vEA Form R 1/2001

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*: Craig Johnson
34174 CR 131
Sidney, MT 59270

2. *Type of action*: Application for Beneficial Water Use Permit No. 42M 30106841

3. *Water source name*: Groundwater

4. *Location affected by project*: NW Sec 4, T21N, R58E, Richland County & W2 Sec 33, T22N, R58E, Richland County

5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits*: The application is for a groundwater appropriation of 1530 GPM up to 858 Acre-Feet (AF) of water for the irrigation of 396 acres annually from April 1st to October 31st. The points of diversion are located in the SESESW & NESESW Section 4, T21N, R58E, Richland County, and the place of use is located in the NW Section 4, T21N, R58E, Richland County & W2 Section 33, T22N, R58E, Richland County.

6. The DNRC shall issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

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

Montana Department of Environmental Quality – Web site
Montana Department of Fish, Wildlife & Parks – Web site
National Wetlands Inventory – Web site
Montana Natural Heritage Program – Web site
USDA Web Soil Survey – Web site

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.*

The Department showed that the zone of influence for these wells intersects the Yellowstone River. The Department determined that this groundwater appropriation will deplete a reach of water from the Yellowstone River between Crane Creek and the North Dakota Border. The Depletion Report identified a potential maximum depletion of 1018.6 gpm (2.27 cfs) in September to the Yellowstone River. The reach of the Yellowstone River that is included in the zone of influence is not identified as a chronically or periodically dewatered stream by the Montana Department of Fish, Wildlife & Parks. The DFWP has a water reservation on this portion of the Yellowstone River that ranges from 2,670 CFS in August to 25,140 CFS in June to maintain instream flows.

Determination: No significant impact

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.*

The lower Yellowstone River is listed on the 2014 Montana 303(d) list as fully supporting agriculture, drinking water, and primary contact recreation, and partially supporting aquatic life. Causes of impairment for aquatic life are alterations in stream-side or littoral vegetative covers, fish passage barriers, and chemical and mineral levels. Probable sources of the impairment are the impacts from irrigation crop productions, rangeland grazing, streambank modification/destabilization, hydro-structure flow regulation/modification, and natural or unknown sources of chemical or mineral properties.

Determination: No significant impact

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 two wells were drilled in October of 2015. The Applicant conducted a 72-hour aquifer test on Well 1 at pumping rate of 630 GPM from December 17 through December 20, 2015 (Well 1). The second well was granted a variance from the 72-hour aquifer testing and instead conducted a 16.7 hour drawdown and yield test at 900 GPM (Well 2). Modeling analysis by the Department shows that there is groundwater physically and legally available for appropriation in the amount requested during the period of diversion requested. Modeling also predicts that drawdown in excess of 1 foot would occur within 8,800 feet of the proposed well and affect one existing well. The Department has also determined that hydraulically connected surface water of the Yellowstone River is physically and legally available in the amount in which depletions will occur. Based on these findings, there will be no significant impact to the groundwater aquifer or hydraulically connected surface waters.

Determination: No significant impact

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.*

Water will be diverted from the ground via two 12 inch wells. Well 1 was completed to a depth of 170 feet, screened from 150 to 170 feet, with a static water level (SWL) of 92 feet. It is located roughly a quarter mile south-east of the southernmost pivot point and nearly two miles south of the northernmost pivot point. Well 2 was completed to a depth of 190 feet, screened from150 to 180 feet, with a SWL of 106.9 feet. Water will be piped through buried PVC pipes that vary in diameter from 10 inches to 15 inches through the 9820 foot long pipeline. Both wells will use a Goulds 11CLC 5 stage turbine pump and a single Cornell 5 YBH 40 hp booster pump will be used as well. The three pivots will cover a total of 396 acres using Nelson R3030 Rotators. The rotators will be 5ft above the ground and use pressure regulators to maximize efficiency. The system will have a chemigation check valve and Micrometer Brand, Propeller-type flow meter located at each well.

The two well was drilled and pump tested at a rates of 630 gpm and 900 gpm. The diversion structure has been designed and will be constructed by Agri-Industries of Williston, North Dakota. Agri-Industries is a Montana licensed water well driller. These wells will have no channel impacts, will not create any significant flow modifications or barriers, or have any impact to riparian areas.

Determination: No significant impact

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."*

According to the Montana Natural Heritage Program website, The Bureau of Land Management, (BLM), lists Veery, Spiny Softshell, Sturgeon Chub, Paddlefish, and Sauger as Sensitive. Both the US Forest Service and the US Fish & Wildlife Service list the Whooping Crane, Least Tern and the Pallid Sturgeon as Endangered and BLM lists them as Special Status. There are no federally-listed plant species within the Project area.

Whooping Crane

Whooping cranes migrating between Canada and Texas frequently stop in northeastern Montana. Although no birds were observed there in 1995, in 1994 two whooping cranes were seen near Fort Peck and one in Sheridan County. In addition, cranes from southeastern Idaho occasionally wander west of Yellowstone Park to the Centennial Valley and Red Rock Lakes National Wildlife Refuge. The last several years a single whooper has visited this refuge with a flock of sandhill cranes.

Least Tern
The Least Tern prefers unvegetated sand-pebble beaches and islands of large reservoirs and rivers in northeastern and southeastern Montana; specifically the Yellowstone and Missouri River systems.

Pallid Sturgeon
Pallid Sturgeon are found in the Yellowstone River and use large, turbid rivers over sand and gravel bottoms, usually in strong current. They use all channel types, but primarily use straight reaches with islands.

No plant species were identified as species of special concern within the identified project area.

This is a groundwater development on an area that has been historically been used for agricultural purposes. The irrigation well will not create a barrier to the migration or movement of fish or wildlife. The Depletion Report identified a potential maximum depletion of 1018.6 gpm (2.27 cfs) in September to the Yellowstone River. This will not have a significant impact on the flows of the river or the species dependent on it. Therefore, the Project will likely have no effect on endangered and threatened species.

Determination: No significant impact

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

According to the national Wetlands Inventory (website) there are no wetlands in or near the proposed place of use or point of diversion.

Determination: No significant impact

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

Determination: Not applicable.

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.*

According to USDA Web Soil Survey, the soils within the 396 acres to be irrigated are predominately Vida clay loam. The Vida series consists of deep, well drained soils on glaciated uplands. Permeability is moderately slow and available water capacity is high. Surface runoff is slow to medium, depending on the slope. The hazard erosion is slight to moderate. This soil is classified as nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm). No permanent degradation to soil quality, stability or moisture content is anticipated.

Determination: No significant impact

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.*

The proposed irrigated land has been utilized as unirrigated cropland for at least 50 years. The addition of a groundwater well and two center pivots should not have a significant impact on the vegetative cover. No vegetation was listed as endangered or threatened by the USFWS for the project area. The control of noxious weeds is the responsibility of the property owner.

Determination: No significant impact

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 be no deterioration of air quality as a result of this appropriation.

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

Determination: NA- Project not located on State or Federal Lands.

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: No additional impacts on other environmental resources were 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: There are no known local environmental plans or goals in this area.

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 project is located in a rural area that has historically been used for agricultural purposes and will not have an impact on recreation or wilderness activities.

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

Determination: This project will have no impact on human health.

PRIVATE PROPERTY - *Assess whether there is 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 rights associated with this 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

(*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

(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: This assessment does not indicate possible secondary impacts on the physical environment and/or the local human population.

Cumulative Impacts: This assessment does not indicate possible cumulative impacts on the physical environment and/or the local human population.

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

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:*** An alternative analysis of the project identified a no action alternative to the

construction of a well for irrigation. This alternative would not have any direct impacts that are typically associated with irrigation. The no-action alternative would not allow the Applicant to meet the purpose of and need for the project.

PART III. Conclusion

1. ***Preferred Alternative:*** Issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

2 ***Comments and Responses***

3. ***Finding:***
Based on the significance criteria evaluated in this EA, is an EIS required? NO

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

No significant impacts have been identified; therefore an EIS is not necessary.

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

Name: Todd Netto
Title: Water Resource Specialist
Date: October 12, 2016