

January 13th, 2023

Colorado Division of Reclamation, Mining & Safety
1313 Sherman St.
Denver, CO 80203
Attn: Eric Scott

Via Email: eric.scott@state.co.us

RE: West Farm Reservoirs, File No. M-2022-048, Operator: L. G. Everist, Inc.

Dear Mr. Scott,

The purpose of this letter is to provide comment on a proposed gravel pit operation in Weld County, CO, File No. M-2022-048. Colorado Open Lands holds a conservation easement on Abbett Centennial Farm (Reception #3790885, attached) which is located at 10999 County Road 30 ½, Platteville, Colorado, 8065. Abbett Centennial Farm is directly south of the proposed mining operation and shares a boundary with Phase 1 of the proposed operation. (See attached map) We are providing comments due to our concerns on how the project will impact the conservation easement property.

The Abbett Centennial Farm Conservation Easement is protected for its agricultural, natural, scenic, open space, wildlife, and historical values. As a centennial farm, the property contains a living example of Colorado's history and culture that carries the western farming tradition and has been recognized as a historical property by the Colorado State Historical Society.

Approximately 96% of the property contains prime farmland based on a soil report of the property provided by the Natural Resource Conservation Service (attached). Consequently, the property's soils are sensitive to changes in irrigation and flooding which will affect the farmland quality. Any changes to the groundwater level or property's irrigation due to the neighboring mining operation will negatively impact the conservation values on the conservation easement property.

Specifically, we believe the proposed slurry wall construction will change the ground water levels on the Abbett Centennial Farm property. A 2003 USGS report identified the risk of multiple slurry wall liners on a gravel and sand mine along the South Platte River, creating groundwater mounding upgradient from the slurry wall construction (USGS, 2003). While this report is a theoretical simulation study and is not a case study, the report identifies the risk of groundwater mounding occurring with the proposed slurry wall construction on West Farm Reservoirs' operation due to the proposal of multiple slurry wall liners.

The Abbett Centennial Farm ranch manager and landowner representative have

identified that if groundwater mounding occurs, the resulting changes to the alkalinity of the soils would significantly reduce their farmland quality. Given that the proposed slurry wall construction will be 15 feet away from the permit/affected lines, any groundwater mounding will negatively impact the conservation easement and affect the soil quality on Abbett Centennial Farm and reduce its historical farmland values. We request additional assessment and mitigation efforts to ensure the groundwater levels do not change. We would like additional monitoring wells constructed along the property boundary to monitor for groundwater level changes and that the operator ensures that the groundwater mounding does not occur or impact the Abbett Centennial Farm.

In addition to the above concerns about the slurry wall construction, we are concerned about the surface disturbance and fence damage along the northern boundary of Abbett Centennial Farm. Any surface or soil disturbance from the mining operation that crosses the boundary between the mining operation and the northern property boundary of Abbett Centennial Farm would impact the property and conservation easement. During mining operations and construction, we suggest that the operator mitigate dust impacts and ensure that additional soil does not blow onto the Abbett Centennial Farm.

There is a fence line along the Abbett Centennial Farm and the mining operation's property boundary. Cows that graze Abbett Centennial Farm occasionally escape and enter the neighboring property from a damaged portion of the fence. The cow's escaping has not been an issue in the past, as the cows could be moved back onto Abbett Centennial Farm when the neighboring land was used for agriculture. The proposed mining operation will make it difficult to return the cows to the Abbett Centennial Farm if they escape and present a risk for the cattle to be injured from the mining operation. Given that Colorado is a fence-out state (Colorado Revised Statutes (C.R.S.) section 35-46-102), we request that the operator repair the fence line and fence out the cattle. Repairing the fence will ensure the operator does not harm the cattle if they escape Abbett Centennial Farm. If the mining operator is not willing to repair this fence line, then we are requesting the operator to promptly notify the property manager of escaped cattle and provide a safe and efficient means to move the cattle back to Abbett Centennial Farm if the cows escape the property.

In addition, we are concerned that the proposed mining operation will affect the irrigation on Abbett Centennial Farm. The proposed mine is downstream from the property. The mining operation may change the irrigation pathway of water along the northern portion of Abbett Centennial Farm by blocking water leaving the Abbett Centennial Farm that traditionally enters the north property as part of its traditional return flow. Due to the area's topography, water moves east towards the South Platte River when this irrigation pathway is blocked, which will flood farmland on Abbett Centennial Farm. Any changes to the irrigation and flooding resulting from a blocked water flow pathway will impact the property and the conservation values of the conservation easement. We request that the mining operation take additional steps to mitigate these impacts, ensure that irrigation water can exit Abbett Centennial Farm, and ensure flooding does not occur.

Finally, we are concerned about the introduction and proliferation of noxious weeds on the Abbett Centennial Farm as result of the mining operation. The spread of these weedy species and noxious weeds onto the Abbett Centennial Farm will impact the property's conservation values and the farmland's quality and productivity. Specifically, we are concerned about the spread of weeds that are identified on the Colorado Department of Agriculture. We would like additional monitoring and treatment for weedy species, including Russian Thistle, Kochia, and Tansy Mustard, as well as the treatments for List A, B and C noxious weeds. If noxious weeds spread onto Abbett Centennial Farm, we request that the mining operator pay for the associated weed treatments to remove new infestations.

Feel free to contact me if you have any questions about our concerns.

Sincerely,



Cheryl Cufre
Director of Land Stewardship
303-988-2373 x219
ccufre@coloradoopenlands.org

Attachments:

Abbett Centennial Farm Conservation Easement
Map of Abbett Centennial Farm and Phase I of Proposed Mine
Natural Resource Conservation Service Soil Report



ABBETT CENTENNIAL FARM CONSERVATION EASEMENT

WELD COUNTY



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Any time the Property itself, or any interest in it, is transferred by Grantor or their personal representatives, heirs, successors and assigns to any third party, Grantor or their personal representatives, heirs, successors and assigns shall notify the Grantee and pay the Grantee a transfer fee of \$500, adjusted for inflation, pursuant to the terms and provisions of Paragraphs 22 and 23 of this Deed.

DEED OF CONSERVATION EASEMENT Clyde L. Abbett Revocable Trust, Weld County, Colorado

This DEED OF CONSERVATION EASEMENT (the "**Conservation Easement**") is made this ____ day of August, 2011, by Cache Bank and Trust, as Trustee of the **CLYDE L. ABBETT REVOCABLE TRUST**, having an address of 924 11th Street Greeley, CO 80631 (hereinafter the "**Grantor**"), in favor of **LEGACY LAND TRUST**, a Colorado nonprofit corporation, having an address of 214 S. College Avenue, Suite 200, Fort Collins, Colorado, 80524 (hereinafter "**Grantee**"), for the purpose of conserving the agricultural, wildlife and plant habitat, open space, historic and scenic qualities of the subject property. The following Exhibits are attached hereto and are a part of this Conservation Easement:

- Exhibit A – Legal Description of Property
- Exhibit B – Map of Property, Building Area and Storage Area
- Exhibit B-1 – Description of Building Area and Storage Area
- Exhibit C – Description of Water Rights

RECITALS

- A. Grantor is the owner in fee simple of certain real property consisting of approximately 160 acres, more or less, located in Weld County, Colorado, more particularly described in **Exhibit A** attached hereto and incorporated by this reference, (hereinafter, the "**Property**").
- B. The Property possesses agricultural, natural, scenic, open space, wildlife habitat and historic values (collectively, "**Conservation Values**") of great importance to the Grantor, the area residents, the people of Weld County and the people of the State of Colorado. The conservation purposes described in these Recitals are part of the Conservation Values of the Property.
- C. The specific Conservation Values of the Property are described herein, and are further documented in an inventory of relevant features of the Property, dated June, 2011, to be kept on file in the offices of the Grantee and incorporated by this reference ("**Baseline Documentation**"), which consists of reports, maps, photographs, and other documentation that the parties agree provide, collectively, an accurate representation of the condition of the Property at the time of this grant and which is intended to serve as an objective, though nonexclusive, information baseline for monitoring compliance with terms of this grant.



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- D. The following conservation purpose, in accordance with Treasury Regulations §1.170A-14(d)(4) is furthered by this Easement, "The preservation of certain open space (including farmland and forest land) for the scenic enjoyment of the general public and will yield a significant public benefit." The Property, which can be viewed by the general public from Weld County Road 30.5 and from Highway 66, provides views of farmland in the foreground and the Front Range of the Rocky Mountains in the background. The South Platte River runs through the northeastern corner of the Property. More than half of the Property is located within the 100-year floodplain. Most of the Property is irrigated and approximately 4 acres of the Property is considered riparian habitat. There is a strong likelihood that, if the Property were to be developed instead of preserved, it would contribute to the degradation of the scenic, rural and natural character of the area. Preservation of the Property will continue to provide an opportunity for the general public to appreciate its scenic values. Much of the property is in agricultural production in a County which is experiencing substantial development that has reduced open and scenic vistas available to the public. Preservation of the Property is consistent with Federal, State and local public conservation programs and with conservation efforts underway on adjoining or nearby properties. Development of the Property, which is prohibited by this Easement, would contribute to the degradation of the scenic vistas available to the public and to wildlife and bird habitat, resulting in a loss of tourism and commerce to the area.
- E. The following conservation purpose, in accordance with Treasury Regulations §1.170A-14(d)(3) is furthered by this Easement, "To protect significant relatively natural habitat in which a fish, wildlife, or plant community, or similar ecosystem normally lives." The South Platte River runs through the northeastern corner of the Property. Approximately 4 acres of the Property is considered riparian habitat. The South Platte River and riparian areas provide habitat for a variety of species, including a wide variety of birds. The Property also provides a migration route for animals along the South Platte River. According to the Natural Diversity Information Source database, wildlife likely to use the Property includes 297 species of birds, 61 species of mammals, 8 species of amphibians and 23 species of reptiles. Focal species for the Property have been identified as the bald eagle, the Canadian goose, the great blue heron, the mule deer, the ring necked pheasant, the wild turkey, the white pelican and the white tailed deer. In addition, the Property's proximity to the Pawnee National Grasslands located northeast of the Property and to the Saint Vrain State Park located to the west of the Property causes it to be part of an important larger wildlife area.
- F. The Property has been recognized as a Centennial Farm. Centennial Farms are living examples of Colorado history and culture which carry on the western tradition of farming. The Property has been recognized as a historical property by the Colorado Department of Agriculture, the Colorado Historical Society and the Colorado State Fair. Approximately ninety-six percent (96%) of the Property is considered to be Prime Farmland. Preservation of the Property will support the likelihood that agricultural uses of the Property may continue into the future.
- G. The donation of this Deed of Conservation Easement is in support of at least the following clearly delineated public conservation policies:
1. The Colorado Department of Agriculture statutes, Colorado Revised Statutes Sec. 35-1-101, *et seq.*, which provide in part that "it is the declared policy of the state of Colorado to conserve, protect, and encourage the development and improvement of its agricultural land for the production of food and other agricultural products."
 2. The Colorado Department of Agriculture statutes, Colorado Revised Statutes §§ 35-

3-101, et seq., which provide in part that "the resources and fertility of the land . . . and the prosperity of the farming population . . . and the waters of the rivers are matters affected with a public interest."

3. Colorado Revised Statutes Sec. 38-30.5-101, *et seq.*, providing for the establishment of conservation easements to maintain land "in a natural, scenic or open condition, or for wildlife habitat, or for agricultural ... or other use or condition consistent with the protection of open land, environmental quality or life-sustaining ecological diversity."
4. The Colorado Wildlife and Parks and Outdoor Recreation statutes, Colorado Revised Statutes Sec. 33-1-101, *et seq.*, which provide that "it is the policy of the state of Colorado that the wildlife and their environment are to be protected, preserved, enhanced, and managed for the use, benefit, and enjoyment of the people of this state and its visitors." and that "it is the policy of the state of Colorado that the natural, scenic, scientific, and outdoor recreation areas of this state are to be protected, preserved, enhanced, and managed for the use, benefit, and enjoyment of the people of this state and visitors of this state."
5. The Western Governors' Association Policy Resolution 08-21 supports "voluntary incentive-based methods for preserving open space, maintaining land and water for agricultural and timber production, wildlife and other values."
6. The Farmland Protection Policy Act, P.L. 97-98, 7 U.S.C. §§ 4201, et seq., whose purpose is "to minimize the extent to which Federal programs and policies contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government and private programs and policies to protect farmland."
7. The voters of the State of Colorado, by creation of the Great Outdoors Colorado Trust Fund program, and by adopting and administering grant applications and due diligence review processes, have established that it is the policy of the State of Colorado and its people to encourage donation and to fund the voluntary bargain sale and acquisition of conservation easements, among other things, to preserve, protect and enhance scenic and open space lands, agricultural lands, wildlife, and wildlife habitat.
8. Weld County Comprehensive Plan Section 22-2-60 states it is the goal of Weld County to "conserve agricultural land for agricultural purposes which foster the economic health and continuance of agriculture" and Weld County should "support the development of creative policies to conserve" said agricultural land.
9. Weld County Comprehensive Plan Section 22-5-30 states "new development should be located and designed to conserve critical ecosystem components, including wetlands, significant wildlife habitats and migration corridors" and "traditional wildlife uses such as hunting, trapping and fishing in agricultural and non-developed portions of Weld County are beneficial."

10. Weld County Comprehensive Plan Section 22-1-50 D 3a states "the importance of agriculture in Weld County is recognized, and supporting agriculture is an important objective of Weld County."
11. Weld County Comprehensive Plan Section 22-1-120 states that "Weld County has an agricultural tradition, as reflected by its ranking as one of the richest agricultural producing counties in the nation. Land use changes are occurring and agricultural zoned land is being changed to accommodate residential, commercial and industrial development. As these new land uses evolve, it is important that the established agricultural businesses and associated infrastructures are allowed to continue to operate without additional constraints. Individuals who move into these areas must realize that they will experience conditions and services unlike an urban setting and must be willing to accept this lifestyle."
12. Weld County Comprehensive Plan Section 22-2-40 and Weld County Ordinance 2002-6 state "agricultural lands help maintain a sense of rural identity and diversity. These lands allow communities to maintain separate identities, at the same time conserving productive farmland," and "as a secondary benefit, agricultural land use helps to maintain natural systems and natural processes. These may include the preservation of wetlands, small watersheds, aquifer recharge areas, floodplains and special wildlife habitats."
13. Weld County Comprehensive Plan Section 22-5-20 states "the abundance of wildlife in Weld County is an important contributor to the economic health and quality of life in Weld County" and "maintaining wildlife habitats in sufficient supply is necessary to encourage the social and economic benefit Weld County receives from this resource."
14. Weld County Comprehensive Plan Goals and Policies Section 22-5-50 states:
 - It is the policy of Weld County to "encourage agricultural use of productive agricultural land," and "land use activity should preserve, enhance and maintain significant or unique natural land features."
 - It is the goal of Weld County to "cooperate with local, state and federal agencies to identify, conserve, protect or enhance critical fish and wildlife habitat by attempting to implement measures for the protection or enhancement of such areas."
 - It is the goal of Weld County to "strive to conserve significant stands of trees and shrubs, large expanses of prairie grasses and unique forms of vegetation and land area."

- It is the goal of Weld County that a "provision should be made for open space in order to enhance the quality of life and enjoyment of the environment."
- It is the goal of Weld County to encourage "the private sector, non-County agencies and other governmental jurisdictions...to participate in open space preservation and trails development in Weld County."

15. Weld County Comprehensive Plan Section 22-2-20 states that Weld County will "encourage the conservation of agricultural lands, as well as significant geographic areas, i.e., rivers, major drainage-ways, jurisdictional wetlands, etc., through the implementation of voluntary incentives such as open space acquisitions, conservation easements and transfer of development rights.

- II. Grantor intends that the Conservation Values of the Property be preserved and maintained by permitting only those uses on the Property that do not significantly impair or interfere with them, including, without limitation, those land uses relating to the continuation of land use patterns, including those relating to agriculture and ranching existing at the time of this grant. Grantor further intends, as owners of the Property, to convey to Grantee the right to preserve and protect the Conservation Values of the Property in perpetuity.
- I. Grantee is a publicly supported, tax-exempt nonprofit organization, founded in 1993, qualified under Sections 501(c)(3) and 170(h) of the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder (the "Internal Revenue Code"), whose primary purpose is to facilitate the acquisition and preservation of environmentally sensitive areas, critical wildlife habitat, and other lands which are important for the enrichment of present and future generations. Grantee filed a DR 1299 (Colorado Gross Conservation Easement Holders Submission of Information) with the Colorado Department of Revenue on January 5, 2011.
- J. Grantee agrees by accepting this grant to honor the intention of the Grantor stated herein and to preserve and protect in perpetuity the Conservation Values of the Property for the benefit of this generation and the generations to come.

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the State of Colorado and in particular C.R.S. §38-30.5-101 et seq., Grantor hereby voluntarily grants and conveys to Grantee a conservation easement in perpetuity over the Property of the nature and character and to the extent hereinafter set forth ("**Easement**").

1. **Purpose.** The purpose of this Easement is to assure that the agricultural, natural habitat, open space, historic and scenic values of the Property will be retained in perpetuity and to prevent any use of the Property that will significantly impair or interfere with the Conservation Values of the Property. It is also the purpose of this Easement to permit the continuation of the uses

described herein, and other uses of the Property which are consistent with the foregoing goals. The provisions and restrictions contained in this Easement are intended to insure that the Property remain available for agricultural and/or livestock production in accordance with Section 170(b) (1)(E)(iv) of the Internal Revenue Code.

2. **Rights of Grantee.** To accomplish the purpose of this Easement the following rights are conveyed to Grantee by this Easement:
 - a. To preserve and protect the Conservation Values of the Property;
 - b. To enter upon the Property at reasonable times in order to monitor Grantor's compliance with and otherwise enforce the terms of this Easement, provided that such entry shall be upon prior reasonable notice to Grantor, and Grantee shall not unreasonably interfere with Grantor's use and quiet enjoyment of the Property;
 - c. To prevent any activity on or use of the Property that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use, pursuant to the remedies set forth in Paragraph 8;
 - d. To place signs, not to exceed 18"x 24" in size, on the perimeter of the Property identifying Grantee and the existence of an Easement [these signs also state that the land is privately owned and not open for public access].
3. **Prohibited Uses.** Any activity on or use of the Property inconsistent with the purpose of this Easement is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited:
 - a. **Construction of Buildings and Other Structures.** The construction of any building or other structure or improvement, except those existing on the date of this Easement, is prohibited except in accordance with Paragraphs 4(a) and 4(b) below.
 - b. **Reconstruction of Buildings and Other Structures.** The reconstruction of any building or other structure or improvement, except those existing on the date of this Easement, is prohibited except in accordance with paragraphs 4(a) and 4(b) below.
 - c. **Subdivision.** Any division or subdivision of title to the Property (including the Water Rights, which shall remain in the same ownership as the land encumbered by this Easement), whether by physical or legal process, including but not limited to condominium interests, time-sharing, and the partition of undivided interests or subdivision by any judicial or non-judicial foreclosure, is prohibited.
 - d. **Timber Harvesting.** Trees may be cut to control insects and disease, to control invasive non-native species, and to prevent injury and property damage. Dead trees may also be cut

for firewood and other uses on the Property. Commercial timber harvesting is prohibited on the Property.

- e. **Mining.** The mining or extraction of soil, sand, gravel, rock, oil, natural gas, fuel or any other mineral substances of any kind or description is prohibited except as provided in this Paragraph 3(e).

Soil, sand, gravel or rock may be extracted without further permission from Grantee so long as such extraction is solely for use on the Property for non-commercial purposes, is in conjunction with activities permitted herein, is accomplished in a manner which is consistent with the purpose of this Easement, does not substantially diminish or impair the Conservation Values, and has a limited and localized impact on the Property. Any such extraction of soil, sand, gravel or rock shall be limited to not more than one area of less than one acre in size at any given time. Any area which is disturbed by extraction must be revegetated and restored to the natural condition of the Property after completion of the extraction. This provision shall be interpreted in a manner consistent with § 170(h) of the United States Internal Revenue Code and the Treasury Regulations adopted pursuant thereto.

The parties acknowledge that mineral rights have been severed from the surface from a 150' wide strip of the Property by the Quitclaim Deed recorded January 7, 1949 in Book 1240 at Page 93 and that there are currently oil and gas leases affecting the Property. Grantor agrees that by granting this Easement to Grantee, it has granted to Grantee a portion of its rights as owner of the surface of the Property on which mining (including oil and gas operations) may be conducted ("**Surface Owner**"). Grantor intends that Grantee, in addition to its interest as a holder of this Easement, shall have the rights of a Surface Owner to receive notices of proposed mineral activities and to protect the Conservation Values and purposes of this Easement and to enforce the terms of this Easement. Accordingly, Grantor agrees that Grantee must approve in advance in writing any lease or agreement pertaining to use of the surface of the Property for mining, including any agreement permitted or required of a Surface Owner under C.R.S. §34-60-101 et seq., as amended from time to time, and rules and regulations promulgated thereunder ("**Surface Use Agreement**"), between Grantor and owners or lessees of minerals (including oil and gas), which approval Grantee may withhold in its discretion if it determines that the proposed surface use is inconsistent with the preservation of the Conservation Values of the Property, is inconsistent with the terms of this paragraph, or is not permitted under the terms of the mineral reservation or severance or the mineral lease. No extraction permitted pursuant to this paragraph shall occur without submittal of a plan for the same to Grantee for Grantee's approval. The plan shall include a description of the type of extraction, the areas within which such extraction shall occur, and the anticipated impact thereof and shall provide that the extraction permitted is not irretrievably destructive of the Conservation Values nor does it substantially diminish or impair the Conservation Values of the Property. In addition to such other measures as Grantee may reasonably require to protect the Conservation Values of the Property, the plan must provide for:

- concealing all facilities or otherwise locating them to be compatible with existing topography and landscape to the greatest practicable extent,
 - minimizing construction of any new roadways and locating and constructing such roadways so as to minimize adverse effects of the roadways on the Conservation Values of the Property, and
 - restoring any altered physical features of the land, including drill sites and roadways, to their original state and reclaiming the restored topography with appropriate vegetation.
- f. **Paving and Road and Trail Construction.** Except for within the Building Area, no part of the Property shall be paved or otherwise covered with concrete, asphalt, or any other paving material, nor shall any road or trail be constructed without the advance written permission of Grantee. Grantee shall give such permission within reasonable time, unless Grantee determines that the proposed paving or covering of the soil, or the location of any road or trail, will substantially diminish or impair the Conservation Values of the Property or is otherwise inconsistent with this Easement, and such permission shall not be unreasonably withheld.
- g. **Trash.** The dumping or uncontained accumulation of any kind of trash or refuse on the Property is prohibited.
- h. **Water Rights.** The Property includes those water rights or interests specifically described in the attached **Exhibit C** and all ditches, headgates, springs, reservoirs, water allotments, water shares and stock certificates, contracts, units, wells, easements and rights of way associated therewith (the “**Water Rights**”). Grantor shall retain and reserve ownership of the Water and the right to use all Water Rights on the Property for agricultural production, irrigation and other decreed uses that are consistent with preservation of the Conservation Values of the Property. Grantor shall not transfer, sell or otherwise separate the Water Rights, as defined above, from the Property so as to ensure that the Conservation Values of the Property are preserved. Grantor may maintain, repair or improve the existing water delivery systems to carry out the purposes permitted under this Easement. The Parties intend and desire that obligations and restrictions set forth in this Section be enforceable pursuant to Colo. Rev. Stat. §38-30.5-101, et seq. Alternatively, the Parties intend and desire that the obligations and restrictions set forth in this Section be enforceable as a restrictive covenant, or that such obligations and restrictions be enforceable as an equitable servitude.
- i. **Industrial Activity.** No industrial uses shall be allowed on the Property.
- j. **Motorized and Recreational Vehicles.** Motorized vehicles shall not be used off-road except for maintenance and for farm or agricultural activities. The use of recreational vehicles shall not be permitted on the Property. Recreational vehicles may only be stored on the Property within the Building Area.

4. **Reserved Rights.** Grantor reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from their ownership of the Property, including the right to engage in, or permit or invite others to engage in, all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this Easement. These ownership rights include, but are not limited to, the right to exclude any member of the public from trespassing on the Property, the right to sell or otherwise transfer the Property to anyone Grantor chooses subject to the terms of this Easement, and the right to honor existing easements across the Property
- a. **Building Area.** The Grantor has identified a building area on the Property which is approximately three (3) acres in size and is referred to as the “**Building Area**”, and which is generally located as depicted on the attached **Exhibit B** and more particularly described on the attached **Exhibit B-1**. At the time of granting of this Easement the following existing structures are located in the Building Area: a residence and accessory structures (the “**Existing Structures**”). Grantor may reconstruct, maintain, repair, remodel and replace the Existing Structures within the Building Area and may construct, maintain, repair, remodel and replace additional accessory structures. There may be no more than one residence on the Property.
- b. **New Agricultural Structures and Improvements.** New minor agricultural structures, including irrigation system improvements, corrals, small sheds, and protective covers, may be built outside of the Building Area with advance written permission of Grantee. Grantee shall give such permission within reasonable time, unless Grantee determines that the proposed building, structure or improvement will substantially diminish or impair the Conservation Values of the Property.
- c. **Fences and Ditches.** Grantor may repair or replace existing fences and ditches, and new fences and ditches may be built for purposes of reasonable and customary management of the Property. Except within the Building Area and around crop storage areas, fencing shall be constructed in accordance with Colorado Division of Wildlife standard to permit the migration of wildlife across the Property.
- d. **Agricultural and Commercial Uses.** Commercial uses are allowed, as long as they are conducted in a manner that is consistent with §170(h) of the United States Internal Revenue Code and the Treasury Regulations adopted pursuant thereto, are consistent with the purposes of this Easement, and do not substantially diminish or impair the Conservation Values. Without limiting other potential commercial uses that meet the foregoing criteria, the following uses are allowed: processing or sale of farm or ranch products such as grains, hay, vegetables or fruits predominantly grown or raised on the Property; home occupations conducted by and in the home of a person residing on the Property; wildlife viewing; habitat enhancement; hunting, fishing, and similar enterprises conducted by Grantor or by another person residing on the Property. All agricultural uses of the Property shall be conducted using generally accepted good stewardship and management practices for the agricultural industry.

- e. **Livestock and Poultry.** Grantor may keep poultry and pasture and graze domestic livestock, provided that range shall be maintained in its present condition as documented in the Report or improved to "good" or "excellent" condition as determined by the standards of the USDA Natural Resources Conservation Service. Under no circumstances shall any intensive livestock operation, such as feed lots or poultry production facilities be allowed. Any grazing of livestock or keeping of poultry on the Property shall be in accordance with the approved management plan.
 - f. **Private Recreation.** Grantor may conduct private recreational activities which do not result in permanent or significant alteration of the Property and which are consistent with the Conservation Values, including but not limited to horseback riding and hiking. Golf courses, airstrips, and helicopter pads and other intensive recreational uses are strictly prohibited on the Property.
 - g. **Trees.** Grantor may plant native trees for windbreaks on the property, to improve wildlife habitat, or for aesthetic purposes, as specified in the Management Plan.
 - h. **Storage Area.** Grantor may store trucks, tractors or other agricultural vehicles within an approximately two (2) acre area which is generally located as shown on the map attached as **Exhibit B** (the "**Storage Area**"). The Storage Area may not be paved and only the minor agricultural structures permitted as described in Paragraph 4(b) may be constructed within the Storage Area.
 - i. **Pond.** Grantor may use the existing pond on the Property for irrigation purposes. The location of the pond is generally depicted on the attached **Exhibit B**.
 - j. **Use of Chemicals on Property.** Chemicals may be used on the Property for the control of noxious weeds, as required by Colorado state law, and for other agricultural purposes, provided that such chemicals shall be used only in such amounts and with a frequency of application that constitute the minimum necessary for control of weeds or other agricultural purposes, and provided that such uses in accordance with manufacturer's specifications, and applicable laws and regulations
5. **Land Management.** The Property shall be managed in accordance with good conservation practices and, if required by Grantee, in accordance with a management plan "**Management Plan**" prepared and accepted with the mutual consent of Grantor and Grantee, which plan shall be reviewed by each party no less frequently than every five years. No update of the Management Plan shall be made without the agreement of Grantor and Grantee.
6. **Notice of Intention to Undertake Certain Permitted Action.** The purpose of requiring Grantor to notify Grantee prior to undertaking certain permitted activities is to afford Grantee an opportunity to ensure that the activities in question are designed and carried out in a manner consistent with the purpose of this Easement. Whenever notice is required, Grantor shall

notify Grantee in writing not less than sixty (60) days prior to the date Grantor intends to undertake the activity in question. The notice shall describe the nature, scope, design, location, timetable, and any other material aspects of the proposed activity and shall include such supporting information, maps and other data as is deemed sufficient by the Grantee to properly review the request in sufficient detail to permit the Grantee to make an informed judgment as to its consistency with the purpose of this Easement.

7. **Grantee's Approval.** Where Grantee's approval is required, Grantee shall grant or withhold its approval in writing within fifty-five (55) days of receipt of Grantor's written request therefore, together with all necessary supporting data. Grantee's approval may be withheld only upon a reasonable determination by Grantee that the action as proposed would be inconsistent with the purpose of this Easement.
8. **Enforcement.** Grantee shall have the right to prevent and correct or require correction of violation of terms and purposes of this Easement. Grantee may enter the Property for the purpose of inspecting for violations. If Grantee finds what it believes is a violation, Grantee shall immediately notify Grantor in writing of the nature of the alleged violation. Upon receipt of this written notice, Grantor shall either (a) restore the Property to its condition prior to the violation or (b) provide a written explanation to Grantee of the reason why the alleged violation should be permitted. If the condition described in clause (b) above occurs, both parties agree to meet as soon as possible to resolve this difference. If a resolution of this difference cannot be achieved at the meeting, both parties agree to meet with a mutually acceptable mediator to attempt to resolve the dispute. Grantor shall discontinue any activity that could increase or expand the alleged violation during the mediation process. Should mediation fail to resolve the dispute, Grantee may, at its discretion, take appropriate legal action. If a court with jurisdiction determines that a violation is imminent, exists or has occurred, Grantee may get an injunction to stop the violation, temporarily or permanently. A court may also issue an injunction to require Grantor to restore the Property to its condition prior to the violation. Notwithstanding the foregoing, when, in the Grantee's opinion, an ongoing or imminent violation could irreversibly diminish or impair the Conservation Values of the Property, Grantee may, at its discretion, take immediate appropriate legal action.
9. **Costs of Violation.** Any costs incurred by Grantee in enforcing the terms of this Easement against Grantor, or in defending this Easement as a result of claims made by Grantor or as a result of Grantor's action or inaction, including, without limitation, costs of suit and attorneys' fees and any costs of restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor. If the Grantee pursues litigation in the enforcement of a violation and a court determines that there has been no violation of this Easement, then the Grantor and Grantee shall each bear their own expenses and attorneys' fees. The Grantor and Grantee agree that this allocation of expenses is appropriate in light of the potential disparate financial incentives of the Grantor and Grantee and the Grantee's public benefit mission.
10. **Grantee's Discretion.** Enforcement of the terms of this Easement shall be at the discretion of Grantee, and any forbearance by Grantee to exercise its rights under this Easement in the event

of any breach of any term of this Easement by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Easement or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.

11. **Waiver of Certain Defenses.** Grantor hereby waives any defenses of laches, estoppel or prescription and any defenses available under CRS Section 38-41-119.
12. **Acts Beyond Grantor's Control.** Nothing contained in this Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Property resulting from such natural events. For purposes of this Easement, "natural event" shall not include acts of third parties. Grantor understands that nothing in this Easement relieves the Grantor of any obligation or restriction on the use of the Property imposed by law.
13. **Access.** No right of access by the general public to any portion of the Property is conveyed by this Easement.
14. **Grantor's Title Warranty; Access.** Grantor warrants that Grantor has good and sufficient title and legal and physical access to the Property, that the Grantee has access to the Property for the purposes described in this Easement, that any mortgages, deeds of trust or monetary liens encumbering the Property are subordinate to the terms of this Easement, and hereby promises to defend the same against all claims from any persons. Grantor hereby grants to the Grantee the right to access the Property for the purposes described herein, across any property owned by the Grantor, including this Property, or across any easements, rights of way or routes of access of any kind or description, now owned or later acquired by the Grantor, and to ensure that at all times the Grantee has full right of access to the Property for the purposes described in this Easement. The parties intend that this Easement encumber the Property, including any and all soil, sand, gravel, oil, natural gas, fuel, rock, stone or any other mineral substance of any type or character on or thereunder, and the Water Rights described herein, whether any such interest is now owned or is later acquired by the Grantor
15. **Costs and Liabilities.** Grantor shall retain all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Property, including weed control and eradication, and including the maintenance of adequate comprehensive general liability insurance coverage. Grantee may request that Grantee be named and maintained as an additional insured on Grantor's liability insurance policy covering the Property.
16. **Taxes and Responsibilities.** Grantor shall pay before delinquency all taxes, assessments, fees, and charges of whatever description levied on or assessed against the Property by competent

authority (collectively "taxes"), including any taxes imposed upon, or incurred as a result of, this Easement, and shall furnish Grantee with satisfactory evidence of payment upon request. Grantor shall be responsible for any costs associated with weed control and eradication.

17. **Hold Harmless.** Grantor shall hold harmless, indemnify, and defend Grantee and its members, directors, officers, employees, agents, and contractors and the heirs, personal representatives, successors, and assigns of each of them (collectively "**Indemnified Parties**") from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands, or judgments, including, without limitation, reasonable attorneys' fees arising from or in any way connected with: (1) injury to or the death of any person, or physical damage to any property, resulting from any act, omission, condition, or other matter related to or occurring on or about the Property, regardless of cause, unless due solely to the negligence of the Indemnified Parties II as described herein; (2) the obligations of Grantor specified herein; and (3) the presence or release of hazardous or toxic substances on, under or about the Property. For the purpose of this paragraph, hazardous or toxic substances shall mean any hazardous or toxic substance that is regulated under any federal, state or local law. Grantee shall hold harmless, indemnify, and defend Grantor and its assigns, successors and heirs (collectively "**Indemnified Parties II**") from and against all liabilities, penalties, costs, losses, damages, expenses, causes of action, claims, demands, or judgments, including, without limitation, reasonable attorneys' fees, for injury or death to any person, or physical damage to the Property, arising from the actions of the Grantee, its members, directors, officers, employees, agents and contractors, or from a guest or invitee of the Grantee, unless due to negligence or intentional act of the Indemnified Parties II.
18. **Extinguishment.** If circumstances arise in the future such as to render the purpose of this Easement impossible to accomplish, this Easement can only be terminated or extinguished, whether in whole or in part, by judicial proceedings in a court of competent jurisdiction. Each party shall promptly notify the other when it first learns of such circumstances. The amount of the proceeds to which Grantee shall be entitled, after the satisfaction of prior claims, from any sale, exchange, or involuntary conversion of all or any portion of the Property subsequent to such termination or extinguishment, shall be determined, unless otherwise provided by Colorado law at the time, in accordance with Paragraph 19 below. In making this Grant the Grantor has considered the possibility that uses prohibited by the terms of this Easement may become more economically valuable than permitted uses, and that neighboring properties may in the future be put entirely to such prohibited uses. It is the intent of both the Grantor and the Grantee that any such changes shall not be deemed to be circumstances justifying the termination or extinguishment of this Easement. In addition, the inability of the Grantor, or its successors, or assigns, to conduct or implement any or all of the uses permitted under the terms of this Easement, or the unprofitability of doing so, shall not impair the validity of this Easement or be considered grounds for its termination or extinguishment.
19. **Proceeds.** This Easement constitutes a real property interest immediately vested in Grantee, which the parties stipulate to have a fair market value to be at least equal to an amount determined by multiplying the fair market value of the Property unencumbered by the



Easement (minus any increase in value after the date of this grant attributable to improvements) by the ratio of the value of the Easement at the time of this grant to the value of the Property, without deduction for the value of the Easement, at the time of this grant. The values at the time of this grant shall be those values used to calculate the deduction, if any, for federal income tax purposes allowable by reason of this grant, pursuant to Section 170(h) of the Internal Revenue Code of 1954, as amended. For the purposes of this paragraph, the ratio of the value of the Easement to the value of the Property unencumbered by the Easement shall remain constant. All proceeds received by the Grantee shall be used in a manner consistent with the conservation purposes of this Easement.

20. **Condemnation.** If the Easement is terminated in whole or in part and all or part of the Property is sold or taken for public use, then Grantor and Grantee shall act jointly to recover the full fair market value of the affected portion of the Property and all damages resulting from the condemnation.
21. **Assignment.** The Easement is transferable, but Grantee may assign its rights and obligations under this Easement only to an organization that is (a) a qualified organization at the time of transfer under Section 170(h) of the Internal Revenue Code, and the applicable regulations promulgated thereunder, and (b) authorized to acquire and hold conservation easements under Colorado law.
22. **Subsequent Transfers.** Grantor agrees to incorporate the terms of this Easement in any deed or other legal instrument by which it divests itself of any interest in all or a portion of the Property, including, without limitation, a leasehold interest. Grantor further agree to give written notice to Grantee of the transfer of any interest at least twenty (20) days prior to the date of such transfer. The failure of Grantor to perform any act required by this paragraph shall not impair the validity of this Easement or limit its enforceability in any way.
23. **Transfer Fee.** Anytime the Property itself, or any interest in it, is transferred by Grantor, or its personal representatives, heirs, successors or assigns, to any third party, Grantor, or its personal representatives, heirs, successors or assigns, shall pay a \$500 transfer fee to the Grantee within (5) business days after closing. The transfer fee is subject to yearly adjustment as determined by the Consumer Price Index Inflation Calculator (the "CPI Inflation Calculator") made available by the United States Department of Labor, Bureau of Labor Statistics, online at its website at <http://www.bls.gov/cpi/>. The CPI Inflation Calculator uses the average Consumer Price Index for a given calendar year. The data represents change in prices of all goods and services purchased for consumption by urban households. If the CPI Inflation Calculator is no longer available or the Consumer Price Index is no longer published, then a similar successor index may be substituted to calculate any yearly adjustments. If at any time in the future all or any part of the Property is classified as "residential real property", as defined in C.R.S. Section 38-35-127(2)(e), then the Grantee covenants and agrees that the transfer fee shall be used by the Grantee only for the benefit of this Property, any common areas associated with this Property, any adjacent or contiguous real property, or the community in which the Property is located.

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24. **Notices.** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by first class mail, postage prepaid, or via an overnight courier service, addressed as follows:

To Grantor: Cache Bank and Trust,
Trustee of the Clyde L. Abbett Revocable Trust U/A dated April 20, 1993,
~~924 11th Street~~ **4601 W. 20th STREET**
Greeley, CO 80634

To Grantee: Legacy Land Trust
214 South College Avenue, Suite 200
Fort Collins, CO 80524

or to such other address as either party time to time shall designate by written notice to the other.


23. **Recordation.** Grantee shall record this instrument in timely fashion in the official records of Weld County, and may re-record it at any time as may be required to preserve its rights in this Easement.

24. **General Provisions.**

- a. **Controlling Law.** The laws of the State of Colorado shall govern the interpretation and performance of this Easement.
- b. **Liberal Construction.** Any general rule of construction to the contrary notwithstanding, this Easement shall be liberally construed in favor of the grant to effect the purpose of this Easement and the policy and purpose of C.R.S. §38-30.5-101 et seq. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purpose of this Easement what would render the provision valid shall be favored over any interpretation that would render it invalid.
- c. **Severability.** If any provision of this Easement, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Easement, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.
- d. **Entire Agreement.** This instrument sets forth the entire agreement of the parties with respect to the Easement and superseded all prior discussions, negotiations, understandings, or agreements relating to the Easement, all of which are merged herein.
- e. **No Forfeiture.** Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

- f. **Joint Obligation.** The obligations imposed by this Easement upon Grantor shall be joint and several.
- g. **Successors.** The covenants, terms, conditions, and restrictions of this Easement shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as a servitude running in perpetuity with the Property.
- h. **Termination of Rights and Obligations.** A party's rights and obligations under this Easement terminate upon transfer of the party's interest in the Easement or Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer.
- i. **Captions.** The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.
- j. **Amendment.** If the circumstances arise under which an amendment to or modification of this instrument would be appropriate, Grantor and Grantee are free to jointly amend this instrument; provided that no amendment shall be allowed that will affect the qualifications of this instrument under any applicable laws. The Grantor shall pay all costs, including attorney fees, for any amendment initiated at the request of the Grantor unless the parties agree otherwise. Any such amendment shall be consistent with the purposes of this Easement and shall comply with §170(h) of the United States Internal Revenue Code, and any regulations promulgated thereunder. Any such amendment shall also be consistent with Colorado Revised Statutes §§ 38-30.5-101, et seq., and any regulations promulgated thereunder. Any amendment must be consistent with the conservation purposes of this instrument and may not affect its perpetual duration. Any amendment must be in writing, signed by both parties and recorded.
- k. **Adequate Insurance.** Grantor shall maintain adequate general liability insurance on the Property. Grantor warrants that the Grantee is and will continue to be named as an additional insured on such policy. Grantor shall provide a copy of such insurance or certificate of such insurance to the Grantee at the time this Easement is executed and on an annual basis thereafter.
- l. **No Transfer of Development Rights.** Grantor hereby grants to the Grantee all development rights except as specifically reserved herein, for the limited purpose of insuring that such rights are forever terminated and extinguished, and may not be used by Grantor, the Grantee or any other party, on or transferred off of the Property to any other property adjacent or otherwise. Under no circumstances shall any boundary line adjustments be allowed, nor shall the Property be used for the purpose of calculating or giving credits, which result in additional density of development, beyond what is allowed in this Easement, on or off of the Property.

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- m. **No Merger.** Unless the parties expressly provide in writing that they intend a merger of estates or interests to occur, then no merger shall be deemed to have occurred hereunder or under any document executed in the future affecting this Easement.
- n. **No Third-Party Enforcement.** This Easement is entered into by and between the Grantor and the Grantee and does not create enforcement rights or responsibilities in any third parties.
- o. **Authority to Grant Conservation Easement.** Grantor warrants and represents that it is duly authorized and has taken all necessary actions to execute this Easement and make it enforceable, that this Easement is enforceable against Grantor in accordance with its terms, and that the Trust instrument authorizes the Trustee to donate this Easement.
- p. **Grantee Acknowledgement of Donation (I.R.C. Sec. 170(f)(8)).** Grantee acknowledges receipt and acceptance of this Conservation Easement encumbering the Property described herein, for which no goods or services were provided.

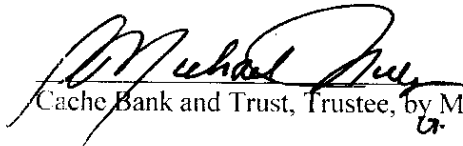
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IN WITNESS WHEREOF Grantor and Grantee have executed this Deed of Conservation Easement on the day and year first above written.

GRANTOR:

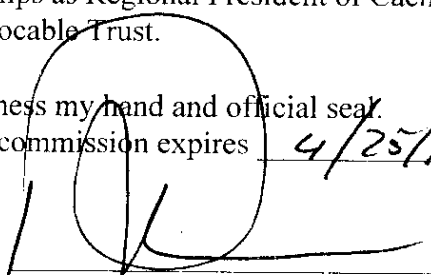
Cache Bank and Trust, as Trustee of the **CLYDE L. ABBETT REVOCABLE TRUST**

 (signature)
Cache Bank and Trust, Trustee, by Michael Phillips, Regional President

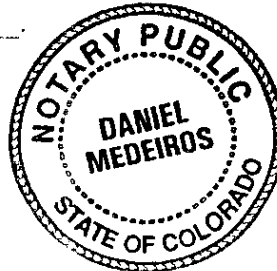
STATE OF COLORADO)
) ss
COUNTY OF WELD)

Acknowledged, subscribed and sworn to before me this 25 day of August, 2011, by ^{6.} Michael Phillips as Regional President of Cache Bank and Trust, Trustee of the Clyde L. Abbett Trust Revocable Trust.

Witness my hand and official seal.
My commission expires 4/25/12




Notary Public
Address:



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Grantee: LEGACY LAND TRUST,
a Colorado non-profit corporation

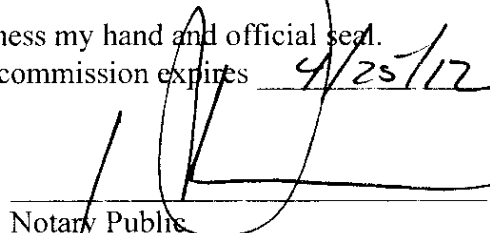
by 
Ryan Boggs, Executive Director

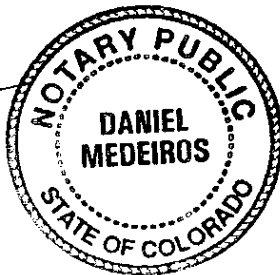
STATE OF COLORADO)
) ss
COUNTY OF WELD)

Acknowledged, subscribed and sworn to before me this 25 day of August, 2011, by Ryan Boggs, Executive Director, on behalf of LEGACY LAND TRUST, a Colorado non-profit corporation.

Witness my hand and official seal.

My commission expires 4/25/12.


Notary Public
Address:



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Exhibit A

Legal description of the Property

The following 160 acre Property located in Weld County, Colorado:

Township 3 North, Range 67 West of the 6th P.M.

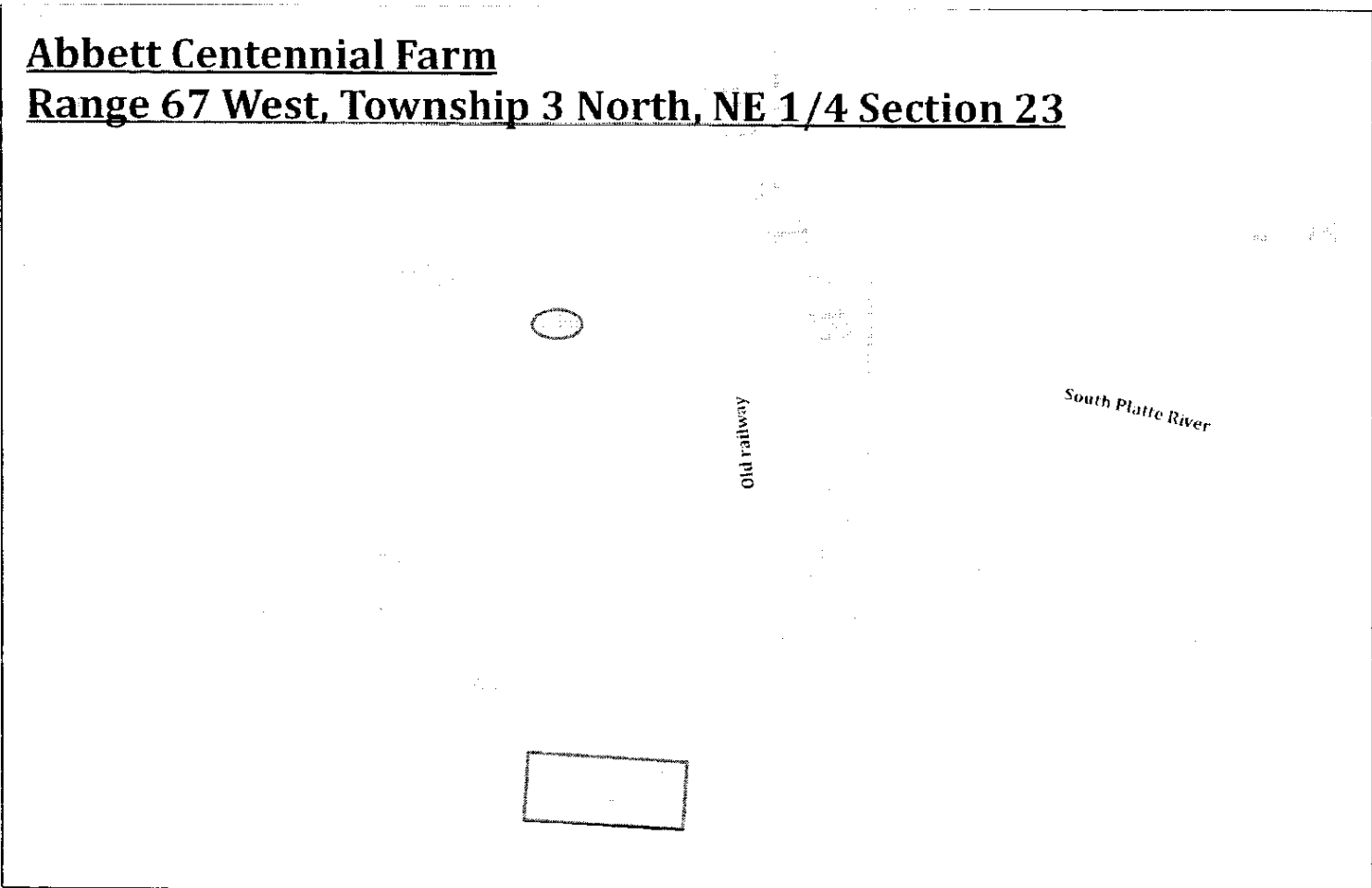
Section 23: NE1/4

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Exhibit B. Map of Property, Building Area and Storage Area

Abbett Centennial Farm
Range 67 West, Township 3 North, NE 1/4 Section 23



Abbett Centennial Farm
Building and Storage Area
Pond area

0 0.1 0.2 0.4 Miles



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Exhibit B-1 Description of Building Area and Storage Area

The following property located in Weld County, CO:

Beginning at the southeast corner of the NE1/4 of Section 23, Township 3 North, Range 67 West of the 6th Principle Meridian, thence west along the south line of the NE1/4 of Section 23 for a distance of 920 feet to the True Point of Beginning, thence north for a distance of 311 feet, thence west for a distance of 700 feet, thence south for a distance of 311 feet, thence east along the south line of the NE1/4 of Section 23 for a distance of 700 feet to the point of beginning.

The Building Area and Storage Area described above contains approximately 5 acres.

For purposes of this Easement, the easterly 3 acres, more or less, shall be considered the Building Area and the remaining westerly 2 acres, more or less, shall be considered the Storage Area.

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Exhibit C. Description of Water Rights

1. 11.86 cubic feet per second of water in the Abbett Ditch, Ditch No. 36, Ditch Priority No. 60, priority date April 1, 1873, adjudication date April 28, 1883 and July 8, 1893.
2. Abbett East Well, date of appropriation: September 30, 1971; amount: 15 gpm absolute; use: household, livestock watering and irrigation of one (1) acre in the NE1/4 of Section 23, T3N, R67W, as described in Decree recorded on July 7, 1999 as Reception No. 2704822, Case No. 99-CW-7.
3. Abbett West Well, date of appropriation: September 30, 1938; amount: 15 gpm absolute; use: livestock watering, as described in Decree recorded on July 7, 1999 as Reception No. 2704822, Case No. 99-CW-7.



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Weld County, Colorado, Southern Part**

AbbettSoils



January 4, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Weld County, Colorado, Southern Part
Survey Area Data: Version 21, Sep 1, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 8, 2021—Jun 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Aquolls and Aquents, gravelly substratum	118.0	74.2%
10	Ellicott-Ellicott sandy-skeletal complex, 0 to 3 percent slopes, rarely flooded	22.0	13.8%
21	Dacono clay loam, 0 to 1 percent slopes	7.5	4.7%
39	Nunn loam, 0 to 1 percent slopes	2.4	1.5%
68	Ustic Torriorthents, moderately steep	6.9	4.3%
85	Water	2.3	1.4%
Totals for Area of Interest		159.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Weld County, Colorado, Southern Part

3—Aquolls and Aquepts, gravelly substratum

Map Unit Setting

National map unit symbol: 3627

Elevation: 4,000 to 7,200 feet

Mean annual precipitation: 12 to 18 inches

Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 80 to 155 days

Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Aquolls and similar soils: 55 percent

Aquepts, gravelly substratum, and similar soils: 30 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aquolls

Setting

Landform: Swales, flood plains, streams

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Recent alluvium

Typical profile

H1 - 0 to 48 inches: loam

H2 - 48 to 60 inches: gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)

Depth to water table: About 6 to 48 inches

Frequency of flooding: FrequentNone

Frequency of ponding: None

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w

Hydrologic Soil Group: D

Ecological site: R067BY035CO - Salt Meadow

Hydric soil rating: Yes

Description of Aquepts, Gravelly Substratum

Setting

Landform: Stream terraces

Down-slope shape: Linear

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Across-slope shape: Linear
Parent material: Recent alluvium

Typical profile

H1 - 0 to 48 inches: variable
H2 - 48 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.57 to 19.98 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: D
Ecological site: R067BY035CO - Salt Meadow
Hydric soil rating: Yes

Minor Components

Bankard

Percent of map unit: 10 percent
Hydric soil rating: No

Ustic torrifluvents

Percent of map unit: 5 percent
Hydric soil rating: No

10—Ellicott-Ellicott sandy-skeletal complex, 0 to 3 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2xsth
Elevation: 3,950 to 5,960 feet
Mean annual precipitation: 13 to 17 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 135 to 165 days
Farmland classification: Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

Map Unit Composition

Ellicott, rarely flooded, and similar soils: 65 percent

Ellicott sandy-skeletal, rarely flooded, and similar soils: 25 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ellicott, Rarely Flooded

Setting

Landform: Drainageways, flood plains on intermittent streams

Down-slope shape: Linear

Across-slope shape: Concave

Parent material: Noncalcareous, stratified sandy alluvium

Typical profile

A - 0 to 4 inches: sand

AC - 4 to 13 inches: sand

C1 - 13 to 30 inches: sand

C2 - 30 to 44 inches: sand

C3 - 44 to 80 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Negligible

*Capacity of the most limiting layer to transmit water (Ksat): High to very high
(13.00 to 39.96 in/hr)*

Depth to water table: More than 80 inches

Frequency of flooding: Rare

Frequency of ponding: None

Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Ecological site: R067BY031CO - Sandy Bottomland

Hydric soil rating: No

Description of Ellicott Sandy-skeletal, Rarely Flooded

Setting

Landform: Channels on drainageways, channels on intermittent streams

Down-slope shape: Linear

Across-slope shape: Concave, linear

Parent material: Noncalcareous, stratified sandy alluvium

Typical profile

A - 0 to 4 inches: very gravelly coarse sand

AC - 4 to 13 inches: very gravelly sand

C1 - 13 to 30 inches: very gravelly sand

C2 - 30 to 44 inches: very gravelly sand

C3 - 44 to 80 inches: very gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high
(13.00 to 39.96 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.1 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: A
Ecological site: R067BY031CO - Sandy Bottomland
Hydric soil rating: No

Minor Components

Haverson

Percent of map unit: 10 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY036CO - Overflow
Hydric soil rating: No

21—Dacono clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 361y
Elevation: 4,550 to 4,970 feet
Mean annual precipitation: 14 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Dacono and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dacono

Setting

Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

H1 - 0 to 12 inches: clay loam
H2 - 12 to 21 inches: clay loam
H3 - 21 to 27 inches: clay loam
H4 - 27 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Ecological site: R067BY042CO - Clayey Plains
Hydric soil rating: No

Minor Components

Heldt

Percent of map unit: 5 percent
Hydric soil rating: No

Nunn

Percent of map unit: 5 percent
Hydric soil rating: No

Altvan

Percent of map unit: 5 percent
Hydric soil rating: No

39—Nunn loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tln3
Elevation: 3,900 to 6,250 feet
Mean annual precipitation: 13 to 16 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Nunn and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nunn

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Pleistocene aged alluvium and/or eolian deposits

Typical profile

Ap - 0 to 6 inches: loam
Bt1 - 6 to 10 inches: clay loam
Bt2 - 10 to 26 inches: clay loam
Btk - 26 to 31 inches: clay loam
Bk1 - 31 to 47 inches: loam
Bk2 - 47 to 80 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 7 percent
Maximum salinity: Nonsaline (0.1 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 0.5
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c

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Hydrologic Soil Group: C
Ecological site: R067BY002CO - Loamy Plains
Hydric soil rating: No

Minor Components

Haverson, rarely flooded

Percent of map unit: 10 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R067BY036CO - Overflow
Hydric soil rating: No

Heldt

Percent of map unit: 5 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R067BY042CO - Clayey Plains
Hydric soil rating: No

68—Ustic Torriorthents, moderately steep

Map Unit Setting

National map unit symbol: 363l
Elevation: 4,450 to 5,100 feet
Mean annual precipitation: 10 to 16 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Ustic torriorthents and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ustic Torriorthents

Setting

Landform: Breaks, escarpments
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Gravelly alluvium

Typical profile

H1 - 0 to 10 inches: gravelly sand
H2 - 10 to 60 inches: gravelly sand

Properties and qualities

Slope: 9 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Ecological site: R067BY063CO - Gravel Breaks

Hydric soil rating: No

Minor Components

Cumbo

Percent of map unit: 10 percent

Hydric soil rating: No

Eckley

Percent of map unit: 3 percent

Hydric soil rating: No

Otero

Percent of map unit: 2 percent

Hydric soil rating: No

85—Water

Map Unit Composition

Water: 95 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Aquolls

Percent of map unit: 5 percent

Landform: Marshes

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf