

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: **Hillcrest Colony  
1124 Wilson Rd  
Power, MT 59468**
  
2. Type of action: **Beneficial Water Use Permit Application 41K 30063379**
  
3. Water source name: **Groundwater**
  
4. Location affected by project: **Section 29 T22N R2E (Cascade County)**
  
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

**The Applicant proposes to divert groundwater from a 1,770-foot deep well completed in the Madison Formation and located approximately 12 miles northwest of Great Falls, Montana in Cascade County. The requested appropriation is 160 gallons per minute (GPM) up to a volume of 149.6 acre-feet (AF) per year, to be used for domestic, stock and irrigation purposes. The volume of water associated with each purpose is as follows: 1) multiple domestic (35 homes) is 8.8 AF; 2) stock is 16.8 AF; and irrigation (alfalfa and garden/lawn) 124.0 AF. The point of diversion (well) is located in the NESWSE Section 29, and the places of use are all generally located in the E2, Section 29, T22N, R2E. Appropriations for multiple domestic and stock purposes will occur year-around, and from April 1 through October 15 for irrigation purposes. A pit with a capacity of 35.2 AF will store groundwater appropriations for irrigation purposes.**

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

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

**Part II. Environmental Review**

**1. Environmental Impact Checklist:**

<b>PHYSICAL ENVIRONMENT</b>
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**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:*           **No Significant Impact**

**The source of supply for this proposed appropriation is groundwater from the Madison aquifer.**

**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**

**The source of supply for this proposed appropriation is groundwater from the Madison aquifer.**

**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:*           **Minor Impact**

**The proposed groundwater appropriation is from the Madison Aquifer at a flow rate of 160 GPM and volume of 149.6 AF per year. The Missouri River and Giant Springs are both considered hydraulically connected to the Madison aquifer and Madison groundwater depletions from this well could affect flows in these sources. The Applicant has agreed to mitigate the entire groundwater depletion by purchasing a water service contract from the USDI Bureau of Reclamation (BOR). 149.6 AF of water will be released from Canyon Ferry Reservoir to the Missouri River to offset depletions to springs contributing to the river. Flows in Giant Springs currently exceed legal demands. No significant impacts to groundwater quantity or quality are anticipated because of this project, assuming the water service contract is exercised to mitigate groundwater depletions to the Missouri River.**

**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:*           **Minor Impact**

Water will be appropriated by a groundwater well completed into the Madison Aquifer at a depth of 1,770 feet. The well was drilled in 2008 by Boland Drilling, a Montana licensed well driller (License No. WWC-482). A 50 horsepower Grundfos submersible pump will deliver a flow rate of 160 GPM to either two 30,000 gallon storage tanks or a 35.2 AF capacity pumping pit. Water diverted to the storage tanks will be re-diverted for domestic and stock purposes, and water diverted to the pit will be re-diverted for irrigation purposes, for either crop or garden irrigation. The crop irrigation system will consist of a wheel line sprinkler system, while the method of garden irrigation will be via hand line. Both irrigation systems are expected to be 80% efficient. The diversion works will not have a significant impact to stream channels, barriers, riparian zones, dams or other wells. There could be a minor impact from flow modifications to springs in the Missouri River as a result of groundwater depletions from the Madison aquifer, however the water service contract from BOR will mitigate any flow modifications to the river.

#### 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**

The Montana National Heritage Program lists twelve bird species as Species of Concern and three birds and the porcupine as Potential Species of Concern within Township 22 North Range 2 East. No Plant Species of Concern are listed in the area of interest. The USDI Fish & Wildlife Service Website shows that Cascade County has three species listed as proposed species or candidates for the Endangered Species Act; the proposed species is the Wolverine, while the candidate species are the Sprague's Pipit and the Whitebark Pine. This project is not expected to impact any species mentioned above as the project will be located on acreage that has been previously disturbed by past agriculture practices. The addition of a new pond may have a minor beneficial impact to wildlife species using the area.

***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**

The National Wetlands Inventory shows some areas of Freshwater Emergent type wetlands to the north and northwest of the proposed development. The wetland areas appear to originate as closed basins and should not be adversely impacted by the project as all development is proposed to the south and away from these mapped wetland areas.

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

*Determination:*           **No Significant Impact**

**The project may cyclically fluctuate water levels in the small reservoir/pond that regulates water for proposed irrigation. This new reservoir will have a surface area of about 2.34 acres and although water levels may vary greatly, could have a minor beneficial impact to wildlife/waterfowl using the area.**

**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**

**The predominant soil type under the proposed irrigation is the Dutton complex, a well-drained silty clay loam that generally has a low available water capacity. This soil profile is largely nonsaline; impacts to soil quality, stability and moisture content are not expected because of the proposed project.**

**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**

**No new impacts to vegetative cover are expected. The acres proposed for irrigation have been previously used for agriculture purposes and it is the responsibility of the property 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:*           **No Significant Impact**

**No impacts to air quality have been identified. The pump in the well will be powered by an electric motor.**

**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 Significant Impact**

**Not Applicable – 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 Significant Impact**

**No significant impacts are anticipated. There will be an increase in electrical energy consumption associated with the new colony operations.**

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

Determination: **No Significant Impact**

**No local environmental plans or goals have been identified.**

**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 Significant Impact**

**The proposed action should not negatively affect recreational activities in the area.**

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

Determination: **No Significant 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: **No Significant 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? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **Some Ag land will be converted to other uses**
- (d) Quantity and distribution of employment? **None**

- (e) Distribution and density of population and housing? **Colony split – new housing**
- (f) Demands for government services? **None**
- (g) Industrial and commercial activity? **None**
- (h) Utilities? **New well pump will be powered by electric motor**
- (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:

**Secondary impacts from this project are expected to be minor; year round groundwater depletions to the Madison aquifer, and in turn the Missouri River, will be mitigated with a water service contract from Canyon Ferry Reservoir administered by the BOR.**

Cumulative Impacts:

**At last check, of the wells that have the Madison Aquifer listed as a source in the MBMG Groundwater Information Center, there are 531 wells within 12 miles of Giant Springs potentially pumping over 1,800 AF per year (2.5 CFS) and 100 wells within 6 miles of Giant Springs with the potential to pump approximately 1,200 AF annually (1.7 CFS). Giant Springs is used as a general reference to the impact area, springs also contribute to flows in the Missouri River near Giant Springs.**

**To date, groundwater pumping in the vicinity of Giant Springs is relatively small in comparison to the flow of the springs. However, as more development takes place in the Great Falls area, there will be increased demands for water for domestic, irrigation, stock, recreation and other uses. This increased demand will eventually have a higher potential for significant impacts.**

3. *Describe any mitigation/stipulation measures:*

**The Department may or may not deem specific conditions necessary to meet the statutory criteria for new permits set forth at § 85-2-311, MCA. These conditions would be required in the Departments' preliminary determination, if applicable.**

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 permit application. This alternative would result in no beneficial use to the Applicant.**

*PART III. Conclusion*

1. *Preferred Alternative*

**The preferred alternative is the proposed alternative.**

2. *Comments and Responses*

**None 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:* **Douglas Mann**

*Title:* **Water Resources Specialist**

*Date:* **5/13/2013**