundwater stratum;

(c) Install uncontaminated fill material or one of the plugging materials described in this subsection from the top of the lower plug to within 20 feet of the surface; and

(d) Place concrete grout, cement grout or neat cement from 20 feet below the surface to the

surface.

4. If the elevation of the bottom of the borehole is higher than the preexisting natural elevation of the uppermost saturated groundwater stratum, the borehole must be plugged by:

(a) Backfilling the borehole from the bottom of the borehole to within 20 feet of the surface with uncontaminated soil; and

(b) Placing concrete grout, cement grout or neat cement from 20 feet below the surface to the surface.

5. If bentonite chips or uncontaminated soil is placed in the borehole, they must be placed in such a manner that a bridge does not occur. If poured in standing water, bentonite chips must be screened to eliminate the fines. Bentonite chips may be placed by tremie pipe.

6. If casing is set in a borehole, the borehole must be completed as a well pursuant to the provisions of this chapter. The borehole must be plugged pursuant to NAC 534.420, or the casing must be removed from the borehole when it is plugged. The upper portion of the borehole may be permanently cased if the annular space between the casing and the walls of the borehole is completely sealed from the bottom of the casing to the surface pursuant to NAC 534.380.

7. If there is evidence that water-draining formations (lost circulation), or water-bearing formations of different water quality or hydraulic head were encountered during the original borehole construction and if bentonite chips or bentonite grout is used as the plugging material, the driller must, in addition to the requirements of this section, place neat cement across the water-confining formations so that the plugging fluid penetrates the geologic formation to

prevent the vertical movement of water. Any drilling casing or pipe that does not break free, and occludes the placement of neat cement across a confining formation, must be perforated so that the plugging fluid penetrates the annular space and the geologic formation in that interval.

8. If the water-bearing formations are unknown and any drilling casing or pipe does not break free, the driller must plug the borehole in accordance with paragraph (b) of subsection 5 of NAC 534.420, except that bentonite chips must not be used as the plugging material, so that the plugging fluid penetrates the annular space and the geologic formation in the perforated intervals.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4373 Boreholes: Responsibility for plugging. (NRS 534.020, 534.110) The owner and lessor of the land on which a borehole is located, the operator of the exploration project and the plugging contractor for the project are jointly and severally responsible for plugging the borehole pursuant to this chapter.

(Added to NAC by St. Engineer, eff. 12-30-97)

NAC 534.4375 Boreholes, blast holes and seismic shot holes: Artesian conditions. (NRS 534.020, 534.060, 534.110) If an artesian condition is encountered in any borehole, blast hole or seismic shot hole, the artesian water strata must be contained pursuant to NRS 534.060 and NAC 534.378, and the borehole, blast hole or seismic shot hole must be sealed by placing concrete grout, cement grout, bentonite chips or neat cement by tremie pipe in an upward direction from the bottom of the borehole to the surface. The owner and lessor of the land on which a borehole is located, the operator of the exploration project and the drilling contractor for the project shall take the necessary steps to prevent the loss of water above or below the surface and to prevent the vertical movement of water in the well bore.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.4376 Instrumentation boreholes. (NRS 534.020, 534.110)

1. An instrumentation borehole may be drilled by an unlicensed well driller.
2. The installation of monitoring instruments and simultaneous plugging must be:
 - (a) Completed by a well driller who is licensed in this State; or
 - (b) Supervised and documented by the responsible project geologist, hydrologist or engineer.
3. An instrumentation borehole must be permanently plugged at the time of completion pursuant to NAC 534.4371.

4. Documentation of each instrumentation borehole must be completed and maintained pursuant to NAC 534.4369.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.43763 Electrical cathodic protection conductor deemed specific type of instrumentation borehole. (NRS 534.020, 534.110) For the purposes of this chapter, an electrical cathodic protection conductor is a part of a system to prevent corrosion or to provide electrical grounding and is deemed to be a specific type of instrumentation borehole.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.43767 Core hole deemed specific type of borehole. (NRS 534.020, 534.110) For the purposes of this chapter, a core hole is deemed to be a specific type of borehole.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.4377 Treatment of certain holes as boreholes. (NRS 534.020, 534.110)

1. If the construction of a seismic shot hole or a hole used for the installation of electrical conductors as part of a system to prevent corrosion or provide electrical grounding may cause waste or contamination of the groundwater, the hole shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371.

2. Any borehole which is drilled for oil, gas or geothermal resource observation, temperature gradient survey, production or injection purposes shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

3. Any borehole which is drilled for oil, gas or geothermal resource observation, temperature gradient survey, production or injection purposes, and which has casing or tubing installed for more than 60 days, shall be deemed a well or a monitoring well for the purposes of NAC 534.4351 to 534.4365, inclusive, and subsection 6 of NAC 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

4. Any borehole drilled for geothermal heat loop installation shall be deemed a borehole for the purposes of NAC 534.4369 and 534.4371, unless another governmental agency has requirements that are the same as or more strict than the requirements of this chapter.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R039-12, 6-29-2012)

NAC 534.438 Prerequisites to using bentonite grout to seal, grout or plug borehole. (NRS 534.020, 534.110) Before using bentonite grout to seal, grout or plug a borehole, the responsible project geologist, hydrologist or engineer using the bentonite grout must:

1. Consider the geology encountered in the borehole and any requirements set forth in this chapter or chapter 534 of NRS in his or her selection of the bentonite grout;

2. Mix the bentonite grout and place the bentonite grout in accordance with specifications recommended by the manufacturer; and

3. Place additional cement plugs as necessary, across low permeability geologic formations encountered in the borehole, to ensure that no water can move vertically in the borehole.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R039-12, 6-29-2012)

WAIVERS

NAC 534.440 Waiver to drill exploratory well to determine quality or quantity of water in designated basin. (NRS 534.020, 534.050, 534.110)

1. The request for a waiver to drill an exploratory well to determine the quality or quantity of water pursuant to NRS 534.050 in a designated basin must be submitted in writing and contain

the following information:

- (a) The location by public land survey, county assessor's parcel number, map of the vicinity and plat map of the exploratory well anticipated to be drilled;
- (b) The name, address and telephone number of the person who:
 - (1) Is collecting data from the exploratory well; and
 - (2) Will be available to answer questions concerning the well;
- (c) The reason for requesting a waiver;
- (d) The proposed diameter and depth of the exploratory well;
- (e) The estimated starting and completion dates of the exploratory well, not to exceed 90 days after authority is given to drill;
- (f) The name, address and telephone number of the person who will be responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;
- (g) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:
 - (1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or
 - (2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands; and

(h) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands.

2. Each waiver for an exploratory well will bear a unique number preceded by the letter "W." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. An application to appropriate underground water or an application to change an existing underground water right must be on file with the Division or accompany each request for a waiver.

4. A copy of the waiver must be in the possession of the well driller at the drill site.

5. The exploratory well must be:

(a) Plugged by the well driller in the manner prescribed in NAC 534.420 within 3 days after the completion of the aquifer tests for which the well was drilled; or

(b) Completed as a well pursuant to the provisions of this chapter before the drill rig is removed from the drill site.

6. The water from the well may not be used for any purpose other than the purposes set forth in the waiver without the written approval of the State Engineer.

7. A waiver to drill an exploratory well will not be granted pursuant to this section for a well in an area in which the Division determines there is sufficient information existing concerning the aquifer for the area.

[St. Engineer, Drilling Wells Reg. Part 16, eff. 5-19-81](NAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.441 Waiver to drill monitoring well.(NRS 534.020,534.050, 534.110)

1. A request for a waiver to drill a monitoring well which is not required for the purpose of complying with a federal, state or local law must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed monitoring well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The name, address and telephone number of the owner of the land on which the monitoring well will be located;

(c) A statement of the reason for requesting the waiver;

(d) A proposed construction sketch of the monitoring well;

(e) The name of the monitoring well or, if a waiver is requested for multiple monitoring wells, a list of all monitoring wells for which a waiver is requested on the "Additional Well Locations" form;

(f) If requested or previously required, a current, updated copy of the MO-Summary Sheet;

(g) The name, address and telephone number of the person who:

(1) Will collect data from the monitoring well; and

(2) Will be available to answer questions concerning the monitoring well;

(h) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands; and

(i) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands.

2. A waiver to drill a monitoring well will bear a unique number preceded by the letters "MO." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.
4. The monitoring well must be completed as a well pursuant to the provisions of this chapter or the waiver before the drill rig is removed from the drill site.
5. Water from the monitoring well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.442 Waiver to use water to explore for minerals. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow a temporary use of water from an existing well to explore for minerals or to drill a well and to use the water from the well to explore for minerals must be submitted to the State Engineer in writing and contain:

- (a) The amount of water that will be used each day;
- (b) A brief description of the manner in which the water will be put to a beneficial use;
- (c) The location of the water well by public land survey, county assessor's parcel number, map of the vicinity and plat map;
- (d) The name, address and telephone number of the person who will be responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;
- (e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:
 - (1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or
 - (2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;
- (f) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands;
- (g) The name, address and telephone number of a person who will be available to answer questions concerning the well; and
- (h) The date the project is scheduled to be completed.

2. A waiver granted for the temporary use of water from a well for the exploration of

minerals will bear a unique number preceded by the letters "MM." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.444 Waiver to use water to explore for oil, gas or geothermal resources.
(NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well to explore for oil, gas or geothermal resources, or to drill a well and use the water from the well to explore for oil, gas or geothermal resources, must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed water well and the oil, gas or geothermal well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The oil, gas or geothermal state or federal permit and lease number, name of the well and American Petroleum Institute number, if assigned;

- (c) The amount of water that will be consumed from the well each day;
 - (d) The date the project is scheduled to be completed;
 - (e) The name, address and telephone number of the person responsible for plugging the well, and the name, address and telephone number of the owner of the land if the owner is not the person who is responsible for plugging the well;
 - (t) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:
 - (1) For the private lands, the person or an authorized employee of the company that is the owner of record of the property; or
 - (2) For public lands, the person or authorized employee of the company that has the appropriate authorization to use the public lands;
 - (g) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands; and
 - (h) The name, address and telephone number of a person who will be available to answer questions concerning the well.
2. A waiver that allows the temporary use of water from a water well to explore for oil, gas or geothermal resources will bear a unique number preceded by the letters "OG." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.
 3. A copy of the waiver must be in the possession of the well driller at the drill site.
 4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.
 5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.446 Waiver to use water for construction of highway. (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well for the construction of a highway, or to drill a well and use the water from the well for the construction of a highway, must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed water well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The project and contract number, if applicable;

(c) The total amount of water that will be consumed each day;

(d) The name, address and telephone number of the contractor responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well in accordance with NAC 534.420;

(e) A notarized affidavit signed by the contractor responsible for plugging the well which states that he or she will be responsible for plugging the well;

(t) The name, address and telephone number of a person who will be available to answer questions concerning the project; and

(g) The date the project is scheduled to be completed.

2. A waiver that allows the temporary use of water from a well for the construction of a highway will bear a unique number preceded by the letter "C." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer, eff. 1-9-90; A 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534.4465 Waiver to use water to drill for water well (NRS 534.020, 534.050, 534.110)

1. A request for a waiver to allow the temporary use of water from an existing well to drill for a water well, or to drill a temporary well and use the water from the temporary well to drill for a water well, must be submitted to the State Engineer in writing and contain:

(a) The location of the existing well or the proposed temporary well, as applicable, and the water well to be drilled by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The total amount of water that will be consumed from the existing well or temporary well each day;

(c) The date the project is scheduled to be completed;

(d) The name, address and telephone number of the person responsible for plugging the existing well or temporary well, as applicable, and the name, address and telephone number of the owner of the land if the owner of the land is not the person who is responsible for plugging the existing well or temporary well;

(e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the existing well or temporary well, as applicable, upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(f) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property or for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands; and

(g) The name, address and telephone number of a person who will be available to answer questions concerning the existing well or temporary well, as applicable.

2. A waiver that allows the temporary use of water from an existing well or to drill a

temporary well will bear a unique number preceded by the letters "WE." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The existing well or temporary well, as applicable, must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. Water from the existing well or temporary well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

(Added to NAC by St. Engineer by R039-12, eff. 6-29-2012)

NAC 534.448 Waiver to drill well in shallow groundwater system to alleviate certain potential hazards.(NRS 534.020,534.050,534.110)

1. A request for a waiver to drill a well in a shallow groundwater system for removing water for the purpose of alleviating potential hazards to persons and property resulting from the rise of groundwater caused by secondary recharge must be submitted to the State Engineer in writing and contain:

(a) The location of the proposed well by public land survey, county assessor's parcel number, map of the vicinity and plat map;

(b) The project and contract number, if applicable;

(c) The total amount of water that will be consumed each day;

(d) The name, address and telephone number of the person responsible for plugging the well, and the name, address and telephone number of the owner of the land where the well will be located if the owner is not the person responsible for plugging the well;

(e) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(t) For private lands, written authorization to access the project area from the person or an authorized employee of the company that is the owner of record of the property and for public lands, a copy of the written authorization from the appropriate agency that has granted the right to use the public lands;

(g) The name, address and telephone number of a person who will be available to answer questions concerning the project; and

(h) The date the project is scheduled to be completed.

2. A waiver to drill a well in a shallow groundwater system for removing water for the purpose of alleviating potential hazards to persons and property resulting from the rise of groundwater caused by secondary recharge will bear a unique number preceded by the letters "DW." The notice of intent to drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

3. A copy of the waiver must be in the possession of the well driller at the drill site.

4. The well must be plugged in the manner prescribed in NAC 534.420 within 3 days after the completion of the project.

5. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

6. Written authorization from the appropriate agency for the discharge of dewatering water must be submitted with the waiver request.

(Added to NAC by St. Engineer, eff. 12-30-97; A by R009-06, 6-1-2006; R039-12, 6-29-2012)

NAC 534449 Waiver of requirement to plug well. (NRS 534.020, 534.060, 534.110)

1. The owner of a well, other than a well drilled for domestic use, who wishes to obtain a waiver pursuant to subsection 7 or 8 of NRS 534.060 from the requirement that a well be plugged must submit a written request for the waiver to the State Engineer. The State Engineer

will grant such a waiver which is valid for 1 year after the date on which the waiver is requested unless the State Engineer finds that the well is dry or abandoned. On or before the date on which the waiver is no longer valid, the owner of the well may submit a request to extend the waiver or to make the waiver permanent, if appropriate, as determined by the State Engineer.

2. A request for a waiver, the extension of a waiver or to make a waiver permanent made pursuant to subsection 1 must:

(a) Be made on a form provided by the State Engineer;

(b) Include sufficient information and evidence for the State Engineer to determine that the well is not in any manner defective, including, without limitation, that the conditions set forth in subsection 2 of NAC 534.427 do not apply to the well; and

(c) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands.

(Added to NAC by St. Engineer by R009-06, eff. 6-1-2006; A by R039-12, 6-29-2012)

NAC 534.450 Waiver or requirement of this chapter. (NRS 534.020, 534.110)

1. Except as otherwise provided in subsection 2, the State Engineer may, for good cause shown, waive a requirement of the provisions of this chapter.

2. The State Engineer will not waive the requirements set forth in subsection 4 of NAC 534.360.

3. A request for a waiver of a requirement of this chapter must be made in writing and include:

(a) A detailed statement of the reason for requesting the waiver and the section of the regulations to be waived;

(b) The location or proposed location of the well by public land survey;

(c) The name and address of the owner of the well;

(d) The street address of the location of the well or, if there is no street address, a description of the location of the proposed well, including, but not limited to, common landmarks and cross-streets near the location of the well;

(e) The county assessor's parcel number for the location of the proposed well;

(f) A description of the proposed design and a sectional drawing of the proposed well that includes the depths to the aquifers, the locations of the screens and seals and the materials that will be used;

(g) A notarized affidavit, on a form prescribed by the Division, which indicates the person who will be responsible for plugging the well upon abandonment and which is signed by:

(1) For private lands, the person or an authorized employee of the company that is the owner of record of the property; or

(2) For public lands, the person or an authorized employee of the company that has the appropriate authorization to use the public lands;

(h) Any available data to categorize the hydraulic heads, water quality and permeability characteristics of the aquifer;

(i) A monitoring plan; and

(j) Any other information required pursuant to the provisions of this chapter.

4. After reviewing the request, the State Engineer will issue a written notice of his or her decision to the owner of the well.

5. Each waiver will bear a unique number preceded by the letter "R." The

notice of intent to

drill submitted to the Division pursuant to NAC 534.320 and the record of work submitted to the Division pursuant to NRS 534.170 must bear this number.

6. The well driller shall ensure that the well complies with the provisions of the waiver and have a copy of the waiver in the well driller's possession when he or she drills the well.

7. The water from the well may not be used for any purpose other than the purpose set forth in the waiver without the written approval of the State Engineer.

[St. Engineer, Drilling Wells Reg. Part 15, eff. 5-19-81HNAC A 1-9-90; 12-30-97; R009-06, 6-1-2006; R039-12, 6-29-2012)