

5.6 Replacement Plans – New appropriations of designated ground water from aquifers which are otherwise overappropriated or where such appropriations may result in an unreasonable impairment to existing water rights, may be allowed pursuant to a detailed replacement plan.

5.6.1 Requirements for approval of all replacement plans. The applicant shall have the burden of proving the adequacy of the plan in all respects.

- A. The plan must not cause any material injury to water rights of other appropriators.
- B. The plan must not cause unreasonable impairment of water quality. There shall be a presumption of no unreasonable impairment if the source of replacement water complies with one of the criteria listed below. Other methods of proving sources of replacement water will not cause unreasonable impairment may be proposed, but the applicant has the burden of proving that no unreasonable impairment will occur.
  - 1. If the source has a Colorado Department of Public Health, Water Quality Control Division permit authorizing discharges into the aquifer, and the applicant demonstrates the source is in compliance with the Water Quality Control Division discharge permit, using the points of compliance established in the permit; or
  - 2. If the source has an onsite wastewater treatment system permitted by a local health agency, and the applicant demonstrates the source is in compliance with that permit; or
  - 3. If the source is neither permitted through the Water Quality Control Division's ground water discharge permitting program nor a local health agency's on site wastewater treatment permitting system, and the applicant demonstrates that the source meets the applicable ground water quality standards contained in the Department of Public Health and Environment, Water Quality Control Commission's Regulations Nos. 41 (5 CCR 1002-41) and 42 (5 CCR 1002-42), using as the point of compliance the point at which the water is introduced into the aquifer.
- C. The plan must not be speculative under Colorado law.
- D. The plan must be able to be operated and administered on an ongoing and reliable basis.
  - 1. Replacement water consisting of designated ground water must be diverted from its source and delivered into the aquifer for which the replacement water must be provided using a structure or method acceptable to the Commission. Delivery of replacement water to an aquifer by way of claiming credit for not diverting a proposed source of replacement water out of an aquifer is not allowed.
  - 2. Flow or other measurement devices must be required on all wells, replacement water delivery structures, and any other structure involved in the plan unless the Commission finds that such devices would be unnecessary or impractical.
  - 3. Water quality sampling and monitoring of replacement water and ground water must be required as needed to ensure that the plan operates as approved.

4. Recording, maintenance of records, and submission to the Commission and Ground Water Management District must be required as needed of all information and accounting pertaining to operation of the plan. A report must be provided on forms acceptable to the Commission, and on a schedule determined by the Commission but no less than on an annual basis.
- E. A copy of the approved plan must be recorded by the applicant in the clerk and recorder's records of the county in which structures that recharge and withdraw water involved in the plan are located so that a title examination of the land on which such structures are located reveals the existence of the plan.
- F. Diversions must be limited to the extent necessary to ensure that the potential for material injury caused by the diversions will be prevented by sources of replacement water that are legally available for use as replacement water under the plan at the time the diversions occur.
- G. Any source of replacement water identified for use in the plan that is not legally available for use as replacement water in the plan at the time the plan is approved must become legally available for such use prior to actually being put to such use. If a source of replacement water is identified in the plan that is not legally available for use as replacement water in the plan at the time the plan is approved, the plan must provide procedures for notifying the Commission, and all parties to any hearing process approving the replacement plan, that the source has become legally available. Notification must include identification of the amount of water available for replacement use in the plan, as well as providing documentation as to how the source became legally available for such use, including copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts.

5.6.2 Applications for replacement plans must contain the following.

- A. Name, mailing address, email address and telephone number of applicant(s).
- B. Name of designated basin in which plan will be located, and management district, if any.
- C. Information regarding other water rights diverted from the structures involved in the plan.
- D. Complete statement of replacement plan. Mark the locations of all structures involved and places of use on a USGS topographic map (or other appropriate map) and attach to the application.
- E. Sufficient information to demonstrate that the requirements of Rule 5.6.1 are met.
- F. If required by the Commission, a ground water model that demonstrates that no material injury will result from operation of the plan.
- G. A detailed description of the proposed use of the new appropriation of designated ground water which would result under the plan.
- H. Name(s) and address(es) of owner(s) or reputed owner(s) of the land upon which structures that withdraw water and recharge replacement water involved in the plan are located. The applicant must notify these owners that the applicant is applying for this

replacement plan, and provide proof to the Commission that the applicant has done so, no later than 14 days after filing the application.

- I. Identification of structures causing depletions that will be replaced under the plan, including legal descriptions of their locations, and identification and copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts involving the structures.
- J. A detailed description of the proposed location, timing and amount of diversions and depletions caused by the new appropriation of designated ground water which would result under the plan.
- K. A detailed description of the physical and legal sources of all proposed replacement water. Identify the amount of water available for replacement use from each source and provide copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts. If a source of replacement water is not legally available for use as replacement water in the replacement plan at the time the application is submitted, the applicant must identify any applications it has or is submitting or actions it has or is taking to make the source legally available.
- L. A detailed description of the method, location, timing and amount of delivery of replacement water into the aquifer, and of the quality of the replacement water.
- M. Information demonstrating the applicant's interest in all proposed sources of replacement water.

5.6.3 Other than approval of a replacement plan the Commission does not permit or license the physical act of Artificial Recharge, and the applicant is responsible for obtaining any and all necessary approvals for Artificial Recharge as may be required by federal, state, and local agencies. A well permit from the State Engineer is required for the construction of a well to be used solely for the purpose of Artificial Recharge.

5.6.4 Upon receipt of an application for a replacement plan the staff shall review it to determine whether the application is complete under Section 37-90-107.5, C.R.S., and is adequate to meet the criteria under these rules and the provisions of Section 37-90-107, C.R.S. If the plan is located within a ground water management district, a copy of the application shall be sent by the staff to the management district and the staff shall consider any comments or recommendations from the management district. At any time, the staff may propose any additional terms and conditions or limitations which are necessary to prevent material injury and meet the requirements of these rules.

## 5.8 Aquifer Storage and Recovery Plans

5.8.1 Requirements for approval of all aquifer storage and recovery plans. The applicant shall have the burden of proving the adequacy of the plan in all respects.

- A. The plan must not cause any material injury to water rights of other appropriators.
- B. The plan must not cause unreasonable impairment of water quality. There shall be a presumption of no unreasonable impairment if the source of water to be stored in an aquifer storage and recovery plan complies with one of the criteria listed below. Other methods of proving sources of replacement water will not cause unreasonable impairment may be proposed, but the applicant has the burden of proving that no unreasonable impairment will occur.
  1. If the source has a Colorado Department of Public Health, Water Quality Control Division permit authorizing discharges into the aquifer, and the applicant demonstrates the source is in compliance with the Water Quality Control Division discharge permit, using the points of compliance established in the permit; or
  2. If the source has an onsite wastewater treatment system permitted by a local health agency, and the applicant demonstrates the source is in compliance with that permit; or
  3. If the source is neither permitted through the Water Quality Control Division's ground water discharge permitting program nor a local health agency's on site wastewater treatment permitting system, and the applicant demonstrates that the source meets the applicable ground water quality standards contained in the Department of Public Health and Environment, Water Quality Control Commission's Regulations Nos. 41 (5 CCR 1002-41) and 42 (5 CCR 1002-42), using as the point of compliance the point at which the water is introduced into the aquifer.
- C. The plan must not be speculative under Colorado law.
- D. The plan must be able to be operated and administered on an ongoing and reliable basis.
  1. A source of water to be stored in an aquifer storage and recovery plan consisting of designated ground water must be diverted from its source and delivered into the aquifer in which storage will occur using a structure or method acceptable to the Commission. Delivery of the water to an aquifer by way of claiming credit for not diverting a proposed source of water out of an aquifer is not allowed.
  2. Flow or other measurement devices must be required on all wells, or storage water delivery structures, and any other structure involved in the plan unless the Commission finds that such devices would be unnecessary or impractical.
  3. Water quality sampling and monitoring of water to be stored in the aquifer and ground water must be required as needed to ensure that the plan operates as approved.
  4. Recording, maintenance of records, and submission to the Commission and Ground Water Management District must be required as needed of all information and

accounting pertaining to operation of the plan. A report must be provided on forms acceptable to the Commission, and on a schedule determined by the Commission but no less than on an annual basis.

- E. A copy of the approved plan must be recorded by the applicant in the clerk and recorder's records of the county in which structures that recharge and withdraw water involved in the plan are located so that a title examination of the land on which such structures are located reveals the existence of the plan.
- F. The aquifer must be capable of accommodating the water being artificially recharged and stored without the water appearing on ground surface or within any subsurface structure other than a well.
- G. Any source of water identified for use in the plan that is not legally available for storage, recovery, and subsequent use pursuant to the plan at the time the plan is approved must become legally available for storage, recovery, and subsequent use pursuant to the plan prior to actually being stored in the aquifer under the plan. If a source of water is identified in the plan that is not legally available for storage, recovery, and subsequent use pursuant to the plan at the time the plan is approved, the plan must provide procedures for notifying the Commission, and all parties to any hearing process approving the plan, that the source has become legally available. Notification must include identification of the amount available for storage, recovery, and subsequent use pursuant to the plan, as well as providing documentation as to how the source became legally available, including copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts.
- H. The plan may contain methods or man-made structures to confine or restrict the water artificially recharged and stored in the aquifer from moving within the aquifer and/or mingling with the water previously existing in the aquifer, but such methods or structures are not required. Water that is recovered under the plan does not have to consist of the same molecules that were artificially recharged.
- I. Water that is artificially recharged, stored, and recovered retains the same classification (e.g. designated ground water, waters of the state, nontributary groundwater, not-nontributary ground water) as it had prior to being artificially recharged, unless the stored water moves away from the ability to be recovered by the recovery wells identified in the plan, in which case it becomes designated ground water available to other appropriators within the basin. Water stored in plans that are subject to Rule 5.8.2 shall not be considered to move away from the ability to be recovered by the recovery wells identified in the plan.
- J. Stored water that is pumped by wells other than the recovery wells identified in the plan is not available for recovery by the applicant. This Rule 5.8.1.K does not apply to water stored in plans that are subject to Rule 5.8.2.
- K. Wells used for Artificial Recharge and/or recovery must have their producing zone completed in a single aquifer, being the aquifer the water is intended to be stored in.

5.8.2 Aquifer storage and recovery plans in aquifers for which allocations are determined pursuant to Rule 5.3 or 5.4 have the following requirements for approval, in addition to those contained in Rule 5.8.1

A. Definitions

1. "Contiguous Recovery Parcel" means a parcel that is in contact with itself so that no part is totally separated, and that overlies naturally occurring ground water to which the applicant has the right of withdrawal or to which the applicant has separate title.
2. "Remote Recovery Well" means the recovery of artificially recharged water from a well other than a well through which the volume of water to be recovered was artificially recharged.

B. Recovery well locations - No recovery well shall be located closer than one (1) mile to any point of contact between any natural stream including its alluvium and the outcrop/subcrop of the aquifer from which the water would be extracted.

C. Recovery from a Confined Aquifer.

1. Recovery of artificially recharged water from a confined aquifer within a designated basin shall be through the same well through which the water was injected, or shall be through a Remote Recovery Well located within the same Contiguous Recovery Parcel, but in no case shall the Remote Recovery Well be located more than five (5) miles from the farthest artificial recharge well within the same Contiguous Recovery Parcel. If, prior to or during recovery, the aquifer becomes unconfined at any point between any artificial recharge well and the Remote Recovery Well, as determined by the Commission, recovery of artificially recharged water from the Remote Recovery Well must be subject to the provisions of recovery from an unconfined aquifer under Rule 5.6.4.E.
2. No Remote Recovery Well withdrawing artificially recharged water from a confined aquifer shall be located within the cylinder of appropriation, as calculated pursuant to Rule 4.2.15, for any existing or permitted well owned by other than the applicant, and authorized to withdraw water from the same aquifer, without the written permission of the owner of the well.

D. Recovery from an Unconfined Aquifer. Recovery of artificially recharged water from an unconfined aquifer shall be through the same well through which the water was recharged, or shall be through a Remote Recovery Well located down hydraulic gradient from the artificial recharge well(s) and within the same Contiguous Recovery Parcel, but in no case shall the Remote Recovery Well be located more than one thousand (1,000) feet from the farthest artificial recharge well.

E. Amount of Artificially Recharged Water Available for Recovery. The maximum amount of artificially recharged water that may be recovered from an aquifer through any one recovery well in any one calendar year shall not exceed five (5) times the maximum amount of water artificially recharged into that aquifer in any one calendar year, and in no case shall the amount of water recovered exceed the total amount of water artificially recharged into that aquifer less any amounts previously recovered.

F. Banking. Artificially recharged water may be retained in the aquifer indefinitely by the person who has artificially recharged the water. Nothing in these rules shall limit the right

of any person to withdraw naturally occurring ground water which has been “banked” pursuant to Rule 5.3.2.5.

5.8.3 Applications for all aquifer storage and recovery plans must contain the following.

- A. Name, mailing address, email address and telephone number of applicant(s).
- B. Name of designated basin in which plan will be located, and management district, if any.
- C. Information regarding other water rights diverted from the structures involved in the plan.
- D. Complete statement of the plan. Mark the locations of all structures involved and places of use on a USGS topographic map (or other appropriate map) and attach to the application.
- E. Sufficient information to demonstrate that the requirements of Rule 5.8.1 are met.
- F. If required by the Commission, a ground water model that demonstrates that no material injury will result from operation of the plan, and that demonstrates that the water stored in an aquifer storage and recovery plan does not move away so as to prevent recovery by the recovery wells identified in the plan and is not pumped by wells other than the recovery wells identified in the plan.
- G. A detailed description of the proposed use of the recovered water stored in an aquifer, which would result under the plan.
- H. Name(s) and address(es) of owner(s) or reputed owner(s) of the land upon which structures that recharge and withdraw water involved in the plan are located. The applicant must notify these owners that the applicant is applying for this plan, and provide proof to the Commission that the applicant has done so, no later than 14 days after filing the application.
- I. Identification of each aquifer applicant will utilize to recharge and store water, the amount of storage space available in each aquifer, and the amount of that available storage space the plan will utilize.
- J. A detailed description of the physical and legal sources of all water proposed to be stored in the aquifer, identifying the amount of water available from each source and providing copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts. If a source of water to be stored in the aquifer is not legally available for storage, recovery, and subsequent use in the aquifer storage and recovery plan at the time the application is submitted, the applicant must identify any applications it has or is submitting or actions it has or is taking to make the water legally available.
- K. Information demonstrating the applicant’s interest in all proposed sources water to be stored under the plan.
- L. A detailed description of the method, location, timing and amount of the Artificial Recharge of the water into the aquifer (i.e. placed into storage), and of the quality of the water to be stored in the aquifer.

M. Identification of structures that will recover the stored water, including legal descriptions of their locations, and identification and copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts involving the structures.

N. A detailed description of the method, location, timing, and amount of recovery of the stored water.

5.8.4 Applications for plans subject to Rule 5.8.2 must contain the following in addition to what is required by Rule 5.8.3.

A. Sufficient information to demonstrate that the requirements of Rule 5.8.2 are met.

B. A report summarizing the hydrological conditions in the aquifer, including, but not limited to, evidence as to whether the aquifer is confined or unconfined at the artificial recharge well(s) and any Remote Recovery Well(s) and any location between those wells, static water levels, and aquifer hydraulic gradient. The report must include an accounting of the proposed timing, amount, and location(s) of artificially recharged water and recovered water. The report must identify all large capacity wells of record in the State Engineer's office allowing the withdrawal of ground water from the same aquifer within one (1) mile of the proposed recovery site(s), and the cylinder of appropriation of those wells as calculated pursuant to Rule 4.2.15.

5.8.5 A well used for recovery of artificially recharged and stored water under an aquifer storage and recovery plan must be permitted for such use by the Commission. Other than approval of an aquifer storage and recovery plan the Commission does not permit or license the physical act of Artificial Recharge, and the applicant is responsible for obtaining any and all necessary approvals for Artificial Recharge as may be required by federal, state, and local agencies. A well permit from the State Engineer is required for the construction of a well to be used solely for the purpose of Artificial Recharge.

5.8.6 Upon receipt of an application for an aquifer storage and recovery plan, the staff shall review it to determine whether the application is complete under Section 37-90-107.6, C.R.S., and is adequate to meet the criteria under these rules and the provisions of Section 37-90-107, C.R.S. If the plan is located within a ground water management district, a copy of the application shall be sent by the staff to the management district and the staff shall consider any comments or recommendations from the management district. At any time, the staff may propose any additional terms and conditions or limitations which are necessary to prevent material injury and meet the requirements of these rules.