

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: **River Valley Ranch
PO Box 10175
Bozeman MT 59719-0175**
2. Type of action: **Application to Change a Water Right No. 30011983 41A**
3. Water source name: **Quaken Asp Spring and Hopkins Spring, both tributaries to the Red Rock River**
4. Location affected by action: **Sections 31 & 33, T13S, R7W, Beaverhead County
Section 6, T14S, R6W, Beaverhead County**
5. Narrative summary of the proposed project, purpose, action to be taken, and objectives:
This application proposes to discontinue intercepting the flow of Quaken Asp Spring and Hopkins Spring with an irrigation ditch, and allow them to flow to the Red Rock River. Downstream in the river, the flows contributed from the springs will be diverted at a pump station. From the pump station, the water will be conveyed to a historically irrigated field, where three center pivot laterals will distribute it. The center pivot laterals will cover about 10 acres of land not historically irrigated. A 13-acre parcel of historically flood irrigated land will be retired in order to compensate for the new irrigation use.

The DNRC shall issue a Permit to Appropriate Water if the criteria in 85-2-402, MCA are met.

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

Dept. of Fish, Wildlife & Parks – Chronically Dewatered Streams List

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: **The reach of the Red Rock River where this change is planned is not listed as a chronically or periodically dewatered stream. The proposed use of the river for a conveyance should place more water in the channel for the 3-7 miles from the springs to the proposed pump station.**

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: **Under the proposed plan more water will stay in the Red Rock River in the area from Lima Dam to about seven miles downstream from the dam. The proposed change would reflect a return to historical flow patterns from the two springs in question. Historically, flows from the springs made their way to or into the river and became part of the river flow.**

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: **The proposal does not deal directly with ground water. The only water that can be appropriated and changed is that water which flows freely from the aquifer at the spring locations defined in the two water rights being proposed for change.**

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: **The proposed sump and pump station will have a one-time impact on the channel reach when it is installed. From then on, only routine maintenance should be required. The yearly need for placing diversion dams or barbs should be not be necessary as the bottom of the sump will be near the invert of the stream. There may be some disturbance in the flow channels from the springs to the river when the measuring devices at the springs are installed. This should be a one-time event. With the proper selection of measuring device there should be little need for maintenance or cleaning.**

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: **The proposed pump will be located at a county road crossing of the Red Rock River. During the day there is normally some level of vehicle traffic using the road for local access and to go to Lima Dam. The pump station will be in a few hundred square foot fenced area which will not disturb plants or animals around the enclosure. Access to the pump station typically only required at the start up and shut down of the irrigation system. At the springs there will be a periodic (probably monthly) need to record information from the measuring devices. The measurements will probably be accomplished by walking from an established road to the measuring device location. Overall, there should be little disturbance to the plants and animals in the areas that will be modified or developed as a result of this proposed change.**

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: **There is some wetland area in the area of Hopkins Spring. There will be a minimal one-time disturbance of the wetland for the installation of the measuring device near the spring. By maintaining a delivery channel from the spring to the Red Rock River, and not pumping water to the ditch, the wetland associated with that delivery channel will be perpetuated.**

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

Determination: **There are no ponds affected by, or created by, the proposed change in point of diversion and place of use.**

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: **The irrigation will stay essentially the same except for the method of conveyance and application. There are no apparent unstable areas in the irrigated field. Removing water from the ditch along the hillside probably removes the potential for ditch failures, the greatest danger for erosion in the field. The application of water with sprinkler laterals will allow for a more uniform application of water to the field, which will mean that less water will move beyond the root zone and through the soil.**

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: **Because the proposed irrigation system will irrigate essentially the same area as the historical flood irrigation, the land cover will stay the same. There will be temporary disturbances at the riverbank for the diversion structure, at the springs for the installation of measuring devices, and in the fields for the installation of pipelines. The Beaverhead County Conservation District will regulate the design of the diversion structure in order to assure the least disturbance to the riverbed and banks. The pipeline trenches will be a temporary disturbance in the existing fields. The filtering effect of the plant growth existing on the field and nearby pasture should control any increased erosion runoff potential from the disturbance along the trenches. Because the trenches are in the irrigated fields and sub irrigated pastures, they will soon be revegetated.**

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

Determination: **There will not be any affect on air quality from the proposed change in diversion location and associated pipeline installation.**

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

Determination: **Any historical or archeological sites in the area of disturbance will have been disturbed or obliterated by years of farming and irrigating. The proposed pump**

site, measuring device placement, and pipeline installation will not cause any additional disturbance with respect to any historical sites.

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: **There will be no additional impacts on land, water, and energy resources.**

HUMAN ENVIRONMENT

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

Determination: **There are no known environmental plans or goals for rural Beaverhead County, along the middle reach of the Red Rock River (just downstream from Lima Dam).**

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: **The proposed change is on private, irrigated, land so there are only recreation activities on the land during the non-irrigation season. The center pivot towers may require more attention for some types of recreation (snowmobiling, for example), but overall the recreational opportunities should change very little because of the proposed change.**

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

Determination: **The change application will have no affect on human health.**

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: There are no additional government regulatory impacts on private property associated with this change application.

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 significant impact.**
- (b) Local and state tax base and tax revenues? **No significant impact.**
- (c) Existing land uses? **No significant impact, the land use will not change.**
- (d) Quantity and distribution of employment? **No significant impact.**

- (e) Distribution and density of population and housing? **No significant impact.**
- (f) Demands for government services? **No significant impact.**
- (g) Industrial and commercial activity? **No significant Impact.**
- (h) Utilities? **No significant impact. The existing power lines will have to be extended a few hundred feet to supply electricity for the pump station.**
- (i) Transportation? **No significant impact.**
- (j) Safety? **No significant impact.**
- (k) Other appropriate social and economic circumstances? **No significant impact.**

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

Secondary Impacts

There are no known secondary impacts due to the proposed change in point of diversion and installation of sprinkler irrigation.

Cumulative Impacts

The developed area is within a larger ownership by the applicant. Most of River Valley Ranch's irrigated area will be modified under the proposed change. The basin is closed to new surface water irrigation developments. It is unlikely that there will be any extensive development of new irrigation in the area, although there may be other conversions from flood to sprinkler irrigation, typically along with relocation or improvement in the diversion works. These conversions generally do not have a significant affect on the surrounding area. Ground water wells can still be developed to supply water for new irrigation, however that has not been prevalent in this area.

3. Describe any mitigation/stipulation measures: **The applicant will remove the existing, temporary, diversion structure(s) from the river. The areas disturbed for most of the pipelines will be reclaimed as part of the normal planting and maintenance of the field because they are in the irrigated fields.**

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: **One other alternative is to irrigate using the existing ditch system and water spreading or to use the existing ditch system and pump from it for the sprinkler irrigation. Using the existing ditch system does not address the losses associated with the ditch. Using the ditch for conveyance would make it more expensive and infrastructure intensive to include the waters from Hopkins Spring.**

A second alternative would be to develop ground water supply the center pivot laterals. The availability of high capacity aquifers in this area has not been proven so there is a high degree of uncertainty in attempting to develop a well(s) for irrigation water supply.

PART III. Conclusion

1. Preferred Alternative: **The proposed plan for relocating the point of diversion, including flows from Quaken Asp and Hopkins Springs, and installing sprinkler irrigation is the preferred alternative. It has advantages in ease of irrigation, better water control, and the elimination of ditch losses. With respect to the river, it allows for a less obtrusive diversion structure with a lower maintenance requirement.**
2. Comments and Responses:
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: **No significant impacts were identified, therefore and EIS is not necessary.**

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

Name: **Jim Beck**

Title: **Ag Specialist**

Date: **March 30, 2006**