

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:* Flathead Electric Cooperative, 2510 US Hwy 2 E, Kalispell MT 59901
2. *Type of action:* Application For Beneficial Water Use Permit 76LJ 30049487
3. *Water source name:* Groundwater
4. *Location affected by project:* SE $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 33, Range 29N, Township 21W, Flathead County.
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*  
The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

The Applicant proposes to divert water from two wells located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 33, Township 29N, Range 21W, Flathead County, from January 1 through December 31 for geothermal heating and cooling at a maximum rate of 200 GPM and 100 GPM up to 19.7 AF and 7.3 AF annually. There are two buildings and two systems each using a separate supply well and injection well, but all in the shallow Evergreen aquifer. Supply Well #1 is 35' deep with the injection well also 35' deep and are approximately 160 feet apart. Supply Well #2 and its injection well are both 18' deep and 130 feet apart. The place of use is generally located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 33, Township 29N, Range 21W, Flathead County in Evergreen.

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

Montana Natural Heritage Program  
United State Fish and Wildlife Wetland Mapper  
Natural Resources and Conservation Service Soil Maps

**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: N/A - groundwater

**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: N/A - groundwater

**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: Depletions to groundwater and surface sources were analyzed in permit application. No impacts.

**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.

1. *Determination:* The proposed project consists of four wells; two supply wells and two injections wells. One supply and one injection well represent its own system supplying separate buildings on the same piece of property. Mechanical systems were designed by Jackola Engineering & Architecture. Schematics on the systems, well logs and pump curves were included in Appendix B and C of the application. Well #1 and its injection well were drilled by O'Keefe Drilling Co (Mt license #WWD-090) to depths of 35 feet with the supply well being screened from 23 to 28 feet. Well #1 is for the Truck Bay building operating at a minimum pressure of 32 psi and a total dynamic head of 109 feet. A Grundfos, Model 230S 7.5 hp, variable frequency driven pump will be used. Flow will vary based on demand. From the supply well, water flows through a 3" supply line into the building, through the multi-stage heat pumps and into the injection well.

Well #2 and its injection well were drilled by Western Water Works Inc (Mt license #WWD-521) to depths of 18 feet with open bottoms. Well #2 is for the Vehicle Maintenance building operating at a minimum pressure of 32 psi and a total dynamic head of 118 feet. A Grundfos, Model 85S 5 hp, variable frequency driven pump will be used for this diversion. A 2" supply line will carry demanded water inside the building, through four heat pumps and then returns to the aquifer through the injection well.

## **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 Montana Natural Heritage Program was contacted to determine if there are any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern”, that could be impacted by the proposed project. They identified the following animal and plant species that are threatened, or have special status, that are located regionally: Gray Wolf, Great Blue Herron, Pileated Woodpecker, Bald Eagle, Westsloope Cutthroat Trout, Pygmy Whitefish, Lake Trout, Deer Indian Paintbrush, Short-styled Thistle, Latah Tule Pea and Aloina Moss. These species are found throughout this region and not necessarily at this particular spot. No immediate 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.*

*Determination:* The proposed place of use is not within the boundaries of wetlands mapped by the national wetlands inventory program.

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

*Determination:* N/A – no ponds.

**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 majority of soils in this area is Kiwanis find sandy loam, alluvium deposits, with a high capacity to transmit water and rare frequency of flooding. Saline seep is not a concern in this area.

**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:* N/A – most of the area around place of use is blacktop.

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

*Determination:* No impacts.

**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.*

*Determination:* N/A – 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 change. Geothermal heating and cooling is a more efficient form of energy.

## HUMAN ENVIRONMENT

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

*Determination:* No inconsistencies.

**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.

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

*Determination:* No impacts.

**PRIVATE PROPERTY** - *Assess whether there are any government regulatory impacts on private property rights.*

Yes\_\_\_ NoXX *If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

*Determination:*

**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? None
- (b) Local and state tax base and tax revenues? None
- (c) Existing land uses? None
- (d) Quantity and distribution of employment? None
- (e) Distribution and density of population and housing? None
- (f) Demands for government services? None

- (g) Industrial and commercial activity? None
- (h) Utilities? More efficient form of energy
- (i) Transportation? None
- (j) Safety? None
- (k) Other appropriate social and economic circumstances? None

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

Secondary Impacts

None expected

Cumulative Impacts

None expected

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

None identified.

**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 reasonable alternatives identified.

**PART III. Conclusion**

**1. Preferred Alternative**

**2. Comments and Responses**

**3. Finding:**

Yes\_\_\_ NoXX 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: Most impacts associated with this project have been evaluated in the permit application.

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

Name: Kathy Olsen

Title: Water Resource Specialist

Date: March 16, 2011