

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

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

This Environmental Assessment is an amendment to a previous Environmental Assessment completed on November 1, 2013. The new assessment was required due to changes in the aquifer test report and depletion analysis by the Department.

Part I. Proposed Action Description

1. *Applicant/Contact name and address:* Roger Swartz, Mayor, Town of Broadview PO Box 115, Broadview, MT 59015
2. *Type of action:* Application for Beneficial Water Use Permit #43Q 30066116
3. *Water source name:* Groundwater, Eagle Sandstone (Eagle aquifer)
4. *Location affected by project:* Section 16 and 21, T4N, R23E
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
The Town of Broadview wishes to use existing wells to provide groundwater for municipal use in an amount sufficient to provide projected needs through 2027. The application will supplement water right 43Q 5924 00 and is for an additional 10 GPM and 34.74 AF of water annually from January 1 through December 31. The additional water right will allow for a total of 60 GPM and 48 AF/year. The point of diversion is four wells located in T4N, R23E section 16 and section 20, near Broadview, Montana. The place of use is the town of Broadview, Montana.

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

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

Montana Natural Heritage Program
National Wetlands Inventory
Department of Natural Resources and Conservation – Trust Lands Division
United States Department of Agriculture – Natural Resources Conservation Service

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: Possible impact.

The source of water is the Eagle aquifer produced by wells approximately 1000 feet deep. The zone of influence of these wells is 13,000 feet and does not intersect any chronically or periodically dewatered streams. Comanche Creek to the southwest is hydraulically connected to the Eagle aquifer and may be depleted. Comanche Creek is not identified as a periodically dewatered stream by the Montana Department of Fish, Wildlife and Parks.

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: No significant impact.

This project will not have a significant impact on water quality. Municipal use is considered to be 100% consumptive and there should be no return flow.

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

Determination: Possible impact.

Aquifer test data from Broadview wells #4 and #5 indicate low transmissivity and storativity values in the aquifer. This proposal will not impact groundwater supply because the withdrawal rate and volume are lower than estimates of groundwater flux to the aquifer in that region. The withdrawal may impact hydraulically connected Comanche Creek.

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: No significant impact.

The proposed project will have no impact on surface water channels or create any barriers. The proposed wells could impact flow rates in Comanche Creek. Because flow to Comanche Creek is from springs, this proposal would not impact stream bed or banks. There are no dams or storage facilities associated with the project and the wells were drilled by licensed professionals. Soils in the area do not appear unstable because ground slope in the area is low, soils are well drained and precipitation is low. The wells and pipeline will not have negative impacts.

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: No significant impact.

According to the Montana Natural Heritage Program website, the Bureau of Land Management (BLM), lists the Black-tailed Prairie Dog, Burrowing Owl, Ferruginous Hawk, Chestnut-collared Longspur, Greater Sage Grouse, Black Tern Loggerhead Shrike, McCown’s Longspur, Brewer’s Sparrow and Yellowstone Cutthroat Trout as sensitive. There are no special status, threatened or endangered species in the area. The US Forest Service (USFS) lists the Black-tailed Prairie Dog, Burrowing Owl, Greater Sage Grouse and Yellowstone Cutthroat Trout as sensitive. No plant species of concern are listed.

Black-tailed Prairie Dog

Black-tailed Prairie Dog colonies are found on flat, open grasslands and shrub/grasslands with low, relatively sparse vegetation. The most frequently occupied habitat in Montana is dominated by western wheatgrass, blue grama and big sagebrush (MFWP 2002). Colonies are associated with silty clay loams, sandy clay loams, and loams (Thorp 1949, Bonham and Lerwick 1976, Klatt and Hein 1978, Agnew et al. 1986) and fine to medium textured soils are preferred (Merriam 1902, Thorp 1949, Koford 1958), presumably because burrows and other structures tend to retain their shape and strength better than in coarse, loose soils. Encroachment into sands (e.g., loamy fine sand) occurs if the habitat is needed for colony expansion (Osborn 1942).

Shallow slopes of less than 10% are preferred (Koford 1958, Hillman et al. 1979, Dalsted et al. 1981), presumably in part because such areas drain well and are only slightly prone to flooding. By colonizing areas with low vegetative stature, Black-tailed Prairie Dogs often select areas with past human (as well as animal) disturbance. In Montana, colonies tended to be associated with areas heavily used by cattle, such as water tanks and long-term supplemental feeding sites (Licht and Sanchez 1993, FaunaWest 1998).

Burrowing Owl

Burrowing Owls are found in open grasslands, where abandoned burrows dug by mammals such as ground squirrels (*Spermophilus* spp.), prairie dogs (*Cynomys* spp.) and Badgers (*Taxidea taxus*) are available. Black-tailed Prairie Dog (*Cynomys ludovicianus*) and Richardson’s Ground Squirrel (*Spermophilus richardsonii*) colonies provide the primary and secondary habitat for Burrowing Owls in the state (Klute et al. 2003). The burrows may be enlarged or modified, making them more suitable. Burrowing Owls spend much time on the ground or on low perches such as fence posts or dirt mounds.

Ferruginous Hawk

The habitat of Ferruginous Hawks in Montana has been studied extensively (Ensign 1983, Restani 1989, 1991, De Velice 1990, Wittenhagen 1992, Black 1992, Atkinson 1992, 1993) and described as mixed-grass prairie, shrub-grasslands, grasslands, grass-sagebrush complex, and sagebrush steppe. In southeastern Montana, Ensign (1983) reported mixed-grass prairie with greasewood (*Sarcobatus vermiculatus*) and big sagebrush (*Artemisia tridentata*) in uplands and drainages. Other shrub and tree species present in the habitat were junipers (*Juniperus* spp.), cottonwoods (*Populus* spp.), willows (*Salix* spp.), and ponderosa pine (*Pinus ponderosa*). Also in southeastern Montana, Wittenhagen (1992) reported Ferruginous Hawk habitat to consist of shrub-grasslands with big sagebrush present as well as wheatgrasses. Restani (1989, 1991)

reported grass-sagebrush complexes on mid-elevation slopes to be where most hawks nested. These complexes included sagebrush species and rabbitbrush as overstory to wheatgrasses, needle-and-thread grass, and junegrass. Black (1992) surveyed Ferruginous Hawk habitat in Phillips County and reported the habitat to be 69% grassland, 25% shrubland and 13% bare area.

Nest location studies have also described the habitat Ferruginous Hawks use during the breeding season. The average height of ground nests below the highest surrounding topographic feature was 10 meters, whereas the average height of ground nest sites above the valley floor was 10.4 meters, indicating that nests were placed at mid-elevation sites within the immediate topography (Black 1992).

Ferruginous Hawks do not appear to nest in areas converted to agriculture (Schmutz 1984, Jasikoff 1982). A study done in Petroleum and Fergus counties seems to support this statement. Rogers and Rogers (1995) reported direct observations of Ferruginous Hawks avoiding crested wheatgrass (*Agropyron cristatum*) fields as nesting locations. They concluded few prey resources in such monotypic croplands as the reason for not nesting in these habitats.

Chestnut-collared Longspur

Species prefers short-to-medium grasses that have been recently grazed or mowed. Prefers native pastures.

Greater Sage Grouse

Sagebrush is the preferred habitat. They use 6 to 18 inch high sagebrush covered benches in June to July (average 213 acres); move to alfalfa fields (144 acres) or greasewood bottoms (91 acres) when forbs on the benches dry out; and move back to sagebrush (average 128 acres) in late August to early September (Peterson 1969).

Black Tern

Black Tern breeding habitat in Montana is mostly wetlands, marshes, prairie potholes, and small ponds. However, several locations are on man-made islands or islands in man-made reservoirs. Across all Montana sites where Black Terns are present, approximately 30%-50% of the wetland complex is emergent vegetation. Vegetation within known breeding colonies includes alkali bulrushes, canary reed-grass, cattail spp., sedge spp., rush spp., reed spp., grass spp., *Polygonum* spp., *Juncus* spp. and *Potamogeton* spp., indicating a wide variety of potential habitats are usable by Black Terns. Water levels in known breeding localities range from about 0.5 m to greater than 2.0 m with most having depths between 0.5 m and 1.0 m (MTNHP 2003).

Loggerhead Shrike

In Idaho, nests are found in sagebrush (65%), bitterbush, and greasewood, and are equally successful in all three (Woods and Cade 1996).

McCown's Longspur

Species faces threats from coverts conversion and altered grazing and fire regimes and although populations in the core of their breeding range in northeast Montana appear to be relatively stable, declines are occurring in much of the species global breeding range.

Brewer's Sparrows

In sagebrush areas in central Montana, Brewer's Sparrows nested in sagebrush averaging 16-inches high. The cover (concealment) for the nest provided by sagebrush is very important (Best 1970).

Yellowstone Cutthroat Trout

Yellowstone cutthroat trout inhabit relatively clear, cold streams, rivers, and lakes. Optimal temperatures have been reported to be from 4 to 15 degrees C., with occupied waters ranging from 0 to 27 degrees C. (Gresswell 1995) (AFS website 2003).

The wells, conveyance and distribution facilities are already constructed and located adjacent to roads. The proposed project will likely have no impact on identified species of concern. Depletion of Comanche Creek will be unlikely to impact species of concern. Most species of concern in this area are birds whose habitat is little impacted by the small areal extent of the project's two wells and pipeline.

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: No significant impact.

Several small palustrine wetlands exist within less than a mile of the project area. These are emergent freshwater wetlands temporarily or seasonally flooded. No depletion of these wetlands or discharge into these wetlands is likely. Therefore, the project will have no significant impact on wetlands.

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.*

Determination: No significant impact.

Water from this project will be used in part for lawn and garden irrigation. The soils are well drained and will increase in moisture content. There are alkali flats in the area. No return flow will occur from the proposed project so there will be little impact on soils.

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: No significant impact.

Access to the proposed project is already in place and the entire project encompasses less than three miles for operation and maintenance. There is little possibility that the project will impact existing cover or spread noxious weeds.

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

Determination: No impact.

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 if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.

Determination: No impact.

The well sites are not located on state or federal land however the pipeline crosses state trust land in section 16, T4N, R23E. There are no historical or cultural concerns in the area and the project will likely have no impact on historical, cultural or archeological 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: 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: No impact.

The project is located in a rural area historically used for agriculture and will not have an impact on recreation or wilderness activities.

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

Determination: No impact.

This project will have no adverse impact on public 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.

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 increase in flow rate and volume from existing wells to increase the flow rate and volume of water available to the Town of Broadview. This alternative would not have any direct impacts associated with operation of the water supply system. The no-action alternative would not allow the applicant to meet the needs of the municipality.

PART III. Conclusion

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

2. **Comments and Responses:** None

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 have been identified therefore an EIS is not necessary.

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

Name: Mark Elison

Title: Hydrologist/Specialist

Date: 11/01/2013