

August 24, 2012

To: Bureau of Reclamation, U.S. Department of the Interior
From: ERO Resources Corporation
Re: Arkansas Valley Conduit Farmland Technical Report

Introduction

This report provides an assessment of the potential effect on farmland from proposed project facilities of the Arkansas Valley Conduit (AVC) project. Disturbance to these resources would occur from installation of pipelines and related water treatment and distribution system infrastructure.

Study Area

Proposed project facilities that would impact farmland are located in Pueblo, Crowley, Otero, Bent, Kiowa, and Prowers counties, Colorado. The study area encompasses areas potentially affected by construction, operation, and maintenance of a water treatment plant, pump stations, and water conveyance pipelines. In addition, the study area includes areas where irrigated land would be taken out of production or periodically fallowed, which would occur in the previously listed counties and Custer County, Colorado. The alternatives analyzed are consistent with alternative descriptions described in Chapter 2 of the Draft Environmental Impact Statement (DEIS).

Analysis Methods

Information on farmland in the study area was downloaded from the soils data mart website maintained by the Natural Resources Conservation Service (NRCS 2011). The NRCS lists soil map units in each survey area that are considered prime farmland, unique farmland, farmland of statewide importance, or farmland of local importance. The NRCS did not identify any map units in the study area that are unique farmland or farmland of local importance; therefore, these two types of important farmland are not discussed further.

Acreage calculations for prime farmland were based on a buffer area of 200 feet or greater established along the pipeline corridor for each of the alternatives. Actual areas of disturbance and impact would be less following further design that would reduce the area of disturbance.

Table 1 lists significance criteria used to describe the intensity of effects on farmland.

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Boise
3314 Grace St.
Boise, ID 83703
208.373.7983

Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Western Slope
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

Table 1 – Farmland Impact and Intensity Description

Impact Intensity	Intensity Description
Negligible	The effects on farmland from project facilities would be primarily short-term. Reclamation of disturbed lands would restore disturbed areas to near preconstruction conditions. There would be no loss of prime farmland.
Minor	Project facilities would have short- and long-term adverse impacts on farmland. Reclamation of disturbed lands would restore disturbed areas. The loss of prime farmland would be less than 10 acres.
Moderate	Project facilities would have short- and long-term adverse impacts on farmland. Reclamation of disturbed lands would not completely restore all disturbed areas. The loss of prime farmland would be from 10 to 100 acres.
Major	The effects on farmland from project facilities would be primarily long-term. Reclamation of disturbed lands would not completely restore all disturbed areas. The loss of prime farmland would be greater than 100 acres.

Affected Environment and Environmental Consequences

Important Farmland

Important farmlands are defined in the regulations implementing the Farmland Protection Policy Act (7 CFR 658). The purpose of the Farmland Protection Policy Act is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The Farmland Protection Policy Act defines four types of important farmlands: prime farmland, unique farmland, farmland of statewide importance, and farmland of local importance. The NRCS identifies important farmlands in each county based on national regulations and state guidance.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops; and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable climate and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks (NRCS 2011). These soils are also permeable to water and air, they are not excessively erodible or saturated with water for a long period, and they either do not flood frequently or are protected from flooding (7 CFR 657.5).

Farmland of statewide importance is land other than prime farmland that nearly meets the requirements for prime farmland and that economically produces high yields of crops when treated and managed according to acceptable farming methods.

Many of the soil mapping units in the study area are classified as “prime farmland” or “farmland of statewide importance” by the NRCS (2011). The NRCS farmland classification was used to assess effects on important farmland. The “Prime and other Important Farmlands” table in each soil survey provides the NRCS listing of map

units in a survey area that are considered prime farmland, unique farmland, or farmland of statewide or local importance. In the study area, all soils with suitable physical and chemical characteristics must be irrigated to be considered prime farmland because of limited precipitation. For each alternative crossing prime farmland in Pueblo, Otero, Crowley, Bent, and Prowers counties, the acreages of prime farmland that were documented to be irrigated in 2003 (the most recent data available) were calculated; however, some of these lands may no longer be irrigated due to changes in land use since that time. Irrigated lands data were not available for Kiowa County; therefore, aerial photo interpretation was used to calculate the acreages of irrigated areas of prime farmland units crossed by each alternative in Kiowa County. The acreage of prime farmland and farmland of statewide importance crossed by each alternative is tabulated in Table 2.

Pipeline construction in areas of prime farmland would have a temporary effect on designated farmland. Easements along the pipeline routes would be obtained, the pipelines would be buried, and farming activities would resume after pipeline construction is completed. Proposed construction of permanent facilities, such as a water treatment plant, pump stations, and water storage tanks, would not affect prime farmland.

Table 2 – Acreage of Irrigated Prime Farmland and Farmland of Statewide Importance within the Study Area for each Alternative

Alternative	Temporarily Disturbed Areas (ac.)	Total Study Area (ac.)
1—No Action	745	2,965
2—Comanche South	3,346	12,616
3—Pueblo Dam South	3,747	12,848
4—JUP North	3,021	14,172
5—Pueblo Dam North	3,021	14,355
6—River South	3,759	11,815
7—Master Contract	745	2,965

Under the Farmland Protection Policy Act, any federal agency involved in a proposed project that may convert farmland to nonagricultural uses must complete U.S. Department of Agriculture Form AD-1006, Farmland Conversion Impact Rating. The Bureau of Reclamation will complete Form AD-1006 after a Record of Decision (ROD) is issued and permanent impacts on farmland are identified. Pipeline construction and reclamation would not constitute a change in farmland use, but location of permanent facilities on prime farmland would constitute a change.

Retirement of irrigated agricultural land or rotational fallowing of about 11,700 acres of land would occur under the No Action and action alternatives as a source of municipal water supply (MWH 2011). The majority of these lands are located in the lower Arkansas River basin, but also include lands in the upper Arkansas River basin. Retirement or rotational fallowing on these lands is anticipated to include areas of prime farmland or farmland of statewide importance. Permanent and rotational dryup of irrigated lands would occur regardless of the AVC project. The change in irrigated

land use represents less than 4 percent of important farmland in the analysis area (Chaffee, Fremont, Custer, El Paso, Pueblo, Crowley, Otero, Bent, Prowers, and Kiowa counties).

Potential Management Opportunities

BMPs for ground-disturbing activities, protection of water quality, and revegetation would be used to minimize effects on farmland for all of the alternatives:

- Construction limits would be clearly marked with stakes or fencing prior to beginning ground-disturbing activities. No disturbance would occur beyond these limits other than nondestructive protection measures for erosion/sediment control.
- Erosion-control measures would be employed as appropriate.
- Topsoil would be removed and stockpiled separately from surface soils for reapplication following construction.
- Topsoil, soil amendments, fertilizers, and mulches would be reapplied selectively, as appropriate, prior to revegetation during favorable plant establishment climate conditions to match site conditions and revegetation goals.
- As part of the National Pollution Discharge Elimination System permitting requirement, a stormwater pollution prevention plan would be developed and approved by Reclamation and submitted to the Colorado Water Quality Control Division prior to commencing construction activities.

Mitigation measures for impacts on farmland include:

- To the extent feasible, construction activities on irrigated lands would be avoided during the growing season.
- Cropland disturbed by construction would be restored with topsoil to the depth, quality, grade, and relative density as the original surface, as described for soils below. Pipelines crossing agricultural fields would be backfilled and compacted to prevent settling when the field is irrigated.
- Long-term effects on prime and unique farmland would be avoided to the extent feasible. If avoidance is not possible, Reclamation would complete and submit a Farmland Conversion Form (AD-1006) to the NRCS in compliance with the Farmland Protection Policy Act for any long-term change in land use.

Conclusion

Based on these findings, the AVC project would have a negligible short-term adverse impact on farmland. The majority of the disturbance would come from pipeline construction that requires removal of vegetation cover, soil excavation, grading, and reclamation. BMPs would be used to minimize erosion and soil loss during construction. Construction activities also would directly impact agricultural land including prime farmland and farmland of statewide importance. This could result in a disruption of farming operations depending on the timing of construction.

No long-term adverse impacts on farming activities are anticipated following construction and reclamation of temporarily disturbed lands. None of the permanent facilities would impact prime farmland; thus, there would be no long-term impact on prime farmland. Retirement of 11,700 acres of irrigated agricultural land or rotational fallowing would affect areas of prime farmland and farmland of statewide importance under all alternatives. Because disturbance to farmland is expected to be primarily short-term, and permanent impacts are limited, no further environmental consequences analyses was conducted as part of the AVC EIS.

References

- MWH Global. 2011. Agricultural Dry-up Approximation and Changes in Groundwater Pumping. Memo to Signe Snortland, Bureau of Reclamation.
- NRCS (Natural Resources Conservation Service). 2011. Soils data mart. Available at: <http://soildatamart.nrcs.usda.gov/>. Downloaded spatial and tabular data for Pueblo, Crowley, Otero, Bent, Kiowa, and Prowers counties, Colorado: January, February, July, and August 2011.