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: Hi Line Colony Inc.
PO Box 60
Galata, MT 59444

2. Type of action: Application for Beneficial Water Use Permit No. 41N 30104996.

3. Water source name: Groundwater.

4. Location affected by project: The general location for 10.0 acres of irrigation and a reservoir with a 10.0 AF capacity will be the South half of Section 6, Township 35 North, Range 4 East, Liberty County. Multiple domestic and industrial purposes will generally be located in the Southeast quarter of Section 6, Township 35 North, Range 4 East, Liberty County. The place of use for stock and wastewater lagoons will generally be located in the Northeast quarter of Section 7, Township 35 North, Range 4 East, Liberty County. Two points of diversion will provide water for the aforementioned places of use. The west well is located in the Southwest quarter of the Southeast quarter of the Northeast quarter of Section 6, Township 35 North, Range 4 East, Liberty County. The east well is located in the Southeast quarter of the Southeast quarter of the Northeast quarter of Section 6, Township 35 North, Range 4 East, Liberty County. All places of use and the two points of diversion are located in basin 41N of Liberty County. This basin is not subject to Montana basin closures or controlled groundwater areas. See Figure 1 on the following page for a general overview of the proposed project.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits: The applicant has proposed to divert water from two groundwater wells completed in the Cretaceous Eagle Formation. Two pumps will operate in combination in order to achieve a maximum flow of 85.0 gallons per minute (gpm) and to produce up to 73.9 acre-feet (AF) of water per year. The pumps installed in the wells are to be Franklin 7.5 HP FPS 4400 90FA7S4-PE pump ends with Franklin DR56 50/60 HP motors. The Colony water distribution system was designed by Northland Engineering of Helena and was approved and designed according to Montana DEQ standards for public water supply wells. Pumping is scheduled to occur throughout the entire year (January 1-December 31) for the beneficial purposes of irrigation, multiple domestic, industrial, agricultural spraying, and stock. 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: Montana Natural Heritage Program, Natural Resources Conservation Service (NRCS) Soils Data Website, Department of Environmental Quality, National Wetlands Inventory Website, and the Natural Resources Information System, and the Department of Fish, Wildlife, & Parks.

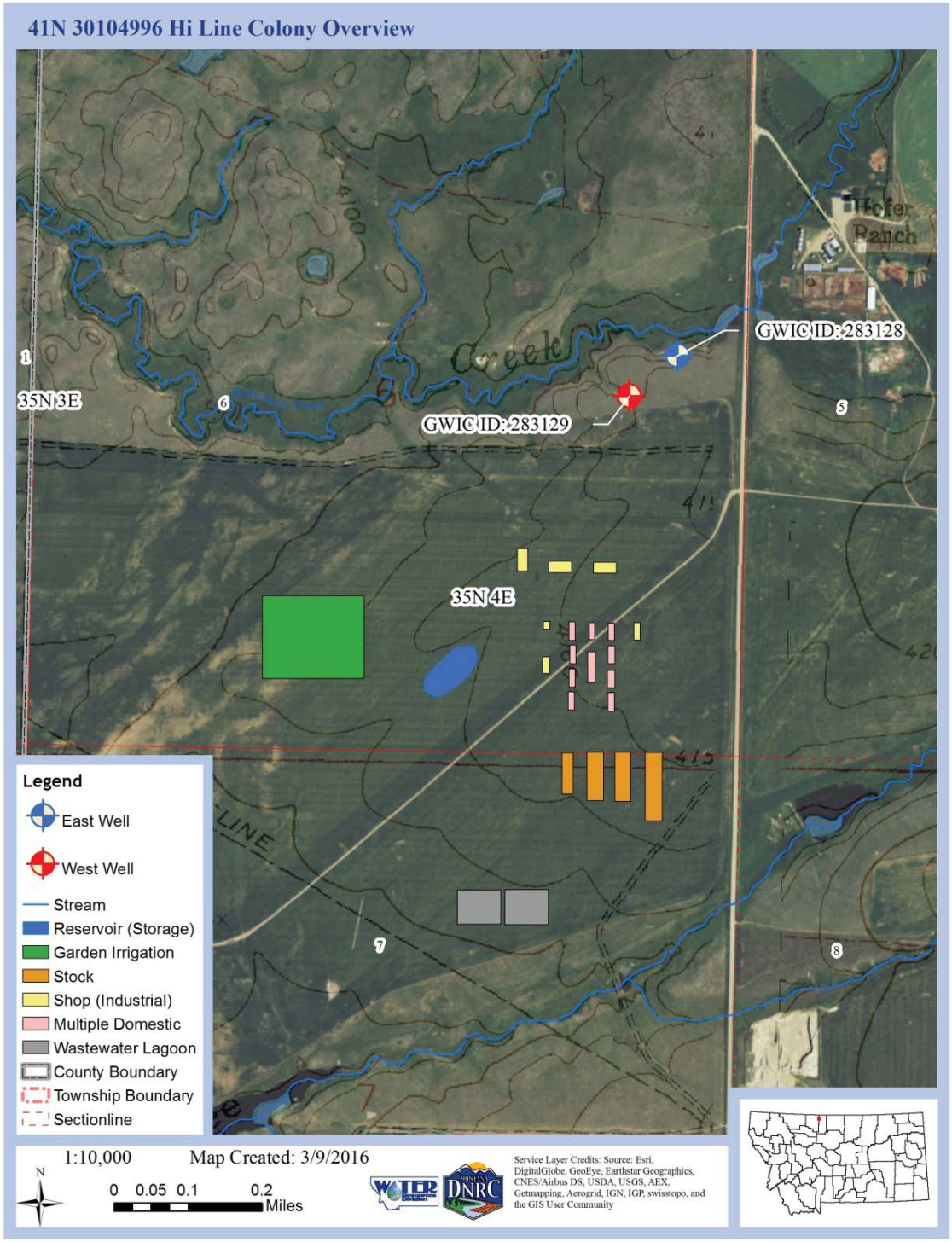

Figure 1-A map of the proposed project.

Part II. Environmental Review

1. **Environmental Impact Checklist:**

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY, AND DISTRIBUTION

Water quantity-The proposed appropriation is from a groundwater source. However, surface water and groundwater are expected to be hydraulically connected at locations where Strawberry Creek crosses an outcrop of the Eagle Formation. Therefore, research was conducted to discover any preexisting dewatered streams that could be further depleted due to the pumping of groundwater. The Department of Fish, Wildlife, & Parks reported that there are currently no chronically or periodically dewatered streams located within basin 41N.

Determination: It is unlikely that the proposed project will have an effect on any preexisting dewatered streams.

Water quality-The proposed appropriation is from a groundwater source.

Determination: Assessment not applicable.

Groundwater-Technical analysis of the aquifer was completed by a Department groundwater hydrologist to ensure that the aquifer would be appropriate to support a flow of up to 85.0 gpm and a volume of no more than 73.9 AF. Pumping tests were conducted in order to estimate yearly aquifer flux and the zone of influence, as well as other aquifer properties. Complex geologic structures in the region form groundwater boundaries, and the zone of influence was truncated to represent these boundaries. Figure 2 to the right shows the truncated zone of influence. Within the truncated zone of influence, 31 water rights withdraw water from the same source aquifer for a total volume of up to 123.5 AF/year. The aquifer testing report estimated an annual groundwater flux of 353.7 AF. After taking into account the preexisting legal demands and the groundwater flux, 230.2 AF of water is available per year for the proposed appropriation. Although water is physically available in the

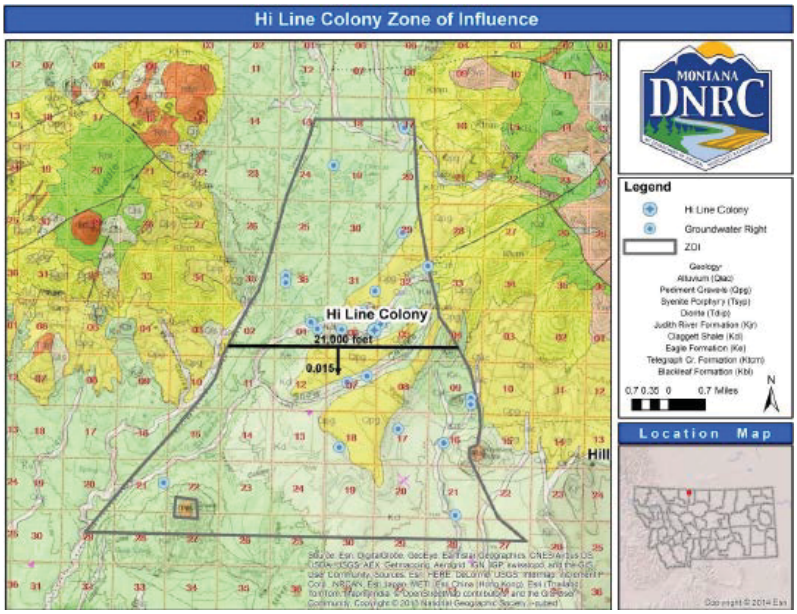

Figure 2-A truncated zone of influence was specified for the computer model in order to represent local geologic influences.

aquifer, drawdown from the proposed appropriation's pumping would leave no available water column for one well which serves two water rights.

Strawberry Creek crosses the Eagle Formation outcrop within the pumping zone of influence, allowing an interaction between groundwater and surface water. Therefore, Strawberry Creek is hydraulically connected to the aquifer at an elevation of 3,780.0 feet, and the surface water availability downstream from this point could be adversely affected due to the proposed appropriation's pumping. A report from the U.S. Geological Survey was utilized to estimate the volume of water that is expected to flow in Strawberry Creek above its interaction with groundwater. The methods used in the USGS report suggest that there is a 90% chance every year that actual volumetric flow in Strawberry Creek would exceed 777.4 AF and a 20% chance that actual volumetric flow would exceed 2,526.9. The median flow expected for Strawberry Creek above its point of interaction with groundwater is 1,716.6 AF per year. The accuracy of the USGS report and methodology holds a standard error ranging from 35%-97%.

Determination: Although impacts to the groundwater supply are anticipated by the proposed appropriation, the groundwater flux is sufficient to support the volume requested. However, drawdown from the proposed appropriation's pumping would leave no available water column for one well which serves two water rights.

Diversion Works- The pumps installed in the wells are to be Franklin 7.5 HP FPS 4400 90FA7S4-PE pump ends with Franklin DR56 50/60 HP motors. 2,750.0 feet of four inch PVC pipe will convey water from the wells to the reservoir. 525.0 feet of four inch PVC pipe will carry water from the reservoir to the ten acre garden. Four 1000 gallon plastic storage tanks will store water for domestic use, and four more will be used for stock. Water will be pumped from the storage tanks with two Grundfos CR-15-3 7.5 HP three-phase multi-stage centrifugal pumps. Domestic, stock, and industrial uses will be serviced by four inch water mains and two inch service lines running from the plumbing shop. A primary storage lagoon and backup storage lagoon will treat wastewater through evaporation. The Colony water distribution system has been designed by Northland Engineering of Helena and was approved and designed according to Montana DEQ standards for public water supply wells.

UNIQUE, ENDANGERED, FRAGILE, OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species –The Montana Natural Heritage Program lists three species of birds and one species of insect as species of concern. The table on the following page contains specific information about the species of concern located in the project area.

Table 1-Four species of concern are identified for Township 35 North, Range 4 East.

Species of Concern
4 Species
Filtered by the following criteria:
Township = 035N004E (based on mapped Species Occurrences)

SCIENTIFIC NAME / COMMON NAME / TAXA SORT	FAMILY (SCIENTIFIC) / FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
BIRDS (AVES) — 3 SPECIES — TOWNSHIP = 035N004E (based on mapped Species Occurrences)								
Ammodramus bairdii Baird's Sparrow	*Emberizidae* Sparrows	G4	S3B			SENSITIVE		Grasslands
		Species Occurrences verified in these Counties: Blaine, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Glacier, Hill, Judith Basin, Lewis and Clark, Liberty, Mccone, Meagher, Musselshell, Petroleum, Phillips, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone **State Rank Reason:** Montana populations were declining until recently and the species is declining in most or the surrounding states and provinces.						
Buteo regalis Ferruginous Hawk	*Accipitridae* Hawks / Kites / Eagles	G4	S3B			SENSITIVE		Sagebrush grassland
		Species Occurrences verified in these Counties: Beaverhead, Blaine, Broadwater, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Gallatin, Garfield, Glacier, Golden Valley, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Madison, Mccone, Meagher, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Prairie, Roosevelt, Rosebud, Sheridan, Stillwater, Teton, Toole, Valley, Wheatland, Yellowstone						
Dolichonyx oryzivorus Bobolink	*Icteridae* Blackbirds	G5	S3B					Moist grasslands
		Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Madison, Mccone, Meagher, Missoula, Musselshell, Park, Petroleum, Phillips, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Stillwater, Sweet Grass, Teton, Valley, Wheatland, Wibaux, Yellowstone **State Rank Reason:** Species has undergone recent large population declines in Montana and a patchwork of declines and increases have been documented in surrounding states and provinces.						
INVERTEBRATES - INSECTS — 1 SPECIES — TOWNSHIP = 035N004E (based on mapped Species Occurrences)								
BUTTERFLIES								
Polygonia progne Gray Comma	*Nymphalidae* Brush-footed Butterflies	G4G5	S2					Parklands
		Species Occurrences verified in these Counties: Carter, Custer, Dawson, Fallon, Liberty, Powder River, Richland, Toole, Valley						

Determination: The proposed project is located in a sparsely populated area primarily composed of cropland and grassland. It is unlikely that the proposed project will impact migratory patterns, breeding, or pose a habitat threat to the species of concern. This project is not affected by the Sage Grouse Habitat Conservation Program.

Wetlands –According to the U.S. Fish and Wildlife Service National Wetlands Inventory, both the place of use and the proposed points of diversion are outside of a wetland boundary.

Determination: Because no wetlands are contained within the boundary of the proposed project, no impacts are anticipated.

Ponds –A 2.0 acre surface area reservoir will be constructed to provide storage for the project. The reservoir is to be located off stream.

Determination: It is unlikely that the reservoir associated with the proposed project will affect wildlife.

GEOLOGY/SOIL QUALITY, STABILITY, AND MOISTURE- At the place of use, soils are composed of Hedstrom fine sandy loam (salinity not reported), Bearpaw clay loam (nonsaline to very slightly saline), and Bearpaw-Daglum clay loams (moderately saline to strongly saline) as identified by the Natural Resources Conservation Service.

Determination: It is unlikely that the proposed project will result in an increase of saline seep or further degrade soil quality.

VEGETATION COVER, QUANTITY, AND QUALITY/NOXIOUS WEEDS-Because fields already exist and there is no change in land-use characteristics associated with the permit, there will be no significant impact.

Determination: It is the responsibility of the landowner to ensure noxious weeds do not become out of control.

AIR QUALITY- The applicant included plans in their application to incorporate electric motor driven centrifugal pumps.

Determination: No deterioration of air quality or adverse effects on vegetation due to an increase in air pollutants is expected as a result of the proposed project.

HISTORICAL AND ARHEOLOGICAL SITES –N/A: The proposed project does lie within State or Federal land boundaries.

Determination: No assessment of unique archeological or historic sites has been performed.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY –No additional impacts on other environmental resources were identified.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS –Currently, no environmental plans or goals have been identified in the area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES –No wildlife areas or recreational land are situated adjacent to the proposed project area. Recreational and wilderness activities will not be affected by the project.

HUMAN HEALTH –Human health will not be affected by the project.

PRIVATE PROPERTY –No adverse effect on private property rights is anticipated from this development.
*Yes___ No_**x**_*

OTHER HUMAN ENVIRONMENTAL ISSUES –

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. Proposed project is consistent with other land uses in the region.
(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: No secondary impacts have been identified.

   Cumulative impacts: No cumulative impacts have been identified.

3. ***Describe any mitigation/stipulation measures:*** None.

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: The applicant would not be able to develop the project as proposed.

   Alternative one: Approve the application if the applicant proves the statutory criterion has been met.

Part III. Conclusion

1. ***Preferred alternative:*** Alternative one.

2. ***Comments and Responses:*** None to date.

3. ***Finding:***
   *Yes___ No_**x**_ Based on the significance criteria evaluated in this Environmental Assessment, is an EIS required?*

   An Environmental Assessment is the appropriate level of assessment for the proposed action because no significant impacts have been identified.

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Date: May 18, 2016