

CRITERIA AND GUIDELINES  
FOR FALLOWING-LEASING PILOT PROJECTS

**Colorado Water Conservation Board and Colorado Division of Water Resources**

**Approved by CWCB: November 19, 2013**

**I. INTRODUCTION**

**A. Purpose of the Criteria and Guidelines Document**

House Bill (HB) 13-1248, signed into law by the Governor on May 13, 2013, authorizes the Colorado Water Conservation Board (the “CWCB” or the “Board”) to administer a pilot program to test the efficacy of fallowing-leasing as an alternative to permanent agricultural dry-up.<sup>1</sup> The pilot program may consist of the selection of up to ten separate pilot projects, each lasting up to ten years in duration, to test the practice of fallowing irrigated agricultural land and leasing the associated water rights for temporary municipal use.

HB13-1248 charges the Board, in consultation with the State Engineer, to establish criteria and guidelines for the application, selection, and approval process for pilot projects. This document, hereinafter referred to as the “Criteria and Guidelines,” was developed through the cooperation and collaboration of the CWCB, the State Engineer’s Office, and the public in accordance with that legislative directive.

These Criteria and Guidelines will become effective upon Board approval.

**B. Background**

The Statewide Water Supply Initiative estimates that by 2050, Colorado may lose 500,000 to 700,000 acres of currently irrigated farmland to meet municipal growth demands. The CWCB, IBCC, and Basin Roundtables have determined that the status quo path of continued “buy and dry” of agricultural lands is contrary to the vision for our state as being a great place to live and work. There is a widespread desire to minimize permanent agricultural dry up while finding ways to provide water for current and future municipal needs. If significant progress can be made through alternative water transfers such as rotational fallowing and interruptible supply agreements, then the projected losses of irrigated acres could be noticeably reduced.

There is a recognized need to look for ways to increase flexibility within Colorado’s system of water law, while respecting individual property rights. While there is much work to be done, alternative water transfers may very well provide a viable option for municipal water providers in the not-so-distant future. Through HB 13-1248, fallowing-leasing pilot projects can be tested to overcome challenges and develop opportunities for temporary agriculture-to-municipal water transfers.

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<sup>1</sup> HB13-1248 was codified as Section 37-60-115(8), C.R.S. (2013).

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**C. Rotational Fallowing Pilot Project Goals and Purposes**

In HB13-1248, the Colorado General Assembly declared its commitment to develop and implement programs to advance various agricultural transfer methods as alternatives to permanent agricultural dry-up. It further stated that Colorado needs to evaluate whether fallowing-leasing is a practical alternative to traditional “buy and dry” methods, and determined that the CWCB is the appropriate state agency to test the efficacy of implementing fallowing-leasing.

The purpose of this document is to meet the spirit and intent of HB13-1248 and to enact Criteria and Guidelines in collaboration with the office of the State Engineer. Pilot project sponsors are strongly encouraged to review existing reference material specific to agricultural water transfers prior to submitting pilot project proposals or applications to the CWCB. This recommendation will help to further guide preparation of proposal or application materials. Suggested reference documents include, but are not limited to, the *FLEX Market Model Project Completion Report* (CWCB, *et. al.*, June 30, 2013) and *Considerations for Agriculture to Urban Water Transfers* (Arkansas Basin Roundtable, September 10, 2008).

**D. Content of this Criteria and Guidelines Document**

**1. Purpose of the Criteria and Guidelines**

This Criteria and Guidelines document provides guidance for the pilot project selection, application, and approval process. As described in Section 37-60-115(8)(b), C.R.S. (2013), the general purpose of the pilot program is to:

- a. demonstrate cooperation among different types of water users, including cooperation among shareholders, ditch companies, water user associations, irrigation districts, water conservancy districts, water conservation districts, and municipalities;
- b. evaluate the feasibility of delivering leased water to temporary municipal users;
- c. provide sufficient data from which the CWCB, in consultation with the State Engineer, can evaluate the efficacy of using streamlined approaches for determining critical components of a fallowing-leasing plan, including historical consumptive use, return flow characteristics, the potential for material injury to other water rights, and conditions to prevent material injury to other water rights; and
- d. demonstrate how to operate, administer, and account for the practice of fallowing irrigated agricultural land for leasing water for temporary municipal use without causing material injury to other vested water rights, decreed conditional water rights, or contract rights to water.

**2. Components of the Criteria and Guidelines, according to statute**

Pursuant to Section 37-60-115(8)(d), this Criteria and Guidelines document includes:

- a. the determination of an application fee and for selected pilot projects, an annual review fee;
- b. a listing of the information to be included in a pilot project application for approval, including a description of the proposed pilot project;

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- c. the maximum quantity of transferable consumptive water use per year for any single pilot project;
- d. the identification of any geographic areas that are not eligible for pilot projects;
- e. provision for a time period of at least seventy five days during which the CWCB shall accept comments after the applicant has provided notice of the application for approval of a pilot project;
- f. the requirement and criteria for a conference between the applicant for a pilot project, the State Engineer, and owners of water rights or contract rights to water that file comments on the application;
- g. guidelines for the operation and administration of the pilot projects to assure that a pilot project will effect only a temporary change in the historical consumptive use of the water right in a manner that will not cause injury to other water rights, decreed conditional water rights, or contract rights to water, and will not impair compliance with any interstate compact;
- h. criteria for selecting pilot projects that range in size and complexity;
- i. criteria for selecting pilot projects over a five-year period, ending December 31, 2018, to provide a window for potential pilot project sponsors to apply;
- j. provision for a requirement that a proposed pilot project meet applicable local government land use requirements, prevent erosion and blowing soils, and comply with local county noxious weed regulations;
- k. the requirement that, during the term of a pilot project, land and water included in a pilot project are not also included in a substitute water supply plan pursuant to Sections 37-92-308(5) or (7), C.R.S. (2013), an interruptible water supply agreement pursuant to Sections 37-92-309, C.R.S. (2013), or another pilot project;
- l. a requirement for periodic reports to the Board on the operation of a pilot project; and
- m. a requirement that priority is given to pilot projects that can be implemented using existing infrastructure.

**3. Additional components of the Criteria and Guidelines**

This Criteria and Guidelines document also includes:

- a. a description of the submittal, selection, review, and approval process;
- b. pilot project selection criteria;
- c. guidance on accepted methodologies, modeling, and accounting practices; and
- d. ongoing requirements of an approved pilot project.

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**II. CRITERIA AND GUIDELINES**

**A. Summary of the Submittal, Selection, Approval, and Review Process**

The submittal and approval process for proposed pilot projects and pilot project applications entails four discrete steps:

1. submittal of a proposed pilot project to the Board for consideration and selection;
2. submittal of a pilot project application to the Board for consideration;
3. written determination by the State Engineer; and
4. approval of the pilot project by the Board.

*\*Note: For any pilot projects intended to operate during 2014, the sponsor of a proposed pilot project may pursue step 1 and step 2 at the same time, effectively completing those steps in parallel and allowing for only one notice, one notice period, and a combined selection and approval process. However, the sponsor will do this at the sponsor's own risk since the final approval by the Board would then be based not only on the State Engineer's evaluation of the comprehensive engineering and resulting written determination, but also on threshold selection criteria such as the limit on the number of pilot projects, the number of pilot projects per basin, or whether the other standards provided in Sections 37-60-115(8)(a) and (b), are met.*

The following is a general summary of the process for completing the four discrete steps outlined above. Specific requirements for each step are described in greater detail later in this Criteria and Guidelines.

**Step 1: submittal of a proposed pilot project to the Board for consideration and selection (see Section 37-60-115(8)(a) through(c)).**

In order to be considered for selection, pilot project sponsors must submit a pilot project proposal to the Board containing, at a minimum, a general description of the proposed pilot project, the land to be fallowed, and the proposed municipal use, along with the items listed in Section II.F., below. If the sponsor of a proposed pilot project is pursuing selection through step 1 prior to pursuing approval through step 2, the submittal for selection should not include technical analyses regarding historic use, historic consumptive use, or return flows. That detailed information should instead be submitted as part of the application in step 2.

Following the submission of a pilot project proposal by a sponsor, the CWCB will post the proposal on its website and the sponsor shall provide written notice. Parties may submit comments on the proposed pilot project to the CWCB within thirty days of the notice, and the Board will consider the proposed pilot project for selection at its next regularly scheduled meeting that is more than sixty days after receiving the proposal.

Upon the Board's review and consideration, the Board may either select the proposed pilot project to participate in the program, request that a sponsor provide more information regarding the proposed pilot project for reconsideration by the Board at its next regularly scheduled meeting, or deny a proposal. If a proposed pilot project is selected, the sponsor shall then be required to submit a pilot project application to the Board.

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**Step 2: submittal of a pilot project application to the Board for consideration (see Section 37-60-115(8)(e)).**

After selection by the Board, pilot project sponsors must submit a pilot project application to the Board for consideration. All pilot project applications must include, at a minimum, the information detailed in section II.G., below. In addition, pilot project applicants must provide notice of the application as provided in in Section 37-60-115(8)(e) and II.H., below. If the sponsor of a proposed pilot project is pursuing selection and approval through step 1 and step 2 simultaneously, the notice requirements of both steps apply but may be satisfied concurrently.

The Board will receive comments on pilot project applications for a period of seventy-five days after notice of the application has been provided. Within thirty days of the end of comment period, the applicant for a pilot project, the State Engineer, and owners of water rights or contract rights to water that file comments on the pilot project application must hold a conference to confer about the pilot project application. Following the conference, the pilot project applicant and the owners of water rights or contract rights to water must file a joint report outlining agreed-upon terms and conditions for the proposed pilot project and explaining the reasons for failing to agree on any terms and conditions for the pilot project, if any.

**Step 3: written determination by the State Engineer (see Section 37-60-115(8)(f)).**

Following the application submittal process described above, the State Engineer will consider the pilot project application, comments received, and the joint report, if any. The State Engineer will then make a written determination as to whether the pilot project can operate without causing injury and without impairing compliance with any interstate compact, as further described in Section II.J., below. The State Engineer's written determination will also provide terms and conditions necessary for pilot project operation and administration.

**Step 4: approval of the pilot project by the Board (see Section 37-60-115(8)(f)).**

If the State Engineer makes a favorable determination as to a pilot project as described above, the Board may in its discretion approve the pilot project application, adopting all terms and conditions recommended by the State Engineer, in addition to terms and conditions adopted by the Board at its discretion.

**B. Application Fee**

The application fee for pilot project applications is five hundred dollars (\$500), to be submitted to the CWCB at the time a pilot project application is submitted for consideration. There is no annual review fee for approved pilot projects.

**C. Pilot Project Selection Criteria**

Pursuant to Section 37-60-115(8)(a), a proposed pilot project submitted to the Board to be considered for selection must demonstrate the practice of:

1. fallowing agricultural irrigation land; and
2. leasing the associated water rights for temporary municipal use.

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In addition, consistent with the purpose of the pilot program as stated in Section 37-60-115(8)(b), proposed pilot projects must have the potential to:

1. in fallowing irrigated agricultural land for leasing water for temporary municipal use, demonstrate cooperation among different types of water users, including cooperation among shareholders, ditch companies, water user associations, irrigation districts, water conservancy districts, water conservation districts, and municipalities;
2. evaluate the feasibility of delivering leased water to the temporary municipal users;
3. provide sufficient data from which the Board, in consultation with the State Engineer, can evaluate the efficacy of using a streamlined approach, such as an accounting and administrative tool, for determining:
  - a. historical consumptive use,
  - b. return flows,
  - c. the potential for material injury to other water rights, and
  - d. conditions to prevent material injury; and
4. demonstrate how to operate, administer, and account for the practice of fallowing irrigated agricultural land for leasing water for temporary municipal use without causing material injury to other vested water rights, decreed conditional rights, or contract rights to water.

The Board will not select a pilot project that involves:

1. the fallowing of the same land for more than three years in a ten-year period or the fallowing of more than thirty percent of a single irrigated farm<sup>2</sup> for more than ten consecutive years;<sup>3</sup>
2. the transfer or facilitation of the transfer of water across the continental divide by direct diversion, exchange, or otherwise; or
3. the transfer or facilitation of the transfer of water out of the Rio Grande basin by direct diversion, exchange, or otherwise; or
4. fallowing-leasing from lands on more than one ditch.

The Board will give priority to pilot projects that can be implemented using existing infrastructure.

The sponsors of potential pilot projects should submit pilot project proposals to the CWCB in report form with narrative and necessary attachments to demonstrate each of the above selection criteria are met. The Board will not consider and does not require the submittal of detailed engineering reports for selecting a pilot project proposal at the selection stage.

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<sup>2</sup> For the purposes of this Criteria and Guidelines document, a “single irrigated farm” shall be defined as land owned and operated by one entity. All parts of the single irrigated farm should be contiguous or in close proximity.

<sup>3</sup> Taken together, these conditions mean that a pilot project can be designed to operate by fallowing any portion of the lands included in a pilot project for up to ten years in a consecutive ten-year period so long as the statutory limitations are met: that no piece of land is fallowed for more than three years in a consecutive ten-year period and no more than thirty percent of a single irrigated farm is fallowed for more than ten consecutive years. (See Section 37-60-115(8)(c) (I) and (II)).

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**D. Maximum Quantity of Transferable Consumptive Use Water Per Year**

Pursuant to Section 37-60-115(8)(a), no more than three pilot projects may be located in any one of the major river basins, namely: the South Platte River Basin; the Arkansas River Basin; the Rio Grande River Basin; and the Colorado River Basin. For the purpose of determining the number of pilot projects in “any one of the major river basins,” the South Platte River Basin is defined herein as Division 1, further defined in Section 37-92-201(1)(a), C.R.S. (2013); the Arkansas River Basin as Division 2, further defined in Section 37-92-201(1)(b); the Rio Grande River Basin as Division 3, further defined in Section 37-92-201(1)(c); and the Colorado River Basin as Divisions 4, 5, 6, and 7, as defined in Section 37-92-201(1)(d)-(g).

For pilot projects located in any one of the major river basins, the Board may select and approve pilot projects with transferrable consumptive use ranging in quantities from 100 acre-feet to 1,000 acre-feet per year. The Board recognizes that Colorado law defines a “significant water development activity” as “any removal of water that results in the transfer of more than one thousand acre-feet of consumptive use of water per year by a single applicant or an applicant's agents.” § 37-92-103(10.7), C.R.S (2013). Notwithstanding that definition, the Board may select and approve pilot projects with transferrable consumptive use larger than 1,000 acre-feet per year at its discretion. However, under no circumstances will the Board consider a pilot project with transferrable consumptive use of more than 10,000 acre-feet in any one year or 30,000 acre-feet over a ten-year period. For any proposed pilot projects with transferrable consumptive use in excess of 1,000 acre-feet per year, the Board shall give special consideration to comments received, if any, and to protecting the interests of other water users and the state’s water resources before granting approval.

**E. Geographic Areas not Eligible for a Pilot Project**

Subject to the limitation provided in Section 37-60-115(8)(a), which limits the number of pilot projects to no more than three in “any one of the major river basins,” no geographic areas are ineligible for a pilot project.

**F. Information to be Included in a Pilot Project Proposal; Pilot Project Selection Process**

In order to be considered for selection, pilot project sponsors must submit a pilot project proposal to the Board containing, at a minimum, the following:

- a. a general description of the proposed pilot project, including the land to be fallowed and the proposed municipal use, identifying the following:
  - i. the specific water rights to be utilized by the pilot project and ownership of them;
  - ii. the specific lands and parcels that will be analyzed and dried up, and the ownership them;
  - iii. the source of water that will be used to meet return flow obligations;
  - iv. how and where any necessary replacement water will be delivered to the appropriate stream location(s);

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- v. any stream reaches that will be used to operate the proposed transfer of water, along with a description of any administrative or hydrologic obstacles to exchanges or delivery of the replacement water; and
- vi. any and all structures necessary for operation of the pilot project and ownership of them.
- b. evidence to demonstrate that the proposed pilot project meets the eligibility requirements identified in Sections 37-60-115(8)(a) through (c), also listed in section II.C.;
- c. evidence to demonstrate that all necessary approvals and agreements between ditch companies, ditch members, municipalities, and other parties have been obtained or will be reasonably obtained; and
- d. evidence to demonstrate that all applicable limitations or requirements of any water conservancy districts have been considered.

All pilot project proposals should be limited to ten pages. If the sponsor of the proposed pilot project is pursuing selection through step 1 prior to pursuing approval through step 2, the submittal for selection should not include technical analyses regarding historic use, historic consumptive use, or return flows. That detailed information should instead be submitted as part of the application for approval in step 2.

Following the submission of a pilot project proposal by a sponsor, the CWCB will post the proposal on its website. In addition, consistent with the notice process described in Section 37-60-115(8)(e)(II), the sponsor of a proposed pilot project shall provide written notice and a copy of the proposal by first-class mail or electronic mail to all parties that have subscribed to the substitute water supply plan notification list, as described in Section 37-92-308(6), for the division or divisions in which the subject water rights are located and in which the proposed pilot project will be operated, and file proof of the written notice with the Board. Parties may submit comments on the proposed pilot project to the CWCB within 30 days of the notice, and the notice shall so provide.

The CWCB will consider the proposed pilot project for selection at its next regularly scheduled meeting that is more than sixty days after receiving the proposal. The CWCB will consult with the State Engineer and consider any comments submitted prior to acting on the proposal. The CWCB may, at any time, request a sponsor to provide more information regarding a proposed pilot project.

Upon the Board's review and consideration of a proposed pilot project, and whether it meets the requirements of Sections 37-60-115(8)(a) through (c) and the requirements set out in this Criteria and Guidelines document, the Board may select the proposed pilot project to participate in the program, request that the sponsor provide more information regarding the proposed pilot project for reconsideration by the CWCB at its next regularly scheduled meeting, or deny the proposal.

If a proposed pilot project is selected, the sponsor shall be required to submit a pilot project application to the Board within ninety days of the Board's selection. The Board may, in its discretion, extend this deadline for good cause shown by the sponsor.

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**G. Information to be Included in a Pilot Project Application**

As described in Section 37-60-115(8)(e)(I), pilot project applications submitted to the Board for consideration must include, at a minimum, the following:

1. a description of the proposed pilot project;
2. an analysis of the historical use, the historical consumptive use, and the historical return flows of the water rights or contract rights to water proposed to be used for temporary municipal use using a water budget model;
3. a map showing all parcels that will be fallowed as part of the pilot project;
4. evidence that the applicant has satisfied the requirements in II.K. below;
5. a description of the source of water to be used to replace all historical return flow obligations, with evidence that the source will provide a firm yield of water to replace all return flow obligations, during the pilot project and after completion of the pilot project; and
6. any additional information requested by the Board.

All parcels that will be fallowed and dried up must be verified as having been historically irrigated (*e.g.*, land historically dry-land farmed may not be considered fallowed for the purposes of a pilot project), and no partial year dry-up shall be permitted. An aerial photo from each decade of the relevant study period will be acceptable evidence. In the absence of aerial photography, the applicant may submit other evidence that will be subject to verification by the Board and other parties.

All pilot project application analyses of the historical use, the historical consumptive use, and the historical return flows of the water rights or contract rights to water proposed to be used for temporary municipal use using a water budget model, as required above, shall comply with the following:

1. Any pilot project proposed to operate prior to 2015 shall be evaluated with the Excel or Matlab version of the ISAM, currently available from the Division of Water Resources; starting in 2015, or as soon as it is available, proposed pilot projects shall be evaluated with the Lease Fallowing Tool, which is being developed for the CWCB and should be operational in January 2015. The individual components of analyses submitted shall include the following tables and other information. All tables should show monthly values, and a separate table should be used for each individual farm that is included in a pilot project. A list of the tables, along with one sample table, is included in Appendix A. Pilot project sponsors and applicants should contact the Division of Water Resources for electronic versions of all tables in Excel format:
  - a. A table identifying all assumptions, presumptive factors, and methodologies used in the analyses;
  - b. Tables of historical use and historical consumptive use, *based on at least 30 years of diversion records*, including:
    - i. historical total river headgate diversions to the relevant ditch and the proportionate share of those diversions attributable to the relevant individual farm(s);

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- ii. ditch losses and off-farm losses (use cited information from a previous change case or information from the relevant ditch company);
  - iii. farm headgate delivery (use diversion records);
  - iv. farm efficiency (use 55 percent); and
  - v. potential consumable amount of the farm headgate delivery (use farm headgate delivery multiplied by farm efficiency).
- c. Tables of historical use and historical consumptive use, *based on crop demand*, including:
- i. description of crop mix (use county-wide statistics);
  - ii. crop potential evapotranspiration (PET) (use Modified Blaney Criddle with TR-21 coefficients);
  - iii. total precipitation (use weather station closest to the relevant ditch headgate);
  - iv. effective precipitation (use factors from United States Bureau of Reclamation method); and
  - v. crop irrigation requirement (CIR).
- d. Actual demand met by subject water right(s) (use the minimum of potential consumable amount of farm headgate delivery and crop irrigation requirement plus soil moisture deficit, with stored soil moisture limited to six inches or 0.5 acre-feet per acre) including:
- i. volumetric limit for monthly consumptive use amount, based on the average of the three greatest years of the study period; and
  - ii. volumetric limit for annual consumptive use amount, based on the average of the three greatest years of the study period.
- e. Historical return flows.
- i. The portion of the monthly farm headgate delivery not used to meet the irrigation demand will be the return flow fraction, or 45 percent of the farm headgate delivery, being the remaining fraction of the farm efficiency:
    - 1. twenty percent of the return flow fraction will be designated as surface runoff, and
    - 2. eighty percent of the return flow fraction will be designated as deep percolation to the alluvial aquifer.
  - ii. Unit Response Functions (URFs) shall be used for determination of timing of groundwater return flows from each farm to the stream or natural drains, using the following approaches, assumptions, and factors:
    - 1. use the Glover-Balmer analytical solution (Glover equation) to calculate the lag effect of deep percolation return flows;

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2. specific yield = 0.20;
  3. transmissivity according to cited reference or through the applicant's detailed analysis;
  4. the relevant ditch represents the location of the no-flow boundary;
  5. the distance to the river is equal to the length of a line extending perpendicular from the river or drain to the centroid of the irrigated land; return flows accrue to the river or drain at this location on the river; and
  6. the number of month time steps (URF period) for the URF will be limited to the number of months required for at least ninety percent of the impact to occur to the stream; the URFs will then be normalized by apportioning the remaining return flows across the URF period.
- iii. If return flow obligations are to be met by recharge, no URFs are required if:
1. all return flows for a farm are met by recharge from a recharge facility within one quarter mile of the dried up land;
  2. the recharge water is delivered in the same time and amount, with an additional amount to account for recharge pond evaporation, as the deep percolation portion of the farm delivery for the dried up land; and
  3. the application includes a plan for monitoring and accounting to ensure that recharged water infiltrates and percolates to the water table without consumption.
- iv. A comparison of historic values determined above and projected operations.

**H. Notice of Pilot Project Applications**

Pursuant to Section 37-60-115(8)(e)(II), after having been selected as a pilot project, or concurrent with the selection process if the applicant combines the selection and the approval process, pilot project applicants must provide notice of applications submitted to the Board.

Applicants shall provide written notice that a pilot project application has been submitted to the Board along with a copy of the pilot project application and all accompanying materials submitted (or information on how to obtain them) by first-class mail or electronic mail to all parties that have subscribed to the substitute water supply plan notification list and the CWCB notification list, as described in Section 37-92-308(6), for the division or divisions in which the water right is located and in which it will be used, and file proof of the written notice with the Board. Such notice shall provide that parties may submit comments on the pilot project application to the CWCB within seventy-five days of the notice.

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**I. Comment and Conference Criteria**

The CWCB will receive comments on pilot project applications for a period of seventy-five days after notice of the application was provided. These comments may include: any claim of injury; any terms and conditions that the person filing a comment believes should be imposed on the pilot project in order to prevent injury to other water rights, decreed conditional water rights, or contract rights to water; and other information that the person filing the comment believes the Board should consider in reviewing the application. All comments claiming injury must identify with specificity the water right(s) that the person filing the comment either owns or has a contract right.

Within thirty days of the end of the comment period, the applicant for a pilot project, the State Engineer, and owners of water rights or contract rights to water that file comments on the pilot project application shall hold a conference, convened and facilitated by CWCB staff, to confer about the pilot project application. Conference participants shall discuss how the pilot project could be structured to prevent material injury to other water rights and contract rights to water. In order to facilitate a meaningful conference, the parties shall make every effort to (1) provide analyses of the nature and extent of the claimed injury to the identified water right(s) based upon the methodologies and approaches, assumptions, and presumptive factors set forth in section II.G., herein; and (2) propose specific terms and conditions that would protect the identified water right(s) from the claimed injury.

Within fifteen days of the conference, the pilot project applicant and the owners of water rights or contract rights to water shall file a joint report with the CWCB and the State Engineer outlining any agreed-upon terms and conditions for the proposed pilot project, and explaining the reasons for failing to agree on any terms and conditions for the pilot project if the applicant and the owners fail to reach a full agreement at the conference.

**J. Determination of the State Engineer; Guidelines for Operation and Administration of a Pilot Project**

Taking into consideration the pilot project application, comments, and the joint report, if any, and utilizing the methodologies and approaches, assumptions, and presumptive factors set forth in section II.G, herein, the State Engineer will make a written determination regarding a pilot project application within thirty days of receipt of the joint report. The written determination of the State Engineer will describe the operation and administration of the pilot project and will include, but is not limited to, the following:

1. the State Engineer's opinion as to whether the pilot project can operate without causing injury to other water rights, decreed conditional water rights, or contract rights to water, and without impairing compliance with any interstate compact;
2. terms and conditions necessary to ensure the pilot project will operate and can be administered without causing injury to other water rights, decreed conditional water rights, or contract rights to water and without impairing compliance with any

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interstate compact;<sup>4</sup> these terms and conditions may also include, where applicable:

- a. a requirement that all parcels included in a pilot project are accounted for, dried up, and administered according to the protocol described in Appendix B of this document;
  - b. a requirement that the accounting use the tables listed in Appendix A of this document as the tool for comparing historical use analyses with projected operations as a pilot project;
  - c. a requirement that the water rights subject of a pilot project be run through the applicable ditch; and
  - d. a condition that reservoir water that is subject of a pilot project can be used for municipal use only as the remaining irrigation portion is used for irrigation; and
3. any other information the State Engineer deems pertinent to the operation of a pilot project.

Upon receipt of the State Engineer's written determination, the Board shall take action on the pilot project application at its next scheduled meeting. If such meeting is scheduled to commence in less than twenty-one days from the date the CWCB receives the State Engineer's written determination, the Board shall take action on the pilot project application at its following meeting unless CWCB staff determines that less time is adequate.

**K. Consideration of Additional Requirements**

Pursuant to Section 37-60-115(8)(d)(X), pilot project applicants must provide evidence that through the operation of a pilot project, the applicant will:

1. meet applicable local government land use requirements;
2. prevent erosion and blowing soils; and
3. comply with local county noxious weed requirements.

Neither the Board nor the State Engineer will perform a technical evaluation to validate whether an applicant has met these requirements. Rather, the State Engineer, in the written determination, will validate whether an applicant has provided sufficient evidence that it will continue to satisfy these requirements throughout the pilot project's duration.

**L. Limitations on Participation in Other Statutory Mechanisms**

Pursuant to Section 37-80-115(8)(d)(XI), during the term of a pilot project, land and water included in a pilot project shall not also be included in a substitute water supply plan pursuant to Section 37-92-308(5) or (7), an interruptible water supply agreement pursuant to Section 37-92-309, or another pilot project.

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<sup>4</sup> Pursuant to Section 37-60-115(8)(d)(VI)(C), and as described in II.I. of this document, the joint report may include terms and conditions for the proposed pilot project. Those terms and conditions may be adopted by the State Engineer.

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**M. Accepted Methodologies, Modeling, and Accounting Practices**

As stated in section I.D., the purpose of the pilot program is to provide sufficient data from which the CWCB, in consultation with the State Engineer, can evaluate the efficacy of using streamlined approaches for determining critical components of a fallowing-leasing plan, including historical consumptive use, return flow characteristics, the potential for material injury to other water rights, and conditions to prevent material injury to other water rights. Section II.G. includes methodologies and approaches, assumptions, and presumptive factors that provide for a streamlined application, review, and approval of the pilot projects.

The Board has adopted these methodologies, approaches, and assumptions in this Criteria and Guidelines document, with public participation, to streamline the process for pilot project application development, review, and approval. The Board's intent is that the good faith adherence to these Criteria and Guidelines by applicants, any parties filing comments on pilot project applications, the State Engineer, and the Board will assist the Board's approval process and will reduce or eliminate the need for appeal on the technical bases outlined in this document.

These Criteria and Guidelines were developed for the purposes of fallowing-leasing pilot projects and are applicable only for the purposes of pilot projects authorized under Section 37-60-115(8).

**N. Ongoing Requirements of an Approved Pilot Project**

According to Section 37-60-115(8)(i), the CWCB, in consultation with the State Engineer, shall annually report to the Water Resources Review Committee, created in Section 37-98-102, C.R.S. (2013), or its successor committee, on the reported results of the pilot projects, including any recommendations for legislation to implement fallowing-leasing. The CWCB, in consultation with the State Engineer, shall provide a final report to the Water Resources Review Committee, or its successor committee, by July 1, 2029, or the year in which the final pilot project is completed, if before 2029, as required by Section 37-60-115(8)(h)(II)(i).

As a part of its approval of a pilot project, the CWCB will also set forth requirements for the applicant to report on the operation and outcome of the pilot project and solicit input from parties involved in the conference described in paragraph II.I. of this document, including information regarding the success of streamlined approaches and the effectiveness of the pilot projects in accomplishing the purposes identified in Section 37-60-115(8)(b).

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**APPENDIX A**

**Tables for Information to be Included in a Pilot Project Application (see section II.G.)**

**A. Required Tables**

The tables in the following list will generally be required in a pilot project application:

1. River Headgate Diversions for All Sources Considered in Pilot Project
2. River Headgate Diversions Pro-Rata by Share or Percent of Water Right for Pilot Project Farm(s)
3. Farm Headgate Deliveries
4. Farm Crop Acreages and Crop Distributions
5. Farm Crop Potential Evapotranspiration
6. Farm Precipitation
7. Farm Effective Precipitation
8. Farm Irrigation Water Requirement
9. Farm Headgate Delivery Available to Meet Crop Irrigation Requirement
10. Farm Crop Irrigation Requirement Met by Irrigation Water Applied or in Soil Moisture
11. Total Return Flows at Farm(s)
12. Tailwater/Surface Runoff Return Flows at Farm(s)
13. Deep Percolation/Ground Water Return Flows at Farm(s) (unlagged)
14. Historic Depletions at Farm(s) including Depletion and Return Flow Factors

**B. Tables to be Included as Applicable**

The tables in the following list may be required in a pilot project application, depending on the specifics of the pilot project:

1. Pond Evaporation Data
2. Unit Response Function Normalized by 90%
3. Simulated Recharge Operations
4. Simulated Lagged Stream Return Flow Summary
5. Monthly Accounting Example
6. Daily Accounting Example

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**C. Sample Table**

The following is a sample table for River Headgate Diversions for All Sources Considered in Pilot Project. Pilot project sponsors and applicants should contact the Division of Water Resources for electronic versions of all tables in Excel format.

<b>Table 1 - River Headgate Diversions for All Sources Considered in Pilot Project Plan</b>													
<b>Farm Name or Designation: Farm 1</b>													
Source of Data:													
Notes:													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
(Cal)	(AF)												
1983													
1984													
1985													
1986													
1987													
1988													
1989													
1990													
1991													
1992													
1993													
1994													
1995													
1996													
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2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													
2010													
2011													
2012													
Maximum													
Minimum													
Average													

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**APPENDIX B**

**Administration of Parcels**

**A. Identification of Parcels for Pilot Projects**

To the greatest extent possible, mapping of parcels to be fallowed should be developed from irrigated acreage mapping done under the various Decision Support System projects and maintained by the Colorado Water Conservation Board (CWCB) on Colorado's Decision Support System (CDSS) website. If other mapping is used (*e.g.*, Farm Service Agency), the source of the mapped data should be provided as part of the application citing the year(s) used for parcel evaluation and selection.

Mapped parcels shall be provided in GIS format compatible with the ArcView software unless provisions are made to coordinate mapping with the State Engineer's Office. Mapping for identified parcels must be provided with pilot project applications.

Pilot project sponsors and applicants seeking to identify any lands they believe were historically irrigated that do not lie within the mapped irrigated lands developed for CDSS, must provide backup documentation to demonstrate continuous irrigation for the parcel over the majority of the study period.

**B. Minimum Standards for Parcel Selection**

Fallowed parcels must be at least ten acres in size unless they comprise all of an existing CDSS parcel that is already less than ten acres. Parcels that represent a portion of an existing field can only be split in the same direction of historic irrigation unless a means of physical separation is approved by the CWCB based on the written determination of the State Engineer. A physical separation must exist between any irrigated portion of a parcel and the dry-up portion. For dry-up fields left fallow or with a dry-land cover crop without permanent root system (that is, not alfalfa or pasture grass for example), the separation can be a ditch or tilled strip at least ten feet in width that prevents irrigation application from reaching the dry-up parcel. For partial fields containing deep-rooted crops such as alfalfa or pasture grass, a deep tilled separation of at least 25 feet must be maintained along with any ditches necessary to ensure no irrigation application to the dry-up portion. For any dry-up parcel that is planted with a dry-land crop (haygrazer, milo, millet, etc.), the crop should either be drilled at an angle to normal irrigation direction or a tilled strip maintained at the top of the field that clearly separates the crop from any possible irrigation source (preferably both).

All parcels containing alfalfa or pasture grass shall be subject to a reduction in the approved amount of transferrable consumptive use if the field is subirrigated. The reduction will be calculated according to Table 1 on the following page. Necessary monitoring well configuration, if any, will be determined through the application of terms and conditions as required by each individual pilot project.

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**Table 1**

Depth to Ground Water (Feet)	Percent Reduction in CU Credit	
	Pasture Grass	Alfalfa
1	85%	100%
2	50%	90%
3	30%	75%
4	20%	50%
5	15%	35%
6	10%	20%
7	5%	15%
8	0%	10%
9	0%	0%