Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: Big Horn Conservation District
for Sunlight Ranch Co
724 W 3rd
Hardin, MT 59034

2. Type of action: Application To Change A Water Right No. 43P 30051192

3. Water source name: Bighorn River

4. Location affected by project: Sections 13 & 24, T2N, R33E; Big Horn County
Sections 30 & 32, T2N, R34E; Big Horn County

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

The applicant proposes to add a place of use to the Big Horn Conservation District Water Reservation for sprinkler irrigation. The additional place of use was not listed on the original reservation application. The proposed point of diversion will be located in the SE SE NW, Sec. 24 T2N R33E. A pump will be used to divert the water at a maximum flow rate of 5.79 CFS from 4/1 to 9/30. The maximum volume to be used for this change will be up to 406.88 acre-feet (AF) per year. The place of use, as applied for, will be 203.44 acres located in sections 13 & 24, T2N, R33E and Sections 30 & 32, T2N, R34E, Big Horn County, MT.

The authorization of this change will allow the Big Horn Conservation District to fulfill the obligation of their reservation, which is to provide future irrigation development.

The DNRC shall issue a change authorization if an applicant proves the criteria in 85-2-402, MCA, are met.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

MT Fish, Wildlife & Parks - Montana Fisheries Information System
MT Dept. of Environmental Quality Website - TMDL 303d listing
MT National Heritage Program Website - Species of Concern
USDI Fish & Wildlife Service Website - Endangered and Threatened Species Big Horn County, MT

MT State Historic Preservation Office - Archeological/Historical Sites
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity **-** *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: Low likelihood of Impact

The MT Department of Fish, Wildlife and Parks (MT DFWP) does not identify the Bighorn River as dewatered from the mouth of the Little Bighorn to the mouth of the Yellowstone. This application proposes to take 406.88 AF of water from Bighorn River; there could be a minor impact to the river in drought or water-short years.

Water quality **-** *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: Low Likelihood of Impact

The Bighorn River, in the stream reach from the Crow Indian Reservation Boundary to the mouth (Yellowstone River), shows fully supporting designation for Agricultural and Industrial beneficial uses, not supporting designation for drinking water and not assessed designation for aquatic life, coldwater fishery and primary contact recreation beneficial uses. No adverse impacts to water quality are expected as a result of this project

Groundwater **-** *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: Low Likelihood of Impact

Groundwater elevations may slightly increase during the irrigation season in those areas where the additional water is applied.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: Low Likelihood of Impact

The proposed project adds three partial pivots (totaling 203.44 acres) to five existing partial pivots (totaling 750.00) acres. A water right has been granted for the existing pivots (43P 30016214) which utilizes water from the Big Horn Conservation District water reservation (BH-0502). Due to the spatial location of the proposed acres to be irrigated, it is most efficient to distribute the water through two systems. Each distribution system contains pivots associated with water right number 43P 30016214 as well as acres proposed for new irrigation (see attached diagram).

Pivots A1A, A1, and A2 will be fed from a new 2,600 gpm Cornell 8H 125-hp pump (see attached pump curve). The secondary in-line booster pump to be added is a Goulds 14HKS 150-hp vertical turbine pump. Sizes and lengths of water mains and pivots can be found in the file, in the project plans from Agri Industris, AMC.

Pivots A3, A4, A5, A6, and A8 will be fed from the existing pump, currently supplying water to the existing pivots associated with water right number 43P 30016214. Pumping from the river is a Cornel 8H 150-hp (pump curve in file). In-line with that is a Goulds 14FHC 250-hp pump (pump curve in file) with a VFD booster pump, which is also existing. A Cornell 15-hp booster pump is required to obtain enough flow and pressure to operate pivot A8. Sizes and lengths of water mains and pivots can be found in the file, in the project plans from Agri Industries, AMC.

The three proposed pivots are identified as A1A, A6, and A8. Pivot A1A is 1,018 ft long, irrigating 45 acres and is nozzled to 350 gpm. Pivot A6 is 1,164 ft long, irrigates 65 acres, and is nozzled to deliver 500 gpm. Pivot A8 is 1,424 ft long, irrigates 90 acres, and is nozzled to deliver 700 gpm. Additional design details can be found in the report from Agri Industries, AMC, in the application file.

All pumped water will be measured using flow meters. There should be no impacts to the channel, vegetation in the riparian areas, barriers, dams or well construction associated with the project. Impacts due to flow modifications should be minimal.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species **-** *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: Low Likelihood of Impact

The Montana National Heritage Program Website lists 5 species as a "Species of Concern" within Township 2 North, Range 33 East. The common names for the species are: Great Blue Heron, Greater Sage-Grouse, Spiny Softshell Turtle, Bald Eagle and Sauger. It lists no "potential species of concern". There are no plant species of concern or potential concern listed for the area. The Montana National Heritage Program Website lists 4 species as a "Species of Concern" within Township 2 North, Range 34 East. The common names for the species are: Great Blue Heron, Bald Eagle, Spiny Softshell, and Sauger. There is no plant species of concern or potential concern listed for the area. The USFWS recommends the Applicant do a survey for

the presence of bald eagles in the project area. If bald eagles are found the Applicant should follow the provisions outlined in the Montana Bald Eagle Management Plan (July 1994). The project is largely in place and consistent with other agricultural developments in the area; it is unlikely that any threatened species or species of concern would be further impacted.

Wetlands **-** *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: Low Likelihood of Impact

The USDI Fish & Wildlife Service – Wetlands Online Mapper shows no existing wetlands in the project location. The subject property has been previously farmed and impacts from access to the pump sites are expected to be minor; there is a low likelihood that wetland resources would be impacted.

Ponds **-** *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: No Impact

A pond is not involved in this project.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE **-** *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: Low Likelihood of Impact

The soils in this area are generally suited for irrigation. The project area has been farmed in the past and is consistent with other agricultural developments in the area; it's unlikely that any unnatural degradation of soil characteristics would occur.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS **-** *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: Minor Impact

The project area has previously been farmed, little displacement of vegetative cover is expected. Normal weed management practices can be employed to control noxious weeds in the area - it is the responsibility of the owner to control noxious weeds on their property.

AIR QUALITY **-** *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: Low Likelihood of Impact

There is a low likelihood of impacts to air quality; the project will have no emissions other than the emissions from equipment used to plant and harvest the acreage.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: Low Likelihood of Impact

The project is not located on state or federal land. Therefore this section is not applicable.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: Low Likelihood of Impact

No other impacts have been identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: Low Likelihood of Impact

The use of this water for irrigation purposes is in line with the Conservation District development plan.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: Low Likelihood of Impact

The project is consistent with agricultural development in the area, and should not place additional impacts on access or quality of recreational activities.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: Low Likelihood of Impact

No impacts to human health have been identified.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes __ No_**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: Low Likelihood of Impact

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* No

(b) *Local and state tax base and tax revenues?* No

(c) *Existing land uses?* No

(d) *Quantity and distribution of employment?* No

(e) *Distribution and density of population and housing?* No

(f) *Demands for government services?* No

(g) *Industrial and commercial activity?* No

(h) *Utilities?* No

(i) *Transportation?* No

(j) *Safety?* No

(k) *Other appropriate social and economic circumstances?* No

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts:

No secondary impacts anticipated.

Cumulative Impacts:

No cumulative Impacts anticipated

3. ***Describe any mitigation/stipulation measures:***

No mitigation or stipulation measures have been identified. A measurement condition will be placed on the water right as required by the reservation final order.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative. Deny the application. This alternative would result in none of the benefits of increased forage production and the related economic benefits being realized by the water users.

PART III. Conclusion

1. Preferred Alternative: Project as proposed.

2. Comments and Responses: No comments have been received.

3. Finding:
*Yes___ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

Name of person(s) responsible for preparation of EA:

Name: Christine Smith
Title: Water Resources Specialist
Date: August 11, 2011