Public Notice
&
Environmental Documents

- Public Notice
- Notice Area Map
- Form Checklist
- PN – Letter to Applicant
- PN – Letter to Editor
- PN - Certificate of Service
- PN – Invoice & Tear sheet
- PN – Return Mail
- Environmental Checklist (EA)
    - Supporting Documentation

Public Notice & Environmental Information

NOTICE AREA

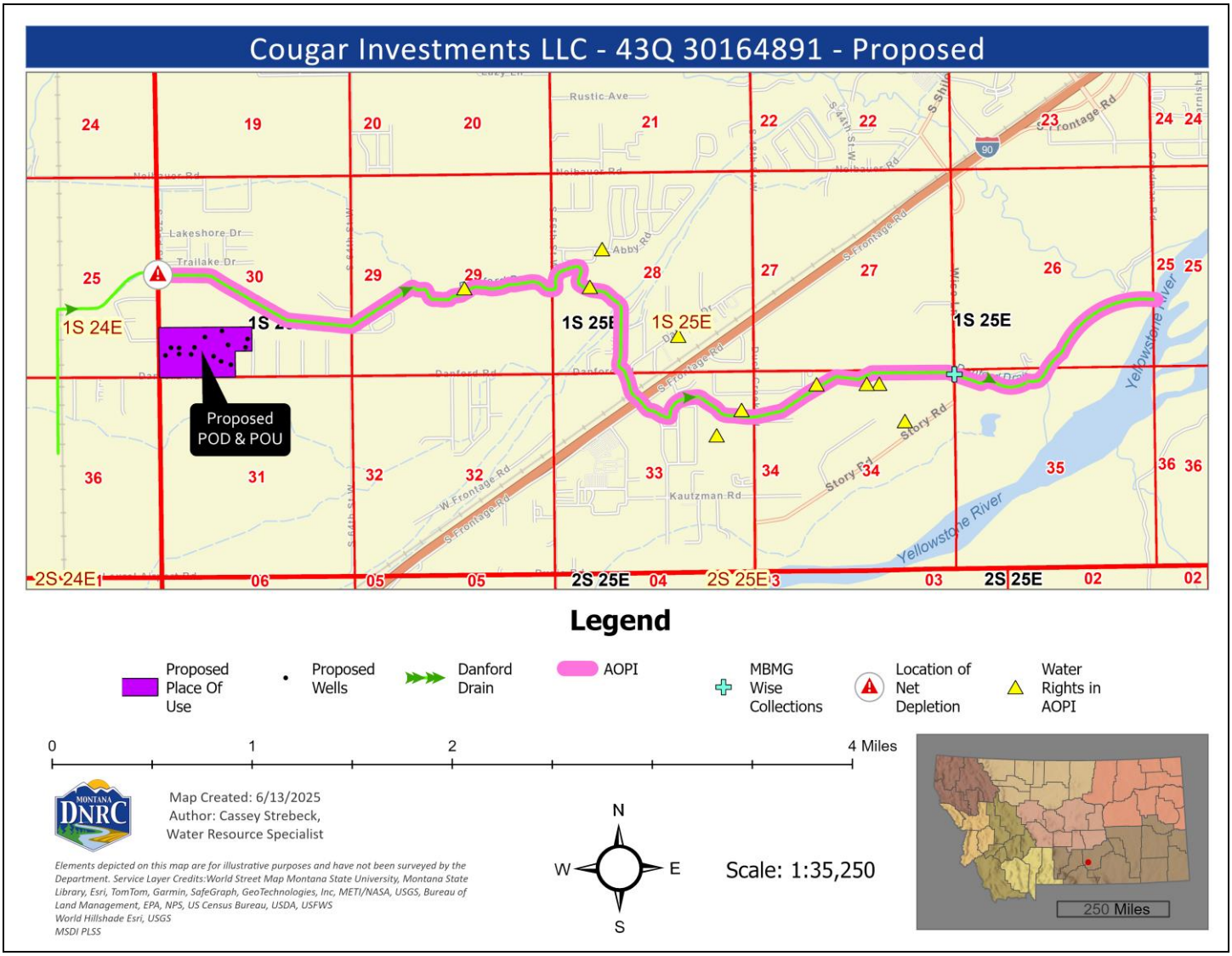
Application No. **43Q 30164891** Regional Office # 03

Applicant's Name **Cougar Investments, LLC**

Indian Reservation [ ] Yes [x] No If yes, Reservation **N/A**

Irrigation District [ ] Yes [x] No If yes, District **N/A**

Specialist **C. Strebeck** Date **September 8, 2025**



Water Right Owner	Water Right # (Basin, ID, and Number)
Applicant: Cougar Investments, LLC	43Q 30164891
Water Right Owners in Potentially Affected Area	
Samm LLC	43Q 102615 00
Kevin D Anthony; Deanna C Brunn	43Q 14939 00
Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	43Q 195891 00
	43Q 195892 00
Arland Y Gleason; John F Thielen	43Q 206797 00
Kristin Anderson; Kurt Anderson	43Q 208180 00
Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	43Q 208181 00
JTL Group Inc	43Q 208801 00
Gene J Klamert; Ronna J Klamert	43Q 30107340
Shirley M Wagner	43Q 42699 00
Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	43Q 45860 00
	1BIA
	1DSL
	1FWP
	1PPL
	1NWE
	2FWP
	3BLG
	3NPR
	1CRP
	1WDB
	3BLM
	3YDA
NEWPAPERS	
YELLOWTSTONE COUNTY NEWS	Newspaper

*If owner listed twice, only one notice sent

The public notice area is shown on the map as the portion of Danford Drain highlighted in pink, with each water right within the AOPI represented by a yellow triangle.

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:

   Cougar Investments, LLC
   Attn: Erin Kirschenmann
   9428 Anglers Way
   Billings, MT, 59101

2. Type of action: Application for Beneficial Water Use Permit No. 43Q 30164891

3. Water source name: Groundwater

4. Location affected by the project: Generally located in the SESW and SWSW of Sec. 30, T1S, R25E

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

   The Applicant proposes to divert and use groundwater from 14 wells (PODs), at a total flow rate of 135 GPM, up to 48.01 AF for commercial and lawn and garden irrigation (65 GPM for commercial use + 70 GPM for lawn and garden; shown in Table 1) as follows:

   Commercial Use:
   The Applicant proposes to divert water from January 1 to December 31, from 13 wells to supply up to 12.22 AF/YR, at 5 GPM at each well (POD), amounting to a total of 65 GPM, for the period of use from January 1 to December 31 for commercial use within the subdivision.

   Lawn and Garden:
   The Applicant proposes to divert water from April 1 to October 31, from 14 wells, up to 35.79 AF/YR at 5 GPM at each well, amounting to a total of 70 GPM for irrigation purposes within the subdivision. Water will be used for the period of April 1 to October 31 to irrigate 14.321 total acres, across 14 places of use.

   Note: This project has a completion date of 20 years.

Table 1: Details of Project

Purpose	Flow Rate (GPM	Volume (AF)	Period of Use	Period of Diversion	Acres
Commercial	65	12.22	01/01 – 12/31	01/01 – 12/31	N/A
Lawn & Garden	70	35.79	04/01 – 10/31	04/01 – 10/31	14.32
Total	135	48.01			14.32

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 Department of Natural Resources and Conservation
Montana Department of Fish, Wildlife and Parks (FWP)
Montana Department of Environmental Quality (DEQ)
Montana Sage Grouse Habitat Conservation Program (SGHCP)
Montana Natural Heritage Program (NHP)
U.S. Fish and Wildlife Service (USFWS)
U.S. Department of Agriculture, National Resource Conservation Service (USDA, NRCS)

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity **–** This project is not expected to affect water quantity. The project is for groundwater diverted from 14 wells. DNRC Groundwater Hydrologist, Jack Landers, identified the Yellowstone River Terrace Level 3 (Qat 3) as the source aquifer, and determined the following as reported in the Groundwater Permit Technical Analyses Report - Part A for Application No. 43Q 30164891:

PHYSICAL AVAILABILITY: The predicted 0.01-foot drawdown contour, or zone of influence (ZOI), occurs at a maximum distance of 12,200 ft from the Applicant's wells. Groundwater flux through the ZOI is equal to 2,066 AF/year.

DRAWDOWN IN EXISTING WELLS: The predicted 1-ft drawdown contour occurs at a maximum distance of 100 ft from the Applicant's wells after pumping the wells for five years following the schedule identified. Zero groundwater rights in the source aquifer are predicted to experience drawdown equal to or greater than one foot.

NET DEPLETION TO SURFACE WATER: Danford Drain (3.3 miles east of wells) is identified as being hydraulically connected to the source aquifer. Danford Drain is expected to have an annual Net Depletion of 26.3 AF.

REMAINING AVAILABLE WATER IN WATER COLUMN (FT): 29.7

Determination: No Significant Impact

Water quality – The project is for the use of groundwater for commercial and lawn & garden purposes. There is no expected impact on source water quality, nor surface water of the depleted source, Danford Drain. However, this is a 20-year project that does not know the final commercial use of the proposed places of use. Runoff from construction, along with the extended time frame, means this project has a potential impact on surrounding areas.

Determination: Potential Impact

Groundwater – There are no expected impacts on groundwater. Please refer to the Water Quantity section for more details.

Determination: No Significant Impact

Diversion works - The project will convey water from 14 wells via pipelines to a total of 14 places of use for commercial and lawn & garden purposes.

Determination: No Significant Impact

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species **-** The Montana Natural Heritage Program (MT NHP) identifies the following as Species of Concern (SOC) within the general area of the project:

Amphibian: Northern Leopard Frog.

Bird: Bald Eagle, Great Blue Heron, Pinyon Jay, Golden Eagle, Yellow-billed Cuckoo, Hooded Merganser, American White Pelican, Broad-tailed Hummingbird, Plumbeous Vireo, Eastern Screech-Owl, Black-billed Cuckoo, Dickcissel, Barrow's Goldeneye, Peregrine Falcon, Sharp-tailed Grouse, Black-necked Stilt, Bobolink, Cassin's Kingbird, Eastern Bluebird, Grasshopper Sparrow, Long-billed Curlew, Marbled Godwit, Ovenbird, Veery, American Bittern, Black-crowned Night Heron, Chimney Swift, White-faced Ibis, and Sprague's Pipit.

Insect: Bombus suckleyi, Danaus Plexippus, and Bombus occidentalis.

Mammal: Western Spotted Skunk, North American Porcupine, Black-tailed Prairie Dog, Little Brown Myotis, Long-eared Myotis, Long-legged Myotis, Merriam's Shrew, Prairie Shrew, Silver-haired Bat, Eastern Red Bat, Northern Hoary Bat, Pallid Bat, ant Spotted Bat.

Reptile: Western Milksnake, Plains Hog-nosed Snake, and Snapping Turtle.

Vegetation: Carex crawei.

While there is an abundance of species present, this project is not expected to have a long-term effect on the wildlife community. The 20-year project completion and the need for construction, and removal of habitat creates a potential impact on wildlife in the area.

Determination: Potential Impact

Wetlands **-** No wetlands were claimed or proposed in this project. The Montana Natural Heritage Program (MT NHP) identifies some riparian and wetland cover on land east of the Proposed Place of Use in the SESESW of Sec. 30, T1S, R25E, but not on the proposed place of use.

The property east of the proposed place of use consists of Palustrine-Emergent (P, EM), “wetlands with erect, rooted herbaceous vegetation present during most of the growing season”, and Lotic Riparian (Rp, 1, FO), riparian class that has woody vegetation that is greater than 6 meters (20 feet) tall.

Runoff from this project may potentially harm the wetland/riparian zone on the adjacent property, geocode: 03-0926-30-3-01-01-0000.

The FWS National Wetlands Inventory, surface waters and wetlands, map does not show that the proposed place of use or the parcel to the east having any recognized wetlands.

Determination: Potential Impact



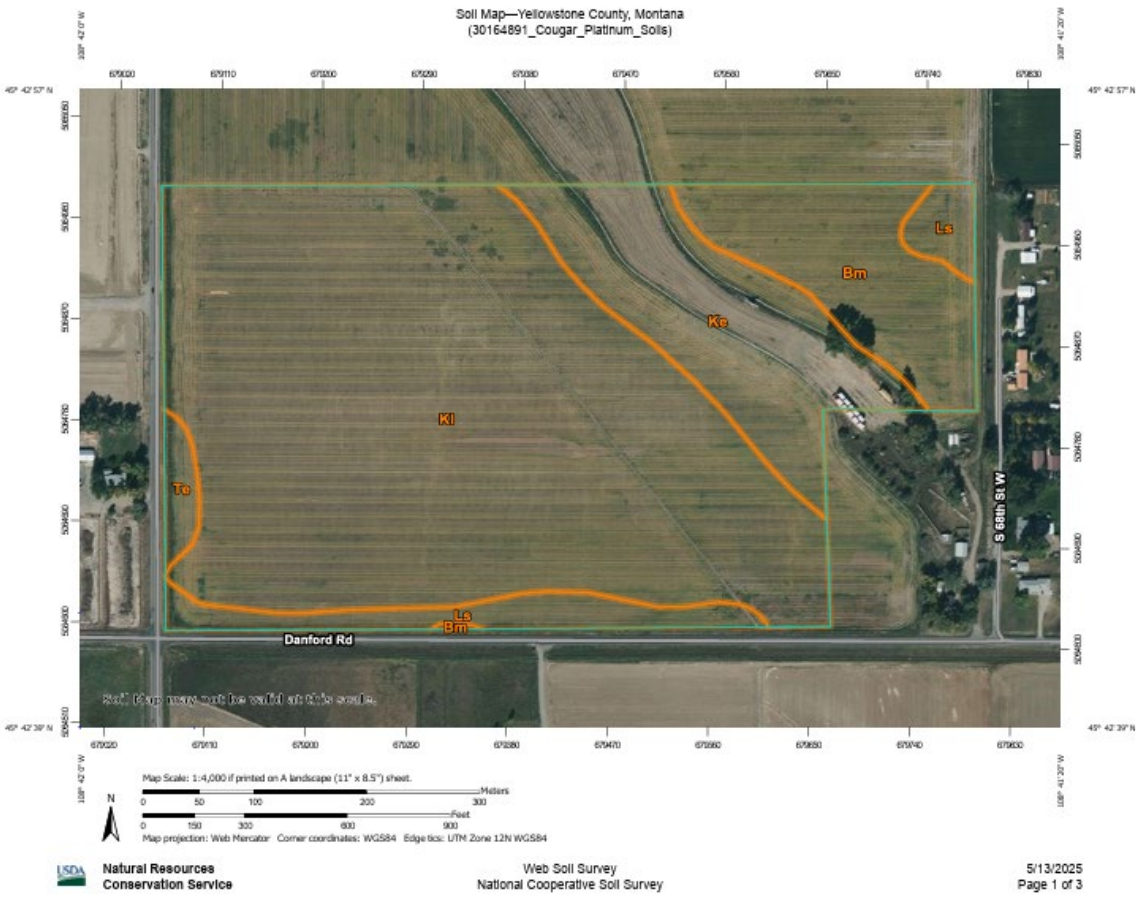
Ponds **-** No ponds were claimed or proposed in this project or identified in the general area of the project via the Montana Natural Heritage Program (MT NHP) report.

Determination: No Significant Impact

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - The project area consists primarily of Kyle silty clay, 0 to 1 percent slopes (Kl; 66.8%); Keiser silt clay loam, 1 to 4 percent slopes (Ke; 15.0%); Bew silty clay loam, 0 to 1 percent slopes (Bm; 10.8 %); and Lohmiller soils, seeped, 0 to 2 percent slopes (Ls; 6.1%), and Toluca clay loam, 0 to 1 percent slopes (Te; 1.3%).

While soil types are abundant, the source is groundwater from a well. There should be no continued effect on the soil after the construction is completed and the pipelines have been placed, covered with soil, and vegetation has had time to regrow. However, this project has a completion date of 20 years, and land cover will change from agriculture to industrial, increasing runoff.

Determination: Potential Impact



VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS – The Montana Natural Heritage Program (MT NHP) identifies cultivated crops as the primary land cover type, followed by Great Plains Floodplain, and Great Plains Mixed grass Prairie.

MT NHP identified the following as Invasive and Pest Species:

Centaurea solstitialis, Isatis tinctoria, Lythrum salicaria, Polygonum cuspidatum, Echium vulgare, Ventenata dubia, Rhamnus cathartica, Lepidium latifolium, Ranunculus acris, Centaurea diffusa, Centaurea stoebe, Convolvulus arvensis, Linaria dalmatica, Cirsium arvense, Cynoglossum officinale, Lepidium draba, Acroptilon repens, Berteroa incana, Euphorbia virgata, Potentilla recta, Tamarix ramosissima, Tanacetum vulgare, Hypericum perforatum, Leucanthemum vulgare, Elaeagnus angustifolia, and Bromus tectorum.

It will be the responsibility of the landowner to prevent the establishment and spread of noxious weeds.

Determination: No Significant Impact

AIR QUALITY – This project has a 20-year expectation to completion, with commercial usage. Their final commercial usage is unknown. The extended time frame, along with

the potential commercial usage and construction, may have a potential impact on air quality.

Determination: Potential Impact

HISTORICAL AND ARCHEOLOGICAL SITES - Not applicable; the project is not located on State or Federal Lands. The Montana State Historic Preservation Office was not consulted regarding this project. As the project is located on private property, any cultural resource inventory conducted would be at the property owner's discretion.

Determination: No Impact

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - No additional impact on other environmental resources is expected due to this project.

Determination: No Impact

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - There are no known locally adopted environmental plans or goals.

Determination: Not Applicable

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - This project will have no significant impact on recreational and wilderness activities.

Determination: No Significant Impact

HUMAN HEALTH - This project will have no significant impact on human health. However, impacts from construction could create a potential impact.

Determination: No Significant Impact

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:

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: No secondary impacts are identified

Cumulative Impacts: No cumulative impacts are identified

3. *Describe any mitigation/stipulation measures:* None at this time

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:*

The alternative to the proposed project is the no-action alternative. The no-action alternative prevents the property owner from improving the operation of their irrigation system. The no-action alternative does not prevent or mitigate any significant environmental impacts.

PART III. Conclusion

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

2 Comments and Responses: The Applicant's consultant, Performance Engineering, has completed an Environmental Assessment and Community Impact Statement for the Platinum Commercial Park Subdivision (the proposed place of use), dated November 2024, received by DNRC on May 14, 2025.

The assessment states the following:

i. Groundwater depletion and runoff (water quality) will be mitigated using vegetation buffers, ditches, and stormwater retention ponds (B2, D1).
ii. Critical plant communities were not known to be present (D1b, D2b).
iii. There are no ponds for fish or waterfowl to reside, and no known species of concern that inhabit the area (E1).
iv. There are no delineated wetlands within the AOI (D7).
v. Minimal impact on air quality due to Billings, MT, not being within an area of nonattainment (D3).

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 <u>why</u> the EA is the appropriate level of analysis for this proposed action:

No significant environmental impacts were identified; therefore, an EIS is not required. *Furthermore, the Applicant's consultant, Performance Engineering, has conducted a pre-construction environmental assessment.*

Name of person responsible for the preparation of this EA:

Name: Cassey Strebeck
Title: Water Resource Specialist
Date: May 14, 2025

Soil Map—Yellowstone County, Montana
(30164891_Cougar_Platinum_Soils)



Map Scale: 1:4,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	7.0	10.8%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	9.7	15.0%
Kl	Kyle silty clay, 0 to 1 percent slopes	43.2	66.8%
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	3.9	6.1%
Te	Toluca clay loam, 0 to 1 percent slopes	0.8	1.3%
Totals for Area of Interest		**64.7**	**100.0%**

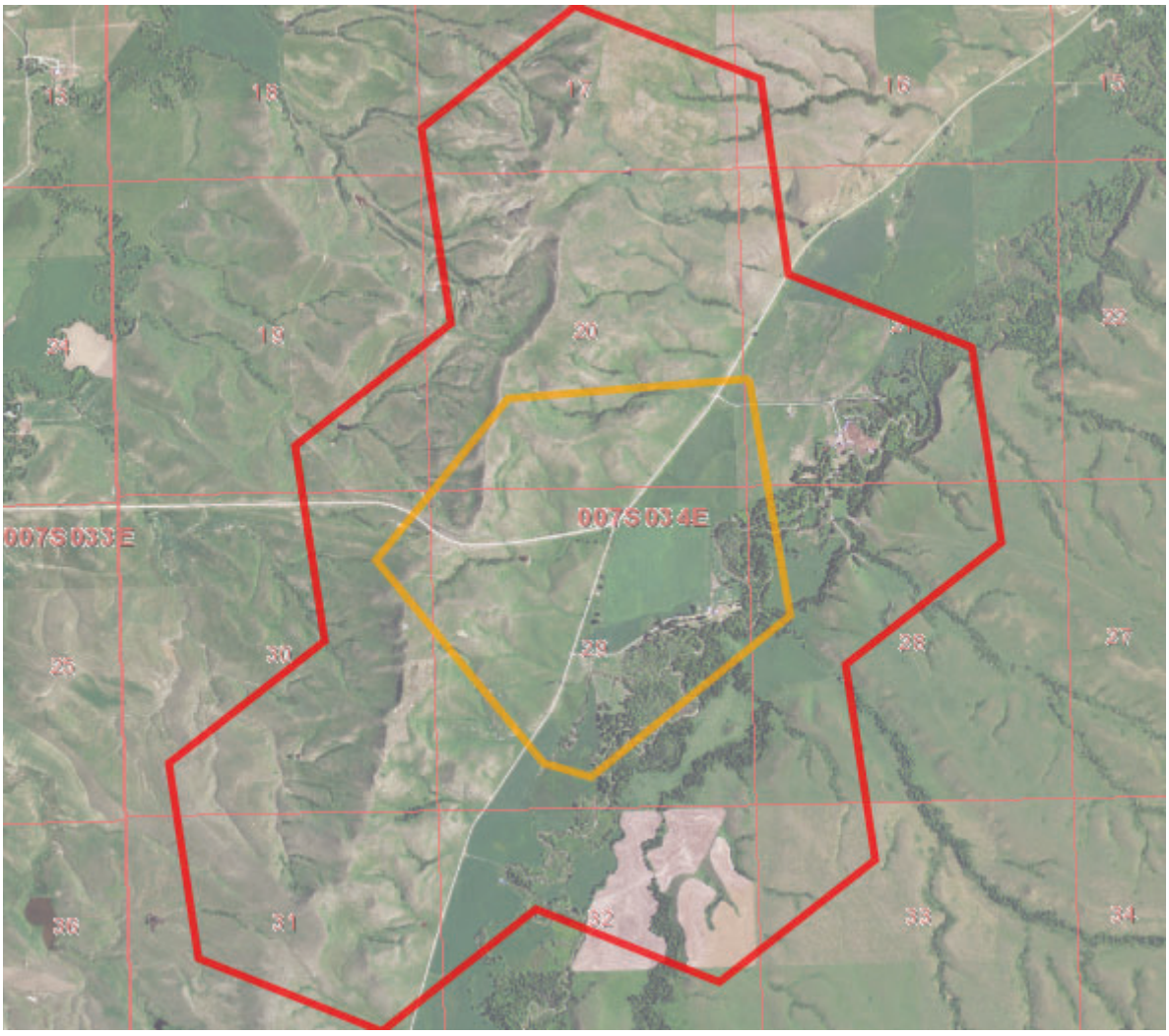
Environmental Summary

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NATURAL HERITAGE PROGRAM mtnhp.org
1201 11th Ave ▫ P.O. Box 201800 ▫ Helena, MT 59620-1800 ▫ fax 406-444-0266 ▫ phone 406-444-3989



Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Summarized by:
MT Status 188069 3.24.25
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.17876 to 45.22449 and Longitude -107.54377 to -107.59894. Retrieved on 3/24/2025.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

MONTANA STATE LIBRARY NATURAL HERITAGE PROGRAM

NATURESERVE

Table of Contents

- Species Report
- Structured Surveys
- Land Cover
- Wetland and Riparian
- Land Management
- Biological Reports
- Invasive and Pest Species
- Introduction to Montana Natural Heritage Program
- Data Use Terms and Conditions
- Suggested Contacts for Natural Resource Agencies
- Introduction to Native Species
- Introduction to Land Cover
- Introduction to Wetland and Riparian
- Introduction to Land Management
- Introduction to Invasive and Pest Species
- Additional Information Resources

Introduction to Environmental Summary Report

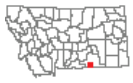
Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Index of Environmental Permits for Montana and our Suggested Contacts for Natural Resource Management Agencies. The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across North America.

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

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Legend

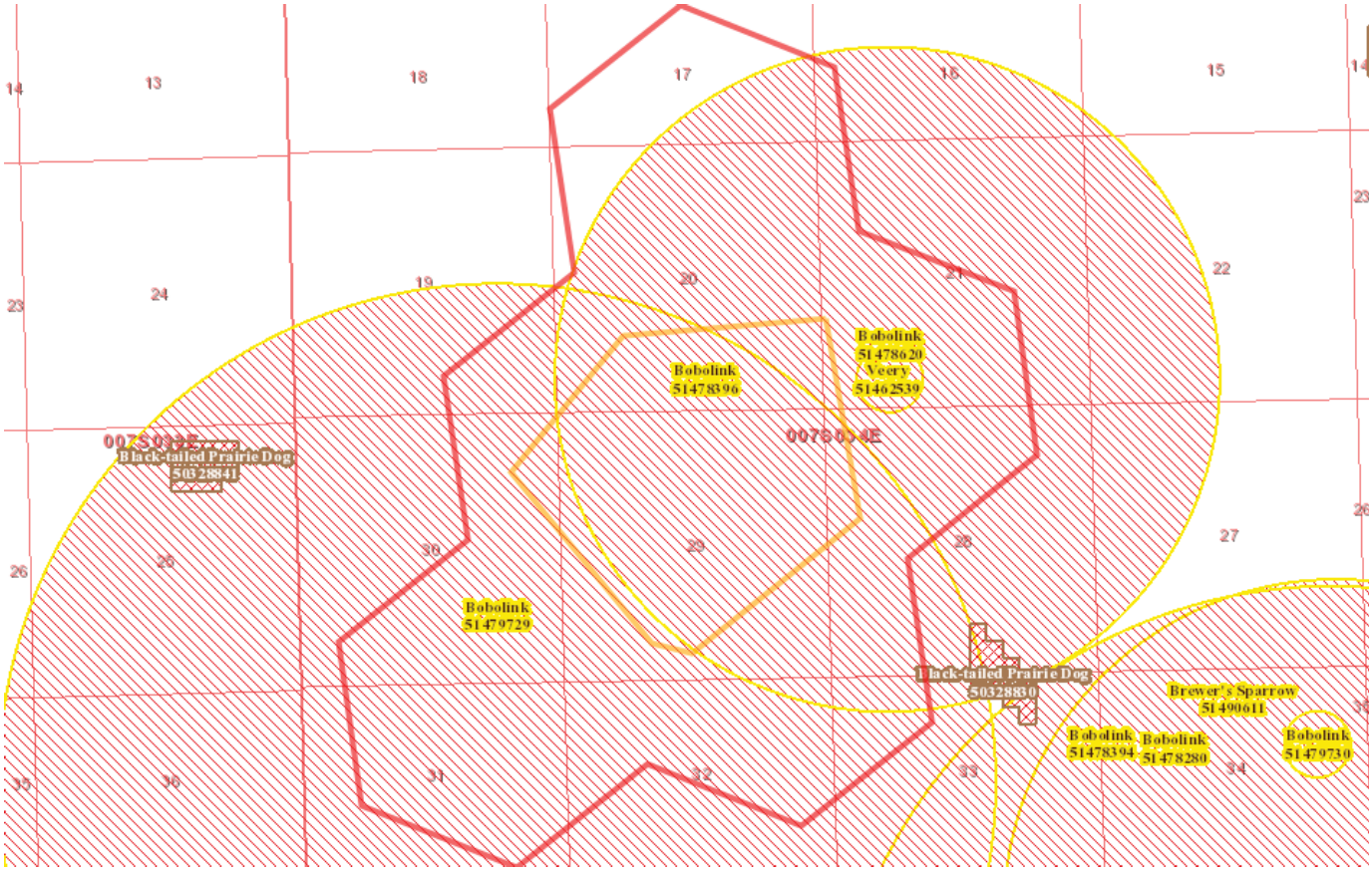
Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



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Native Species

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
B - Bobolink *(Dolichonyx oryzivorus)* SOC		3	1		S M

View in Field Guide **View Predicted Models** **View Range Maps**

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN3** PIF: **3**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Point observation location is buffered by a minimum distance of 150 meters in order to conservatively encompass male territory size reported for the species and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: M 20% Moderate (inductive), L 60% Low (inductive)

B - Veery *(Catharus fuscescens)* SOC		1			S M

View in Field Guide **View Predicted Models** **View Range Maps**

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

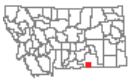
Delineation Criteria Observations with evidence of breeding activity buffered by a minimum distance of 300 meters in order to be conservative about encompassing home ranges and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 20, 2024)

Predicted Models: L 80% Low (inductive)

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Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



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Native Species

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

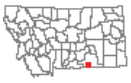
	USFWS Sec7	# Obs	Predicted Model	Range
B - Great Blue Heron *(Ardea herodias)* SOC		1		Y S M

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN3**
Predicted Models: M 40% Moderate (inductive)

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Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Native Species

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

B - Bald Eagle *(Haliaeetus leucocephalus)* **SSS** — USFWS Sec7: Y; Predicted Model: O M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** PIF: **2**
Predicted Models: O 20% Optimal (inductive), M 20% Moderate (inductive), L 60% Low (inductive)

B - Eastern Screech-Owl *(Megascops asio)* **PSOC** — USFWS Sec7: Y; Predicted Model: O M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** PIF: **3**
Predicted Models: O 20% Optimal (inductive), M 20% Moderate (inductive), L 40% Low (inductive)

B - Dickcissel *(Spiza americana)* **PSOC** — USFWS Sec7: ; Predicted Model: M L; Range: S M

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**
Predicted Models: M 100% Moderate (inductive)

I - Bombus suckleyi *(Suckley's Cuckoo Bumble Bee)* **SOC** — USFWS Sec7: ; Predicted Model: M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G2G3** State: **S1** USFWS: **P**
Predicted Models: M 60% Moderate (inductive), L 40% Low (inductive)

M - North American Porcupine *(Erethizon dorsatum)* **PSOC** — USFWS Sec7: ; Predicted Model: M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGIN**
Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

I - Danaus plexippus *(Monarch)* **SOC** — USFWS Sec7: ; Predicted Model: M L; Range: S

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **P** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)**
Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

M - Western Spotted Skunk *(Spilogale gracilis)* **PSOC** — USFWS Sec7: ; Predicted Model: M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN**
Predicted Models: M 40% Moderate (inductive), L 40% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* **PSOC** — USFWS Sec7: ; Predicted Model: M L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGCN2-3**
Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC** — USFWS Sec7: ; Predicted Model: M L; Range: S M

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN3** PIF: **3**
Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

B - Plumbeous Vireo *(Vireo plumbeus)* **PSOC** — USFWS Sec7: ; Predicted Model: M L; Range: S M

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA** PIF: **3**
Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* **SOC** — USFWS Sec7: ; Predicted Model: M L; Range: S M

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN** PIF: **2**
Predicted Models: M 20% Moderate (inductive), L 60% Low (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* **SOC** — USFWS Sec7: ; Predicted Model: L; Range: Y

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**
Predicted Models: L 100% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3**

Predicted Models: L 100% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3**

Predicted Models: L 100% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Predicted Models: L 100% Low (inductive)

M - Prairie Shrew *(Sorex haydeni)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4**

Predicted Models: L 100% Low (inductive)

M - Preble's Shrew *(Sorex preblei)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN3**

Predicted Models: L 100% Low (inductive)

M - Silver-haired Bat *(Lasionycteris noctivagans)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3**

Predicted Models: L 100% Low (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 100% Low (inductive)

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGCN1** PIF: **2**

Predicted Models: L 100% Low (inductive)

R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN2, SGIN**

Predicted Models: L 100% Low (inductive)

M - Northern Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 100% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: L 100% Low (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 80% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 60% Low (inductive)

B - Greater Sage-Grouse *(Centrocercus urophasianus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S2** USFS: **Sensitive - Known in Forests (BD)** **Species of Conservation Concern in Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **1**

Predicted Models: 60% Low (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN3**

Predicted Models: 60% Low (inductive)

B - Short-eared Owl *(Asio flammeus)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA; BCC11; BCC17** PIF: **3**

Predicted Models: 60% Low (inductive)

R - Snapping Turtle *(Chelydra serpentina)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G4G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3, SGIN**

Predicted Models: 60% Low (inductive)

V - Astragalus barrii *(Barr's Milkvetch)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3** Plant Threat Score: **Medium - Low** CCVI: **Highly Vulnerable**

Predicted Models: 60% Low (inductive)

V - Astragalus ceramicus var. filifolius *(Painted Milkvetch)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4T4** State: **S3** Plant Threat Score: **Medium - Low** CCVI: **Highly Vulnerable**

Predicted Models: 60% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE**

Predicted Models: 60% Low (inductive)

B - Rufous Hummingbird *(Selasphorus rufus)* PSOC

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G4** State: **S4B** USFWS: **MBTA; BCC10** PIF: **3**

Predicted Models: 60% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN2**

Predicted Models: 40% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN1**

Predicted Models: 40% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**

Predicted Models: 40% Low (inductive)

V - Carex gravida *(Heavy Sedge)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (CG)** Plant Threat Score: **High - Medium** CCVI: **Moderately Vulnerable**

Predicted Models: 40% Low (inductive)

V - Cirsium pulcherrimum *(Wyoming Thistle)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **Low** CCVI: **Less Vulnerable**

Predicted Models: 40% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**

Predicted Models: 40% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **3**

Predicted Models: 40% Low (inductive)

B - Black Tern *(Chlidonias niger)* SOC

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: 40% Low (inductive)

B - Broad-tailed Hummingbird *(Selasphorus platycercus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA; BCC10** FWP SWAP: **SGIN**

Predicted Models: L 40% Low (inductive)

B - Ferruginous Hawk *(Buteo regalis)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 40% Low (inductive)

B - Lewis's Woodpecker *(Melanerpes lewis)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2B** USFWS: **MBTA; BCC10; BCC17** USFS: **Species of Conservation Concern in Forests (HLC)** BLM: **SENSITIVE** FWP SWAP: **SGCN2** PIF: **2**

Predicted Models: L 40% Low (inductive)

B - Ovenbird *(Seiurus aurocapilla)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** PIF: **3**

Predicted Models: L 40% Low (inductive)

B - Red-headed Woodpecker *(Melanerpes erythrocephalus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **2**

Predicted Models: L 40% Low (inductive)

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 20% Low (inductive)

V - Eupatorium maculatum *(Spotted Joepye-weed)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S1S2** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Predicted Models: L 20% Low (inductive)

V - Physaria brassicoides *(Double Bladderpod)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** Plant Threat Score: **No Known Threats**

Predicted Models: L 20% Low (inductive)

V - Potentilla plattensis *(Platte Cinquefoil)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** Plant Threat Score: **No Known Threats** CCVI: **Highly Vulnerable**

Predicted Models: L 20% Low (inductive)

V - Streptanthella longirostris *(Streptanthella)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **No Known Threats**

Predicted Models: L 20% Low (inductive)

M - Pallid Bat *(Antrozous pallidus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN3**

Predicted Models: L 20% Low (inductive)

B - Yellow-billed Cuckoo *(Coccyzus americanus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN3, SGIN** PIF: **2**

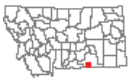
Predicted Models: L 20% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* **SOC** 7 Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **1**

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's**
Natural Resource Information System



Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Structured Surveys

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*

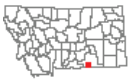
The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)* **Survey Count**: 2 **Obs Count**: 4 **Recent Survey**: 2005

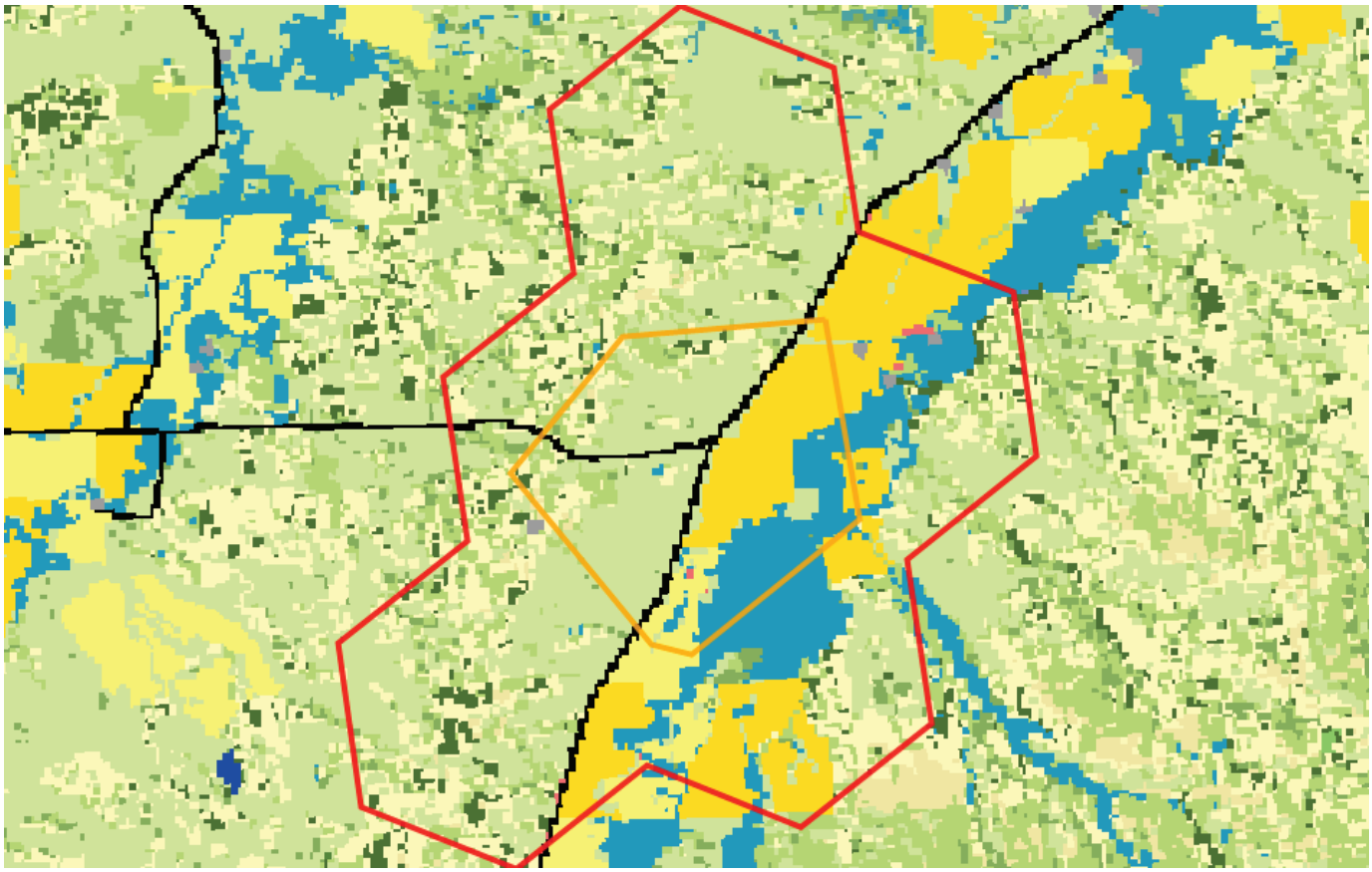
MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**



Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Land Cover

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*





37% (*1,177 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continental regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris)* and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread *(Hesperostipa curtiseta)* dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis/ Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass *(Pascopyrum smithii)* or into pure crested wheatgrass (*Agropyron cristatum)* stands.



16% (*513 Acres*)

Shrubland, Steppe and Savanna Systems
Sagebrush Steppe
Big Sagebrush Steppe

This widespread ecological system occurs throughout much of central Montana, and north and east onto the western fringe of the Great Plains. In central Montana, where this system occurs on both glaciated and non-glaciated landscapes, it differs slightly, with more summer rain than winter precipitation and more precipitation annually. Throughout its distribution, soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs with greater than 25% cover. Overall shrub cover is less than 10 percent. In Montana and Wyoming, stands are more mesic, with more biomass of grass, and have less shrub diversity than stands farther to the west, and 50 to 90% of the occurrences are dominated by Wyoming big sagebrush with western wheatgrass (*Pascopyrum smithii*). Japanese brome (*Bromus japonicus*) and cheatgrass (*Bromus tectorum*) are indicators of disturbance, but cheatgrassis typically not as abundant as in the Intermountain West, possibly due to a colder climate. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, preserving the steppe character. Shrubs may increase following heavy grazing and/or with fire suppression. In central and eastern Montana, complexes of prairie dog towns are common in this ecological system.



14% (*451 Acres*)

Human Land Use
Agriculture
Cultivated Crops

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.



12% (*384 Acres*)

Grassland Systems
Montane Grassland
Rocky Mountain Lower Montane, Foothill, and Valley Grassland

This grassland system of the northern Rocky Mountains is found at lower montane to foothill elevations in mountains and valleys throughout Montana. These grasslands are floristically similar to Big Sagebrush Steppe but are defined by shorter summers, colder winters, and young soils derived from recent glacial and alluvial material. They are found at elevations from 548 - 1,650 meters (1,800-5,413 feet). In the lower montane zone, they range from small meadows to large open parks surrounded by conifers; below the lower treeline, they occur as extensive foothill and valley grasslands. Soils are relatively deep, fine-textured, often with coarse fragments, and non-saline. Microphytic crust may be present in high-quality occurrences. This system is typified by cool-season perennial bunch grasses and forbs (>25%) cover, with a sparse shrub cover (<10%). Rough fescue (*Festuca campestris*) is dominant in the northwestern portion of the state and Idaho fescue (*Festuca idahoensis*) is dominant or co-dominant throughout the range of the system. Bluebunch wheatgrass (*Pseudoroegneria spicata*) occurs as a co-dominant throughout the range as well, especially on xeric sites. Western wheatgrass (*Pascopyrum smithii*) is consistently present, often with appreciable coverage (>10%) in lower elevation occurrences in western Montana and virtually always present, with relatively high coverages (>25%), on the edge of the Northwestern Great Plains region. Species diversity ranges from a high of more than 50 per 400 square meter plot on mesic sites to 15 (or fewer) on xeric and disturbed sites. Most occurrences have at least 25 vascular species present. Farmland conversion, noxious species invasion, fire suppression, heavy grazing and oil and gas development are major threats to this system.



10% (*328 Acres*)

Wetland and Riparian Systems
Floodplain and Riparian
Great Plains Riparian

This system is associated with perennial to intermittent or ephemeral streams throughout the northwestern Great Plains. In Montana, it occurs along smaller tributaries of the Yellowstone and Missouri rivers, as well as tributaries to the large floodplain rivers that feed them (e.g. the Milk, Marias, Musselshell, Powder, Clark's Fork Yellowstone, Tongue, etc). In areas adjacent to the mountain ranges of central and southeastern Montana, and near the Rocky Mountain Front, it grades into Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland systems. This system is found on alluvial soils in highly variable landscape settings, from confined, deep cut ravines to wide, braided streambeds. Channel migration occurs in less-confined areas, but within a more narrow range than would occur in broad, alluvial floodplains. Typically, the rivers are wadeable by mid-summer.

The primary inputs of water to these systems include groundwater discharge, overland flow, and subsurface interflow from the adjacent upland. Flooding is the key ecosystem process, creating suitable sites for seed dispersal and seedling establishment, and controlling vegetation succession. Communities within this system range from riparian forests and shrublands to tallgrass wet meadows and gravel/sand flats. Dominant species are similar to those found in the Great Plains Floodplain System. In the western part of the system's range in Montana, the dominant overstory species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood *(Populus angustifolia)* and Plains cottonwood (*Populus deltoides)* occurring as co-dominants in the riparian/floodplain interface near the mountains. Further east, narrowleaf cottonwood and Plains cottonwood become dominant. In wetter systems, the understory is typically willow (*Salix spp*.) and redosier dogwood (*Cornus stolonifera*) with graminoids such as western wheatgrass (*Pascopyrum smithii*) and forbs like American licorice (*Glycyrrhiza lepidota*). In areas where the channel is incised, the understory may be dominated by big sagebrush (*Artemisia tridentata*) or silver sagebrush (*Artemisia cana*). Like floodplain systems, riparian systems are often subjected to overgrazing and/or agriculture and can be heavily degraded, with salt cedar (*Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*) replacing native woody vegetation and regrowth. Groundwater depletion and lack of fire have resulted in additional species changes.



3% (*104 Acres*)

Forest and Woodland Systems
Conifer-dominated forest and woodland (xeric-mesic)
Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest

This ecological system, composed of highly variable montane conifer forests, is found throughout Montana. It is associated with a submesic climate regime with annual precipitation ranging from 250 to 1,000 millimeters (10-39 inches), with most precipitation occurring during winter, and April through June. Winter snowpacks typically melt off in early spring at lower elevations. Elevations range from valley bottoms to 1,676 meters (5,500 feet) in northwestern Montana and up to 2,286 meters (7,500 feet) on warm aspects in southern Montana. In northwestern and west-central Montana, this ecosystem forms a forest belt on warm, dry to slightly moist sites. It generally occurs on gravelly soils with good aeration and drainage and a neutral to slightly acidic pH. In the western part of the state, it is seen mostly on well drained mountain slopes and valleys from lower treeline to up to 1,676 meters (5,500 feet). Immediately east of the Continental Divide, in north-central Montana, it occurs at montane elevations. Douglas-fir (*Pseudotsuga menziesii*) is the dominant conifer both as a seral and climax species. West of the Continental Divide, occurrences can be dominated by any combination of Douglas-fir and long-lived, seral western larch (*Larix occidentalis*), grand fir (*Abies grandis*), ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta*). Aspen (*Populus tremuloides*) and western white pine (*Pinus monticola*) have a minor status, with western white pine only in extreme western Montana. East of the Continental Divide, larch is absent and lodgepole pine is the co-dominant. Engelmann spruce (*Picea engelmannii*), white spruce, (*Picea glauca*)or their hybrid, become increasingly common towards the eastern edge of the Douglas-fir forest belt.



3% (*85 Acres*)

Human Land Use
Agriculture
Pasture/Hay

These agriculture lands typically have perennial herbaceous cover (e.g. regularly-shaped plantings) used for livestock grazing or the production of hay. There are obvious signs of management such as irrigation and haying that distinguish it from natural grasslands. Identified CRP lands are included in this land cover type.



2% (*65 Acres*)

Forest and Woodland Systems
Deciduous dominated forest and woodland
Great Plains Wooded Draw and Ravine

This system is typically associated with highly intermittent or ephemeral streams. It may occur on steep northern slopes or within canyon bottoms where soil moisture and topography produce higher moisture levels than are common throughout most of the area. In some areas of the western Great Plains, in higher elevation draws and ravines, Rocky Mountain juniper (*Juniperus scopulorum)* can dominate the canopy. Aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), or boxelder maple (*Acer negundo*) are commonly present in portions of the northwestern Great Plains. In central and eastern Montana, green ash (*Fraxinus pennsylvanicus*) or chokecherry (*Prunus virginiana*) are the usual dominants. Douglas hawthorne (*Crataegus douglasii*) is occasionally seen as a dominant in south-central Montana, especially around the Pryor Mountains. This system is found in ravines formed by ephemeral and intermittent streams, and on toeslopes and north-facing backslopes. Generally, these systems are less than 50 meters (165 feet) wide, although the linear extent may be considerable. Soils are usually deep and loamy. Flooding is very short in duration when it occurs, as water is rapidly channeled downslope.

Additional Limited Land Cover

1% (*40 Acres*) Other Roads

1% (*20 Acres*) Montane Sagebrush Steppe

<1% (*16 Acres*) Major Roads

<1% (*6 Acres*) Low Intensity Residential

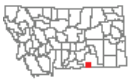
<1% (*4 Acres*) Introduced Upland Vegetation - Annual and Biennial Forbland

<1% (*2 Acres*) Greasewood Flat

<1% (*2 Acres*) Rocky Mountain Lower Montane-Foothill Shrubland

<1% (*0 Acres*) Great Plains Ponderosa Pine Woodland and Savanna

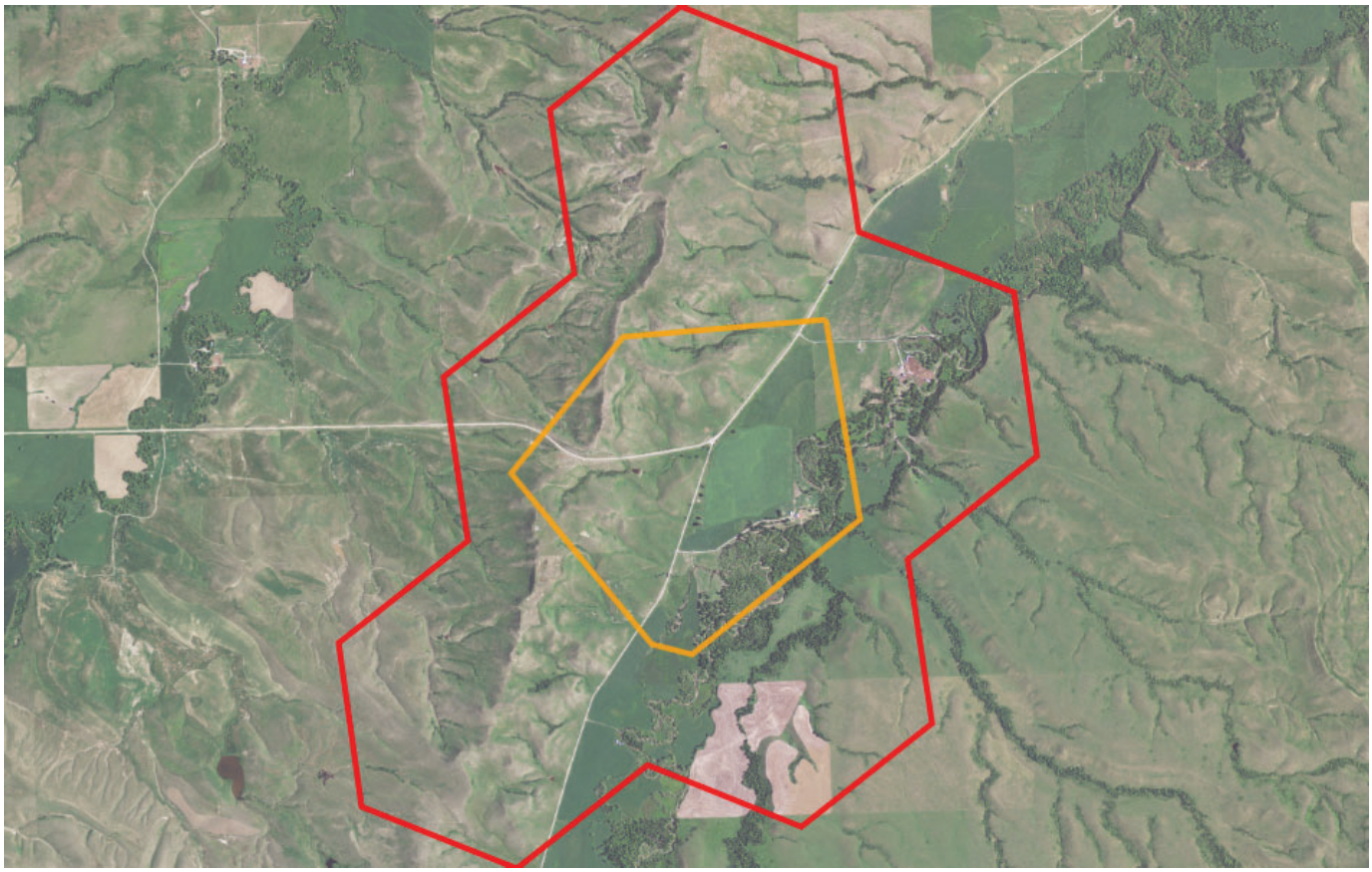
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Latitude	Longitude
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45.22449	-107.59894

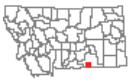
Wetland and Riparian

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*



No Wetland records were found in the selected area

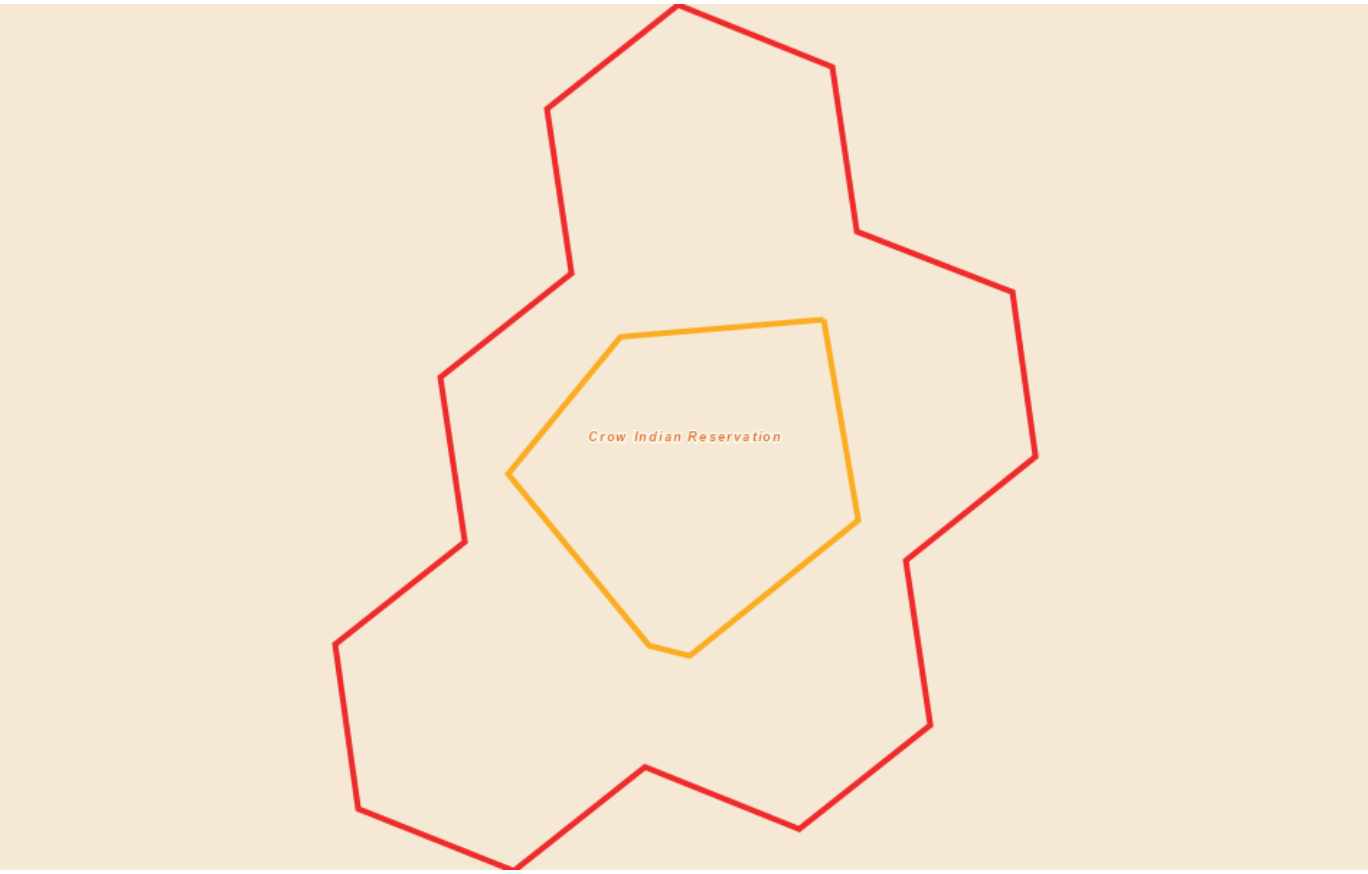
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45.17876	-107.54377
45.22449	-107.59894

Land Management

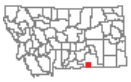
Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Reservation Boundaries		3,199 Acres (100%)		
Crow Indian Reservation		3,199 Acres (100%)		
Private Lands or Unknown Ownership	Acres (0%)			

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Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Biological Reports

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

No Biological Reports were found in the selected area

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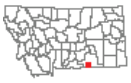
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
45.17876	-107.54377
45.22449	-107.59894

Invasive and Pest Species

Summarized by: **MT Status 188069 3.24.25** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* **N2A/AIS**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 20% Low (inductive)

V - Nymphaea odorata *(American Water-lily)* **AIS**

View in Field Guide | View Predicted Models | View Range Maps

Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**

Predicted Models: I 60% Suitable (introduced range) (deductive)

Noxious Weeds: Priority 1A

V - Centaurea solstitialis *(Yellow Starthistle)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: O 20% Optimal (inductive), M 40% Moderate (inductive), L 40% Low (inductive)

V - Isatis tinctoria *(Dyer's Woad)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 100% Low (inductive)

V - Taeniatherum caput-medusae *(Medusahead)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1A - Non-native Species Global: **G4G5** State: **SNA**

Predicted Models: L 100% Low (inductive)

Noxious Weeds: Priority 1B

V - Lythrum salicaria *(Purple Loosestrife)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**

Predicted Models: L 100% Low (inductive)

V - Cytisus scoparius *(Scotch Broom)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 60% Low (inductive)

V - Echium vulgare *(Blueweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 40% Low (inductive)

V - Polygonum x bohemicum *(Bohemian Knotweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 1B - Non-native Species Global: **GNA** State: **SNA**

Predicted Models: L 40% Low (inductive)

Noxious Weeds: Priority 2A

V - Ventenata dubia *(Ventenata)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 100% Moderate (inductive)

V - Rhamnus cathartica *(Common Buckthorn)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 20% Moderate (inductive), L 60% Low (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 40% Low (inductive)

V - Ranunculus acris *(Tall Buttercup)* N2A

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Non-native Species Global: **G5** State: **SNA**

Predicted Models: L 40% Low (inductive)

V - Myriophyllum spicatum *(Eurasian Water-milfoil)* N2A/AIS

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 20% Low (inductive)

Noxious Weeds: Priority 2B

V - Acroptilon repens *(Russian Knapweed)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B

2

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B

1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Lepidium draba *(Whitetop)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B

1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Tamarix ramosissima *(Salt Cedar)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 40% Moderate (inductive), L 60% Low (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B

1

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**

Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: M 20% Moderate (inductive), L 80% Low (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 100% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 80% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 40% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* N2B

View in Field Guide | View Predicted Models | View Range Maps

Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**

Predicted Models: L 40% Low (inductive)

V - Linaria vulgaris *(Yellow Toadflax)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 20% Low (inductive)

Regulated Weeds: Priority 3

V - Bromus tectorum *(Cheatgrass)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Elaeagnus angustifolia *(Russian Olive)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 40% Low (inductive)

Biocontrol Species

I - Mecinus janthinus *(Yellow Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: O 100% Optimal (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 60% Moderate (inductive), L 40% Low (inductive)

I - Cyphocleonus achates *(Knapweed Root Weevil)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 40% Low (inductive)

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* BIOCNTRL

View in Field Guide View Predicted Models View Range Maps
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 40% Low (inductive)

Introduction to Montana Natural Heritage Program

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.org

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information to allow users to save time and money, speed environmental reviews, and make informed decisions.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

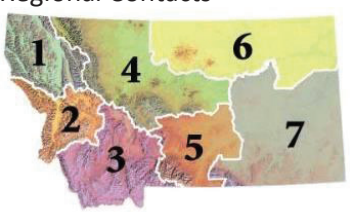
- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231 or Eric Roberts eroberts@mt.gov (406) 444-5334
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker KSmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:
https://dnrc.mt.gov/Permits-Services

Stream Permitting (310 permits) and an overview of various water and stream related permits (e.g., Stream Protection Act 124, Federal Clean Water Act 404, Federal Rivers and Harbors Act Section 10, Short-term Water Quality Standard for Turbidity 318 Authorization, etc.).
https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Bureau of Land Management

Montana Field Office Contacts:



Billings	(406) 896-5013
Butte	(406) 533-7600
Dillon	(406) 683-8000
Glasgow	(406) 228-3750
Havre	(406) 262-2820
Lewistown	(406) 538-1900
Malta	(406) 654-5100
Miles City	(406) 233-2800
Missoula	(406) 329-3914

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/ (406) 441-1375

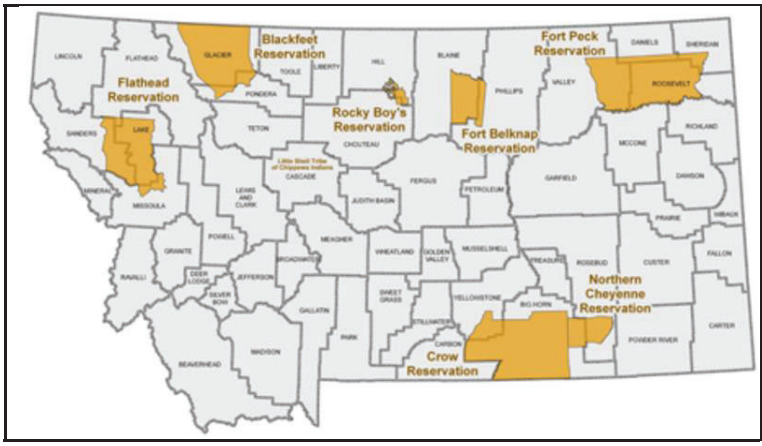
United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation]
[Assiniboine & Sioux Tribes – Fort Peck Reservation]
[Blackfeet Tribe - Blackfeet Reservation]
[Chippewa Creek Tribe - Rocky Boy's Reservation]
[Crow Tribe – Crow Reservation]
[Little Shell Chippewa Tribe]
[Northern Cheyenne Tribe – Northern Cheyenne Reservation]
[Salish & Kootenai Tribes - Flathead Reservation]

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces

[Alberta Conservation Information Management System]
[British Columbia Conservation Data Centre]
[Idaho Natural Heritage Program]
[North Dakota Natural Heritage Program]
[Saskatchewan Conservation Data Centre]
[South Dakota Natural Heritage Program]
[Wyoming Natural Diversity Database]

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff]
[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program]
[Montana Invasive Species Council (MISC)]
[Western Montana Conservation Commission]

Noxious Weeds

[Montana Weed Control Association Contacts Webpage]
[Montana Biological Weed Control Coordination Project]
[Montana Department of Agriculture - Noxious Weeds]
[Montana Weed Control Association]
[Montana Fish, Wildlife, and Parks - Noxious Weeds]
[Montana State University Integrated Pest Management Extension]
[Integrated Noxious Weed Management after Wildfires]
[Fire Management and Invasive Plants]

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non Species of Concern or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented species that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

The MTNHP manages information on several million animal and plant observations that have been reported by professional biologists and private citizens from across Montana. The majority of these observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 10,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for species of higher conservation concern to determine whether they are worthy of inclusion in the Species Occurrence (SO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary for a wetland associated plant) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Plant Species Occurrences

A documented location of a specimen collection or observed plant population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Plant SO's are only created for Species of Concern and Potential Species of Concern.

Animal Species Occurrences

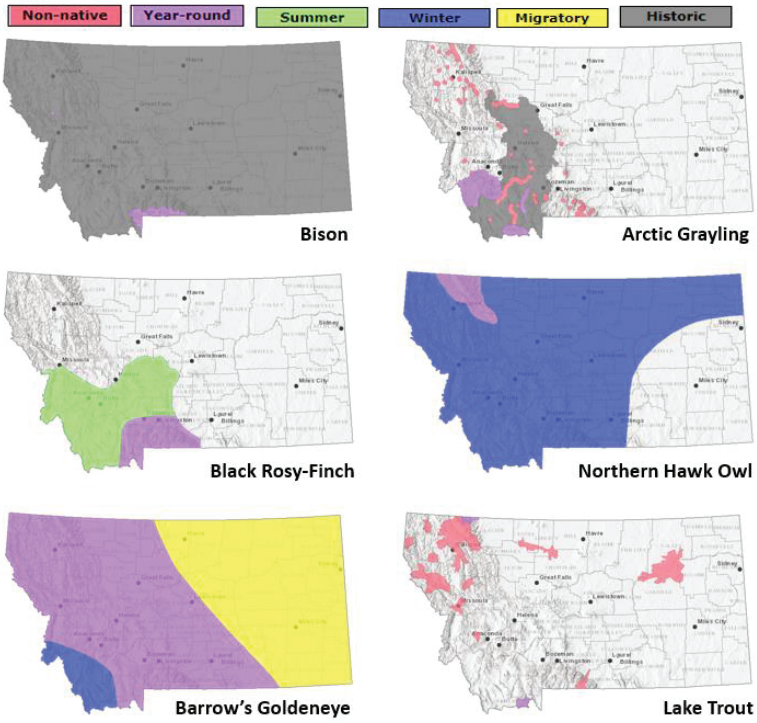
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide-ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species). Animal SO's are only created for Species of Concern and Special Status Species (e.g., Bald Eagle).

Other Occurrence Polygons

These include significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced populations have been defined for most vertebrate animal species for which there are enough observations, surveys, and knowledge of appropriate seasonal habitat use to define them (see examples to left). These native or introduced range polygons bound the extent of known or likely occupied habitats for non-migratory and relative sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some introduced species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions in order to be visible on statewide maps (e.g., fish).



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

Within the boundary of the intersected hexagons, we provide the approximate percentage of commonly or occasionally associated habitat for vertebrate animal species that regularly breed, overwinter, or migrate through the state; a detailed list of commonly and occasionally associated habitats is provided in individual species accounts in the Montana Field Guide We assigned common or occasional use of each of the ecological

systems mapped in Montana by: (1) using personal knowledge and reviewing literature that summarizes the breeding, overwintering, or migratory habitat requirements of each species; (2) evaluating structural characteristics and distribution of each ecological system relative to the species' range and habitat requirements; (3) examining the observation records for each species in the state-wide point observation database associated with each ecological system; and (4) calculating the percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system to get a measure of numbers of observations versus availability of habitat. Species that breed in Montana were only evaluated for breeding habitat use, species that only overwinter in Montana were only evaluated for overwintering habitat use, and species that only migrate through Montana were only evaluated for migratory habitat use. In general, species were listed as associated with an ecological system if structural characteristics of used habitat documented in the literature were present in the ecological system or large numbers of point observations were associated with the ecological system. However, species were not listed as associated with an ecological system if there was no support in the literature for use of structural characteristics in an ecological system, even if point observations were associated with that system. Common versus occasional association with an ecological system was assigned based on the degree to which the structural characteristics of an ecological system matched the preferred structural habitat characteristics for each species as represented in the scientific literature. The percentage of observations associated with each ecological system relative to the percent of Montana covered by each ecological system was also used to guide assignment of common versus occasional association.

We suggest that the percentage of commonly associated habitat within the report area be used in conjunction with geographic range polygons and the percentage of predicted optimal and moderate suitable habitat from predictive models to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning. Users of this information should be aware that land cover mapping accuracy is particularly problematic when the systems occur as small patches or where the land cover types have been altered over the past decade. Thus, particular caution should be used when using the associations in assessments of smaller areas (e.g., evaluations of public land survey sections).

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the landowner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

Effects of Recreation on Rocky Mountain Wildlife

Laws, Treaties, Regulations, and Agreements on Animals and Plants

MTNHP Staff Contact Information

Montana Field Guide

MTNHP Species of Concern Report - Animals and Plants

MTNHP Species Status Codes - Explanation

MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)

MTNHP Request Information page

Montana Cadastral

Montana Code Annotated

Montana Fisheries Information System

Montana Fish, Wildlife, and Parks Subdivision Recommendations

Montana Forestry Best Management Practices

Montana GIS Data Layers

Montana GIS Data Bundler

Montana Greater Sage-Grouse Project Submittal Site

Montana Guide to Streamside Management Zone Law and Rules

Montana Ground Water Information Center

Montana Index of Environmental Permits, 21st Edition (2018)

Montana Environmental Policy Act (MEPA)

Montana Environmental Policy Act Analysis Resource List

Montana Native Plant Conservation Strategy

Montana Spatial Data Infrastructure Layers

Montana State Historic Preservation Office Review and Compliance

Montana Stream Permitting: a guide for conservation district supervisors and others

Montana Water Information System

Montana Web Map Services

National Environmental Policy Act

Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)

U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)

Uses of Information from the Montana Natural Heritage Program

Web Soil Survey Tool

Xerces Society for Invertebrate Conservation Resources

Environmental Assessment and Community Impact Statement

Platinum Commercial Park Subdivision

Yellowstone County, Montana

Prepared For:

KE Construction

9428 Anglers Way

Billings, MT 59101

Prepared By:

Performance Engineering

3412 Colton Boulevard, Suite 202

Billings, MT 59102

(406) 384-0080

performance-ec.com

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Executive Summary

KE Construction has proposed the development of a 14-lot subdivision to be sited on privately owned land in Yellowstone County, MT.

The proposed Platinum Commercial Subdivision (the Project) is located on the northeast corner of S 72nd Street W and Danford Road, Yellowstone County, Montana. The legal description is located on Tract 1 of Certificate of Survey 3861 in the S 1/2, SW ¼ of Section 30, Township 01 South, Range 25 East, Yellowstone County, Montana. The area of interest (AOI) currently consists of approximately 67.31 gross acres of agricultural land, from which the proposed subdivision will dedicate a portion of land to Yellowstone County as dedicated right-of-way. This brings the AOI to approximately 62.4 acres of land that will be evaluated in this report.

The Environmental Assessment and Community Impact Statement provides an analysis of potential environmental impacts that may result from actions related to the construction and operation of the Project.

I. Description of Environmental Features

A. Surface Water

1. Plat Overlay or Sketch Map

NEPAssist, an Environmental Protection Agency (EPA) resource tool, was used to create a map of the AOI with the following features:

a. *Any natural water systems.* Natural water systems that include impaired streams, impaired waterbodies, streams, water bodies, sole source aquifers, and wild and scenic rivers are not present in the AOI.

b. *Any artificial water systems*. There will be drilling of wells to supply water to each lot developed within the AOI.

c. *Time when water is present.* Yellowstone County has a milder climate with precipitation levels staying "Near Average" earlier in the year and "Slightly Dry" to "Moderately Dry" in the summer and fall months. Precipitation levels fluctuate slightly year to year, according to the Montana Official State Website, but stay fairly on trend.

d. *Subject to flood hazard or in delineated 100-year floodplain.* According to NEPAssist and FEMA's National Flood Hazard Layer (Official), the AOI is in an area of Minimal Flood Hazard.

e. *Existing or proposed stream bank alteration.* No lake beds or stream channels exist in the proposed AOI.

A topographical map of the existing site and the proposed project layout are provided in Appendix A and Appendix B, respectively. See Appendix C for the NEPAssist Report and Appendix D for the FEMA Flood Map.

B. Groundwater

1. Groundwater Depth.

Groundwater monitoring was performed within the AOI for a full year prior to submittal. During the monitoring it was found that groundwater varies throughout the AOI fairly significantly. The highest measurement coming from Lot 6, Block 1 at a depth of 1.03 feet from the surface while there was no groundwater encountered at Lot 6, Block 2. The naming of the subdivisions has changed since the beginning of groundwater monitoring, a map of the groundwater monitoring locations can be found in Appendix E.

2. Steps to Avoid Depletion/Degradation of Groundwater Recharge Areas

Vegetated buffers are areas of natural or established vegetation maintained to protect the water quality of neighboring areas. Buffer zones slow stormwater runoff, provide an area where runoff can permeate the soil, contribute to ground water recharge, and filter sediment. Buffer zones within the AOI include storm water ditches for conveyance as well as stormwater detention ponds.

Each lot will have its own individual well for domestic use and irrigation of lawns, gardens, etc. Individual wells on each lot will be designed to meet Montana Department of Environmental Quality (MDEQ) and Montana Well Driller Association requirements.

C. Topography, Geology, and Soils

1. Topographic Map and Suitability for the Proposed Land

See Appendix A for the existing topographic map of the area to be subdivided.

A Custom Soil Resource Report for Yellowstone County Area was developed by the United States Department of Agriculture Natural Resources Conservation Service (NRCS). The Soil Report can be found in Appendix F, including a Custom Soil Resource Report Soil Map.

The AOI consists of Kyle silty clay, Bew silty clay loam, Keiser silty clay loam, Lohmiller soils, and Toluca clay loam.

2. Highly Erodible Soils or Slopes

The Soil Resource Report Soil Map can be found in Appendix F. After careful review of the Soil Report, it was determined there are no areas within the project zone with slopes more than 15% and there are no anticipated unusual conditions in the AOI.

3. Hazard Prevention

Safety meetings will be held throughout the construction process to make personnel aware of the potential physical (mud, rock) and seasonal hazards (snow, ice) on site.

According to FEMA Flood Map, the AOI is in an area of Minimal Flood Hazard as seen in Appendix D. The high groundwater depth, as mentioned in Section B, fluctuates throughout the site. A site map showing high groundwater can be found in Appendix E. Groundwater cycles should be noted such that if dewatering is needed, construction crews are prepared. It is anticipated that a high-water table could be a hazard within the AOI.

The FEMA Earthquake Hazards Maps symbolize “seismic design categories (SDCs)”, which reflect the likelihood of experiencing earthquake shaking of various intensities. According to the FEMA Earthquake Hazards Map, the AOI could experience shaking of moderate intensity if an earthquake were to occur. A FEMA Earthquake Hazards Map can

be found in Appendix G. Subdivision development will meet the International Building Codes and any additional seismic requirements allocated to the area.

4. Cut and Fill

Cut and fill of more than three feet in depth will take place in a variety of locations within the AOI in association with installation of septic systems, water wells, roadway and stormwater retention features. The Montana Department of Environmental Quality Water Protection Bureau requires a Storm Water Pollution Prevention Plan (SWPPP) for construction activity be completed prior to development and maintained at the construction activity site.

D. Vegetation

1. Vegetation Map

See Appendix E for the All-Ecological Sites map provided by the NRCS.

a. *Distribution of major vegetation types.* The plant community consists of primarily tall and medium grasses, forbs and shrubs. Further details of the plant community can be found in the Custom Soil Resource Report for Yellowstone County Area, Montana. The major vegetation types that exist on the site are crops consisting of grass and hay crops during the crop season.

b. Location of critical plant communities. Critical plant communities such as shoreline vegetation, stream bank, and vegetation on steep unstable slopes are not applicable in the AOI.

2. Vegetation Preservation

a. *Preserve trees and other natural vegetation, e.g., locating roads and lot boundaries and planning construction to avoid damaging tree cover.* The boundary lines for the AOI can been found on the map in Appendix B. As shown on the map, the AOI is bordered by S 72nd Street W to the west and Danford Road to the south. The AOI includes minimal tree cover only holding approximately 6 large cottonwood trees along the existing irrigation ditch.

b. *Protect critical plant communities, e.g., keeping structural development away from these areas or setting areas aside for open space.* There are no other critical plant communities known to exist on the AOI.

c. *Prevent and control grass, brush or forest fires, e.g., green strips, water supply, access.* Individual lot owners will be encouraged to water their lawns and other areas to mitigate the severity of a potential fire. A storm water collection system will be in place in the AOI which will act as buffer strips. These types of fires tend to occur in summer

months when irrigation ditches can provide water reserves if needed. A 30,000-gallon dry hydrant will be constructed and will be available for service upon completion.

d. Measures to control noxious weeds. The type and extent of noxious weeds is evaluated during an inspection conducted by the Weed Coordinator of the Yellowstone County Weed District. The inspection will be conducted within the timeframe of May through October to ensure the results are conclusive. Depending on the results from the weed inspection, a noxious weed plan may be submitted.

During construction, noxious weed contaminated material (if present) will not be removed from the site, nor placed in an area that has not been previously infested with noxious weeds. The developer will be responsible for weed control on lots after the development of the subdivision and prior to private purchase. Residents will be responsible for properly seeding their yards to prevent noxious weeds in the long term.

E. Wildlife

1. Species of Fish and Wildlife

There are no surface water bodies within the AOI, therefore, risk to species of fish is negligible. However, species of protected birds, as well as a variety of upland game birds, deer, and nongame wildlife common on the prairies of Eastern Montana can be present in the area.

The Monarch Butterfly is officially listed as an endangered species by the Fish and Wildlife Service, and a standalone assessment was conducted to make an effective determination for the project. The U.S. Forest Service Migratory and Overwintering Map shows the Monarch Butterfly migrates primarily through Northeastern Montana, from Canada to the Dakotas.

Certain birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The following birds listed on the USFWS Birds of Conservation Concern list, have the potential to be affected by activities in this location: Bald Eagle, Golden Eagle, California Gull, Franklin's Gull, Grasshopper Sparrow, Lark Bunting, Northern Harrier, and Western Grebe. Of the species previously listed, there are no known inhabitants in the AOI.

2. Map Identifying Critical Wildlife Areas

According to the U.S. Fish and Wildlife Service's IPaC Information for Planning and Consultation, there are no critical habitats within the AOI.

3. Measures of Protection

To create and maintain biodiversity, the developer must consider all three major phases of development: design, construction, and post-construction.

The design phase will determine the placement of buildings, lots, and roads while designating the remaining area to the current owner of Tract 1 of COS 3861. Where practicable, driveways, access roads, and utility corridors will use or share existing accesses and right of ways to create an efficiency of space. Natural vegetation will be incorporated as buffers between development and adjacent properties to create a diversified, visually restored habitat and safe corridors for animals.

During the construction phase the viability of onsite and nearby natural habitat will be maintained through Best Management Practices. The placement of topsoil and routes used by heavy construction vehicles can impair survival of trees or native vegetation. Therefore, the route construction vehicles and equipment will use to access the subdivision and placement of materials will be evaluated prior to construction to minimize impact.

The post construction phase is the responsibility of the commercial occupants individually and collectively to manage their businesses, yards, neighborhoods, and common areas in ways that do not compromise the original intent of the community. Recognizing ways to responsibly manage their yards and neighborhoods are critical factors to restoring and conserving biodiversity within the developed AOI.

Lot owners can minimize the impact of pets on wildlife by keeping cats indoors and dogs on leashes, as well as cleaning up after the pet. Light and noise pollution can be minimized by installing dark-sky lighting fixtures that direct light downward and minimize the amount of light that shines outward and upward.

II. Summary of Probable Impacts

A. Effect on Agriculture

1. Acres Removed from the Production of Crops or Livestock.

The AOI currently consists of a parcel approximately 67.31 acres in size. Due to the proposed development, the AOI will have a change of use from agricultural land to commercial development. Agricultural production will cease upon completion of the development.

2. Acres of Prime Farmland Removed

The AOI is approximately 67.31 acres, 4.7% of which is considered "farmland of statewide importance" and 11.7% of which is considered "prime farmland if irrigated" according to the NRCS Custom Soil Report. The remaining 83.6% of the AOI is classified as "Not Prime Farmland." All the farmland within the AOI will be removed within the project zones, previously defined as the proposed roadways and lots within the AOI.

3. Effect on Use of Remainder and Adjoining Properties as Farm or Ranch Land

The existing irrigation ditches will be relocated within the AOI. The development will ensure there will be no adverse impacts on adjoining farm or ranch land.

4. Potential Conflicts with Adjacent Agricultural Operations

a. Interference with movement of livestock or farm machinery, maintenance of fences, weed proliferation, vandalism or theft, harassment of livestock by pets or humans. There are no anticipated potential conflicts with the surrounding agricultural operations due to the development of the AOI.

b. Effect on market value of surrounding land and the net effect on taxes resulting from additional services. The effect on the market value of the surrounding land may improve due to the expansion of commercial land use within the area. The additional services provided will be dedicated roads and water and sewer infrastructure within the AOI. The net effects of taxes on the surrounding land may be minimal.

B. Effect on Agricultural Water User Facilities

1. Location of or Proximity to Agricultural Water User Facilities.

The existing irrigation ditch that runs through the property will not be utilized for agricultural water by the development. Plans for the AOI will be submitted ensuring the development will keep irrigation available for the property to the north.

2. Potential conflicts Between Facility Users and Subdivision Residents

   Every subdivision property will have their own water well, which will minimize potential conflicts regarding water use.

3. Water Rights

   It is anticipated that the peak flow will be 135 gpm for domestic and park irrigation, which will be applied for as a new water right through the Montana Department of Natural Resources and Conservation (DNRC).

4. Vehicular Access to Facility

   The AOI will be accessed via one entrance on Danford Road and one entrance on S 72nd Street W.

C. Effect on Local Services

1. Increased Demand on Services and Need to Expand Services

   Impacts due to increased demand on services should be minimal from the development of the 14-lot commercial subdivision. The increased demand and impacts thereof are discussed in detail below.

2. Ability to Provide Services to Subdivision

   a. *Response times*

      The AOI is located within the Billings Urban Fire Service Area (BUFSA) and is serviced by the BUFSA. BUFSA is serviced by Billings Fire Station #7 located in Billings, Montana and is approximately 5.5 miles from the AOI. The Yellowstone County Sheriff's Department is located in Billings, Montana, located approximately 11.4 miles away. There are several ambulance services located in the county, all located in a close vicinity to Billings. All response times to the AOI may vary depending on where the response teams are located at the time of the call. Minimal to no additional burden or adverse effect is anticipated and the listed services (BUFSA, Yellowstone County Sheriff's Department, and ambulance) already provide services to the adjacent properties and developments along Danford Road and S 72nd Steet W.

   b. *Conditions or roads, bridges, and railroad crossings*

      The primary roadway accessing the AOI is S 72nd Street W and Danford Road. Yellowstone County maintains these existing roads and are in good condition. No additional burden or adverse effect is anticipated which will be detailed in the Traffic Impact Study being prepared for the AOI.

c. Physical barriers

There are no known physical barriers to the AOI. No additional burden or adverse effect is anticipated.

3. Provision of Adequate Local Services and Public Facilities Simultaneous

Sufficient public services are available for the AOI which include solid waste collection contractor, emergency medical response, fire department, and law enforcement. Private utilities such as power, gas, telephone, and cable can be extended to the AOI at the discretion of the lot owner.

4. Any Special or Rural Improvement Districts that Would Obligate Local Government Involvement Fiscally or Administratively

A Rural Special Improvements Districts (RSID) will be created for the maintenance of the proposed roads, fire protection services, and community wastewater treatment system located within the AOI. The RSID will be established as part of the platting process. Fees will be added to the County tax assessment for each subdivided lot.

D. Effect on Natural Environment

1. Runoff Reaching Surface Waters

The soils reported from the NRCS Web Soil Survey are primarily clay loams, silty clay loam, and silty clay. These soils are moderately drained depending on proximity of groundwater elevations. These soils will require strategic placement of both wastewater treatment facilities as well as stormwater management facilities to allow for the storm water runoff in retention ponds to empty and recharge the ground water.

After infiltrating and recharging the ground water, runoff reaching surface waters is unlikely therefore, potential impacts to surface waters would be minimal. The nearest surface water to the AOI is a the Danford Drain located approximately 630’ northeast of the northeastern most corner of the AOI.

2. Impacts on Ground Water Quantity and Quality

There will be water wells constructed on each lot within the AOI. The proposed wells will provide source water to each lot proposed in the AOI. Private septic tanks and will be constructed for those lots that will then convey wastewater to a community drainfield within the AOI. The drainfield will be installed with sufficient distance between wells as to not affect the zones of influence.

3. Impacts on Air Quality

According to the EPA, Billings, MT is not within an area of nonattainment. The air quality in the area is good and typical for a rural community in Yellowstone County, therefore, the impact of development will be minimal to air quality.

4. Impacts on Scenic Resources

There are no known scenic resources located within the project development area.

5. Impacts on Historic, Pre-Historic, and Cultural Resources

According to the Montana State Historic Preservation Office's Cultural Resource Database, the AOI is situated in an inventoried area that has not been found to contain a historical or cultural site. The Montana State Historic Preservation Office (SHPO) maintains that as long as there will be no disturbance or alteration to structures over fifty years of age, there is a low likelihood that cultural properties will be impacted. Therefore, since the AOI currently has no structures within its limits, the projected impacts to historic, pre-historic, and cultural resources are assumed to be negligible.

6. Noxious Weeds

Noxious weeds degrade habitat, crowd native plants, create fire hazards, poison and injure animals and humans. Areas with a history of disturbance are at a risk of weed encroachment.

If the presence of noxious weeds is determined during the weed inspection, a Noxious Weed Control Plan may be required prior to final plat recordation, which details measures to be taken to control noxious weeds.

To reduce the spread and establishment of noxious weeds and to re-establish permanent vegetation, disturbed areas will need to be seeded with desirable plant species.

7. Wetlands Not Covered Under Nationwide Permits

There are no delineated wetlands within the AOI.

E. Effect on Wildlife and Wildlife Habitat

1. Loss of Significant, Important, and Critical Habitat

According to the U.S. Fish and Wildlife Service's IPaC Information for Planning and Consultation, there are no critical habitats within the AOI. According to Montana Sage Grouse Habitat Conservation Map, the AOI is not within sage grouse habitat.

2. Impacts on Significant, Important, and Critical Habitat

According to the U.S. Fish and Wildlife Service's IPaC Information for Planning and Consultation, there are no critical habitats within the AOI. Critical habitat for listed species is not known to be present on the AOI; however, changing the land use could potentially impact some food supply for multiple species of birds.

The AOI will not close existing operations in the area and will not develop new points of access to public lands. Two roads will be constructed to access the site, the major road will connect Danford Road and S 72nd Street W is the access road going through the property connecting to Danford Road and S 72nd Street W with the second road connecting the property to the north with the AOI to serve as connection for any potential future development.

F. Effect on Public Health and Safety

1. Creation of Potential Man-Made Hazards

Two intersections will be developed to provide access from the AOI to Danford Road on the south side of the AOI and S 72nd Street W. Safety signs will be in place at the intersections to minimize potential hazards. Due to the nature of the AOI, the hazard potential should be minimal.

2. Natural Hazards

Land instability, flooding, ponding, drought, and fires are natural hazards considered in the design process of the AOI. The AOI development will meet the International Building Codes and any additional seismic requirements allocated to the area.

Grassland fires are a potential hazard within the AOI. Fire hazards will be minimized in several ways including, provision of adequate on-site water supply, limiting fire fuels within the AOI, and community awareness.

Natural hazards such as steep slopes, wildfires (timber), high-risk floodplains were determined to be negligible within the project zone of the AOI.

3. Traffic Safety

Driveways, access roads, and utility corridors will use or share existing access points and right of ways where feasible. Asphalt roads will be constructed within the AOI and will connect with Danford Road and S 72nd Street West, which are a both Principal Arterials. Appropriate safety measures will be put in place at these intersections as identified in the Traffic Impact Study prepared for the AOI.

4. Emergency Vehicle Access

   Upon completion of construction, emergency services will have full access to all commercial buildings from dedicated public roads. Emergency vehicle access to the developed AOI will have one point of entry from Danford Road and one point of entry from S 72nd Street W.

5. Emergency Medical Response Time

   Upon completion of construction, emergency services will have full access to all commercial buildings from dedicated public roads. Emergency response time will vary depending on the location of the response team at the time of the call.

6. Condition of Road Getting to Proposed Subdivision

   Danford Road is in good condition within the AOI. The road currently shows no signs of deterioration or structural instability. The proposed traffic is negligible when compared to the capacity of the roads and will therefore have minimal impact. This is further detailed in the submitted Traffic Impact Study.

7. Condition of Bridges on Road Leading to Proposed Subdivision

   There are currently no bridges on the access road leading to the AOI.

8. Other Items that Endanger Public Health and Safety

   Weather conditions can be unpredictable and have the potential to cause hazards on the roads.

III. Community Impact Report

A. Education and Busing

1. Available Educational Facilities

The AOI falls in School District #7 (Laurel) for elementary, middle, and High School. The elementary and high school facilities are approximately 4.5 miles from the AOI.

2. Affected School System

It is assumed due to the subdivision being only commercial developments there will be no additional students to the Laurel School District created by the AOI. As a result, it is also assumed this will not create any negative impacts on the school district.

B. Roads and Maintenance

1. Daily Traffic

a. Capability of existing and proposed roads to accommodate increase in traffic.

It is estimated the commercial lots within the subdivision will contribute more approximately 73 trips per day each on average (Institute of Traffic Engineering Trip Generation, Industrial Park Land Use, 2.91 trips/day per employee), nearly reaching the requirement of 1,000 trips/day for conduction of a traffic impact study per the Yellowstone County Subdivision Regulations. As the total estimated trips per day may vary dependent on the end land use of each lot, a Traffic Impact Study (TIS) has been prepared for the proposed subdivision based on the aforementioned trip generation assumptions for Industrial Park Land Use and an estimated 25 employees per lot.

b. Increased maintenance problems and cost

The development of the AOI will have a relatively small footprint, which is not estimated to have a significant increase in cost for maintaining roads. The developer will finance the construction of the roadways within the AOI. Maintenance of the asphalt roads within the AOI will be provided by the RSID.

2. Proposed New Public or Private Access Roads

a. Storm run-off

A SWPPP will be completed prior to the road construction. The SWPPP will provide information on methods such as best management practices (BMPs) to prevent water pollution due to construction activities. A RSID for maintenance

of roadways, dry fire hydrant tank, and community wastewater treatment system will be established prior to filing the final plat of the AOI, which will establish an initial maintenance schedule for the public roadways, hydrant, and wastewater system.

b. Road surface and provisions for dust

Dust shall be minimized during construction of the AOI as specified in the construction specifications. The constructed roads will have an asphalt surface, which will minimize dust.

c. Facilities for streams or drainage crossing

Culverts will be installed where the interior road connects to Danford Road and S 72nd Street W.

d. Seeding of disturbed areas

Residents will be required to seed their properties with species of vegetation that are conducive to the native environment.

3. Closing or Modification of Existing Roads

There is no proposed closure or modification to any existing roadway.

4. Road Access within the Subdivision

Access to the AOI will be provided via one new approach from Danford Road and one new approach from S 72nd Street W. The new road extending from these approaches shall be designed to maximize pedestrian safety and circulation within the AOI. Due to the location of the subdivision (rural area), the average lot size being greater than one acre, and the anticipated use as commercial lots, the foot traffic within and into and out of the AOI is expected to be minimal, as such no pedestrian facilities are proposed with the subdivision. There will be no access to any individual lot directly from Danford Road or S 72nd Street W.

5. Year-Round Access

The AOI will be available for year-round access by conventional automobile over legal rights-of-way. No private property will be traversed to access the AOI.

6. Installation, Maintenance, Snow Removal

The existing adjacent roadways are owned and maintained by Yellowstone County. It is expected that additional revenue from taxes on the subject property would offset any additional roadway maintenance costs, including snow removal, as established by the RSID.

C. Water, Sewage, and Solid Waste Facilities

1. Water Supply and Sewage Treatment Systems

Each lot will have an individual well and septic tank. Wastewater from each individual septic tank will then be pumped to a community drainfield with a Low-Pressure Sanitary Sewer.

2. Cost and Finance

The wastewater systems will be designed by Performance Engineering and will go through the requisite approval process by the Montana Department of Environmental Quality and DNRC. The property owner or lot developer will finance the development of both of the systems.

3. Solid Waste Generated, Collecting and Disposing

Residents of the AOI will have to set up an agreement with a contracted solid waste removal company. The solid waste will be collected from the individual lots and then transported to the City of Billings landfill.

4. Disposal Company

Disposal services in the area are Republic Services and MacKenzie Disposal Inc. that will be contracted by the residents of the AOI.

D. Fire Protection

1. Fire District

The AOI will fall under jurisdiction of the Billings Urban Fire Service Area. The station is located in Billings, Montana approximately 5.5 miles from the AOI. There are six other stations within Billings as back up response teams as well as the Laurel Fire Department located approximately 4.7 miles from the AOI. These will have longer response times.

The subdivision is anticipated to be serviced by a 30,000-gallon dry fire hydrant in constructed with this subdivision in the location depicted on the plans.

2. Response Time

Due to the close proximity of the fire stations located within Laurel and Billings, Montana, and generally low traffic volumes in the area, changes to response time should be minimal, but may vary.

E. Law Enforcement Protection

1. Law Enforcement Personnel and Response Time

   The Yellowstone County Sheriff's Office is the chief law enforcement agency in Yellowstone County, Montana. The Yellowstone County Sheriff's Department is located in Billings, Montana approximately 11.4 miles northeast of the AOI. The Department is responsible for patrolling all of Yellowstone County and currently employs 57 officers. Response time will vary depending on the patrol schedule, who is on duty, and location of the officer at the time of the call. Due to the AOI being in a location that is already patrolled by the Yellowstone County Sheriff's Department, it is predicted that impacts to the efficiency of the department due to the AOI development will be negligible.

2. Law Enforcement Requirements

   There are no supplemental requirements of law enforcement to serve the AOI due to it already being served by the Yellowstone County Sheriff's office.

3. Source

   Yellowstone County Human Resources, (406) 256-2705

F. Payment for Extension of Capital Facilities

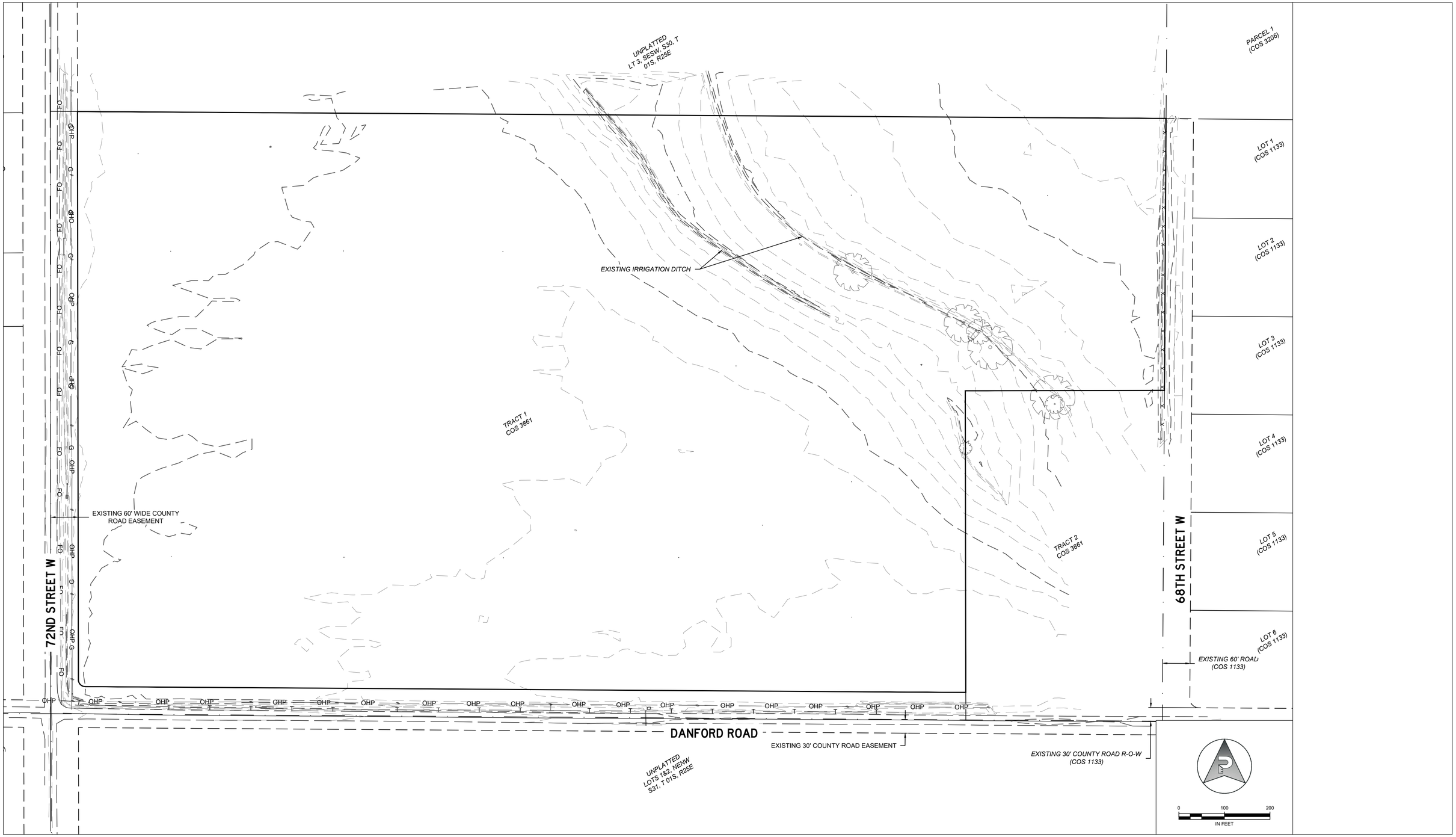
The subdivider will pay for the cost of extending capital facilities required from expected impacts directly attributable to the AOI with capital if deemed necessary.

References:

- City of Billings Fire Service; https://www.billingsmt.gov/DocumentCenter/View/43892/2020_Fire-Response-Zones
- Cultural Records, Montana State Historic Preservation Office, https://mhs.mt.gov/Shpo/CulturalRecords
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- IPaC Information for Planning and Construction, U.S. Fish and Wildlife Service, https://ipac.ecosphere.fws.gov/location/IIH3DA32SVGYFOBKI4P5HKAP7E/resources
- Montana Climate, Montana Official State Website, https://mslservices.mt.gov/Geographic_Information/Maps/drought/
- Montana Sage Grouse Habitat Conservation Map, Montana Official State Website, https://sagegrouse.mt.gov/ProgramMap
- Montana's Ground Water Information Center, Montana Bureau of Mines and Geology, http://mbmggwic.mtech.edu/
- National Wetlands Inventory, U.S. Fish and Wildlife Service, https://www.fws.gov/wetlands/data/Mapper.html
- NEPAssist, Environmental Protection Agency, https://nepassisttool.epa.gov/nepassist/nepamap.aspx
- Property Record Card, Montana Cadastral, http://svc.mt.gov/msl/mtcadastral/
- Web Soil Survey, U.S. Department of Agriculture Natural Resources Conservation Service, https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx
- Yellowstone County Schools GIS; https://yellowstone-county-yellowstoneco.hub.arcgis.com/apps/e40b502e3ce543559f9d31e0551aa51c/explore

APPENDIX A
EXISTING SITE MAP

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PLATINUM COMMERCIAL PARK SUBDIVISION

CONCEPTUAL LOT LAYOUT

PROJECT NUMBER
2023-100

SHEET NUMBER
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APPENDIX B
PROPOSED SITE MAP

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UNPLATTED
LT 3, SESW, S30, T 01S, R25E

PARCEL 1 (COS 3206)

408.4' | 350.0' | 350.0' | 419.6' | 342.9' | 518.5'

~BLOCK 1~

LOT : 1
245078 SQ FT
5.626 ACRES

LOT : 2
209021 SQ FT
4.798 ACRES

LOT : 3
208030 SQ FT
4.776 ACRES

LOT : 4
142390 SQ FT
3.269 ACRES

LOT : 5
114867 SQ FT
2.637 ACRES

LOT : 6
172562 SQ FT
3.961 ACRES

LOT : 7
116414 SQ FT
2.672 ACRES

LOT 1 (COS 1133)

LOT 2 (COS 1133)

LOT 3 (COS 1133)

LOT 4 (COS 1133)

LOT 5 (COS 1133)

LOT 6 (COS 1133)

INDIVIDUAL WELL AND 100' ISOLATION ZONE, TYP.

EXISTING IRRIGATION DITCH

PROPOSED 20' WIDE SANITARY SEWER EASEMENT

30,000 GALLON DRY HYDRANT

1' WIDE NO ACCESS STRIP, TYP.

PROPOSED 20' WIDE SANITARY SEWER EASEMENT

LOW PRESSURE SANITARY SEWER, TYP.

PARK (PRIVATE)
127952 SQ FT
2.937 ACRES

L=23.56'
R=15.00'

393.4' | 350.0' | 350.0'

RESOURCE WAY

SIGN EASEMENT

COMMUNITY SEPTIC DRAINFIELD AND 124' SOURCE SPECIFIC MIXING ZONE, TYP.

100'

STORMWATER RETENTION EASEMENT

60'

40' PROPOSED ROAD

LOT : 6
129248 SQ FT
2.967 ACRES

40' | 75'

PROPOSED 10' WIDE SANITARY SEWER EASEMENT

STORMWATER RETENTION EASEMENT

EXISTING 60' WIDE COUNTY ROAD EASEMENT

72ND STREET W

68TH STREET W

LOT : 1
237177 SQ FT
5.445 ACRES

LOT : 2
204481 SQ FT
4.694 ACRES

LOT : 3
205512 SQ FT
4.718 ACRES

LOT : 4
247711 SQ FT
5.687 ACRES

LOT : 5
114217 SQ FT
2.622 ACRES

TRACT 2, COS 3861
288271 SQ FT
6.618 ACRES

~BLOCK 2~

80'

SIGN EASEMENT

EXISTING 60' ROAD (COS 1133)

DANFORD ROAD

60' R-O-W DEDICATION

EXISTING 30' COUNTY ROAD EASEMENT

EXISTING 30' COUNTY RO (COS 1133)

UNPLATTED
LOTS 1&2, NENW
S31, T 01S, R25E

0 100 200
IN FEET

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APPENDIX C
NEPASSIST REPORT MAP

NEPAssist Report

72nd and Danford



October 7, 2024

72nd and Danford

1:11,418

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

Esri Community Maps Contributors, Montana State Library, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Maxar

Input Coordinates: 45.715379,-108.699221,45.715401,-108.689919,45.712839,-108.689876,45.712862,-108.690756,45.711716,-108.690777,45.711843,-108.699178,45.715379,-108.699221	
Project Area	0.11 sq mi
Within an Ozone 1-hr (1979 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (1997 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2008 standard) Non-Attainment/Maintenance Area?	no
Within an Ozone 8-hr (2015 standard) Non-Attainment/Maintenance Area?	no
Within a Lead (2008 standard) Non-Attainment/Maintenance Area?	no
Within a SO2 1-hr (2010 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 24hr (2006 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (1997 standard) Non-Attainment/Maintenance Area?	no
Within a PM2.5 Annual (2012 standard) Non-Attainment/Maintenance Area?	no
Within a PM10 (1987 standard) Non-Attainment/Maintenance Area?	no
Within a CO Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a NO2 Annual (1971 standard) Non-Attainment/Maintenance Area?	no
Within a Federal Land?	no
Within an impaired stream?	no
Within an impaired waterbody?	no
Within a waterbody?	no
Within a stream?	no
Within an NWI wetland?	Available Online
Within a Brownfields site?	no

Within a Superfund site?	no
Within a Toxic Release Inventory (TRI) site?	no
Within a water discharger (NPDES)?	yes
Within a hazardous waste (RCRA) facility?	no
Within an air emission facility?	no
Within a school?	no
Within an airport?	no
Within a hospital?	no
Within a designated sole source aquifer?	no
Within a historic property on the National Register of Historic Places?	no
Within a Chemical Data Reporting (CDR) site?	no
Within a Land Cession Boundary?	yes
Within a tribal area (lower 48 states)?	no
Within the service area of a mitigation or conservation bank?	yes
Within the service area of an In-Lieu-Fee Program?	yes
Within a Public Property Boundary of the Formerly Used Defense Sites?	no
Within a Munitions Response Site?	no
Within an Essential Fish Habitat (EFH)?	no
Within a Habitat Area of Particular Concern (HAPC)?	no
Within an EFH Area Protected from Fishing (EFHA)?	no
Within a Bureau of Land Management Area of Critical Environmental Concern?	no
Within an ESA-designated Critical Habitat Area per U.S. Fish & Wildlife Service?	no
Within an ESA-designated Critical Habitat river, stream or water feature per U.S. Fish & Wildlife Service?	no

Created on: 10/7/2024 10:32:09 AM

APPENDIX D
FEMA FLOOD MAP

National Flood Hazard Layer FIRMette

FEMA

108°41'59"W 45°43'1"N



108°41'21"W 45°42'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/12/2023 at 4:21 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

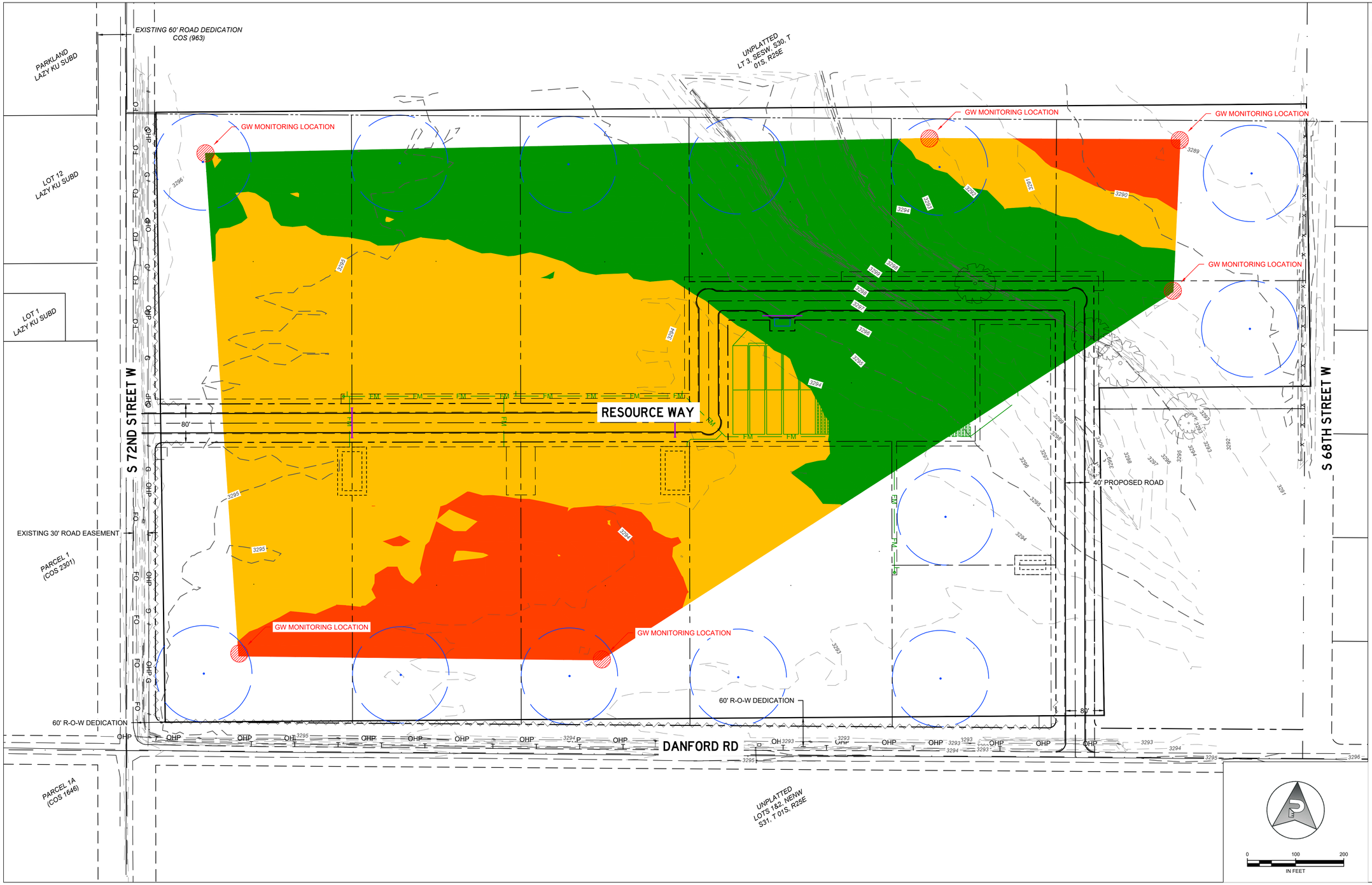
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX E
GROUNDWATER MAP

PE STANDARD.CTB

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PLATINUM COMMERCIAL SUBDIVISION

GROUNDWATER DEPTH MAP

PROJECT NUMBER
2023-100

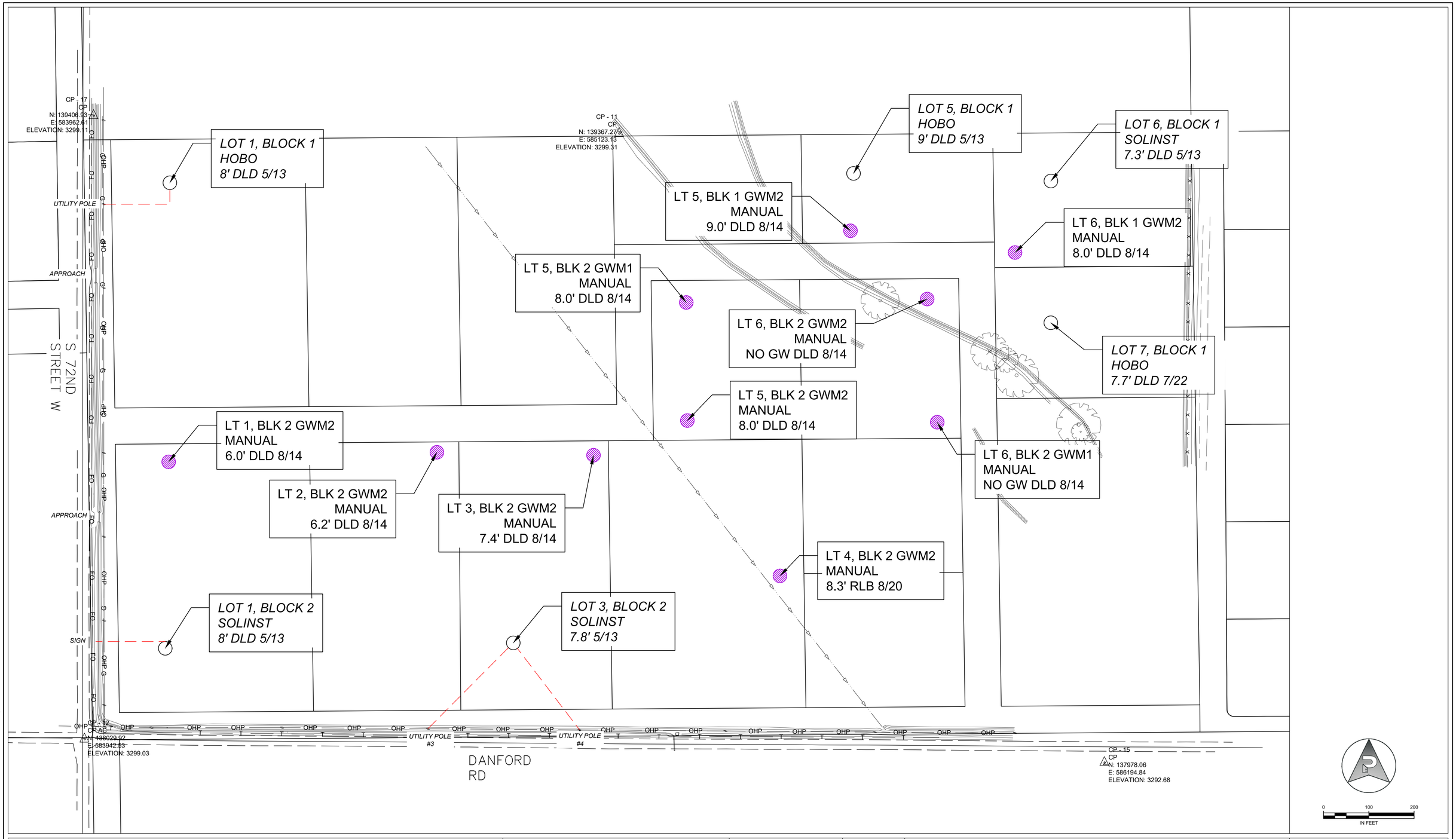
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DATE

72ND AND DANFORD SUBD

S 72ND STREET W — YELLOWSTONE COUNTY, MT

GROUND WATER MONITORING FIELD LOCATION

PROJECT NUMBER
2023-100

SHEET NUMBER
1 OF 1

DRAWING NUMBER
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APPENDIX F
NRCS SOIL SURVEY

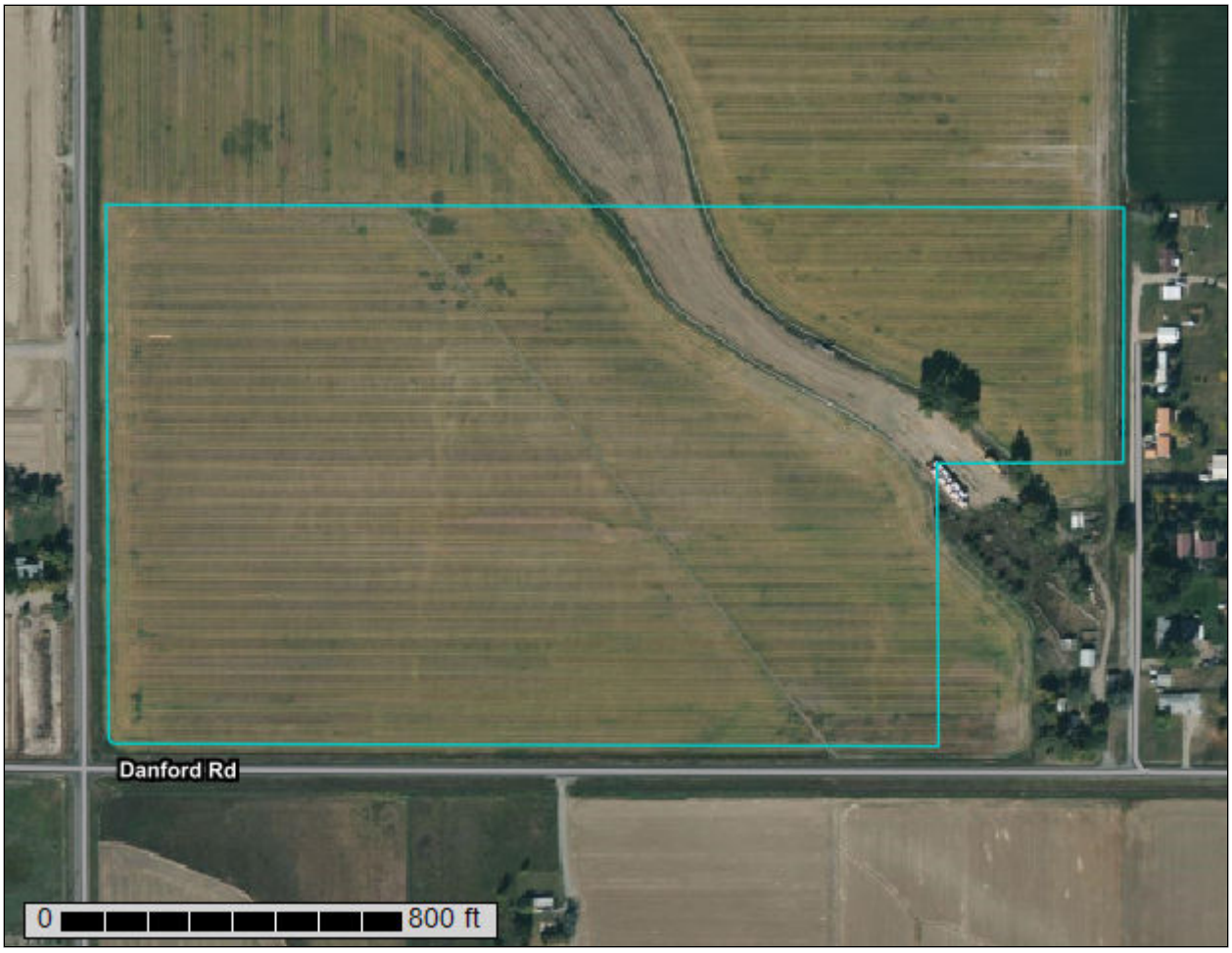
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Yellowstone County, Montana



October 21, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	6.8	10.9%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	9.7	15.5%
Kl	Kyle silty clay, 0 to 1 percent slopes	42.5	68.1%
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	3.0	4.7%
Te	Toluca clay loam, 0 to 1 percent slopes	0.5	0.8%
Totals for Area of Interest		**62.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Yellowstone County, Montana

Bm—Bew silty clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: clqc
Elevation: 2,680 to 4,700 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Bew and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bew

Setting

Landform: Terraces, fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 7 inches: silty clay loam
Bt - 7 to 16 inches: clay
Bk - 16 to 46 inches: clay
C - 46 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Minor Components

Keiser

Percent of map unit: 6 percent

Landform: Terraces, low hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, concave
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Hesper

Percent of map unit: 5 percent
Landform: Terraces, fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Mcrae

Percent of map unit: 4 percent
Landform: Terraces, fans
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Ke—Keiser silty clay loam, 1 to 4 percent slopes

Map Unit Setting

National map unit symbol: cls3
Elevation: 1,900 to 4,000 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Keiser and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Keiser

Setting

Landform: Terraces, low hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 3 inches: silt loam
Bt - 3 to 6 inches: silty clay
Bk - 6 to 23 inches: silty clay loam
C - 23 to 60 inches: silt loam

Properties and qualities

Slope: 1 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Minor Components

Lambert

Percent of map unit: 9 percent
Landform: Terraces, fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Wanetta

Percent of map unit: 6 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Kl—Kyle silty clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: cls6

Elevation: 1,900 to 4,500 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 39 to 46 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Kyle and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kyle

Setting

Landform: Fans, terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

Ap - 0 to 9 inches: silty clay
Bss - 9 to 30 inches: clay
Bssy - 30 to 60 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Minor Components

Vananda

Percent of map unit: 9 percent
Landform: Terraces, lakebeds (relict), fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Pierre

Percent of map unit: 6 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Ls—Lohmiller soils, seeped, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: clsp
Elevation: 900 to 6,000 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 34 to 48 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lohmiller and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lohmiller

Setting

Landform: Terraces, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear, concave
Parent material: Alluvium

Typical profile

A - 0 to 3 inches: silty clay loam
C - 3 to 60 inches: stratified silty clay to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 48 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C
Ecological site: R058AC618MT - Saline Overflow (SOv) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Minor Components

Haverson

Percent of map unit: 15 percent
Landform: Flood plains, terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave, linear
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Hydro

Percent of map unit: 3 percent
Landform: Fans, low hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Lallie

Percent of map unit: 2 percent
Landform: Oxbows
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R058AE008MT - Subirrigated (Sb) RRU 58A-E 10-14" p.z.
Hydric soil rating: Yes

Te—Toluca clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: clty
Elevation: 2,680 to 4,700 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 135 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Toluca and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Toluca

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

Ap - 0 to 5 inches: clay loam
Bt - 5 to 12 inches: clay loam
Bk - 12 to 35 inches: loam
2C - 35 to 60 inches: stratified very gravelly loam to very gravelly sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Minor Components

Wanetta

Percent of map unit: 15 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AY708MT - Loamy 10-14
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Small Commercial Buildings (Platinum Commercial Subdivision)

ENG - Engineering

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification of the soil). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Small Commercial Buildings (Platinum Commercial Subdivision)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Small Commercial Buildings (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Very limited	Bew (85%)	Shrink-swell (1.00)	6.8	10.9%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Not limited	Keiser (85%)		9.7	15.5%
Kl	Kyle silty clay, 0 to 1 percent slopes	Very limited	Kyle (85%)	Shrink-swell (1.00)	42.5	68.1%
			Vananda (9%)	Shrink-swell (1.00)		
			Pierre (6%)	Shrink-swell (1.00)		
				Slope (0.52)		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Very limited	Lohmiller (80%)	Flooding (1.00)	3.0	4.7%
				Shrink-swell (1.00)		
			Haverson (15%)	Flooding (1.00)		
			Hydro (3%)	Shrink-swell (1.00)		
			Lallie (2%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
Te	Toluca clay loam, 0 to 1 percent slopes	Not limited	Toluca (85%)		0.5	0.8%
Totals for Area of Interest					**62.4**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	52.3	83.8%
Not limited	10.1	16.2%
Totals for Area of Interest	**62.4**	**100.0%**

Rating Options—Small Commercial Buildings (Platinum Commercial Subdivision)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Dwellings With Basements (Platinum Commercial Subdivision)

ENG - Engineering

Dwellings are single-family houses of three stories or less. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil

Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Dwellings With Basements (Platinum Commercial Subdivision)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Dwellings With Basements (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Very limited	Bew (85%)	Shrink-swell (1.00)	6.8	10.9%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Not limited	Keiser (85%)		9.7	15.5%
			Wanetta (6%)			
Kl	Kyle silty clay, 0 to 1 percent slopes	Very limited	Kyle (85%)	Shrink-swell (1.00)	42.5	68.1%
			Vananda (9%)	Shrink-swell (1.00)		
			Pierre (6%)	Shrink-swell (1.00)		
				Depth to soft bedrock (0.35)		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Very limited	Lohmiller (80%)	Flooding (1.00)	3.0	4.7%
				Shrink-swell (1.00)		
				Depth to saturated zone (0.35)		
			Haverson (15%)	Flooding (1.00)		
			Hydro (3%)	Shrink-swell (1.00)		
			Lallie (2%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Shrink-swell (1.00)		
Te	Toluca clay loam, 0 to 1 percent slopes	Not limited	Toluca (85%)		0.5	0.8%
			Wanetta (15%)			
Totals for Area of Interest					**62.4**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	52.3	83.8%
Not limited	10.1	16.2%
Totals for Area of Interest	**62.4**	**100.0%**

Rating Options—Dwellings With Basements (Platinum Commercial Subdivision)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Construction Materials

Construction materials interpretations are tools designed to provide guidance to users in selecting a site for potential source of various materials. Individual soils or groups of soils may be selected as a potential source because they are close at hand, are the only source available, or they meets some or all of the physical or chemical properties required for the intended application. Example interpretations include roadfill, sand and gravel, topsoil and reclamation material.

Gravel Source (Platinum Commercial Subdivision)

ENG - Engineering

Gravel consists of natural aggregates (2 to 75 millimeters in diameter) suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. Only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains gravel, the soil is considered a likely source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness. The ratings are for the whole soil, from the surface to a depth of about 6 feet. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be gravel.

The soils are rated "good," "fair," or "poor" as potential sources of gravel. A rating of "good" or "fair" means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is

shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Gravel Source (Platinum Commercial Subdivision)



Map Scale: 1:3,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Poor
- Fair
- Good
- Not rated or not available

Soil Rating Lines

- Poor
- Fair
- Good
- Not rated or not available

Soil Rating Points

- Poor
- Fair
- Good
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Gravel Source (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Poor	Bew (85%)	Bottom layer (0.00)	6.8	10.9%
				Thickest layer (0.00)		
			Keiser (6%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Hesper (5%)	Thickest layer (0.00)		
				Bottom layer (0.00)		
			McRae (4%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Poor	Keiser (85%)	Bottom layer (0.00)	9.7	15.5%
				Thickest layer (0.00)		
			Lambert (9%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
Kl	Kyle silty clay, 0 to 1 percent slopes	Poor	Kyle (85%)	Bottom layer (0.00)	42.5	68.1%
				Thickest layer (0.00)		
			Vananda (9%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Pierre (6%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Poor	Lohmiller (80%)	Bottom layer (0.00)	3.0	4.7%
				Thickest layer (0.00)		
			Haverson (15%)	Bottom layer (0.00)		
				Thickest layer (0.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Hydro (3%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
			Lallie (2%)	Bottom layer (0.00)		
				Thickest layer (0.00)		
Te	Toluca clay loam, 0 to 1 percent slopes	Fair	Toluca (85%)	Thickest layer (0.00)	0.5	0.8%
				Bottom layer (0.13)		
			Wanetta (15%)	Thickest layer (0.00)		
				Bottom layer (0.50)		
Totals for Area of Interest					**62.4**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Poor	61.9	99.2%
Fair	0.5	0.8%
Totals for Area of Interest	**62.4**	**100.0%**

Rating Options—Gravel Source (Platinum Commercial Subdivision)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

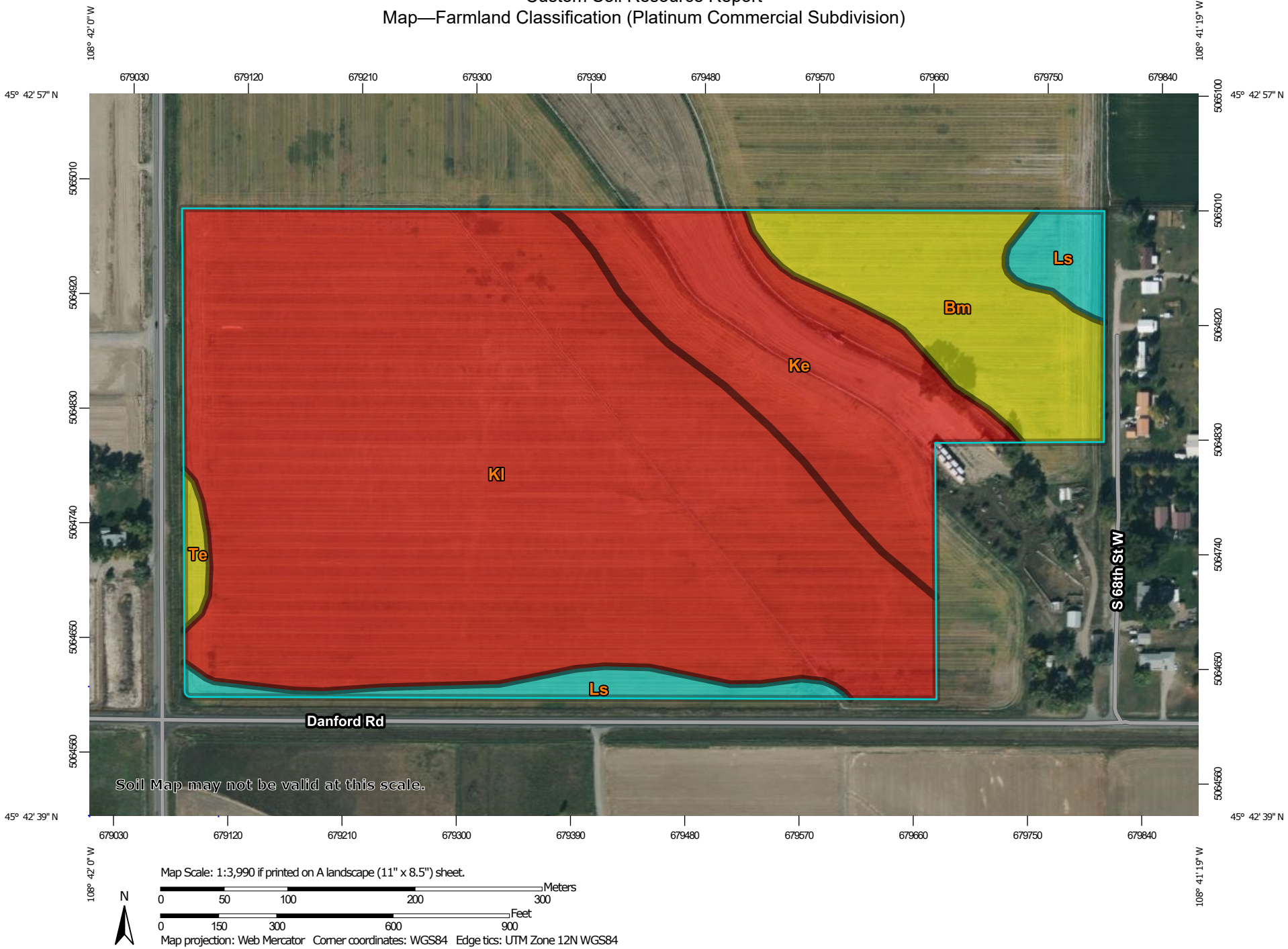
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (Platinum Commercial Subdivision)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Custom Soil Resource Report
Map—Farmland Classification (Platinum Commercial Subdivision)



Map Scale: 1:3,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

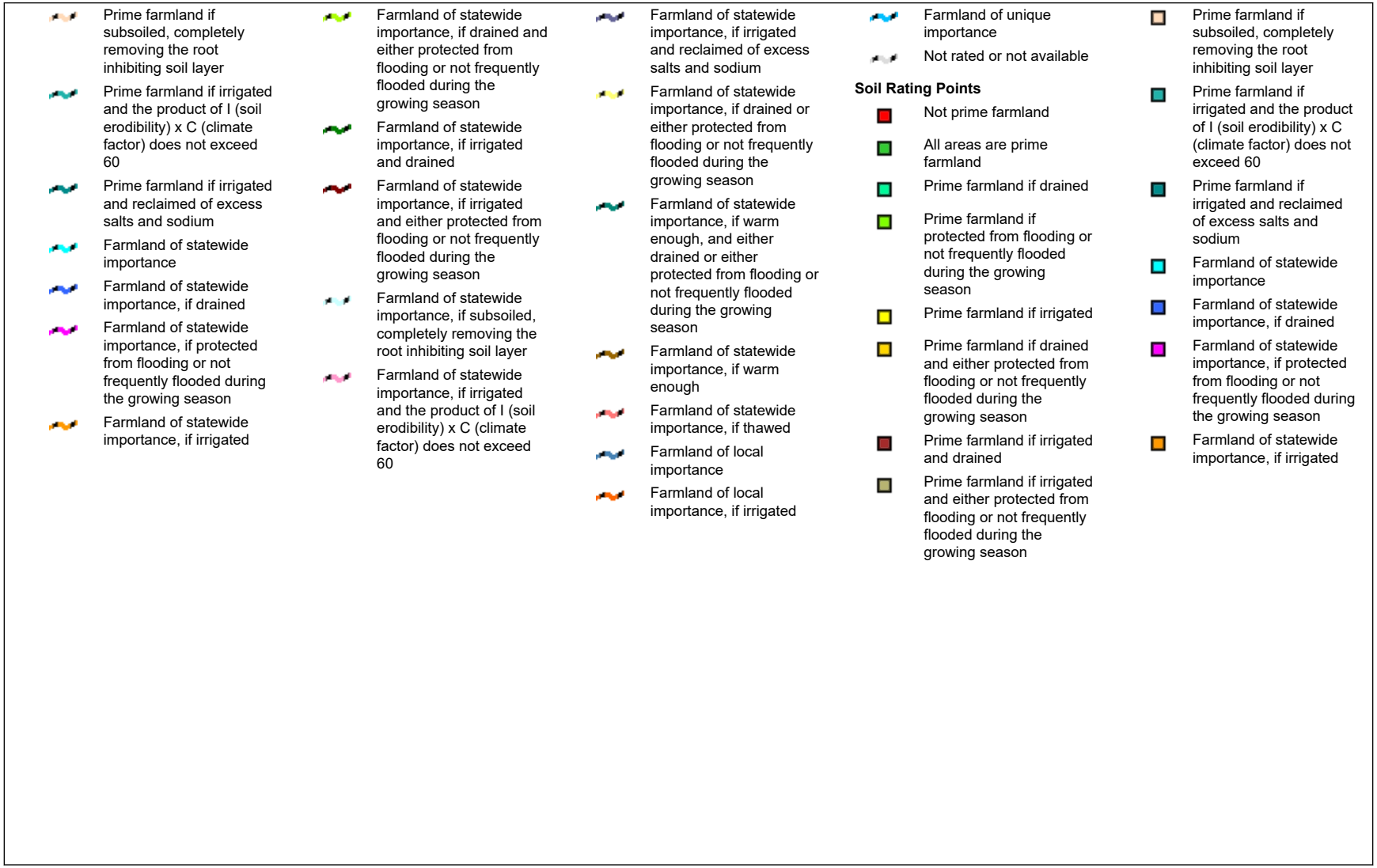
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Prime farmland if irrigated	6.8	10.9%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Not prime farmland	9.7	15.5%
Kl	Kyle silty clay, 0 to 1 percent slopes	Not prime farmland	42.5	68.1%
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Farmland of statewide importance	3.0	4.7%
Te	Toluca clay loam, 0 to 1 percent slopes	Prime farmland if irrigated	0.5	0.8%
Totals for Area of Interest			**62.4**	**100.0%**

Rating Options—Farmland Classification (Platinum Commercial Subdivision)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Fire Damage Susceptibility (Platinum Commercial Subdivision)

BLM - Bureau of Land Management

Wildfire is a naturally occurring event that has helped maintain ecosystem function in wildlands. Wildfire can be caused by natural ignition such as lightning strike, or by man-caused ignition. Buildup of excess fuel loads can result in high severity fires that damage the soils in the burn area. Prescribed burning is a restoration practice that is primarily designed to help return the natural fire cycle to the landscape. Properly carried out on suitable sites, burning can be a very effective and cost

efficient treatment method to help restore the desired composition of plant species in an ecological site, improve livestock access on heavy brush or slash sites, rejuvenate sprouting browse species and stagnant grass plants, release nutrients into the soil, improve palatability and nutrient content of forage, reduce fuel loading, and prepare an ash seedbed for artificial or natural seeding. Burning may be combined with mechanical or chemical rangeland treatments.

Fuel ignition for prescribed burning can be natural or artificial using hand-held drip torches, aerial ignition, and other methods. Fire lines can be established using natural fuel breaks, wet lines, or the removal of fuel by hand or machinery.

The susceptibility to fire damage ratings represent the relative risk of creating a water repellant layer, volatilization of essential soil nutrients, destruction of soil biological activity, and vulnerability to water and wind erosion prior to reestablishing adequate watershed cover on the burned site. The ratings are directly related to burn severity (e.g. a low-moderate severity burn will not result in water repellant layer formation). This rating should be used in conjunction with the rangeland seeding ratings or the soil restoration potential rating depending upon whether seeding or natural regeneration will be utilized on the site.

Sandy soils are more susceptible to formation of a water repellant layer. High rock fragment content increases the rate of heat transfer into the soil. Steep slopes increase the vulnerability to water erosion. Susceptibility to formation of hydrophobic or water repellant layers varies by vegetation type. As an example, pinyon-juniper, Arizona chaparral, and California chaparral vegetation types are more susceptible to hydrophobicity than other shrubland or grassland vegetation types.

The impacts of wildfire to soils of the burn area need to be assessed to prioritize burned area emergency rehabilitation and revegetation efforts.

Prescribed burning should be carefully planned and executed. It should be carried out following a well designed prescription and burn plan under the supervision of a qualified prescribed burning team. Burning objectives should be clearly defined and should be evaluated during post-burn assessments. Minimizing risks to human health, safety, and property damage and containment of the burn are of paramount importance.

Hot, dry south-facing slopes are more susceptible to fire damage than cooler, north-facing slopes. Fire mortality of desirable plants needs to be taken into consideration during wildfire restoration and prescribed burning planning. On-site investigation is recommended before implementing any wildfire restoration or prescribed burning projects.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect soil damage by fire. "Highly susceptible" indicates that the soil has one or more features that are very favorable for soil damage by fire. "Moderately susceptible" indicates that the soil has features that are moderately favorable for damage to occur. "Slightly susceptible" indicates that the soil has features that generally make it unfavorable for damage to occur.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest impact favoring soil damage by fire (1.00) and the point at which the soil feature is not favorable to damage occurring (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Fire Damage Susceptibility (Platinum Commercial Subdivision)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Highly susceptible
- Moderately susceptible
- Slightly susceptible
- Not rated or not available

Soil Rating Lines
- Highly susceptible
- Moderately susceptible
- Slightly susceptible
- Not rated or not available

Soil Rating Points
- Highly susceptible
- Moderately susceptible
- Slightly susceptible
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Fire Damage Susceptibility (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Slightly susceptible	Bew (85%)		6.8	10.9%
			Keiser (6%)			
			Hesper (5%)			
			McRae (4%)			
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Slightly susceptible	Keiser (85%)		9.7	15.5%
			Lambert (9%)			
			Wanetta (6%)			
Kl	Kyle silty clay, 0 to 1 percent slopes	Moderately susceptible	Kyle (85%)	Wind erosion (0.99)	42.5	68.1%
			Vananda (9%)	Wind erosion (0.99)		
			Pierre (6%)	Wind erosion (0.99)		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Moderately susceptible	Lohmiller (80%)	Wind erosion (0.99)	3.0	4.7%
			Lallie (2%)	Wind erosion (0.99)		
Te	Toluca clay loam, 0 to 1 percent slopes	Slightly susceptible	Toluca (85%)		0.5	0.8%
			Wanetta (15%)			
Totals for Area of Interest					**62.4**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Moderately susceptible	45.5	72.9%
Slightly susceptible	16.9	27.1%
Totals for Area of Interest	**62.4**	**100.0%**

Rating Options—Fire Damage Susceptibility (Platinum Commercial Subdivision)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Sanitary Facilities

Sanitary Facilities interpretations are tools designed to guide the user in site selection for the safe disposal of sewage and solid waste. Example interpretations include septic tank absorption fields, sewage lagoons, and sanitary landfills.

Septic Tank Absorption Fields (Platinum Commercial Subdivision)

ENG - Engineering

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is

shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report
Map—Septic Tank Absorption Fields (Platinum Commercial Subdivision)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Lines
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Soil Rating Points
- Very limited
- Somewhat limited
- Not limited
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Septic Tank Absorption Fields (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Very limited	Bew (85%)	Slow water movement (1.00)	6.8	10.9%
			Keiser (6%)	Slow water movement (1.00)		
			Hesper (5%)	Slow water movement (1.00)		
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Very limited	Keiser (85%)	Slow water movement (1.00)	9.7	15.5%
			Lambert (9%)	Slow water movement (1.00)		
Kl	Kyle silty clay, 0 to 1 percent slopes	Very limited	Kyle (85%)	Slow water movement (1.00)	42.5	68.1%
			Vananda (9%)	Slow water movement (1.00)		
			Pierre (6%)	Slow water movement (1.00)		
				Depth to bedrock (1.00)		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Very limited	Lohmiller (80%)	Slow water movement (1.00)	3.0	4.7%
				Depth to saturated zone (0.84)		
				Flooding (0.40)		
			Hydro (3%)	Slow water movement (1.00)		
			Lallie (2%)	Flooding (1.00)		
				Depth to saturated zone (1.00)		
				Slow water movement (1.00)		
Te	Toluca clay loam, 0 to 1 percent slopes	Somewhat limited	Toluca (85%)	Slow water movement (0.50)	0.5	0.8%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Wanetta (15%)	Slow water movement (0.50)		
Totals for Area of Interest					**62.4**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very limited	61.9	99.2%
Somewhat limited	0.5	0.8%
Totals for Area of Interest	**62.4**	**100.0%**

Rating Options—Septic Tank Absorption Fields (Platinum Commercial Subdivision)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Water Features

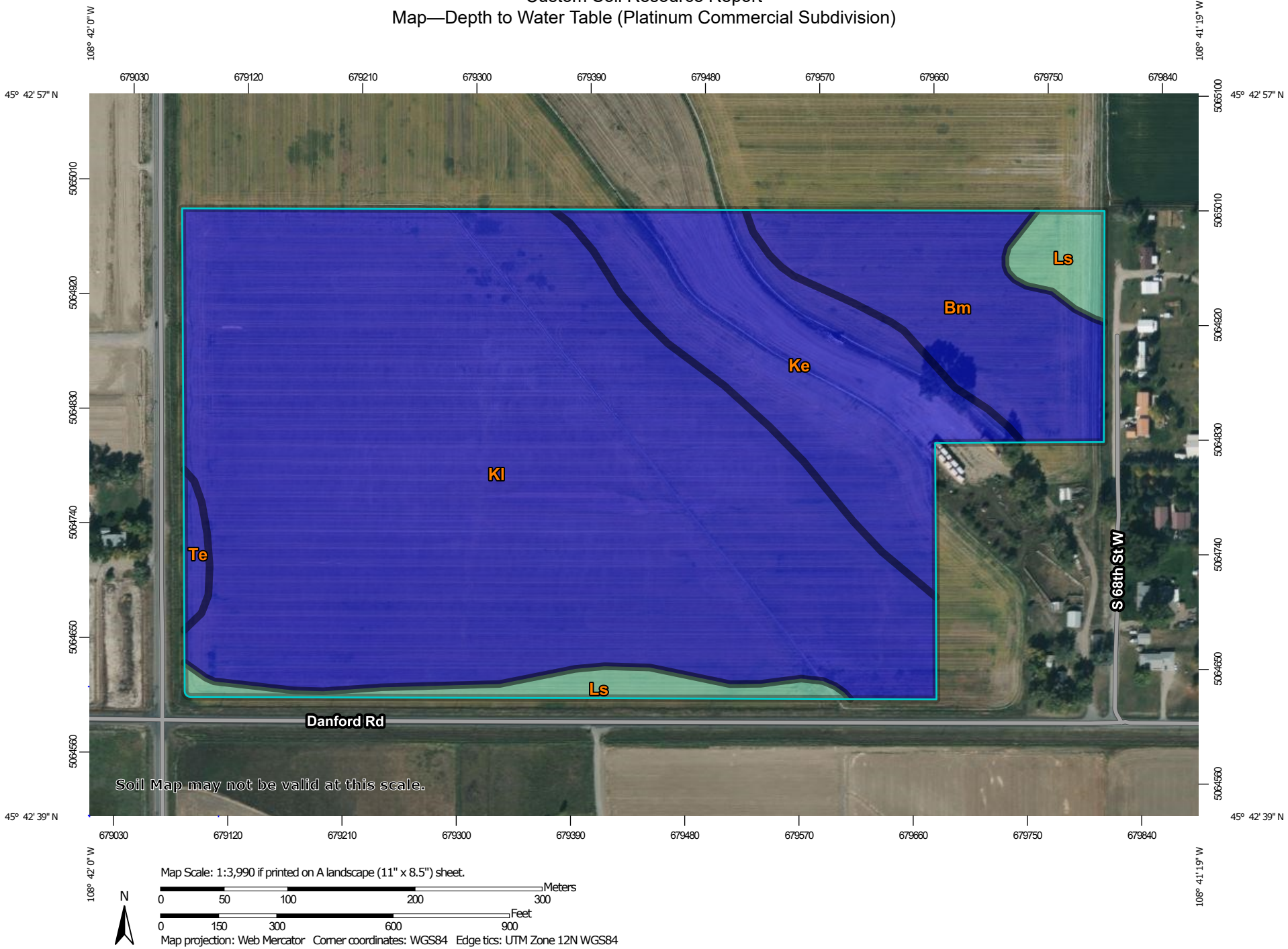
Water Features include ponding frequency, flooding frequency, and depth to water table.

Depth to Water Table (Platinum Commercial Subdivision)

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Custom Soil Resource Report
Map—Depth to Water Table (Platinum Commercial Subdivision)



Map Scale: 1:3,990 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Lines

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Yellowstone County, Montana
Survey Area Data: Version 23, Aug 28, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Depth to Water Table (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	>200	6.8	10.9%
Ke	Keiser silty clay loam, 1 to 4 percent slopes	>200	9.7	15.5%
Kl	Kyle silty clay, 0 to 1 percent slopes	>200	42.5	68.1%
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	137	3.0	4.7%
Te	Toluca clay loam, 0 to 1 percent slopes	>200	0.5	0.8%
Totals for Area of Interest			**62.4**	**100.0%**

Rating Options—Depth to Water Table (Platinum Commercial Subdivision)

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

Ecological Sites

Individual soil map unit components can be correlated to a particular ecological site. The Ecological Site Assessment section includes ecological site descriptions, plant growth curves, state and transition models, and selected National Plants database information.

All Ecological Sites — (Platinum Commercial Subdivision)

An "ecological site" is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. For example, the hydrology of the site is influenced by development of the soil and plant community. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production.

An ecological site name provides a general description of a particular ecological site. For example, "Loamy Upland" is the name of a rangeland ecological site. An "ecological site ID" is the symbol assigned to a particular ecological site.

The map identifies the dominant ecological site for each map unit, aggregated by dominant condition. Other ecological sites may occur within each map unit. Each map unit typically consists of one or more components (soils and/or miscellaneous areas). Each soil component is associated with an ecological site. Miscellaneous areas, such as rock outcrop, sand dunes, and badlands, have little or no soil material and support little or no vegetation and therefore are not linked to an ecological site. The table below the map lists all of the ecological sites for each map unit component in your area of interest.

Custom Soil Resource Report
Map—Dominant Ecological Site (Platinum Commercial Subdivision)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- R058AC040MT
- R058AC041MT
- R058AC618MT
- Not rated or not available

Soil Rating Lines

- R058AC040MT
- R058AC041MT
- R058AC618MT
- Not rated or not available

Soil Rating Points

- R058AC040MT
- R058AC041MT
- R058AC618MT
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Yellowstone County, Montana
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Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Ecological Sites by Map Unit Component (Platinum Commercial Subdivision)

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
Bm	Bew silty clay loam, 0 to 1 percent slopes	Bew (85%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.	6.8	10.9%
		Keiser (6%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.		
		Hesper (5%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.		
		McRae (4%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.		
Ke	Keiser silty clay loam, 1 to 4 percent slopes	Keiser (85%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.	9.7	15.5%
		Lambert (9%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.		
		Wanetta (6%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.		
Kl	Kyle silty clay, 0 to 1 percent slopes	Kyle (85%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.	42.5	68.1%
		Vananda (9%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.		
		Pierre (6%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.		
Ls	Lohmiller soils, seeped, 0 to 2 percent slopes	Lohmiller (80%)	R058AC618MT — Saline Overflow (SOv) RRU 58A-C 11-14" p.z.	3.0	4.7%
		Haverson (15%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.		
		Hydro (3%)	R058AC041MT — Clayey (Cy) RRU 58A-C 11-14" p.z.		
		Lallie (2%)	R058AE008MT — Subirrigated (Sb) RRU 58A-E 10-14" p.z.		
Te	Toluca clay loam, 0 to 1 percent slopes	Toluca (85%)	R058AC040MT — Silty (Si) RRU 58A-C 11-14" p.z.	0.5	0.8%

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Wanetta (15%)	R058AY708MT — Loamy 10-14		
Totals for Area of Interest				**62.4**	**100.0%**

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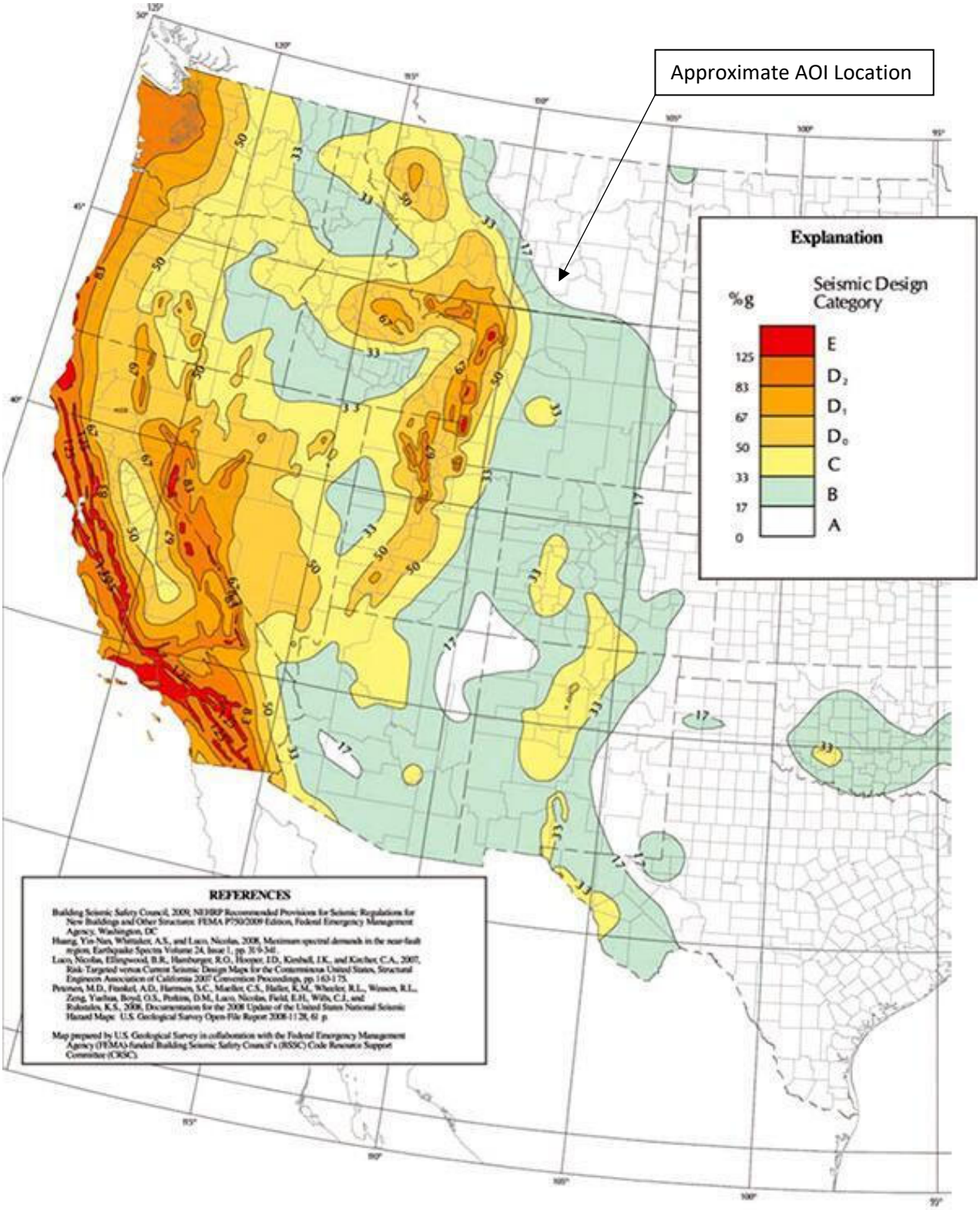
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APPENDIX G
FEMA EARTHQUAKE MAP


Approximate AOI Location
Explanation
%g
Seismic Design Category
125
83
67
50
33
17
0
E
D2
D1
D0
C
B
A
REFERENCES
Building Seismic Safety Council, 2009, NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures: FEMA P750/2009 Edition, Federal Emergency Management Agency, Washington, DC
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Map prepared by U.S. Geological Survey in collaboration with the Federal Emergency Management Agency (FEMA)-funded Building Seismic Safety Council's (BSSC) Code Resource Support Committee (CRSC).

Draft Preliminary Determinations

- Draft PD
- Draft PD cover letter
- Updated Draft PD
- Updated Draft PD cover letter
- Any correspondence with the applicant regarding the draft PDs

Draft Preliminary Determinations

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

August 20, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
PO Box 81153
Billings, MT, 59108

Subject: Updated Draft Preliminary Determination to Grant Beneficial Water Use Permit Application No. 43Q 30164891

Dear Applicant,

The Department of Natural Resources and Conservation (Department or DNRC) has reviewed any information submitted to your application during the granted extension. This review consists of an updated evaluation of the criteria for issuance of a permit authorization found in §85-2-311, MCA. The Department has preliminarily determined that the criteria are met, and this application should be granted. A copy of the updated Draft Preliminary Determination (PD) to Grant your application is attached.

The Department will prepare a notice of opportunity to provide public comment per §85-2-307(4), MCA. If no public comments are received, the Department will issue the updated Draft PD as final pursuant to §85-2-307(5)(c), MCA. If public comments are received, the Department will consider the public comments and issue a non-draft PD within 30 days of the closing date of the public comment period.

Please let me know if you have any questions.

Sincerely,

C. Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

* * * * * * *

APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 43Q 30164891 BY COUGAR INVESTMENTS, LLC.	)))	**UPDATED DRAFT PRELIMINARY DETERMINATION TO GRANT PERMIT**

* * * * * * *

On April 3, 2025, Cougar Investments, LLC. (Applicant) submitted Application for Beneficial Water Use Permit No. 43Q 30164891 to the Billings Regional Office of the Department of Natural Resources and Conservation (Department or DNRC) for 135 GPM, up to 48.01 AF/YR for Commercial and Lawn and Garden uses. The Department published receipt of the application on its website. A preapplication meeting was held between the Department and the Applicant's consultant, Performance Engineering, LLC., on November 20, 2024, in which the Applicant designated that the technical analyses for this application would be completed by the Department. The Applicant returned the completed Preapplication Meeting Form on February 4, 2025, and the Department accepted it on February 6, 2025. The Department delivered the completed Technical Analyses on March 21, 2025. The Application was determined to be correct and complete as of April 18, 2025. The Draft Preliminary Determination to Deny was sent to the Applicant on June 17, 2025. The Applicant submitted a request for extension of time per § 85-2-307(3), MCA on June 30, 2025, to which the Department granted 180 days to submit additional information. The Applicant submitted additional information on July 11, 2025. Following the additional information, the Department revised the Draft Preliminary Determination. This Updated Draft Preliminary Determination to Grant was sent to the Applicant on August 20, 2025. An Environmental Assessment for this application was completed on May 14, 2025.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Addenda:

    - Aquifer Testing Addendum, Form 600-ATA, December 16, 2024
- Aquifer Test Data, Form 633
- Attachments:
    - Montana Well Log Report, Form 603 R2-04; Well ID: 334912 (72nd/Danford); well completed: October 29, 2024; Certified by: American Drilling on October 31, 2024
    - Form 606P: Preapplication Meeting Form, Permit; received February 4, 2025
    - MBMG Open File Report 436: Basic Hydrogeologic Data for West Billings Area by J. L. Olson and J. C. Reiten, Danford Drain, pages 91-92; dated June 2001
- Maps:
    - Exhibit A: Platinum Commercial Park Subdivision, POD Location Exhibit; schematic without aerial; undated
    - Exhibit B: Platinum Commercial Park Subdivision, POD Vicinity Map; draft plans with proposed POD and POU overlaying aerial imagery; undated
- Department-completed technical analyses (DNRC Report). Based on information provided in the Preapplication Checklist, dated March 21, 2025
    - Groundwater Permit Technical Analysis Report – Part A, completed by DNRC Groundwater Hydrologist, Jack Landers
    - Groundwater Permit Technical Analysis Report – Part B, completed by DNRC Water Resource Specialist, Cassey Strebeck

Information Received after Application Filed

- Request for an Extension of Time, received via email on June 30, 2025
- Additional Information received via email on July 11, 2025
    - Draft PD Extension Request – 43Q 30164891; a narrative providing additional information regarding the ZOI, the bounds of the ZOI, and a comparison of the Technical Analysis for Application for Beneficial Water Use Permit No. 43Q 30162249 to the Technical Analysis for this Application for Beneficial Water Use Permit No. 43Q 30164891

Information within the Department's Possession/Knowledge

- Variance Request, Form 653, received December 5, 2024, requesting variance from ARM 36.12.121: (2)(b); (2)(c); (3)(b); (3)(c); (3)(e); (3)(e)(i); (3)(e)(ii); (3)(f); (3)(g)
- Form 653, Additional Variance Request, for ARM 36.12.121: 3(d), received on December 27, 2024

- DNRC Letter to Applicant granting variance request; dated December 30, 2024, granting variance from ARM 36.12.121: (2)(b and c); (3)(b, c, d, e, e(i), e(ii), f, and g)
- Coordinates for proposed well locations; received February 27, 2025
- Environmental Assessment and Community Impact Statement, Platinum Commercial Park Subdivision, dated November 2024, received by DNRC on May 14, 2025. Requested by Cassey Strebeck during the completion of the Department Environmental Assessment.
- Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025
- Groundwater Permit Technical Analyses Report – Notice of Erratum, by Jack Landers, dated July 11, 2025
- DNRC Water Rights Information System (WRIS)
- National Hydrography Dataset (NHD)
- The Department also routinely considers the following information. The following information is not included in the administrative file for this application but is available upon request. Please contact the Billings Regional Office at 406-247-4415 to request copies of the following documents.
    - Department Technical Memorandum: Physical Availability of Surface Water with Gage Data dated November 1, 2019.
    - Department Technical Memorandum: Variance – Yellowstone River Terrace Level 3 Aquifer Properties dated March 1, 2022
    - Department Standard Practice for Area of Potential Impact Analysis
    - Montana DNRC Permit Manual
    - Montana DNRC Water Calculation Guide

The Department has fully reviewed and considered the evidence and argument submitted in this application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

For the purposes of this document, Department or DNRC means the Department of Natural Resources & Conservation; AF means acre-feet; AC means acres; AF/AC means acre-feet per acre; AF/YR means acre-feet per year; AOPI means area of potential impact, BGS means below ground surface; BTC means below top of casing; CFS means cubic feet per second; GPM means gallons per minute; GWIC means Groundwater Information Center; hp means

horsepower; IRR means irrigation, POD means point of diversion, POU means place of use; SWL means static water level, and ZOI means Zone of Influence.

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert groundwater from January 1 to December 31 for Commercial use, and from April 1 to October 31 for 14.31 AC of Lawn and Garden use. Groundwater will be diverted by means of 14 wells from January 1 to December 31 at a combined flow rate of 135 GPM, up to 48.01 AF/YR, from 14 PODs in the SW of Sec. 30, T1S, R25E, Yellowstone County, to serve the Platinum Commercial Park Subdivision. The proposed place of use for Commercial use is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-6, Block 3 of Sec. 30, T1S, R25E, Yellowstone County; and the proposed place of use for Lawn and Garden is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-7, Block 3 of Sec. 30, T1S, R25E, Yellowstone County, of the proposed Platinum Commercial Park Subdivision. The Applicant's proposal is for 13 commercial lots and one (1) park, each served by an individual well. The proposed period of use for the Commercial use is from January 1 to December 31, and the proposed period of use for the Lawn and Garden is from April 1 to October 31. The proposed volume for Commercial use is up to 12.23 AF/YR. The proposed volume for Lawn and Garden irrigation of 14.31 AC at 2.5 AF/AC, is 35.78 AF/YR. The combined proposed consumptive use for this project is 26.3 AF/YR (1.2 AF/YR for Commercial use + 25.1 AF/YR for Lawn and Garden use = 26.3 AF/YR) (Department-completed Technical analysis, hereafter "DNRC Report"). This project is located at the west end of Billings on the NE corner of the intersection of 72nd Street West and Danford Road.

2. This proposed permit is not supplemental to any other water rights and does not share a place of use with any other water rights.

3. The Applicant plans to implement Codes of Covenants and Restrictions (CCRs) that will be filed with the subdivision plat, requiring water meters on all lines coming into the buildings to measure water use.

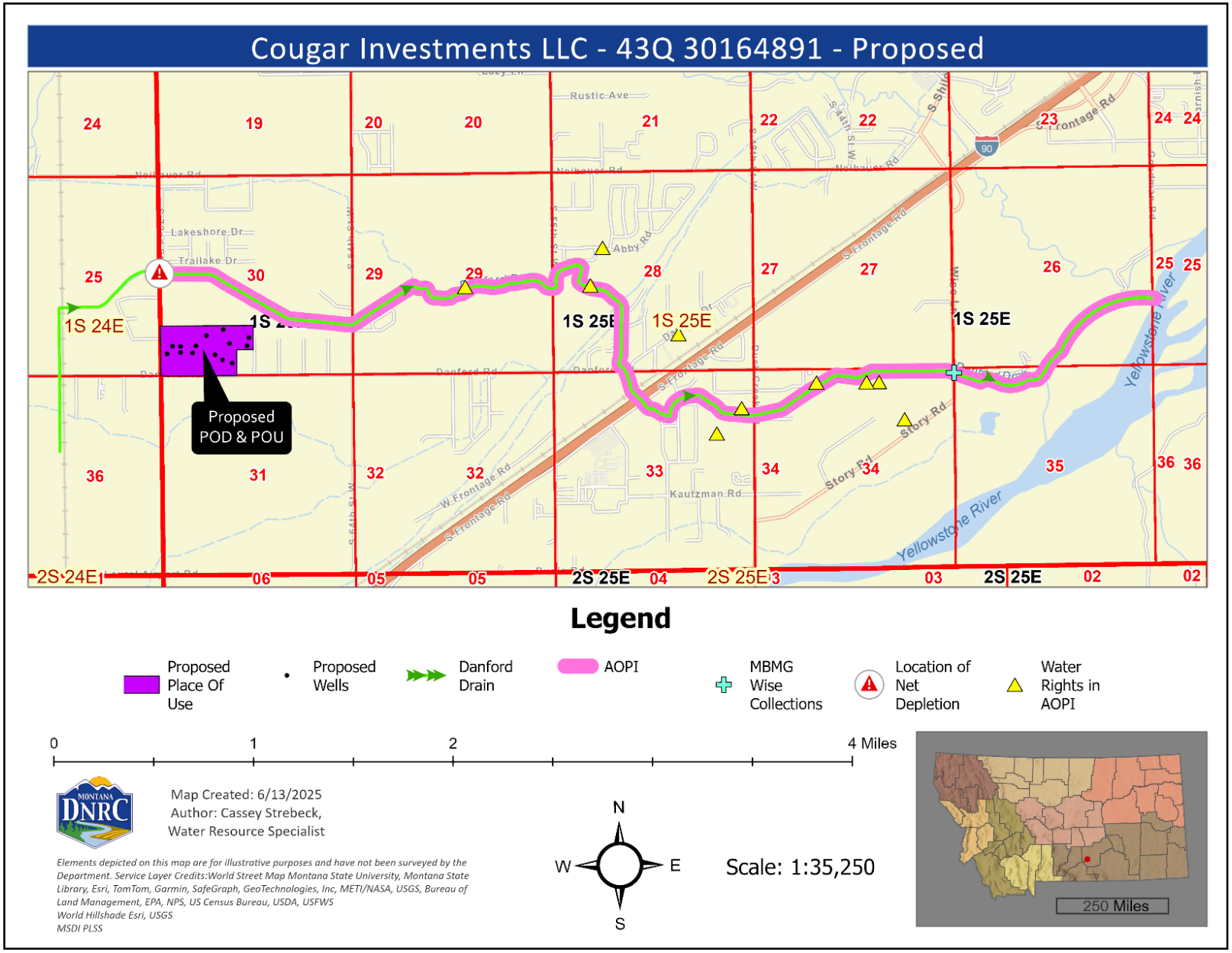


Figure 1. Proposed PODs and POU for 43Q 30164891, Platinum Commercial Park Subdivision

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

4. The Montana Constitution expressly recognizes in relevant part that:

> (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
> (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
> (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, § 3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

> (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
> (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

5. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. *See* § 85-2-102(1), MCA. An Applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

> … the department shall issue a permit if the Applicant proves by a preponderance of evidence that the following criteria are met:
> (a) (I) there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate; and
> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the Applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The Applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, "the Applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the Applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies." Section 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. *Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation*, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a

preponderance of the evidence. Id. A preponderance of evidence is "more probably than not." *Hohenlohe v. DNRC*, 2010 MT 203, ¶¶ 33, 35, 357 Mont. 438, 240 P.3d 628.

6. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

> (1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, "uncontrolled development of a valuable natural resource" which "contradicts the spirit and purpose underlying the Water Use Act."); *see also*, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

7. The Montana Supreme Court further recognized in *Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner*, 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080 (1996), *superseded by legislation on another issue*:

> Nothing in that section [85-2-313], however, relieves an Applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an Applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order* (2011). The Supreme Court likewise explained that:

> .... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; *see also* Mont. Const. art. IX §3(1).

8. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. Section 85-2-311(6), MCA.

9. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

PHYSICAL AVAILABILITY

FINDINGS OF FACT

10. The Applicant proposes a flow rate of 135 GPM and up to 48.01 AF volume of groundwater from January 1 to December 31 for Commercial use, and from April 1 to October 31 for Lawn and Garden use, utilizing 14 wells for 14 POUs (FOF 1).

11. One well has been completed (GWIC ID 334912; 38 ft deep) in the SWSW of Sec. 30, T1S, R25E. The remaining 13 wells will be completed as lots are built on.

12. The Applicant submitted a request for variance to waive aquifer testing requirements in Administrative Rule of Montana (ARM) 36.12.121 on December 5, 2024, and December 27, 2025. The Applicant requested the variance because the proposed project meets the parameters defined in DNRC's Yellowstone River Terrace Level 3 (Qat3) Aquifer Properties Memo, which allows the Applicant to forgo the 72-hour aquifer test if the project is within the mapped boundaries of Qat3 and the Applicant agrees to use the aquifer properties as defined in the memo. The Applicant provided an aquifer test for a well (GWIC ID 334912) in the first phase of this subdivision. The Department granted a variance from ARM 36.12.121 (2)(b and c), and ARM 36.12.121 (3)(b, c, d, e, e(i), e(ii), f, and g) aquifer testing requirements on December 30, 2024. The Applicant is still required by the Department to conduct 8-hour pumping tests on all production wells until the total requested flow rate can be demonstrated.

13. The Applicant conducted an 8-hour drawdown and yield test on November 5, 2024, at an average rate of 50 GPM, with a maximum drawdown of 5.02 ft below the static water level

(SWL) of 7.91 ft, below the top of the casing leaving 25.87 ft of water column above the bottom of the well. Department Groundwater Hydrologist, Jack Landers, modeled the results of the 8-hour drawdown and yield test. The wells proposed for this application are within an unconfined hydrologic unit referred to as the Qat3, mapped by Lopez (DNRC Report). The test well (GWIC ID 334912) has 6-feet of clay overlaying a 29-foot-thick sand and gravel aquifer, which is consistent with other wells throughout the Qat3 aquifer. The recommended aquifer properties to analyze groundwater permit criteria include a transmissivity (T) = 6,000 $ft^{2/}$day and specific yield (S_y) = 0.10 identified from the Aquifer Properties Memo, and a groundwater gradient (i) = 0.003 ft/ft (DNRC Report).

14. The 14 proposed wells were modeled as one well using the Theis (DNRC Report) unconfined solution. Using the recommended aquifer properties identified in FOF 13 and a constant pumping rate of 29.83 GPM (flow rate required to produce the requested volume over the proposed period of diversion), the modeled 0.01-foot drawdown contour (zone of influence or ZOI) occurs at 12,200 feet from the proposed wells. The drawdown contour is bound by the Cretaceous shale bedrock unit approximately 5,000 feet to the northwest and terrace scarps approximately 8,000 feet southeast of the proposed wells. The total width of the ZOI (W), which is measured perpendicular to the groundwater flow direction (northeast and east), equals 13,700 feet. The total volume of groundwater flux (Q) each year within the ZOI is given by the equation Q = Twi and is 246,600 ft^3/day (6,000 ft^2/day x 13,700 ft x .003 ft/ft) or 2,066 AF/YR.

15. Should this appropriation be authorized, the Department will add the following condition:

IMPORTANT INFORMATION

THE APPROPRIATOR MUST PERFORM 8-HOUR DRAWDOWN AND YIELD TESTS ON EACH PRODUCTION WELL UNTIL THE REQUESTED FLOW RATE OF 135 GPM HAS BEEN ATTAINED. THE RESULTS OF THE 8-HOUR DRAWDOWN AND YIELD TESTS MUST BE SUBMITTED TO THE DEPARTMENT ON FORM 633 AS THE PRODUCTION WELLS ARE COMPLETED.

16. The Department finds that the amount of groundwater physically available at the proposed point of diversion is 2,066 AF/YR. The Applicant proposes to use 48.01 AF/YR. The Department finds that groundwater is physically available in the amount requested during the proposed period of diversion.

LEGAL AVAILABILITY

FINDINGS OF FACT

17. Department Groundwater Hydrologist Jack Landers modeled the drawdown from the proposed appropriation after five (5) years of pumping. The model predicted that the 0.01-foot drawdown contour or ZOI would occur at a maximum distance of 12,200 feet from the Applicant's PODs. Based on a 0.01-foot drawdown contour at 12,200 ft from the proposed wells, delineated based on the structure of the aquifer and impermeable boundaries, the DNRC Report identified 374 active groundwater rights within the ZOI. A list of these water rights is in the file. Of those water rights, 344 are Groundwater Certificates, two (2) are Exempt Rights, 19 are Statements of Claim, and nine (9) are Provisional Permits. This includes 54 Groundwater Certificates and nine (9) Statements of Claim for which no volume is recorded in the database. The legal demand for the 54 Groundwater Certificates with no recorded volume were each assigned as 3.03 AF/YR, representing the average volume of the 290 Groundwater Certificates for which volumes are recorded. Statements of Claim with no listed volume were assigned volumes based on Department standards. Two (2) Domestic claims were assigned 1.5 AF per household, per adjudication standards. One (1) irrigation claim was calculated based on the Climatic Area 1 for the region and using 60% efficiency for flood irrigation, which results in 3.07 AF/AC per Department standard practice. The remaining six (6) Statements of Claim were stock claims and were assigned 0.034 AF/AU times the number of AU for the period of diversion. The total annual legal demand on groundwater within the zone of influence is 2,011.40 AF/YR. Table 1 below compares the water supply and current legal demands for groundwater.

Table 1: Comparison of physically available groundwater to legal demands

Physically Available (AF/year)	Existing Legal Demands (AF/year)	Physically Available minus Existing Legal Demands (AF/year)
2,066	2,011.40	54.6

18. The amount of groundwater physically available is 2,066 AF/YR, and the existing legal demands of groundwater total 2,011.40 AF/YR, as calculated in FOF 17. The Department finds that the comparison shows that groundwater is legally available in the amount requested by the Applicant (2,066 AF – 2,011.40 AF = 54.6 AF).

19. The ZOI and the respective 374 active groundwater rights mentioned in FOF 17 and FOF 18 do not reflect the Groundwater Permit Technical Analysis Report – Part A dated March 21, 2025. The Draft Preliminary Determination was to Deny based on a lack of legally available groundwater. The Applicant requested an extension of time on June 30, 2025, which was

granted by the Department on June 30, 2025. The Applicant provided additional information on July 11, 2025, suggesting the constant head boundary of the ZOI should be truncated at Canyon Creek, rather than beyond this boundary. The Applicant cited that the ZOI was extended beyond Canyon Creek, the head boundary of Beneficial Water Use Application No. 43Q 30162249, a prior application near this project. As a result, Groundwater Hydrologist Jack Landers determined there was a lack of consistency in the ZOI from Beneficial Water Use Application No. 43Q 30162249 to this Application. Landers completed Groundwater Permit Technical Analyses Report – Notice of Erratum, truncating the ZOI to Canyon Creek, thus reducing the number of active groundwater rights from 472 to 374; subsequently reducing the legal demand from 2,419 AF/YR to 2,011.40 AF/YR. While these changes affected the legal availability, they did not affect the groundwater flux for the physical availability because the groundwater flow is perpendicular to Canyon Creek.

20. The DNRC Report concludes that the proposed appropriation is 3.3 miles west of Danford Drain, a surface water resource that is hydraulically connected to the source aquifer, Qat3 (111ALVM), and would be depleted by this groundwater appropriation. Danford Drain begins in the SENW of Sec. 36, T1S, R24E, Yellowstone County, and extends approximately 7.48 river miles to the confluence with the Yellowstone River located in Sec. 25, T1S, R25E, Yellowstone County. The top of the depleted reach of Danford Drain is located in the NWNWNWSW of Sec. 30, T1S, R25E, Yellowstone County. The estimated 26.3 AF of depletions on Danford drain, and the estimated consumptive use of 1.2 AF/YR for Commercial and 25.1 AF/YR for Lawn and Garden (26.3 AF combined) (FOF 1) are distributed monthly, as shown in Table 2.

Table 2: Modeled monthly depletions in volume (AF) and flow rate (GPM) to Danford Drain

Month	Commercial Consumed Volume (AF)	Lawn and Garden Consumed Volume (AF)	Total Consumed Volume (AF)	Danford Drain Net Depletion (AF)	Danford Drain Net Depletion (GPM)
January	0.1	0.0	0.1	1.2	8.4
February	0.1	0.0	0.1	0.9	7.1
March	0.1	0.0	0.1	0.8	6.2
April	0.1	0.7	0.8	0.8	5.7
May	0.1	3.0	3.1	1.1	8.0
June	0.1	4.9	5.0	2.1	15.7
July	0.1	6.6	6.7	3.4	24.8
August	0.1	5.9	6.0	4.5	32.7
September	0.1	3.0	3.1	4.4	33.2
October	0.1	0.9	1.0	3.5	25.5

November	0.1	0.0	0.1	2.2	16.8
December	0.1	0.0	0.1	1.5	10.9
Total	**1.2**	**25.1**	**26.3**	**26.3**	

21. There are no stream gages on Danford Drain; however, the source was otherwise measured per ARM 36.12.1702(1). *Montana Bureau of Mines and Geology (MBMG) Open-File Report No. 436 – Basic Hydrogeologic Data for: The West-Billings Area (1999-2000),* Yellowstone County, Montana, published June 2001, provides flow data that was collected between January 1999 and April 2001, on Danford Drain. Flow measurements from Danford Drain at Wise Lane were used to estimate water availability in Danford Drain. Danford Drain at Wise Lane is approximately 4.975 river miles downstream from the NW corner of Gov. Lot 3 in Sec. 30, T1S, R25E, Yellowstone County (the location of the start of the depleted reach), north of the NW corner of the proposed POU. The estimated monthly flow rate was determined by taking the average of this data, and the mean monthly volume (AF) was calculated by multiplying the flow rate in CFS by 1.98 (AF/day/1 CFS) times the number of days per month. Table 3.

Table 3: Mean Monthly Flow Rate (CFS) and Volume (AF) Estimates for Danford Drain @ Wise Lane

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow Rate	4.1	4.2	3.4	3.8	4.4	30.0	50.2	59.0	64.9	23.9	13.0	6.9
Mean Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782.0	3081.3	3621.4	3855.1	1467.0	770.2	425.6

22. There are 11 water rights between the top of the depleted reach and the location of the MBMG measurements on Danford Drain that utilize Danford Drain for irrigation and stock purposes. Table 4. To determine the physically available water at the top of the depleted reach, the Department will calculate a volume and/or flow rate for rights with no quantified values per Department standard practice. Statement of Claim 43Q 30107340 has a claimed volume but no claimed flow rate; the Department will use the claimed volume and will calculate a flow rate based on standard practice. For those with AUs but without a volume, the Department standard practice to calculate volume is to multiply the number of animal units (AU) by 0.034 AF/AU (30 GPD/AU) for year-round use, or AUs x 0.034 AF/AU x 1/365 yr/day x the number of days in the period of use. Flow rate in GPM is back-calculated by taking the annual volume in AF, multiplying it by 325,851 gallons/AF, then dividing by the number of days in the period of diversion and by 1,440 minutes/day.

Table 4: Water Rights on Danford Drain Above Wise Lane

Water Right No.	Owners	Purposes	Flow rate (GPM)	Flow rate (CFS)	Volume (AF)	Acres	Period of diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	STOCK	5.2[2]	0.01[2]	8.4[2]	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	IRR	41.99	0.093	10.13[1]	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	IRR	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	STOCK	2.12[2]	0.0047[2]	3.42[2]	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	IRR	25	0.0557	16.40[1]	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	IRR	208.42	0.46	50.27[1]	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	IRR	125.12	0.278	30.18[1]	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	IRR	758.52	1.69	184.50[1]	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	IRR	2244.15	5.0	426.52[1]	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	IRR	1795.32	4.0	438.70[1]	107	04/01 - 10/19
43Q 102615 00	Samm LLC	STOCK	21.078[2]	0.047[2]	34.0[2]	0	01/01 - 12/31
Stock Direct Standard			35.00[2]	0.0780[2]			

[1]Calculated by DNRC in Application 43Q 30157960; [2]Differs from the March 21, 2025, Technical Analysis; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

23. The flow rates for stock direct in Table 4 have been corrected to Department standards and do not match the values in the DNRC Report. The flow rate and volume of stock rights 43Q 30107340, 43Q 195892-00, and 43Q 102615-00 have been recalculated to meet Department Standard, as follows: the volume for 43Q 30107340 was taken as the claimed volume of 8.4 AF, and the flow rate was back-calculated to 5.2 GPM (8.4 AF x 325,851 gallons / 365 days / 1,440 minutes per day = 5.2 GPM); the volume of 43Q 195892-00 was calculated as 3.42 AF based on 150 AU and 245 days in the period of use (150 AU x 0.034 AF/AU/YR / 365 * 245 days = 3.42 AF) , and the flow rate was back-calculated to 2.12 GPM (3.42 AF x 325,851 gallons / 365 days / 1,440 minutes per day = 2.12 GPM); the volume of 43Q 102615-00 was calculated as 34 AF based on 1,000 AU and a year-round period of use (1,000 AU x 0.034 AF/AU/YR = 34 AF), and the flow rate was back-calculated to 21.07 GPM (34 AF x 325,851 gallon / 365 days / 1,440 minutes per day = 21.07 GPM); lastly, 35 GPM was added to the flow rate as this is the standard practice for calculating the flow rate for stock direct from source. A flow rate of 63.4 GPM (28.39 GPM + 35 GPM = 63.4 GPM) and a volume of 45.8 AF/YR (8.4 AF + 3.42 AF + 34

AF = 45.8 AF) represent all water rights for livestock drinking directly from Danford Drain between the top of the depleted reach and the Wise Lane collection site. These corrections are reflected in the Groundwater Permit Technical Analyses Report – Notice of Errata dated June 16, 2025.

24. The volume amounts for Statements of Claim 43Q 14939-00, 43Q 42699-00, 43Q 206797-00, 43Q 208180-00, 43Q 208181-00, 43Q 208801-00, 43Q 195891-00, and 43Q 45860-00 were calculated for Provisional Permit 43Q 30157960 and their values were taken for this Application, as Provisional Permit 43Q 30157960 was the last water right issued with depletions to Danford Drain, prior to this Application.

25. The existing legal demands between the MBMG collection site and the top of the depleted reach were added to the mean monthly flow at the collection site to determine the physical availability of water on Danford Drain at the top of the depleted reach. Volume was calculated as mean monthly flow times 1.98 times the number of days in a month. The breakdown of these legal demands by month is in the file under the Processing Materials flag. Tables 5 and 6.

Table 5: Physically Available Flow Rate in Danford Drain (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow Rate at Top of Depleted Reach	4.1	4.2	3.4	3.8	4.4	30.0	50.2	59.0	64.9	23.9	13.0	6.9
Legal Demands Between Measurement and Top of Depleted Reach	0.1[1]	0.1[1]	0.2[1]	6.0[1]	11.3[1]	12.1[1]	12.1[1]	12.1[1]	12.1[1]	6.3[1]	0.2[1]	0.1[1]
Physically Available (mean flow rate plus legal demands)	**4.2[1]**	**4.3[1]**	**3.6[1]**	**9.8[1]**	**15.7[1]**	**42.1[1]**	**62.3[1]**	**71.1[1]**	**77.0[1]**	**30.2[1]**	**13.2[1]**	**7.0[1]**

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

26. Changes made in the flow rate and volume shown in Table 4 have affected the physically available flow rate in Danford Drain shown in Table 5. These changes altered the flow rate for the legal demands between the measurement and the top of the depleted reach and the physically available flow rate; thus, Table 5 does not match the DNRC Report. Refer to the Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025, for more information.

Table 6: Physically Available Volume in Danford Drain (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782	3081.3	3621.4	3855.1	1467	772.2	423.5
Legal Demands Between Measurement and Top of Depleted Reach	3.6[1]	3.3[1]	5.3[1]	72.9[1]	107.3[1]	219.0[1]	225.1[1]	226.3[1]	164.9[1]	76.5[1]	3.6[1]	3.6[1]
Physically Available Volume (mean volume plus legal demands)	255.3[1]	236.1[1]	214.0[1]	298.6[1]	377.4[1]	2001.0[1]	3306.4[1]	3847.7[1]	4020.0[1]	1543.5[1]	775.8[1]	427.1[1]

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

27. Changes made to the flow rate and volume in Table 4 are reflected in Table 6. Table 6 does not match the DNRC Report. Refer to the Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025, for more information.

28. The Area of Potential Impact (AOPI), for Danford Drain is from the top of the depleted reach to the confluence with the Yellowstone River, located in the NWSW of Section 25, T1S, R25E, Yellowstone County. There are 11 water rights on Danford Drain between the top of the depleted reach and the confluence with the Yellowstone River. This is an acceptable AOPI as the reach includes all Danford Drain water users. Table 7.

Table 7: Water Rights in the AOPI

Water Right No.	Owners	Purposes	Flow rate (GPM)	Flow rate (CFS)	Volume (AF)	Acres	Period of diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	STOCK	5.2[2]	0.01[2]	8.4[2]	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	IRR	41.99	0.093	10.13[1]	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	IRR	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	STOCK	2.12[2]	0.0047[2]	3.42[2]	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	IRR	25	0.0557	16.40[1]	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	IRR	208.42	0.46	50.27[1]	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	IRR	125.12	0.278	30.18[1]	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	IRR	758.52	1.69	184.50[1]	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	IRR	2244.15	5.0	426.52[1]	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	IRR	1795.32	4.0	438.70[1]	107	04/01 - 10/19
43Q 102615 00	Samm LLC	STOCK	21.078[2]	0.047[2]	34.0[2]	0	01/01 - 12/31
Stock Direct Standard			35.00[2]	0.0780[2]			

[1]Calculated by DNRC in Application 43Q 30157960; [2]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

29. The flow rate and volume for stock direct in Table 7 have been corrected to Department standards and do not match the DNRC Report. Table 7 has been updated as described in FOF

23. Refer to the Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025, for more information.

30. The legal demands between the top of the depleted reach and the confluence with the Yellowstone River (Table 7) were subtracted from the physically available water at the top of the depleted reach (Tables 5 and 6) to determine if water was legally available on Danford Drain. Tables 8 and 9.

Table 8: Legally Available Flow Rate in Danford Drain, CFS

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physically Available Flow Rate (Table 5)	4.2[1]	4.3[1]	3.6[1]	9.8[1]	15.7[1]	42.1[1]	62.3[1]	71.1[1]	77.0[1]	30.2[1]	13.2[1]	7.0[1]
Existing Legal Demands	0.1[1]	0.1[1]	0.2[1]	6.0[1]	11.3[1]	12.1[1]	12.1[1]	12.1[1]	12.1[1]	6.3[1]	0.2[1]	0.1[1]
Legally Available Flow Rate	**4.1[1]**	**4.2[1]**	**3.4[1]**	**3.8[1]**	**4.4[1]**	**30.0[1]**	**50.2[1]**	**59.0[1]**	**64.9[1]**	**23.9[1]**	**13.0[1]**	**6.9[1]**

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

31. Changes made to the flow rate and volume in Table 7 are reflected in Table 8. Table 8 does not match the DNRC Report.

Table 9: Legally Available Volume in Danford Drain, AF

Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Physically Available Volume (Table 7)	255.3[1]	236.1[1]	214.0[1]	298.6[1]	377.4[1]	2001.0[1]	3306.4[1]	3847.7[1]	4020.0[1]	1543.5[1]	775.8[1]	427.1[1]
Existing Legal Demands	3.6[1]	3.3[1]	5.3[1]	72.9[1]	107.3[1]	219.0[1]	225.1[1]	226.3[1]	164.9[1]	76.5[1]	3.6[1]	3.6[1]
Legally Available Volume	251.7[1]	232.8[1]	208.7[1]	225.7[1]	270.1[1]	1782.0[1]	3081.3[1]	3621.4[1]	3855.1[1]	1467.0[1]	772.2[1]	423.5[1]

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

32. Changes made to the flow rate and volume in Table 7 are reflected in Table 9. Table 9 does not match the DNRC Report. Refer to the Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025, for more information.

33. The flow rate and volume of water physically available minus all legal demands within the AOPI for Danford Drain exceed modeled depletions in all months. The Department finds that water is legally available on Danford Drain within the AOPI, in excess of modeled monthly depletions, during the proposed period of diversion.

34. Based on a physical availability of 2,066 AF/YR of groundwater and legal demands of 2,011.40 AF/YR of groundwater, the Department finds that the physical availability exceeds the legal demands by 54.6 AF/YR as shown in Table 1 (FOF 17, 18).

35. The Department finds that the proposed flow rate of 135 GPM and up to 48.01 AF volume per year of groundwater is legally available during the proposed period of diversion (FOF 18, 34).

ADVERSE EFFECT

FINDINGS OF FACT

36. The Applicant's plan to prevent adverse effect is to shut down their pumps and cease diversion if a valid call is made by a senior water user.

37. The Applicant proposes to install flow meters on all pipelines going into buildings and on the pipeline at the park. The flow meters would measure the total diverted volume from the POD for the respective location (FOF 3).

38. The Applicant's data from aquifer testing and Department modeling demonstrate that the requested flow rate and volume are physically available in the amount that the Applicant proposes to divert (FOF 16).

39. The comparison of physically available groundwater to existing legal demands demonstrates that groundwater is legally available in the flow rate and volume requested, as shown in Table 1 (FOF 17, 18). A list of water rights within the ZOI is in the file under the Processing Materials flag.

40. As discussed in the Legal Availability section, Danford Drain is considered hydraulically connected to the source aquifer. Table 2 (FOF 20) shows the modeled monthly depletions to Danford Drain by flow rate and volume. Physical availability of water in the depleted reach of Danford Drain exceeds all legal demands for surface water and the modeled depletions in all months within the proposed period of diversion (Tables 8 & 9; FOF 34).

41. Department Groundwater Hydrologist, Jack Landers, modeled drawdown in existing wells using aquifer properties from the Applicant's aquifer test and Billings Aquifer Variance Memo (DNRC Report). Using the Applicant's proposed monthly pumping schedule identified in Table 10 below, and the associated annual volume, the potential impact to existing water rights is evaluated by modeling drawdown in nearby wells and net depletions to surface waters. The maximum modeled drawdown is 1.45 feet at the Park POD (POD 14 in the DNRC Report) located in the SWSESW of Sec. 30 in T1S R25E, Yellowstone County, Platinum Commercial Park Subdivision, Lot 7, Block 3; park L&G well at the end of August of the fifth year. The 1-ft drawdown contour extends 100 feet from Park POD (POD 14 in the DNRC Report).

42. Groundwater modeling indicates no water rights would experience drawdown equal to or in excess of one foot. See Figure 7 in TA Part A (DNRC Report)

43. The Department finds that the proposed appropriation of 135 GPM, up to 48.01 AF/YR of volume for Commercial and Lawn and Garden use, will not cause an adverse effect on any existing water rights or water reservations.

44. Should this appropriation be authorized, the Department will add the following condition:

IMPORTANT INFORMATION

THE APPROPRIATOR SHALL INSTALL DEPARTMENT APPROVED WATER USE MEASURING DEVICES ON ALL WELLS AS THEY ARE INSTALLED. WATER MUST NOT BE DIVERED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED, INCLUDING THE PERIOD OF TIME. RECORDS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCE REGIONAL OFFICE. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

ADEQUATE MEANS OF DIVERSION

FINDINGS OF FACT

45. The proposed means of diversion consists of 14 wells. One well has been completed (GWIC ID 334912; 38 ft deep) in the SWSW of Sec. 30, T1S, R25E, Yellowstone County; consisting of an eight-inch (8-in) diameter borehole from a depth of zero to thirty-eight feet (0-38 ft), with steel welded 250 casing a quarter inch (0.25-in) thick having a diameter of six and five-eighths inch (6 5/8-in) from a depth of one-and-a-half feet to thirty-seven feet (1.5-37 ft). No other wells have been completed as of May 19, 2025. This project has an expected project completion time of 20 years, and wells are to be constructed as lots are purchased and built for commercial use. If Beneficial Water Use Application No. 43Q 30164891 is granted, the Department will require the Applicant to report new wells and to conduct eight-hour (8-hr) drawdown tests on each well until the cumulative requested flow rate is achieved.

46. A licensed water well contractor completed the well and conducted an 8-hour drawdown and yield test with a four-inch (4-in) well pump and two-inch (2-in) water piping. The constructed well and the wells yet to be completed are in the Qat3, an aquifer bound by the Cretaceous shale bedrock unit approximately 5,000 feet to the northwest and terrace scarps approximately 8,000 feet southeast. Thirteen of the proposed wells will pump groundwater into 13 commercial facilities using independent pipes, which will connect to the constructed piping in the designated building. Thirteen of the proposed wells will pump groundwater to 13 commercial lots, and the 14th well will pump water to one (1) park lot for Lawn and Garden purposes, to irrigate a total of 14.31 AC.

47. All diversion structures are proposed to include a 6-inch well drilled a minimum of 25 feet deep. Each well will contain a four-inch (4-in) well pump, a well pitless adapter, and 2-inch water service pipeline. Of the 13 commercial pipelines, water will enter each commercial building for use; the 14th well and pump will pipe water through a service line that will enter a sprinkler control box that will control the sprinkler zones of the park.

48. Department Groundwater Hydrologist Jack Landers modeled adequacy of diversion using the Theis (DNRC Report) solution with a T= 6,000 ft^2/day and Sy = 0.1 (DNRC Report). Predicted theoretical drawdown for the proposed wells were modeled for the period of diversion using the monthly pumping schedule identified in Table 10. The Applicant proposes to irrigate 14.31 AC of Lawn and Garden, up to 35.78 AF from April 1 to October 31; the proposed irrigation volume was apportioned April through October according to the monthly percent of the total net irrigation requirement (NIR) for pasture grass calculated for the Billings Water Plant weather station listed in the Irrigation Water Requirement (IWR) program (DNRC Report). Pasture grass is used as a proxy for turf grass (DNRC Report). Additionally, the Applicant proposes 12.23 AF year-round for Commercial use; the proposed volume was based on a system designed for 24 employees per lot and 35 gallons per day per employee. The proposed Commercial volume of 12.23 AF was distributed evenly from January through December based on days in the month. Based on Department modeling, the assumed monthly pumping schedule would vary from 7.6 GPM to 76.6 GPM, due to increases during the irrigation season between April and October, as shown in Table 10.

Table 10. Assumed monthly pumping schedule for the proposed uses

Month	IWR NIR+ (inches)	Lawn and Garden Diverted Volume (AF)	Commercial Diverted Volume (AF)	Total Diverted Volume (AF)	Total Diverted Flow Rate (GPM)	Total Diverted Flow Rate (CFS)
January	0.0	0.0	1.0	1.0	7.6	0.016934

February	0.0	0.0	0.9	0.9	7.6	0.016934
March	0.0	0.0	1.0	1.0	7.6	0.016934
April	0.71	1.0	1.0	2.0	15.3	0.034091
May	3.01	4.3	1.0	5.4	39.1	0.087121
June	4.88	7.0	1.0	8.0	60.5	0.134804
July	6.58	9.4	1.0	10.5	76.6	0.170677
August	5.84	8.4	1.0	9.4	68.8	0.153298
September	3.00	4.3	1.0	5.3	40.1	0.089349
October	0.94	1.3	1.0	2.4	17.4	0.03877
November	0.0	0.0	1.0	1.0	7.6	0.016934
December	0.0	0.0	1.0	1.0	7.6	0.016934
Total	**24.96**	**35.8**	**12.2**	**48.0**		

[+]According to the monthly net irrigation requirements for the Billings Water Plant Weather Station.

49. The Applicant provided data from an 8-hour drawdown and yield test on the existing well was used to model the remaining available water column in that well and predict the drawdown in the additional 13 wells. As identified in Table 11, total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Well efficiency is calculated by dividing the modeled maximum drawdown for the pumping test by the maximum observed drawdown of the pumping test. The proposed site plan was used to model interference drawdown from the additional wells. The remaining available water column for GWIC ID 334912 is equal to the available drawdown above the bottom of the well minus total drawdown, equal to 29.7 ft. The remaining 13 wells would exhibit similar drawdown based on comparable pumping schedules, volumes, and well construction.

Table 11: Remaining available water column for the Production Well, GWIC ID 334912.

Drawdown Estimate	**Well 1**
Total Depth at Bottom of Perforated Interval (ft.)	38.8
Pre-Test Static Water Level (ft. BTC)	7.9
Available Drawdown Above Bottom of Well (ft.)	30.9
Observed Drawdown of Aquifer Test (ft.)	5.0
Modeled Drawdown Using Mean Aquifer Test Rate (ft.)	2.0
Well Efficiency (%)	39%
Predicted Theoretical Maximum Drawdown (ft.)	0.3
Predicted Drawdown with Well Loss (ft.)	0.7
Interference Drawdown (ft.)	0.5
Total Drawdown (ft.)	1.2
Remaining Available Water Column (ft)[1]	29.7

[1]The total well depth measuring point (ft. BGS) was adjusted to the top of the well casing based on a 1.8 ft. well casing stickup reported on the well log.

50. An 8-hour drawdown and yield test was submitted by the Applicant for a production well within the proposed subdivision. The Department was able to model the adequacy of diversion using the data from the Applicant's test and the Yellowstone River Terrace 3 Memo. The Department finds that the Applicant has demonstrated adequacy of diversion. Because the Applicant tested the production well at 50 GPM and they are requesting 135 GPM, the Applicant will be required to conduct 8-hour drawdown and yield tests on additional production wells until they have pumped a cumulative 135 GPM. Therefore, the following condition will be added to the permit if it is granted:

IMPORTANT INFORMATION

THE APPROPRIATOR MUST PERFORM 8-HOUR DRAWDOWN AND YIELD TESTS ON EACH PRODUCTION WELL UNTIL THE REQUESTED FLOW RATE OF 135 GPM HAS BEEN ATTAINED. THE RESULTS OF THE 8-HOUR DRAWDOWN AND YIELD TESTS MUST BE SUBMITTED TO THE DEPARTMENT ON FORM 633 AS THE PRODUCTION WELLS ARE COMPLETED.

51. All wells will be drilled by a licensed well contractor in accordance with current regulations and will be placed as designated on the subdivision plat approved by the Montana Department of Environmental Quality (DEQ). The lot owner will be responsible for installation and proper connection to the well for Commercial and Lawn and Garden use according to the system design and current regulations.

52. The entire system was designed by a professional engineer. The current consultant is Performance Engineering, LLC, of Billings, MT. The Department finds that the proposed means of diversion and conveyance are capable of diverting the proposed volume and flow rate.

BENEFICIAL USE

FINDINGS OF FACT

53. The Applicant requests a 135 GPM flow rate, and up to a total volume of 48.01 AF for Commercial (12.23 AF) use, year-round; and Lawn and Garden (35.78 AF) use, from April 1 to October 31. Commercial, and Lawn and Garden are recognized as beneficial uses under the Montana Water Use Act §85-2-102(5). MCA.

54. The Applicant proposes Commercial use for 13 commercial lots and Lawn and Garden use for 14 lots, one of which is a park. Water demand for 13 Commercial use lots was

calculated with an estimated average of 24 employees per lot at 35 gallons per person per day. Over one year, this amounts to 12.23 AF total (13 lots x 24 employees x 35 GPD/employee x 365 days = 3,985,800 gallons/325,851 gallons/AF = 12.23 AF) or 0.94 AF per lot for Commercial use. The DNRC Water Calculation Guide lists 35 gallons per person per shift for Factory Workers, which is consistent with the requested volume, assuming one (1) shift. The Applicant proposes 14.31 AC total for Lawn and Garden irrigation. The Department standard for Lawn and Garden irrigation is 2.5 AF/AC, and 14.31 AC requires 35.78 AF of water (14.31 x 2.5 = 35.775 AF). The total required volume is 48.01 AF (12.23 AF + 35.78 AF = 48.01 AF), and the Applicant requests 48.01 AF (FOF 1).

55. The Applicant requests a maximum flow rate of 135 GPM for the proposed subdivision. The maximum flow rate of 135 GPM requested is based upon predicted peak flows assuming a flow rate of 5 GPM per lot utilized over the 13 Commercial lots, resulting in a commercial flow rate of 65 GPM for Commercial use. Based on calculated watering intervals for Lawn and Garden use over an 8-hour period during the 180-day watering season, the peak flow is 70 GPM for Lawn and Garden use. Based on predicted peak flows, the total flow rate to support the commercial and lawn and garden uses is 135 GPM (65 + 70 = 135 GPM).

56. The Department finds the proposed Commercial and Lawn and Garden uses are beneficial, and the requested volume of 48.01 AF, up to 135 GPM flow rate, are reasonably justified per ARM 36.12.1801(3).

POSSESSORY INTEREST

FINDINGS OF FACT

57. The Applicant signed the application form affirming that the Applicant has possessory interest or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

PHYSICAL AVAILABILITY

58. Pursuant to § 85-2-311(1)(a)(i), MCA, an Applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate."

59. It is the Applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987) (Applicant produced no flow measurements or any other information to show the availability of water;

permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.,* (DNRC Final Order 2005).

60. An Applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the Applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

61. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. Section 85-2-311(1)(a)(i), MCA. (FOF 10-16)

LEGAL AVAILABILITY

62. Pursuant to § 85-2-311(1)(a), MCA, an Applicant must prove by a preponderance of the evidence that:

> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;
> (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and
> (C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; *Montana Power Co.*, 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

63. It is the Applicant's burden to present evidence to prove water can be reasonably considered legally available. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the Applicant. The Supreme Court has instructed that those burdens are exacting.); *see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston* (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on Applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1,*

LLC., (DNRC Final Order 2005))(it is the Applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007) (permit denied for failure to prove legal availability); *see also* ARM 36.12.1705.

64. Pursuant to *Montana Trout Unlimited v. DNRC*, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. *E.g., Wesmont Developers v. DNRC*, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006) (mitigation of depletion required), *affirmed*, *Faust v. DNRC et al.*, Cause No. CDV-2006-886, Montana First Judicial District (2008); *see also Robert and Marlene Takle v. DNRC et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing Smith v. Duff*, 39 Mont. 382, 102 P. 984 (1909), and *Perkins v. Kramer*, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing Loyning v. Rankin* (1946), 118 Mont. 235, 165 P.2d 1006; *Granite Ditch Co. v. Anderson* (1983), 204 Mont. 10, 662 P.2d 1312; *Beaverhead Canal Co. v. Dillon Electric Light & Power Co.* (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No.* 63997-*42M by Joseph F. Crisafulli* (DNRC Final Order 1990) (since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by Applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage).

65. Because the Applicant bears the burden of proof as to legal availability, the Applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. Section 85-2-311(a)(ii), MCA. Absent such proof, the Applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H*

30023457 By Utility Solutions LLC (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

66. Where a proposed ground water appropriation depletes surface water, Applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. *Robert and Marlene Takle v. DNRC*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006) (permits granted), *affirmed*, *Faust v. DNRC et al.*, Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007 *)*(permit granted)*, affirmed*, *Montana River Action Network et al. v. DNRC*, Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 ("DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator"; Applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, Applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any

depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for "historic beneficial use" in analyzing legal availability of surface water under § 85-2-360(5), MCA. *Royston, supra*.

67. In analyzing legal availability for surface water, Applicant was required to evaluate legal demands on the source of supply throughout the "area of potential impact" by the proposed use under § 85-2-311(1)(a)(ii), MCA, not just within the "zone of influence." *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 6.

68. Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. Section 85-2-311(1)(a)(ii), MCA. (FOF 17-35)

ADVERSE EFFECT

69. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. *See Montana Power Co.*, 211 Mont. 91, 685 P.2d 336 (1984) (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); *Bostwick Properties, Inc.*, ¶ 21.

70. An Applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an Applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. *Id.* ARM 36.12.120(5).

71. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 4 (2011).

72. In analyzing adverse effect to other appropriators, an Applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." *See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston*, 249 Mont. 425, 816 P.2d 1054 (1991).

73. It is the Applicant's burden to produce the required evidence. *E.g., Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 7 (2011) (legislature has placed the burden of proof squarely on the Applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a preponderance of the evidence. *Bostwick Properties, Inc.*, ¶ 21.

74. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, 8 (2011).

75. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Section 85-2-311(1)(b), MCA. (FOF 36-44)

ADEQUATE DIVERSION

76. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

77. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

78. Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. *In the Matter of Application for Beneficial Water Use Permit No.* 41I-105511 *by Flying J Inc.* (DNRC Final Order 1999).

79. Information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies, based upon project complexity design by licensed engineer adequate. *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002).

80. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. Section 85-2-311(1)(c), MCA. (FOF 45-52).

BENEFICIAL USE

81. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

82. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. *E.g.*, *McDonald*; *Toohey v. Campbell* (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. *E.g.*, *Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds*, *Dee Deaterly v. DNRC* , Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); *Worden v. Alexander* (1939), 108 Mont. 208, 90 P.2d 160; *Allen v. Petrick* (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

83. Amount of water to be diverted must be shown precisely. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 3 (2011) (citing *BRPA v. Siebel*, 2005 MT 60, and rejecting Applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

84. It is the Applicant's burden to produce the required evidence. *Bostwick Properties, Inc. v. DNRC*, 2013 MT 48, ¶ 22, 369 Mont. 150, 296 P.3d 1154 ("issuance of the water permit itself does not become a clear, legal duty until [the applicant] proves, by a preponderance of the evidence, that the required criteria have been satisfied"); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); *see also Royston; Ciotti*.

85. Applicant proposes to use water for Commercial and Lawn and Garden use, which are recognized as beneficial use. Section 85-2-102(5), MCA. Applicant has proven by a

preponderance of the evidence that Commercial and Lawn and Garden use are a beneficial use and that a combined diverted volume of 48.01 AF and a combined flow rate of 135 GPM are the amounts needed to sustain the beneficial use. Section 85-2-311(1)(d), MCA. (FOF 53-56)

POSSESSORY INTEREST

86. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

87. Pursuant to ARM 36.12.1802:

> (1) An Applicant or a representative shall sign the application affidavit to affirm the following:
> (a) the statements on the application and all information submitted with the application are true and correct and
> (b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the Applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.
> (2) If a representative of the Applicant signs the application form affidavit, the representative shall state the relationship of the representative to the Applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.
> (3) The department may require a copy of the written consent of the person having the possessory interest.

88. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. Section 85-2-311(1)(e), MCA. (FOF 57)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 43Q 30164891 should be GRANTED.

The Department determines the Applicant may divert groundwater from January 1 to December 31, at a combined flow rate of 135 GPM, and a combined volume up to 48.01 AF/YR, from 14 PODs in the SW of Sec. 30, T1S, R25E, Yellowstone County, to serve the Platinum Commercial Park Subdivision, for Commercial use (12.23 AF; at 13 commercial lots) year round, and Lawn and Garden use (35.78 AF; at 13 commercial lots and 1 park) from April 1 to October 31. The proposed place of use for Commercial use is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-6, Block 3 of Sec. 30, T1S, R25E, Yellowstone County; and the proposed place of use for Lawn and Garden is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-7, Block 3 of Sec. 30, T1S, R25E, Yellowstone County, of the proposed Platinum Commercial Park Subdivision.

The application will be subject to the following conditions, limitations, or restrictions:

IMPORTANT INFORMATION

i. THE APPROPRIATOR SHALL INSTALL DEPARTMENT APPROVED WATER USE MEASURING DEVICES ON ALL WELLS AS THEY ARE INSTALLED. WATER MUST NOT BE DIVERED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED, INCLUDING THE PERIOD OF TIME. RECORDS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCE REGIONAL OFFICE. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

ii. THE APPROPRIATOR MUST PERFORM 8-HOUR DRAWDOWN AND YIELD TESTS ON EACH PRODUCTION WELL UNTIL THE REQUESTED FLOW RATE OF 135 GPM HAS BEEN ATTAINED. THE RESULTS OF THE 8-HOUR DRAWDOWN AND

YIELD TESTS MUST BE SUBMITTED TO THE DEPARTMENT ON FORM 633 AS THE PRODUCTION WELLS ARE COMPLETED.

NOTICE

The Department will provide a notice of opportunity for public comment on this application and the Department's Updated Draft Preliminary Determination to Grant pursuant to § 85-2-307, MCA. The Department will set a deadline for public comments to this application pursuant to §§ 85-2-307, and -308, MCA. If this application receives public comment pursuant to § 85-2-307(4), the Department shall consider the public comments, respond to the public comments, and issue a preliminary determination to grant the application, grant the application in modified form, or deny the application. If no public comments are received pursuant to § 85-2-307(4), MCA, the Department's preliminary determination will be adopted as the final determination.

Dated this 20th day of August 2025.

Christine Schweigert
Acting Regional Manager
Billings Regional Office,
Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the UPDATED DRAFT PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 20th day of August, 2025, by first class United States mail.

COUGAR INVESTMENTS, LLC
PO BOX 81153
BILLINGS, MT, 59108
ERIN@KECONSTRUCTION.COM

PERFORMANCE ENGINEERING, LLC
ATTN: TAYLOR KASPERICK
3412 COLTON BOULEVARD
SUITE 202
BILLINGS, MT 59102
TAYLOR@PERFORMANCE-EC.COM

C. Strebeck

CASSEY STREBECK
Billings Regional Office, Department of
Natural Resources and Conservation
Cassey.Strebeck@mt.gov
406-247-4422

20AUG2025

DATE

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

June 17, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
PO Box 81153
Billings, MT, 59108

Subject: Draft Preliminary Determination to Deny Beneficial Water Use Permit Application No. 43Q 30164891

Dear Applicant,

The Department of Natural Resources and Conservation (Department or DNRC) has completed a preliminary review of your application. This review consists of an evaluation of the criteria for issuance of a permit found in §85-2-311, MCA. The Department has preliminarily determined that not all of the criteria are met, and this application should be denied. A copy of the Draft Preliminary Determination to Deny your application is attached.

You have the opportunity to request an extension of time to submit additional information for the Department to consider in the decision, within 15 business days of the date of this letter. If no response is received by **July 9, 2025**, the Department will forward your application to the DNRC Hearings Unit to schedule a hearing to show cause why your application should not be denied, per §85-2-310(1), MCA.

If you determine you do not intend to further pursue this application, you can request the application to be withdrawn at any time during this process.

Please note that if you are granted an extension of time to submit additional information to the Department, additional information may be considered an amendment to your application, which may reset application timelines pursuant to ARM 36.12.1401.

Please let me know if you have any questions.

Sincerely,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

* * * * * * *

APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 43Q 30164891 BY COUGAR INVESTMENTS, LLC.	)))	**DRAFT PRELIMINARY DETERMINATION TO DENY PERMIT**

* * * * * * *

On April 3, 2025, Cougar Investments, LLC. (Applicant) submitted Application for Beneficial Water Use Permit No. 43Q 30164891 to the Billings Regional Office of the Department of Natural Resources and Conservation (Department or DNRC) for 135 GPM, up to 48.00 AF/YR for Commercial and Lawn and Garden uses. The Department published the receipt of the application on its website. A preapplication meeting was held between the Department and the Applicant's consultant, Performance Engineering, LLC., on November 20, 2024, in which the Applicant designated that the technical analyses for this application would be completed by the Department. The Applicant returned the completed Preapplication Meeting Form on February 4, 2025, and the Department accepted it on February 6, 2025. The Department delivered the completed Technical Analyses on March 21, 2025. The Application was determined to be correct and complete as of April 18, 2025. An Environmental Assessment for this application was completed on May 14, 2025.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Addenda:
    - Aquifer Testing Addendum, Form 600-ATA, December 16, 2024
- Aquifer Test Data, Form 633
- Attachments:
    - Montana Well Log Report, Form 603 R2-04; Well ID: 334912 (72nd/Danford); well completed: October 29, 2024; Certified by: American Drilling on October 31, 2024
    - Form 606P: Preapplication Meeting Form, Permit; received February 4, 2025

- MBMG Open File Report 436: Basic Hydrogeologic Data for West Billings Area by J. L. Olson and J. C. Reiten, Danford Drain, pages 91-92; dated June 2001

- Maps:
  - Exhibit A: Platinum Commercial Park Subdivision, POD Location Exhibit; schematic without aerial; undated
  - Exhibit B: Platinum Commercial Park Subdivision, POD Vicinity Map; draft plans with proposed POD and POU overlaying aerial imagery; undated
- Department- completed technical analyses (DNRC Report). Based on information provided in the Preapplication Checklist, dated March 21, 2025
  - Groundwater Permit Technical Analysis Report – Part A, completed by DNRC Groundwater Hydrologist, Jack Landers
  - Groundwater Permit Technical Analysis Report – Part B, completed by DNRC Water Resource Specialist, Cassey Strebeck

Information within the Department's Possession/Knowledge

- Variance Request, Form 653, received December 5, 2024, requesting variance from ARM 36.12.121: (2)(b); (2)(c); (3)(b); (3)(c); (3)(e); (3)(e)(i); (3)(e)(ii); (3)(f); (3)(g)
- Form 653, Additional Variance Request, for ARM 36.12.121: 3(d), received on December 27, 2024
- DNRC Letter to Applicant granting variance request; dated December 30, 2024, granting variance from ARM 36.12.121: (2)(b and c); (3)(b, c, d, e, e(i), e(ii), f, and g)
- Coordinates for proposed well locations; received February 27, 2025
- Environmental Assessment and Community Impact Statement, Platinum Commercial Park Subdivision, dated November 2024, received by DNRC on May 14, 2025. Requested by Cassey Strebeck during the completion of the Department Environmental Assessment.
- Groundwater Permit Technical Analyses Report – Notice of Errata, by Cassey Strebeck, dated June 16, 2025
- DNRC Water Rights Information System (WRIS)
- National Hydrography Dataset (NHD)
- The Department also routinely considers the following information. The following information is not included in the administrative file for this application but is available upon request. Please contact the Billings Regional Office at 406-247-4415 to request copies of the following documents.

- Department Technical Memorandum: Physical Availability of Surface Water with Gage Data dated November 1, 2019.
- Department Technical Memorandum: Variance – Yellowstone River Terrace Level 3 Aquifer Properties dated March 1, 2022
- Department Standard Practice for Area of Potential Impact Analysis
- Montana DNRC Permit Manual
- Montana DNRC Water Calculation Guide

The Department has fully reviewed and considered the evidence and argument submitted in this application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

For the purposes of this document, Department or DNRC means the Department of Natural Resources & Conservation; AF means acre-feet; AC means acres; AF/AC means acre-feet per acre; AF/YR means acre-feet per year; AOPI means area of potential impact, BGS means below ground surface; BTC means below top of casing; CFS means cubic feet per second; GPM means gallons per minute; GWIC means Groundwater Information Center; hp means horsepower; IRR means irrigation, POD means point of diversion, POU means place of use; SWL means static water level, and ZOI means Zone of Influence.

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert groundwater from January 1 to December 31 for Commercial use, and from April 1 to October 31 for 14.31 AC of Lawn and Garden use. Groundwater will be diverted by means of 14 wells from January 1 to December 31 at a combined flow rate of 135 GPM, up to 48.00 AF/YR, from 14 PODs in the SW of Sec. 30, T1S, R25E, Yellowstone County, to serve the Platinum Commercial Park Subdivision. The proposed place of use for Commercial use is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-6, Block 3 of Sec. 30, T1S, R25E, Yellowstone County; and the proposed place of use for Lawn and Garden is Lots 1-4, Block 1; Lots 1-3, Block 2; and Lots 1-7, Block 3 of Sec. 30, T1S, R25E, Yellowstone County, of the proposed Platinum Commercial Park Subdivision. The Applicant's proposal is for 13 commercial lots and one (1) park, each served by an individual well. The proposed period of use for the Commercial use is from January 1 to December 31, and the proposed period of use for the Lawn and Garden is from April 1 to October 31. The proposed volume for Commercial use is

up to 12.22 AF/YR. The proposed volume for Lawn and Garden irrigation of 14.31 AC at 2.5 AF/AC, is 35.78 AF/YR. The combined proposed consumptive use for this project is 26.3 AF/YR (1.2 AF/YR for Commercial use + 25.1 AF/YR for Lawn and Garden use = 26.3 AF/YR) (DNRC Report). This project is located at the west end of Billings on the NE corner of the intersection of 72nd Street West and Danford Road.

2. This proposed permit is not supplemental to any other water rights and does not share a place of use with any other water rights.

3. The Applicant plans to implement Codes of Covenants and Restrictions (CCRs) that will be filed with the subdivision plat, requiring water meters on all lines coming into the buildings to measure water use.

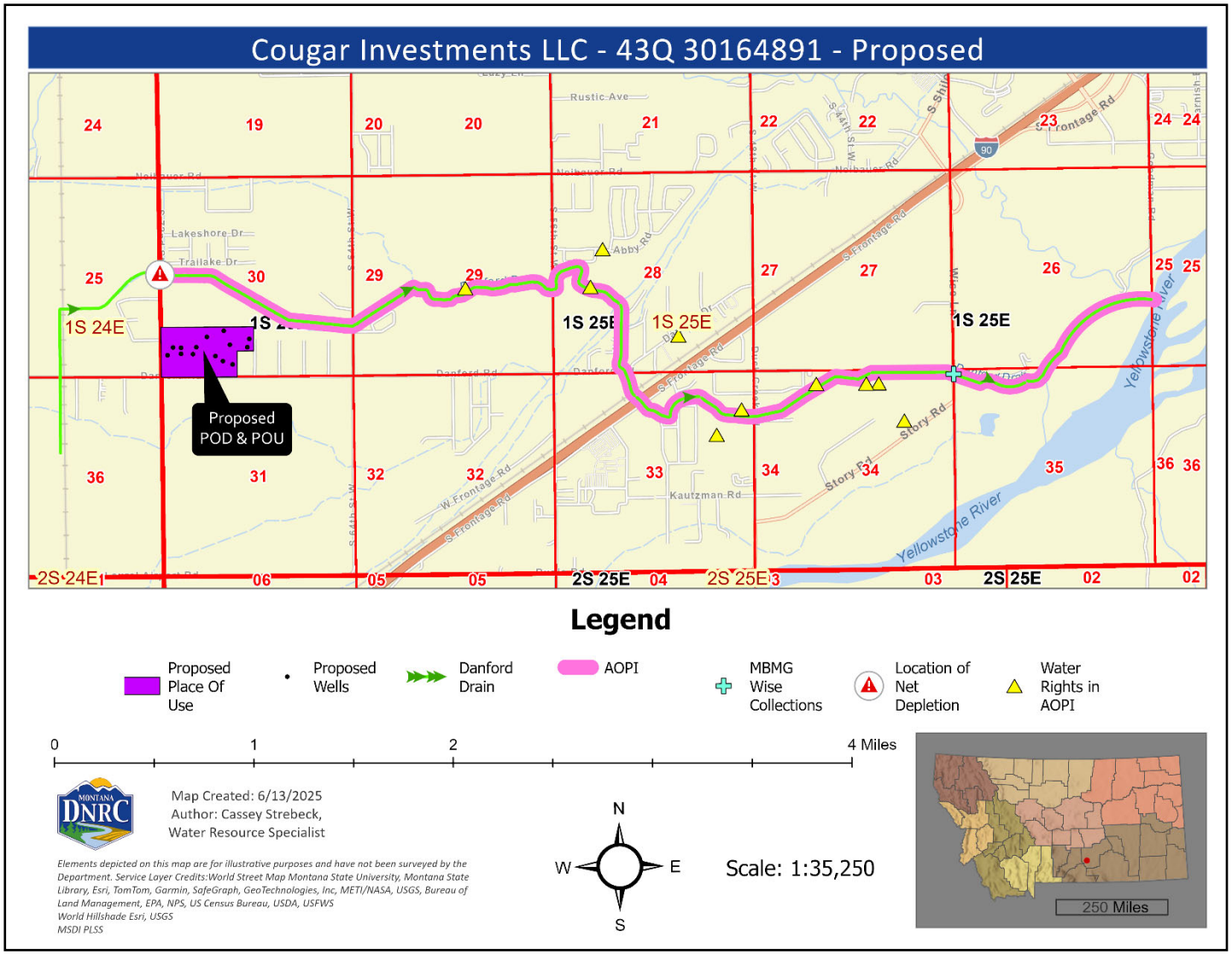


Figure 1. Proposed PODs and POU for 43Q 30164891, Platinum Commercial Park Subdivision

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

4. The Montana Constitution expressly recognizes in relevant part that:

> (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
> (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
> (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, § 3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

> (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
> (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

5. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. *See* § 85-2-102(1), MCA. An Applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

> … the department shall issue a permit if the Applicant proves by a preponderance of evidence that the following criteria are met:
> (a) (I) there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate; and
> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;
> (B) identification of existing legal demands on the source of supply throughout

the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the Applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The Applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, "the Applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the Applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies." Section 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. *Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation*, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a

preponderance of the evidence. Id. A preponderance of evidence is "more probably than not." *Hohenlohe v. DNRC*, 2010 MT 203, ¶¶ 33, 35, 357 Mont. 438, 240 P.3d 628.

6. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

> (1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, "uncontrolled development of a valuable natural resource" which "contradicts the spirit and purpose underlying the Water Use Act."); *see also*, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

7. The Montana Supreme Court further recognized in *Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner*, 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080 (1996), *superseded by legislation on another issue*:

> Nothing in that section [85-2-313], however, relieves an Applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an Applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order* (2011). The Supreme Court likewise explained that:

> .... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; *see also* Mont. Const. art. IX §3(1).

8. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. Section 85-2-311(6), MCA.

9. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

PHYSICAL AVAILABILITY

FINDINGS OF FACT

10. The Applicant proposes to use up to 135 GPM flow rate up to 48.00 AF volume of groundwater from January 1 to December 31 for Commercial use, and from April 1 to October 31 for Lawn and Garden use, utilizing 14 wells for 14 POUs.

11. One well has been completed (GWIC ID 334912; 38 ft deep) in the SWSW of Sec. 30, T1S, R25E. The remaining 13 wells will be completed as lots are built on.

12. The Applicant submitted a request for variance to waive aquifer testing requirements in Administrative Rule of Montana (ARM) 36.12.121 on December 05, 2024, and December 27, 2025. The Applicant requested the variance because the proposed project meets the parameters defined in DNRC's Yellowstone River Terrace Level 3 (Qat3) Aquifer Properties Memo, which allows the Applicant to forgo the 72-hour aquifer test if the project is within the mapped boundaries of Qat3 and the Applicant agrees to use the aquifer properties as defined in the memo. The Applicant provided an aquifer test for a well (GWIC ID 334912) in the first phase of this subdivision. The Department granted a variance from ARM 36.12.121 (2)(b and c), and ARM 36.12.121 (3)(b, c, d, e, e(i), e(ii), f, and g) aquifer testing requirements on December 30, 2024. The Applicant is still required by the Department to conduct 8-hour pumping tests on production wells until the total requested flow rate can be demonstrated.

13. The Applicant conducted an 8-hour drawdown and yield test on November 5, 2024, at an average rate of 50 GPM, with a maximum drawdown of 5.02 ft below the static water level (SWL) of 7.91 ft, below the top of the casing leaving 25.87 ft of water column above the bottom of the

well. Department Groundwater Hydrologist, Jack Landers, modeled the results of the 8-hour drawdown and yield test. The wells proposed for this application are within an unconfined hydrologic unit referred to as the Qat3, mapped by Lopez (DNRC Report). The test well (GWIC ID 334912) has 6-feet of clay overlaying a 29-foot-thick sand and gravel aquifer, which is consistent with other wells throughout the Qat3 aquifer. The recommended aquifer properties to analyze groundwater permit criteria include a transmissivity (T) = 6,000 $ft^{2/}$day and specific yield (S_y) = 0.10 identified from the Aquifer Properties Memo and a groundwater gradient (i) = 0.003 ft/ft (DNRC Report).

14. The 14 proposed wells were modeled as one well using the Theis (DNRC Report) unconfined solution. Using the recommended aquifer properties identified in FOF 13 and a constant pumping rate of 29.83 GPM (flow rate required to produce the requested volume over the proposed period of diversion), the modeled 0.01-foot drawdown contour (zone of influence or ZOI) occurs at 12,220 feet from the proposed wells. The drawdown contour is bound by the Cretaceous shale bedrock unit approximately 5,000 feet to the northwest and terrace scarps approximately 8,000 feet southeast of the proposed wells. The total width of the ZOI (W), which is measured perpendicular to the groundwater flow direction (northeast and east), equals 13,700 feet. The total volume of groundwater flux (Q) each year within the ZOI is given by the equation Q = Twi and is 246,600 ft^3/day (6,000 ft^2/day x 13,700 ft x .003 ft/ft) or 2,066 AF/YR.

15. The Department finds that the amount of groundwater physically available at the proposed point of diversion is 2,066 AF/YR. The Applicant proposes to use 48.00 AF/YR. The Department finds that groundwater is physically available in the amount requested during the proposed period of diversion.

LEGAL AVAILABILITY

FINDINGS OF FACT

16. Department Groundwater Hydrologist Jack Landers modeled the drawdown from the proposed appropriation after five (5) years of pumping. The model predicted that the 0.01-foot drawdown contour or ZOI would occur at a maximum distance of 12,200 feet from the Applicant's PODs. Based on a 0.01-foot drawdown contour at 12,200 ft from the proposed wells, delineated based on the structure of the aquifer and impermeable boundaries, the DNRC Report identified 472 active groundwater rights within the ZOI. A list of these water rights is in the file. Of those, 432 are Groundwater Certificates, four (4) are Exempt Rights, 24 are Statements of Claim, and 12 are Provisional Permits. This includes 67 Groundwater Certificates and nine (9) Statement of

Claims for which no volume is recorded in the database. The legal demand for 67 of the Groundwater Certificates with no recorded volume were each assigned as 2.94 AF/YR, representing the average volume of the 365 Groundwater Certificates for which volumes are recorded. Statements of Claim with no listed volume were assigned volumes based on Department standards. Domestic claims were assigned 1.5 AF per household, per adjudication standards. Irrigation claims were calculated based on the Climatic Area 1 for the region and using 60% efficiency for flood irrigation, which results in 3.07 AF/AC per Department standard practice. The remaining six (6) Statements of Claim were stock claims and were assigned 0.034 AF/AU times the number of AU for the period of diversion. The total annual legal demand on groundwater within the zone of influence is 2,419.75 AF/YR. Table 1 below compares the water supply and current legal demands for groundwater.

Table 1: Comparison of physically available groundwater to legal demands

Physically Available (AF/year)	Existing Legal Demands (AF/year)	Physically Available minus Existing Legal Demands (AF/year)
2,066	2,419.75	-353.75

17. The amount of groundwater physically available is 2,066 AF/YR and the existing legal demands of groundwater total 2,419.75 AF/YR. The Department finds that the comparison shows that groundwater is not legally available in excess of the amount requested by the Applicant (2,066 AF – 2,419.75 AF = - 353.75 AF).

18. The DNRC Report concludes that the proposed appropriation is 3.3 miles west of Danford Drain, a surface water resource that is hydraulically connected to the source aquifer, Qat3 (111ALVM), and would be depleted by this groundwater appropriation. Danford Drain begins in the SENW of Sec. 36, T1S, R24E, Yellowstone County, and extends approximately 7.48 river miles to the confluence with the Yellowstone River located in Sec. 25, T1S, R25E, Yellowstone County. The top of the depleted reach of Danford Drain is located in the NWNWNWSW of Sec. 30, T1S, R25E, Yellowstone County. The estimated 26.3 AF of depletions on Danford drain, and the estimated consumptive use of 1.2 AF/YR for Commercial and 25.1 AF/YR for Lawn and Garden (26.3 AF combined) (FOF 1) are distributed monthly, as shown in Table 2.

Table 2: Modeled monthly depletions in volume (AF) and flow rate (GPM) to Danford Drain

Month	Commercial Consumed Volume (AF)	Lawn and Garden Consumed Volume (AF)	Total Consumed Volume (AF)	Danford Drain Net Depletion (AF)	Danford Drain Net Depletion (GPM)
January	0.1	0.0	0.1	1.2	8.4

February	0.1	0.0	0.1	0.9	7.1
March	0.1	0.0	0.1	0.8	6.2
April	0.1	0.7	0.8	0.8	5.7
May	0.1	3.0	3.1	1.1	8.0
June	0.1	4.9	5.0	2.1	15.7
July	0.1	6.6	6.7	3.4	24.8
August	0.1	5.9	6.0	4.5	32.7
September	0.1	3.0	3.1	4.4	33.2
October	0.1	0.9	1.0	3.5	25.5
November	0.1	0.0	0.1	2.2	16.8
December	0.1	0.0	0.1	1.5	10.9
Total	**1.2**	**25.1**	**26.3**	**26.3**	

19. There are no stream gages on Danford Drain, however, the source was otherwise measured per ARM 36.12.1702(1). *Montana Bureau of Mines and Geology (MBMG) Open-File Report No. 436 – Basic Hydrogeologic Data for: The West-Billings Area (1999-2000),* Yellowstone County, Montana, published June 2001, provides flow data that was collected between January 1999 and April 2001, on Danford Drain. Flow measurements from Danford Drain at Wise Lane were used to estimate water availability in Danford Drain. Danford Drain at Wise Lane is approximately 4.975 river miles downstream from the NW corner of Gov. Lot 3 in Sec. 30, T1S, R25E (the location of the start of the depleted reach), north of the NW corner of the proposed POU. The estimated monthly flow rate was determined by taking the average of this data, and the mean monthly volume (AF) was calculated by multiplying the flow rate in CFS by 1.98 (AF/day/1 CFS) times the number of days per month. Table 3.

Table 3: Mean Monthly Flow Rate (CFS) and Volume (AF) Estimates for Danford Drain @ Wise Lane

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow Rate	4.1	4.2	3.4	3.8	4.4	30.0	50.2	59.0	64.9	23.9	13.0	6.9
Mean Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782.0	3081.3	3621.4	3855.1	1467.0	770.2	425.6

20. There are 11 water rights between the top of the depleted reach and the location of the MBMG measurements on Danford Drain that utilize Danford Drain for irrigation and stock purposes. Table 4. To determine the physically available water at the top of the depleted reach, the Department will calculate a volume and/or flow rate for rights with no quantified values per Department standard practice. Statement of claim 43Q 30107340 has a claimed volume but no claimed flow rate; the Department will use the claimed volume and will calculate a flow rate based on standard practice. For those with AUs but without a volume, the Department standard practice

to calculate volume is to multiply the number of animal units (AU) by 0.034 AF/AU (30 GPD/AU) for year-round use, or AUs x 0.034 AF/AU x 1/365 yr/day x the number of days in the period of use. Flow rate in GPM is back-calculated by taking the annual volume in AF, multiplying it by 325,851 gallons/AF, then dividing by the number of days in the period of diversion and by 1,440 minutes/day.

Table 4: Water Rights on Danford Drain Above Wise Lane

Water Right No.	Owners	Purposes	Flow rate (GPM)	Flow rate (CFS)	Volume (AF)	Acres	Period of diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	STOCK	5.2[2]	0.01[2]	8.4[2]	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	IRR	41.99	0.093	10.13[1]	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	IRR	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	STOCK	2.12[2]	0.0047[2]	3.42[2]	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	IRR	25	0.0557	16.40[1]	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	IRR	208.42	0.46	50.27[1]	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	IRR	125.12	0.278	30.18[1]	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	IRR	758.52	1.69	184.50[1]	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	IRR	2244.15	5.0	426.52[1]	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	IRR	1795.32	4.0	438.70[1]	107	04/01 - 10/19
43Q 102615 00	Samm LLC	STOCK	21.078[2]	0.047[2]	34.0[2]	0	01/01 - 12/31
Stock Direct Standard			35.00[2]	0.0780[2]			

[1]Calculated by DNRC in Application 43Q 30157960; [2]Differs from the March 21, 2025, Technical Analysis; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

21. The flow rates for stock direct in Table 4 have been corrected to Department standards and does not match the values in the DNRC Report. The flow rate and volume of stock rights 43Q 30107340, 43Q 195892-00, and 43Q 102615-00 have been recalculated to meet Department Standard, as follows: the volume for 43Q 30107340 was taken as the claimed volume of 8.4 AF, and the flow rate was back calculated to 5.2 GPM (8.4 AF x 325,851 gallons / 365 days / 1,440 minutes per day = 5.2 GPM); the volume of 43Q 195892-00 was calculated as 3.42 AF based on 150 AU and 245 days in the period of use (150 AU x 0.034 AF/AU/YR / 365 * 245 days = 3.42 AF) , and the flow rate was back calculated to 2.12 GPM (3.42 AF x 325,851 gallons / 365 days /

1,440 minutes per day = 2.12 GPM); the volume of 43Q 102615-00 was calculated as 34 AF based on 1,000 AU and a year-round period of use (1,000 AU x 0.034 AF/AU/YR = 34 AF), and the flow rate was back calculated to 21.07 GPM (34 AF x 325,851 gallon / 365 days / 1,440 minutes per day = 21.07 GPM); lastly, 35 GPM was added to the flow rate as this is the standard practice for calculating the flow rate for stock direct from source. A flow rate of 63.4 GPM (28.39 GPM + 35 GPM = 63.4 GPM) and a volume of 45.8 AF/YR (8.4 AF + 3.42 AF + 34 AF = 45.8 AF) represent all water rights for livestock drinking directly from Danford Drain between the top of the depleted reach and the Wise Lane collection site. These corrections are reflected in the Groundwater Permit Technical Analyses Report – Notice of Errata dated June 16, 2025.

22. The volume amounts for Statements of Claim 43Q 14939-00, 43Q 42699-00, 43Q 206797-00, 43Q 208180-00, 43Q 208181-00, 43Q 208801-00, 43Q 195891-00, and 43Q 45860-00 were calculated for Provisional Permit 43Q 30157960 and their values were taken for this Application, as Provisional Permit 43Q 30157960 was the last water right issued with depletions to Danford Drain, prior to this Application.

23. The existing legal demands between the MBMG collection site and the top of the depleted reach were added to the mean monthly flow at the collection site to determine the physical availability of water on Danford Drain at the top of the depleted reach. Volume was calculated as mean monthly flow times 1.98 times the number of days in a month. The breakdown of these legal demands by month is in the file under the Processing Materials flag. Tables 5 and 6.

Table 5: Physically Available Flow Rate in Danford Drain (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow Rate at Top of Depleted Reach	4.1	4.2	3.4	3.8	4.4	30.0	50.2	59.0	64.9	23.9	13.0	6.9
Legal Demands Between Measurement and Top of Depleted Reach	0.1[1]	0.1[1]	0.2[1]	6.0[1]	11.3[1]	12.1[1]	12.1[1]	12.1[1]	12.1[1]	6.3[1]	0.2[1]	0.1[1]
Physically Available (mean flow rate plus legal demands)	**4.2[1]**	**4.3[1]**	**3.6[1]**	**9.8[1]**	**15.7[1]**	**42.1[1]**	**62.3[1]**	**71.1[1]**	**77.0[1]**	**30.2[1]**	**13.2[1]**	**7.0[1]**

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

24. Changes made in the flow rate and volume shown in Table 4 have affected the physically available flow rate in Danford Drain shown in Table 5. These changes altered the flow rate for the legal demands between the measurement and the top of the depleted reach and the physically available flow rate; thus, Table 5 does not match the DNRC Report.

Table 6: Physically Available Volume in Danford Drain (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782	3081.3	3621.4	3855.1	1467	772.2	423.5

Legal Demands Between Measurement and Top of Depleted Reach	3.6[1]	3.3[1]	5.3[1]	72.9[1]	107.3[1]	219.0[1]	225.1[1]	226.3[1]	164.9[1]	76.5[1]	3.6[1]	3.6[1]
Physically Available Volume (mean volume plus legal demands)	255.3[1]	236.1[1]	214.0[1]	298.6[1]	377.4[1]	2001.0[1]	3306.4[1]	3847.7[1]	4020.0[1]	1543.5[1]	775.8[1]	427.1[1]

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

25. Changes made to the flow rate and volume in Table 4 are reflected in Table 6. Table 6 does not match the DNRC Report.

26. The Area of Potential Impact (AOPI), for Danford Drain is from the top of the depleted reach to the confluence with the Yellowstone River, located in the NWSW of Section 25, T1S, R25E. There are 11 water rights on Danford Drain between the top of the depleted reach and the confluence with the Yellowstone River. This is an acceptable AOPI as the reach includes all Danford Drain water users. Table 7.

Table 7: Water Rights in the AOPI

Water Right No.	Owners	Purposes	Flow rate (GPM)	Flow rate (CFS)	Volume (AF)	Acres	Period of diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	STOCK	5.2[2]	0.01[2]	8.4[2]	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	IRR	41.99	0.093	10.13[1]	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	IRR	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	STOCK	2.12[2]	0.0047[2]	3.42[2]	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	IRR	25	0.0557	16.40[1]	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	IRR	208.42	0.46	50.27[1]	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	IRR	125.12	0.278	30.18[1]	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	IRR	758.52	1.69	184.50[1]	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	IRR	2244.15	5.0	426.52[1]	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	IRR	1795.32	4.0	438.70[1]	107	04/01 - 10/19
43Q 102615 00	Samm LLC	STOCK	21.078[2]	0.047[2]	34.0[2]	0	01/01 - 12/31
Stock Direct Standard			35.00[2]	0.0780[2]			

[1]Calculated by DNRC in Application 43Q 30157960; [2]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

27. The flow rate and volume for stock direct in Table 7 have been corrected to Department standards and do not match the DNRC Report. Table 7 has been updated as described in FOF 21.

28. The legal demands between the top of the depleted reach and the confluence with the Yellowstone River (Table 7) were subtracted from the physically available water at the top of the depleted reach (Tables 5 and 6) to determine if water was legally available on Danford Drain. Tables 8 and 9.

Table 8: Legally Available Flow Rate in Danford Drain, CFS

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physically Available Flow Rate (Table 5)	4.2[1]	4.3[1]	3.6[1]	9.8[1]	15.7[1]	42.1[1]	62.3[1]	71.1[1]	77.0[1]	30.2[1]	13.2[1]	7.0[1]
Existing Legal Demands	0.1[1]	0.1[1]	0.2[1]	6.0[1]	11.3[1]	12.1[1]	12.1[1]	12.1[1]	12.1[1]	6.3[1]	0.2[1]	0.1[1]
Legally Available Flow Rate	**4.1[1]**	**4.2[1]**	**3.4[1]**	**3.8[1]**	**4.4[1]**	**30.0[1]**	**50.2[1]**	**59.0[1]**	**64.9[1]**	**23.9[1]**	**13.0[1]**	**6.9[1]**

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

29. Changes made to the flow rate and volume in Table 7 are reflected in Table 8. Table 8 does not match the DNRC Report.

Table 9: Legally Available Volume in Danford Drain, AF

Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Physically Available Volume (Table 7)	255.3[1]	236.1[1]	214.0[1]	298.6[1]	377.4[1]	2001.0[1]	3306.4[1]	3847.7[1]	4020.0[1]	1543.5[1]	775.8[1]	427.1[1]
Existing Legal Demands	3.6[1]	3.3[1]	5.3[1]	72.9[1]	107.3[1]	219.0[1]	225.1[1]	226.3[1]	164.9[1]	76.5[1]	3.6[1]	3.6[1]
Legally Available Volume	251.7[1]	232.8[1]	208.7[1]	225.7[1]	270.1[1]	1782.0[1]	3081.3[1]	3621.4[1]	3855.1[1]	1467.0[1]	772.2[1]	423.5[1]

[1]Differs from the March 21, 2025, DNRC Report; see June 12, 2025, Groundwater Permit Technical Analyses Report – Notice of Errata

30. Changes made to the flow rate and volume in Table 7 are reflected in Table 9. Table 9 does not match the DNRC Report.

31. The flow rate and volume of water physically available minus all legal demands within the AOPI for Danford Drain exceed modeled depletions in all months. The Department finds that water is legally available on Danford Drain within the AOPI, in excess of modeled monthly depletions, during the proposed period of diversion.

32. Based on a physical availability of 2,066 AF/YR of groundwater and legal demands of 2,419.75 AF/YR of groundwater, the Department finds that the legal demands exceed the physical availability by 353.75 AF/YR as shown in Table 1 (FOF 17).

33. The Department finds that the proposed appropriation of 135 GPM, up to 48.01 AF per year of groundwater, is not legally available during the proposed period of diversion (FOF 17, 32).

ADVERSE EFFECT

FINDINGS OF FACT

34. The Applicant's plan to prevent adverse effect is to shut down their pumps and cease diversion if a valid call is made by a senior water user.

35. The Applicant proposes to install flow meters on all pipelines going into buildings and on the pipeline at the park. The flow meters would measure the total diverted volume from the POD for the location (FOF 3).

36. The Applicant's data from aquifer testing and Department modeling demonstrate that the requested flow rate and volume are physically available in the amount that the Applicant proposes to divert (FOF 15).

37. The comparison of physically available groundwater to existing legal demands demonstrates that groundwater is not legally available in the flow rate and volume requested, as shown in Table 1 (FOF 17). All water rights within the ZOI may potentially be adversely affected. A list of those rights is in the file under the Processing Materials flag.

38. As discussed in the Legal Availability section, Danford Drain is considered hydraulically connected to the source aquifer. Table 2 (FOF 18) shows the modeled monthly depletions to Danford Drain by flow rate and volume. Physical availability of water in the depleted reach of Danford Drain exceeds all legal demands for surface water and the modeled depletions in all months within the proposed period of diversion (Tables 8 & 9; FOF 32).

39. Department Groundwater Hydrologist, Jack Landers, modeled drawdown in existing wells using aquifer properties from the Applicant's aquifer test and Billings Aquifer Variance Memo (DNRC Report). Using the Applicant's proposed monthly pumping schedule identified in Table 10 below, and the associated annual volume, the potential impact to existing water rights is evaluated by modeling drawdown in nearby wells and net depletions to surface waters. The maximum modeled drawdown is 1.45 feet at the Park POD (POD 14 in the DNRC Report) located in the SWSESW of Sec. 30 in T1S R25E, Platinum Commercial Park Subdivision, Lot 7, Block 3; park L&G well at the end of August of the fifth year. The 1-ft drawdown contour extends 100 feet from Park POD (POD 14 in the DNRC Report).

40. Groundwater modeling indicates no water rights would experience drawdown equal to or in excess of one foot. See Figure 7 in TA Part A (DNRC Report)

41. Based on findings that legal demands on the groundwater source exceed water availability, the Department finds that the proposed appropriation of 135 GPM, up to 48.00 AF/YR for

Commercial and Lawn and Garden use will cause adverse effect to other existing water rights or water reservations.

ADEQUATE MEANS OF DIVERSION

FINDINGS OF FACT

42. The proposed means of diversion consists of 14 wells. One well has been completed (GWIC ID 334912; 38 ft deep) in the SWSW of Sec. 30, T1S, R25E; consisting of an eight-inch (8-in) diameter borehole from a depth of zero to thirty-eight feet (0-38 ft), with steel welded 250 casing a quarter inch (0.25-in) thick having a diameter of six and five-eighths inch (6 5/8-in) from a depth of one-and-a-half feet to thirty-seven feet (1.5-37 ft). No other wells have been completed as of May 19, 2025. This project has an expected project completion time of 20 years, and wells are to be constructed as lots are purchased and built for commercial use. If Beneficial Water Use Application No. 43Q 30164891 is granted, the Department will require the Applicant to report new wells and to conduct eight-hour (8-hr) drawdown tests on each well until the cumulative requested flow rate is achieved.

43. A licensed water well contractor completed the well, and conducted an 8-hour drawdown and yield test with a four-inch (4-in) well pump and two-inch (2-in) water piping. The constructed well and the wells yet to be completed are in the Qat3, an aquifer bound by the Cretaceous shale bedrock unit approximately 5,000 feet to the northwest and terrace scarps approximately 8,000 feet southeast. Thirteen (13) of the proposed wells will pump groundwater into 13 commercial facilities using independent pipes, which will connect to the constructed piping in the designated building. Thirteen (13) of the proposed wells will pump groundwater to 13 commercial lots, and the 14th well will pump water to one (1) park lot for Lawn and Garden purposes, to irrigate a total of 14.31 AC.

44. All diversion structures are proposed to include a 6-inch well drilled a minimum of 25 feet deep. Each well will contain a four-inch (4-in) well pump, a well pitless adapter, and 2-inch water service pipeline. Of the 13 commercial pipelines, water will enter each commercial building for use; the 14th well and pump will pipe water through a service line that will enter a sprinkler control box that will control the sprinkler zones of the park.

45. Department Groundwater Hydrologist Jack Landers modeled adequacy of diversion using the Theis (DNRC Report) solution with a T= 6,000 ft^2/day and Sy = 0.1 (DNRC Report). Predicted theoretical drawdown for the proposed wells were modeled for the period of diversion using the monthly pumping schedule identified in Table 10. The Applicant proposes to irrigate 14.31 AC of

Lawn and Garden, up to 35.78 AF from April 1 to October 31; the proposed irrigation volume was apportioned April through October according to the monthly percent of the total net irrigation requirement (NIR) for pasture grass calculated for the Billings Water Plant weather station listed in the Irrigation Water Requirement (IWR) program (DNRC Report). Pasture grass is used as a proxy for turf grass (DNRC Report). Additionally, the Applicant proposes 12.2 AF year-round for Commercial use; the proposed volume was based on a system designed for 24 employees per lot and 35 gallons per day per employee. The proposed Commercial volume of 12.2 AF was distributed evenly from January through December based on days in the month. Based on Department modeling, the assumed monthly pumping schedule would vary from 7.6 GPM to 76.6 GPM, due to increases during the irrigation season between April and October, as shown in Table 10.

Table 10. Assumed monthly pumping schedule for the proposed uses

Month	IWR NIR[+] (inches)	Lawn and Garden Diverted Volume (AF)	Commercial Diverted Volume (AF)	Total Diverted Volume (AF)	Total Diverted Flow Rate (GPM)	Total Diverted Flow Rate (CFS)
January	0.0	0.0	1.0	1.0	7.6	0.016934
February	0.0	0.0	0.9	0.9	7.6	0.016934
March	0.0	0.0	1.0	1.0	7.6	0.016934
April	0.71	1.0	1.0	2.0	15.3	0.034091
May	3.01	4.3	1.0	5.4	39.1	0.087121
June	4.88	7.0	1.0	8.0	60.5	0.134804
July	6.58	9.4	1.0	10.5	76.6	0.170677
August	5.84	8.4	1.0	9.4	68.8	0.153298
September	3.00	4.3	1.0	5.3	40.1	0.089349
October	0.94	1.3	1.0	2.4	17.4	0.03877
November	0.0	0.0	1.0	1.0	7.6	0.016934
December	0.0	0.0	1.0	1.0	7.6	0.016934
Total	**24.96**	**35.8**	**12.2**	**48.0**		

[+]According to the monthly net irrigation requirements for the Billings Water Plant Weather Station.

46. The Applicant provided data from an 8-hour drawdown and yield test on the existing well was used to model the remaining available water column in that well and predict the drawdown in the additional 13 wells. As identified in Table 11, total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Well efficiency is calculated by dividing the modeled maximum drawdown for the pumping test by the maximum observed drawdown of the pumping test. The proposed site plan was used to model interference drawdown from the

additional wells. The remaining available water column for GWIC ID 334912 is equal to the available drawdown above the bottom of the well minus total drawdown, equal to 29.7 ft. The remaining 13 wells would exhibit similar drawdown based on comparable pumping schedules, volumes, and well construction.

Table 11: Remaining available water column for the Production Well, GWIC ID 334912.

Drawdown Estimate	Well 1
Total Depth at Bottom of Perforated Interval (ft.)	38.8
Pre-Test Static Water Level (ft. BTC)	7.9
Available Drawdown Above Bottom of Well (ft.)	30.9
Observed Drawdown of Aquifer Test (ft.)	5.0
Modeled Drawdown Using Mean Aquifer Test Rate (ft.)	2.0
Well Efficiency (%)	39%
Predicted Theoretical Maximum Drawdown (ft.)	0.3
Predicted Drawdown with Well Loss (ft.)	0.7
Interference Drawdown (ft.)	0.5
Total Drawdown (ft.)	1.2
Remaining Available Water Column (ft)[1]	29.7

[1]The total well depth measuring point (ft. BGS) was adjusted to the top of the well casing based on a 1.8 ft. well casing stickup reported on the well log.

47. An 8-hour drawdown and yield test was submitted by the Applicant for a production well within the proposed subdivision. The Department was able to model the adequacy of diversion using the data from the Applicant's test and the Yellowstone River Terrace 3 Memo. The Department finds that the Applicant has demonstrated adequacy of diversion. Because the Applicant tested the production well at 50 GPM and they are requesting 135 GPM, the Applicant will be required to conduct additional 8-hour drawdown and yield tests on additional production wells until they have pumped a cumulative 135 GPM. Therefore, the following condition will be added to the permit if it is granted:

IMPORTANT INFORMATION

THE APPROPRIATOR MUST PERFORM 8-HOUR DRAWDOWN AND YIELD TESTS ON EACH PRODUCTION WELL UNTIL THE REQUESTED FLOW RATE OF 135 GPM HAS BEEN ATTAINED. THE RESULTS OF THE 8-HOUR DRAWDOWN AND YIELD TESTS MUST BE SUBMITTED TO THE DEPARTMENT ON FORM 633 AS THE PRODUCTION WELLS ARE COMPLETED.

48. All wells will be drilled by a licensed well contractor in accordance with current regulations and will be placed as designated on the subdivision plat approved by the Montana Department of Environmental Quality (DEQ). The lot owner will be responsible for installation and proper

connection to the well for Commercial and Lawn and Garden use according to the system design and current regulations.

49. The entire system was designed by a professional engineer. The current consultant is Performance Engineering of Billings, MT. The Department finds that the proposed means of diversion and conveyance are capable of diverting the proposed volume and flow rate.

BENEFICIAL USE

FINDINGS OF FACT

50. The Applicant requests 135 GPM flow rate, up to a total volume of 48.0 AF for Commercial (12.22 AF) use year-round and Lawn and Garden (35.78 AF) use from April 1 to October 31. Commercial and Lawn and Garden are recognized as beneficial uses under the Montana Water Use Act §85-2-102(5). MCA.

51. The Applicant proposes Commercial use for 13 commercial lots and Lawn and Garden use for 14 lots, one of which is a park. Water demand for 13 Commercial use lots was calculated with an estimated average of 24 employees per lot at 35 gallons per person per day. Over one year, this amounts to 12.23 AF total (13 lots x 24 employees x 35 GPD/employee x 365 days = 3,985,800 gallons/325,851 gallons/AF = 12.23 AF) or 0.94 AF per lot for Commercial use. The DNRC Water Calculation Guide lists 35 gallons per person per shift for Factory Workers, which is consistent with the requested volume, assuming one (1) shift. The Applicant proposes 14.31 AC total for Lawn and Garden irrigation. The Department standard for Lawn and Garden irrigation is 2.5 AF/AC, and 14.31 AC requires 35.78 AF of water (14.31 x 2.5 = 35.779 AF). The total required volume is 48.01 AF (12.23 AF + 35.78 AF = 48.01 AF), and the Applicant requests 48.01 AF.

52. The Applicant requests a maximum flow rate of 135 GPM for the proposed subdivision. The maximum flow rate of 135 GPM requested is based upon predicted peak flows assuming a flow rate of 5 GPM per lot utilized over the 13 Commercial lots, resulting in a commercial flow rate of 65 GPM for Commercial use. Based on calculated watering intervals for Lawn and Garden use over an 8-hour period during the 180-day watering season, the peak flow is 70 GPM for Lawn and Garden use. Based on predicted peak flows, the total flow rate to support the commercial and lawn and garden uses is 135 GPM (65 + 70 = 135 GPM).

53. The Department finds the proposed Commercial and Lawn and Garden uses are beneficial, and the requested volume of 48.01 AF, up to 135 GPM flow rate, are reasonably justified per ARM 36.12.1801(3).

POSSESSORY INTEREST

FINDINGS OF FACT

54. The Applicant signed the application form affirming that the Applicant has possessory interest or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

PHYSICAL AVAILABILITY

55. Pursuant to § 85-2-311(1)(a)(i), MCA, an Applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate."

56. It is the Applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987) (Applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.,* (DNRC Final Order 2005).

57. An Applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the Applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

58. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. Section 85-2-311(1)(a)(i), MCA. (FOF 10-15)

LEGAL AVAILABILITY

59. Pursuant to § 85-2-311(1)(a), MCA, an Applicant must prove by a preponderance of the evidence that:

> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;
> (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; *Montana Power Co.*, 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

60. It is the Applicant's burden to present evidence to prove water can be reasonably considered legally available. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the Applicant. The Supreme Court has instructed that those burdens are exacting.); *see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston* (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on Applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005))(it is the Applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007) (permit denied for failure to prove legal availability); *see also* ARM 36.12.1705.

61. Pursuant to *Montana Trout Unlimited v. DNRC*, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. *E.g., Wesmont Developers v. DNRC*, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006) (mitigation of depletion required), *affirmed*, *Faust v. DNRC et al.*, Cause No. CDV-2006-886, Montana First Judicial District (2008); *see also Robert and Marlene Takle v. DNRC et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing Smith v. Duff*, 39 Mont. 382, 102 P. 984 (1909), and *Perkins v. Kramer*, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing Loyning v. Rankin* (1946), 118 Mont.

235, 165 P.2d 1006; *Granite Ditch Co. v. Anderson* (1983), 204 Mont. 10, 662 P.2d 1312; *Beaverhead Canal Co. v. Dillon Electric Light & Power Co.* (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No.* 63997*-42M by Joseph F. Crisafulli* (DNRC Final Order 1990) (since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by Applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage).

62. Because the Applicant bears the burden of proof as to legal availability, the Applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. Section 85-2-311(a)(ii), MCA. Absent such proof, the Applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

63. Where a proposed ground water appropriation depletes surface water, Applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. *Robert and Marlene Takle v. DNRC*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006) (permits granted), *affirmed*, *Faust v. DNRC et al.*, Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007 *)*(permit granted)*, affirmed*, *Montana River Action Network et al. v. DNRC*, Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit

denied in part for failure to analyze legal availability for surface water depletion); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 ("DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator"; Applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, Applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for "historic beneficial use" in analyzing legal availability of surface water under § 85-2-360(5), MCA*. Royston, supra*.

64. A flow of water on a given date does not show that water is legally available without showing that all prior appropriators were diverting all claimed water at that moment. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pgs. 5-6. A flow of water past a point on a particular date or dates does not demonstrate that water is legally available. *Id.*

65. *In the Matter of Beneficial Water Use Permit No. 62935-s76LJ by Crop Hail Management* (DNRC Final Order 1991) (Applicant showed water physically available for appropriation by producing evidence based on upstream diversions; however, he failed to show water legally available with information of downstream uses).

66. Applicant provided incomplete evidence showing existing legal demands and did not show that water is physically available in a manner that can be compared with existing legal demands. Applicant did not identify all existing legal demands. *In the Matter of Application for Beneficial Water Use Permit No. 43D 10220900 by Sam McDowell* (DNRC Final Order 2007).

67. Water legally available at the point of diversion to supply the amount requested, but only for 16 to 24 days throughout the period of proposed appropriation, held water not legally available. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006).

68. In analyzing legal availability for surface water, Applicant was required to evaluate legal demands on the source of supply throughout the "area of potential impact" by the proposed use under § 85-2-311(1)(a)(ii), MCA, not just within the "zone of influence." *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 6.

69. Applicant has not proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. Section 85-2-311(1)(a)(ii), MCA. (FOF 16-33)

ADVERSE EFFECT

70. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. *See Montana Power Co.*, 211 Mont. 91, 685 P.2d 336 (1984) (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); *Bostwick Properties, Inc.*, ¶ 21.

71. An Applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an Applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. *Id.* ARM 36.12.120(5).

72. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 4 (2011).

73. In analyzing adverse effect to other appropriators, an Applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." *See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston*, 249 Mont. 425, 816 P.2d 1054 (1991).

74. It is the Applicant's burden to produce the required evidence. *E.g., Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 7 (2011) (legislature

has placed the burden of proof squarely on the Applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a preponderance of the evidence. *Bostwick Properties, Inc.*, ¶ 21.

75. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, 8 (2011).

76. Simply asserting that an acknowledged reduction, however small, would not affect those with a prior right does not constitute the preponderance of the evidence necessary to sustain Applicant's burden of proof. *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11 (Court rejected Applicant's argument that net depletion of .15 millimeters in the level of the Bitterroot River could not be adverse effect.); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pgs. 3-4 (Court rejected Applicant's arguments that its net depletion (3 and 9 gpm, respectively to Black Slough and Beaverhead River) was "not an adverse effect because it's not measurable," and that the depletion "won't change how things are administered on the source."). After calculating the projected depletion for the irrigation season, the District Court *in Sitz Ranch v. DNRC* explained:

> Section 85-2-363(3)(d) MCA requires analysis whether net depletion will adversely affect prior appropriators. Many appropriators are those who use surface water. Thus, surface water must be analyzed to determine if there is a net depletion to that resource. Sitz's own evidence demonstrates that about 8 acre feet of water will be consumed each irrigation season. Both Sitz and any other irrigator would claim harm if a third party were allowed to remove 8 acre feet of water each season from the source upon which they rely.

DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 3-4 (2011).

77. The Applicant has not proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Section 85-2-311(1)(b), MCA. (FOF 34-41)

ADEQUATE DIVERSION

78. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

79. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

80. Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. *In the Matter of Application for Beneficial Water Use Permit No.* 41I-105511 *by Flying J Inc.* (DNRC Final Order 1999).

81. Information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies, based upon project complexity design by licensed engineer adequate. *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002).

82. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. Section 85-2-311(1)(c), MCA (FOF 42-49).

BENEFICIAL USE

83. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

84. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. *E.g.*, *McDonald*; *Toohey v. Campbell* (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. *E.g.*, *Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds*, *Dee Deaterly v. DNRC* , Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); *Worden v. Alexander* (1939), 108 Mont. 208, 90 P.2d 160; *Allen v. Petrick* (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

85. Amount of water to be diverted must be shown precisely. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 3 (2011) (citing *BRPA v.*

Siebel, 2005 MT 60, and rejecting Applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

86. It is the Applicant's burden to produce the required evidence. ***Bostwick Properties, Inc. v. DNRC***, 2013 MT 48, ¶ 22, 369 Mont. 150, 296 P.3d 1154 ("issuance of the water permit itself does not become a clear, legal duty until [the applicant] proves, by a preponderance of the evidence, that the required criteria have been satisfied"); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); *see also Royston; Ciotti*.

87. Applicant proposes to use water for Commercial and Lawn and Garden, both of which are recognized beneficial uses. Section 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence that Commercial and Lawn and Garden are each a beneficial use and that 48.00 AF of diverted volume and 135 GPM is the amount needed to sustain the beneficial use. Section 85-2-311(1)(d), MCA. (FOF 50-53)

POSSESSORY INTEREST

88. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

89. Pursuant to ARM 36.12.1802:

> (1) An Applicant or a representative shall sign the application affidavit to affirm the following:
> (a) the statements on the application and all information submitted with the application are true and correct and
> (b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the Applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.
> (2) If a representative of the Applicant signs the application form affidavit, the representative shall state the relationship of the representative to the Applicant on the form, such as president of the corporation, and provide documentation that

establishes the authority of the representative to sign the application, such as a copy of a power of attorney.
(3) The department may require a copy of the written consent of the person having the possessory interest.

90. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. Section 85-2-311(1)(e), MCA. ([FOF 54)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 43Q 30164891 should be DENIED due to a lack of LEGAL AVAILABILITY and ADVERSE AFFECT.

NOTICE

The Department has determined your application should be denied based upon findings specified in the above Draft Preliminary Determination Decision. Pursuant to § 85-2-307(3)(d)(ii), MCA, if the Department proposes to deny an application for a permit or a change in appropriation right under § 85-2-307, MCA, unless the Applicant requests an extension of timelines to submit additional information for the Department to consider, the Department shall adopt the final order to deny the permit or change application.

Dated this 17th day of June, 2025.

Christine Schweigert
Acting Regional Manager
Billings Regional Office,
Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the DRAFT PRELIMINARY DETERMINATION TO DENY was served upon all parties listed below on this 17th day of June, 2025, by first class United States mail.

COUGAR INVESTMENTS, LLC
PO BOX 81153
BILLINGS, MT, 59108
ERIN@KECONSTRUCTION.COM

PERFORMANCE ENGINEERING, LLC
3412 COLTON BOULEVARD
SUITE 202
BILLINGS, MT 59102
TAYLOR@PERFORMANCE-EC.COM

C Strebeck

CASSEY STREBECK
Billings Regional Office, Department of
Natural Resources and Conservation
Cassey.Strebeck@mt.gov
406-247-4422

06/17/2025

DATE

Application Materials

- Work Copy
- Application
- Any information submitted with Application including maps

Application Materials

Docusign Envelope ID: 292CA3A6-C58C-4888-BDBA-FEDA2444E306

APPLICATION FOR BENEFICIAL WATER USE PERMIT

§ 85-2-302, MCA

Form No. 600 *(02/2025)*

For Department Use Only

RECEIVED

APR 03 2025

DNRC-WRD-BILLINGS

Application # 30164891 Basin 43Q

Priority Date 3APR25 Time 0940 AM/PM

Rec'd By SW & CSZ

Fee Rec'd $ 700.00 Check # CC

Deposit Receipt #

Payor Taylor Kasperick- Performance EC

Refund $ Date

FILING FEE

$2900/$1600 – Inside a Basin Closure Area, Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

$2500/$1200 – Outside a Basin Closure Area; Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)). If application is eligible for a filing fee reduction, $500 paid for Form 600P-B will be credited toward filing fees shown above.

Applicant Information: *Add more as necessary.*

Applicant Name Cougar Investments, LLC

Mailing Address PO Box 81153 City Billings State MT Zip 59108

Phone Numbers: Home N/A Work 406-855-8004 Cell N/A

Email Address erin@keconstruction.com

Applicant Name

Mailing Address City State Zip

Phone Numbers: Home Work Cell

Email Address

Applicant Name

Mailing Address City State Zip

Phone Numbers: Home Work Cell

Email Address

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other

Contact/Representative Name Performance Engineering, LLC

Mailing Address 3412 Colton Boulevard, Suite 202 City Billings State MT Zip 59102

Phone Numbers: Home N/A Work 406-384-0080 Cell N/A

Email Address taylor@performance-ec.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be entered as a response to the relevant question. Clearly label all units in tables and narrative responses.

PREAPPLICATION AND TECHNICAL ANALYSES INFORMATION

1. ☑ **Y** ☐ **N** Do you elect for Department technical analyses to be used for criteria assessment?

2. ☑ **Y** ☐ **N** Did you have a preapplication meeting AND complete a Permit Preapplication Meeting Form Part A and Part B (Form 600P-A and 600P-B)?

Form 600P was completed and submitted to the Department before Form 600P-A and 600P-B were an applicable form. Please see submitted Form 600P and submitted follow up information on file.

IF QUESTION 2 IS NO, answer 2.a and 2.b:

2.a. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.b. ☐ **S** ☐ **NA** Submit the technical analyses, if you elected in question 1 for Applicant technical analyses to be used for criteria assessment. Select "NA" if you elected for Departmental technical analyses.

IF QUESTION 2 IS YES, answer 2.c, 2.d, and 2.e:

2.c. ☐ **Y** ☑ **N** Has any element of the project described in this application changed from the mandatory elements of the project described in the completed form 600P? **If yes:**

2.c.i. Please explain.

_____

_____

_____

_____

_____

_____

2.c.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.d. ☑ **Y** ☐ **N** Are the technical analyses to be used for criteria assessment exactly the same as those completed during the preapplication process? **If no:**

2.d.i. Please explain.

_____

_____

_____

_____

_____

2.d.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.e. ☑ **Y** ☐ **N** Did you elect in Question 1 for Department technical analyses to be used for criteria assessment? **If no:**

2.e.i. ☐ **S** Submit the technical analyses.

APPLICATION ADDENDA AND REVIEW

3. ☐ **S** ☑ **NA** If your application is for groundwater, not surface water, and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).

4. ☐ **S** ☑ **NA** If your application is for groundwater and one or more points of diversion are in a Basin Closure Area, then your project must have a Hydrogeologic Report that conforms with MCA 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements. Please mark the box below that best applies, then select "S" if submitting a Hydrogeologic Report or "NA" if one is not required. This question does not apply to surface water points of diversion in a Basin Closure Area.

- ☐ If you elected to conduct Technical Analyses, you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses but did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form (or changes have occurred since the completed Form 600P), you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☑ If you elected for DNRC to conduct Technical Analyses, had a preapplication meeting, completed a Form 600P, and the Technical Analyses remain unchanged since the preapplication meeting, you do not need to submit Form 600-HRA because the Department's Technical Analyses meet the report requirements of § 85-2-360 and § 85-2-361, MCA.

5. ☐ **S** ☑ **NA** If the project is for one or more groundwater points of diversion located in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA).

6. ☐ **S** ☑ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).

7. ☐ **S** ☑ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).

8. ☐ **S** ☑ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).

9. ☐ **S** ☑ **NA** If the proposed purposes include marketing or selling water, (not marketing for mitigation/ aquifer recharge), then submit the Marketing Purpose Addendum (Form 600/606-WMA).

10. ☐ **S** ☑ **NA** If the project involves one or more places of storage, then submit a Permit Storage Addendum (Form 600-SA). This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)).

11. ☐ **S** ☑ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program.

12. ☐ **S** ☑ **NA** If the project includes a point of diversion and/or place of use on State of Montana Trust Land, submit documentation of consent from the DNRC Trust Lands Management Division.

13. ☐ **S** ☑ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing a point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway) pursuant to §85-2-302(4)(c), MCA. Submit a copy of this notice and the recipient list.

PURPOSE AND DIVERSION INFORMATION

14. ☐ **Y** ☑ **N** Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Groundwater

16. What is the source name? Qat3 - Yellowstone River Terrace Level 3

17. ☑ **S** Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	**Means of Diversion**	**Acres Irrigated** (if appl.)	**Period of Diversion** *(Month/Day - Month/Day)*	**Period of Use** *(Month/Day - Month/Day)*	**Flow Rate** ☑ *GPM* ☐ *CFS*	**Volume** *(Acre-Feet)*
Commercial Use	Well	N/A	01/01-12/31	01/01-12/31	65 GPM	12.22
Lawn and Garden	Well	14.31	04/01-10/31	04/01-10/31	70 GPM	35.79
				Total Flow Rate and Volume Required	135 GPM	48.01

19. ☑ **Y** ☐ **N** Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable.

Purpose	**Requested Information**	**Response**
Domestic or multiple domestic	Number of dwellings	13 commercial lots will use water for commercial use
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	13 commercial lots will use water for lawn and garden; 1 park/utility lot will utilize water for the proposed use of lawn and garden irrigation. This will be conducted utilizing sprinklers and/or drip lines.
Irrigation (flood only)	Design slope	

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	¼	¼	¼	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
SEE ATTACHED ADDITIONAL INFORMATION												

PLACE OF USE

21. What are the geocodes of the place of use?

03-0926-30-3-01-11-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
SEE ATTACHED ADDITIONAL INFORMATION									

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

23. ☐ **Y** ☑ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

23.a. If yes, summarize how the supplemental and proposed water rights will be operated as a whole to serve the purpose(s).

24. For each supplemental or overlapping water right, please list the water right number, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed

25. ☐ **Y** ☑ **N** Will this application supplement contract water from a Federal Project, ditch company, or other source?

25.a. If yes, explain.

ADVERSE EFFECT

26. Explain how you can control your diversion in response to a call being made.

Wells can be shut off if valid call is made. Property owners can be notified by the Owners Association/Applicant that limitation of water use needs to be implemented. Limitation of water use may be conducted by limiting irrigation to every other day, ceasing irrigation, or measures up to and including ceasing water use all together.

27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

Wells can be shut off if valid call is made. Property owners can be notified by the Owners Association/Applicant that limitation of water use needs to be implemented. Limitation of water use may be conducted by limiting irrigation to every other day, ceasing irrigation, or measures up to and including ceasing water use all together.

28. ☐ **Y** ☑ **N** Are you aware of any calls that have been made on the source of supply or, if groundwater, on nearby surface water sources?

28.a. If yes, explain.

29. ☐ **Y** ☑ **N** Does a water commissioner distribute water or oversee water distribution on your proposed source?

29.a. If yes, list the source(s).

30. ☐ **Y** ☑ **N** Do other water rights share any of the proposed points of diversion?

30.a. If yes, describe how the proposed project will not adversely affect these water rights.

31. ☐ **Y** ☑ **N** Do other water rights share any conveyance infrastructure associated with the proposed project?

31.a. If yes, describe how the proposed project will not adversely affect these water rights.

ADEQUATE MEANS OF DIVERSION AND OPERATION

32. ☑ **S** Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

All proposed diversionary structures are proposed to include a 6" well drilled a minimum of 25' deep per Montana DEQ requirements. Within said 6" well, a 4" well pump will be placed which will pump water through a pitless adapter on each well into a water service pipe that will enter each commercial building for use. This is the case for all 13 proposed commercial lots. The 14th park lawn and garden irrigation well will consist of the same diversionary structures; however, instead of the water service line entering a building it will enter a sprinkler control box which will control the sprinkler zones for the park.

34. Describe the size, materials, capacity, and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods.

Following the construction of the wells as described in Item 33, a well pitless adapter, well pump, and water service line will be utilized to convey water to all proposed places of use from the point of diversion. It is anticipated a 4" well pump will suffice for the proposed flow at each place of use, and a 2" water service line will be able to pass needed flows.

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.

Based on the pump test conducted at POD #1 as well as vast amounts of data within the Qat3 terrace, an individual well point of diversion will be more than capable of providing the anticipated flow at each lot (10 GPM total: 5 commercial, 5 lawn and garden). POD #1 when pump tested for the 8-hour drawdown was able to provide 50 GPM will limited drawdown noted further confirming this assessment. The pump test was conducted with a 4" well pump, and 2" water piping is able to pass 95 GPM prior to velocities exceeding 10 feet per second.

36. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.

Each POD will discharge water to the place of use utilizing the constructed 6" well, 4" well pump, pitless adapter, and water service piping. As noted previously, it is anticipated the peak flow at each lot will be 10 GPM (5 GPM for commercial, 5 GPM for lawn and garden irrigation), with the flow being regulated by individual fixtures and irrigation zones/sprinkler heads.

37. ☐ **Y** ☑ **N** Does the proposed conveyance require easements?

37.a. If yes, explain.

38. ☑ **Y** ☐ **N** Do you own the land where all proposed points of diversion are located?

38.a. ☐ **S** If no, submit documentation to show you have the right to use all points of diversion located on each property you do not own. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.

39. ☐ **Y** ☑ **N** Will your system be designed to discharge water from the project?

IF YES,

39.a. Explain the wastewater disposal method.

39.b. ☐ **Y** ☐ **N** ☐ **NA** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

40. ☑ **Y** ☐ **N** Do you have any plans to measure your diversion and use?

40.a. If yes, describe the plan and the type of measurements you will take.

The Subdivision Developers plan to implement Codes of Covenants and Restrictions (CCRs) that will be filed with the subdivision plat. Said will require each lot to utilize a water meter on the line coming into the building to measure water use.

41. ☑ **Y** ☐ **N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

41.a. ☐ **Y** ☑ **N** Have all wells been drilled?

41.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

American Drilling and Supply; License Number 659

41.c. ☑ **Y** ☐ **N** For all wells yet to be drilled, will a licensed well driller construct the wells?

41.d. ☐ **S** ☑ **NA** Submit any well logs not yet submitted to the Department.

BENEFICIAL USE

42. ☑ **Y** ☐ **N** Does the Department have a volume, period of diversion, or period of use standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

42.a. ☑ **Y** ☐ **N** If yes, do all proposed beneficial uses fall within Department standards?

42.b. If no Department standard exists, or if any proposed beneficial use falls outside of Department standards, explain how the requested flow rate and volume are reasonable for the purpose.

THIS INFORMATION IS PROVIDED FOR ADDITIONAL INFORMATION ONLY PERTAINING TO ITEM 42. THIS IS NOT A RESPONSE TO ITEM 42.b AS THE VOLUME, PERIOD OF DIVERSION AND USE, AND FLOW RATES ARE IN ALIGNMENT WITH DNRC STANDARDS.

To determine amount of water utilized on each proposed commercial lot, it was assumed each lot would employee 24 people. Applying the DNRC Water Calculation Guide rate for employees within the factories land use, each employee would utilize 35 gallons/day, totaling 840 gallons/day per lot. Based on 13 lots with commercial use, this volume equated to 12.22 acre-feet of commercial use (0.94 acre-feet per lot). Additional, it was assumed that each commercial lot would have 20% of its area including lawn and garden needing irrigation at the DNRC prescribed rate of 2.5 AF/acre. Based on this and a total irrigated area between the 20% of each 13 commercial lots, and 100% lawn and garden irrigation of the park/utility lot, a total of 14.32 acres would have lawn and garden irrigation, totaling 35.79 acre-feet.

Both assumed fixture unit counts and realistic peak instantaneous use were utilized to determine that the commercial use peak flow rate would be 65 GPM, and that lawn and garden peak flow rate would be 70 GPM based on an assumption that 2 sprinkler systems could be running at the same time.

43. ☑ **Y** ☐ **N** Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

44. ☐ **Y** ☑ **N** Are you proposing to use surface water for in-house domestic use?

44.a. ☐ **Y** ☐ **N** If yes, does a COSA exist for the proposed place of use?

44.a.i. ☐ **S** ☐ **NA** If yes, please submit the COSA.

44.a.ii. ☐ **Y** ☐ **N** If no, have you researched or consulted with DEQ regarding their requirements?

POSSESSORY INTEREST

45. ☐ **Y** ☑ **N** Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.

45.a. If yes, explain.

_____

_____

_____

_____

46. ☑ **Y** ☐ **N** ☐ **NA** Do you own all proposed places of use? Mark "NA" if you meet one of the exceptions to the possessory interest requirement.

IF NO,

46.a. ☐ **S** Explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use.

_____

_____

_____

_____

_____

_____

_____

46.b. ☐ **Y** ☐ **N** Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403, MCA.

46.b.i. If no, explain.

_____

_____

_____

PROPOSED COMPLETION PERIOD

47. How much time will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? 20 years

48. Please describe why this amount of time is needed to complete this project.

Each well will be drilled by the lot developer, at this time it is unknown how long it will take to sell and develop the entirety of the subdivision. It is anticipated that within 20 years all lots within the subdivision will be developed.

AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. ***If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.*

I affirm the information provided for this application is to the best of my knowledge true and correct. If a preapplication meeting form was submitted, I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the Department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under § 45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed $500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Cougar Investments, LLC

Erin M Kirschenmann Manager

Printed Name _____

Applicant Signature Signed by: 4D20F317D50248F... _____ Date: 4/2/2025

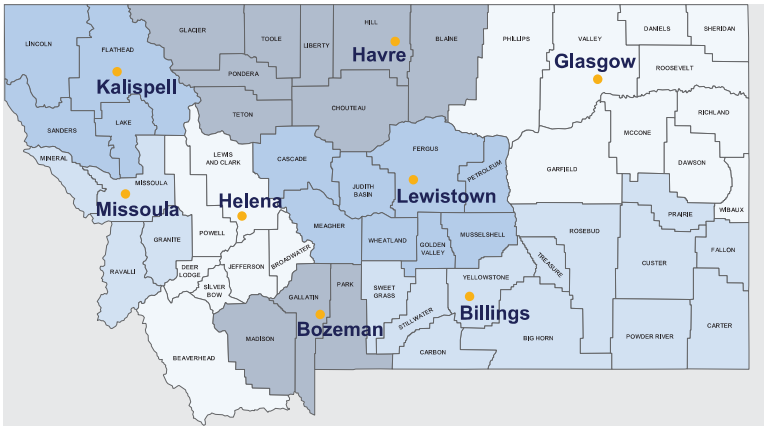
Printed Name _____

Applicant Signature _____ Date: _____

Printed Name _____

Applicant Signature _____ Date: _____

WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties

PERFORMANCE ENGINEERING
3412 Colton Boulevard, Suite 202 • Billings, MT 59102 • 406-384-0080

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 17).

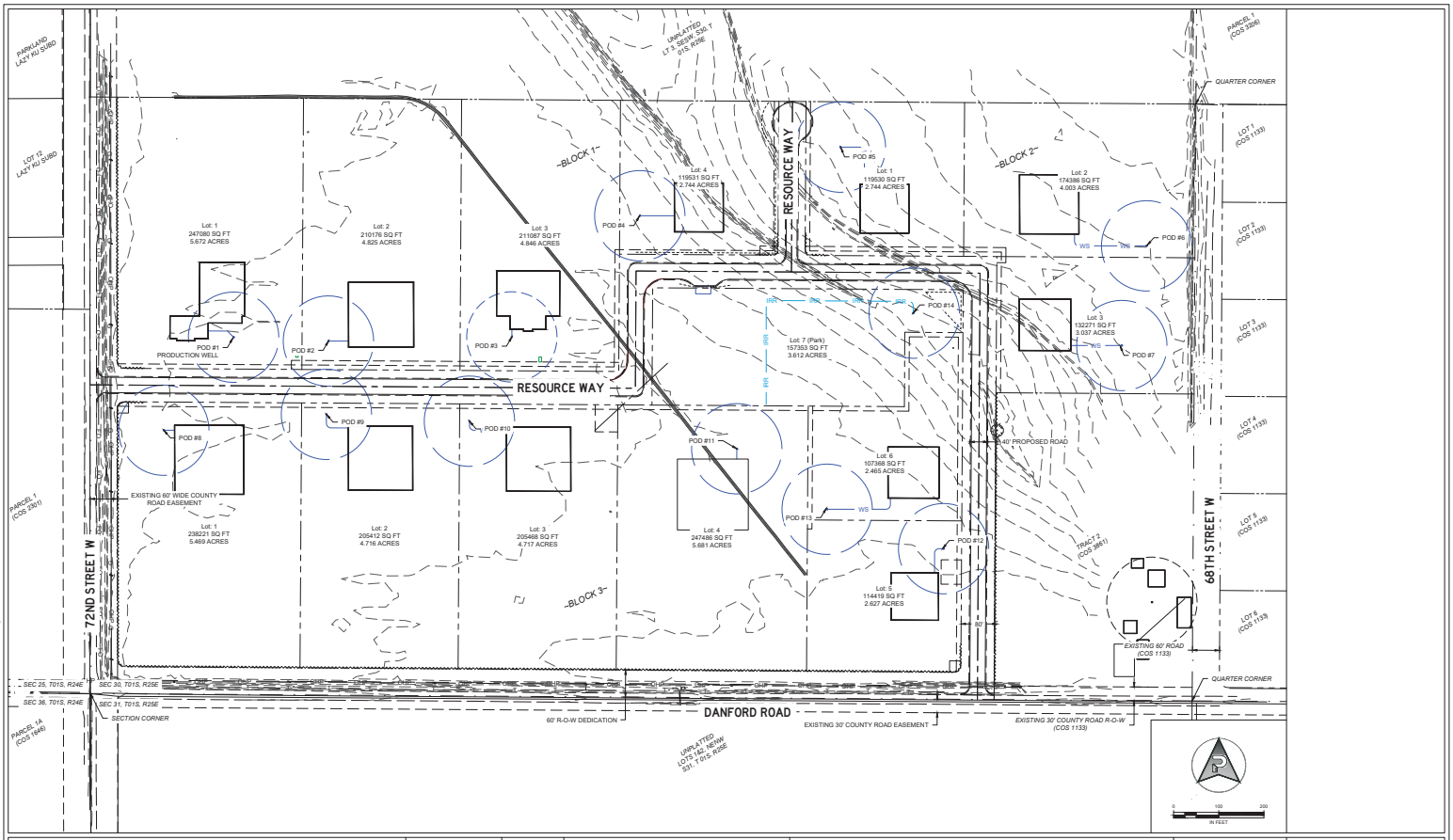
POD #	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
1	NW	SW	SW	30	01S	25E	Yellowstone	1	1		Platinum Commercial Park	
2	NW	SW	SW	30	01S	25E	Yellowstone	2	1		Platinum Commercial Park	
3	NE	SW	SW	30	01S	25E	Yellowstone	3	1		Platinum Commercial Park	
4	NW	SE	SW	30	01S	25E	Yellowstone	4	1		Platinum Commercial Park	
5	NW	SE	SW	30	01S	25E	Yellowstone	1	2		Platinum Commercial Park	
6	NE	SE	SW	30	01S	25E	Yellowstone	2	2		Platinum Commercial Park	
7	NE	SE	SW	30	01S	25E	Yellowstone	3	2		Platinum Commercial Park	
8	SW	SW	SW	30	01S	25E	Yellowstone	1	3		Platinum Commercial Park	
9	SW	SW	SW	30	01S	25E	Yellowstone	2	3		Platinum Commercial Park	
10	SE	SW	SW	30	01S	25E	Yellowstone	3	3		Platinum Commercial Park	
11	SW	SE	SW	30	01S	25E	Yellowstone	4	3		Platinum Commercial Park	
12	SW	SE	SW	30	01S	25E	Yellowstone	5	3		Platinum Commercial Park	
13	SE	SE	SW	30	01S	25E	Yellowstone	6	3		Platinum Commercial Park	
14	NW	SE	SW	30	01S	25E	Yellowstone	7	3		Platinum Commercial Park	

PLACE OF USE

22. Describe the legal land description of the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Lot	Block	1/4	1/4	1/4	Sec.	Twp.	Rge.	County
1.13	1	1	NW	SW	SW	30	01S	25E	Yellowstone
0.96	2	1	NW	SW	SW	30	01S	25E	Yellowstone
0.97	3	1	NE	SW	SW	30	01S	25E	Yellowstone
0.55	4	1	NW	SE	SW	30	01S	25E	Yellowstone
0.55	1	2	NW	SE	SW	30	01S	25E	Yellowstone
0.80	2	2	NE	SE	SW	30	01S	25E	Yellowstone
0.61	3	2	NE	SE	SW	30	01S	25E	Yellowstone
1.09	1	3	SW	SW	SW	30	01S	25E	Yellowstone
0.94	2	3	SW	SW	SW	30	01S	25E	Yellowstone
0.94	3	3	SE	SW	SW	30	01S	25E	Yellowstone
1.14	4	3	SW	SE	SW	30	01S	25E	Yellowstone
0.53	5	3	SW	SE	SW	30	01S	25E	Yellowstone
0.49	6	3	SE	SE	SW	30	01S	25E	Yellowstone
3.61	7 (Park)	3	NW	SE	SW	30	01S	25E	Yellowstone

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TJK	CHECKED BY

EXHIBIT

PERFORMANCE ENGINEERING
3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD LOCATION EXHIBIT

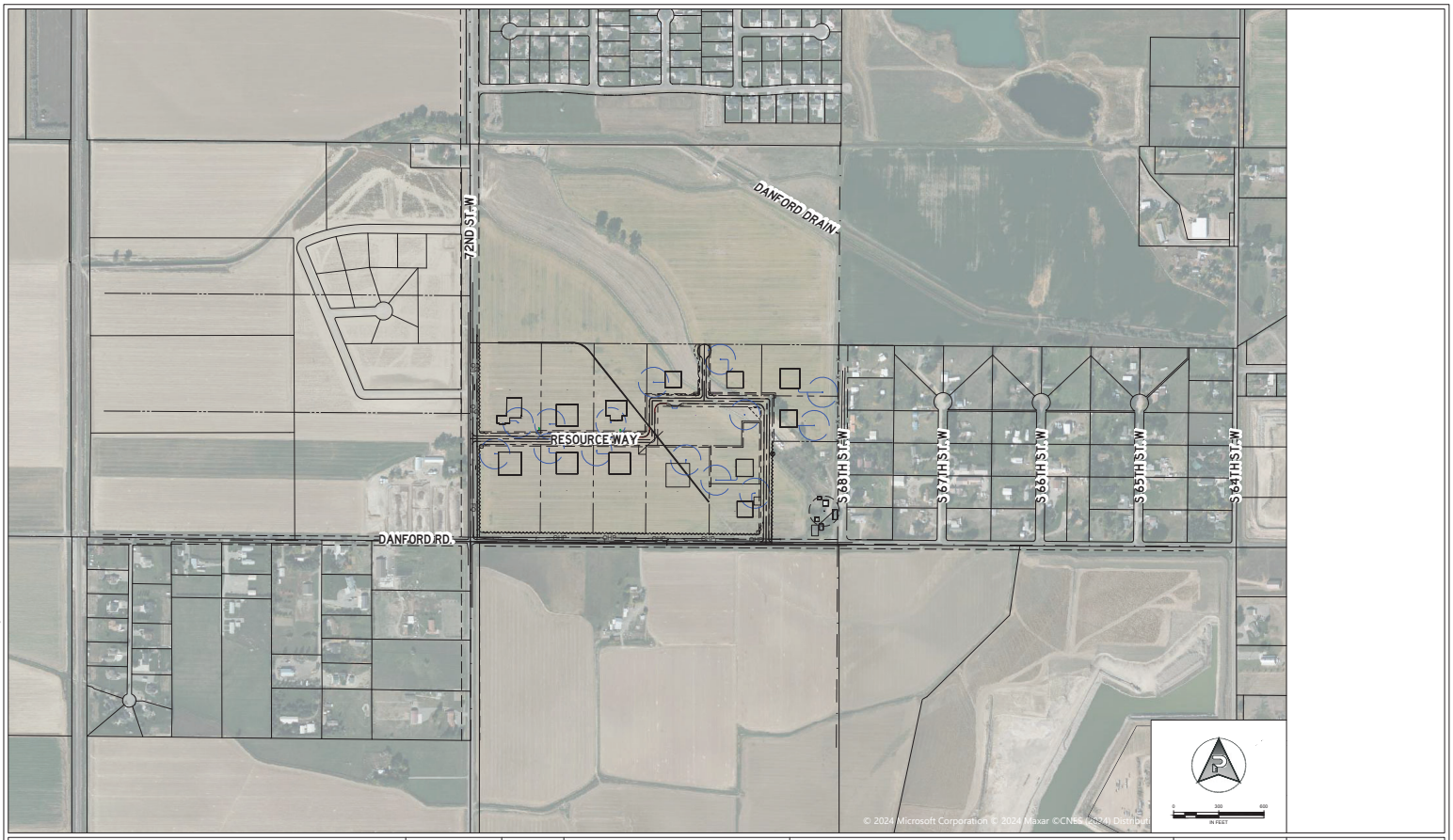
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PROJECT NUMBER 2023-100
SHEET NUMBER 1 OF 2
DRAWING NUMBER EX A

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3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD VICINITY MAP W/ AERIAL

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PROJECT NUMBER
2023-100

SHEET NUMBER
2 OF 2

DRAWING NUMBER
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Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

Docusign Envelope ID: C909A167-D898-44DF-B0A6-835562F301E1

PREAPPLICATION MEETING FORM
PERMIT
§ 85-2-302
Form No. 600P *(Revised 4/2024)*

For Department Use Only

Application # 30164891 Basin 43Q
Meeting Date 11/20/24 Time 13:00 AM/PM
Completed Form Deadline 05/19/2025

PREAPPLICATION MEETING FEE
$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE
An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

RECEIVED
FEB 04 2025
DNRC-WRD-BILLINGS

Completed Form Received _____
Fee Rec'd $ 500.00 Check # CC
Deposit Receipt # _____
Payor Performance Engineering
Refund $ _____ Date _____

The Department will fill out Form No. 600P and will identify follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within five business days. Within 180 days of the preapplication meeting, the Applicant will complete identified follow-up on a separate document with the question numbers clearly labeled.

Applicant Information: *Add more as necessary.*

Applicant Name Cougar Investments, LLC c/o Erin Kirschenmann
Mailing Address 9428 Anglers Way City Billings State MT Zip 59101
Phone Numbers: Home 406-855-8004 Work _____ Cell _____
Email Address erin@keconstruction.com ; bryce@keconstruction.com

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name Performance Engineering c/o Taylor Kasperick (44467)
Mailing Address 3412 Colton Blvd, Suite 202 City Billings State MT Zip 59102
Phone Numbers: Home 406-384-0080 Work _____ Cell _____
Email Address taylor@performance-ec.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary. If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondence and a copy may be sent to the contact person.*

Meeting Attendees: *Add more as necessary.*

Name	Organization	Position
Taylor Kasperick	Performance Engineering	Consultant
Brody Roberson	Performance Engingeering	Consultant
Mark Elison	DNRC	Regional Manager
Veronica Corbett	DNRC	Water Resource Specialist
Cassey Strebeck	DNRC	Water Resource Specialist
Jack Landers	DNRC	Hydrologist
Dave Parmelee	DNRC	Hydrologist

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Application Details

The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. For tables in this form, circle correct unit at header of column when faced with a choice of units. For tables in attachments, label all units. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
1. Do you elect to have DNRC conduct Technical Analyses?	■ Y ☐ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and places of use for all overlapping water rights.	☐ S	■ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Project-Specific Questions 47 to 52 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ■ N	☐ F
4. Is the proposed use temporary?	☐ Y ■ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F
5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).	☐ A	■ F

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	*(MM/DD-MM/DD)*	*Flow Rate*	*GPM*	*CFS*	*(AF)*
Commercial	01/01-12/31	01/01-12/31	65	✔	☐	
Lawn & Garden	04/01-10/31	04/01-10/31	70	✔	☐	32.08
				☐	☐	
				☐	☐	
		Total	135	☐	☐	

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6. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD ID number used for the project map (question 2). ☐ A ☒ F

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
1															
2															
3															
4															
5															
6															

7. What are the geocodes of the place of use? ☐ A ☐ F

03-0926-30-3-01-11-0000	

8. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres. ☐ A ☒ F

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
	Total								

9. Will other water right(s) supplement or overlap the place of use to contribute to the purpose(s)? ☐ Y ☒ N ☐ F

a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s). ☐ A ☐ F

_____

_____

_____

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10. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F

Water Right No.	Avg. Period of Diversion (MM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volume Contributed (AF)

11. Will this application supplement contract water from a Federal Project, ditch company, or other source?	☐ Y ■ N	☐ F
a. If yes, explain. _____ _____	☐ A	☐ F
12. Does the project involve one or more place(s) of storage with a capacity of greater than 0.1 acre-feet? This does not include storage tanks and cisterns. If yes, answer questions 53 to 61 for place of storage.	☐ Y ■ N	☐ F
13. Does the project involve one or more conveyance ditches? If yes, answer questions 62 to 64 for ditch-specific questions.	☐ Y ■ N	☐ F
14. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ■ N	☐ F
15. Will you be transporting water for use outside of Montana? If yes, you will need submit an Out-of-State Use Addendum (Form 600/606-OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	☐ Y ■ N	☐ F
16. Does the project include the water marketing purpose? If yes, answer questions 65 to 71 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ■ N	☐ F
17. Is the project located in designated sage grouse habitat? If yes, you must have a consultation with and review of your project by the Montana Sage Grouse Habitat Conservation Program. The review letter will be required at application submittal.	☐ Y ■ N	☐ F

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Surface Water

☐ **Applicable**, move on to question 18. ☒ **Not Applicable**, skip to question 29.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water: Physical Availability

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
18. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.	☐ A	☐ F

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period Start (MM/DD)	Period End (MM/DD)	Source Type

19. What is the source type of the surface water diversion? _____						☐ A	☐ F
Perennial or intermittent	Answer question 20	**Ephemeral**	Answer questions 22 to 24	**Lakes**	Answer question 25	**Other**	Answer question 26

Surface Water: Physical Availability: Perennial or Intermittent

☐ Applicable ☐ Not Applicable

20. Is stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions related to the number of stream gages that are available.		
i. One stream gage is available		
1. What is the gage name? _____		☐ F

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2. Who operates and maintains the gage? _____		☐ F
3. Is the stream gage upstream or downstream of point(s) of diversion? _____		☐ F
4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	☐ Y ☐ N	☐ F
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded? _____		☐ F
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 20.b.		
ii. More than one stream gage is available		
1. List the gage names. _____		☐ F
2. Who operates and maintains the gages? _____		☐ F
3. Is one stream gage upstream and one downstream of point(s) of diversion?	☐ Y ☐ N	☐ F
4. Do the stream gages have similar periods of record?	☐ Y ☐ N	☐ F
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ N	☐ F

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6. How frequently is stage data recorded at each gage? _____		☐ F
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N	☐ F
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 20.b.		
b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N	☐ F
i. If yes,		
1. Submit available measurements to the Department.	☐ S	☐ F
2. Who collected the measurements? _____	☐ A	☐ F
3. With what method was the data collected? _____ _____	☐ A	☐ F
4. What is the period of record? _____		☐ F
5. What is the frequency of measurement? _____		☐ F
6. Are there gaps in the data?	☐ Y ☐ N	☐ F

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a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. If yes, explain. _____ _____ _____	☐ A	☐ F
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 21.		
21. Does the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes, describe the estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
b. If no,		
i. Will measurements be collected prior to submission of a completed Form No. 600P that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____ _____	☐ A	☐ F

b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A	☐ F
2. If no,		
a. Describe your plan to comply with the requirements of ARM 36.12.1702(1). _____ _____ _____	☐ A	☐ F
b. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)?	☐ Y ☐ N	☐ F

Surface Water: Physical Availability: Ephemeral

☐ Applicable ☐ Not Applicable

22. If you will conduct Technical Analyses, what is your plan to calculate mean annual runoff? If DNRC will conduct Technical Analyses, write N/A. _____ _____	☐ A	☐ F
23. Where do you plan to obtain climate and drainage area data? _____ _____	☐ A	☐ F
24. Where is the downstream point of diversion, which will be used to delineate the drainage basin? _____	☐ A	☐ F

Docusign Envelope ID: C909A167-D898-44DF-B0A6-835562F301E1

Surface Water: Physical Availability: Lakes

☐ Applicable ☐ Not Applicable

25. Do you have a design plan?	☐ Y ☐ N	☐ F
a. If yes, provide the design plans to DNRC	☐ S	☐ F
b. If no, has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
i. If yes, provide this information to DNRC.	☐ S	☐ F
ii. If no, answer the following questions,		
1. When do you plan to collect this information? _____		☐ F
2. With what method will it be collected? _____ _____	☐ A	☐ F

Surface Water: Physical Availability: Other

☐ Applicable ☐ Not Applicable

26. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the data collected? _____ _____	☐ A	☐ F
ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the requirements of 36.12.1702(4)?	☐ Y ☐ N	☐ F
b. If no or if the measurement interval does not meet the requirements of 36.12.1702(4)		
i. When do you plan to measure? _____		☐ F
ii. With what method will the measurements be collected? _____ _____ _____	☐ A	☐ F

Docusign Envelope ID: C909A167-D898-44DF-B0A6-835562F301E1

Surface Water: Identification of Legal Demands in Area of Potential Impact

27. If you are conducting Technical Analysis, how will the Area of Potential Impact be defined? If Department is conducting Technical Analyses, write N/A. _____ _____ _____ _____	☐ A	☐ F

Surface Water: Basin Closure Area

28. Is the project located in a Basin Closure Area? If yes, explain how the project meets a closure exception. More information about basin closures online at: https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas. Answer the follow-up questions for specific Basin Closure Areas in the "Project-Specific Questions: Controlled Groundwater Areas and Basin Closures" section (questions 51 to 52). _____ _____ _____ _____ _____ _____	☐ Y ☐ N	☐ F

Groundwater

■ **Applicable**, move on to question 29. ☐ **Not Applicable**, skip to question 47.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
Groundwater: Physical Availability		
29. What is the type of groundwater diversion? Wells (14 individual wells)	☐ A	☐ F

Well/Pit	Answer questions 30 to 32	**Developed Spring**	Answer question 33	**Pond**	Answer questions 34 to 38

Groundwater: Physical Availability: Well/Pit

■ Applicable ☐ Not Applicable

30. Provide the Aquifer Testing Addendum (Form 600-ATA). This form will be required before the Preapplication Meeting Form is deemed complete.	☐ S	■ F
31. Have you submitted a completed Form 633 to DNRC for review?	☐ Y ■ N	☐ F
a. If no, submit Form 633 to DNRC for review. Form 633 is required by the time the Preapplication Meeting Form is deemed complete.	☐ S	■ F
b. If yes, did the Department identify deficiencies?	☐ Y ☐ N	☐ F
i. If yes, are variances from ARM 36.12.121 needed?	☐ Y ☐ N	☐ F
1. If yes,		
a. Do you have data for aquifer characteristics?	☐ Y ☐ N	☐ F
i. If yes, provide the data to the Department.	☐ S	☐ F
b. Have you submitted Form 653 to the Department?	☐ Y ☐ N	☐ F
i. If yes, was the variance granted?	☐ Y ☐ N	☐ F
32. Do you have a map with the location of each well/pit labeled and, if available, with the GWIC ID?	☐ Y ■ N	☐ F
a. If no, have all the wells/pits been constructed?	☐ Y ■ N	☐ F

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i. If yes, provide a map with the wells/pits labeled and, if available, with the GWIC ID. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
ii. If no, answer the following questions,		
1. When will the wells/pits be constructed? Upon development of each lot		☐ F
2. Do you have an initial map with the proposed location of wells/pits?	■ Y ☐ N	☐ F
a. If yes, provide an initial map to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	■ F
3. Is the requested volume for each new well/pit known?	■ Y ☐ N	☐ F
a. If no, what is the total requested volume (AF) and the number of new PODs? _____		☐ F

Groundwater: Physical Availability: Developed Spring

☐ Applicable ■ Not Applicable

33. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1),		
i. When do you plan to measure? _____		☐ F

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ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater: Physical Availability: Ponds

☐ Applicable ■ Not Applicable

34. Have you submitted Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test?	☐ Y ☐ N	☐ F
a. If yes, did the Department approve the variance request?	☐ Y ☐ N	☐ F
35. Have you submitted measurements to the Department? If yes, describe. _____	☐ Y ☐ N	☐ F
36. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
37. Please submit a map identifying the location of the proposed pond to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
38. If you are conducting Technical Analyses, what is your plan to determine depth, surface area, and net evaporation of the pond? If DNRC is conducting Technical Analyses, write N/A. _____ _____ _____	☐ A	☐ F

Groundwater: Identification of Groundwater Legal Demands

All information to calculated Zone of Influence was collected in previous questions.

Groundwater: Adverse Effect to Existing Groundwater Rights

All information to calculate One-Foot Drawdown Contour was collected in previous questions.

Groundwater: Physical Availability of Depleted Surface Water Source(s)

39. What are the hydraulically connected surface water source(s)? Danford Drain		☐ F
40. For each hydraulically connected surface water source, is gage data available?	☐ Y ■ N	☐ F
a. If yes, answer the following questions for the number of stream gages that are available.		

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i. One stream gage is available		
1. What is the gage name? _____		☐ F
2. Who operates and maintains the gage? _____		☐ F
3. Is the stream gage upstream or downstream of point(s) of diversion? _____		☐ F
4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	☐ Y ☐ N	☐ F
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded? _____		☐ F
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 40.b.		
ii. More than one stream gage is available		
1. List the gage names. _____		☐ F
2. Who operates and maintains the gages? _____		☐ F
3. Is one stream gage upstream and one downstream of point(s) of diversion?	☐ Y ☐ N	☐ F

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4. Do the stream gages have similar periods of record?	☐ Y ☐ N	☐ F
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded at each gage? _____		☐ F
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N	☐ F
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 40.b.		
b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	■ Y ☐ N	☐ F
i. If yes,		
1. Submit measurements to the Department.	☐ S	■ F
2. Who collected the measurements? MT MBMG	☐ A	☐ F
3. With what method was the data collected? _____ _____	☐ A	■ F
4. What is the period of record? _____		■ F
5. What is the frequency of measurement? _____		■ F
6. Are there gaps in the data?	☐ Y ☐ N	■ F

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a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality _____ _____ _____ _____	☐ A	■ F
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	■ F
a. If yes, explain. _____ _____ _____ _____	☐ A	■ F
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ■ N	■ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 41.		
41. For each hydraulically connected surface water source, does the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ■ N	☐ F
a. If yes, describe the estimation technique. _____ _____ _____	☐ A	☐ F
b. If no,		
i. Will measurements be collected prior to submission of a completed Form No. 600P that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ■ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____ _____	☐ A	☐ F

b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A	☐ F
2. If no, describe your plan to comply with the measurement requirements for hydraulically connected surface water sources. There is no valid estimation technique so the measurements will be used. _____ _____	☐ A	☐ F

Groundwater: Legal Availability of Depleted Surface Water Source(s)

All information to determine legal demands for depleted surface water source(s) was collected in previous questions.

Groundwater: Adequacy of Diversion

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each groundwater point of diversion? If the POD is a well, provide the well depth (FT), if available, or estimated well depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	■ F

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period of Diversion (MM/DD-MM/DD)	Well Depth (FT)	Measured or Estimated

43. Will the monthly pumping schedule differ from an allocation of diverted volume by the number of days in the month for year-round uses or the IWR 80% net irrigation requirements for irrigation/lawn & garden uses (IWR, NRCS 2003)?	☐ Y ■ N	☐ F

a. If yes, provide the alternative pumping schedule in the table below. Use the same POD # as the project map (question 2).	☐ A	☐ F

Month	POD #	Volume (AF)	Month	POD #	Volume (AF)
January			**July**		
February			**August**		
March			**September**		
April			**October**		
May			**November**		
June			**December**		

Groundwater: Basin Closure Area

44. Are the point(s) of diversion located in a basin closure area? If yes, fill out questions 45 to 46.	☐ Y ■ N	☐ F
45. Did you elect in question 1 for the Department to conduct Technical Analysis?	☐ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Hydrogeologic Report Addendum (Form 600-HRA), and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360 for Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA), Hydrogeologic Report Addendum (600-HRA), and Hydrogeologic Report with your Technical Analysis.	☐ S	☐ F
46. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, which of the following three options best describe your plan to mitigate depletions of hydraulically connected surface water? A separate Preapplication Meeting will be required for each application to change a water right to a mitigation or aquifer recharge purpose to maintain expedited timelines and reduced filing fees for the project.		
a. Application to Change a Water Right to mitigate the adverse effects created.	☐ Y ☐ N	☐ F
b. Alternative mitigation plan.	☐ Y ☐ N	☐ F
c. Documentation to show a mitigation plan is not required.	☐ Y ☐ N	☐ F

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Project-Specific Questions

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
Project-Specific Questions: Controlled Groundwater Areas and Basin Closures		
47. Is the project located in the East Valley Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes,		
i. Do you have written approval from (1) Lewis and Clark County Board of Health, (2) Lewis and Clark County Water Quality Protection Bureau, (3) the U.S. Environmental Protection Agency, (4) the Montana State Dept. of Environmental Quality and (5) the Montana State Dept. of Natural Resources and Conservation? If the agencies have established a Technical Advisory Group, prior approval by the Technical Advisory Group satisfies this requirement.	☐ Y ☐ N	☐ F
ii. Is the project in Zone 2?	☐ Y ☐ N	☐ F
i. If yes, provide in the written approval the following recommendations which will also be included as conditions on the appropriation. a. Well design and construction requirements necessary to measure the water level and water quality for any well; b. Water level measurement and water quality sample reporting requirements for any new well; c. Any other requirements necessary to ensure new wells can be operated in a manner consistent with purpose of the EVCGWA.	☐ S	☐ F
iii. Is the project in Zone 1? If yes, a Form 600 cannot be accepted by the Department.	☐ Y ☐ N	☐ F
48. Is the project located in the South Pine Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, have you completed an Application for Beneficial Water Use Permit South Pine Controlled Groundwater Area Addendum? The addendum needs to be completed by application submittal.	☐ Y ☐ N	☐ F
49. Is the project located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF per year?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead the Yellowstone Controlled Groundwater Area Permit Application (600-YCGA).		
ii. If yes, answer the remaining parts of question 49. A Yellowstone Controlled Groundwater Area Addendum (600 Y over35) will be required with application submittal.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. What is the ground elevation at the point of diversion? _____		☐ F

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3. What is the specific conductance at the point of diversion? _____		☐ F
4. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of YNP), provide a report prepared by a professional qualified in the science of groundwater hydrology, verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.	☐ S	☐ F
50. Is the project located in one of the Controlled Groundwater Areas listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meets the requirements of the Controlled Groundwater Area. An application must meet the specific requirements of the Controlled Groundwater Area to be accepted by the Department. _____ _____ _____ _____ _____	☐ A	☐ F
51. Is the project located in one of the administrative, Department ordered, or legislative closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meet the requirements of the closure. An application must meet the specific requirements of the closure to be accepted by the Department. _____ _____ _____ _____ _____	☐ A	☐ F
52. Is the project located in one of the compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meet the requirements of the compact closure. An application must meet the specific requirements of the compact closure to be accepted by the Department. _____ _____ _____ _____	☐ A	☐ F

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Project-Specific Questions: Place of Storage

53. Does the proposal include at least one place of storage? If yes, answer questions 54 to 61 for each individual place of storage (use Additional Place of Storage Sheet for additional places of storage). If no, this section is complete, and you can skip to question 62.	☐ Y ■ N	☐ F
54. Provide a map showing the location of the place of storage. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
55. Is this application to enlarge an existing reservoir?	☐ Y ☐ N	☐ F
a. If yes, what is the water right number for the existing reservoir? _____		☐ F
56. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
a. If no, explain the conveyance means to and from the off-stream place of storage and any losses that may occur with that conveyance. _____ _____ _____	☐ A	☐ F
57. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: *Surface Acres x Maximum Depth (FT) x 0.5 (0.4-0.6 depending on side slope) = Capacity (AF)* _____	☐ A	☐ F
58. Will the place of storage include primary and/or emergency spillways? Preliminary design specifications for primary and emergency spillways must be included with application submittal (ARM 36.12.113).	☐ Y ☐ N	☐ F
59. Will the place of storage be lined?	☐ Y ☐ N	☐ F
60. What is the annual net evaporation of water from the place of storage using the standards in ARM 36.12.116(1)? Gridded net evaporation layer is available from DNRC upon request. _____		☐ F
61. Is the place of storage capacity calculated to be greater than 50 acre-feet?	☐ Y ☐ N	☐ F
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam?	☐ Y ☐ N	☐ F

Project-Specific Questions: Ditch-Specific Questions

62. Does the proposal include at least one conveyance ditch? If yes, answer question 63 and, for each ditch, answer question 64. If no, this section is complete, and you can skip to question 65.	☐ Y ■ N	☐ F

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63. Submit a Ditch Map that shows every ditch conveying water for the proposed project. Label the ditch name(s), POD(s), the POU(s), and the ditch measurement locations (requested in question 64.c). The map should be created on an aerial photograph or topographic map with the following: section corners, township and range, and a north arrow.	☐ S	☐ F
64. For each conveyance ditch, answer the following. If there is more than one conveyance ditch, use an Additional Ditch Sheet for each additional conveyance ditch.		
a. What is the ditch name? _____		☐ F
b. What is the distance water will be carried by the conveyance ditch? Only include segments between the POD and start of the POU; do not include segments within the POU. _____ _____	☐ A	☐ F
c. Provide at least one set of ditch measurements, which include width (FT), depth (FT), and slope (%). Discuss ditch characteristics with DNRC to determine the minimum number of ditch measurements. Include the location of each measurement, labeled with the 2-digit measurement ID number, used on the map submitted for question 63.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

d. What is a reasonable Manning's n value? List the factors used for estimation. If you do not know this value, please work through estimation with the Department. _____ _____	☐ A	☐ F
e. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F
f. Are other water rights conveyed by the conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. What are the water right numbers? _____ _____	☐ A	☐ F

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2. What is the sum of the flow rates (GPM or CFS) for water rights conveyed? _____ _____ _____	☐ A	☐ F
3. Provide a map with your best estimate of where the existing POUs begin for the other water rights conveyed by the conveyance ditch for all POUs between the proposed POD and your proposed POU. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F

Project-Specific Questions: Water Marketing

65. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 66 to 71). If no, this section is complete, and you can skip to question 72.	☐ Y ■ N	☐ F
66. Identify the flow rate (GPM or CFS) and volume (AF) of water that will be marketed. _____		☐ F
67. Will the marketed water return to the source?	☐ Y ☐ N	☐ F
a. Explain how this determination was made. _____ _____ _____	☐ A	☐ F
68. For what purpose(s) will the marketed water be used? _____ _____	☐ A	☐ F
69. How will you control or limit access to the water? _____ _____	☐ A	☐ F
70. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N	☐ F
71. Provide a service area map. Create map on an aerial photograph or topographic map and shows the following: general service area boundary, section corners, township and range, and a north arrow.	☐ S	☐ F

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Non-Mandatory Questions for Criteria Analysis

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-boxes
72. Do you have evidence that water is legally available in the proper flow rate, volume, and timing?	☐ Y ■ N
73. If water is not found to be legally available for part or all the proposed period of diversion, what is the plan to address this with the permitting process? Reduce/omit irrigation	☐ A
74. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Wells can be shut off if valid call is made	☐ A
75. Explain how you can control your diversion in response to call being made. Wells can be shut off if valid call is made	☐ A
76. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ■ N
a. If yes, explain.	☐ A
77. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ■ N

Adequate Diversion Means and Operation

78. Provide a diagram of how you will operate your system from the point of diversion to the place of use.	☐ S
79. Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.	☐ A

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80. Is the diversion capable of providing the full amount requested through the period of diversion?	■ Y ☐ N
81. Describe the size and configuration of infrastructure to convey water from point of diversion to place of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration.	☐ A
82. Describe any losses related to conveyance. None	☐ A
83. Is the conveyance infrastructure capable of providing the required flow and volume and any losses?	■ Y ☐ N
84. Does the proposed conveyance require easements?	☐ Y ■ N
a. If yes, explain.	☐ A
85. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal. N/A	☐ A
86. Describe specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot and output and configuration of sprinkler heads.	☐ A
87. Is the water delivery system capable of providing the requested beneficial use?	■ Y ☐ N
88. Will your system be designed to discharge water from the project?	☐ Y ■ N
a. If yes, explain the way water will be discharged and the wastewater disposal method.	☐ A

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89. Provide a plan of operations.	☐ A
90. Can the plan of operations deliver the flow rate and volume for the beneficial use being requested?	■ Y ☐ N
91. Do you have any plans to measure your diversion and use?	☐ Y ■ N
a. If yes, describe the plan and the type of measurements you will take.	☐ A

Beneficial Use

92. Why is the requested flow rate and volume the amount needed for the purpose? Estimation technique for commercial use & justification (may be Dept. standard); l&g per Dept. standard	☐ A
93. Does the Department have a standard for the purposes for which water is used? Department standards can be found in ARM 36.12.112.	■ Y ☐ N
a. If yes, does the proposed beneficial use fall within Department standards?	■ Y ☐ N
94. If no standard, or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose.	☐ A
95. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ■ N
a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
96. Are you proposing to use surface water for in-house domestic use?	☐ Y ■ N
a. If yes, does a COSA exist for the proposed place of use?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

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Possessory Interest

97. Do you have possessory interest, or the permission of the party with possessory interest, of the proposed place of use? Proof of possessory interest or permission of the party with possessory interest is required at application submittal.	■ Y ☐ N
a. If no, explain. _____ _____ _____	☐ A

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PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting and that the items marked for follow-up will require the applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves the first five days of the 45-day period in ARM 36.12.1302(4) or (5) to return the form to the applicant if:

1 – the completed form does not include all necessary follow-up information identified in the meeting, OR
2 – the completed form is not adequate for the Department to proceed with technical analyses, OR
3 – the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
4 – the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the $500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the $500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires.

	Manager	Cougar Investments, LLC	11/22/2024
Applicant Signature			Date

Applicant Signature			Date
Mark Elison	Regional Manager	Montana Department of Natural Resources and Con	11/22/2024
Department Signature			Date

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FOLLOW-UP PAGE

Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting. Instead, the Applicant must use the Amended Responses procedure defined below. Do not include additional information for questions not marked for follow-up here; instead include any additional information pursuant to the process for amending responses defined below.

Questions marked for follow-up

2 - Map	
5 - Volume/employee/day for Commercial	
6 - POD list	
8 - POU List	
30 - Form 600-ATA Submitted	
31 - Form 633 Submitted (and Form 653)	
32.ii.a.2.a - Map of proposed wells	
40.b all sub questions re: Danford Drain measurements from MBMG	
42 - Flow rate, volume, period for each POD	

Docusign Envelope ID: C909A167-D898-44DF-B0A6-835562F301E1

AMENDED RESPONSES PAGE

The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting or the Follow-up Page. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant will mark all question numbers with an amended response in the table below and note for each question whether the response will replace the response given at the preapplication meeting or will provide additional information to consider in conjunction with the response given at the preapplication meeting. The Applicant will return the "Amended Responses" document with the "Follow-up Responses" document and the signed Preapplication Meeting Form.

Questions with amended responses

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FOLLOW-UP PAGE AFFIDAVIT & CERTIFICATION

"I/we attest that this preapplication meeting form, follow-up page, and amended responses page accurately portray my proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a))."

DocuSigned by:
4D20F217D60248F...

Erin Kirschenmann — 1/17/2025

Applicant Signature — Date

Applicant Signature — Date

"We confirm that the preapplication form and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the applicant has elected to complete technical analyses, we confirm they have submitted each piece of technical analysis required based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

~~Veronica Corbett~~

Department Signature — Date

Department Signature — 2/6/2025 — Date

Docusign Envelope ID: 200BD761-51DE-410D-854B-B776BAACA637

PERFORMANCE ENGINEERING
3412 Colton Boulevard, Suite 202 • Billings, MT 59102 • 406-384-0080

January 15, 2025

Department of Natural Resources and Conservation
Water Resources Division – Billings Regional Office
Airport Industrial Park
1371 Rimtop Drive
Billings, MT 59105

RE: 43Q 30164891

To Whom it May Concern:

Performance Engineering, LLC (PE) is writing this letter to provide follow-up information deemed necessary by the Department of Natural Resource and Conservation (DNRC) from the Pre-Application Meeting held on November 20, 2024.

2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and places of use for all overlapping water rights.

Please see the attached exhibits showing the POD's within the proposed subdivision.

5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).

At present it is unknown what types of commercial facilities will utilize the proposed subdivision. As such, assumptions have been made to approximate the volume of water that will be utilized for commercial use. The current septic system was designed to handle use by 24 employees per lot, assuming 16 gpd (gallons per day)/employee. This rate closely follows the DNRC Water Calculation Guide rate for Offices, however, it is assumed these businesses will have water needs that will not be captured via the septic system, i.e., outdoor cleaning of vehicles and other equipment. Therefore, the assumed consumption of water per employee utilized was 35 gpd/employee, resulting in a total domestic volume consumed by the subdivision of 10,920 GPD, or 12.22 AF/year. This 35 gpd/employee is equivalent to the top end range the DNRC Water Calculation Guide provides for workers in Factories. The peak domestic flow rate for the subdivision was calculated assuming a flow rate of 5 gpm per lot utilized over the 13 subdivided lots, resulting in a domestic flow rate of 65 gpm over the subdivision. It was assumed the peak flow rate for irrigation use would be 70 gpm, bringing the total peak flow rate for the subdivision to 135 gpm. The DNRC Water Calculation Guide provides the volume standards for "Lawn, garden, shrubbery, and shelterbelts" to be 2.5 AF/acre. Total volume calculations were tabulated by assuming 20% of each lot would be irrigated, as well as the entirety of Lot 7 (Utility), Block 3. The total volume of water to

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be used for irrigation over the subdivision would be 35.79 AF during the months of April through October. Considering both domestic and irrigation use, a resulting volume of 48.01 AF of water is anticipated to be used by the subdivision.

Purpose	Period of Diversion (MM/DD-MM/DD)	Period of Use (MM/DD-MM/DD)	Flow Rate			Volume
			Flow Rate	GPM	CFS	(AF)
Commercial	01/01-12/31	01/01-12/31	65	☒	☐	12.22
Lawn & Garden	04/01-10/31	04/01-10/31	70	☒	☐	35.79
		Total	135	☒	☐	48.01

6. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD ID number used for the project map (question 2).

The table below provides the proposed locations of the POD's to the nearest 10 acres, the corresponding POD ID can be located on the attached exhibit. It should be noted, in order to save space, the subdivision name was omitted from the table after the first POD. All POD's are located within the proposed Platinum Commercial Park Subdivision.

POD #	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot	SW or GW	Source Name	Means
1	NW	SW	SW	30	01S	25E	Yellowstone	1	1		Platinum Commercial Park Subd.		GW	43Q	Well
2	NW	SW	SW	30	01S	25E	Yellowstone	2	1				GW	43Q	Well
3	NE	SW	SW	30	01S	25E	Yellowstone	3	1				GW	43Q	Well
4	NW	SE	SW	30	01S	25E	Yellowstone	4	1				GW	43Q	Well
5	NW	SE	SW	30	01S	25E	Yellowstone	1	2				GW	43Q	Well
6	NE	SE	SW	30	01S	25E	Yellowstone	2	2				GW	43Q	Well
7	NE	SE	SW	30	01S	25E	Yellowstone	3	2				GW	43Q	Well
8	SW	SW	SW	30	01S	25E	Yellowstone	1	3				GW	43Q	Well
9	SW	SW	SW	30	01S	25E	Yellowstone	2	3				GW	43Q	Well
10	SE	SW	SW	30	01S	25E	Yellowstone	3	3				GW	43Q	Well
11	SW	SE	SW	30	01S	25E	Yellowstone	4	3				GW	43Q	Well
12	SW	SE	SW	30	01S	25E	Yellowstone	5	3				GW	43Q	Well
13	SE	SE	SW	30	01S	25E	Yellowstone	6	3				GW	43Q	Well
14	SW	SE	SW	30	01S	25E	Yellowstone	7	3				GW	43Q	Well

8. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.

The table below provides the legal land description for the proposed place of use and irrigated acres. Irrigated acres per lot are based on an assumption of 20% landscaping on the developed lot, excepting Lot 7 (Utility), Block 3 which is a utility lot and will be wholly landscaped. Each place of use described below is a proposed lot within Platinum Commercial Park Subdivision.

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Acres	Irrigated Acres	Lot	Block	1/4	1/4	1/4	Sec.	Twp.	Rge.	County
5.672	1.134	1	1	NW	SW	SW	30	01S	25E	Yellowstone
4.825	0.965	2	1	NW	SW	SW	30	01S	25E	Yellowstone
4.846	0.969	3	1	NE	SW	SW	30	01S	25E	Yellowstone
2.744	0.549	4	1	NW	SE	SW	30	01S	25E	Yellowstone
2.744	0.549	1	2	NW	SE	SW	30	01S	25E	Yellowstone
4.003	0.801	2	2	NE	SE	SW	30	01S	25E	Yellowstone
3.037	0.607	3	2	NE	SE	SW	30	01S	25E	Yellowstone
5.469	1.094	1	3	SW	SW	SW	30	01S	25E	Yellowstone
4.716	0.943	2	3	SW	SW	SW	30	01S	25E	Yellowstone
4.717	0.943	3	3	SE	SW	SW	30	01S	25E	Yellowstone
5.681	1.136	4	3	SW	SE	SW	30	01S	25E	Yellowstone
2.627	0.525	5	3	SW	SE	SW	30	01S	25E	Yellowstone
2.465	0.493	6	3	SE	SE	SW	30	01S	25E	Yellowstone
3.612	3.612	7	3	NW	SE	SW	30	01S	25E	Yellowstone
57.158	14.321	Total								

30. Provide the Aquifer Testing Addendum (Form 600-ATA). This form will be required before the Preapplication Meeting Form is deemed complete.

Form 600-ATA has been completed and sent to the DNRC. Please see the attached Aquifer Testing Addendum (ATA) – Review Form.

31. Have you submitted a completed Form 633 to DNRC for review?
    a. If no, submit Form 633 to DNRC for review. Form 633 is required by the time the Preapplication Meeting Form is deemed complete.

Form 633 along with Form 653 have been sent to the DNRC for review. Please see the attached variance approval letter for verification.

32.a.ii.2.a If yes, provide an initial map to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.

Please see the attached exhibits showing the location of the wells within the proposed subdivision.

40.b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?
    i. If yes,
        1. Submit measurements to the department.

Pages from a report by the Montana Bureau of Mines and Geology titled "Basic Hydrogeologic Data For: The West-Billings Area (1999-2000), Yellowstone County, Montana" (Olson and Reiten), dated June of 2001 have been attached. The attachment shows surface water field measurements at 5 separate locations along the Danford Drain.

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3. With what method was the data collected?

According to Hydrogeology of the West Billings Area: Impacts of Land-Use Changes on Water Resources (Olson & Reiten), stream flows were measured using a wading rod and current velocity meter.

4. What is the period of record?

The data for Danford Drain was collected from January 14, 1999 to October 8, 2000. However, for the section of Danford Drain nearest the project site data was collected only between January 14, 1999 and April 6, 1999.

5. What is the frequency of measurement?

The data was collected either monthly or bi-weekly for the majority of the Danford Drain study area. Nearest the site, only 3 measurements were taken, all between January 14, 1999 and April 6, 1999.

6. Are there gaps in the data?

It does not appear there are any major gaps in the data.

7. Is there a process for maintaining the data and meeting specified accuracy limits?

No process was specified in the report.

8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?

It does not appear the available measurement data will meet the Department's standards.

42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each groundwater point of diversion? If the POD is a well, provide the well depth (FT), if available, or estimated well depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.

The "Commercial Use" column below was calculated assuming 24 employees will utilize each lot. The "Irrigation Use" column below was calculated assuming 2.5 AF/acre of irrigated area.

POD #	Commercial Flow Rate (gpm)	Commercial Use (AF)	Irrigation Flow Rate (gpm)	Irrigation Use (AF)	Period of Diversion (Commercial) (MM/DD-MM/DD)	Period of Diversion (Irrigation) (MM/DD-MM/DD)	Well Depth (FT)	Measured or Estimated
1	5	0.94	5	2.84	01/01 – 12/31	04/01-10/31	37	Measured
2	5	0.94	5	2.41	01/01 – 12/31	04/01-10/31	37	Estimated
3	5	0.94	5	2.42	01/01 – 12/31	04/01-10/31	37	Estimated
4	5	0.94	5	1.37	01/01 – 12/31	04/01-10/31	37	Estimated
5	5	0.94	5	1.37	01/01 – 12/31	04/01-10/31	37	Estimated
6	5	0.94	5	2.00	01/01 – 12/31	04/01-10/31	37	Estimated
7	5	0.94	5	1.52	01/01 – 12/31	04/01-10/31	37	Estimated
8	5	0.94	5	2.73	01/01 – 12/31	04/01-10/31	37	Estimated
9	5	0.94	5	2.36	01/01 – 12/31	04/01-10/31	37	Estimated
10	5	0.94	5	2.36	01/01 – 12/31	04/01-10/31	37	Estimated
11	5	0.94	5	2.84	01/01 – 12/31	04/01-10/31	37	Estimated
12	5	0.94	5	1.31	01/01 – 12/31	04/01-10/31	37	Estimated
13	5	0.94	5	1.23	01/01 – 12/31	04/01-10/31	37	Estimated
14	N/A	N/A	5	9.03	N/A	04/01-10/31	37	Estimated
TOTAL	65	12.22	70	35.79				

Feel free to contact me with any questions or concerns at (406) 384-0080 or taylor@performance-ec.com. Thank you for your consideration and coordination in our project.

Best Regards,



Taylor Kasperick, PE
Project Manager

List of Attachments:

1. Aquifer Testing Addendum (ATA) – Review
2. Variance Approval Letter
3. POD Location Exhibit
4. Vicinity Map
5. Pages from "Basic Hydrogeologic Data For: The West-Billings Area (1999-2000), Yellowstone County, Montana by Olson and Reiten

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Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
DANFORD DRAIN									
Danford Drain@Wise Ln.	01/14/99	5.85	4.1	1,150	8.9	8.24			
T01S-R25E-SECTION35-TRACTBBBB	02/12/99	5.84	4.2	679	15.3	8.2			
	03/17/99	5.89	3.4						
	04/06/99	5.89	3.8						
	05/19/99	5.83	4.4						
	06/14/99	5.09	30.0						
	07/19/99	4.78	50.2						
	08/18/99	4.73	54.0						
	08/31/99	4.61	64.0						
	09/27/99	4.60	64.9						
	10/19/99	5.21	23.9						
	11/08/99	5.42	15.2						
	11/15/99	5.46	13.7						
	11/24/99	5.58	10.0						
	12/05/99	5.64	8.4						
	12/15/99	5.70	6.9						
	12/27/99	5.77	5.5						
	03/01/00	5.83	3.4	1,150	8.9	8.24			
	04/17/00	5.90	3.3						
	04/19/00	5.96	2.5						
	05/08/00	5.80	4.6						
	05/26/00	5.54	12.1	635					
	06/06/00	5.25	20.9						
	07/07/00	5.13	28.1						
	08/02/00	5.21	23.9						
	10/08/00	5.57	10.2						

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Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
Danford Drain at Crystal Springs									
T01S-R24E-SECTION33-TRACTABCC	01/14/99	4.00	4.1	1,271	5.4	8.47			
	02/12/99	4.08	4.3	1,268	2.8	8.47			
	03/17/99	4.10	2.9	917	9.1	8.31			
	04/06/99	4.10	3.3	1,230	14.9	8.79			
	05/19/99	3.95	4.7						
	05/21/99	3.42	13.1	1,006	14.2	8.16	22	70	
	06/14/99	3.38	114.0	657	17.7	7.9			
	07/19/99	3.10	21.6						
	07/23/99	3.13	20.1						
	08/18/99	3.00	23.2						
	08/31/99	2.88	26.4						
	10/19/99	3.16	19.2						
	11/08/99	3.42	13.5						
	11/15/99	3.50	11.9						
	11/24/99	3.59	10.1						
	12/05/99	3.70	8.3						
	12/15/99	3.78	7.0						
	12/27/99	3.88	5.6						
	01/15/00	3.72	4.0						
	02/02/00	4.08	3.1						
	02/24/00	4.06	3.3	1,337	10.4	8.69			
	03/01/00	4.10	2.9						
	03/21/00	4.10	2.9	1,140	10.8	8.36			
	04/17/00	4.12	2.7						
	05/08/00	4.02	4.1						
	05/26/00	3.83	6.5	662					

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Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
Danford Drain@51 St.	04/07/99		2.8	1,105	14.3	8.6			3
T01S-R25E-SECTION33-TRACTAACD	05/20/99	1.60	1.5	1,369	16.3	8.31	43	150	
	06/14/99	3.25		239	16.7	8.08			
	06/21/99	1.10							
Danford Drain@64th St.	02/12/99			1,477	6.1	8.23			
T01S-R25E-SECTION30-TRACTCBCC	04/06/99		1.9						
Danford Drain@72nd St. drain	01/14/99			1,510	9.2	7.94			3
T01S-R25E-SECTION30-TRACTCBBB	03/17/99			1,200	12.9	7.47			
	04/06/99		0.34						
CITY-COUNTY DRAIN									
City-County Drain @ McDougal	03/17/99	4.50	5.5						
	04/06/99	4.51	5.3						
	05/20/99	3.90	29.4						
	06/17/99	3.58	45.2						
	08/18/99	3.58	44.9						
	10/19/99	4.00	25.2						
City County Drain @BLM	04/06/99	7.10	4.9	1,480	10.4	8.08			3
T01S-R26E-SECTION17-TRACTAAB	05/20/99	6.75	28.0						
	07/09/99	6.75	30.6						
	07/19/99	6.50	47.0						
	10/19/99	6.95	15.0						
	11/24/99	7.08	5.6						
	02/02/00	7.09	5.3						
	02/24/00	7.10	4.8						
	03/01/00	7.13	3.8						
	03/21/00	7.14	3.5	1,694	11.9	8.16			2
	04/17/00	7.08	5.7						
	05/08/00	6.63	45.5	630	12.1	8.04			<1
	05/26/00	6.83	22.5	570					
	06/14/00	6.71	35.4						
	07/07/00	6.75	30.6						
	08/02/00	6.80	25.4						
	10/08/00	6.88	18.1						

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PARKLAND LAZY KU SUBD

LOT 12 LAZY KU SUBD

PARCEL 1 (COS 2301)

PARCEL 1A (COS 1646)

UNPLATTED LT 3, SESW, S30, T 01S, R25E

PARCEL 1 (COS 3206)

QUARTER CORNER

LOT 1 (COS 1133)

LOT 2 (COS 1133)

LOT 3 (COS 1133)

LOT 4 (COS 1133)

LOT 5 (COS 1133)

LOT 6 (COS 1133)

~BLOCK 1~

~BLOCK 2~

~BLOCK 3~

RESOURCE WAY

72ND STREET W

68TH STREET W

DANFORD ROAD

Lot: 1
247080 SQ FT
5.672 ACRES

Lot: 2
210176 SQ FT
4.825 ACRES

Lot: 3
211087 SQ FT
4.846 ACRES

Lot: 4
119531 SQ FT
2.744 ACRES

Lot: 1
119530 SQ FT
2.744 ACRES

Lot: 2
174386 SQ FT
4.003 ACRES

Lot: 3
132271 SQ FT
3.037 ACRES

Lot: 7 (Park)
157353 SQ FT
3.612 ACRES

Lot: 6
107368 SQ FT
2.465 ACRES

Lot: 5
114419 SQ FT
2.627 ACRES

Lot: 1
238221 SQ FT
5.469 ACRES

Lot: 2
205412 SQ FT
4.716 ACRES

Lot: 3
205468 SQ FT
4.717 ACRES

Lot: 4
247486 SQ FT
5.681 ACRES

POD #1
PRODUCTION WELL

POD #2

POD #3

POD #4

POD #5

POD #6

POD #7

POD #8

POD #9

POD #10

POD #11

POD #12
WS

POD #13

POD #14

IRR

EXISTING 60' WIDE COUNTY ROAD EASEMENT

40' PROPOSED ROAD

80'

TRACT 2 (COS 3861)

EXISTING 60' ROAD (COS 1133)

SEC 25, T01S, R24E

SEC 36, T01S, R24E

SEC 30, T01S, R25E

SEC 31, T01S, R25E

SECTION CORNER

60' R-O-W DEDICATION

EXISTING 30' COUNTY ROAD EASEMENT

EXISTING 30' COUNTY ROAD R-O-W (COS 1133)

UNPLATTED LOTS 1&2, NENW S31, T 01S, R25E

OHP

FO

G

0 100 200
IN FEET

REVISIONS				
NO.	DESCRIPTION	DATE	BY	CHECKED BY
1				
2				
3				
4				
5				
6				

VERIFY SCALE!
THESE PRINTS MAY BE REDUCED.
LINE BELOW MEASURES ONE-INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY

BGR
DESIGNED BY

BGR
DRAWN BY

QUALITY ASSURANCE

TJK
CHECKED BY

EXHIBIT

PERFORMANCE ENGINEERING
3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD LOCATION EXHIBIT

NOT FOR CONSTRUCTION

PROJECT NUMBER
2023-100

SHEET NUMBER
1 OF 2

DRAWING NUMBER
EX A

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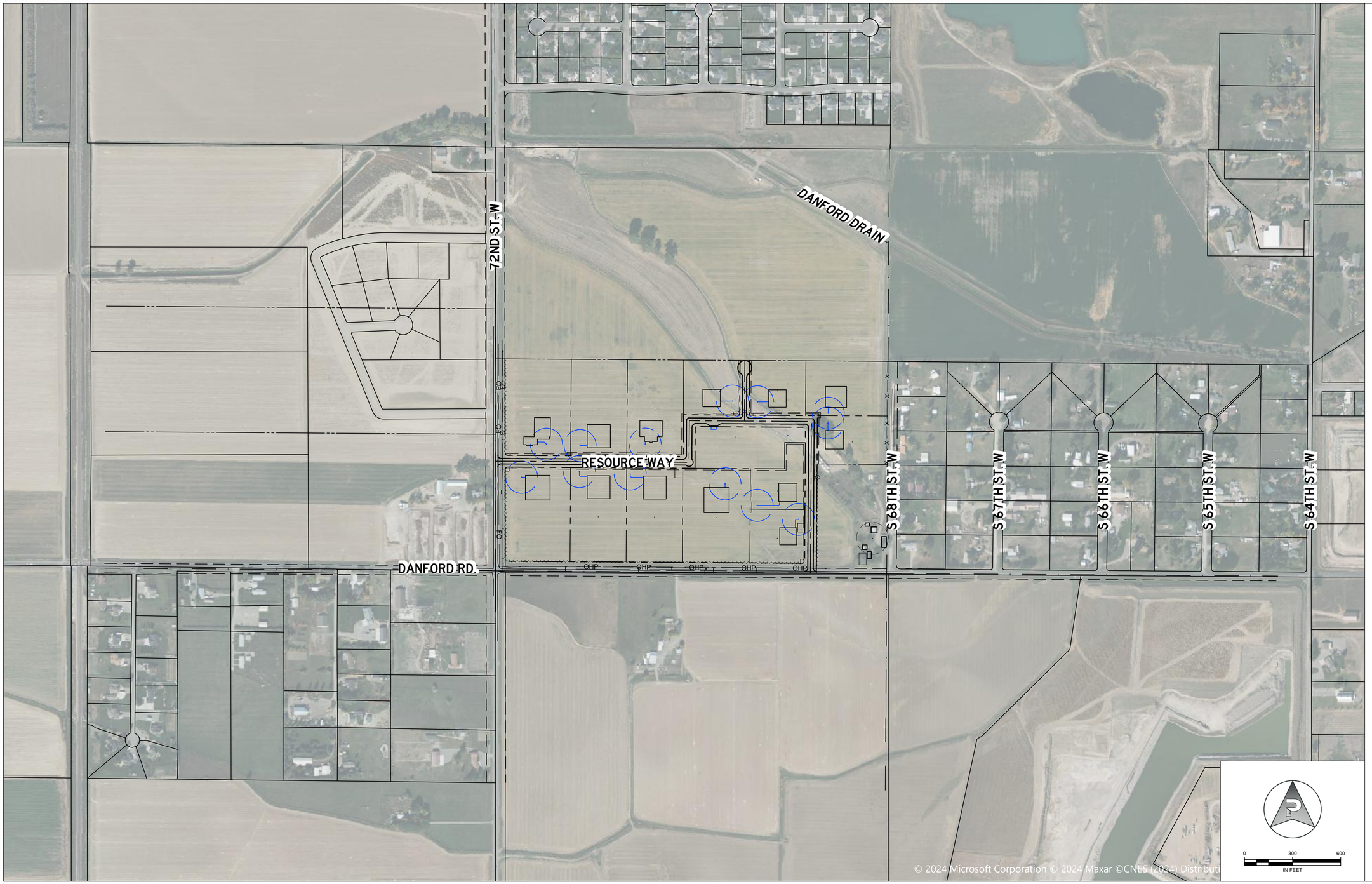
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REVISIONS				
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VERIFY SCALE!
THESE PRINTS MAY BE REDUCED.
LINE BELOW MEASURES ONE-INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY

BGR
DESIGNED BY

BGR
DRAWN BY

QUALITY ASSURANCE

TJK
CHECKED BY

EXHIBIT

PERFORMANCE ENGINEERING
3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD VICINITY MAP W/ AERIAL

NOT FOR CONSTRUCTION

PROJECT NUMBER
2023-100

SHEET NUMBER
2 OF 2

DRAWING NUMBER
EX B

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Z:\KE Construction\2023-100 72nd And Danford Subd\CAD\DWG\Exhibits\23-100 72nd And Danford DNRC Exhibit.dwg

SITE DATA	
NUMBER OF LOTS	14
MAXIMUM LOT AREA	± 247,486 SF
MINIMUM LOT AREA	± 115,231 SF
PARKLAND AREA REQUIRED	N/A
PARKLAND AREA PROVIDED	N/A
LINEAL FEET OF STREET ℄	± 3,551 LF
NET LOT ACREAGE	± 54.082 AC
GROSS ACREAGE	± 67.311 AC
EXISTING ZONING	UNZONED
EXISTING LAND USE	AGRICULTURAL
PROPOSED LAND USE	COMMERCIAL
SANITARY SEWER	COMMUNITY SEPTIC
WATER	INDIVIDUAL WATER
FIRE SERVICE AREA	BUFSA

PRELIMINARY PLAT OF

PLATINUM COMMERCIAL PARK SUBDIVISION

BEING LOCATED ON LOT 4, SE 1/4 SW 1/4 SECTION 30, TOWNSHIP 1 SOUTH, RANGE 25 EAST, YELLOWSTONE COUNTY, MONTANA

PREPARED FOR : KE CONSTRUCTION

PREPARED BY : PERFORMANCE ENGINEERING, LLC

0 100 200
IN FEET

PARKLAND LAZY KU SUBD

LOT 12 LAZY KU SUBD

LOT 1 LAZY KU SUBD

PARCEL 1 (COS 2301)

PARCEL 1A (COS 1646)

UNPLATTED LT 3, SESW, S30, T 01S, R25E

PARCEL 1 (COS 3206)

LOT 1 (COS 1133)

LOT 2 (COS 1133)

LOT 3 (COS 1133)

LOT 4 (COS 1133)

LOT 5 (COS 1133)

LOT 6 (COS 1133)

TRACT 2 (COS 3861)

UNPLATTED LOTS 1&2, NENW S31, T 01S, R25E

~BLOCK 1~

~BLOCK 2~

~BLOCK 3~

PALLADIUM WAY (60' R-O-W)

RESOURCE WAY (74' R-O-W)

72ND STREET W

68TH STREET W

DANFORD ROAD

Lot: 1
247080 SQ FT
5.672 ACRES

Lot: 2
210176 SQ FT
4.825 ACRES

Lot: 3
211087 SQ FT
4.846 ACRES

Lot: 4
119531 SQ FT
2.744 ACRES

Lot: 1
119530 SQ FT
2.744 ACRES

Lot: 2
174386 SQ FT
4.003 ACRES

Lot: 3
132271 SQ FT
3.037 ACRES

Park Lot: 7
133906 SQ FT
3.074 ACRES

Lot: 6
130816 SQ FT
3.003 ACRES

Lot: 5
114419 SQ FT
2.627 ACRES

Lot: 1
238220 SQ FT
5.469 ACRES

Lot: 2
205412 SQ FT
4.716 ACRES

Lot: 3
205468 SQ FT
4.717 ACRES

Lot: 4
247486 SQ FT
5.681 ACRES

ROW Dedication
442292 SQ FT
10.154 ACRES

20' WIDE SANITARY SEWER EASEMENT

10' WIDE UTILITY EASEMENT

1' WIDE NO ACCESS STRIP, TYP.

SIGN EASEMENT

STORMWATER RETENTION EASEMENT

INDIVIDUAL WELL WITH 100' ISOLATION ZONE, TYP.

PROPOSED 30,000 GALLON DRY FIRE HYDRANT

PROPOSED COMMUNITY DRAINFIELD WITH 100% REPLACEMENT

EXISTING 60' WIDE COUNTY ROAD EASEMENT TO BE DEDICATED AS RIGHT-OF-WAY

EXISTING 30' COUNTY ROAD EASEMENT

60' R-O-W DEDICATION

EXISTING 30' COUNTY ROAD R-O-W (COS 1133)

EXISTING 60' ROAD (COS 1133)

343.9'

417.6'

377.7'

259.7'

1207.4'

944.2'

100'

60'

40'

75'

SHEET 1 OF 1

10/31/2024 3:30:53 PM
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REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 01/2024)

For Department Use Only

Date Received _____

Received By _____

Scheduled Meeting Date _____

Instructions

Use this optional form to submit a written request for a preapplication meeting, as required in ARM 36.12.1302(2) for applicants electing to complete a preapplication meeting with the department prior to submitting an application for a beneficial water use permit or change in appropriation right pursuant to §85-2-302, MCA. Use additional sheets as necessary.

Submit this form to the appropriate regional office; see contact information on the last page of this form.

---

1. Applicant Name Platinum Commercial Park Subdivision Owners Association

Mailing Address 9428 Anglers Way

City Billings State MT Zip 59101

Home Phone (406) 855-8004 Other Phone N/A

Email: bryce@keconstruction.com

2. Representative Name (if other than Applicant) Performance Engineering

☒ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address 3412 Colton Boulevard, Suite 202

City Billings State MT Zip 59102

Home Phone (406) 384-0080 Other Phone N/A

Email: taylor@performance-ec.com

3. Are you requesting a preapplication meeting for a permit or change application?

☒ Permit ☐ Change

4. Identify the following elements of the proposed permit or change in appropriation.

a) The flow rate and volume of water required:

Flow Rate 135 ☒ GPM ☐ CFS Volume 32.09 Acre-Feet

b) The point of diversion:

Point of Diversion #1 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ☒ S, Range 25 ☒ E ☐ W

County Yellowstone

Lot/Tract 1 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #2 NW 1/4 NW 1/4 SW 1/4 Section 30, Township 1 ☐ N ☒ S, Range 25 ☒ E ☐ W

County Yellowstone

Lot/Tract 2 Block 1 Subdivision Name Platinum Commercial Park

c) The place of use:

5.626 Acres 1 Lot 1 Block NW 1/4 SW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

4.798 Acres 2 Lot 1 Block NW 1/4 NW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

4.776 Acres 3 Lot 1 Block NE 1/4 SW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

3.269 Acres 4 Lot 1 Block NW 1/4 SE 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☐ S, Rge 25 ☒ E ☐ W

2.637 Acres 5 Lot 1 Block NW 1/4 SE 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ■ S, Rge 25 ■ E ☐ W

d) The source of water: Groundwater

e) The proposed purpose: Domestic Use and Irrigation

f) For a change in appropriation right, the water right(s) proposed for change:

Type of water right _____ Basin _____ Water Right # _____

Type of water right _____ Basin _____ Water Right # _____

Type of water right _____ Basin _____ Water Right # _____

g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

h) Any proposed place of storage, if applicable (only if storage capacity is greater than 0.1 acre-feet):

#1 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township 1 ☐ N ☐ S, Range ___ ☐ E ☐ W

#2 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#3 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

i) For applications proposing a new well or wells, the well depth(s) and location:

New Well #1 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ■ S, Range 25 ■ E ☐ W

County Yellowstone

Lot/Tract 1 Block 1 Subdivision Name Platinum Commercial Subdivision

Estimated Well Depth 35 Feet

New Well #2 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ■ S, Range 25 ■ E ☐ W

County Yellowstone

Lot/Tract 2 Block 1 Subdivision Name Platinum Commercial Subdivision

Estimated Well Depth 35 Feet

PERFORMANCE ENGINEERING
3412 Colton Boulevard, Suite 202 • Billings, MT 59102 • 406-384-0080

b) The point of diversion (continued from application sheet):

Point of Diversion #3 NE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #4 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #5 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #6 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #7 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #8 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 1 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #9 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 2 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #10 SE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #11 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #12 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #13 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #14 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E

County Yellowstone
Lot/Tract 7 (Park Tract) Block 2 Subdivision Name Platinum Commercial Park

c) The place of use:

Same as point of diversion list.

i) For applications proposing a new well or wells, the well depth(s) and location:

New Well #3 NE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #4 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #5 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #6 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #7 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #8 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 1 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #9 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 2 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #10 SE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #11 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 2 Subdivision Name Platinum Commercial Park

Estimated Well Depth 35 Feet

New Well #12 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #13 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #14 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 (Park Tract) Block 2 Subdivision Name Platinum Commercial Park

SITE DATA	
NUMBER OF LOTS	14
MAXIMUM LOT AREA	± 288,271 SF
MINIMUM LOT AREA	± 114,867 SF
PARKLAND AREA REQUIRED	N/A
PARKLAND AREA PROVIDED	± 129,117 SF
LINEAL FEET OF STREET ℄	± 3,142 LF
NET LOT ACREAGE	± 53.846 AC
GROSS ACREAGE	± 69.054 AC
EXISTING ZONING	UNZONED
EXISTING LAND USE	AGRICULTURAL
PROPOSED LAND USE	COMMERCIAL
SANITARY SEWER	COMMUNITY SEPTIC
WATER	INDIVIDUAL WATER
FIRE SERVICE AREA	BUFSA

PRELIMINARY PLAT OF

PLATINUM COMMERCIAL PARK SUBDIVISION

BEING LOCATED ON LOT 4, SE 1/4 SW 1/4 SECTION 30, TOWNSHIP 1 SOUTH, RANGE 25 EAST, YELLOWSTONE COUNTY, MONTANA

PREPARED FOR : KE CONSTRUCTION

PREPARED BY : PERFORMANCE ENGINEERING, LLC

0 100 200
IN FEET

PARKLAND LAZY KU SUBD

LOT 12 LAZY KU SUBD

LOT 1 LAZY KU SUBD

PARCEL 1 (COS 2301)

PARCEL 1A (COS 1646)

UNPLATTED LT 3, SESW, S30, T 01S, R25E

UNPLATTED LOTS 1&2, NENW S31, T 01S, R25E

PARCEL 1 (COS 3206)

LOT 1 (COS 1133)

LOT 2 (COS 1133)

LOT 3 (COS 1133)

LOT 4 (COS 1133)

LOT 5 (COS 1133)

LOT 6 (COS 1133)

408.4' 350.0' 350.0' 419.6' 342.9' 518.5'

596.8'

LOT : 1
245078 SQ FT
5.626 ACRES

598.6'

~BLOCK 1~

LOT : 2
209021 SQ FT
4.798 ACRES

595.8'

LOT : 3
208030 SQ FT
4.776 ACRES

341.1'

LOT : 4
142390 SQ FT
3.269 ACRES

337.7'

LOT : 5
114867 SQ FT
2.637 ACRES

334.9'

LOT : 6
172562 SQ FT
3.961 ACRES

330.7'

~BLOCK 1~

20' WIDE SANITARY SEWER EASEMENT

419.6' 340.2' 79.4' 439.2'

1' WIDE NO ACCESS STRIP, TYP.

20' WIDE SANITARY SEWER EASEMENT

10' WIDE UTILITY EASEMENT

393.4' 350.0' 350.0'

251.9'

PROPOSED 30,000 GALLON DRY FIRE HYDRANT

PARK (PRIVATE)
127952 SQ FT
2.937 ACRES

251.97'

LOT : 7
116414 SQ FT
2.672 ACRES

265.7'

265.7'

437.1'

L=23.56
R=15.00

RESOURCE WAY

393.36' 350.00' 350.00' 80.00' 339.55'

508.96'

SIGN EASEMENT

10' WIDE UTILITY EASEMENT

100'

STORMWATER RETENTION EASEMENT

60'

LOT : 6
129248 SQ FT
2.967 ACRES

40'

75'

339.55'

EXISTING 60' WIDE COUNTY ROAD EASEMENT

582.76'

LOT : 1
237177 SQ FT
5.445 ACRES

LOT : 2
204481 SQ FT
4.694 ACRES

585.70'

LOT : 3
205512 SQ FT
4.718 ACRES

588.65'

LOT : 4
247711 SQ FT
5.687 ACRES

335.09'

10' WIDE SANITARY SEWER EASEMENT

STORMWATER RETENTION EASEMENT

TRACT 2, COS 3861
288271 SQ FT
6.618 ACRES

72ND STREET W

68TH STREET W

~BLOCK 2~

LOT : 5
114217 SQ FT
2.622 ACRES

322.82'

SIGN EASEMENT

EXISTING 60' ROAD (COS 1133)

60' R-O-W DEDICATION

DANFORD ROAD

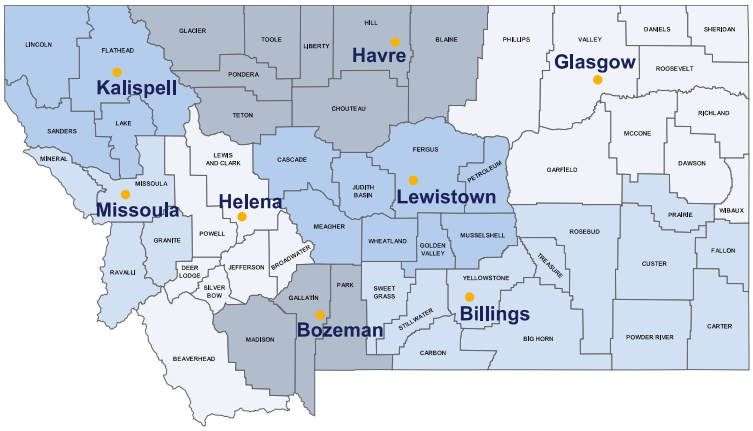
EXISTING 30' COUNTY ROAD EASEMENT

EXISTING 30' COUNTY ROAD R-O-W (COS 1133)

SHEET 1 OF 1

10/8/2024 4:47:43 PM
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WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties

Variance Request

- Variance Request
- Email to/from DNRC Hydrogeologist
- Approval or Denial of Request

.

Variance Request

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

GREG GIANFORTE
GOVERNOR

STATE OF MONTANA

WATER RESOURCES DIVISION-BILLINGS REGIONAL OFFICE
PHONE: (406) 247-4415
FAX: (406) 247-4416
www.dnrc.mt.gov

AIRPORT BUSINESS PARK
1371 RIMTOP DRIVE
BILLINGS, MONTANA 59105-1978

December 30, 2024

Cougar Investments, LLC c/o Erin Kirschenmann
9428 Anglers Way
Billings, MT 59101

Subject: Variance Request: 43Q 30164891 – Platinum Subdivision

Dear Erin Kirschenmann,

The Department reviewed the December 5, 2024, and December 27, 2024, requests for a variance from aquifer testing requirements under ARM 36.12.121. Those variances are granted. Specifically, variance is granted for MCA 36.12.121 (2)(b & c) and MCA 36.12.121 (3)(b, c, d, e, f, and g). MCA 36.12.121 (4) allows the Department to grant a variance. The proposed project lies within the area referenced in the Yellowstone River Terrace 3 Aquifer Memo, dated March 1, 2022, which specifically recommends variance from certain aquifer testing requirements if Department approved aquifer properties are accepted by the Applicant. The Water Sciences Bureau has reviewed the submitted Aquifer Testing Addendum and form 633 and believes the data submitted is sufficient.

As a reminder, when one requests a variance, one is taking a risk that the data provided will not supply adequate data for the Department's analysis. A variance request approval does not mean that the Department can grant a water right: one must meet all the criteria for the issuance of a water right before it can be granted.

If you have any questions, please call me anytime.

Sincerely,

Mark Elison
Regional Manager
Water Resources Office
406-247-4418

Cc: Performance Engineering, 3412 Colton Boulevard, Suite 202, Billings, MT 59102

VARIANCE REQUEST

ARM 36.12.123

Form No. 653 *(Revised 04/2024)*

For Department Use Only

Application # _____ Basin _____

Received Date _____

Received By _____

INSTRUCTIONS

Use this form to request a variance from the requirements of ARM 36.12.121 or 36.12.1702, as provided for in ARM 36.12.123.

Submit this completed form to the appropriate regional office by the deadline for completion of the preapplication meeting form or if a preapplication meeting is not held, include this request with your filed application or as part of a deficiency response.

Applicant Name Cougar Investments, LLC c/o Erin Kirschenmann

Mailing Address 9428 Anglers Way

City Billings State MT Zip 59101

Home Phone (406) 855-8004 Other Phone N/A

Email: bryce@keconstruction.com

Representative Name (if other than Applicant) Performance Engineering

☒ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other (describe) 25

Mailing Address 3412 Colton Boulevard, Suite 202

City Billings State MT Zip 59102

Home Phone (406) 384-0080 Other Phone N/A

Email: taylor@performance-ec.com

Identify from which section(s) of ARM 36.12.121 or 36.12.1702 you are requesting a variance. Refer to the rule for a full list of requirements in these sections.

☒ ARM 36.12.121 Aquifer Testing Requirements

- ☐ (2)(a) map with labeled location of production and observation wells
- ☐ (2)(b) well logs of the production and observation wells
- ☐ (2)(c) Form No. 633, in electronic format, with all information and data provided
- ☐ (3)(a) pumping rate may not depart from the average pumping rate by more than +/- 5%
- ☐ (3)(b) average pumping rate equal to or greater than the proposed flow rate if the application is for one well or if the total proposed rate for multiple wells can be obtained from a single well
- ☐ (3)(c) proposed pumping rate may be demonstrated by testing multiple wells as long as (e) is met by one well and the remaining flow rate is demonstrated by eight-hour drawdown and yield tests on additional production wells under (e)(i)(i)
- ☒ (3)(d) pumping rate must be measured with a reliable measuring device and recorded with clock time according to the schedule on Form No. 633
- ☐ (3)(e) minimum duration of pumping during an aquifer test must be 24 hours for a proposed pumping rate and volume equal to or less than 150 GPM or 50 AF, or 72 hours for a proposed pumping rate and volume greater than 150 GPM or 50 AF
- ☐ (3)(e)(i) at a minimum an eight-hour drawdown and yield test is required on all new production wells
- ☐ (3)(e)(ii) In addition to (e), if more than one new production well is proposed, at a minimum an eight-hour drawdown and yield test is required on all subsequent new production wells
- ☐ (3)(e)(iii) the testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h)
- ☐ (3)(f) one or more observation wells must be completed in the same source aquifer as the proposed production well and close enough to the production well so that drawdown is measurable and far enough that well hydraulics do not affect the observation well
- ☐ (3)(g) background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to the Form No. 633
- ☐ (3)(h) groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative testing methodology or aquifer test data, if applicable. Attach additional sheets if necessary.

The variance from ARM 36.12.121 is requested to be replaced with measurement of pumping rate at various time increments and tracking of total volume of water pumped during testing. During testing, pumping rates will be checked frequently (albeit not at the specified time domains of Form 633) during the initial periods of testing to confirm pump rate is remaining constant, and then intermittently during the duration of the test. Should the target and measured flow rate differ from that determined by taking the total volume pumped divided by the time period of pumping, a new test will be ran and a different means/frequency of measurement utilized.

☐ ARM 36.12.1702 Physical Surface Water Availability

☐ (1)(b) at a minimum, three measurements that reflect high, moderate, and low flows during the period of diversion

☐ (4) once monthly measurements at department-approved intervals during the proposed period of diversion

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative measurement methodology, if applicable. Attach additional sheets if necessary.

ARM 36.12.121 - Aquifer Testing Addendum (ATA) - Review

Department of Natural Resources and Conservation (DNRC)
Water Sciences Bureau (WSB)

Applicant	Cougar Investments LLC		
Pre-Application/Application No.	43Q 30164891	**Date Sent to RO**	December 16, 2024
Regional Office (RO)	Billings	**WSB Staff Name**	Jack Landers, Groundwater Hydrologist

This checklist identifies any deficiencies that would require a variance pertinent to Administrative Rules of Montana (ARM) 36.12.121. **Table 1** lists deficiencies that would require a variance, the recommended action and the rationale describing why the variance request could be considered appropriate. If the requirements of ARM 36.12.121 are satisfied for each item, the box will be checked next to that item indicating such.

Table 1: Deficiencies identified, recommended action and rationale from WSB**.**

☐ **No Deficiencies Identified**			
Test Duration	**Variance (ARM) (R=Requested; A=Additional)**	**Recommend Granting Variance Request**	**Rationale:**
8-hr	2(b) ☒ R ☐ A	☒ Yes ☐ No	A well log for the Production Well was included but no observation wells were monitored during the test.
8-hr	2(c) ☒ R ☐ A	☐ Yes ☒ No	A variance was requested but is not necessary. Form 633 was provided in electronic format with all necessary information.
8-hr	3(b) ☒ R ☐ A	☒ Yes ☐ No	The average pumping rate during the test was 50 gpm, proposed flow rate is 135 gpm. A total of 14 wells are proposed, therefore the individual flow rates would be less than 50 gpm and submitted test data is sufficient to evaluate adequacy of diversion.
8-hr	3(e) ☒ R ☐ A	☒ Yes ☐ No	The Applicant submitted the results of an 8-hr drawdown and yield test. The data is sufficient for evaluating adequacy of diversion. Existing data will be used to determine aquifer properties for forward modeling.
8-hr	3(c), 3(e)(i), 3(e)(ii) ☒ R ☐ A	☒ Yes ☐ No	3(c), 3(e)(i), 3(e)(ii) Applicant is requesting a variance from testing additional wells. Due to the consistency in aquifer properties for the Terrace Level 3 aquifer, the submitted data is sufficient for evaluating adequacy of diversion.

8-hr	3(d) ☐ R ☒ A	☒ Yes ☐ No	The pumping rate was measured hourly, not several times per hour during the first 3 hours as specified on the Form 633. The modified recording schedule does not affect the pump test analysis.
8-hr	3(f) ☒ R ☐ A	☒ Yes ☐ No	No observation wells were monitored during the test. The source aquifer is the Yellowstone River Terrace Level 3 and data from numerous aquifer tests in the source aquifer can be used to derive aquifer properties. The Department will use the Technical Memorandum: Variance - Yellowstone River Terrace Level 3 Aquifer Properties date March 1, 2022, with a Transmissivity of 6,000 ft^2/day and specific yield of 0.1.
8-hr	3(g) ☒ R ☐ A	☒ Yes ☐ No	Background water levels in the Production Well were monitored for 22-hrs prior to the 8-hr test. Background water levels fluctuated by less than 0.2 feet and sufficient data is available to show a lack of a background trend that would affect the analyses.

36.12.121(2): Minimum information that must be submitted with applications, check if provided:

☒ **(a)** Map with labeled location of production and observation wells; and

☒ **(b)** ☐ **NA** Well logs of the production and observation wells; and

☒ **(c)** ☐ **NA** Form No. 633, in electronic format, with *all* information and data provided.

36.12.121 (3): Minimum testing procedures are as follows, check if met:

☒ **(a)** ☐ **NA** Pumping must be maintained throughout the duration of the test. The rate may not depart from the average pumping rate by more than +/- 5%.

☐ **(b)** ☐ **NA** The average pumping rate must be equal to or greater than the proposed flow rate if the application is for one well or if the total proposed rate for multiple wells can be obtained from a single well.

☐ **(c)** ☐ **NA** The proposed pumping rate may be demonstrated by testing multiple wells as long as (e) is met by one well and the remaining flow rate is demonstrated by eight-hour drawdown and yield tests on additional production wells under (e)(ii) and e(iii).

☐ **(d)** ☐ **NA** Pumping rate must be measured with a reliable measuring device and recorded with clock time according to the schedule on Form No. 633.

☐ **(e)** ☐ **NA** Minimum duration of pumping during an aquifer test must be 24 hours for a proposed pumping rate and volume equal to or less than 150 GPM or 50 AF, or 72 hours for a proposed pumping rate and volume greater than 150 GPM or 50 AF.

☐ **(e)(i)** ☐ **NA** At a minimum an eight-hour drawdown and yield test is required on all new production wells.

☐ **(e)(ii)** ☐ **NA** In addition to (e), if more than one new production well is proposed, at a minimum an eight-hour drawdown and yield test is required on all subsequent new production wells.

☐ **(e)(iii)** ☐ **NA** The testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h).

☐ **(f)** ☐ **NA** One or more observation wells must be completed in the same source aquifer as the proposed production well and close enough to the production well so that drawdown is measurable and far enough that well hydraulics do not affect the observation well.

☐ **(g)** ☐ **NA** Background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to the Form No. 633.

☒ **(h)** ☐ **NA** Groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633.

VARIANCE REQUEST

ARM 36.12.123

Form No. 653 *(Revised 04/2024)*

For Department Use Only

Application # _____ Basin _____

Received Date _____

Received By _____

INSTRUCTIONS

Use this form to request a variance from the requirements of ARM 36.12.121 or 36.12.1702, as provided for in ARM 36.12.123.

Submit this completed form to the appropriate regional office by the deadline for completion of the preapplication meeting form or if a preapplication meeting is not held, include this request with your filed application or as part of a deficiency response.

Applicant Name Cougar Investments, LLC c/o Erin Kirschenmann

Mailing Address 9428 Anglers Way

City Billings State MT Zip 59101

Home Phone (406) 855-8004 Other Phone N/A

Email: bryce@keconstruction.com

Representative Name (if other than Applicant) Performance Engineering

☑ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other (describe) 25

Mailing Address 3412 Colton Boulevard, Suite 202

City Billings State MT Zip 59102

Home Phone (406) 384-0080 Other Phone N/A

Email: taylor@performance-ec.com

Identify from which section(s) of ARM 36.12.121 or 36.12.1702 you are requesting a variance. Refer to the rule for a full list of requirements in these sections.

☑ ARM 36.12.121 Aquifer Testing Requirements

- ☐ (2)(a) map with labeled location of production and observation wells
- ☐ (2)(b) well logs of the production and observation wells
- ☐ (2)(c) Form No. 633, in electronic format, with all information and data provided
- ☐ (3)(a) pumping rate may not depart from the average pumping rate by more than +/- 5%
- ☐ (3)(b) average pumping rate equal to or greater than the proposed flow rate if the application is for one well or if the total proposed rate for multiple wells can be obtained from a single well
- ☐ (3)(c) proposed pumping rate may be demonstrated by testing multiple wells as long as (e) is met by one well and the remaining flow rate is demonstrated by eight-hour drawdown and yield tests on additional production wells under (e)(i)(i)
- ☑ (3)(d) pumping rate must be measured with a reliable measuring device and recorded with clock time according to the schedule on Form No. 633
- ☐ (3)(e) minimum duration of pumping during an aquifer test must be 24 hours for a proposed pumping rate and volume equal to or less than 150 GPM or 50 AF, or 72 hours for a proposed pumping rate and volume greater than 150 GPM or 50 AF
- ☐ (3)(e)(i) at a minimum an eight-hour drawdown and yield test is required on all new production wells
- ☐ (3)(e)(ii) In addition to (e), if more than one new production well is proposed, at a minimum an eight-hour drawdown and yield test is required on all subsequent new production wells
- ☐ (3)(e)(iii) the testing procedures for a minimum eight-hour drawdown and yield test performed on any production well must follow (a), (d), and (h)
- ☐ (3)(f) one or more observation wells must be completed in the same source aquifer as the proposed production well and close enough to the production well so that drawdown is measurable and far enough that well hydraulics do not affect the observation well
- ☐ (3)(g) background groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test according to the Form No. 633
- ☐ (3)(h) groundwater levels in the production and/or observation well(s) must be reported with 0.01-foot precision according to the schedule specified on Form No. 633

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative testing methodology or aquifer test data, if applicable. Attach additional sheets if necessary.

The variance from ARM 36.12.121 is requested to be replaced with measurement of pumping rate at various time increments and tracking of total volume of water pumped during testing. During testing, pumping rates will be checked frequently (albeit not at the specified time domains of Form 633) during the initial periods of testing to confirm pump rate is remaining constant, and then intermittently during the duration of the test. Should the target and measured flow rate differ from that determined by taking the total volume pumped divided by the time period of pumping, a new test will be ran and a different means/frequency of measurement utilized.

☐ ARM 36.12.1702 Physical Surface Water Availability
- ☐ (1)(b) at a minimum, three measurements that reflect high, moderate, and low flows during the period of diversion
- ☐ (4) once monthly measurements at department-approved intervals during the proposed period of diversion

Explain the specific variance you are requesting and the reason for requesting it. Also identify your proposed alternative measurement methodology, if applicable. Attach additional sheets if necessary.

MONTANA WELL LOG REPORT

Form No. 603 R2-04

Well ID# 72nd / DAnford

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. **This form is to be completed by the driller and filed with MBMG within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.**

Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena).

For fields that are not applicable, enter NA. Record additional information in the REMARKS section.

1. WELL OWNER:
Name Cougar Investments LLC
Mailing address P.O. Box 8153
Billings, MT 59108

2. WELL LOCATION: List ¼ from smallest to largest
____ ¼ ____ ¼ SW ¼ SW ¼, Section 30
Township 1 ☐N ☑S Range 25 ☑E ☐W County Yellowstone
Lot ____, Tract/Blk ____ Subdivision Name ____
Certificate of Survey ____
Well Address ____
GPS ☑ Yes ☐ No
Latitude 45° 42' 49" N Longitude 108° 41' 53" W
Error as reported by GPS locator (± feet) 25
Horizontal datum ☐ NAD27 ☑ WGS84

3. PROPOSED USE: ☑ Domestic ☐ Stock ☐ Irrigation
☐ Public water supply ☐ Monitoring Well
☐ Geothermal ☐ Closed System ☐ Open System ☐ Reinjection
☐ Extraction H_2O Temp ____ Number of Wells in System ____
☐ Other: ____

4. TYPE OF WORK:
☑ New well ☐ Deepen existing well ☐ Abandon existing well
Method: ☐ Cable ☑ Rotary ☐ Other: ____

5. WELL CONSTRUCTION DETAILS:
Borehole:
Dia. 8 in. from 0 ft. to 38 ft.
Dia. ____ in. from ____ ft. to ____ ft.
Dia. ____ in. from ____ ft. to ____ ft.

Casing:
Steel: Wall thickness 250 ☐ Threaded ☑ Welded
Dia. 6 5/8 in. from +18" ft. to 37 ft.
Dia. ____ in. from ____ ft. to ____ ft.
Casing Shoe: ☑ Yes ☐ No

Plastic: Pressure Rating ____ lbs. ☐ Threaded ☐ Welded
Dia. ____ in. from ____ ft. to ____ ft.

Perforations/Slotted Pipe:
Type of perforator used open bottom
Size of perforations/slots ____ in. by ____ in.
____ no. of perforations/slots from ____ ft. to ____ ft.
____ no. of perforations/slots from ____ ft. to ____ ft.

Screens: ☐ Yes ☑ No
Material ____
Dia. ____ Slot size ____ from ____ ft. to ____ ft.
Dia. ____ Slot size ____ from ____ ft. to ____ ft.

Gravel Packed: ☐ Yes ☑ No
Size of gravel ____
Gravel placed from ____ ft. to ____ ft.

Packer: ☐ Yes ☑ No
Type ____ Depth(s) ____

Grout: Material used Bentonite
Depth from ____ ft. to ____ ft. OR ☑ Continuous feed

6. WELL TEST DATA:
A well test is required for all wells. (*See details on well log report cover.*)
☐ Static water level 8 ft. below top of casing **or**
☐ Closed-in artesian pressure ____ psi.
How was test flow measured:
bucket/stopwatch, weir, flume, flowmeter, etc ____

Yellowstone Controlled Groundwater Area - Water Temperature ____ °F
☐ AQUIFER TEST DATA FORM ATTACHED

Test - 1 hour minimum
Drawdown is the amount water level is lowered below static level.
All depth measurements shall be from the top of the well casing.
Time of recovery is hours/minutes since pumping stopped.

Air test*
50 gpm with drill stem set at 36 ft. for 1½ hours
Time of recovery 1/2 hrs/min. Recovery water level 8 ft.

OR Bailer test*
____ gpm with ____ ft. of drawdown after ____ hours
Time of recovery ____ hrs/min. Recovery water level ____ ft.

OR Pump test*
Depth pump set for test ____ ft.
____ gpm pump rate with ____ ft. of drawdown after ____ hrs pumping
Time of recovery ____ hrs/min. Recovery water level ____ ft.

OR Flowing Artesian*
____ gpm for ____ hours
Flow controlled by ____

**During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

7. WELL LOG: Record depth(s) that water is encountered.

Depth, Feet From	Depth, Feet To	Material: color/rock and type/descriptor (example: blue/shale/hard, or brown/gravel/water, or brown/sand/heaving)
0	2	top soils
2	8	brown sticky clay
8	37	sand and gravel
38		shale

☐ ADDITIONAL SHEETS ATTACHED

8. DATE WELL COMPLETED: 10-29-24

9. REMARKS: ____

10. DRILLER/CONTRACTOR'S CERTIFICATION:
All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.
Name, firm, or corporation (print) American Drilling
Address 7044 Nienkenke Blgs MT 59101
Signature ____
Date 10-31-24 License no. 659
License type: ☐ MWC ☑ WWC ☐ WWD

Montana Bureau of Mines & Geology
The University of Montana
1300 West Park Street
Butte, MT 59701

60676

Processing Materials

- Work copies of applicant-submitted information
- Deficiency letter
- Deficiency response
- Correct & complete determination
- Any correspondence with the applicant after application receipt and prior to sending the Draft PD

Processing Materials

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
Water Resources Division • Billings Regional Office
1371 Rimtop Drive, Billings, MT 59105 Phone: (406) 247-4415 Fax: (406) 247-4416

GREG GIANFORTE, GOVERNOR 1539 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074
FAX: (406) 444-2684

PO BOX 201601
HELENA, MONTANA 59620-1601

April 18, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
PO Box 81153
Billings, MT, 59108

Subject: Correct and Complete Application for Beneficial Water Use Permit No. 43Q 30164891

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted.** The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.

The Department will issue a Draft Preliminary Determination within 60 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

If you have any questions or concerns about the application process, please contact me.

Sincerely Yours,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

Technical Analyses Report/ Scientific Credibility Review

- Departmental Technical Analyses Report/ Scientific Credibility Review
- Any correspondence relating to the Technical Analyses Report

Technical Analyses Report / Scientific Credibility Review

Groundwater Permit Technical Analyses Report – Notice of Erratum

Department of Natural Resources and Conservation (DNRC)
Water Resource Division
Jack Landers, Groundwater Hydrologist, Water Sciences Bureau (WSB)
July 11, 2025

Application No.	43Q 30164891	**Point of Diversion Legal Land Description**	Sec 30, Township 1 South, Range 25 East
Applicant	Cougar Investments LLC		

Overview

This memo documents a correction to the Groundwater Permit Technical Analyses Report prepared for Application No. 43Q 30164891 by Cougar Investments LLC. An error was identified in the evaluation of groundwater physical availability. The predicted 0.01-foot drawdown contour, or zone of influence (ZOI) was predicted to occur at a maximum distance of 12,200 ft from the Applicant's wells and was truncated at the aquifer boundaries to the northwest and southeast. The ZOI extended past Canyon Creek to the northeast and included additional groundwater rights in the legal demand calculations. The modeled ZOI did not represent Canyon Creek as a constant head boundary as has been done in previous applications.

The Applicant submitted an extension of time request dated June 27, 2025, in response to the Draft Preliminary Determination to Deny Application No. 43Q 30164891. The Applicant provided the following information that supports truncating the ZOI to Canyon Creek:

- DNRC modeled Canyon Creek as a constant head boundary and truncated the ZOI in Application No. 43Q 30162249 Lazy KU Estates LLC. Application No. 43Q 30162249 is located approximately 0.5 miles west of the subject application.
- A potentiometric surface map of the Billings Terrace Level 3 aquifer (Olson and Reiten, 2002) indicates that Canyon Creek is hydraulically connected to the source aquifer and functions as a constant head boundary.

The equipotential lines on the potentiometric surface map for the west Billings area are parallel to Canyon Creek (Olson and Reiten, 2002), indicating constant head boundary conditions. Equipotential lines depicted by Olson and Reiten, 2002, are minimally affected by other surface water sources, such as Danford Drain or Hogan's Slough, indicating these surface water bodies have less influence on groundwater flow patterns. Canyon Creek also likely penetrates much of the thickness of the relatively thin Terrace Level 3 aquifer. This information suggests that Canyon Creek could function as a constant head boundary in modeling scenarios.

Canyon Creek was not represented as a boundary consistently in Application Nos. 43Q 30162249 and 43Q 30164891 as noted by the Applicant in the request for extension of time. Therefore,

based on the additional information provided by the Applicant and described above, the ZOI is truncated to Canyon Creek to reflect the constant head boundary conditions imposed by this surface water source. No additional modeling is necessary, and the calculated groundwater flux through the ZOI remains the same because groundwater flow is perpendicular to Canyon Creek and the ZOI width is limited by the Terrace Level 3 aquifer boundary to the east and southeast and bedrock boundary to the west and northwest.

The following information has been corrected from the original Groundwater Permit Technical Analyses Report:

- The ZOI as shown in **Figure 1** below is truncated to Canyon Creek to reflect the constant head boundary condition.
- A total of 374 groundwater rights are located within the corrected ZOI and need to be evaluated as a legal demand (Appendix A).

PHYSICAL AVAILABILITY	The predicted 0.01-foot drawdown contour, or zone of influence (ZOI), occurs a maximum distance of 12,200 ft from the Applicant's wells. Groundwater flux through the ZOI is equal to 2,066 AF/year. There are 374 active groundwater rights completed within the ZOI and source aquifer that need to be evaluated as a legal demand.

As shown in **Figure 1**, the 0.01-foot drawdown contour is an irregular shape because of the modeled boundaries and occurs at a maximum distance of 12,200 ft from the proposed wells. The original model summary is included in the Groundwater Permit Technical Analyses Report dated March 14, 2025.

The direction of groundwater flow is predominantly to the northeast and east and the width of the ZOI that is perpendicular to groundwater flow equals 13,700 ft. **Appendix A** is a list of the 374 groundwater rights that need to be evaluated as a legal demand. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 246,600 ft^3/day or 2,066 AF/year:

$$Q = TWi \qquad \textbf{Eq. 1}$$

where:
T = Transmissivity = 6,000 ft^2/day
W = Width of Zone of Influence = 13,700 ft
i = Groundwater Gradient (from Olson, 2005, Water level contour map) = 0.003 ft/ft.

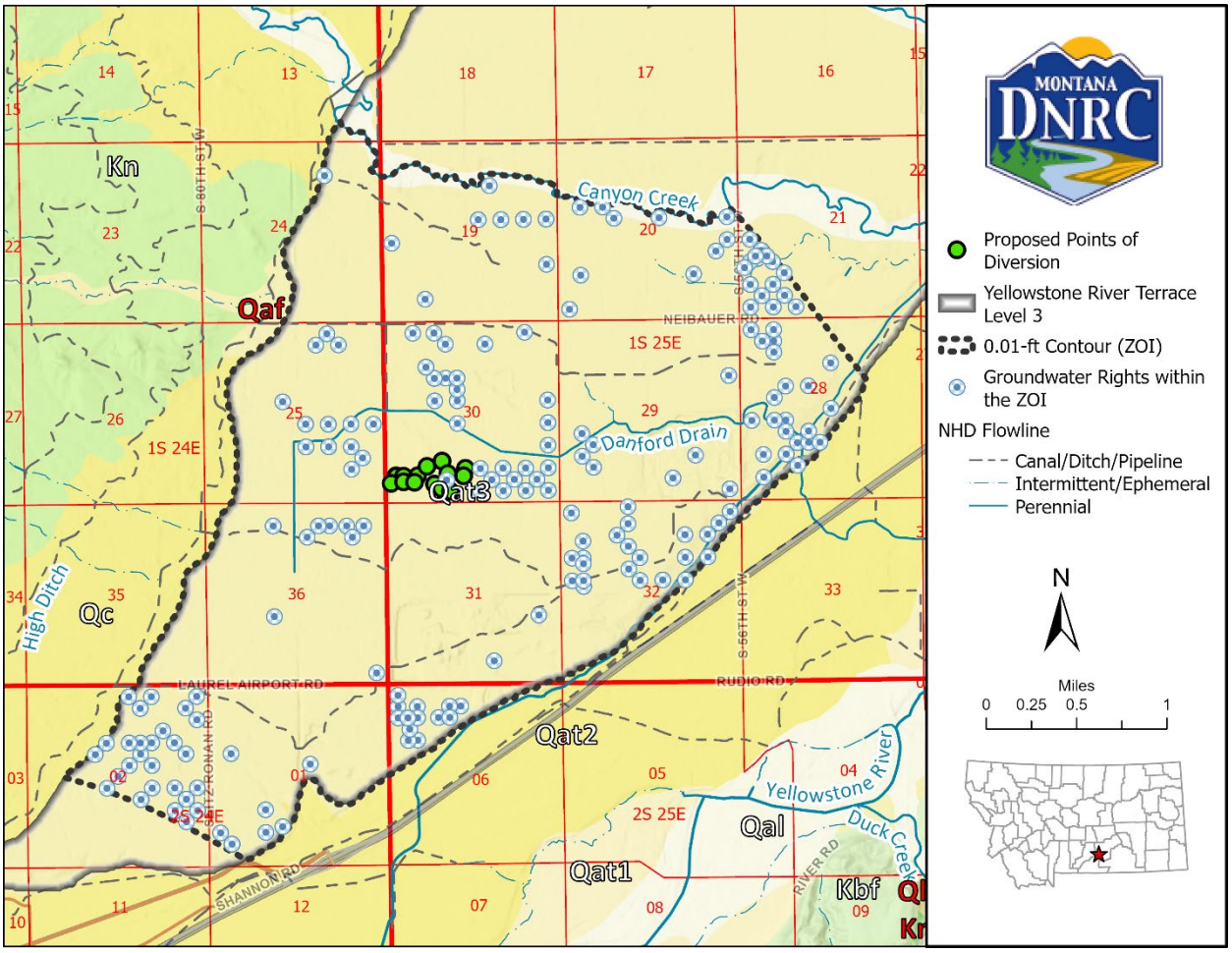


Figure 1: 0.01-foot drawdown contour (ZOI) and groundwater rights within the ZOI.

Review

This document has been reviewed on July 11, 2025, in accordance with Category 7 of DNRC's Water Sciences Bureau Minimum Standards of Review, Version 2, February 2024.

References

DNRC, 2019. Technical Memorandum: Physical and Legal Availability of Ground Water, dated April 22, 2019.

DNRC, 2022. Technical Memorandum: Variance - Yellowstone River Terrace Level 3 Aquifer Properties, dated March 1, 2022.

Olson, J.L., 2005. Characterization of alluvial aquifers in Treasure and Yellowstone counties, Middle Yellowstone River Area, Montana (open-file version): Montana Bureau of Mines and Geology Montana Ground-water Assessment Atlas 3B-03, 1 sheet, scale 1:50,000, http://mbmggwic.mtech.edu/gwcpmaps/gwaa03map03untiled.pdf.

Olson, J.L., and Reiten, J.C., 2002. Hydrogeology of the west Billings area: Impacts of land-use changes on water resources: Montana Bureau of Mines and Geology Report of Investigation 10.

Appendix A: Groundwater Rights within Area of Potential Impact

Water Right Number	Owner Name
43Q 30047391	REGAL LAND DEVELOPMENT INC
43Q 19955 00	DALE M DAHL; NOREEN H DAHL
43Q 30158778	MYRON S GROSS; NANCY J GROSS
43Q 67198 00	BRAD STUART; KAY C STUART
43Q 36355 00	ROBERT J CUSTER; BECKY J THOMPSON
43Q 62343 00	CHRISTINA B LANG; ROY A LANG
43Q 30162249	LAZY KU ESTATES LLC
43Q 54171 00	H 4100 TRUST
43Q 30073037	LANA REINHARDT; WILMER A REINHARDT
43Q 107142 00	LON OISTAD
43Q 208240 00	LONG FAMILY LIMITED PARTNERSHIP
43Q 30027207	RICK KRAFT
43Q 30157960	MAE INVESTMENTS LLC
43Q 30046672	NATHAN P BEMER
43Q 30114285	GARY G RAITT
43Q 30123366	DIANE R KRAFT; ROBERT R KRAFT
43Q 30066391	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30163937	ASHLEY A ERB; CAMERON M ERB
43Q 30051613	D BAR C LIVING TRUST
43Q 30157886	REGAL LAND DEVELOPMENT INC
43Q 37877 00	ALEXA J TALKINGTON
43Q 96556 00	CRAIG MARSCHALL
43Q 30015153	PATRICIA C BALL; STEPHEN C BALL
43QJ 30007500	JEREMIAH TOAVS; KAITLYN TOAVS
43Q 208234 00	JTL GROUP INC
43Q 30157879	REGAL LAND DEVELOPMENT INC
43Q 30113203	BRUCE L TONN
43Q 30010011	RUSS WALTERS; TERRI WALTERS
43Q 31701 00	DEBRA S COLE; N CASSIDY COLE
43Q 30067856	REGAL LAND DEVELOPMENT INC
43Q 56219 00	BECKY R DUNNE; PATRICK T DUNNE
43Q 6901 00	RITA M BAETEN; WILLIAM T BAETEN
43Q 103463 00	CLARK L SCHREIBEIS; ERIKA SCHREIBEIS
43Q 30117787	EDWARD J POPP; LINDA D POPP
43Q 30027121	RICK KRAFT
43Q 30157885	REGAL LAND DEVELOPMENT INC
43Q 30163741	ASTRI M ZIDACK; MICHAEL T ZIDACK
43Q 30042450	LOVELL WITTMAYER
43Q 208239 00	JTL GROUP INC
43Q 109827 00	PELICAN, CONSTANCE D TRUST

Water Right Number	Owner Name
43Q 104993 00	SCOTT SCHEETZ
43Q 30116391	STUARD, ROBERT M LIVING TRUST
43Q 30116187	MACKENZIE MEADOWS HOMEOWNERS ASSOCIATION INC
43Q 30157877	REGAL LAND DEVELOPMENT INC
43Q 30144127	VANLUCHENE, RONALD & JENNIFER REVOCABLE LIVING TRT
43Q 30064903	KRISTIN J HERSEL; TERRY A HERSEL
43Q 30151061	CHRISTOPHER B GOMEZ; CRYSTAL A GOMEZ
43Q 12011 00	SAMM LLC
43Q 30106602	JESSICA FELCHLE; SCOTT FELCHLE
43Q 30114284	GARY G RAITT
43Q 113927 00	ANNA M HOPKINS
43Q 30047401	REGAL LAND DEVELOPMENT INC
43Q 30063469	BRITTNEY M PETERS; TALON M PETERS
43Q 30047409	REGAL LAND DEVELOPMENT INC
43Q 30023426	PAUL J DUCHARME; CARLYN R FULTON
43Q 30067705	CURTIS MOLT; STACY MOLT
43Q 88840 00	DAN KAUTZ
43Q 30014288	DENNIS STEDMAN; KATHERINE A STEDMAN
43Q 30113859	JONATHAN EASLEY
43Q 96573 00	CHRISTOPHER D ROGNRUD; TESIEREY D ROGNRUD
43Q 30148938	EDWARD G CODDEN
43Q 30051273	AMY M KINNETT; CHAD W KINNETT
43Q 30024274	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 57879 00	GARY L SCHULTZ; WAUNETTA M SCHULTZ
43Q 30047396	REGAL LAND DEVELOPMENT INC
43Q 30067854	REGAL LAND DEVELOPMENT INC
43Q 69467 00	TYLER JUMPER
43Q 62344 00	CHRISTINA B LANG; ROY A LANG
43Q 103554 00	BONNIE K JARES; JOHN E JARES
43Q 32930 00	BRUCE J MACINTYRE
43Q 30045738	JAMIE NEVIN; TODD E NEVIN
43Q 99185 00	JEAN E JACQUES; THOMAS P JACQUES
43Q 30047405	REGAL LAND DEVELOPMENT INC
43Q 99321 00	KENNEDY,DAN & DENISE TRUST
43Q 104991 00	KIRK BLEE
43Q 113986 00	JOYCE DUNCAN
43Q 30116931	MATTHEW L RHEAUME
43Q 30067247	BRIAN SHANKS; BRIANNE SHANKS
43Q 30157889	REGAL LAND DEVELOPMENT INC
43Q 115354 00	JEAN M MALKUCH

Water Right Number	Owner Name
43Q 110949 00	DANIEL QUENZER; LYNETTE D QUENZER
43Q 781 00	PHILLIP M ROTH
43Q 30161069	JOSHUA BENZINGER; LINDSY BENZINGER
43Q 30066390	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30157892	REGAL LAND DEVELOPMENT INC
43Q 45828 00	BRENNTAG PACIFIC INC
43Q 68394 00	FRANK C WAGNER; PAULETTE R WAGNER
43Q 100083 00	KRAFT, EDWARD & ROXANA LIVING TRUST
43Q 30047406	REGAL LAND DEVELOPMENT INC
43Q 30022846	DOLORES LIX
43Q 30116579	REGAL LAND DEVELOPMENT INC
43Q 30161091	KELLY COMSTOCK; SANDEE-DEE COMSTOCK
43Q 97556 00	BRANDON HOLMBERG
43Q 30022683	MELVIN L MILLER; SHARON L MILLER
43Q 30002318	KEITH HEIDECKER
43Q 30149895	REGAL LAND DEVELOPMENT INC
43Q 25791 00	ARTHUR J WEBER; CONNIE J WEBER
43Q 15450 00	ANITA F KUDRNA; DOUGLAS J KUDRNA
43Q 4335 00	NOEL E MEISNER
43Q 45082 00	JERRY J ODONNELL; SUSAN R ODONNELL
43Q 30159049	DKSMITH HOLDINGS LLC
43Q 30011997	JUANITA BLEE
43Q 43489 00	DIANE M ALBERS
43Q 30108133	JODY D EDWARDS; RODGER L EDWARDS
43Q 84434 00	CAROLYN J WEBB; RICHARD L WEBB
43Q 30017873	EDWARD LAMBRECHT
43Q 30047399	REGAL LAND DEVELOPMENT INC
43Q 208238 00	LONG FAMILY LIMITED PARTNERSHIP
43Q 107160 00	SAMANTHA R HOUGHTON; WALTER F HOUGHTON
43Q 30050322	JEAN A GRENSTEN; JOHN J GRENSTEN
43Q 30067855	REGAL LAND DEVELOPMENT INC
43Q 30110226	HOAGLAND, JOEL & KAMA LIVING TRUST
43Q 30045828	DUSTINE L ANKNEY; KIMBERLY E DARE
43Q 85396 00	JOAN A DELAO-HUSCHKA; MELVIN HUSCHKA
43Q 30018739	DAVID M O'REAR; DIANA K O'REAR
43Q 30107043	RENEE M RAWHOUSER; WILLIAM L RAWHOUSER
43Q 116137 00	ANNA M HOPKINS
43Q 107109 00	CYNTHIA A STEPHENSON; WILLIAM D STEPHENSON
43Q 30044801	DORIS WILTON; DUANE WILTON
43Q 30122447	ALICIA SCHREIBEIS; JAKE SCHREIBEIS

Water Right Number	Owner Name
43Q 12861 00	CHAD H INGRAHAM; CHARLENE R INGRAHAM
43Q 76308 00	MONTEXAS INVESTMENTS LLC
43Q 116214 00	JEAN M MALKUCH
43Q 30047394	REGAL LAND DEVELOPMENT INC
43Q 30119383	RUSSELL MCCLELLAN
43Q 110931 00	BRET REAY; DEANE REAY
43Q 30047398	REGAL LAND DEVELOPMENT INC
43Q 94699 00	LISA C TRACY; SHANE P TRACY
43Q 105941 00	MONEEN D MEANS; SAM A MEANS
43Q 30003923	LEROY D MONSON; NONA L MONSON
43Q 30152774	DAVID BOATMAN; KRISTINE BOATMAN
43Q 105891 00	CHRISTINA LAKE; DAVID LAKE
43Q 30066379	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30047389	REGAL LAND DEVELOPMENT INC
43Q 113955 00	JOHANNA CRITELLI; ROCKY J CRITELLI
43Q 113981 00	BRENDA RIDER; TERRY RIDER
43Q 30009986	JASON GONZALES; ANDRENA R LEFDAHL
43Q 56199 00	ANDY D RACKI; KARIN L RACKI
43Q 30050951	REGAL LAND DEVELOPMENT INC
43Q 30157881	REGAL LAND DEVELOPMENT INC
43Q 105045 00	WILLIAM A MITCHELL
43Q 99320 00	JODI L ADKINS; KEVIN T ADKINS
43Q 30014193	MCVEE FAMILY TRUST
43Q 30123117	COOK, STEVEN H AND ROSE M LIVING TRUST
43Q 49541 00	GEORGE ELLINGHOUSE
43Q 11804 00	JASON WILCOX; JOELLEN M WILCOX; GEORGE WIPF; LORIE WIPF
43Q 30157878	REGAL LAND DEVELOPMENT INC
43Q 30043846	HARDRIVES CONSTRUCTION INC
43Q 30042969	JOSHUA C MUIR; KRYSTAL MUIR
43Q 30042774	WJH BIRD RESOURCES
43Q 208192 00	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 80859 00	CHRISTOPHER A WRIGHT; TARA WRIGHT
43Q 30109408	KATIE SHELTON; LUKE SHELTON
43Q 30161105	DOUGLAS CHAPMAN; BRANDY JONES
43Q 30066380	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 113970 00	CONNIE JOHNSON; JERRY JOHNSON
43Q 30105815	BARBARA L HOPE; WILLIAM H HOPE
43Q 39191 00	JOSHUA FAHRENBRUCH; MEGAN FAHRENBRUCH
43Q 30131709	PENNY R KINDSFATER
43D 102179 00	ELMER E HAWKINSON; PEGGY A HAWKINSON

Water Right Number	Owner Name
43Q 30017258	COLLEEN E BLACKFORD; THOMAS E BLACKFORD
43Q 30047410	REGAL LAND DEVELOPMENT INC
43Q 30123996	KENNETH ROBINSON
43Q 30066394	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30030051	LORRI SUTHERLAND; TODD SUTHERLAND
43Q 30023266	DOLORES LIX
43Q 102173 00	WILLIAM A MITCHELL
43Q 30027149	STUDER PROPERTIES LLC
43Q 22599 00	MAKAYLA W SEGER; ORVILLE M SEGER
43Q 30064196	DOUG STAHLMAN; MARISSA STAHLMAN
43Q 30019272	BRADLEY M ROBERTS
43Q 30045207	DAVID S LORASH
43Q 30117786	EDWARD J POPP; LINDA D POPP
43Q 30066387	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30003490	MARY J MILLER
43Q 110973 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 208191 00	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 30047387	REGAL LAND DEVELOPMENT INC
43Q 30163503	CHRISTINE Y LEE; RICHARD A LEE
43Q 30010996	DUSTINE L ANKNEY; KIMBERLY E DARE
43Q 113883 00	BECKY HERMAN; GLENN HERMAN
43Q 30066389	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30044880	JAMES R FORSETH; KARIE A FORSETH
43Q 30022992	HICKS, SCOTT LIVING TRUST
43Q 30043866	HARDRIVES CONSTRUCTION INC
43Q 30047408	REGAL LAND DEVELOPMENT INC
43Q 73494 00	MONTEXAS INVESTMENTS LLC
43Q 30047397	REGAL LAND DEVELOPMENT INC
43Q 30157887	REGAL LAND DEVELOPMENT INC
43Q 30050870	ANDREW J BROWN; SHEILA L BROWN
43Q 110972 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 26190 00	TROY C MOORE
43Q 40804 00	LOVELL WITTMAYER
43Q 38459 00	SCOTT SCHEETZ
43Q 101411 00	JOSEPH R MOORE; NORMA J MOORE
43Q 39330 00	MARILYN A KROFT; TODD D KROFT
43Q 1545 00	YELLOWSTONE BOYS AND GIRLS RANCH INC
43Q 92893 00	MAKAYLA W SEGER; ORVILLE M SEGER
43Q 30112091	CORDELL ANTHONY; PRESLEY PAYNE
43Q 30014536	SAMM LLC

Water Right Number	Owner Name
43Q 30155967	ALVIN III PARKER; TISH PARKER
43Q 115250 00	CONNIE JOHNSON; JERRY JOHNSON
43Q 30067306	JEFFREY E MCNEISH
43Q 30022837	KIRK LIX
43Q 114005 00	DAVID V HOBBS
43Q 30028846	RICK EDDY; VICKIE LAFURGE
43Q 22598 00	MAKAYLA W SEGER; ORVILLE M SEGER
43Q 39331 00	DONALD S LOVELESS; SUSAN D LOVELESS
43Q 80896 00	HALLIE E LINDAL; JASON T LINDAL
43Q 30070144	MARY E BURLEY; WESLEY D BURLEY
43Q 30118850	ANITA AZAM; EARL J NICHOLS
43Q 20832 00	ALLEN J FISCHER
43Q 30014859	KRISTEN M CLARK; NICHOLAS L EICKHOFF
43Q 109902 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30147124	JOSH L WHALEY; MARGARET J WHALEY
43Q 30161071	JOSHUA BENZINGER; LINDSY BENZINGER
43Q 102095 00	JIM SKATTUM
43Q 96421 00	KIRK MELBY; MELISSA A MELBY
43Q 87396 00	DESIREE GOODELL; JOSHUA GOODELL
43Q 28690 00	ASHLEY R DIMMICK; TRAVIS DIMMICK
43Q 30157882	REGAL LAND DEVELOPMENT INC
43Q 30047386	REGAL LAND DEVELOPMENT INC
43Q 30116580	REGAL LAND DEVELOPMENT INC
43Q 84411 00	DAVID J VANEK; DENYSE M VANEK
43Q 30066381	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 96548 00	ELIZABETH I WALTER; PAUL P WALTER
43Q 30164103	DANIEL ALLEN; XIAOYI WANG
43Q 34672 00	BOULDER WEST APARTMENTS NO 6 LLC
43Q 58052 00	AMANDA M SWIFT; JAMES T SWIFT
43Q 113980 00	BRENDA RIDER; TERRY RIDER
43Q 30017042	SHIRLEY RUFF
43Q 30069320	ROBERT J CUSTER; BECKY J THOMPSON
43Q 30066864	EDWARD G CODDEN
43Q 30066392	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30132260	JACK R BAKICH; LAURA M BAKICH
43Q 30042776	WJH BIRD RESOURCES
43Q 30066377	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 103551 00	BRADLEY C CARSTENS; GREGORY C CARSTENS; MYRNA R CARSTENS
43Q 30066385	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30010015	GREG BLACK; KATHY BLACK

Water Right Number	Owner Name
43Q 116210 00	SANDRA L SANDVIG; SCOTT D SANDVIG
43Q 30047390	REGAL LAND DEVELOPMENT INC
43Q 30150814	WADE AFFLECK
43Q 30022054	LEE MYERS; LINDA E MYERS
43Q 30047400	REGAL LAND DEVELOPMENT INC
43Q 99217 00	DUANE F HONS; STEPHANIE S HONS
43Q 30144058	SISTKO-TAYLOR TRUST
43Q 677 00	JOLENE KAY STATON; LEONARD E STATON
43Q 116812 00	CHRISTINA L BUROWS-DURAY; MATHEW A DURAY
43Q 100064 00	DAVID D RAY; KAREN R RAY
43Q 66430 00	H 4100 TRUST
43Q 30113205	BRUCE L TONN
43Q 30118849	ANITA AZAM; EARL J NICHOLS
43Q 30109551	LANCE NEIRBY; LAURA NEIRBY
43Q 103459 00	FITTERER, RICK REVOCABLE TRUST
43Q 79845 00	MICHAEL J BARLOW; TRACY A BARLOW
43Q 30157884	REGAL LAND DEVELOPMENT INC
43Q 759 00	MARGARET E SANDERSON
43Q 30150724	MERTON E MUSSER
43Q 30161092	KELLY COMSTOCK; SANDEE-DEE COMSTOCK
43Q 30047395	REGAL LAND DEVELOPMENT INC
43Q 30066242	BENJAMIN J MILLER; CARRIE W MILLER
43Q 96522 00	MAD LIVING TRUST
43Q 103428 00	PELICAN, CONSTANCE D TRUST
43Q 34673 00	BOULDER WEST APARTMENTS NO 6 LLC
43Q 35635 00	TAMARA L BELLINGER
43Q 30148264	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 101400 00	THOMAS G SCHWAB; TRACY SCHWAB
43Q 30001701	ROBERT ALLEN
43Q 99200 00	DAVID D RAY; KAREN R RAY
43Q 60484 00	TYLER JUMPER
43Q 99962 00	JEAN M MALKUCH
43Q 113999 00	CORDELL ANTHONY; PRESLEY PAYNE
43Q 30152396	LAZY KU ESTATES LLC
43Q 30019016	SCOTT MYERS
43Q 30144061	SISTKO-TAYLOR TRUST
43Q 30118638	MEGON KASTELITZ; RHETT KASTELITZ
43Q 30042771	WJH BIRD RESOURCES
43Q 105940 00	MONEEN D MEANS; SAM A MEANS
43Q 100101 00	CARL D COUTTS; CHRIS COUTTS

Water Right Number	Owner Name
43Q 30113206	BRUCE L TONN
43Q 30129890	GREGORY D SCHREINER; SARA SCHREINER
43Q 115249 00	CONNIE JOHNSON; JERRY JOHNSON
43Q 30067286	LORI HODGES; MIKE HODGES
43Q 30108010	JAMES R JOHNSTON
43Q 30121098	HOLZHEIMER, DON AND SANDRA LIVING TRUST
43Q 39192 00	JOSHUA FAHRENBRUCH; MEGAN FAHRENBRUCH
43Q 30067464	JULIEN, DEBRA J LIVING TRUST
43Q 30017018	JASON A COLE; MELISSA COLE
43Q 92978 00	DANIEL QUENZER; LYNETTE D QUENZER
43Q 30027147	QUENTIN EGGART
43Q 30148256	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 28973 00	ANNITA BUTTERFIELD; DALE BUTTERFIELD
43Q 101461 00	KYLE E BISTLINE; LINDA L BISTLINE
43Q 30066393	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 8754 00	IAN P BLUMENSHINE
43Q 11579 00	MAD LIVING TRUST
43Q 99960 00	TOEWS FAMILY REVOCABLE TRUST
43Q 30019369	DUSTIN P HART; JESSICA E HART
43Q 30115581	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 30109217	CRYSTAL L NAGEL; TRAVIS J NAGEL
43Q 23507 00	BECKY HERMAN; GLENN HERMAN
43Q 30163087	HARDRIVES CONSTRUCTION INC
43Q 30050934	JOEANN BLACK; JAMES E MOORE
43Q 30017348	PERZINSKI REVOCABLE TRUST
43Q 30047388	REGAL LAND DEVELOPMENT INC
43Q 30066388	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30114359	MONTEXAS INVESTMENTS LLC
43Q 92936 00	CLARK L SCHREIBEIS; ERIKA SCHREIBEIS
43Q 30067746	BRIAN P COOK; MICHELLE JONES
43Q 30164635	KELLY L DUBBS; SHARON R DUBBS
43Q 103429 00	PELICAN, CONSTANCE D TRUST
43Q 30114315	JOHN L CHAFFEE; KATHLEEN CHAFFEE
43Q 99289 00	BEVERLEY J MCNURLIN; JOE A MCNURLIN
43Q 8233 00	D BAR C LIVING TRUST
43Q 30049418	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 30047403	REGAL LAND DEVELOPMENT INC
43Q 30109235	CANDICE NAASZ; MATTHEW NAASZ
43Q 30114314	JOHN L CHAFFEE; KATHLEEN CHAFFEE
43Q 30010172	MONTANA, STATE OF DEPT OF TRANSPORTATION

Water Right Number	Owner Name
43Q 30158528	SHERRY L WALKING EAGLE
43Q 87407 00	TIMOTHY J VECHES
43Q 30051993	COLE J REINHARDT; SHARI K REINHARDT
43Q 30163139	DAN & JULANE FARMS, LLC
43Q 66429 00	H 5300 TRUST; H-5100 TRUST
43Q 30160358	ADAM BURT; TARI BURT
43Q 30012538	JAMES R JOHNSTON
43Q 30072278	LINDSEY A MONEY; MICHAEL A MONEY
43Q 30161106	DOUGLAS CHAPMAN; BRANDY JONES
43Q 30011998	JUANITA BLEE
43Q 12328 00	KRAFT, EDWARD & ROXANA LIVING TRUST
43Q 30072923	CORINA GOLLEHON; DARREN GOLLEHON
43Q 30068711	RYAN J HOLTE; TIFFANY P HOLTE
43Q 30063364	DARREN W MILLER
43Q 30157880	REGAL LAND DEVELOPMENT INC
43Q 30047402	REGAL LAND DEVELOPMENT INC
43Q 30047407	REGAL LAND DEVELOPMENT INC
43Q 85402 00	LISA C TRACY; SHANE P TRACY
43Q 30069555	QUALITY HEATING AND AIR CONDITIONING
43Q 76346 00	MARGARET E SANDERSON
43Q 30042451	WJH BIRD RESOURCES
43Q 67199 00	BRAD STUART; KAY C STUART
43Q 104922 00	KAREN L ALLEN; ROBERT P ALLEN
43Q 30009838	RON OHS
43Q 30164116	BONNIE K JARES; JOHN E JARES
43Q 30157891	REGAL LAND DEVELOPMENT INC
43Q 30066860	KNIFE RIVER
43Q 30157883	REGAL LAND DEVELOPMENT INC
43Q 5534 00	CECIL C OLIVER
43Q 30047404	REGAL LAND DEVELOPMENT INC
43Q 30047393	REGAL LAND DEVELOPMENT INC
43Q 30069768	JOSHUA C BUSENBARK; SAMMY A BUSENBARK
43Q 30148276	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 102282 00	BRENT RENIER
43Q 30047411	REGAL LAND DEVELOPMENT INC
43Q 116127 00	PATRICK EMICK
43Q 11803 00	JASON WILCOX; JOELLEN M WILCOX; GEORGE WIPF; LORIE WIPF
43Q 100123 00	MARITA GRAMMAR; TRAVIS GRAMMAR
43Q 68395 00	FRANK C WAGNER; PAULETTE R WAGNER
43Q 30066386	MONTANA, STATE OF DEPT OF TRANSPORTATION

Water Right Number	Owner Name
43Q 30067462	DOUG GOODHEART; LORI GOODHEART
43Q 30157888	REGAL LAND DEVELOPMENT INC
43Q 30023035	HICKS, SCOTT LIVING TRUST
43Q 30048848	CHARLES A BROWNLEE
43Q 30047392	REGAL LAND DEVELOPMENT INC
43Q 68339 00	H 4100 TRUST
43Q 30157890	REGAL LAND DEVELOPMENT INC
43Q 87458 00	DORIS M KNUDSEN
43Q 30045644	KAREN C DOELY; MARK DOELY
43Q 30066610	MARY E BAROVICH
43Q 24603 00	RITA M BAETEN; WILLIAM T BAETEN
43Q 30050836	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 4172 00	AAA PROPERTY INVESTORS & MANAGERS LLC
43Q 30067465	JULIEN, DEBRA J LIVING TRUST

Excel File Placeholder

*The **Groundwater Permit Technical Analyses Report – Notice of Erratum: Groundwater Rights within the Area of Potential Impact** spreadsheet, dated July 11, 2025, is available outside of the application file.*

*For **pending applications:***

- *Excel files associated with aquifer tests are located in the "Aquifer Tests" link of the application page.*
- *Other excel files are available upon request from the regional office.*

*For **scanned applications:***

- *Excel files are available in a separate FileNet link under the "Excel File" file index.*

Please contact the regional office for more information.

From: Strebeck, Cassey
To: Taylor Kasperick
Cc: Erin Kirschenmann; Bryce Kirschenmann
Subject: RE: Platinum Commercial Park Sub Water Right - 43Q 30164891
Date: Friday, July 11, 2025 9:58:00 AM
Attachments: image001.png
image002.png

Mr. Kasperick,

After I receive Jacks analysis, I will need to reevaluate the legal demands and update the Draft PD. It will need to go through the in-office review process, then to the CO. The CO has a 15-day turnaround (I believe) – so maybe 3 weeks? I honestly can't say – but it will be my priority to get it out as quickly as possible.

Have a good weekend.
Cassey

From: Taylor Kasperick <taylor@performance-ec.com>
Sent: Friday, July 11, 2025 9:04 AM
To: Strebeck, Cassey <Cassey.Strebeck@mt.gov>
Cc: Landers, Jack <Jack.Landers@mt.gov>; Erin Kirschenmann <erin@keconstruction.com>; Bryce Kirschenmann <bryce@keconstruction.com>
Subject: [EXTERNAL] FW: Platinum Commercial Park Sub Water Right - 43Q 30164891

Hey Cassey,

Thank you for the call back yesterday, and I apologize I missed you. Based on your message, I called Jack just now to talk through the potential inclusion of Danford Drain as a ZOI bound, and it sounds like there likely isn't enough evidence of the constant head on both sides of the Drain to warrant inclusion as a bound similar to Canyon Creek. All of that being said, I would like to confirm we have submitted all of the additional information we plan to for this application extension.

Jack had indicated he is working on his analysis and internal QA/QC and will be providing that to the Billings office for your assessment following. I know statutorily you have 60 days to turn this around, but are you able to provide what the realistic timeframe is for taking the information from Jack and re-evauluating the Draft PD? I only ask as this is critical in determining how the owner is moving forward with DEQ permit finalization, as if this will be closer to the 60 days we will likely move forward with DEQ permitting as cisterns and then come back with a COSA re-write when/if the Draft PD is updated to grant.

Thank you for any information you are able to provide.

Taylor

Taylor Kasperick, PE
Project Manager
taylor@performance-ec.com
Mobile: 801.657.0372

PERFORMANCE ENGINEERING
3412 COLTON BLVD, SUITE 202
BILLINGS, MT 59102
406.384.0080
PERFORMANCE-EC.COM



From: Taylor Kasperick
Sent: Friday, July 11, 2025 8:43 AM
To: Landers, Jack <Jack.Landers@mt.gov>
Subject: RE: Platinum Commercial Park Sub Water Right - 43Q 30164891

Hey Jack,

Cassey said yesterday you have all you need to re-assess the bounds of the ZOI. That being said, I wanted to shoot over this map from MBMG and I will follow up with a call. Essentially just want to talk through whether Danford Drain should be considered a bound as well before "finalizing" the additional information.

Thank you!
Taylor

Taylor Kasperick, PE
Project Manager
taylor@performance-ec.com
Mobile: 801.657.0372

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3412 COLTON BLVD, SUITE 202
BILLINGS, MT 59102
406.384.0080
PERFORMANCE-EC.COM



From: Landers, Jack <Jack.Landers@mt.gov>
Sent: Wednesday, June 25, 2025 9:46 AM
To: Taylor Kasperick <taylor@performance-ec.com>; Brickl, Melissa <Melissa.Brickl@mt.gov>
Cc: Schweigert, Christine <CSchweigert@mt.gov>; Corbett, Veronica <Veronica.Corbett@mt.gov>; Strebeck, Cassey <Cassey.Strebeck@mt.gov>; Bryce Kirschenmann <bryce@keconstruction.com>
Subject: RE: Platinum Commercial Park Sub Water Right - 43Q 30164891

Hello Taylor,

Thank you for sending this information. Melissa and I working on next steps and will be in touch by the end of the week. Melissa has a full-day training today and tomorrow, so we've had limited time to coordinate on this.

We'll have more for you soon, thank you.

Jack

Jack Landers| Groundwater Hydrologist
Water Sciences Bureau, Groundwater Studies, Water Resources Division
Montana Department of Natural Resources and Conservation
1424 9th Ave, Helena, MT 59601
DESK: 406-444-7020 **EMAIL:** jack.landers@mt.gov
Website [us-west-2.protection.sophos.com] | **Facebook** [us-west-2.protection.sophos.com]| **X (Twitter** [us-west-2.protection.sophos.com]) | **Instagram** [us-west-2.protection.sophos.com]
How did we do? Let us know here: Feedback Survey [us-west-2.protection.sophos.com]

From: Taylor Kasperick <taylor@performance-ec.com>
Sent: Tuesday, June 24, 2025 5:07 PM
To: Landers, Jack <Jack.Landers@mt.gov>; Brickl, Melissa <Melissa.Brickl@mt.gov>
Cc: Schweigert, Christine <CSchweigert@mt.gov>; Corbett, Veronica <Veronica.Corbett@mt.gov>; Strebeck, Cassey <Cassey.Strebeck@mt.gov>; Bryce Kirschenmann <bryce@keconstruction.com>
Subject: [EXTERNAL] RE: Platinum Commercial Park Sub Water Right - 43Q 30164891

All,

I just wanted to follow up on this and confirm receipt and when there is a good time to meet with WSB to discuss. Obviously, given we are working on a 15 day window for determining path forward, would hope to do so sooner rather than later.

In preparation for meeting, I have also attached excerpts from the referenced 43Q 30162249 application, and tried to overlay the ZOI from that application onto the Platinum Commercial Park ZOI in thick red line. As can be noted, there is a large chunk of water rights being considered on the Platinum application that were not considered on 43Q 30162249, so would like to discuss why that is and if that is appropriate provided 43Q 30162249 was for a higher peak flow and volume and utilized the Qa3 memo values for aquifer qualities as well (11,600 0.01' drawdown for Lazy KU vs 12,200 0.01' drawdown for Platinum). In particular, one of the water rights included on the Platinum application and not 43Q 30162249 based on the ZOI is 43Q30116187, which is for 2,310 GPM and 252 AC-FT, roughly 71% of the deficit in legally available water noted on the Platinum CP application.

When able, please let me know when a good time to meet on this would be, as I would hope to gleam more information as to a potential extension request.

Thank you,

Taylor

Taylor Kasperick, PE

Project Manager
taylor@performance-ec.com
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BILLINGS, MT 59102
406.384.0080
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From: Taylor Kasperick
Sent: Monday, June 23, 2025 5:15 PM
To: jack.landers@mt.gov; melissa.brickl@mt.gov
Cc: Schweigert, Christine <cschweigert@mt.gov>; Corbett, Veronica <veronica.corbett@mt.gov>; Cassey.Strebeck@mt.gov
Subject: Platinum Commercial Park Sub Water Right - 43Q 30164891

Jack and Melissa,

I wanted to reach out as I met with Christine, Veronica, and Cassy this afternoon to the discuss the Draft PD provided for 43Q 31064891 and in those discussion wanted to run a few items by the Water Sciences Bureau. In particular, I am hoping to touch base on extents of the ZOI, and comparison between it and other applications around it. In particular, comparing the bounds of 43Q 31064891 to 43Q 30162249 it appears there was a difference in how this was viewed which I would like to understand better.

When able, please let me know if you have time in the coming days to meet to discuss. If there is a good time, I can send out a Teams invite.

Thank you!
Taylor

Taylor Kasperick, PE
Project Manager
taylor@performance-ec.com
Mobile: 801.657.0372
PERFORMANCE ENGINEERING
3412 COLTON BLVD, SUITE 202
BILLINGS, MT 59102
406.384.0080
PERFORMANCE-EC.COM



PERFORMANCE ENGINEERING

MEMO

To: Montana Department of Natural Resources and Conservation

From: Taylor Jay Kasperick, PE, Project Manager

Date: 6.27.2025

Re: Draft PD Extension Request – 43Q 30164891

Performance Engineering is writing to respond to the Draft Preliminary Determination to Deny Water Right 43Q 30164891, and request an extension in accordance with MCA 85-2-307(2)(B) and MCA 85-2-307(3)(a). Said request for extension is for 180 days, which is understood to be the amount of time provided to the applicant to provide additional information in relation to the application, not necessarily DNRC's response time. It is understood once additional information is received from the applicant and it is identified that all information has been submitted, DNRC will issue an updated Draft PD within 60 days.

It is requested that DNRC utilize the additional information provided along with this request to re-assess the Zone of Influence applied to the project in determining Legal Availability, in addition to the Legally Available water for consideration. Justification and additional information related to this request is as follows:

1. The submitted application 43Q 30164891, aka Platinum Commercial Park Subdivision, was submitted with a request to utilize the aquifer properties established by DNRC for Qa3, particularly properties including Transmissivity (6,000 ft2/day), Specific Yield (0.1) and gradient. These same properties have been utilized by other applications within the same aquifer, including 43Q 30162249 (aka Lazy KU 2nd Filing). In review of the findings of the two referenced applications, it was noted distinct differences in how they were analyzed were present including distance of the Zone of Influence (ZOI) as well as bounds of the ZOI.

2. The first difference includes the distance of the ZOI, indicated by the distance the aquifer draws down 0.01 ft. In the case of Lazy KU 2nd Filing, which has a maximum flow rate of 319 GPM and maximum volume of 72.40 AC-FT (45 GPM

modeled flow), the computed ZOI utilizing the default aquifer properties for Qa3 was determined to be 11,600 ft. Conversely, when considering the Platinum Commercial Park Subdivision and a requested peak flow of 135 GPM and up to 48 AC-FT (29.83 GPM), a ZOI of 12,200 feet was determined utilizing the same Qa3 parameters. As such, it is requested that DNRC re-assess the distance of the ZOI as it is counter-intuitive that the ZOI for a lesser flow rate/volume would return a larger ZOI.

   a. The ZOI distance is important in this analysis in particular provided one of the impacted water rights included within the Technical Analysis of Platinum Commercial Park Subdivision is 43Q 30116187, which appears to be right at or past the approximately 12,200 ft distance from Platinum Commercial Park (attached snippet), and includes a flow rate of 2,310 GPM and 252 AC-FT volume (~71% of the identified deficit when considering legally available water).

3. In review of the Technical Analysis performed for Platinum Commercial Park Subdivision, it was noted the bounds of the ZOI are not truncated by Danford Drain or Canyon Creek, both of which are surface water bodies with interaction to groundwater as indicated in the provided snippet from Plate 1 of the MBMG Report of Investigation 10, Hydrogeology of the West Billings Area. In particular, when reviewing the adjacent Lazy KU 2nd Filing Application, in addition to other recent applications including 43Q 30162460, Canyon Creek is a body of water that may be utilized as a bound on the ZOI, and it is requested to be utilized to bound the ZOI for this application.
   a. At least three provisional permits are included in the analysis of Platinum Commercial Park Subdivision on the north side of Canyon Creek (43Q 30150480, 43Q 30147261, and 43Q 30154658), which total 165.86 AC-FT of water. This is in addition to roughly 50 Groundwater Certificates, Exempt Rights, or Statements of Claim that are being considered in groundwater rights north of Canyon Creek.
   b. It is requested that DNRC truncate the ZOI at Canyon Creek for this application as has been conducted on other applications in the area.
4. If it is identified after re-assessment that there is legally available water for the Platinum Commercial Park Subdivision, it is requested that the Draft PD to Deny be revised. Should the full amount of water requested not be legally available, but there is legal availability, it is requested that Performance Engineering be notified of this.

<u>Attachments:</u>

1. 43Q 30164891 ZOI depicted with 43Q30162249 ZOI overlain.
2. Aerial map showing 43Q 30164891 related to 43Q 30116187 (~12,400')
3. Excerpt from MBMG Plat 1 Exhibit showing groundwater contours and relation to Canyon Creek as justification for inclusion as boundary on ZOI given it is based on 0.01' drawdown.

STATE OF MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

PERMIT TO APPROPRIATE WATER

UPON FINDING THE REQUIREMENTS OF SECTION 85-2-311, MCA, HAVE BEEN MET, THIS PROVISIONAL PERMIT IS GRANTED.

Water Right Number: 43Q 30162249 PROVISIONAL PERMIT

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners: LAZY KU ESTATES LLC
3116 S 72ND ST W
BILLINGS, MT 59106-4136

Priority Date: NOVEMBER 7, 2023 at 12:50 P.M.

Enforceable Priority Date: NOVEMBER 7, 2023 at 12:50 P.M.

Purpose (Use): LAWN AND GARDEN

MULTIPLE DOMESTIC

Maximum Flow Rate: 319.00 GPM

Maximum Volume: 72.40 AC-FT

Maximum Acres: 24.80

Water use in excess of requested for Platinum Commercial Park.

Source Name: GROUNDWATER

Source Type: GROUNDWATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		NWNESE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 7 BLOCK: 1

2		NWNESE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 8 BLOCK: 1

3		SWNESE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 7 BLOCK: 3

4		SWNESE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 6 BLOCK: 3

5		NENWSE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 6 BLOCK: 1

6		NENWSE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 3 BLOCK: 2

7		NENWSE	25	1S	24E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31
Diversion Means: WELL
Subdivision: LAZY KU SUB 2ND FILING (25) TRACT/LOT: 3 BLOCK: 1

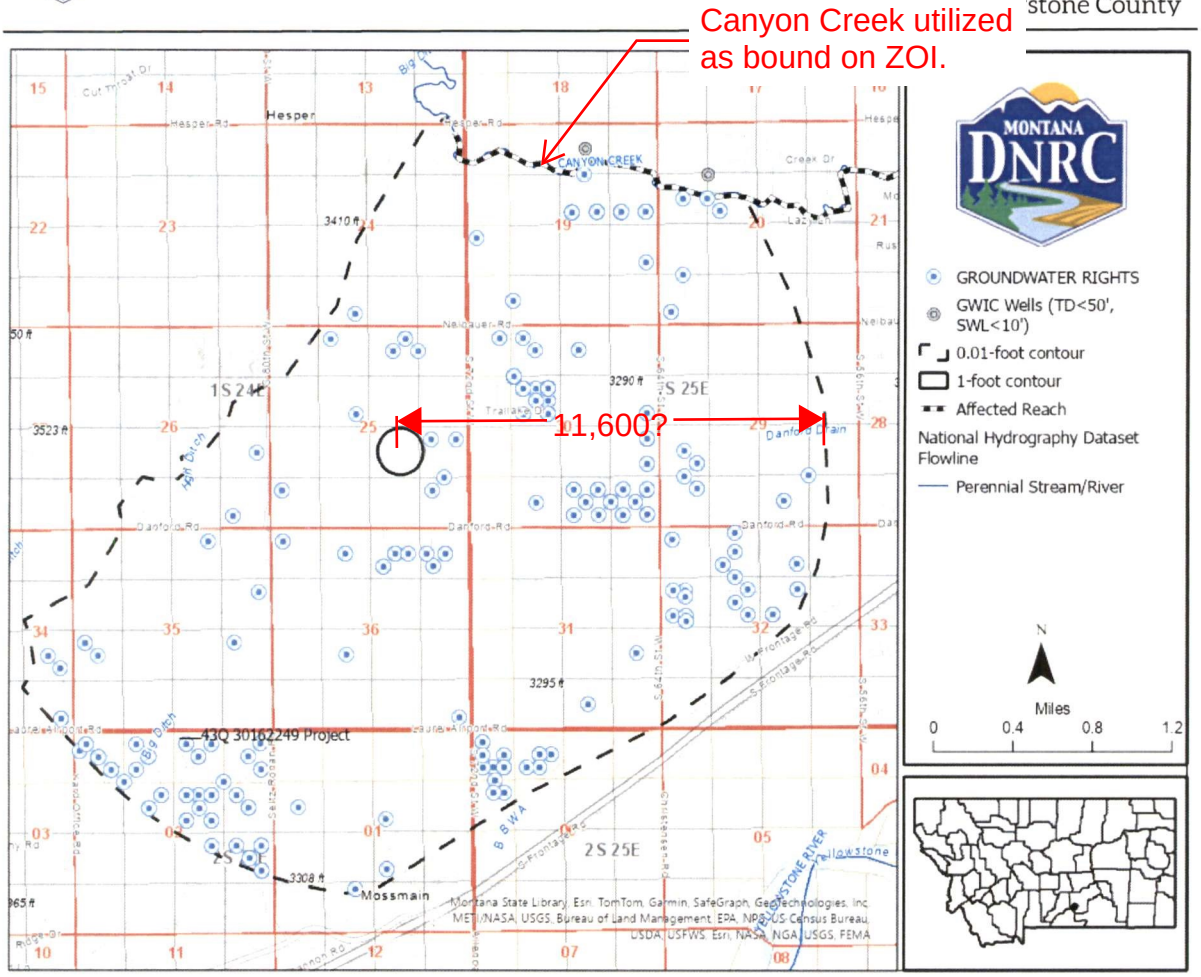


Figure 6: 0.01-foot and 1-foot drawdown contours and affected reaches of Canyon Creek.

7.0 Adverse Effect Analysis

Under §85-2-311, Montana Code Annotated (MCA), using the Applicant's proposed pumping schedule and associated volume, potential impacts to existing water rights are evaluated by modeling drawdown in nearby wells and changes in net depletions to surface water.

7.1 Groundwater - Drawdown in Existing Wells

The drawdown in existing wells was modeled for proposed conditions using the following inputs: Theis (1935) solution, T = 6,000 ft^2/day, S_y = 0.1, and the monthly pumping schedule identified in column 4 of **Table 2** for a period of five years. The closeness of the proposed wells resulted in one well being used in forward modeling, its location near the centroid of the proposed place of use. The drawdown is the largest at the end of July of the fifth year using the proposed pumping schedule.

As identified in **Figure 7,** after five years of the assumed monthly pumping schedule (**Table 2**), drawdown in wells that is equal to or greater than one foot occurs within 600 ft of the well for Application No. 43Q 30162249 and zero water rights are expected to experience drawdown greater than 1-foot.

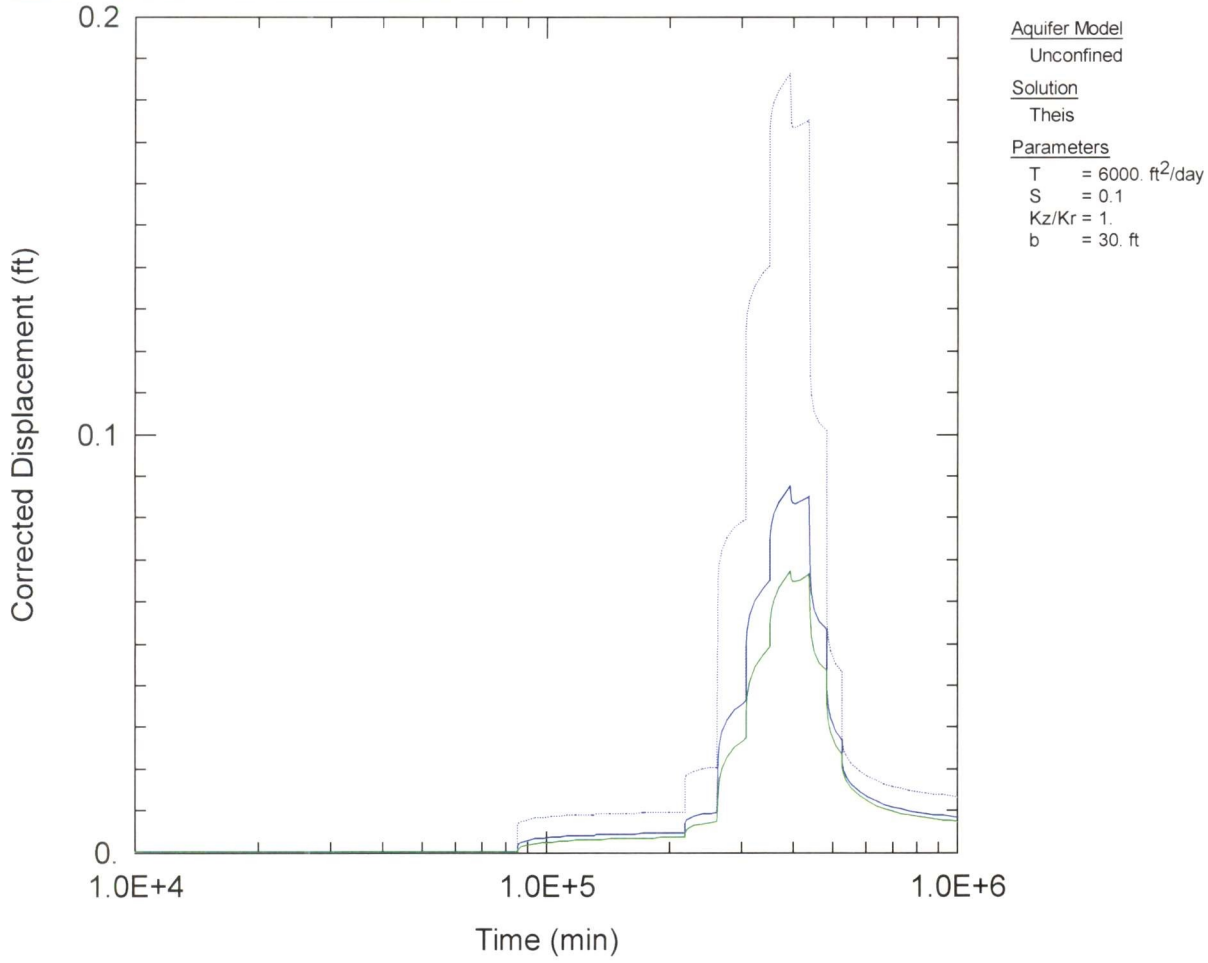


Figure 4: Time-drawdown plot for Production well (dotted line), a well 50 ft away (blue solid line), and two wells 130 ft away (green and red solid line, overlay each other) showing interference drawdown. Interference is calculated as the difference in displacement between the production wells displacement (0.19 ft) to the modeled displacement for each of the wells. The interference drawdown would be added to each well.

6.0 Physical Availability of Groundwater

An analysis of physical groundwater availability for the purpose of evaluating legal availability was done by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The 31 proposed wells were modeled as one well using the Theis (1935) unconfined solution, a normalized flow rate of 45.0 gpm required to produce the requested annual volume, a regional T = 6,000 ft^2/day, and S_y = 0.1. Shown in **Figure 5,** the ZOI occurs approximately 11,600 ft from the Applicant's well and is truncated to the shale bedrock unit to the north, Canyon Creek to the east, and the boundary of the Yellowstone River Terrace Level 3 aquifer (Qat3) to the south (**Figure 6**). The width of the truncated ZOI, which is measured perpendicular to the groundwater flow direction, equals approximately 15,000 ft. The groundwater gradient for the sand and gravel terrace aquifer in the West Billings area is from the Olson (2005) groundwater level contour map. The calculation for groundwater flux (Q) through

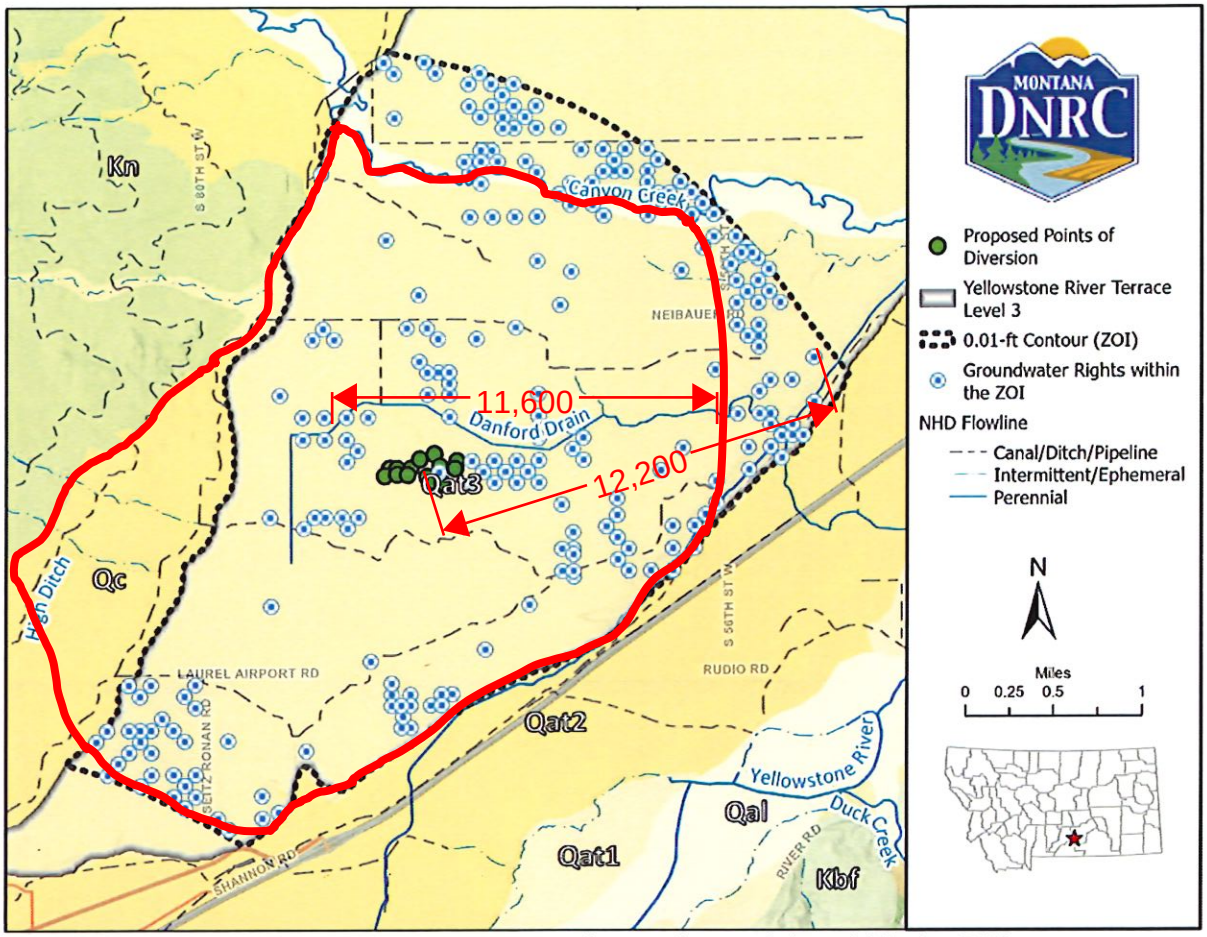


Figure 6: 0.01-foot drawdown contour (ZOI) and groundwater rights within the ZOI.

7.0 Adverse Effect Analysis

Using the Applicant's proposed pumping schedule and associated annual volume, potential impact to existing water rights is evaluated by modeling drawdown in nearby wells and net depletions to surface water(s).

7.1 Groundwater - Drawdown in Existing Wells

The drawdown in existing wells was modeled in FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Theis (1935) solution
- Monthly pumping schedule for 5 years (**Table 3**), with the volumes shown in **Table 4** apportioned to each well
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)
- No-flow boundaries representing the maximum aquifer extent approximately 5,000 ft northwest and 8,000 ft southeast of the proposed wells.

6.0 Physical Availability Analysis

An evaluation of groundwater availability in the source aquifer for the purpose of evaluating physical and legal availability was modeled in FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Theis (1935) solution
- Constant cumulative pumping rate of 29.83 gpm for the period of diversion
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)
- No-flow boundaries representing the maximum [illegible]fer is bounded by cretaceous shales approximately 5,0[illegible]scarps approximately 8,000 ft southeast of the proposed wells.

Same assumptions but lower flow rate returned a higher 0.01-foot drawdown

Groundwater availability is determined by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The flow rate required to produce 48.01 AF annually is 29.83 gpm. All 14 wells were input in the model with a constant flow rate calculated from the proportion of the individual volumes to the total volumes, shown in column 6 of **Table 4**. As shown in **Figure 5** and **Figure 6,** the 0.01-foot drawdown contour is an irregular shape due to the effect of the no-flow boundaries and occurs at a maximum distance of 12,200 ft from the proposed wells.

The direction of groundwater flow is predominantly to the northeast and east and the width of the ZOI that is perpendicular to groundwater flow equals 13,700 ft. **Appendix A** is a list of the 472 groundwater rights that need to be evaluated as a legal demand. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 246,600 ft^3/day or 2,066 AF/year:

$$Q = TWi \qquad \textbf{Eq. 1}$$

where:
T = Transmissivity = 6,000 ft^2/day
W = Width of Zone of Influence = 13,700 ft
i = Groundwater Gradient (from Olson, 2005, Water level contour map) = 0.003 ft/ft.

STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O. BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 43Q 30116187 PROVISIONAL PERMIT

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners: MACKENZIE MEADOWS HOMEOWNERS ASSOCIATION INC
2225 S 54ST W
BILLINGS, MT 59106-3753

Priority Date: JULY 11, 2018 at 02:40 P.M.

Enforceable Priority Date: JULY 11, 2018 at 02:40 P.M.

Purpose (Use): COMMERCIAL
LAWN AND GARDEN
MULTIPLE DOMESTIC

Maximum Flow Rate: 2,310.00 GPM

Maximum Volume: 252.00 AC-FT

Maximum Acres: 68.00

Depending on ZOI update, this water right ~71% of deficit, may not be considered.

Source Name: GROUNDWATER

Source Type: GROUNDWATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		N2	28	1S	25E	YELLOWSTONE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Well Depth: 26.50 FEET

Static Water Level: 17.16 FEET

Casing Diameter: 6.00 INCHES

THERE WILL BE 99 WELLS IN THE LEGAL LAND DESCRIPTION.

Purpose (Use): COMMERCIAL

Volume: 6.95 AC-FT

Period of Use: JANUARY 1 to DECEMBER 31

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			N2	28	1S	25E	YELLOWSTONE

Purpose (Use): LAWN AND GARDEN

Volume: 170.00 AC-FT

Period of Use: APRIL 1 to OCTOBER 31

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County

1	68.00		N2	28	1S	25E	YELLOWSTONE
Total:	68.00						

Purpose (Use): MULTIPLE DOMESTIC

Households: 167

Volume: 74.83 AC-FT

Period of Use: JANUARY 1 to DECEMBER 31

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			N2	28	1S	25E	YELLOWSTONE

Geocodes/Valid: -- NO VALID GEOCODES --

Remarks:

IMPORTANT INFORMATION

WELL LOGS: THE APPROPRIATOR SHALL REQUIRE THE LAND OWNER PROVIDE A COPY OF THE WELL LOG TO THE APPROPRIATOR WITHIN 90 DAYS OF COMPLETION OF THE WELL. THE APPROPRIATOR SHALL PROVIDE A COPY OF THE WELL LOG TO THE WATER RESOURCES REGIONAL OFFICE BY JANUARY 31 OF EACH YEAR.

IMPORTANT INFORMATION

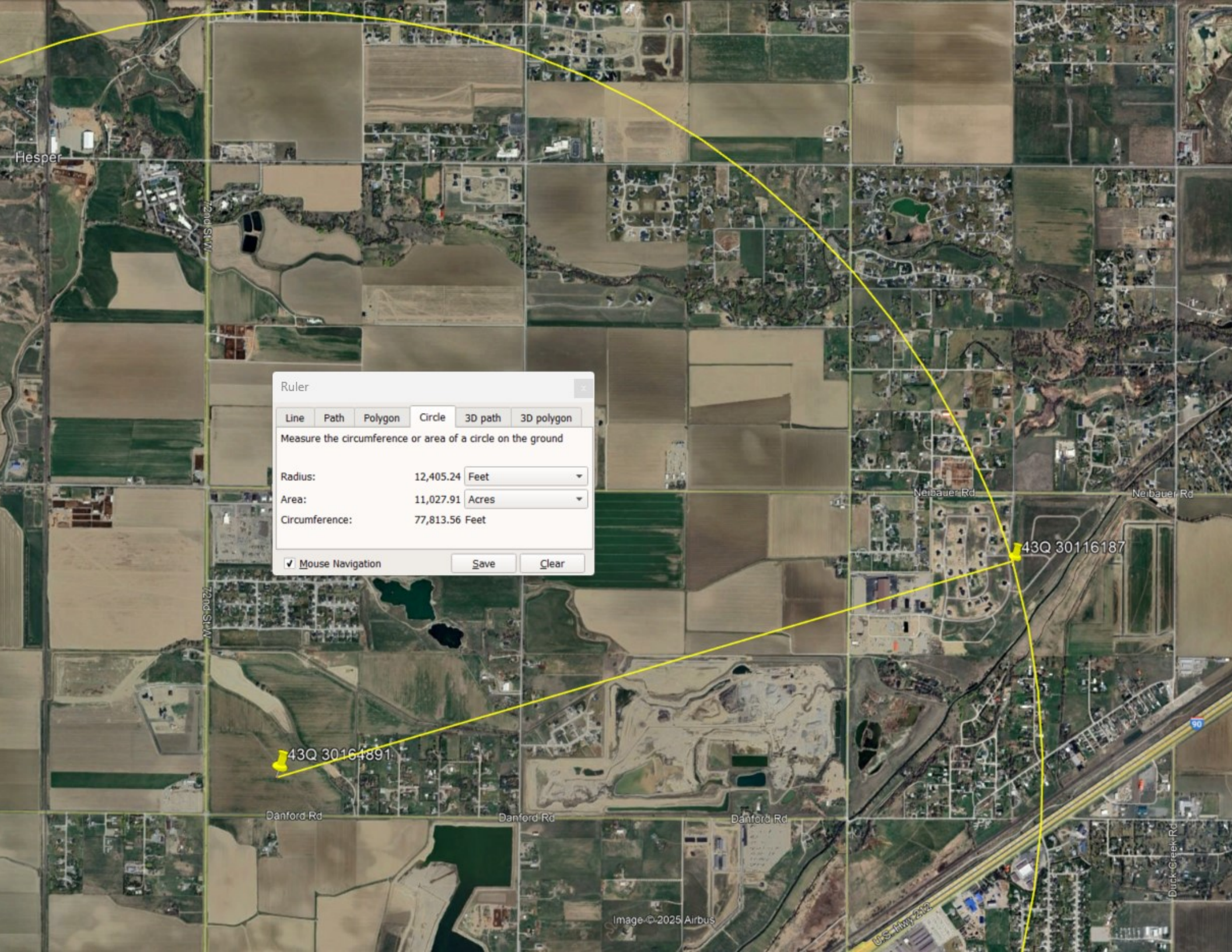
NOTIFICATION REQUIREMENT: THE APPROPRIATOR SHALL RECORD A DOCUMENT IN THE COURTHOUSE THAT SHALL NOTIFY ALL CURRENT AND FUTURE LAND OWNERS IN MACKENZIE MEADOWS SUBDIVISION THAT 1) WATER USE MUST BE MEASURED AND RECORDED AS DESCRIBED IN THIS PERMIT; 2) A COPY OF THE WELL LOG MUST BE SUBMITTED TO THE APPROPRIATOR; AND 3) A WATER RIGHT CANNOT BE OWNED BY A PRIVATE INDIVIDUAL, BUT MUST BE HELD IN THE NAME OF THE HOME OWNERS ASSOCIATION. THE APPROPRIATOR SHALL PROVIDE A COPY OF THE RECORDED DOCUMENT IDENTIFYING THESE RESTRICTIONS, FOR EACH LAND OWNER, TO THE WATER RESOURCES REGIONAL OFFICE BY JANUARY 31 OF EACH YEAR.

WATER MEASUREMENT INFORMATION

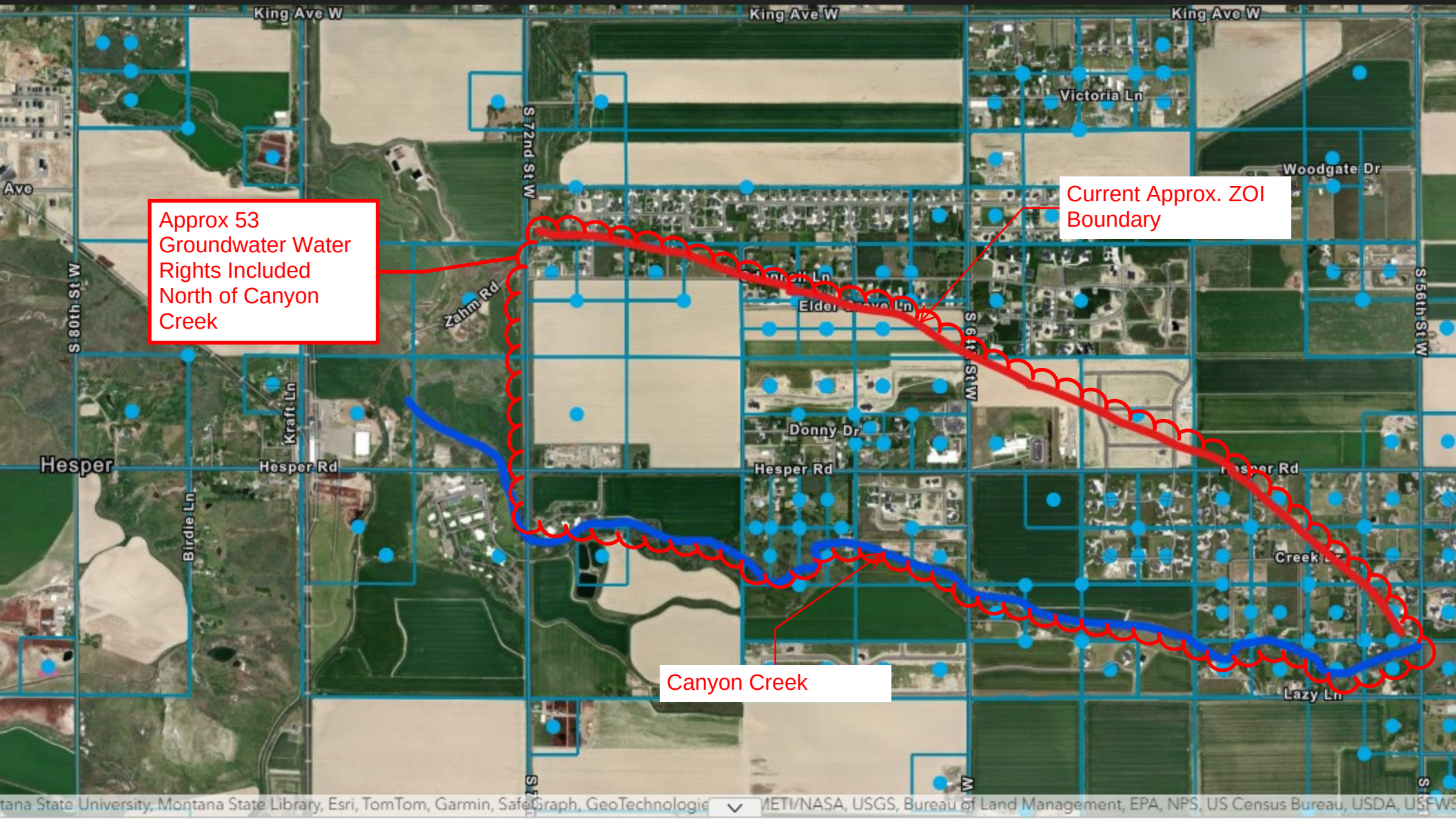
THE APPROPRIATOR SHALL REQUIRE LAND OWNERS IN MACKENZIE MEADOWS SUBDIVISION TO INSTALL A DEPARTMENT APPROVED WATER USE MEASURING DEVICE. WATER MUST NOT BE DIVERTED FROM THE WELLS UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. THE APPROPRIATOR SHALL KEEP YEARLY WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED FROM JANUARY 1 THROUGH DECEMBER 31 BY ALL WELLS. THE WATER USE RECORDS SHALL BE COMPILED AND SUBMITTED TO THE DEPARTMENT BY JANUARY 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF THE PERMIT. THE RECORDS MUST BE SENT TO THE BILLINGS WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL ENSURE EACH MEASURING DEVICE IS MAINTAINED SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

OWNERSHIP UPDATE RECEIVED

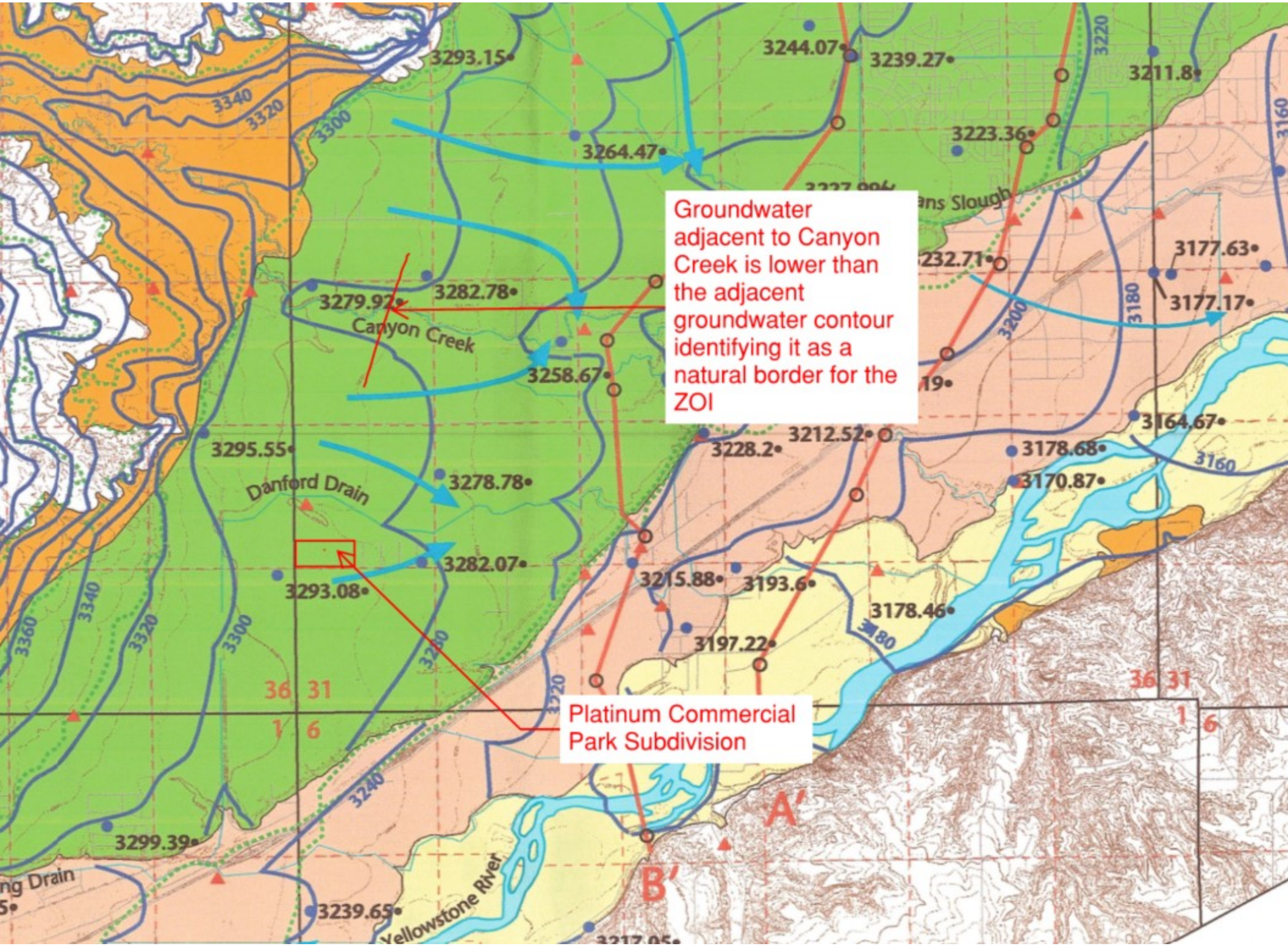
OWNERSHIP UPDATE TYPE 608 # 216766 RECEIVED 04/14/2021.


Hesper
W 2nd St W
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the circumference or area of a circle on the ground
Radius: 12,405.24 Feet
Area: 11,027.91 Acres
Circumference: 77,813.56 Feet
Mouse Navigation
Save
Clear
43Q 30116187
43Q 30164891
Neibauer Rd
Neibauer Rd
Danford Rd
Danford Rd
Danford Rd
Duck Creek Rd
U.S. Hwy 20
90
Image © 2025 Airbus

Print current page



Water Right ID	Water Right Type	Water Right Status	Source Name	Source	General


Groundwater adjacent to Canyon Creek is lower than the adjacent groundwater contour identifying it as a natural border for the ZOI
Platinum Commercial Park Subdivision
Canyon Creek
Danford Drain
Yellowstone River
3293.15
3244.07
3239.27
3211.8
3223.36
3264.47
3279.92
3282.78
3258.67
3295.55
3278.78
3282.07
3293.08
3212.52
3228.2
3178.68
3170.87
3164.67
3177.63
3177.17
3232.71
3215.88
3193.6
3178.46
3197.22
3299.39
3239.65
3217.05
A'
B'
36
31
1
6

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

June 30, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
PO Box 81153
Billings, MT, 59108

Subject: Request for extension of time to submit additional information Beneficial Water Use Permit Application No. 43Q 30164891

Dear Applicant,

The Department of Natural Resources and Conservation (Department or DNRC) has granted your request for an extension of time for the purpose of submitting additional information for the consideration of Beneficial Water Use Permit Application No. 43Q 30164891.

You have 180 days to submit additional information to the Billings Regional Office. Please note that additional information submitted may be considered an amendment to your application, which may reset application timelines pursuant to ARM 36.12.1401. Should the Department consider additional information submitted to be an amendment to the application, the applicant will be required to submit an Application Amendment Form (Form 655).

Pursuant to §85-2-307(3)(b), MCA, the Department shall issue an updated Draft Preliminary Determination (PD) within 60 days of the earliest date of either the extension deadline set, or the Department's receipt of written notice from Applicant attesting that all information to be considered has been submitted to the Department.

If the Department's updated Draft PD is to deny the application, you will be notified, and your application will be forwarded to the DNRC Hearings Unit to schedule a hearing to show cause why your application should not be denied, per §85-2-310(1), MCA.

If the Department's updated Draft PD is to grant the application or to grant the application in modified form, you will be notified, and the Department will then prepare a notice of opportunity to provide public comment on the updated Draft PD to Grant or Grant in Modified Form, per §85-2-307(4), MCA.

If you determine you do not intend to further pursue this application, you can request the application to be withdrawn at any time during this process.

Please let me know if you have any questions.

Sincerely,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

From:	Strebeck, Cassey
To:	Erin Kirschenmann; Taylor Kasperick; Schweigert, Christine; Corbett, Veronica; Landers, Jack; Brickl, Melissa
Cc:	Bryce Kirschenmann
Subject:	RE: DNRC 43Q 30164891 Request for Draft PD Extension
Date:	Monday, June 30, 2025 9:10:00 AM
Attachments:	image001.png

Good morning,

Will do! Thank you.

Cassey

From: Erin Kirschenmann <erin@keconstruction.com>
Sent: Monday, June 30, 2025 9:09 AM
To: Strebeck, Cassey <Cassey.Strebeck@mt.gov>; Taylor Kasperick <taylor@performance-ec.com>; Schweigert, Christine <CSchweigert@mt.gov>; Corbett, Veronica <Veronica.Corbett@mt.gov>; Landers, Jack <Jack.Landers@mt.gov>; Brickl, Melissa <Melissa.Brickl@mt.gov>
Cc: Bryce Kirschenmann <bryce@keconstruction.com>
Subject: [EXTERNAL] RE: DNRC 43Q 30164891 Request for Draft PD Extension

Cassey,

Yes, please accept my confirmation of the request submitted by Performance Engineering.

Thank you,

Erin Kirschenmann
President
KE Construction
Mobile: (406) 850-3683

From: Strebeck, Cassey <Cassey.Strebeck@mt.gov>
Sent: Friday, June 27, 2025 4:41 PM
To: Taylor Kasperick <taylor@performance-ec.com>; Schweigert, Christine <CSchweigert@mt.gov>; Corbett, Veronica <Veronica.Corbett@mt.gov>; Landers, Jack <Jack.Landers@mt.gov>; Brickl, Melissa <Melissa.Brickl@mt.gov>
Cc: Bryce Kirschenmann <bryce@keconstruction.com>; Erin Kirschenmann <erin@keconstruction.com>
Subject: RE: DNRC 43Q 30164891 Request for Draft PD Extension

Ms. Kirschenmann,

We've received this request from Performance Engineering. As it is addressed from them, and not the Applicant (you), can you please confirm your desire to request the

extension?

To further clarify, the extension request must be approved before we can accept the information, in which case, I will send a letter with the Department's decision. Further, after you've received the letter, you must respond in writing (email is fine) that you have submitted all of the materials that you wish to be considered as additional information. After receipt of this confirmation, we can begin reviewing the additional information you have submitted.

Thank you in advance,
Cassey

From: Taylor Kasperick <taylor@performance-ec.com>
Sent: Friday, June 27, 2025 3:52 PM
To: Strebeck, Cassey <Cassey.Strebeck@mt.gov>; Schweigert, Christine <CSchweigert@mt.gov>; Corbett, Veronica <Veronica.Corbett@mt.gov>; Landers, Jack <Jack.Landers@mt.gov>; Brickl, Melissa <Melissa.Brickl@mt.gov>
Cc: Bryce Kirschenmann <bryce@keconstruction.com>; erin@keconstruction.com
Subject: [EXTERNAL] DNRC 43Q 30164891 Request for Draft PD Extension

All,

Attached with this is email is our formal request for extension on the Draft PD to Deny Beneficial Water Use Permit Application No. 43Q 30164891. Included within the official request is additional information and justification for the request to re-assess the ZOI, and therefore the available legal demand. As noted in the memo 180 days is requested for the extension, with the understanding that provided this is the additional information being provided by the applicant, DNRC will move forward with reassessment and would be re-issuing a Draft PD within 60 days.

Please let me know if my understanding of the timeline is incorrect, or if there is additional information needed from me or the applicant in order to re-assess the ZOI and legal demands.

Thank you,
Taylor

Taylor Kasperick, PE
Project Manager
taylor@performance-ec.com
Mobile: 801.657.0372

PERFORMANCE ENGINEERING
3412 COLTON BLVD, SUITE 202
BILLINGS, MT 59102
406.384.0080
PERFORMANCE-EC.COM



DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

June 16, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
PO Box 81153
Billings, MT, 59108

Subject: Errors identified in Department-completed Technical Analyses Part B for Permit Application No. 43Q 30164891

Dear Applicant,

During the Draft Preliminary Determination internal review for Permit Application No. 43Q 30164891, the Department identified errors in the calculations for the flow rate and volume of the stock rights on the depleted surface water source Danford Drain, thus changing the Technical Analyses for this application. It was also determined that the inclusion of depleted water rights should not be included in determining availability, as it is no longer standard practice.

This change in the method of calculating stock flow rate and volume resulted in the values being corrected for the water rights on the Danford Drain in the Department's analysis. The incorrect (original) and corrected (revised) values are shown in Table 1:

Table 1: Water Rights On Danford Drain Above the MBMG Wise Lane Collection Site

WR No.	Original			Revised		
	GPM	CFS	VOLUME	GPM	CFS	VOLUME
43Q 30107340			8.4	5.2	0.01	8.4
43Q 14939 00	41.99	0.093554	10.13	41.99	0.093	10.13
43Q 42699 00	150	0.334202	32	150	0.33	32
43Q 195892 00	0.00	0.00	5.10	2.12	0.0047	3.42
43Q 206797 00	25	0.0557	16.40	25	0.0557	16.40
43Q 208180 00	208.42	0.464362	50.27	208.42	0.46	50.27
43Q 208181 00	125.12	0.278769	30.18	125.12	0.278	30.18
43Q 208801 00	758.52	1.69	184.50	758.52	1.69	184.50
43Q 195891 00	2244.15	5	426.52	2244.15	5.0	426.52
43Q 45860 00	1795.32	4	438.70	1795.32	4.0	438.70
43Q 102615 00	35.00	0.08	34.00	21.078	0.047	34.0
Stock Direct Standard				35.00	0.0780	

The revised flow rate and volume, shown in Table 1, subsequently resulted in incorrect values for the "Physically Available Flow Rate in Danford Drain" and the "Physically Available Volume in Danford Drain". Additionally, per standard practice, depletions from water rights issued after the stream flow measurements were collected are no longer included when evaluating availability. "Depletions from 43Q 30157960" and "Depletions from 43Q 30116187" are no longer included in the "Physically Available Flow Rate of Danford Drain" or "Physically Available Volume of Danford Drain". The removal of these water rights does not affect the outcome of the Application. These changes resulted in the values being corrected. The incorrect (original) and corrected (revised) values are shown in Table 2 and Table 3.

Table 2: Physically Available Flow Rate in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Original Legal Demands Between Measurement and Top of Depleted Reach	0.1	0.1	0.2	5.9	11.3	12	12	12	12	6.3	0.2	0.1
Revised Legal Demands Between Measurement and Top of Depleted Reach	0.1	0.1	0.2	6.0	11.3	12.1	12.1	12.1	12.1	6.3	0.2	0.1
Original Physically Available	4.1	4.2	3.5	9.6	15.5	41.8	62.0	70.8	76.7	30.0	13.0	6.9
Revised Physically Available	4.2	4.3	3.6	9.8	15.7	42.1	62.3	71.1	77.0	30.2	13.2	7.0

Table 3: Physically Available Volume in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Original Existing Legal Demands	3.6	3.3	5.5	73.1	107.5	219.3	225.3	226.6	165.1	76.7	3.6	3.6
Revised Existing Legal Demands	3.6	3.3	5.3	72.9	107.3	219.0	225.1	226.3	164.9	76.5	3.6	3.6
Original Physically Available Volume	284.4	229.9	208.5	293.3	371.6	1992.5	3294.7	3834.1	4006.7	1533	766.6	419.2
Revised Physically Available Volume	255.3	236.1	214.0	298.6	377.4	2001.0	3306.4	3847.7	4020.0	1543.5	775.8	427.1

The change in method for calculating the flow rate and volume of stock rights between the Top of the Depleted Reach and the Confluence with the Yellowstone River resulted in the values being corrected. The incorrect (original) and corrected (revised) values are shown in Table 4:

Table 4: Water Rights Between the Top of Depletion and the Confluence with the Yellowstone River

WR No.	Original			Revised		
	GPM	CFS	VOLUME	GPM	CFS	VOLUME
43Q 30107340			8.4	5.2	0.01	8.4
43Q 14939 00	41.99	0.093554	10.13	41.99	0.093	10.13
43Q 42699 00	150	0.334202	32	150	0.33	32
43Q 195892 00	0.00	0.00	5.10	2.12	0.0047	3.42
43Q 206797 00	25	0.0557	16.40	25	0.0557	16.40
43Q 208180 00	208.42	0.464362	50.27	208.42	0.46	50.27
43Q 208181 00	125.12	0.278769	30.18	125.12	0.278	30.18
43Q 208801 00	758.52	1.69	184.50	758.52	1.69	184.50
43Q 195891 00	2244.15	5	426.52	2244.15	5.0	426.52
43Q 45860 00	1795.32	4	438.70	1795.32	4.0	438.70
43Q 102615 00	35.00	0.08	34.00	21.078	0.047	34.0
Stock Direct Standard				35.00	0.0780	

The revised flow rate and volume, shown in Table 4, subsequently resulted in incorrect values for the "Legally Available Flow Rate in Danford Drain" and the "Legally Available Volume in Danford Drain". Additionally, per standard practice, depletions from water rights issued after stream flow measurements were collected are no longer included when evaluating availability. "Depletions from 43Q 30157960" and "Depletions from 43Q 30116187" are no longer included in the "Legally Available Flow Rate of Danford Drain" or "Legally Available Volume of Danford Drain". The removal of these water rights does not affect the outcome of the Application. These changes resulted in the values being corrected. The incorrect (original) and corrected (revised) values are shown in Table 5 and Table 6.

Table 5: Legally available Flow Rate in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Original Physically Available Flow Rate	4.1	4.2	3.5	9.6	15.5	41.8	62	70.8	76.7	30	13	6.9
Revised Physically Available Flow Rate	4.2	4.3	3.6	9.8	15.7	42.1	62.3	71.1	77.0	30.2	13.2	7.0
Original Existing Legal Demands	0.1	0.1	0.2	5.9	11.3	12.0	12.0	12.0	12.0	6.3	0.2	0.1
Revised Existing Legal Demands	0.1	0.1	0.2	6.0	11.3	12.1	12.1	12.1	12.1	6.3	0.2	0.1
Legally Available Flow Rate	4.0	4.1	3.3	3.7	4.3	29.8	50.0	58.8	64.7	23.7	12.8	6.8
Revised Legally Available Flow Rate	4.1	4.2	3.4	3.8	4.4	30.0	50.2	59.0	64.9	23.9	13.0	6.9

Table 6: Legally Available Volume in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Original Physically Available Volume	284.4	229.9	208.5	293.3	371.6	1992.5	3294.7	3834.1	4006.7	1533	766.6	419.2
Revised Physically Available Volume	255.3	236.1	214.0	298.6	377.4	2001.0	3306.4	3847.7	4020.0	1543.5	775.8	427.1
Original Existing Legal Demands	3.6	3.3	5.5	73.1	107.5	219.3	225.3	226.6	165.1	76.7	3.6	3.6
Revised Existing Legal Demands	3.6	3.3	5.3	72.9	107.3	219.0	225.1	226.3	164.9	76.5	3.6	3.6
Original Legally Available Volume	244.8	226.6	203.0	220.2	264.1	1773.3	3069.3	3607.6	3841.5	1456.3	763.0	415.6
Revised Legally Available Volume	251.7	232.8	208.7	225.7	270.1	1782.0	3081.3	3621.4	3855.1	1467.0	772.2	423.5

The Technical Analysis dated March 21, 2025, included a list of water rights in the Area of Potential Impact. The flow rate and volume of the stock rights in this list have been updated, as shown below in Table 7.

Table 7: Water Rights in the Area of Potential Impact

WR No.	Original			Revised		
	GPM	CFS	VOLUME	GPM	CFS	VOLUME
43Q 30107340			8.4	5.2	0.01	8.4
43Q 14939 00	41.99	0.093554	10.13	41.99	0.093	10.13
43Q 42699 00	150	0.334202	32	150	0.33	32
43Q 195892 00	0.00	0.00	5.10	2.12	0.0047	3.42
43Q 206797 00	25	0.0557	16.40	25	0.0557	16.40
43Q 208180 00	208.42	0.464362	50.27	208.42	0.46	50.27
43Q 208181 00	125.12	0.278769	30.18	125.12	0.278	30.18
43Q 208801 00	758.52	1.69	184.50	758.52	1.69	184.50
43Q 195891 00	2244.15	5	426.52	2244.15	5.0	426.52
43Q 45860 00	1795.32	4	438.70	1795.32	4.0	438.70
43Q 102615 00	35.00	0.08	34.00	21.078	0.047	34.0
Stock Direct Standard				35.00	0.0780	

To remedy this error, the Department will address the revisions necessary in the Preliminary Determination. No amendment to your application is necessary at this time. The Department apologizes for this error. Thank you for your understanding. If you have any questions or concerns about your application, please reach out at 406-247-4422.

Sincerely,

Cassey Strebeck, Water Resource Specialist
DNRC Water Resources, Billings Regional Office
(406) 247-4422
Cassey.Strebeck@mt.gov

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

Groundwater Permit Technical Analyses Report – Notice of Errata

Department of Natural Resources and Conservation (DNRC or Department)
Water Resources Division
Cassey Strebeck, Water Resource Specialist, Billings Regional Office
June 16, 2025

Application No.	43Q 30164891	**Applicant**	Cougar Investments, LLC
Proposed Point of Diversion:			
POD1	NWSWSW Sec 30 T01S R25E, Lt 1, Blk 1	POD8	SWSWSW Sec 30 T01S R25E, Lt 1, Blk 3
POD2	NWSWSW Sec 30 T01S R25E, Lt 2, Blk 1	POD9	SWSWSW Sec 30 T01S R25E, Lt 2, Blk 3
POD3	NESWSW Sec 30 T01S R25E, Lt 3, Blk 1	POD10	SESWSW Sec 30 T01S R25E, Lt 3, Blk 3
POD4	NWSESW Sec 30 T01S R25E, Lt 4, Blk 1	POD11	SWSESW Sec 30 T01S R25E, Lt 4, Blk 3
POD5	NWSESW Sec 30 T01S R25E, Lt 1, Blk 2	POD12	SWSESW Sec 30 T01S R25E, Lt 5, Blk 3
POD6	NESESW Sec 30 T01S R25E, Lt 2, Blk 2	POD13	SESESW Sec 30 T01S R25E, Lt 6, Blk 3
POD7	NESESW Sec 30 T01S R25E, Lt 3, Blk 2	POD14	SWSESW Sec 30 T01S R25E, Lt 7, Blk 3

Note: POD numbers are based on the Applicant's tables and maps.

Overview

Cassey Strebeck, Water Resource Specialist in the Billings Regional Office, completed Groundwater Permit Technical Analyses Report – Part B (TA-B) on March 21, 2025, to analyze data associated with Permit Application No. 43Q 30164891 submitted by Cougar Investments, LLC.

During an internal review of the Draft Preliminary Determination, it was determined that the flow rate and volume for the stock rights on Danford Drain were not calculated using Department standard practice. Additionally, it was determined that depletions from water rights issued after streamflow measurements on Danford Drain were collected should not be included in determining the availability of water, as it was no longer standard practice. As a result, the flow rate and volume for stock rights were recalculated, and the discussions and resulting calculations for the "Depletions from 43Q 30157960" and "Depletions from 43Q 30116187" were removed and will not be considered in the Draft Preliminary Discussion. The removal of these depletions does not affect the outcome of the Application. Tables 7, 8, 9, 10, 11, and 12; Figure 2; and Appendix A of TA-B have been modified. The Department considers the March 21, 2025, TA-B modified, as shown below.

This Groundwater Permit Technical Analyses Report – Notice of Errata contains the following sections, which corrects those sections in the March 21, 2025, Groundwater Permit Technical Analyses Report – Part B:

Overview 1
2.3 Monthly Flow Rate and Volume 2
3.0 Area of Potential Impact Analysis of Depleted Surface Water 4
Appendix A: Water Rights within the Area of Potential Impact 5

2.3 Monthly Flow Rate and Volume

Physically Available Water

There are 11 water rights between the top of the depleted reach and the location of the MBMG measurements on Danford Drain that utilize Danford Drain for irrigation and stock purposes. These are shown in the TA-B as Table 7. To determine the physically available water at the top of the depleted reach, the Department will calculate a volume and/or flow rate for rights with no quantified values per Department standard practice. Statement of claim 43Q 30107340 has a claimed volume but no claimed flow rate; the Department will use the claimed volume and will calculate a flow rate based on standard practice. For those with AUs but without a volume, the Department standard practice to calculate volume is to multiply the number of animal units (AU) by 0.034 AF/AU (30 GPD/AU) for year-round use, or AUs x 0.034 AF/AU x 1/365 yr/day x the number of days in the period of use. Flow rate in GPM is back-calculated by taking the annual volume in AF, multiplying it by 325,851 gallons/AF, then dividing by the number of days in the period of diversion and by 1,440 minutes/day.

The flow rate and volume of Statements of Claim 43Q 30107340, 43Q 195892-00, and 43Q 102615-00 for livestock direct have been recalculated to meet Department standard practice, as follows: the volume for 43Q 30107340 was taken as the claimed volume of 8.4 AF, and the flow rate was back calculated to 5.2 GPM (8.4 AF x 325,851 gallons / 365 days / 1,440 minutes per day = 5.2 GPM); the volume of 43Q 195892-00 was calculated as 3.42 AF based on 150 AU and 245 days (150 AUs x 0.034 AF/AU x 1/365 yr/day x 245 days = 3.42 AF) and the flow rate was back calculated to 2.12 GPM (3.42 AF x 325,851 gallons / 365 days / 1,440 minutes per day = 2.12 GPM); the volume of 43Q 102615-00 was calculated as 34 AF based on 1000 AU, year-round (1000 AUs x 0.034 AF/AU x 1/365 yr/day x 365 days = 34 AF) and the flow rate was back calculated to 21.07 GPM (34 AF x 325,851 gallon / 365 days / 1,440 minutes per day = 21.07 GPM); lastly, 35 GPM was added to the flow rate as this is the standard practice for calculated the flow rate for stock direct from source.

Table 1: Water Rights On Danford Drain Above the MBMG Wise Lane Collection Site

WR No.	Owners	Purposes	Flow Rate (GPM)	Flow Rate (CFS)	Volume (AF)	Acres	Period Of Diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	Stock	5.2*	0.01*	8.4*	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	Irrigation	41.99	0.093	10.13	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	Irrigation	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Stock	2.12*	0.0047*	3.42*	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	Irrigation	25	0.0557	16.40	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	Irrigation	208.42	0.46	50.27	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	Irrigation	125.12	0.278	30.18	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	Irrigation	758.52	1.69	184.50	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Irrigation	2244.15	5.0	426.52	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	Irrigation	1795.32	4.0	438.70	107	04/01 - 10/19
43Q 102615 00	Samm LLC	Stock	21.078*	0.047*	34.0*	0	01/01 - 12/31
Stock Direct Standard		Stock	35.00*	0.0780*			

* Updated from the March 21, 2025, Technical Analysis

Table 2 shows the updated Physical Availability without including depletions from water rights issued after streamflow measurements were collected and the corrected flow rate for legal demands for stock drinking directly from Danford Drain.

Table 2: Physically Available Flow Rate in Danford Drain, CFS

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Measured Monthly Flow Rate	4.1	4.2	3.4	3.8	4.4	30	50.2	59	64.9	23.9	13.0	6.9
Legal Demands Between Measurement and Top of Depleted Reach	0.1*	0.1*	0.2*	6.0*	11.3*	12.1*	12.1*	12.1*	12.1*	6.3*	0.2*	0.1*
Physically Available Flow Rate	4.2*	4.3*	3.6*	9.8*	15.7*	42.1*	62.3*	71.1*	77.0*	30.2*	13.2*	7.0*

* Used as Physical Availability; updated from the March 21, 2025, Technical Analysis

The changes to the volume of the stock rights listed in Table 1, affected the outcome of the volume for the "Legal Demands Between Measurements and Top of Depleted Reach"; the "Physically Available Volume before GW Depletions"; and the "Physically Available Volume" for Danford Drain. The removal of the depletions from water rights issued after streamflow measurements were collected, also changed the volume of water physically available. The updated values are shown below in Table 3.

Table 3: Physically Available Volume in Danford Drain, AF

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Measured Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782	3081.3	3621.4	3855.1	1467	772.2	423.5
Legal Demands Between Measurement and Top of Depleted Reach	3.6*	3.3*	5.3*	72.9*	107.3*	219.0*	225.1*	226.3*	164.9*	76.5*	3.6*	3.6*
Physically Available Volume	255.3*	236.1*	214.0*	298.6*	377.4*	2001.0*	3306.4*	3847.7*	4020.0*	1543.5*	775.8*	427.1*

* Updated from the March 21, 2025, Technical Analysis

Legally Available Water

Corrections to the flow rate and volume were also applied to the stock rights between the 'Top of the Depleted Reach and the Confluence with the Yellowstone River'. These are shown in Table 11 of the TA-B. The corrected values are shown below in Table 4.

Table 4: Water Rights on Danford Drain Between the Top of the Depleted Reach and the Confluence with the Yellowstone River

WR No.	Owners	Purposes	Flow Rate (GPM)	Flow Rate (CFS)	Volume (AF)	Acres	Period Of Diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	Stock	5.2*	0.01*	8.4*	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	Irrigation	41.99	0.093	10.13	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	Irrigation	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Stock	2.12*	0.0047*	3.42*	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	Irrigation	25	0.0557	16.40	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	Irrigation	208.42	0.46	50.27	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	Irrigation	125.12	0.278	30.18	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	Irrigation	758.52	1.69	184.50	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Irrigation	2244.15	5.0	426.52	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	Irrigation	1795.32	4.0	438.70	107	04/01 - 10/19
43Q 102615 00	Samm LLC	Stock	21.078*	0.047*	34.0*	0	01/01 - 12/31
Stock Direct Standard			35.00*	0.0780*			

* Updated from the March 21, 2025, Technical Analysis

The changes to the volume of the stock rights listed in Table 4, affected the outcome of the "Legally Available Flow Rate"; and the "Legally Available Volume" for Danford Drain. The updated values are shown below in Table 5 and Table 6.

Table 5: Legally Available Flow Rate in Danford Drain, CFS

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physically Available Flow Rate (Table 6)	4.2*	4.3*	3.6*	9.8*	15.7*	42.1*	62.3*	71.1*	77.0*	30.2*	13.2*	7.0*
Existing Legal Demands	0.1*	0.1*	0.2*	6.0*	11.3*	12.1*	12.1*	12.1*	12.1*	6.3*	0.2*	0.1*
Legally Available Flow Rate	4.1*	4.2*	3.4*	3.8*	4.4*	30.0*	50.2*	59.0*	64.9*	23.9*	13.0*	6.9*

* Updated from the March 21, 2025, Technical Analysis

Table 6: Legally Available Volume in Danford Drain, AF

Month	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Physically Available Volume	255.3*	236.1*	214.0*	298.6*	377.4*	2001.0*	3306.4*	3847.7*	4020.0*	1543.5*	775.8*	427.1*
Existing Legal Demands	3.6*	3.3*	5.3*	72.9*	107.3*	219.0*	225.1*	226.3*	164.9*	76.5*	3.6*	3.6*
Legally Available Volume	251.7*	232.8*	208.7*	225.7*	270.1*	1782.0*	3081.3*	3621.4*	3855.1*	1467.0*	772.2*	423.5*

* Updated from the March 21, 2025, Technical Analysis

3.0 Area of Potential Impact Analysis of Depleted Surface Water

The Technical Analysis dated March 21, 2025, included a list of water rights in the Area of Potential Impact. These are shown in Appendix A of the TA-B. The flow rate and volume of the stock rights in this list have been updated, as shown below in Table 6.

Review

This document has been reviewed by the Department on June 16, 2025.

Appendix A: Water Rights within the Area of Potential Impact

WR No.	Owners	Purposes	Flow Rate (GPM)	Flow Rate (CFS)	Volume (AF)	Acres	Period Of Diversions
43Q 30107340	Gene J Klamert; Ronna J Klamert	Stock	5.2*	0.01*	8.4*	0	01/01 - 12/31
43Q 14939 00	Kevin D Anthony; Deanna C Brunn	Irrigation	41.99	0.093	10.13	2.47	03/01 - 11/04
43Q 42699 00	Shirley M Wagner	Irrigation	150	0.33	32	8.0	05/01 - 10/15
43Q 195892 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Stock	2.12*	0.0047*	3.42*	0	03/01 - 10/31
43Q 206797 00	Arland Y Gleason; John F Thielen	Irrigation	25	0.0557	16.40	4.0	04/01 - 10/04
43Q 208180 00	Kristin Anderson; Kurt Anderson	Irrigation	208.42	0.46	50.27	12.26	06/01 - 09/04
43Q 208181 00	Dale D Maxwell; Valerie Maxwell; Neil Nistler; Tanya Nistler	Irrigation	125.12	0.278	30.18	7.36	06/01 - 09/04
43Q 208801 00	JTL Group Inc	Irrigation	758.52	1.69	184.50	45	04/01 - 10/31
43Q 195891 00	Daniel J Hickey; Joseph D Hickey; Kelly R Hickey; Lindalee E Hickey; Gene J Klamert; Ronna J Klamert	Irrigation	2244.15	5.0	426.52	104.03	05/01 - 09/19
43Q 45860 00	Kyle A Kindsfather; Sarah F Kindsfather; Lorenz Construction LLC; Marsich Investments Inc	Irrigation	1795.32	4.0	438.70	107	04/01 - 10/19
43Q 102615 00	Samm LLC	Stock	21.078*	0.047*	34.0*	0	01/01 - 12/31

* Updated from the March 21, 2025, Technical Analysis

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
Water Resources Division • Billings Regional Office
1371 Rimtop Drive, Billings, MT 59105 Phone: (406) 247-4415 Fax: (406) 247-4416

GREG GIANFORTE, GOVERNOR 1539 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074
FAX: (406) 444-2684

PO BOX 201601
HELENA, MONTANA 59620-1601

March 21, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
9428 Anglers Way
Billings, MT, 59101

Subject: Completed Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 43Q 30164891

Dear Applicant,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (DNRC or Department) has completed the technical analyses for Beneficial Water Use Permit Preapplication No. 43Q 30164891 based on the information provided in your Preapplication Meeting Form accepted by the Department on February 06, 2025. The technical analyses can be found in the attached report. Please note this Beneficial Water Use Permit Technical Analyses Report is a two-part publication, comprised of a Part A completed by [regional office staff/ Water Sciences Bureau staff], and a Part B completed by [regional office staff/ Water Sciences Bureau staff].]

This Technical Analyses Report **IS**: A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-311, MCA if you submit an application for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT**: An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria (§85-2-311, MCA).

You have 180 days to submit the Beneficial Water Use Permit Application Form 600 considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Billings Regional Office by September 17, 2025, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)).Please let me know if you have any questions.

Sincerely,

C Strebeck

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Groundwater Permit Technical Analyses Report - Part A

Department of Natural Resources and Conservation (DNRC)
Water Resources Division
Jack Landers, Groundwater Hydrologist, Water Sciences Bureau (WSB)

Application No.	43Q 30164891	**Point of Diversion Legal Land Description**	Sec 30, Township 1 South, Range 25 East
Applicant	Cougar Investments LLC		

Overview

This report is Part A of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in §85-2-311, Montana Code Annotated (MCA). For applications in closed basins, this report fulfills the requirements of MCA 85-2-361.

This Groundwater Permit Technical Analyses Report – Part A contains the following sections:

Overview 1
1.0 Executive Summary 1
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1.0 Executive Summary

Application Details

The Applicant proposes to divert 48.01 acre-ft (AF) at a maximum flow rate of 135.0 gallons per minute (gpm) from 14 points of diversion (POD) to supply water for a commercial park. The Applicant proposes to irrigate 14.3 acres of lawn and garden with a volume of 35.79 AF from April 1 to October 31. The remaining 12.22 AF would be used for commercial purposes from January 1 to December 31.

Approved Variances from ARM 36.12.121

A variance for Administrative Rule of Montana (ARM) 36.12.121 was granted from the Billings Regional Office. The proposed points of diversion are located within sediments of the Yellowstone River Terrace Level 3 aquifer and the Applicant agreed to use the aquifer properties described in DNRC Technical Memorandum: Variance – Yellowstone River Terrace Level 3 Aquifer Properties, dated March 1, 2022. As a result, the Applicant conducted an 8-hr drawdown and yield test per requirements in DNRC (2022).

WSB Technical Findings

Based on information submitted, the WSB evaluated the Production Well(s) available water column, quantified the water available in the source aquifer, and evaluated potential impacts to existing groundwater and surface water rights. These technical analyses are in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect. A summary of WSB findings described in subsequent sections are listed below.

TECHNICAL ANALYSES FINDINGS

AQUIFER TEST ANALYSIS	The T and S_y from DNRC (2022) was used for evaluating adequacy of diversion, estimating groundwater physical availability, and estimating drawdown in nearby wells and is equal to 6,000 ft^2/day and 0.1, respectively.
ADEQUACY OF DIVERSION	Using the Theis (1935) solution, a Transmissivity (T) = 6,000 ft^2/day, specific yield (S_y) of 0.1 (DNRC, 2022), and the monthly pumping schedule identified in **Table 3,** the Production Well would experience a maximum drawdown of 1.2 feet (ft) after the first year, leaving approximately 29.7 ft of available water column above the bottom of the well.
PHYSICAL AVAILABILITY	The predicted 0.01-foot drawdown contour, or zone of influence (ZOI), occurs a maximum distance of 12,200 ft from the Applicant's wells. Groundwater flux through the ZOI is equal to 2,066 AF/year. There are 472 active groundwater rights completed within the ZOI and source aquifer that need to be evaluated as a legal demand.
ADVERSE EFFECT (DRAWDOWN IN EXISTING WELLS)	The predicted 1-ft drawdown contour occurs at a maximum distance of 100 ft from the Applicant's wells after pumping the wells for five years following the schedule identified in **Table 3**. Zero groundwater rights in the source aquifer are predicted to experience drawdown equal to or greater than one foot.
ADVERSE EFFECT (NET DEPLETION TO SURFACE WATER)	Danford Drain (3.3 miles east of wells) is identified as being hydraulically connected to the source aquifer. Monthly net depletions resulting from the proposed use of groundwater are identified in **Table 1** and the location of net depletions in **Figure 8**.

Table 1: Total consumed volume and net depletion to surface water for the proposed wells.

Month	Lawn and Garden Consumed Volume (AF)	Commercial Consumed Volume (AF)	Total Consumed Volume (AF)	Danford Drain Net Depletion (AF)	Danford Drain Net Depletion (gpm)
January	0.0	0.1	0.1	1.2	8.4
February	0.0	0.1	0.1	0.9	7.1
March	0.0	0.1	0.1	0.8	6.2
April	0.7	0.1	0.8	0.8	5.7
May	3.0	0.1	3.1	1.1	8.0
June	4.9	0.1	5.0	2.1	15.7
July	6.6	0.1	6.7	3.4	24.8
August	5.9	0.1	6.0	4.5	32.7
September	3.0	0.1	3.1	4.4	33.2
October	0.9	0.1	1.0	3.5	25.5
November	0.0	0.1	0.1	2.2	16.8
December	0.0	0.1	0.1	1.5	10.9
Total	**25.1**	**1.2**	**26.3**	**26.3**	

2.0 Hydrogeologic Setting

As identified in **Figure 1**, the Production Well (GWIC ID 334912) is completed in an unconfined aquifer system in what is referred to as the Yellowstone River Terrace Level 3 (Qat3) by Lopez (2000). The total depth of GWIC ID 334912 is 38.0 ft below ground surface (bgs) with a static water level of 7.91 ft below top of casing (btc). The lithology on the well log describes a six-foot-thick clay layer overlying a 29-foot-thick sand and gravel aquifer. The borehole penetrates the entire thickness of the aquifer and one foot of the underlying shale formation. The well is open bottom, and the casing extends to the bottom of the sand and gravel aquifer at 37.0 ft bgs. The source aquifer code is 111ALVM.

The proposed project is located in the Yellowstone River Valley, which is bounded by outcrops of the Belle Fourche and Mowry formations immediately south of the Yellowstone River and the Eagle Formation rim rocks to the north. The Yellowstone Valley is incised 200 ft to 300 ft into the shale of the Colorado Group. The valley is dissected by numerous irrigation ditches, drains, and streams including Canyon Creek, Big Ditch, Billings Bench Water Association Canal, and Hogans Slough. Olson and Reiten (2002) describe the geology in the vicinity of the proposed project as terrace and alluvial deposits associated with migration and downcutting of the Yellowstone River. Olson and Reiten (2002) indicate that the gravel and sand unit of the source aquifer may thin and pinch out over a short distance especially to the north and south due to terrace scarps. For this report, the clay layer is considered discontinuous and consequently, the aquifer is unconfined.

Groundwater level contour maps by Gosling and Pashley (1973) and Olson (2005) show that groundwater in the source aquifer flows to the east and northeast towards Canyon Creek. The

source aquifer is recharged by stream losses, leakage from irrigation practices, precipitation, and movement of groundwater from bedrock (Madison et al., 2014).

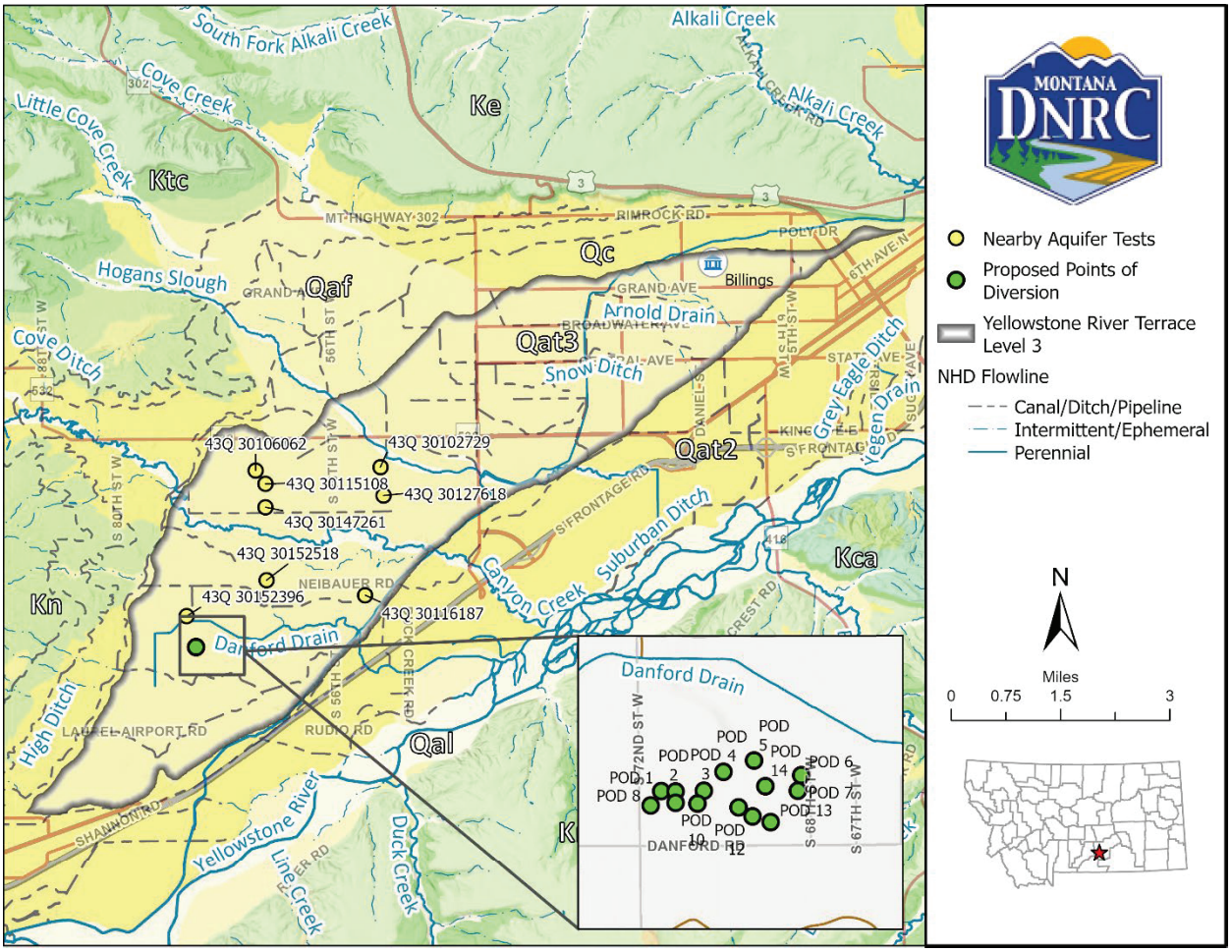


Figure 1: Map of the proposed project and nearby aquifer tests.

3.0 Drawdown and Yield Test Summary

A "Drawdown and Yield Test" is a pumping test that is meant to evaluate well construction and the ability of the aquifer to yield water to the well. This is also known as demonstrating "adequacy of diversion". The minimum duration of these tests is 8-hours. Observation wells, pre-test, and post-test data is not required for Drawdown and Yield Tests.

Field Methods and Equipment

An 8-hr drawdown and yield test was conducted on the Production Well, GWIC ID 334912. Water levels during the test were collected using Onset Corp MX2001 dataloggers in the Production Well. The discharge was measured with a 2-inch Badger flowmeter. A plot of drawdown and recovery data is provided in **Figure 2**.

Background Data

Background groundwater levels were monitored in the Production Well for 23 hours starting on November 4, 2024, and ending on November 5, 2024. As shown in **Figure 2**, water levels fluctuated a maximum of 0.1-ft.

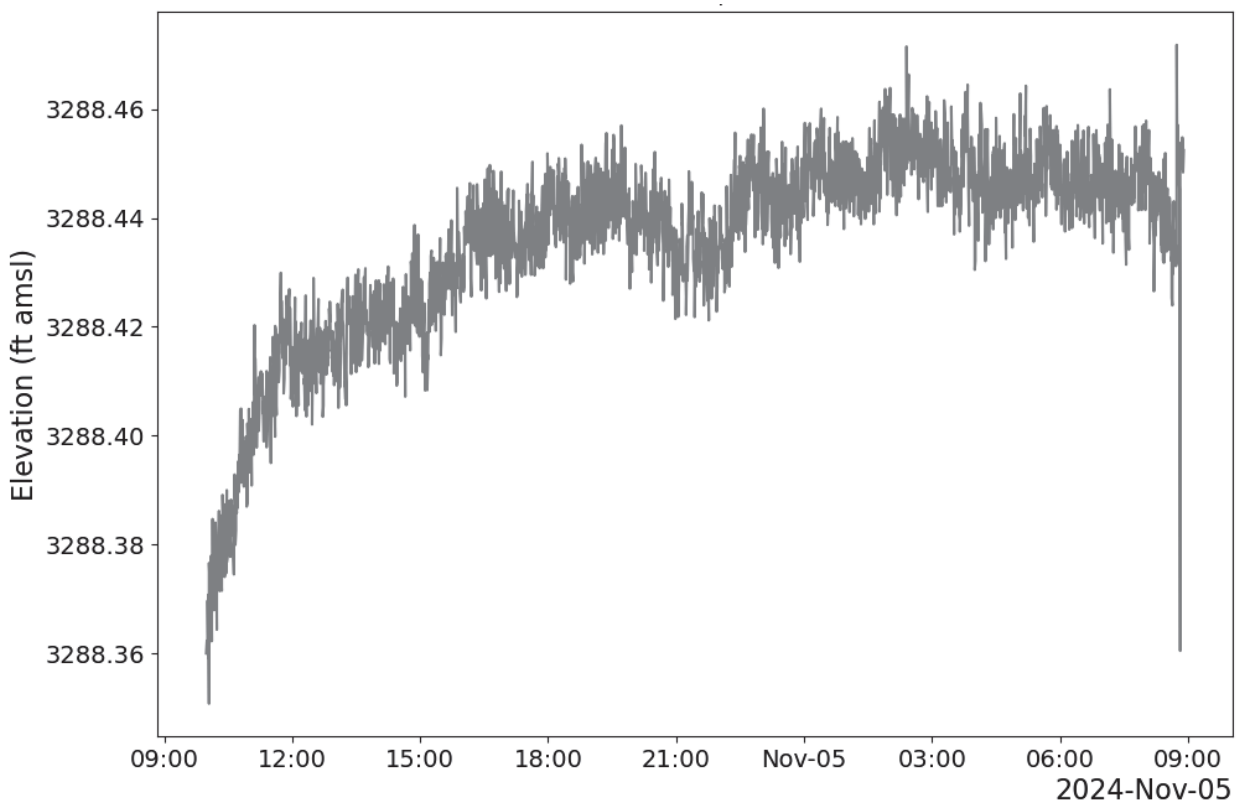


Figure 2: Background data for the Production Well, GWIC ID 334912.

Drawdown Data

The 8-hour drawdown and yield test started on November 5, 2024, at 8:54 A.M. on the Production Well. The test started with a discharge of 50.0 gpm and remained stable throughout the test. The maximum drawdown in the Production Well was 5.02 ft (**Figure 3**) below the static water level (swl) of 7.91 ft btc leaving approximately 25.87 ft of available water column above the bottom of the well, accounting for a well casing stickup of 1.8 ft.

Recovery Data

Recovery groundwater level data were monitored for 18.7 hours from November 5, 2024, through November 6, 2024. At the end of the recovery period the water level was 0.07 ft below the pre-test static water level (**Figure 3**).

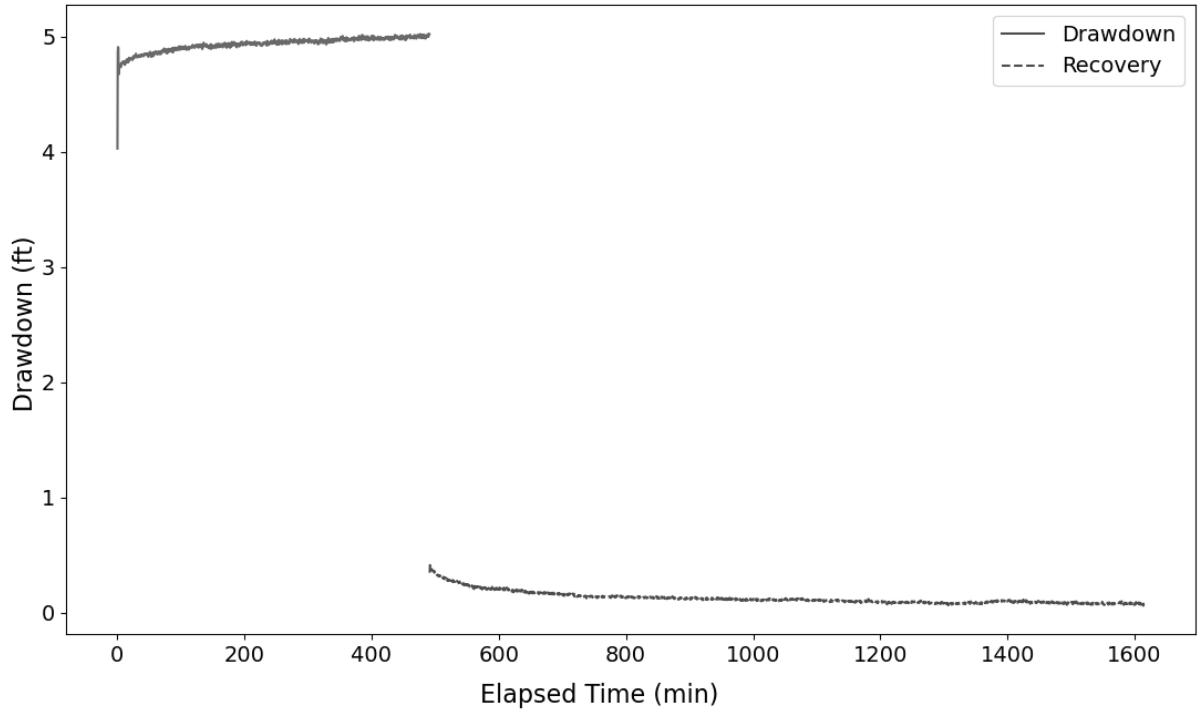


Figure 3: Drawdown and recovery data for the Production Well, GWIC ID 334912.

4.0 Aquifer Properties

In lieu of submitting an aquifer test on the proposed well the Applicant agreed to use aquifer properties from DNRC (2022).

Aquifer Property Comparison

The results of nine nearby aquifer tests in the Billings Terrace Level 3 are shown in **Table 2**. The geometric mean of all T values in **Table 2** is 5,955 ft^2/day, which is consistent with a T value of 6,000 ft^2/day from DNRC (2022) and is representative of the Terrace Level 3 aquifer.

Table 2: Nearby Aquifer Tests. Note: T = Transmissivity.

Water Right No.	GWIC ID	Well Depth (ft)	Distance from Applicant Well (miles)	Aquifer Test Length (hrs)	Pumping Rate (gpm)	T (ft^2/day)
43Q 30152396	188964	44	0.5	24	68	18,100
43Q 30152518	317002	52	1.3	76	197	5,985
43Q 30147261	303647	51	2.2	74	182	8,700
43Q 30116187	300066	26	2.4	72	66	7,845
43Q 30115108	295769	51	2.4	73	189	4,195
43Q 30106062	287847	56	2.6	72	218	3,443
43Q 30127618	304825	31	3.3	24	70	9,155
43Q 30102729	281919	37	3.5	72	112	7,606
43Q 30106232	286084	55	4.0	24	163	1,268
				Geometric Mean		**5,955**

5.0 Adequacy of Diversion Analysis

An evaluation of the potentially available water column remaining in the Production Well was modeled in FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Theis (1935) solution
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)

The Applicant proposes to irrigate 14.3 acres of lawn and garden with a total volume of 35.8 AF, based on 2.5 AF/acre. The irrigation volume was apportioned April through October according to the monthly percent of the total net irrigation requirement (NIR) for pasture grass calculated for the Billings Water Plant weather station listed in the Irrigation Water Requirement (IWR) program (NRCS, 2003). Pasture grass is used as a proxy for turf grass by applying the inputs described in DNRC (2010).

The proposed commercial volume is based on a system designed for 24 employees per lot and 35 gallons per day per employee. The type of commercial facility that will occupy each lot is unknown and may include outdoor vehicle and equipment washing in addition to indoor use. The proposed commercial volume of 12.2 AF was distributed evenly January through December based on days in the month.

Table 3: Assumed monthly pumping schedule for the proposed uses.

Month	IWR NIR[1] (inches)	Commercial Diverted Volume (AF)	Lawn and Garden Diverted Volume (AF)	Total Diverted Volume (AF)	Total Diverted Flow Rate (gpm)
January	0.00	1.0	0.0	1.0	7.6
February	0.00	0.9	0.0	0.9	7.6
March	0.00	1.0	0.0	1.0	7.6
April	0.71	1.0	1.0	2.0	15.3
May	3.01	1.0	4.3	5.4	39.1
June	4.88	1.0	7.0	8.0	60.5
July	6.58	1.0	9.4	10.5	76.6
August	5.84	1.0	8.4	9.4	68.8
September	3.00	1.0	4.3	5.3	40.1
October	0.94	1.0	1.3	2.4	17.4
November	0.00	1.0	0.0	1.0	7.6
December	0.00	1.0	0.0	1.0	7.6
Total	24.96	12.2	35.8	48.0	

[1] Billings Water Plant Weather Station

Predicted theoretical drawdown for the proposed well is modeled for the period of diversion using the monthly pumping schedules. The monthly pumping schedule shown in **Table 3** was distributed to each well based on the individual proposed volumes provided by the Applicant, shown in **Table 4**, as a proportion of the total annual volume. The proposed number of acres irrigated for each well varies and results in different diverted volumes for each point of diversion (**Table 4**). POD 14 would irrigate park open space and would not supply water for commercial purposes.

Table 4: Total annual volumes proposed for each POD.

POD ID	Commercial Volume (AF)	Acres Irrigated	Lawn and Garden Irrigation Volume (AF)	Total Diverted Volume (AF)	Proportion of Total Diverted Volume (AF)
1	0.9	1.1	2.8	3.8	0.08
2	0.9	1.0	2.4	3.4	0.07
3	0.9	1.0	2.4	3.4	0.07
4	0.9	0.5	1.4	2.3	0.05
5	0.9	0.5	1.4	2.3	0.05
6	0.9	0.8	2.0	2.9	0.06
7	0.9	0.6	1.5	2.5	0.05
8	0.9	1.1	2.7	3.7	0.08
9	0.9	0.9	2.4	3.3	0.07
10	0.9	0.9	2.4	3.3	0.07
11	0.9	1.1	2.8	3.8	0.08
12	0.9	0.5	1.3	2.3	0.05
13	0.9	0.5	1.2	2.2	0.05
14	0.0	3.6	9.0	9.0	0.19
Total	12.2	14.3	35.8	48.0	1.00

Only one well (GWIC ID 334912) has been constructed. However, to evaluate the effect of interference drawdown from pumping all 14 wells simultaneously, the proposed well locations were modeled using FWD:SOLV assuming the same construction as GWIC ID 334912.

As shown in **Table 5,** total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Interference drawdown is additional drawdown that would occur from pumping all 14 wells simultaneously (**Table 5**, **Figure 4**). Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Well efficiency is calculated by dividing the modeled maximum drawdown for the drawdown and yield test by the maximum observed drawdown from the drawdown and yield test. The maximum total drawdown for the Production Well is 1.2 ft at the end of August. The remaining available water column for GWIC ID 334912 is equal to the available drawdown above the bottom of the well minus total drawdown, equal to 29.7 ft. The remaining 13 wells would exhibit similar drawdown based on comparable pumping schedules, volumes and well construction.

Table 5: Remaining available water column for the Production Well, GWIC ID 334912.

Drawdown Estimate	POD 1
Total Depth at Bottom of Perforated Interval (ft btc)[1]	38.8
Pre-Test Static Water Level (ft btc)	7.9
Available Drawdown Above Bottom of Well (ft)	30.9
Observed Drawdown of Aquifer Test (ft)	5.0
Modeled Drawdown Using Mean Aquifer Test Rate (ft)	2.0
Well Efficiency (%)	39%
Predicted Theoretical Maximum Drawdown (ft)	0.3
Predicted Drawdown with Well Loss (ft)	0.7
Interference Drawdown (ft)	0.5
Total Drawdown (ft)	1.2
Remaining Available Water Column (ft)	29.7

[1]The total well depth measuring point (bgs) was adjusted to the top of well casing based on a 1.8 ft well casing stickup reported on the well log.

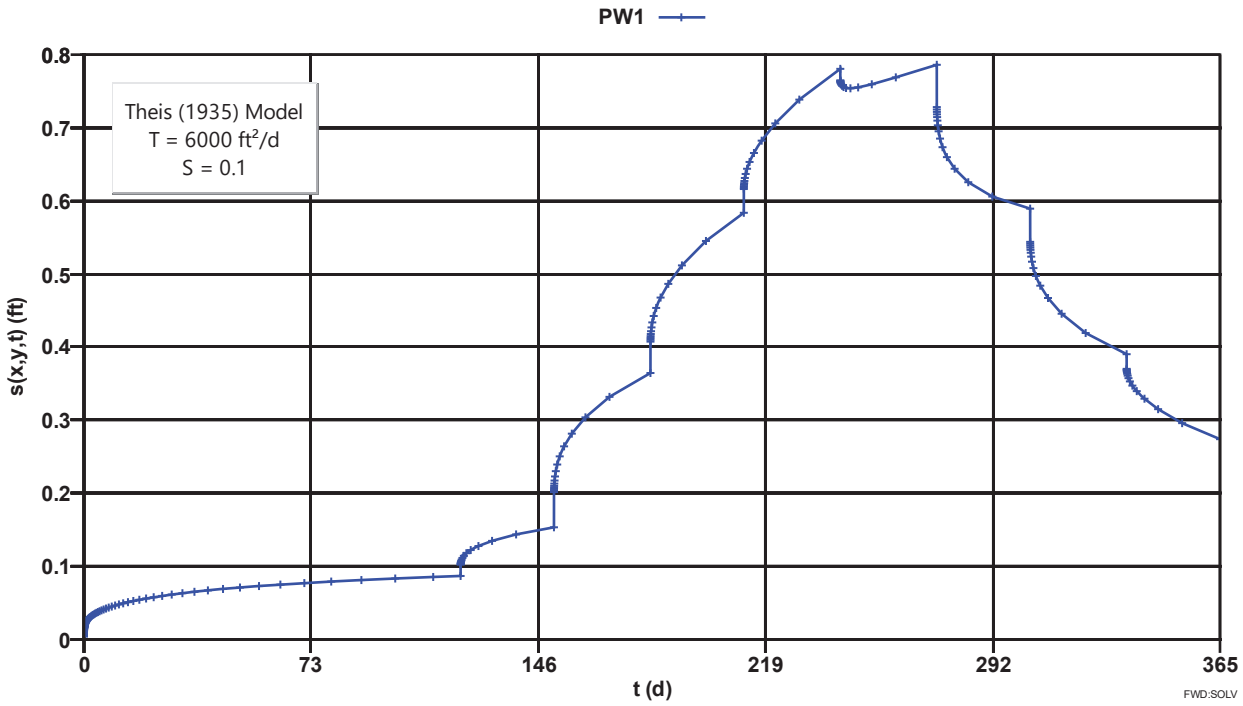


Figure 4: Theis (1935) time-drawdown plot for one year of the assumed monthly pumping schedule. All 14 wells were modeled simultaneously, but only the Production Well GWIC ID 334912 is shown. Drawdown is the largest at the end of August.

6.0 Physical Availability Analysis

An evaluation of groundwater availability in the source aquifer for the purpose of evaluating physical and legal availability was modeled in FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Theis (1935) solution
- Constant cumulative pumping rate of 29.83 gpm for the period of diversion
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)
- No-flow boundaries representing the maximum aquifer extent. The aquifer is bounded by cretaceous shales approximately 5,000 ft northwest and terrace scarps approximately 8,000 ft southeast of the proposed wells.

Groundwater availability is determined by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The flow rate required to produce 48.01 AF annually is 29.83 gpm. All 14 wells were input in the model with a constant flow rate calculated from the proportion of the individual volumes to the total volumes, shown in column 6 of **Table 4**. As shown in **Figure 5** and **Figure 6,** the 0.01-foot drawdown contour is an irregular shape due to the effect of the no-flow boundaries and occurs at a maximum distance of 12,200 ft from the proposed wells.

The direction of groundwater flow is predominantly to the northeast and east and the width of the ZOI that is perpendicular to groundwater flow equals 13,700 ft. **Appendix A** is a list of the 472 groundwater rights that need to be evaluated as a legal demand. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 246,600 ft^3/day or 2,066 AF/year:

$$Q = TWi \qquad \textbf{Eq. 1}$$

where:
T = Transmissivity = 6,000 ft^2/day
W = Width of Zone of Influence = 13,700 ft
i = Groundwater Gradient (from Olson, 2005, Water level contour map) = 0.003 ft/ft.

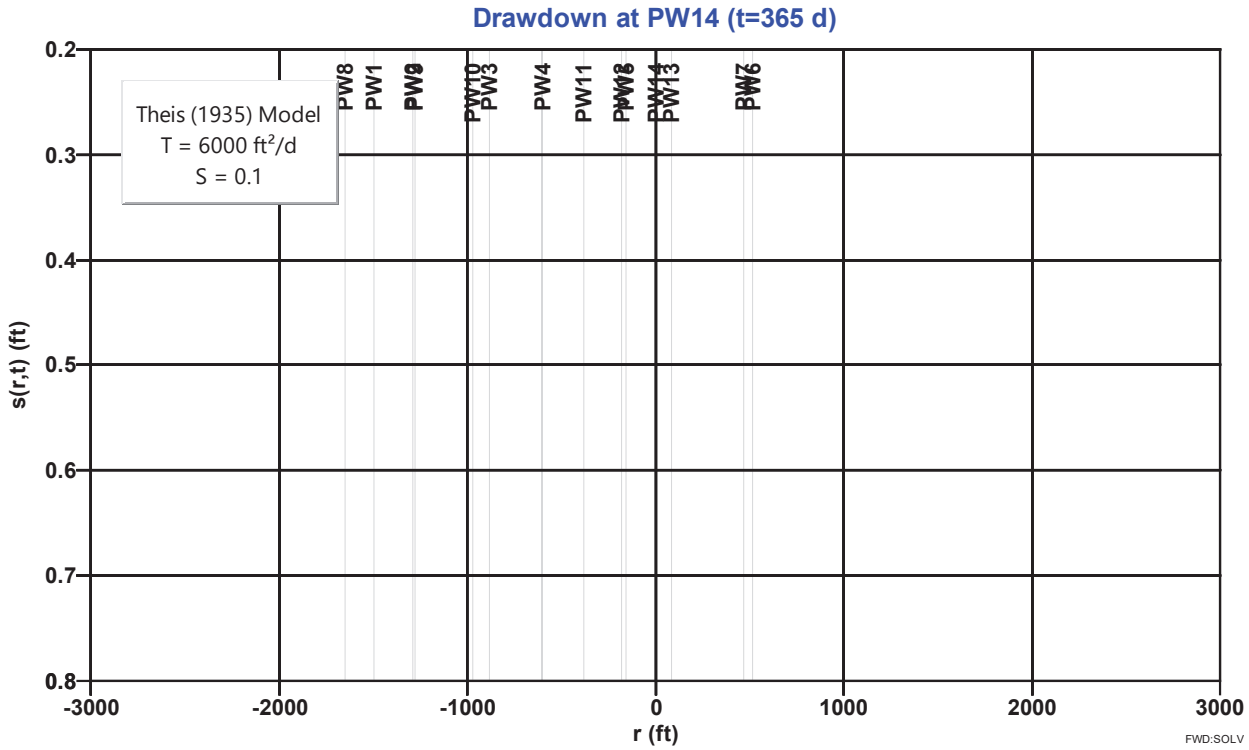


Figure 5: Theis (1935) distance-drawdown plot for one year of pumping the proposed wells at a cumulative flow rate of 29.83 gpm. The locations of the 14 wells and the no-flow boundaries influence the shape of the drawdown contours. The plot is centered on Well 14 and oriented east to west.

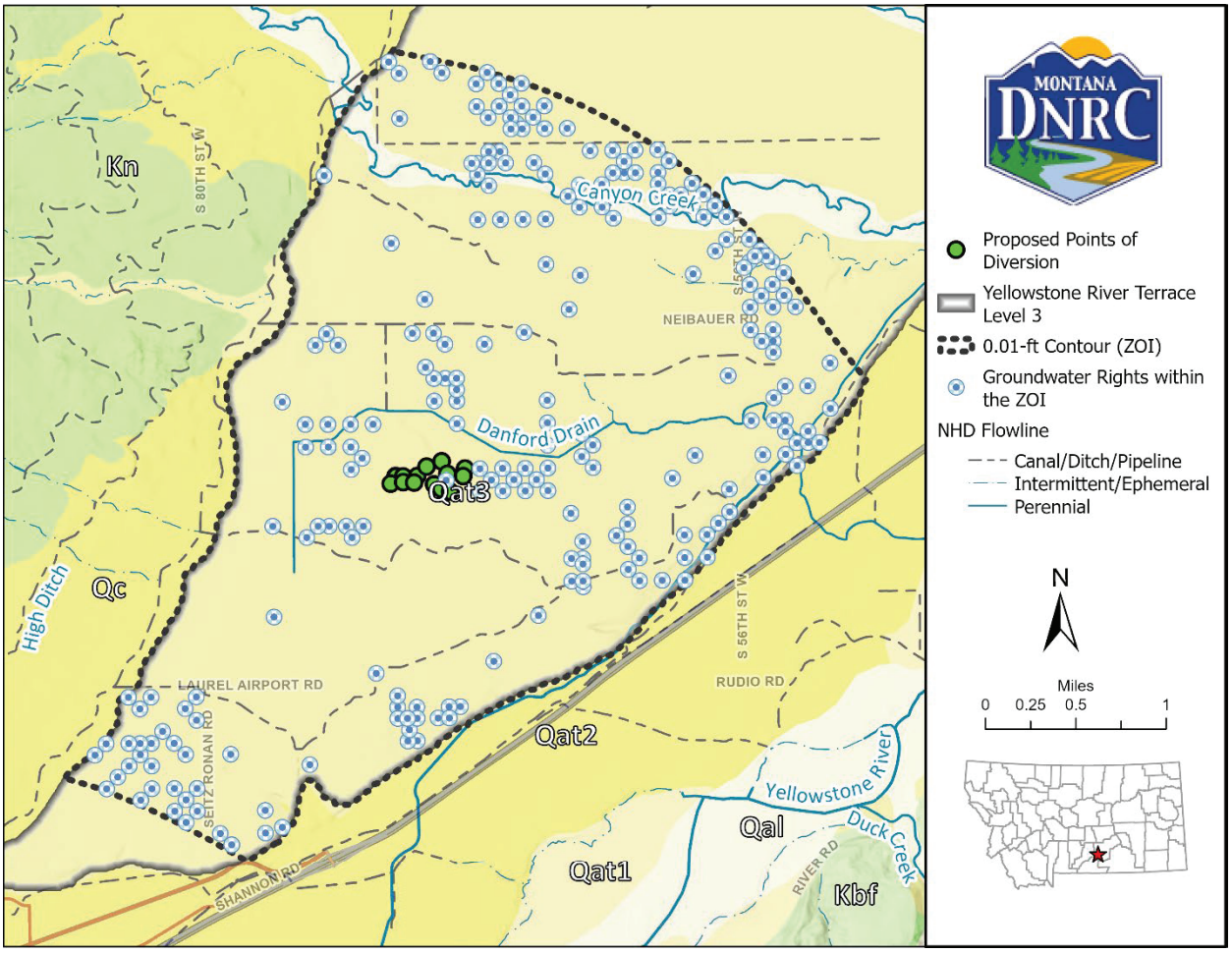


Figure 6: 0.01-foot drawdown contour (ZOI) and groundwater rights within the ZOI.

7.0 Adverse Effect Analysis

Using the Applicant's proposed pumping schedule and associated annual volume, potential impact to existing water rights is evaluated by modeling drawdown in nearby wells and net depletions to surface water(s).

7.1 Groundwater - Drawdown in Existing Wells

The drawdown in existing wells was modeled in FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Theis (1935) solution
- Monthly pumping schedule for 5 years (**Table 3**), with the volumes shown in **Table 4** apportioned to each well
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)
- No-flow boundaries representing the maximum aquifer extent approximately 5,000 ft northwest and 8,000 ft southeast of the proposed wells.

The maximum modeled drawdown is 1.45 ft at POD 14 (park irrigation well) at the end of the fifth August, as shown in **Figure 7**. The 1-ft drawdown contour extends 100 ft from POD 14 and zero water rights are predicted to experience drawdown equal to or greater than one foot.

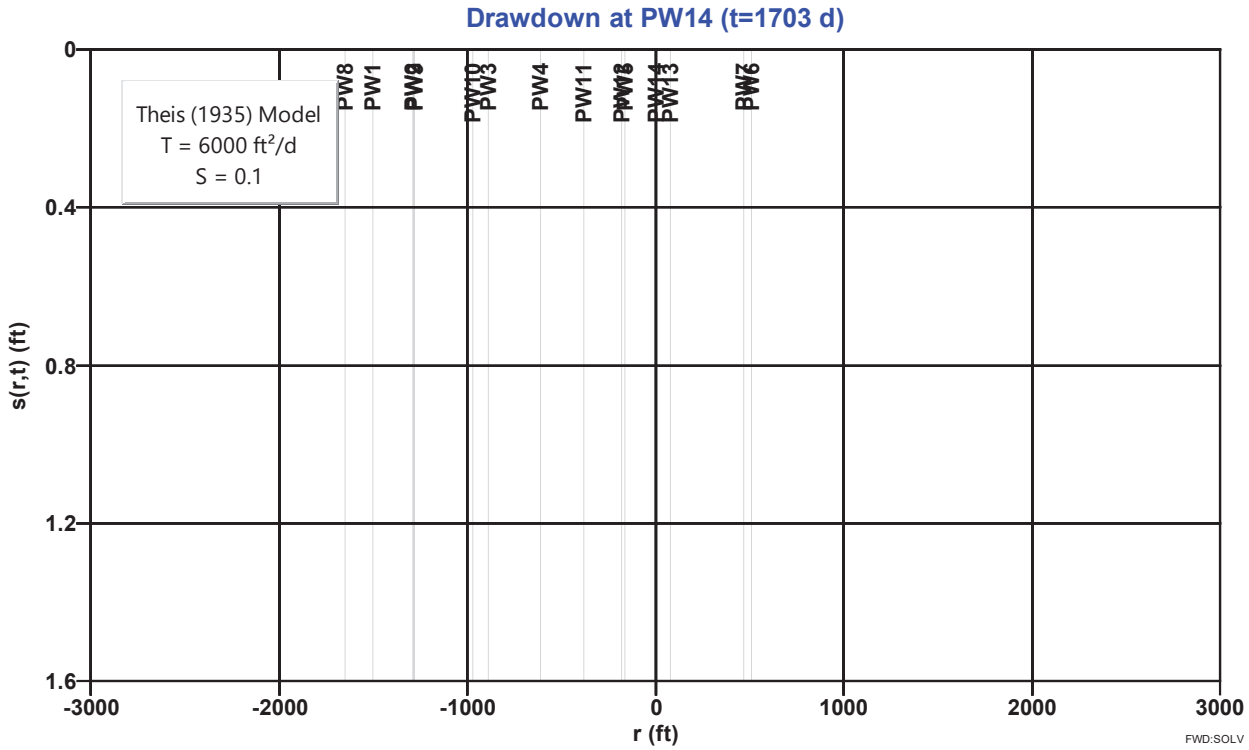


Figure 7: Distance-drawdown plot at the end of the fifth August. The locations of the 14 PODs and the no-flow boundaries influence the shape of the drawdown contours. The plot is centered on POD 14 and oriented east to west.

7.2 Surface Water - Net Depletion

Net depletion is equal to consumption for a proposed groundwater use and is described as the calculated volume, rate, timing, and location of reductions to surface water that are offset by return flows (non-consumed water). Net depletion is evaluated by 1) quantifying the consumed volume associated with the proposed use; 2) identifying hydraulically connected surface waters; and 3) calculating the monthly rate and timing of net depletions to affected surface water(s).

1. Consumed Volume

Consumed groundwater does not return to the source aquifer. Consumed volume depends on the proposed use and its associated percentage of known consumption. Depletion is assumed to be equivalent to consumption on an annual basis unless return flows do not accrete to the potentially affected surface water.

Monthly consumption for lawn and garden irrigation was calculated based on an irrigation efficiency of 70%. Consumption for domestic or commercial purposes is based on the results of studies by Kimsey and Flood (1987), Vanslyke and Simpson (1974), and Paul, Poeter, and Laws (2007) shown in **Table 6**. Wastewater would be treated with individual drainfields, resulting in

10% of the diverted volume consumed. A monthly breakdown of the consumed volume by purpose is shown in **Table 1**.

Table 6: Percent consumption for domestic use by wastewater disposal/treatment method.

Wastewater Treatment/Disposal	Consumed
Individual drainfields	10%
Central treatment facility with minimal consumption	5%
Evaporation basin or land application	100%

2. Hydraulically Connected Surface Water(s)

Net depletions to surface water depend on propagation of drawdown to locations where surface water is hydraulically connected to groundwater, the hydraulic properties of an aquifer, and is not a function of groundwater flow rate or direction (Theis, 1938; Leake, 2011). Hydraulic connection depends on the depth to groundwater beneath the beds of surface waters and can vary along a reach and with time of year. Drawdown from pumping can propagate through the entire thickness of the confining layer to overlying aquifers or surface waters (Konikow and Neuzil, 2007).

Per DNRC (2018) hydraulic connection of individual stream reaches to ground water is evaluated by comparing streambed elevations to static ground water elevations measured in wells less than 50 ft deep and within 1,000 ft of surface water or from published water table maps. Surface water within that area is considered hydraulically connected to the unconfined aquifer if static ground water elevations are above or within 10 ft of the elevation of the stream bed.

Olson (2005) describes the Yellowstone River terraces as distinct hydrogeologic units separated by terrace scarps. Several surface water sources flow across the Yellowstone River Terrace Level 3, including Danford Drain (approximately 2,000 ft north) and Canyon Creek (approximately 10,000 ft north). The proposed wells are bounded by Danford Drain to the west and north and by the terrace boundary to the south and east. Therefore, Danford Drain is the potentially affected surface water source considered for this analysis.

To evaluate hydraulic connection to Danford Drain, wells located within 1,000 ft of the stream and less than 50 ft deep with static water levels less than 10 ft below ground surface were selected in a GIS project. Numerous wells are located adjacent to Danford Drain that indicate hydraulic connection to the source aquifer including GWIC ID's 221220, 221221, 221222, 221223, 322309, 324119, 327479, and 330240 (**Figure 8**).

Data from these wells and groundwater level contour maps by Gosling and Pashley (1973), Olson (2005), and Chandler and Reiten (2020) suggest that Danford Drain is hydraulically connected to the source aquifer. Net depletion would begin at a point on Danford Drain at the western boundary of Section 30, Township 01 South, Range 25 East, Yellowstone County.

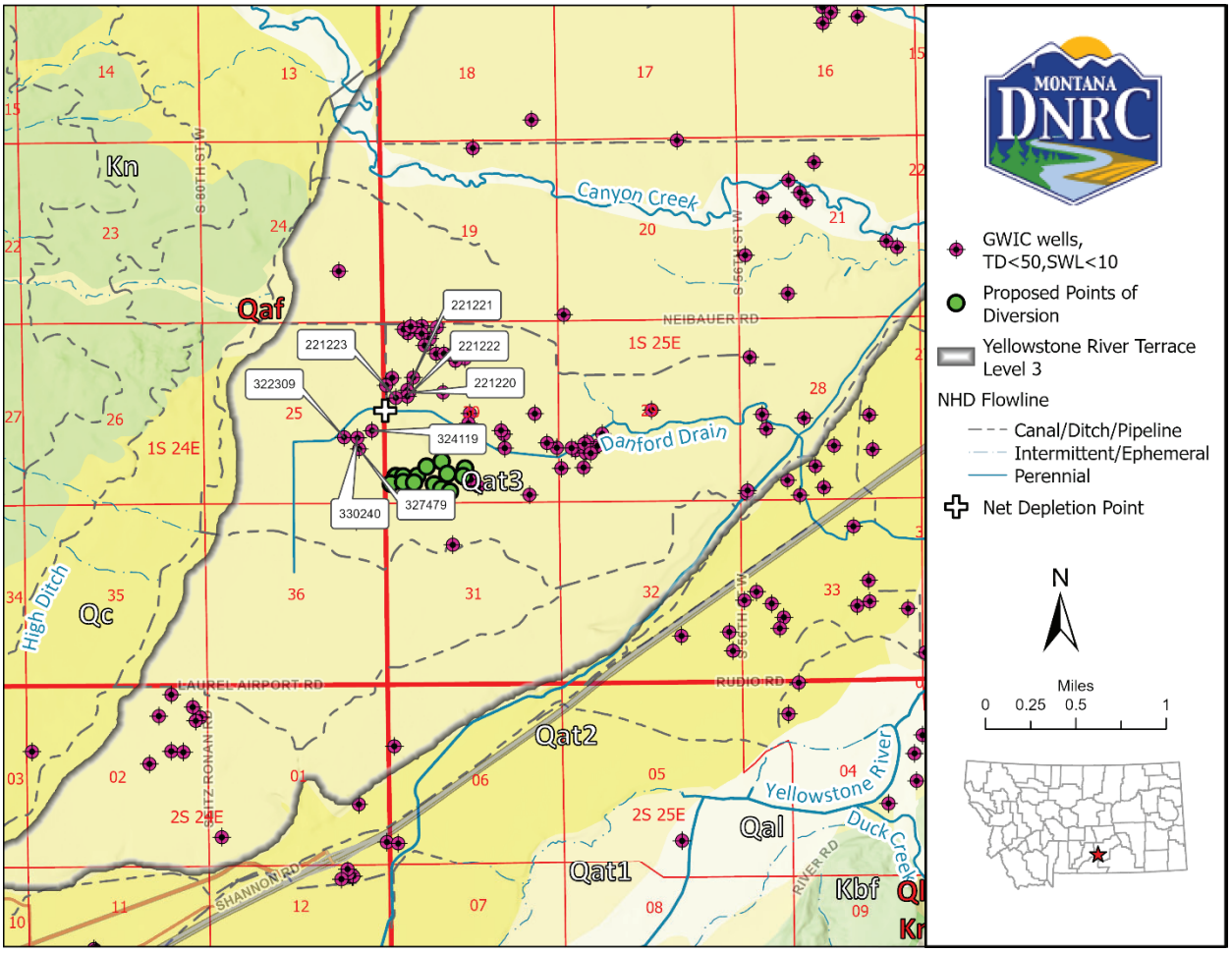


Figure 8: Location of net depletion to Danford Drain and wells with a total depth less than 50 ft and static water level less than 10 ft. A subset of shallow wells within 1,000 ft of Danford Drain indicating hydraulic connection between groundwater and surface water are labeled by GWIC ID.

3. Rate and Timing of Depletions

Evaluations of the rate and timing of depletions caused by pumping are based on the basic concept that groundwater pumping eventually is offset by an equivalent increase in recharge or decrease in discharge (Theis, 1940; Leake et al., 2008), a process defined as capture by Lohman (1972). Capture occurs as drawdown propagates to surface water and areas of phreatophyte vegetation (areas of groundwater discharge) that takes water directly from groundwater. In the absence of credible evidence to the contrary, capture of ET by phreatophytes is neglected and net depletion is assumed to equal total capture. This assumption is justified because published estimates for conditions common in Montana alluvial valleys indicate capture of ET generally is less than 10 percent of total capture (Xunhong, 2006). Capture of ET in ephemeral drainages may be significant and will be evaluated on an application-by-application basis.

The rate and timing of net depletion caused by pumping may be modeled using a variety of analytical and numerical models selected to fit site-specific conditions and needs. Simple models including the Alluvial Water Accounting System (AWAS) and the Well Pumping Depletion Model

(WPDM) typically are used by DNRC to model depletions to one source with simple aquifer boundaries. Adjustments may be made for more complex conditions or multiple sources using methods like those described by Contor (2011), analytical models by Hunt (2003) and Butler et al. (2001) or a superposition numerical groundwater flow model.

Modeling is not necessary in some situations such as where a proposed use is constant year-round because of the depth to the source aquifer and the distance to potentially affected stream reaches. Modeling of depletions can be simplified if the proposed place of use is located the same relative distance from the potentially affected surface water as the proposed wells and all non-consumed water infiltrates the source aquifer and returns to the potentially affected surface water as return flows. Under those simplifying assumptions, depletion can be modeled based on withdrawal of the monthly consumed amounts. Otherwise, depletion by the full withdrawals and return flows need to be modeled separately with net depletion calculated as depletion minus return flows.

The non-consumed volume for the proposed use would return to the source aquifer. Therefore, following the methods describe in DNRC (2018), net depletion to Danford Drain is equal to the consumed volume and was modeled with FWD:SOLV (HydroSOLVE, Inc., 2024) using the following inputs:

- Fully penetrating stream model (Theis, 1941, and Glover and Balmer, 1954)
- Monthly pumping schedule equal to the consumed volume (**Table 1**) apportioned to each well
- T = 6,000 ft^2/day (from DNRC, 2022)
- S_y = 0.1 (from DNRC, 2022)
- Well locations (Applicant-supplied coordinates)

Table 1 identifies the monthly volume and rate of net depletion to Danford Drain from the proposed use.

Review

This document has been reviewed on March, 14, 2025, in accordance with Category 7 of DNRC's Water Sciences Bureau Minimum Standards of Review, Version 2, February 2024.

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Appendix A: Groundwater Rights within Area of Potential Impact

Water Right Number	Owner Name
43Q 30047391	REGAL LAND DEVELOPMENT INC
43Q 19955 00	DALE M DAHL; NOREEN H DAHL
43Q 30158778	MYRON S GROSS; NANCY J GROSS
43Q 67198 00	BRAD STUART; KAY C STUART
43Q 36355 00	ROBERT J CUSTER; BECKY J THOMPSON
43Q 62343 00	CHRISTINA B LANG; ROY A LANG
43Q 30162249	LAZY KU ESTATES LLC
43Q 54171 00	H 4100 TRUST
43Q 30073037	LANA REINHARDT; WILMER A REINHARDT
43Q 107142 00	LON OISTAD
43Q 208240 00	LONG FAMILY LIMITED PARTNERSHIP
43Q 30027207	RICK KRAFT
43Q 30157960	MAE INVESTMENTS LLC
43Q 30046672	NATHAN P BEMER
43Q 30114285	GARY G RAITT
43Q 30123366	DIANE R KRAFT; ROBERT R KRAFT
43Q 30154658	M & J LAND CO LLC
43Q 30066391	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30163937	ASHLEY A ERB; CAMERON M ERB
43Q 30051613	D BAR C LIVING TRUST
43Q 15717 00	KENNETH H BEST
43Q 30157886	REGAL LAND DEVELOPMENT INC
43Q 30104263	LAUREN A JOHNSON; ROBERT N JOHNSON
43Q 30144031	JUDY C MCNALLY
43Q 37877 00	ALEXA J TALKINGTON
43Q 96556 00	CRAIG MARSCHALL
43Q 30117771	ROOKHUIZEN, RYAN & JODI FAMILY TRUST
43Q 30152776	GREGORY WING; LINDA WING
43Q 30015153	PATRICIA C BALL; STEPHEN C BALL
43QJ 30007500	JEREMIAH TOAVS; KAITLYN TOAVS
43Q 208234 00	JTL GROUP INC
43Q 30157879	REGAL LAND DEVELOPMENT INC
43Q 30113203	BRUCE L TONN
43Q 30010011	RUSS WALTERS; TERRI WALTERS
43Q 31701 00	DEBRA S COLE; N CASSIDY COLE
43Q 102241 00	DIANE M HILL; ROBIN E HILL
43Q 30067856	REGAL LAND DEVELOPMENT INC
43Q 30160033	ERIN M STICKEL; RYAN STICKEL
43Q 56219 00	BECKY R DUNNE; PATRICK T DUNNE

Water Right Number	Owner Name
43Q 6901 00	RITA M BAETEN; WILLIAM T BAETEN
43Q 103463 00	CLARK L SCHREIBEIS; ERIKA SCHREIBEIS
43Q 30117787	EDWARD J POPP; LINDA D POPP
43Q 30027121	RICK KRAFT
43Q 30157885	REGAL LAND DEVELOPMENT INC
43Q 30163741	ASTRI M ZIDACK; MICHAEL T ZIDACK
43Q 30042450	LOVELL WITTMAYER
43Q 208239 00	JTL GROUP INC
43Q 109827 00	PELICAN, CONSTANCE D TRUST
43Q 104993 00	SCOTT SCHEETZ
43Q 30116391	STUARD, ROBERT M LIVING TRUST
43Q 30116187	MACKENZIE MEADOWS HOMEOWNERS ASSOCIATION INC
43Q 30157877	REGAL LAND DEVELOPMENT INC
43Q 4482 00	FISKE LIVING TRUST
43Q 30144127	VANLUCHENE, RONALD & JENNIFER REVOCABLE LIVING TRT
43Q 36859 00	CATHERINE MCNALLY; JIM MCNALLY; TERESA C MCNALLY
43Q 30064903	KRISTIN J HERSEL; TERRY A HERSEL
43Q 30008585	JESSICA SCHROTENBOER; MATTHEW SCHROTENBOER
43Q 30151061	CHRISTOPHER B GOMEZ; CRYSTAL A GOMEZ
43Q 12011 00	SAMM LLC
43Q 30106602	JESSICA FELCHLE; SCOTT FELCHLE
43Q 30114284	GARY G RAITT
43Q 113927 00	ANNA M HOPKINS
43Q 30047401	REGAL LAND DEVELOPMENT INC
43Q 30063469	BRITTNEY M PETERS; TALON M PETERS
43Q 30047409	REGAL LAND DEVELOPMENT INC
43Q 60411 00	BILL CARR; BONNIE CARR
43Q 30023426	PAUL J DUCHARME; CARLYN R FULTON
43Q 30067705	CURTIS MOLT; STACY MOLT
43Q 88840 00	DAN KAUTZ
43Q 30014288	DENNIS STEDMAN; KATHERINE A STEDMAN
43Q 30113859	JONATHAN EASLEY
43Q 96573 00	CHRISTOPHER D ROGNRUD; TESIEREY D ROGNRUD
43Q 30148938	EDWARD G CODDEN
43Q 30051273	AMY M KINNETT; CHAD W KINNETT
43Q 30133196	TAMARA VL BRALEY
43Q 30024274	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 57879 00	GARY L SCHULTZ; WAUNETTA M SCHULTZ
43Q 30148839	JOHN E TRAEGER; KAREN L TRAEGER

Water Right Number	Owner Name
43Q 30047396	REGAL LAND DEVELOPMENT INC
43Q 30067854	REGAL LAND DEVELOPMENT INC
43Q 69467 00	TYLER JUMPER
43Q 99274 00	CAREN L MCLANE; TODD A MCLANE
43Q 62344 00	CHRISTINA B LANG; ROY A LANG
43Q 103554 00	BONNIE K JARES; JOHN E JARES
43Q 32930 00	BRUCE J MACINTYRE
43Q 30045738	JAMIE NEVIN; TODD E NEVIN
43Q 112776 00	JACKIE ZAWADA; JOE ZAWADA
43Q 30001893	CHRISTINE L MARTIN; STEVEN MARTIN
43Q 99185 00	JEAN E JACQUES; THOMAS P JACQUES
43Q 30072862	STEPHEN P CASHER
43Q 30105912	DARREN BUONOCORE; SARA KRAMVIS
43Q 30047405	REGAL LAND DEVELOPMENT INC
43Q 99321 00	KENNEDY,DAN & DENISE TRUST
43Q 104991 00	KIRK BLEE
43Q 113986 00	JOYCE DUNCAN
43Q 30116931	MATTHEW L RHEAUME
43Q 30067247	BRIAN SHANKS; BRIANNE SHANKS
43Q 30157889	REGAL LAND DEVELOPMENT INC
43Q 115354 00	JEAN M MALKUCH
43Q 30162299	CHRISTOPHER J SPILLERS; JULIE T SPILLERS
43Q 110949 00	DANIEL QUENZER; LYNETTE D QUENZER
43Q 781 00	PHILLIP M ROTH
43Q 30161069	JOSHUA BENZINGER; LINDSY BENZINGER
43Q 30066390	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30157892	REGAL LAND DEVELOPMENT INC
43Q 45828 00	BRENNTAG PACIFIC INC
43Q 68394 00	FRANK C WAGNER; PAULETTE R WAGNER
43Q 30108418	CHELSEA A COLE; JOSHUA L COLE
43Q 100083 00	KRAFT, EDWARD & ROXANA LIVING TRUST
43Q 30047406	REGAL LAND DEVELOPMENT INC
43Q 30022846	DOLORES LIX
43Q 30116579	REGAL LAND DEVELOPMENT INC
43Q 30161091	KELLY COMSTOCK; SANDEE-DEE COMSTOCK
43Q 97556 00	BRANDON HOLMBERG
43Q 30022683	MELVIN L MILLER; SHARON L MILLER
43Q 30002318	KEITH HEIDECKER
43Q 77128 00	MIKOL HJELVIK

Water Right Number	Owner Name
43Q 30149895	REGAL LAND DEVELOPMENT INC
43Q 25791 00	ARTHUR J WEBER; CONNIE J WEBER
43Q 15450 00	ANITA F KUDRNA; DOUGLAS J KUDRNA
43Q 30147261	ELDER GROVE SCHOOL
43Q 4335 00	NOEL E MEISNER
43Q 45082 00	JERRY J ODONNELL; SUSAN R ODONNELL
43Q 30159049	DKSMITH HOLDINGS LLC
43Q 30011997	JUANITA BLEE
43Q 56235 00	CAREN L MCLANE; TODD A MCLANE
43Q 99273 00	ERIC ARZUBI; ELA MATA
43Q 43489 00	DIANE M ALBERS
43Q 30108133	JODY D EDWARDS; RODGER L EDWARDS
43Q 106048 00	TWO MARINES OLSON TRUST
43Q 84434 00	CAROLYN J WEBB; RICHARD L WEBB
43Q 30017873	EDWARD LAMBRECHT
43Q 30047399	REGAL LAND DEVELOPMENT INC
43Q 208238 00	LONG FAMILY LIMITED PARTNERSHIP
43Q 107160 00	SAMANTHA R HOUGHTON; WALTER F HOUGHTON
43Q 30050322	JEAN A GRENSTEN; JOHN J GRENSTEN
43Q 30067855	REGAL LAND DEVELOPMENT INC
43Q 30110226	HOAGLAND, JOEL & KAMA LIVING TRUST
43Q 30045828	DUSTINE L ANKNEY; KIMBERLY E DARE
43Q 56254 00	DANIEL W DOLES
43Q 85396 00	JOAN A DELAO-HUSCHKA; MELVIN HUSCHKA
43Q 30018739	DAVID M O'REAR; DIANA K O'REAR
43Q 30107043	RENEE M RAWHOUSER; WILLIAM L RAWHOUSER
43Q 116137 00	ANNA M HOPKINS
43Q 107109 00	CYNTHIA A STEPHENSON; WILLIAM D STEPHENSON
43Q 30044801	DORIS WILTON; DUANE WILTON
43Q 30122447	ALICIA SCHREIBEIS; JAKE SCHREIBEIS
43Q 12861 00	CHAD H INGRAHAM; CHARLENE R INGRAHAM
43Q 76308 00	MONTEXAS INVESTMENTS LLC
43Q 116214 00	JEAN M MALKUCH
43Q 30047394	REGAL LAND DEVELOPMENT INC
43Q 30119383	RUSSELL MCCLELLAN
43Q 110931 00	BRET REAY; DEANE REAY
43Q 30047398	REGAL LAND DEVELOPMENT INC
43Q 94699 00	LISA C TRACY; SHANE P TRACY
43Q 105941 00	MONEEN D MEANS; SAM A MEANS

Water Right Number	Owner Name
43Q 30104563	KATHY MENDOZA-POWERS; WAYNE POWERS
43Q 30003923	LEROY D MONSON; NONA L MONSON
43Q 30152774	DAVID BOATMAN; KRISTINE BOATMAN
43Q 105891 00	CHRISTINA LAKE; DAVID LAKE
43Q 30066379	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30047389	REGAL LAND DEVELOPMENT INC
43Q 113955 00	JOHANNA CRITELLI; ROCKY J CRITELLI
43Q 113981 00	BRENDA RIDER; TERRY RIDER
43Q 30009986	JASON GONZALES; ANDRENA R LEFDAHL
43Q 56199 00	ANDY D RACKI; KARIN L RACKI
43Q 30050951	REGAL LAND DEVELOPMENT INC
43Q 30157881	REGAL LAND DEVELOPMENT INC
43Q 105045 00	WILLIAM A MITCHELL
43Q 99320 00	JODI L ADKINS; KEVIN T ADKINS
43Q 30014193	MCVEE FAMILY TRUST
43Q 30123117	COOK, STEVEN H AND ROSE M LIVING TRUST
43Q 49541 00	GEORGE ELLINGHOUSE
43Q 11804 00	JASON WILCOX; JOELLEN M WILCOX; GEORGE WIPF; LORIE WIPF
43Q 30157878	REGAL LAND DEVELOPMENT INC
43Q 30043846	HARDRIVES CONSTRUCTION INC
43Q 84447 00	CHRISTINE L MARTIN; STEVEN MARTIN
43Q 109304 00	LEE E BURRINGTON
43Q 30042969	JOSHUA C MUIR; KRYSTAL MUIR
43Q 30042774	WJH BIRD RESOURCES
43Q 208192 00	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 80859 00	CHRISTOPHER A WRIGHT; TARA WRIGHT
43Q 30109408	KATIE SHELTON; LUKE SHELTON
43Q 30161105	DOUGLAS CHAPMAN; BRANDY JONES
43Q 30066380	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 113970 00	CONNIE JOHNSON; JERRY JOHNSON
43Q 30105815	BARBARA L HOPE; WILLIAM H HOPE
43Q 39191 00	JOSHUA FAHRENBRUCH; MEGAN FAHRENBRUCH
43Q 30131709	PENNY R KINDSFATER
43D 102179 00	ELMER E HAWKINSON; PEGGY A HAWKINSON
43Q 30017258	COLLEEN E BLACKFORD; THOMAS E BLACKFORD
43Q 30047410	REGAL LAND DEVELOPMENT INC
43Q 30115454	GEORDIE N STEILEN; SHERRI J STEILEN
43Q 30123996	KENNETH ROBINSON
43Q 30066394	MONTANA, STATE OF DEPT OF TRANSPORTATION

Water Right Number	Owner Name
43Q 30019475	SCOTT COX
43Q 30030051	LORRI SUTHERLAND; TODD SUTHERLAND
43Q 30023266	DOLORES LIX
43Q 102173 00	WILLIAM A MITCHELL
43Q 30027149	STUDER PROPERTIES LLC
43Q 22599 00	MAKAYLA W SEGER; ORVILLE M SEGER
43Q 30064196	DOUG STAHLMAN; MARISSA STAHLMAN
43Q 30019272	BRADLEY M ROBERTS
43Q 30045207	DAVID S LORASH
43Q 30117786	EDWARD J POPP; LINDA D POPP
43Q 30104162	WAYNE D ROBINSON
43Q 30066387	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30003490	MARY J MILLER
43Q 110973 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 208191 00	JEANINE HOLT-SEAVY; LYLE SEAVY
43Q 30047387	REGAL LAND DEVELOPMENT INC
43Q 30163503	CHRISTINE Y LEE; RICHARD A LEE
43Q 30010996	DUSTINE L ANKNEY; KIMBERLY E DARE
43Q 113883 00	BECKY HERMAN; GLENN HERMAN
43Q 30066389	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30044880	JAMES R FORSETH; KARIE A FORSETH
43Q 30163928	USELMAN FAMILY TRUST
43Q 30022992	HICKS, SCOTT LIVING TRUST
43Q 30043866	HARDRIVES CONSTRUCTION INC
43Q 43987 00	JERRY J ODONNELL; SUSAN R ODONNELL
43Q 30047408	REGAL LAND DEVELOPMENT INC
43Q 73494 00	MONTEXAS INVESTMENTS LLC
43Q 16593 00	BRITTANY'S DREAM LLC
43Q 30047397	REGAL LAND DEVELOPMENT INC
43Q 30157887	REGAL LAND DEVELOPMENT INC
43Q 30050870	ANDREW J BROWN; SHEILA L BROWN
43Q 110972 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 26190 00	TROY C MOORE
43Q 40804 00	LOVELL WITTMAYER
43Q 38459 00	SCOTT SCHEETZ
43Q 101411 00	JOSEPH R MOORE; NORMA J MOORE
43Q 39330 00	MARILYN A KROFT; TODD D KROFT
43Q 1545 00	YELLOWSTONE BOYS AND GIRLS RANCH INC
43Q 92893 00	MAKAYLA W SEGER; ORVILLE M SEGER

Water Right Number	Owner Name
43Q 30118869	COLE J TURLEY; JAIMEE M TURLEY
43Q 30112091	CORDELL ANTHONY; PRESLEY PAYNE
43Q 30014536	SAMM LLC
43Q 30155967	ALVIN III PARKER; TISH PARKER
43Q 30155293	BETHANY J OLSON; GRANT A OLSON
43Q 115250 00	CONNIE JOHNSON; JERRY JOHNSON
43Q 30067306	JEFFREY E MCNEISH
43Q 30022837	KIRK LIX
43Q 24536 00	PROUE FAMILY TRUST
43Q 30150480	M & J LAND CO LLC
43Q 114005 00	DAVID V HOBBS
43Q 30027203	D SCOTT ASAY; LEANN C ASAY
43Q 30043909	DALE EDLUND; ELLA L EDLUND
43Q 96477 00	TERESA L BOTTRELL
43Q 30028846	RICK EDDY; VICKIE LAFURGE
43Q 22598 00	MAKAYLA W SEGER; ORVILLE M SEGER
43Q 39331 00	DONALD S LOVELESS; SUSAN D LOVELESS
43Q 80896 00	HALLIE E LINDAL; JASON T LINDAL
43Q 30070144	MARY E BURLEY; WESLEY D BURLEY
43Q 30118850	ANITA AZAM; EARL J NICHOLS
43Q 20832 00	ALLEN J FISCHER
43Q 30014859	KRISTEN M CLARK; NICHOLAS L EICKHOFF
43Q 109902 00	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 11362 00	KATHLEEN KATSILAS; ZACHARY KATSILAS
43Q 30147124	JOSH L WHALEY; MARGARET J WHALEY
43Q 30161071	JOSHUA BENZINGER; LINDSY BENZINGER
43Q 102095 00	JIM SKATTUM
43Q 96421 00	KIRK MELBY; MELISSA A MELBY
43Q 87396 00	DESIREE GOODELL; JOSHUA GOODELL
43Q 28690 00	ASHLEY R DIMMICK; TRAVIS DIMMICK
43Q 30157882	REGAL LAND DEVELOPMENT INC
43Q 30047386	REGAL LAND DEVELOPMENT INC
43Q 30116580	REGAL LAND DEVELOPMENT INC
43Q 30019235	SCOTT COX
43Q 84411 00	DAVID J VANEK; DENYSE M VANEK
43Q 30066381	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30027210	GEORDIE N STEILEN; SHERRI J STEILEN
43Q 106508 00	PROUE FAMILY TRUST
43Q 62438 00	ELDER GROVE SCHOOL

Water Right Number	Owner Name
43Q 96548 00	ELIZABETH I WALTER; PAUL P WALTER
43Q 30164103	DANIEL ALLEN; XIAOYI WANG
43Q 96416 00	AMANDA LAIN; EDWIN S LAIN
43Q 34672 00	BOULDER WEST APARTMENTS NO 6 LLC
43Q 58052 00	AMANDA M SWIFT; JAMES T SWIFT
43Q 113980 00	BRENDA RIDER; TERRY RIDER
43Q 30017042	SHIRLEY RUFF
43Q 69473 00	ANNIE B TEAL; PETER V TEAL
43Q 30069320	ROBERT J CUSTER; BECKY J THOMPSON
43Q 30066864	EDWARD G CODDEN
43Q 30066392	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30117888	KINSFATHER BARRY RUSSELL TRUST; KINSFATHER BONITA ANN TRUST
43Q 30132260	JACK R BAKICH; LAURA M BAKICH
43Q 30072861	STEPHEN P CASHER
43Q 30042776	WJH BIRD RESOURCES
43Q 30066377	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 103551 00	BRADLEY C CARSTENS; GREGORY C CARSTENS; MYRNA R CARSTENS
43Q 30066385	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30029071	LISA BLOHM; STEVE BLOHM
43Q 91690 00	DANA M SHORE
43Q 30010015	GREG BLACK; KATHY BLACK
43Q 116210 00	SANDRA L SANDVIG; SCOTT D SANDVIG
43Q 30047390	REGAL LAND DEVELOPMENT INC
43Q 30150814	WADE AFFLECK
43Q 30022054	LEE MYERS; LINDA E MYERS
43Q 30047400	REGAL LAND DEVELOPMENT INC
43Q 99217 00	DUANE F HONS; STEPHANIE S HONS
43Q 30144026	JUDY C MCNALLY
43Q 30067842	MICHAEL T MCCLEARY; SARA L MCCLEARY
43Q 30144058	SISTKO-TAYLOR TRUST
43Q 677 00	JOLENE KAY STATON; LEONARD E STATON
43Q 116812 00	CHRISTINA L BUROWS-DURAY; MATHEW A DURAY
43Q 100064 00	DAVID D RAY; KAREN R RAY
43Q 30069452	SILVERADO HOME OWNERS ASSN
43Q 66430 00	H 4100 TRUST
43Q 30113205	BRUCE L TONN
43Q 30118849	ANITA AZAM; EARL J NICHOLS
43Q 30162493	JAMES W COONS; MARY LOU PALMER
43Q 30109551	LANCE NEIRBY; LAURA NEIRBY

Water Right Number	Owner Name
43Q 103459 00	FITTERER, RICK REVOCABLE TRUST
43Q 79845 00	MICHAEL J BARLOW; TRACY A BARLOW
43Q 110958 00	KEVIN SILVERNAGEL
43Q 30157884	REGAL LAND DEVELOPMENT INC
43Q 30108417	CHELSEA A COLE; JOSHUA L COLE
43Q 759 00	MARGARET E SANDERSON
43Q 30014667	DOLORES D GROVER; GEORGE S GROVER
43Q 30115582	DOLORES D GROVER; GEORGE S GROVER
43Q 28912 00	FORMENTO FAMILY TRUST
43Q 30150724	MERTON E MUSSER
43Q 30161092	KELLY COMSTOCK; SANDEE-DEE COMSTOCK
43Q 30047395	REGAL LAND DEVELOPMENT INC
43Q 30066242	BENJAMIN J MILLER; CARRIE W MILLER
43Q 96522 00	MAD LIVING TRUST
43Q 103428 00	PELICAN, CONSTANCE D TRUST
43Q 34673 00	BOULDER WEST APARTMENTS NO 6 LLC
43Q 106047 00	TWO MARINES OLSON TRUST
43Q 35635 00	TAMARA L BELLINGER
43Q 30148264	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 101400 00	THOMAS G SCHWAB; TRACY SCHWAB
43Q 30001701	ROBERT ALLEN
43Q 99200 00	DAVID D RAY; KAREN R RAY
43Q 91699 00	JUDY C MCNALLY
43Q 60484 00	TYLER JUMPER
43Q 30019271	JACKIE ZAWADA; JOE ZAWADA
43Q 99962 00	JEAN M MALKUCH
43Q 113999 00	CORDELL ANTHONY; PRESLEY PAYNE
43Q 30152396	LAZY KU ESTATES LLC
43Q 30019016	SCOTT MYERS
43Q 30144061	SISTKO-TAYLOR TRUST
43Q 30118638	MEGON KASTELITZ; RHETT KASTELITZ
43Q 30042771	WJH BIRD RESOURCES
43Q 105940 00	MONEEN D MEANS; SAM A MEANS
43Q 19208 00	DARCI D RYKOWSKI; TRAVIS J RYKOWSKI
43Q 100101 00	CARL D COUTTS; CHRIS COUTTS
43Q 30144032	JUDY C MCNALLY
43Q 30113206	BRUCE L TONN
43Q 30129890	GREGORY D SCHREINER; SARA SCHREINER
43Q 115249 00	CONNIE JOHNSON; JERRY JOHNSON

Water Right Number	Owner Name
43Q 30067286	LORI HODGES; MIKE HODGES
43Q 30108010	JAMES R JOHNSTON
43Q 109975 00	JUDY A WARD; THEODORE A WARD
43Q 30121098	HOLZHEIMER, DON AND SANDRA LIVING TRUST
43Q 39192 00	JOSHUA FAHRENBRUCH; MEGAN FAHRENBRUCH
43Q 30067464	JULIEN, DEBRA J LIVING TRUST
43Q 30017018	JASON A COLE; MELISSA COLE
43Q 92978 00	DANIEL QUENZER; LYNETTE D QUENZER
43Q 30027147	QUENTIN EGGART
43Q 99325 00	MICHAEL W WILLIAMS
43Q 30148256	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 30069449	SILVERADO HOME OWNERS ASSN
43Q 28973 00	ANNITA BUTTERFIELD; DALE BUTTERFIELD
43Q 30068600	ANNE MARIE D GONZALES; RONALD A GONZALES
43Q 101461 00	KYLE E BISTLINE; LINDA L BISTLINE
43Q 30066393	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 109303 00	LEE E BURRINGTON
43Q 8754 00	IAN P BLUMENSHINE
43Q 11579 00	MAD LIVING TRUST
43Q 99960 00	TOEWS FAMILY REVOCABLE TRUST
43Q 30019369	DUSTIN P HART; JESSICA E HART
43Q 30115581	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 30109217	CRYSTAL L NAGEL; TRAVIS J NAGEL
43Q 23507 00	BECKY HERMAN; GLENN HERMAN
43Q 105892 00	DAN LOWE
43Q 30163087	HARDRIVES CONSTRUCTION INC
43Q 30071606	MELISSA L HUBBARD; ZACHARY J HUBBARD
43Q 30050934	JOEANN BLACK; JAMES E MOORE
43Q 14064 00	DARRYL G CHRISTIANSON
43Q 30017348	PERZINSKI REVOCABLE TRUST
43Q 30047388	REGAL LAND DEVELOPMENT INC
43Q 30073005	DAVID P HEADRICK; SHAY M HEADRICK
43Q 30066388	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30114359	MONTEXAS INVESTMENTS LLC
43Q 92936 00	CLARK L SCHREIBEIS; ERIKA SCHREIBEIS
43Q 30067746	BRIAN P COOK; MICHELLE JONES
43Q 30164635	KELLY L DUBBS; SHARON R DUBBS
43Q 30066861	DIANE M HILL; ROBIN E HILL
43Q 103429 00	PELICAN, CONSTANCE D TRUST

Water Right Number	Owner Name
43Q 30114315	JOHN L CHAFFEE; KATHLEEN CHAFFEE
43Q 99289 00	BEVERLEY J MCNURLIN; JOE A MCNURLIN
43Q 30144029	JUDY C MCNALLY
43Q 8233 00	D BAR C LIVING TRUST
43Q 115137 00	CATHERINE MCNALLY; JAMES MCNALLY; JUDY C MCNALLY; TERESA MCNALLY
43Q 30049418	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 30047403	REGAL LAND DEVELOPMENT INC
43Q 30109235	CANDICE NAASZ; MATTHEW NAASZ
43Q 30114314	JOHN L CHAFFEE; KATHLEEN CHAFFEE
43Q 30010172	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30158528	SHERRY L WALKING EAGLE
43Q 87407 00	TIMOTHY J VECHES
43Q 30051993	COLE J REINHARDT; SHARI K REINHARDT
43Q 113926 00	JACKSON FAMILY TRUST
43Q 30163139	DAN & JULANE FARMS, LLC
43Q 66429 00	H 5300 TRUST; H-5100 TRUST
43Q 30160358	ADAM BURT; TARI BURT
43Q 30012538	JAMES R JOHNSTON
43Q 30111241	JENNIFER M LINSE; SHANE G LINSE
43Q 30072278	LINDSEY A MONEY; MICHAEL A MONEY
43Q 30161106	DOUGLAS CHAPMAN; BRANDY JONES
43Q 30011998	JUANITA BLEE
43Q 30103446	THURSDAY MORNING LIVING TRUST
43Q 30165140	KATHERINE N DIETZ
43Q 91689 00	GREG F MEYER
43Q 12328 00	KRAFT, EDWARD & ROXANA LIVING TRUST
43Q 30072923	CORINA GOLLEHON; DARREN GOLLEHON
43Q 30068711	RYAN J HOLTE; TIFFANY P HOLTE
43Q 30063364	DARREN W MILLER
43Q 54024 00	GARY P RAY
43Q 30157880	REGAL LAND DEVELOPMENT INC
43Q 30047402	REGAL LAND DEVELOPMENT INC
43Q 30047407	REGAL LAND DEVELOPMENT INC
43Q 85402 00	LISA C TRACY; SHANE P TRACY
43Q 87463 00	CAROL A WILLIS; THOMAS D WILLIS
43Q 30069555	QUALITY HEATING AND AIR CONDITIONING
43Q 76346 00	MARGARET E SANDERSON
43Q 30042451	WJH BIRD RESOURCES
43Q 77734 00	STALEY FAMILY TRUST

Water Right Number	Owner Name
43Q 67199 00	BRAD STUART; KAY C STUART
43Q 104922 00	KAREN L ALLEN; ROBERT P ALLEN
43Q 68358 00	BERNADETTE J BOTZ; MICHAEL M BOTZ
43Q 30009838	RON OHS
43Q 30164116	BONNIE K JARES; JOHN E JARES
43Q 30157891	REGAL LAND DEVELOPMENT INC
43Q 30066860	KNIFE RIVER
43Q 30157883	REGAL LAND DEVELOPMENT INC
43Q 5534 00	CECIL C OLIVER
43Q 30047404	REGAL LAND DEVELOPMENT INC
43Q 30047393	REGAL LAND DEVELOPMENT INC
43Q 30069768	JOSHUA C BUSENBARK; SAMMY A BUSENBARK
43Q 30148276	DIANE E COOPER; DONOVAN M COOPER; KRISTIE L OSTLUND
43Q 109262 00	LISA MOLINE; MICHAEL J MOLINE
43Q 70777 00	EMILEE J ATKINSON; KELLY J ATKINSON
43Q 102282 00	BRENT RENIER
43Q 30047411	REGAL LAND DEVELOPMENT INC
43Q 116127 00	PATRICK EMICK
43Q 99186 00	THOMAS W CARROLL
43Q 101360 00	CELESTE BUTLER
43Q 11803 00	JASON WILCOX; JOELLEN M WILCOX; GEORGE WIPF; LORIE WIPF
43Q 30109326	RENT IS DUE LLC
43Q 100123 00	MARITA GRAMMAR; TRAVIS GRAMMAR
43Q 68395 00	FRANK C WAGNER; PAULETTE R WAGNER
43Q 30066386	MONTANA, STATE OF DEPT OF TRANSPORTATION
43Q 30067462	DOUG GOODHEART; LORI GOODHEART
43Q 30157888	REGAL LAND DEVELOPMENT INC
43Q 30023035	HICKS, SCOTT LIVING TRUST
43Q 30048848	CHARLES A BROWNLEE
43Q 30019249	DONNA JOHNS; MARK JOHNS
43Q 30047392	REGAL LAND DEVELOPMENT INC
43Q 68339 00	H 4100 TRUST
43Q 30004027	BRIAN A BORNHOFT; JANA K BORNHOFT
43Q 30157890	REGAL LAND DEVELOPMENT INC
43Q 87458 00	DORIS M KNUDSEN
43Q 30045644	KAREN C DOELY; MARK DOELY
43Q 30066610	MARY E BAROVICH
43Q 103562 00	JOANN JURICA; LEO JURICA
43Q 24603 00	RITA M BAETEN; WILLIAM T BAETEN

Water Right Number	Owner Name
43Q 78088 00	DONALD W MACDONALD
43Q 30050836	BRADFORD, ROBERT & KAREE LIVING TRUST
43Q 4172 00	AAA PROPERTY INVESTORS & MANAGERS LLC
43Q 30067465	JULIEN, DEBRA J LIVING TRUST

Excel File Placeholder

*The **Groundwater Permit Technical Analyses Report - Part A: Groundwater Rights within the Area of Potential Impact, dated March 21, 2025,** spreadsheet is available outside of the application file.*

*For **pending applications:***

- *Excel files associated with aquifer tests are located in the "Aquifer Tests" link of the application page.*
- *Other excel files are available upon request from the regional office.*

*For **scanned applications:***

- *Excel files are available in a separate FileNet link under the "Excel File" file index.*

Please contact the regional office for more information.

Groundwater Permit Technical Analyses Report – Part B

Department of Natural Resources and Conservation (DNRC or Department)
Water Resources Division
Cassey Strebeck, Water Resource Specialist, Billings Regional Office

Application No.	43Q 30164891	**Applicant**	Cougar Investments, LLC
Proposed Point of Diversion:			
POD1	NWSWSW Sec 30 T01S R25E, Lt 1, Blk 1	POD8	SWSWSW Sec 30 T01S R25E, Lt 1, Blk 3
POD2	NWSWSW Sec 30 T01S R25E, Lt 2, Blk 1	POD9	SWSWSW Sec 30 T01S R25E, Lt 2, Blk 3
POD3	NESWSW Sec 30 T01S R25E, Lt 3, Blk 1	POD10	SESWSW Sec 30 T01S R25E, Lt 3, Blk 3
POD4	NWSESW Sec 30 T01S R25E, Lt 4, Blk 1	POD11	SWSESW Sec 30 T01S R25E, Lt 4, Blk 3
POD5	NWSESW Sec 30 T01S R25E, Lt 1, Blk 2	POD12	SWSESW Sec 30 T01S R25E, Lt 5, Blk 3
POD6	NESESW Sec 30 T01S R25E, Lt 2, Blk 2	POD13	SESESW Sec 30 T01S R25E, Lt 6, Blk 3
POD7	NESESW Sec 30 T01S R25E, Lt 3, Blk 2	POD14	SWSESW Sec 30 T01S R25E, Lt 7, Blk 3

Overview

This report is Part B of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in §85-2-311, Montana Code Annotated (MCA).

This Groundwater Permit Technical Analyses Report – Part B contains the following sections:

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Variances 2
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2.0 Surface Water Analysis of Depleted Surface Water 6
2.1 Source Description 6
2.2 Method of Estimation 6
2.3 Monthly Flow Rate and Volume 8
3.0 Area of Potential Impact Analysis of Depleted Surface Water 11
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Variances

The Applicant submitted two variance requests on December 5, 2024, and December 27, 2024, for a variance from aquifer testing requirements under ARM 36.12.121. Specifically for ARM 36.12.121 (2)(b & c) and ARM 36.12.121 (3)(b, c, d, e, f, and g). ARM 36.12.121 (4) allows the Department to grant a variance. Those variances were granted on December 30, 2024, by the Billings Regional Office. The project area lies within the Yellowstone River Terrace Level 3 Aquifer for which the Department has streamlined variance approval pursuant to a memo dated March 1, 2022.

1.0 Application Details

The Applicant proposes to divert and use groundwater from 14 wells (PODs), as shown in Table 1, at a total flow rate of 135 GPM, up to 48.01 AF for commercial (COM) and lawn and garden irrigation (IRR) (65 GPM for commercial use + 70 GPM for lawn and garden) as follows:

Commercial Use

The Applicant proposes to divert water from January 1 to December 31, from 13 wells to supply up to 12.22 AF/YR, at 5 GPM at each well (POD), amounting to a total of 65 GPM, for the period of use from January 1 to December 31 for commercial use within the subdivision. The details of the proposed commercial use can be seen in Table 3.

Lawn and Garden

The Applicant proposes to divert water from April 1 to October 31, from 14 wells, up to 35.79 AF/YR at 5 GPM at each well, amounting to a total of 70 GPM for irrigation purposes within the subdivision. Water will be used for the period of April 1 to October 31 to irrigate 14.321 total acres, across 14 places of use, as shown in Table 4.

Table 1: Details of Application 43Q 30164891

Purpose	Flow Rate (GPM)	Volume (AF)	Period of Diversion	Period of Use	Point of Diversion (POD)	Place of Use	Acres
Commercial (COM)	65	12.22	01/01 – 12/31	01/01 – 12/31	See Table 2	See Table 3	N/A
L&G Irrigation (IRR)	70	35.79	04/01 – 10/31	04/01 – 10/31	See Table 2	See Table 4	14.32
Total	135	48.01					14.32

Table 2: Proposed Point of Diversions; 14 wells to supply water to the subdivision

Total Appropriation at Point of Diversion:			
POD	**LLD**	**Flow Rate (GPM)**	**Volume (AF)**
POD1	NWSWSW Sec 30 T01S R25E, Lt 1, Blk 1	10	3.78
POD2	NWSWSW Sec 30 T01S R25E, Lt 2, Blk 1	10	3.35
POD3	NESWSW Sec 30 T01S R25E, Lt 3, Blk 1	10	3.36
POD4	NWSESW Sec 30 T01S R25E, Lt 4, Blk 1	10	2.31
POD5	NWSESW Sec 30 T01S R25E, Lt 1, Blk 2	10	2.31
POD6	NESESW Sec 30 T01S R25E, Lt 2, Blk 2	10	2.94
POD7	NESESW Sec 30 T01S R25E, Lt 3, Blk 2	10	2.46
POD8	SWSWSW Sec 30 T01S R25E, Lt 1, Blk 3	10	3.67
POD9	SWSWSW Sec 30 T01S R25E, Lt 2, Blk 3	10	3.3
POD10	SESWSW Sec 30 T01S R25E, Lt 3, Blk 3	10	3.3
POD11	SWSESW Sec 30 T01S R25E, Lt 4, Blk 3	10	3.78
POD12	SWSESW Sec 30 T01S R25E, Lt 5, Blk 3	10	2.25
POD13	SESESW Sec 30 T01S R25E, Lt 6, Blk 3	10	2.17
POD 14	SWSESW Sec 30 T01S R25E, Lt 7, Blk 3	5	9.03
Total:		**135**	**48.01**

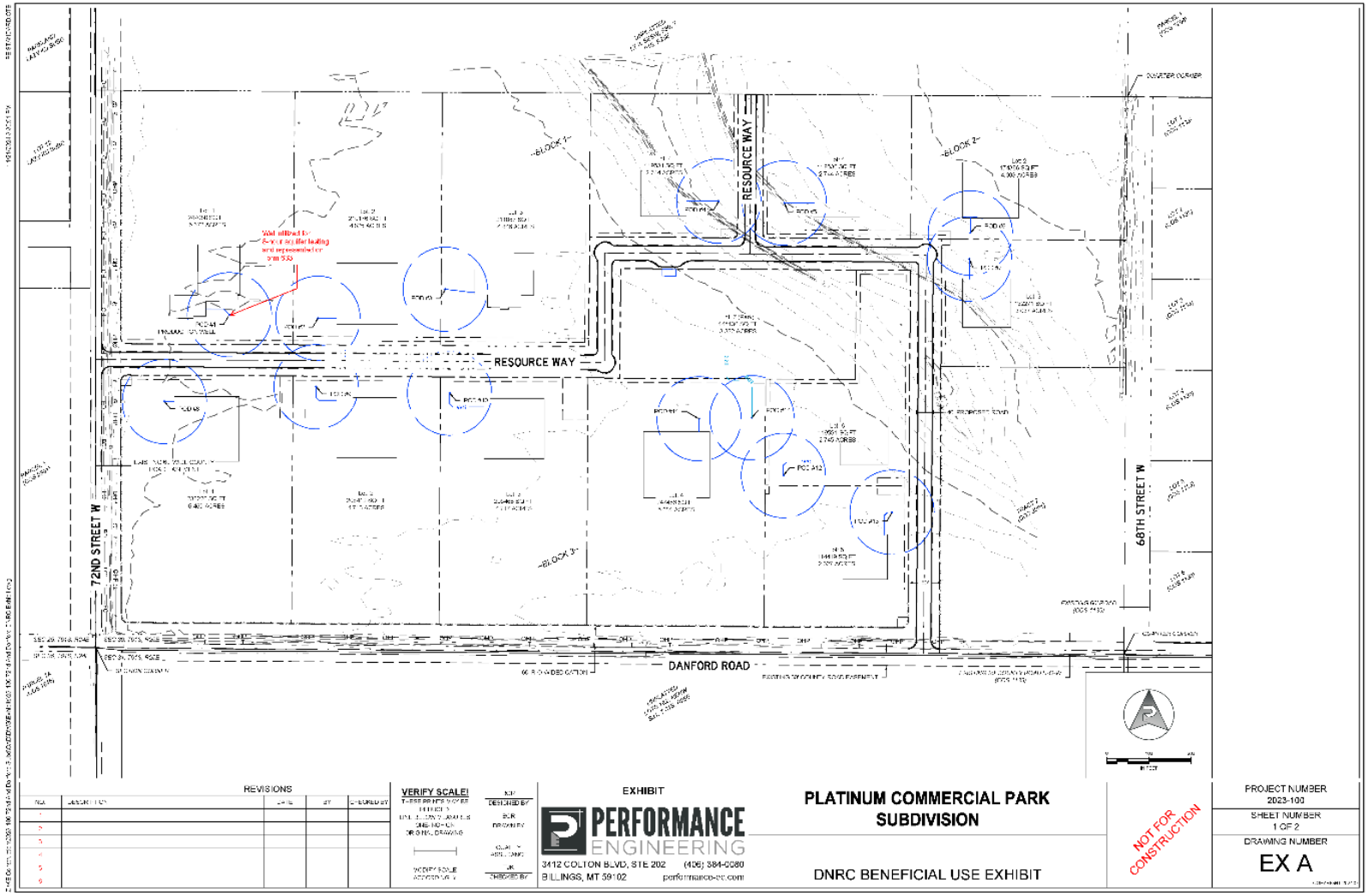


Figure 1: Proposed POD and Place of Use

Table 3: Proposed Place of Use for Commercial (COM)

POU	LLD	POD	Flow Rate (GPM)	Volume (AF)
COM1	NWSWSW Sec 30 T01S R25E, Lt 1, Blk 1	POD1	5	0.94
COM2	NWSWSW Sec 30 T01S R25E, Lt 2, Blk 1	POD2	5	0.94
COM3	NESWSW Sec 30 T01S R25E, Lt 3, Blk 1	POD3	5	0.94
COM4	NWSESW Sec 30 T01S R25E, Lt 4, Blk 1	POD4	5	0.94
COM5	NWSESW Sec 30 T01S R25E, Lt 1, Blk 2	POD5	5	0.94
COM6	NESESW Sec 30 T01S R25E, Lt 2, Blk 2	POD6	5	0.94
COM7	NESESW Sec 30 T01S R25E, Lt 3, Blk 2	POD7	5	0.94
COM8	SWSWSW Sec 30 T01S R25E, Lt 1, Blk 3	POD8	5	0.94
COM9	SWSWSW Sec 30 T01S R25E, Lt 2, Blk 3	POD9	5	0.94
COM10	SESWSW Sec 30 T01S R25E, Lt 3, Blk 3	POD10	5	0.94
COM11	SWSESW Sec 30 T01S R25E, Lt 4, Blk 3	POD11	5	0.94
COM12	SWSESW Sec 30 T01S R25E, Lt 5, Blk 3	POD12	5	0.94
COM13	SESESW Sec 30 T01S R25E, Lt 6, Blk 3	POD13	5	0.94
Total Commercial Use:			65	12.22

Table 4: Proposed Place of Use for Lawn and Garden Irrigation (IRR)

POU	Acres	LLD	POD	Flow Rate (GPM)	Volume (AF)
IRR1	1.134	NWSWSW Sec 30 T01S R25E, Lt 1, Blk 1	POD1	5	2.84
IRR2	0.965	NWSWSW Sec 30 T01S R25E, Lt 2, Blk 1	POD2	5	2.41
IRR3	0.969	NESWSW Sec 30 T01S R25E, Lt 3, Blk 1	POD3	5	2.42
IRR4	0.549	NWSESW Sec 30 T01S R25E, Lt 4, Blk 1	POD4	5	1.37
IRR5	0.549	NWSESW Sec 30 T01S R25E, Lt 1, Blk 2	POD5	5	1.37
IRR6	0.801	NESESW Sec 30 T01S R25E, Lt 2, Blk 2	POD6	5	2.00
IRR7	0.607	NESESW Sec 30 T01S R25E, Lt 3, Blk 2	POD7	5	1.52
IRR8	1.094	SWSWSW Sec 30 T01S R25E, Lt 1, Blk 3	POD8	5	2.73
IRR9	0.943	SWSWSW Sec 30 T01S R25E, Lt 2, Blk 3	POD9	5	2.36
IRR10	0.943	SESWSW Sec 30 T01S R25E, Lt 3, Blk 3	POD10	5	2.36
IRR11	1.136	SWSESW Sec 30 T01S R25E, Lt 4, Blk 3	POD11	5	2.84
IRR12	0.525	SWSESW Sec 30 T01S R25E, Lt 5, Blk 3	POD12	5	1.31
IRR13	0.493	SESESW Sec 30 T01S R25E, Lt 6, Blk 3	POD13	5	1.23
IRR14	3.612	SWSESW Sec 30 T01S R25E, Lt 7, Blk 3	POD14	5	9.03
	14.321	*Total Lawn and Garden Use*		70	35.79

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source. DNRC WSB Groundwater Hydrologist, Jack Landers, determined the hydraulically connected surface water to the source aquifer for the proposed PODs as follows:

Depleted Source of Water: Danford Drain

Depleted Source Type: Perennial Stream

Location of Depletions: The depleted reach begins at the NWNWNWSW of Section 30, T1S, R25E, Yellowstone County

Hydrogeology of the West Billings Area: Impacts of Land-Use Changes on Water Resources, published in 2002 for the Montana Burearu of Mines and Geology (MBMG). This report investigated the impacts of urban and suburban development on the West Billings Area. The report states the following (modified for this report; from Page iii (3)*) regarding surface water hydrology:*

> *"The project area is drained by numerous small perennial streams—most of which are artificial drains or highly modified natural streams. The most significant of these are Canyon Creek, Hogan's Slough, Danford Drain, and the City-County Drain. During the non-irrigated season (October–April), these streams are fed primarily by ground-water baseflow. During the growing season, flows in these streams increase substantially and consist almost entirely of discharges from irrigation ditch overflows and irrigation returns. All streams and drains in the area discharge to either the Yellowstone River or its tributary, the Clarks Fork of the Yellowstone…Danford Drain begins approximately 3 miles northeast of Laurel and drains approximately 5,000 acres in the project area. The Danford Drain receives significant flow inputs from three tributary11 drains. Peak baseflows (14 CFS) occur in early fall after the ditches have been deactivated. The flows drop steadily during the winter and reach a minimum flow of 3 CFS in March or April. During the summer, the drain receives irrigation return flows from minor ditches and has a flow of 20–30 CFS."*

2.2 Method of Estimation

The following Montana Bureau of Mines and Geology (MBMG) data was provided by the Applicant to represent the surface water availability of Danford Drain:

Montana Bureau of Mines and Geology (MBMG)

Montana Bureau of Mines and Geology (MBMG) Open-File Report No. 436 – Basic Hydrogeologic Data for: The West-Billings Area (1999-2000). Yellowstone County, Montana, Published June 2001. The data was collected between January 1999 and April 2001.

Location Name: Danford Drain @ Wise Lane
MBMG Location: T1S, R25E, Section 35, Tract BBBB
DNRC LLD: T1S, R25E, Section 35, NWNWNWNW
Period of Record: 01/04/1999 – 10/08/2000

Table 5: MBMG Measurements of Danford Drain @ Wise Lane; & Monthly Averages

Date	Depth of Water (ft from MP)	Flow (CFS)		Month	Mean Monthly Flow Rate (CFS)
1/14/1999	5.85	4.1		January	4.1
2/12/1999	5.84	4.2		February	4.2
3/17/1999	5.89	3.4		March	3.4
4/6/1999	5.89	3.8		April	3.8
5/19/1999	5.83	4.4		May	4.4
6/14/1999	5.09	30		June	30.0
7/19/1999	4.78	50.2		July	50.2
8/18/1999	4.73	54			
8/31/1999	4.61	64		August	59.0
9/27/1999	4.6	64.9		September	64.9
10/19/1999	5.21	23.9		October	23.9
11/8/1999	5.42	15.2			
11/15/1999	5.46	13.7			
11/24/1999	5.58	10		November	13.0
12/5/1999	5.64	8.4			
12/15/1999	5.7	6.9			
12/27/1999	5.77	5.5		December	6.9

Method of Estimation Used: The Department estimated the available flow at the top of the depleted reach (ungaged site) using the measurements collected by the MBMG in 1999 on Danford Drain at Wise Lane. This data can be found in the *Montana Bureau of Mines and Geology (MBMG) Open-File Report No. 436 – Basic Hydrogeologic Data for: The West-Billings Area (1999-2000)* and is shown in Table 5.

Why this method is considered appropriate: Danford Drain is not gaged and is an artificial drain. In instances where the source is not gaged and estimation techniques cannot be applied or do not accurately estimate flow such as drains, then physical availability of water will be determined based on collected discharge measurements for these sources. Per ARM 36.12.1702(4), measurements on these sources need to occur once monthly during the proposed period of diversion. For sources that are depleted by groundwater uses, measurements need to be once monthly during the period of depletion. Danford Drain meets the conditions for physical availability determination using once monthly measurements.

2.3 Monthly Flow Rate and Volume

Methodology: The mean monthly flow rate in CFS was taken from the measurements collected by the MBMG. The mean monthly volume was calculated using the following equation found in the DNRC Water Calculations Guide: CFS x 1.98 (AF/day/ 1 CFS) x days per month = AF/month.

Table 6: Proposed Flow Rate and Volume For Application No. 43Q 30164891

Month	Mean Monthly Flow Rate (CFS)	Mean Monthly Volume (AF)
January	4.1	251.7
February	4.2	232.8
March	3.4	208.7
April	3.8	225.7
May	4.4	270.1
June	30.0	1782.0
July	50.2	3081.3
August	59.0	3621.4
September	64.9	3855.1
October	23.9	1467.0
November	13.0	770.2
December	6.9	425.6

Physically Available water

There are eleven water rights that utilize Danford Drain for stock and irrigation purposes that are between the top of the depleted reach and the location where MBMG took measurements for Danford Drain at Wise Lane. These are shown in Table 7. In addition, Provisional Permit 43Q 30116187 and Provisional Permit 43Q 30157960 are groundwater rights that have been determined to deplete Danford Drain within this area. These two water rights are (Table 8) were issued after the measurements on Danford Drain were taken.

To determine the amount of water physically available in Danford Drain at the beginning of the depleted reach, the flow and volume of the eleven water rights listed in Table 7 were added to the MBMG measurements from Wise Lane, followed by the depletions attributed to 43Q 30116187 and 43Q 30157960 through groundwater usage. The physically available flow and volume are shown in Tables 9 and 10.

Table 7: Water Rights On Danford Drain Above the MBMG Wise Lane Collection Site

WR No.	OWNERS	PURPOSES	GPM	CFS	VOLUME	ACRES	PERIOD OF DIVERSIONS
43Q 30107340	GENE J KLAMERT; RONNA J KLAMERT	STOCK			8.4	0	01/01 - 12/31
43Q 14939 00	KEVIN D ANTHONY; DEANNA C BRUNN	IRRIGATION	41.99	0.093554	10.13*	2.47	03/01 - 11/04
43Q 42699 00	SHIRLEY M WAGNER	IRRIGATION	150	0.334202	32	8	05/01 - 10/15

43Q 195892 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	STOCK	0.00*	0.00*	5.10*	0	03/01 - 10/31
43Q 206797 00	ARLAND Y GLEASON; JOHN F THIELEN	IRRIGATION	25	0.0557	16.40*	4	04/01 - 10/04
43Q 208180 00	KRISTIN ANDERSON; KURT ANDERSON	IRRIGATION	208.42	0.464362	50.27*	12.26	06/01 - 09/04
43Q 208181 00	DALE D MAXWELL; VALERIE MAXWELL; NEIL NISTLER; TANYA NISTLER	IRRIGATION	125.12	0.278769	30.18*	7.36	06/01 - 09/04
43Q 208801 00	JTL GROUP INC	IRRIGATION	758.52	1.69	184.50*	45	04/01 - 10/31
43Q 195891 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	IRRIGATION	2244.15	5	426.52*	104.03	05/01 - 09/19
43Q 45860 00	KYLE A KINDSFATHER; SARAH F KINDSFATHER; LORENZ CONSTRUCTION LLC; MARSICH INVESTMENTS INC	IRRIGATION	1795.32	4	438.70*	107	04/01 - 10/19
43Q 102615 00	SAMM LLC	STOCK	35.00*	0.08*	34.00*	0	01/01 - 12/31

* Calculated by DNRC in Application 43Q 30157960.

Table 8: Water Rights that Deplete Danford Drain through groundwater usage.

WR No.	OWNERS	PURPOSES	GPM	CFS	VOLUME	ACRES	PERIOD OF DIVERSIONS
43Q 30157960	MAE INVESTMENTS LLC	L&G; DOMESTIC	225.50	0.5	61.0	23.04	01/01 - 12/31
43Q 30116187	SAMM LLC	L&G, COMMERCIAL, DOMESTIC	2,310	5.15	252	68	01/01 – 12/31

Table 9: Physically Available Flow Rate in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Measured Monthly Flow Rate	4.1	4.2	3.4	3.8	4.4	30	50.2	59	64.9	23.9	13	6.9
Legal Demands Between Measurement and Top of Depleted Reach	0.1	0.1	0.2	5.9	11.3	12	12	12	12	6.3	0.2	0.1
Physically Available before GW Depletions	4.2	4.3	3.6	9.7	15.7	42	62.2	71	76.9	30.2	13.2	7
Depletions from 43Q 30157960	0.05	0.05	0.04	0.04	0.03	0.04	0.05	0.07	0.08	0.08	0.07	0.06
Depletions from 43Q 30116187	0.06	0.06	0.05	0.05	0.07	0.12	0.15	0.17	0.14	0.1	0.09	0.07
Physically Available	4.1	4.2	3.5	9.6	15.5	41.8	62	70.8	76.7	30	13	6.9

Table 10: Physically Available Volume in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Measured Monthly Volume	251.7	232.8	208.7	225.7	270.1	1782	3081	3621.42	3855.1	1467	772.2	423.5
Legal Demands Between Measurement and Top of Depleted Reach	3.6	3.3	5.5	73.1	108.2	219.9	226.0	227.3	165.1	76.7	3.6	3.6
Physically Available Volume before GW Depletions	255.3	236.1	214.2	298.8	378.3	2002	3307	3848.7	4020.2	1544	775.8	427.1
Depletions from 43Q 30157960	3	2.6	2.4	2.2	2.1	2.5	3.3	4.3	4.9	4.8	4.1	3.5
Depletions from 43Q 30116187	3.9	3.6	3.3	3.4	4.6	6.9	9.4	10.3	8.6	5.9	5.1	4.5
Physically Available Volume	284.4	229.9	208.5	293.3	371.6	1992.5	3294.7	3834.1	4006.7	1533	766.6	419.2

Legally Available water

There are eleven water rights that are between the top of the depleted reach in the NWNWNWSW of Section 30, T1S, R25E, Yellowstone County to the confluence of Danford Drain and the Yellowstone River, in the NWSW of Section 25, T1S, R25E. These water rights are shown in Table 11.

Table 11: Water Rights Between the Top of Depletion and the Confluence with the Yellowstone River

WR No.	OWNERS	PURPOSES	GPM	CFS	VOLUME	ACRES	PERIOD OF DIVERSIONS
43Q 30107340	GENE J KLAMERT; RONNA J KLAMERT	STOCK			8.4	0	01/01 - 12/31
43Q 14939 00	KEVIN D ANTHONY; DEANNA C BRUNN	IRRIGATION	41.99	0.093554	10.13*	2.47	03/01 - 11/04
43Q 42699 00	SHIRLEY M WAGNER	IRRIGATION	150	0.334202	32	8	05/01 - 10/15
43Q 195892 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	STOCK	0.00*	0.00*	5.10*	0	03/01 - 10/31
43Q 206797 00	ARLAND Y GLEASON; JOHN F THIELEN	IRRIGATION	25	0.0557	16.40*	4	04/01 - 10/04
43Q 208180 00	KRISTIN ANDERSON; KURT ANDERSON	IRRIGATION	208.42	0.464362	50.27*	12.26	06/01 - 09/04
43Q 208181 00	DALE D MAXWELL; VALERIE MAXWELL; NEIL NISTLER; TANYA NISTLER	IRRIGATION	125.12	0.278769	30.18*	7.36	06/01 - 09/04
43Q 208801 00	JTL GROUP INC	IRRIGATION	758.52	1.69	184.50*	45	04/01 - 10/31
43Q 195891 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	IRRIGATION	2244.15	5	426.52*	104.03	05/01 - 09/19
43Q 45860 00	KYLE A KINDSFATHER; SARAH F KINDSFATHER; LORENZ CONSTRUCTION LLC; MARSICH INVESTMENTS INC	IRRIGATION	1795.32	4	438.70*	107	04/01 - 10/19
43Q 102615 00	SAMM LLC	STOCK	35.00*	0.08*	34.00*	0	01/01 - 12/31

To determine the amount of water legally available in Danford Drain, the flow and volume of the eleven water rights listed in Table 11 were subtracted from the physically available water, as explained in Tables 9 and 10. The legally available flow and volume are shown in Tables 12 and 13.

Table 12: Legally available Flow Rate in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physically Available Flow Rate	4.1	4.2	3.5	9.6	15.5	41.8	62	70.8	76.7	30	13	6.9
Existing Legal Demands	0.1	0.1	0.2	5.9	11.3	12.0	12.0	12.0	12.0	6.3	0.2	0.1
Legally Available Flow Rate	4.0	4.1	3.3	3.7	4.3	29.8	50.0	58.8	64.7	23.7	12.8	6.8

Table 13: Legally Available Volume in Danford Drain

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physically Available Volume	284.4	229.9	208.5	293.3	371.6	1992.5	3294.7	3834.1	4006.7	1533	766.6	419.2
Existing Legal Demands	3.6	3.3	5.5	73.1	107.5	219.3	225.3	226.6	165.1	76.7	3.6	3.6
Legally Available Volume	244.8	226.6	203.0	220.2	264.1	1773.3	3069.3	3607.6	3841.5	1456.3	763.0	415.6

3.0 Area of Potential Impact Analysis of Depleted Surface Water

The Area of Potential Impact for this application is: The Department considered the potentially impacted reach on Danford Drain by accounting for the location of the proposed project and downstream water users. This reach extends approximately 2.23 miles from the top of the depleted reach at the NWNWNWSW of Section 30, T1S, R25E, Yellowstone County, downstream to the confluence of the Yellowstone River, in the NWSW of Section 25, T1S, R25E. This is an acceptable area of potential adverse effect as the reach includes all Danford Drain water users. A list of rights can be found in Appendix A.

Why this is an appropriate Area of Potential Impact: Water rights within the reach were identified using the Department's Water Right Query System and GIS application Converge. The Department quantified the flow rate and volume of the surface water rights using the following methods:

1. The flow rate and volume for each water right was taken from the face value on the abstract.
2. Water rights without an assigned flow rate or volume were taken from the provisional determination for Provisional Permit 43Q 30157960. Provisional Permit 43Q 30157960 has a priority date of August 16, 2022. Provisional Permit 43Q 30157960 is the most recent water right issued on Danford Drain, and utilized the same eleven water rights to determine the legal availability of Danford Drain. As such, to keep consistency in the calculations, the flow rate and volume were taken as the correct values in this Application, 43Q 301648981.

Methodology: There are eleven surface water rights that exist within the reach. These water rights were found by identifying Danford Drain in ArcGIS Pro and isolating its water users. The AOPI and Surface Water Analysis can be seen in Figure 2.

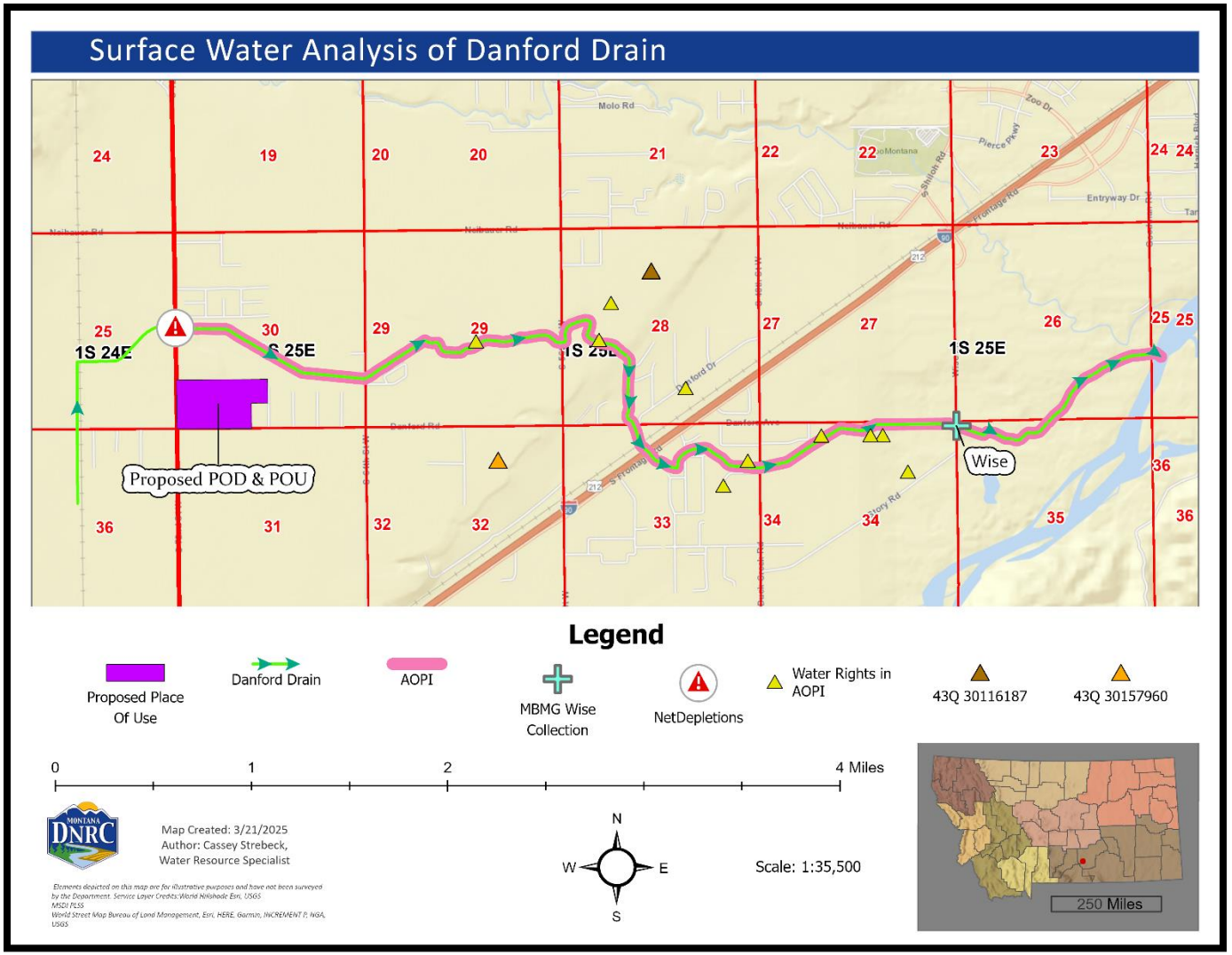


Figure 2: Surface Water Analysis of Danford Drain

Review

This document has been reviewed by the Department on March 21, 2025.

References

Department Standard Practice for Determining Physical Availability of Surface Water
Department Standard Practice for Determining Area of Potential Impact
Hydrogeology of the West Billings Area: Impacts of Land-Use Changes on Water Resources. Montana Burearu of Mines and Geology (MBMG). 2002.
Technical Memorandum – Variance – Yellowstone River Terrace 3 Aquifer Properties, 3/1/2022
Water Right 43Q 30157960

Appendix A: Water Rights within the Area of Potential Impact

WR No.	OWNERS	PURPOSES	GPM	CFS	VOLUME	ACRES	PERIOD OF DIVERSIONS
43Q 30107340	GENE J KLAMERT; RONNA J KLAMERT	STOCK			8.4	0	01/01 - 12/31
43Q 14939 00	KEVIN D ANTHONY; DEANNA C BRUNN	IRRIGATION	41.99	0.093554	10.13*	2.47	03/01 - 11/04
43Q 42699 00	SHIRLEY M WAGNER	IRRIGATION	150	0.334202	32	8	05/01 - 10/15
43Q 195892 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	STOCK	0.00*	0.00*	5.10*	0	03/01 - 10/31
43Q 206797 00	ARLAND Y GLEASON; JOHN F THIELEN	IRRIGATION	25	0.0557	16.40*	4	04/01 - 10/04
43Q 208180 00	KRISTIN ANDERSON; KURT ANDERSON	IRRIGATION	208.42	0.464362	50.27*	12.26	06/01 - 09/04
43Q 208181 00	DALE D MAXWELL; VALERIE MAXWELL; NEIL NISTLER; TANYA NISTLER	IRRIGATION	125.12	0.278769	30.18*	7.36	06/01 - 09/04
43Q 208801 00	JTL GROUP INC	IRRIGATION	758.52	1.69	184.50*	45	04/01 - 10/31
43Q 195891 00	DANIEL J HICKEY; JOSEPH D HICKEY; KELLY R HICKEY; LINDALEE E HICKEY; GENE J KLAMERT; RONNA J KLAMERT	IRRIGATION	2244.15	5	426.52*	104.03	05/01 - 09/19
43Q 45860 00	KYLE A KINDSFATHER; SARAH F KINDSFATHER; LORENZ CONSTRUCTION LLC; MARSICH INVESTMENTS INC	IRRIGATION	1795.32	4	438.70*	107	04/01 - 10/19
43Q 102615 00	SAMM LLC	STOCK	35.00*	0.08*	34.00*	0	01/01 - 12/31

*Calculated by DNRC in Application 43Q 30157960.

Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION
Water Resources Division • Billings Regional Office
1371 Rimtop Drive, Billings, MT 59105 Phone: (406) 247-4415 Fax: (406) 247-4416

GREG GIANFORTE, GOVERNOR 1539 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074
FAX: (406) 444-2684

PO BOX 201601
HELENA, MONTANA 59620-1601

February 7, 2025

Cougar Investments, LLC
Attn: Erin Kirschenmann
9428 Anglers Way
Billings, MT, 59101

Subject: Complete Preapplication Form for Beneficial Water Use Permit Application No. 43Q 30164891

Dear Mr. Kasperick,

The Billings Regional Office of the Department of Natural Resources and Conservation (DNRC or Department) received your Preapplication Meeting Form and preapplication meeting fee on February 4, 2025, and the Department deems the submitted Preapplication Meeting Form to be successfully completed per ARM 36.12.1302.

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department will produce the technical analyses based on the parameters included in the Preapplication Meeting Form (ARM 36.12.1302(4)) within 45 days of February 4, 2025.

Please let me know if you have any questions.

Sincerely Yours,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

CC:
Performance Engineering
Attn: Taylor Kasperick
3412 Colton Blvd, Suite 202
Billings, MT, 59102

Docusign Envelope ID: C909A167-D898-44DF-B0A6-835562F301E1

PREAPPLICATION MEETING FORM
PERMIT
§ 85-2-302
Form No. 600P *(Revised 4/2024)*

For Department Use Only

Application # 30164891 Basin 43Q
Meeting Date 11/20/24 Time 13:00 AM/PM
Completed Form Deadline 05/19/2025

PREAPPLICATION MEETING FEE
$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE
An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

RECEIVED
FEB 04 2025
DNRC-WRD-BILLINGS

Completed Form Received _____
Fee Rec'd $ 500.00 Check # CC
Deposit Receipt # _____
Payor Performance Engineering
Refund $ _____ Date _____

The Department will fill out Form No. 600P and will identify follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within five business days. Within 180 days of the preapplication meeting, the Applicant will complete identified follow-up on a separate document with the question numbers clearly labeled.

Applicant Information: *Add more as necessary.*

Applicant Name Cougar Investments, LLC c/o Erin Kirschenmann
Mailing Address 9428 Anglers Way City Billings State MT Zip 59101
Phone Numbers: Home 406-855-8004 Work _____ Cell _____
Email Address erin@keconstruction.com ; bryce@keconstruction.com

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name Performance Engineering c/o Taylor Kasperick (44467)
Mailing Address 3412 Colton Blvd, Suite 202 City Billings State MT Zip 59102
Phone Numbers: Home 406-384-0080 Work _____ Cell _____
Email Address taylor@performance-ec.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary. If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondence and a copy may be sent to the contact person.*

Meeting Attendees: *Add more as necessary.*

Name	Organization	Position
Taylor Kasperick	Performance Engineering	Consultant
Brody Roberson	Performance Engingeering	Consultant
Mark Elison	DNRC	Regional Manager
Veronica Corbett	DNRC	Water Resource Specialist
Cassey Strebeck	DNRC	Water Resource Specialist
Jack Landers	DNRC	Hydrologist
Dave Parmelee	DNRC	Hydrologist

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Application Details

The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. For tables in this form, circle correct unit at header of column when faced with a choice of units. For tables in attachments, label all units. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
1. Do you elect to have DNRC conduct Technical Analyses?	■ Y ☐ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and places of use for all overlapping water rights.	☐ S	■ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Project-Specific Questions 47 to 52 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ■ N	☐ F
4. Is the proposed use temporary?	☐ Y ■ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F
5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).	☐ A	■ F

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	*(MM/DD-MM/DD)*	*Flow Rate*	*GPM*	*CFS*	*(AF)*
Commercial	01/01-12/31	01/01-12/31	65	✔	☐	
Lawn & Garden	04/01-10/31	04/01-10/31	70	✔	☐	32.08
				☐	☐	
				☐	☐	
		Total	135	☐	☐	

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6. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD ID number used for the project map (question 2). ☐ A ☒ F

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
1															
2															
3															
4															
5															
6															

7. What are the geocodes of the place of use? ☐ A ☐ F

03-0926-30-3-01-11-0000	

8. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres. ☐ A ☒ F

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
	Total								

9. Will other water right(s) supplement or overlap the place of use to contribute to the purpose(s)? ☐ Y ☒ N ☐ F

a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s). ☐ A ☐ F

_____

_____

_____

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10. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F

Water Right No.	Avg. Period of Diversion (MM/DD-MM/DD)	Avg. Period of Use (MM/DD-MM/DD)	Flow Rate (GPM or CFS)	Volume Contributed (AF)

11. Will this application supplement contract water from a Federal Project, ditch company, or other source?	☐ Y ■ N	☐ F
a. If yes, explain. _____ _____	☐ A	☐ F
12. Does the project involve one or more place(s) of storage with a capacity of greater than 0.1 acre-feet? This does not include storage tanks and cisterns. If yes, answer questions 53 to 61 for place of storage.	☐ Y ■ N	☐ F
13. Does the project involve one or more conveyance ditches? If yes, answer questions 62 to 64 for ditch-specific questions.	☐ Y ■ N	☐ F
14. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ■ N	☐ F
15. Will you be transporting water for use outside of Montana? If yes, you will need submit an Out-of-State Use Addendum (Form 600/606-OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	☐ Y ■ N	☐ F
16. Does the project include the water marketing purpose? If yes, answer questions 65 to 71 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ■ N	☐ F
17. Is the project located in designated sage grouse habitat? If yes, you must have a consultation with and review of your project by the Montana Sage Grouse Habitat Conservation Program. The review letter will be required at application submittal.	☐ Y ■ N	☐ F

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Surface Water

☐ **Applicable**, move on to question 18. ☒ **Not Applicable**, skip to question 29.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water: Physical Availability

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
18. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.	☐ A	☐ F

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period Start (MM/DD)	Period End (MM/DD)	Source Type

19. What is the source type of the surface water diversion? _____						☐ A	☐ F
Perennial or intermittent	Answer question 20	**Ephemeral**	Answer questions 22 to 24	**Lakes**	Answer question 25	**Other**	Answer question 26

Surface Water: Physical Availability: Perennial or Intermittent

☐ Applicable ☐ Not Applicable

20. Is stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions related to the number of stream gages that are available.		
i. One stream gage is available		
1. What is the gage name? _____		☐ F

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2. Who operates and maintains the gage? _____		☐ F
3. Is the stream gage upstream or downstream of point(s) of diversion? _____		☐ F
4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	☐ Y ☐ N	☐ F
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded? _____		☐ F
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 20.b.		
ii. More than one stream gage is available		
1. List the gage names. _____		☐ F
2. Who operates and maintains the gages? _____		☐ F
3. Is one stream gage upstream and one downstream of point(s) of diversion?	☐ Y ☐ N	☐ F
4. Do the stream gages have similar periods of record?	☐ Y ☐ N	☐ F
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ N	☐ F

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6. How frequently is stage data recorded at each gage? _____		☐ F
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N	☐ F
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 20.b.		
b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N	☐ F
i. If yes,		
1. Submit available measurements to the Department.	☐ S	☐ F
2. Who collected the measurements? _____	☐ A	☐ F
3. With what method was the data collected? _____ _____	☐ A	☐ F
4. What is the period of record? _____		☐ F
5. What is the frequency of measurement? _____		☐ F
6. Are there gaps in the data?	☐ Y ☐ N	☐ F

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a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. If yes, explain. _____ _____ _____	☐ A	☐ F
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 27.		
b. If no, answer question 21.		
21. Does the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes, describe the estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
b. If no,		
i. Will measurements be collected prior to submission of a completed Form No. 600P that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____ _____	☐ A	☐ F

b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A	☐ F
2. If no,		
a. Describe your plan to comply with the requirements of ARM 36.12.1702(1). _____ _____ _____	☐ A	☐ F
b. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)?	☐ Y ☐ N	☐ F

Surface Water: Physical Availability: Ephemeral

☐ Applicable ☐ Not Applicable

22. If you will conduct Technical Analyses, what is your plan to calculate mean annual runoff? If DNRC will conduct Technical Analyses, write N/A. _____ _____	☐ A	☐ F
23. Where do you plan to obtain climate and drainage area data? _____ _____	☐ A	☐ F
24. Where is the downstream point of diversion, which will be used to delineate the drainage basin? _____	☐ A	☐ F

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Surface Water: Physical Availability: Lakes

☐ Applicable ☐ Not Applicable

25. Do you have a design plan?	☐ Y ☐ N	☐ F
a. If yes, provide the design plans to DNRC	☐ S	☐ F
b. If no, has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
i. If yes, provide this information to DNRC.	☐ S	☐ F
ii. If no, answer the following questions,		
1. When do you plan to collect this information? _____		☐ F
2. With what method will it be collected? _____ _____	☐ A	☐ F

Surface Water: Physical Availability: Other

☐ Applicable ☐ Not Applicable

26. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the data collected? _____ _____	☐ A	☐ F
ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the requirements of 36.12.1702(4)?	☐ Y ☐ N	☐ F
b. If no or if the measurement interval does not meet the requirements of 36.12.1702(4)		
i. When do you plan to measure? _____		☐ F
ii. With what method will the measurements be collected? _____ _____ _____	☐ A	☐ F

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Surface Water: Identification of Legal Demands in Area of Potential Impact

27. If you are conducting Technical Analysis, how will the Area of Potential Impact be defined? If Department is conducting Technical Analyses, write N/A. _____ _____ _____ _____	☐ A	☐ F

Surface Water: Basin Closure Area

28. Is the project located in a Basin Closure Area? If yes, explain how the project meets a closure exception. More information about basin closures online at: https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas. Answer the follow-up questions for specific Basin Closure Areas in the "Project-Specific Questions: Controlled Groundwater Areas and Basin Closures" section (questions 51 to 52). _____ _____ _____ _____ _____ _____	☐ Y ☐ N	☐ F

Groundwater

■ **Applicable**, move on to question 29. ☐ **Not Applicable**, skip to question 47.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
Groundwater: Physical Availability		
29. What is the type of groundwater diversion? Wells (14 individual wells)	☐ A	☐ F

Well/Pit	Answer questions 30 to 32	**Developed Spring**	Answer question 33	**Pond**	Answer questions 34 to 38

Groundwater: Physical Availability: Well/Pit

■ Applicable ☐ Not Applicable

30. Provide the Aquifer Testing Addendum (Form 600-ATA). This form will be required before the Preapplication Meeting Form is deemed complete.	☐ S	■ F
31. Have you submitted a completed Form 633 to DNRC for review?	☐ Y ■ N	☐ F
a. If no, submit Form 633 to DNRC for review. Form 633 is required by the time the Preapplication Meeting Form is deemed complete.	☐ S	■ F
b. If yes, did the Department identify deficiencies?	☐ Y ☐ N	☐ F
i. If yes, are variances from ARM 36.12.121 needed?	☐ Y ☐ N	☐ F
1. If yes,		
a. Do you have data for aquifer characteristics?	☐ Y ☐ N	☐ F
i. If yes, provide the data to the Department.	☐ S	☐ F
b. Have you submitted Form 653 to the Department?	☐ Y ☐ N	☐ F
i. If yes, was the variance granted?	☐ Y ☐ N	☐ F
32. Do you have a map with the location of each well/pit labeled and, if available, with the GWIC ID?	☐ Y ■ N	☐ F
a. If no, have all the wells/pits been constructed?	☐ Y ■ N	☐ F

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i. If yes, provide a map with the wells/pits labeled and, if available, with the GWIC ID. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
ii. If no, answer the following questions,		
1. When will the wells/pits be constructed? Upon development of each lot		☐ F
2. Do you have an initial map with the proposed location of wells/pits?	■ Y ☐ N	☐ F
a. If yes, provide an initial map to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	■ F
3. Is the requested volume for each new well/pit known?	■ Y ☐ N	☐ F
a. If no, what is the total requested volume (AF) and the number of new PODs? _____		☐ F

Groundwater: Physical Availability: Developed Spring

☐ Applicable ■ Not Applicable

33. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1),		
i. When do you plan to measure? _____		☐ F

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ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater: Physical Availability: Ponds

☐ Applicable ■ Not Applicable

34. Have you submitted Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test?	☐ Y ☐ N	☐ F
a. If yes, did the Department approve the variance request?	☐ Y ☐ N	☐ F
35. Have you submitted measurements to the Department? If yes, describe. _____	☐ Y ☐ N	☐ F
36. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
37. Please submit a map identifying the location of the proposed pond to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
38. If you are conducting Technical Analyses, what is your plan to determine depth, surface area, and net evaporation of the pond? If DNRC is conducting Technical Analyses, write N/A. _____ _____ _____	☐ A	☐ F

Groundwater: Identification of Groundwater Legal Demands

All information to calculated Zone of Influence was collected in previous questions.

Groundwater: Adverse Effect to Existing Groundwater Rights

All information to calculate One-Foot Drawdown Contour was collected in previous questions.

Groundwater: Physical Availability of Depleted Surface Water Source(s)

39. What are the hydraulically connected surface water source(s)? Danford Drain		☐ F
40. For each hydraulically connected surface water source, is gage data available?	☐ Y ■ N	☐ F
a. If yes, answer the following questions for the number of stream gages that are available.		

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i. One stream gage is available		
1. What is the gage name? _____		☐ F
2. Who operates and maintains the gage? _____		☐ F
3. Is the stream gage upstream or downstream of point(s) of diversion? _____		☐ F
4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, please contact the Regional Hydro-Specialist or the Water Sciences Bureau.	☐ Y ☐ N	☐ F
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded? _____		☐ F
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 40.b.		
ii. More than one stream gage is available		
1. List the gage names. _____		☐ F
2. Who operates and maintains the gages? _____		☐ F
3. Is one stream gage upstream and one downstream of point(s) of diversion?	☐ Y ☐ N	☐ F

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4. Do the stream gages have similar periods of record?	☐ Y ☐ N	☐ F
5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☐ N	☐ F
6. How frequently is stage data recorded at each gage? _____		☐ F
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N	☐ F
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 40.b.		
b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	■ Y ☐ N	☐ F
i. If yes,		
1. Submit measurements to the Department.	☐ S	■ F
2. Who collected the measurements? MT MBMG	☐ A	☐ F
3. With what method was the data collected? _____ _____	☐ A	■ F
4. What is the period of record? _____		■ F
5. What is the frequency of measurement? _____		■ F
6. Are there gaps in the data?	☐ Y ☐ N	■ F

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a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality _____ _____ _____ _____	☐ A	■ F
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	■ F
a. If yes, explain. _____ _____ _____ _____	☐ A	■ F
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ■ N	■ F
a. If yes, this section is complete. Skip to question 42.		
b. If no, answer question 41.		
41. For each hydraulically connected surface water source, does the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ■ N	☐ F
a. If yes, describe the estimation technique. _____ _____ _____	☐ A	☐ F
b. If no,		
i. Will measurements be collected prior to submission of a completed Form No. 600P that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a department-accepted estimation technique?	☐ Y ■ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____ _____	☐ A	☐ F

b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A	☐ F
2. If no, describe your plan to comply with the measurement requirements for hydraulically connected surface water sources. There is no valid estimation technique so the measurements will be used. _____ _____	☐ A	☐ F

Groundwater: Legal Availability of Depleted Surface Water Source(s)

All information to determine legal demands for depleted surface water source(s) was collected in previous questions.

Groundwater: Adequacy of Diversion

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each groundwater point of diversion? If the POD is a well, provide the well depth (FT), if available, or estimated well depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	■ F

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period of Diversion (MM/DD-MM/DD)	Well Depth (FT)	Measured or Estimated

43. Will the monthly pumping schedule differ from an allocation of diverted volume by the number of days in the month for year-round uses or the IWR 80% net irrigation requirements for irrigation/lawn & garden uses (IWR, NRCS 2003)?	☐ Y ■ N	☐ F

a. If yes, provide the alternative pumping schedule in the table below. Use the same POD # as the project map (question 2).	☐ A	☐ F

Month	POD #	Volume (AF)	Month	POD #	Volume (AF)
January			**July**		
February			**August**		
March			**September**		
April			**October**		
May			**November**		
June			**December**		

Groundwater: Basin Closure Area

44. Are the point(s) of diversion located in a basin closure area? If yes, fill out questions 45 to 46.	☐ Y ■ N	☐ F
45. Did you elect in question 1 for the Department to conduct Technical Analysis?	☐ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Hydrogeologic Report Addendum (Form 600-HRA), and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360 for Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA), Hydrogeologic Report Addendum (600-HRA), and Hydrogeologic Report with your Technical Analysis.	☐ S	☐ F
46. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, which of the following three options best describe your plan to mitigate depletions of hydraulically connected surface water? A separate Preapplication Meeting will be required for each application to change a water right to a mitigation or aquifer recharge purpose to maintain expedited timelines and reduced filing fees for the project.		
a. Application to Change a Water Right to mitigate the adverse effects created.	☐ Y ☐ N	☐ F
b. Alternative mitigation plan.	☐ Y ☐ N	☐ F
c. Documentation to show a mitigation plan is not required.	☐ Y ☐ N	☐ F

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Project-Specific Questions

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-Up**
Project-Specific Questions: Controlled Groundwater Areas and Basin Closures		
47. Is the project located in the East Valley Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes,		
i. Do you have written approval from (1) Lewis and Clark County Board of Health, (2) Lewis and Clark County Water Quality Protection Bureau, (3) the U.S. Environmental Protection Agency, (4) the Montana State Dept. of Environmental Quality and (5) the Montana State Dept. of Natural Resources and Conservation? If the agencies have established a Technical Advisory Group, prior approval by the Technical Advisory Group satisfies this requirement.	☐ Y ☐ N	☐ F
ii. Is the project in Zone 2?	☐ Y ☐ N	☐ F
i. If yes, provide in the written approval the following recommendations which will also be included as conditions on the appropriation. a. Well design and construction requirements necessary to measure the water level and water quality for any well; b. Water level measurement and water quality sample reporting requirements for any new well; c. Any other requirements necessary to ensure new wells can be operated in a manner consistent with purpose of the EVCGWA.	☐ S	☐ F
iii. Is the project in Zone 1? If yes, a Form 600 cannot be accepted by the Department.	☐ Y ☐ N	☐ F
48. Is the project located in the South Pine Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, have you completed an Application for Beneficial Water Use Permit South Pine Controlled Groundwater Area Addendum? The addendum needs to be completed by application submittal.	☐ Y ☐ N	☐ F
49. Is the project located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF per year?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead the Yellowstone Controlled Groundwater Area Permit Application (600-YCGA).		
ii. If yes, answer the remaining parts of question 49. A Yellowstone Controlled Groundwater Area Addendum (600 Y over35) will be required with application submittal.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. What is the ground elevation at the point of diversion? _____		☐ F

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3. What is the specific conductance at the point of diversion? _____		☐ F
4. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of YNP), provide a report prepared by a professional qualified in the science of groundwater hydrology, verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.	☐ S	☐ F
50. Is the project located in one of the Controlled Groundwater Areas listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meets the requirements of the Controlled Groundwater Area. An application must meet the specific requirements of the Controlled Groundwater Area to be accepted by the Department. _____ _____ _____ _____ _____	☐ A	☐ F
51. Is the project located in one of the administrative, Department ordered, or legislative closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meet the requirements of the closure. An application must meet the specific requirements of the closure to be accepted by the Department. _____ _____ _____ _____ _____	☐ A	☐ F
52. Is the project located in one of the compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N	☐ F
a. If yes, list which one and describe how the proposed project meet the requirements of the compact closure. An application must meet the specific requirements of the compact closure to be accepted by the Department. _____ _____ _____ _____	☐ A	☐ F

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Project-Specific Questions: Place of Storage

53. Does the proposal include at least one place of storage? If yes, answer questions 54 to 61 for each individual place of storage (use Additional Place of Storage Sheet for additional places of storage). If no, this section is complete, and you can skip to question 62.	☐ Y ■ N	☐ F
54. Provide a map showing the location of the place of storage. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F
55. Is this application to enlarge an existing reservoir?	☐ Y ☐ N	☐ F
a. If yes, what is the water right number for the existing reservoir? _____		☐ F
56. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
a. If no, explain the conveyance means to and from the off-stream place of storage and any losses that may occur with that conveyance. _____ _____ _____	☐ A	☐ F
57. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: *Surface Acres x Maximum Depth (FT) x 0.5 (0.4-0.6 depending on side slope) = Capacity (AF)* _____	☐ A	☐ F
58. Will the place of storage include primary and/or emergency spillways? Preliminary design specifications for primary and emergency spillways must be included with application submittal (ARM 36.12.113).	☐ Y ☐ N	☐ F
59. Will the place of storage be lined?	☐ Y ☐ N	☐ F
60. What is the annual net evaporation of water from the place of storage using the standards in ARM 36.12.116(1)? Gridded net evaporation layer is available from DNRC upon request. _____		☐ F
61. Is the place of storage capacity calculated to be greater than 50 acre-feet?	☐ Y ☐ N	☐ F
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam?	☐ Y ☐ N	☐ F

Project-Specific Questions: Ditch-Specific Questions

62. Does the proposal include at least one conveyance ditch? If yes, answer question 63 and, for each ditch, answer question 64. If no, this section is complete, and you can skip to question 65.	☐ Y ■ N	☐ F

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63. Submit a Ditch Map that shows every ditch conveying water for the proposed project. Label the ditch name(s), POD(s), the POU(s), and the ditch measurement locations (requested in question 64.c). The map should be created on an aerial photograph or topographic map with the following: section corners, township and range, and a north arrow.	☐ S	☐ F
64. For each conveyance ditch, answer the following. If there is more than one conveyance ditch, use an Additional Ditch Sheet for each additional conveyance ditch.		
a. What is the ditch name? _____		☐ F
b. What is the distance water will be carried by the conveyance ditch? Only include segments between the POD and start of the POU; do not include segments within the POU. _____ _____	☐ A	☐ F
c. Provide at least one set of ditch measurements, which include width (FT), depth (FT), and slope (%). Discuss ditch characteristics with DNRC to determine the minimum number of ditch measurements. Include the location of each measurement, labeled with the 2-digit measurement ID number, used on the map submitted for question 63.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

d. What is a reasonable Manning's n value? List the factors used for estimation. If you do not know this value, please work through estimation with the Department. _____ _____	☐ A	☐ F
e. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F
f. Are other water rights conveyed by the conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. What are the water right numbers? _____ _____	☐ A	☐ F

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2. What is the sum of the flow rates (GPM or CFS) for water rights conveyed? _____ _____ _____	☐ A	☐ F
3. Provide a map with your best estimate of where the existing POUs begin for the other water rights conveyed by the conveyance ditch for all POUs between the proposed POD and your proposed POU. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S	☐ F

Project-Specific Questions: Water Marketing

65. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 66 to 71). If no, this section is complete, and you can skip to question 72.	☐ Y ■ N	☐ F
66. Identify the flow rate (GPM or CFS) and volume (AF) of water that will be marketed. _____		☐ F
67. Will the marketed water return to the source?	☐ Y ☐ N	☐ F
a. Explain how this determination was made. _____ _____ _____	☐ A	☐ F
68. For what purpose(s) will the marketed water be used? _____ _____	☐ A	☐ F
69. How will you control or limit access to the water? _____ _____	☐ A	☐ F
70. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N	☐ F
71. Provide a service area map. Create map on an aerial photograph or topographic map and shows the following: general service area boundary, section corners, township and range, and a north arrow.	☐ S	☐ F

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Non-Mandatory Questions for Criteria Analysis

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-boxes
72. Do you have evidence that water is legally available in the proper flow rate, volume, and timing?	☐ Y ■ N
73. If water is not found to be legally available for part or all the proposed period of diversion, what is the plan to address this with the permitting process? Reduce/omit irrigation	☐ A
74. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Wells can be shut off if valid call is made	☐ A
75. Explain how you can control your diversion in response to call being made. Wells can be shut off if valid call is made	☐ A
76. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ■ N
a. If yes, explain.	☐ A
77. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ■ N

Adequate Diversion Means and Operation

78. Provide a diagram of how you will operate your system from the point of diversion to the place of use.	☐ S
79. Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.	☐ A

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80. Is the diversion capable of providing the full amount requested through the period of diversion?	■ Y ☐ N
81. Describe the size and configuration of infrastructure to convey water from point of diversion to place of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration.	☐ A
82. Describe any losses related to conveyance. None	☐ A
83. Is the conveyance infrastructure capable of providing the required flow and volume and any losses?	■ Y ☐ N
84. Does the proposed conveyance require easements?	☐ Y ■ N
a. If yes, explain.	☐ A
85. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal. N/A	☐ A
86. Describe specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot and output and configuration of sprinkler heads.	☐ A
87. Is the water delivery system capable of providing the requested beneficial use?	■ Y ☐ N
88. Will your system be designed to discharge water from the project?	☐ Y ■ N
a. If yes, explain the way water will be discharged and the wastewater disposal method.	☐ A

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89. Provide a plan of operations.	☐ A
90. Can the plan of operations deliver the flow rate and volume for the beneficial use being requested?	■ Y ☐ N
91. Do you have any plans to measure your diversion and use?	☐ Y ■ N
a. If yes, describe the plan and the type of measurements you will take.	☐ A

Beneficial Use

92. Why is the requested flow rate and volume the amount needed for the purpose? Estimation technique for commercial use & justification (may be Dept. standard); l&g per Dept. standard	☐ A
93. Does the Department have a standard for the purposes for which water is used? Department standards can be found in ARM 36.12.112.	■ Y ☐ N
a. If yes, does the proposed beneficial use fall within Department standards?	■ Y ☐ N
94. If no standard, or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose.	☐ A
95. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ■ N
a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
96. Are you proposing to use surface water for in-house domestic use?	☐ Y ■ N
a. If yes, does a COSA exist for the proposed place of use?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

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Possessory Interest

97. Do you have possessory interest, or the permission of the party with possessory interest, of the proposed place of use? Proof of possessory interest or permission of the party with possessory interest is required at application submittal.	■ Y ☐ N
a. If no, explain. _____ _____ _____	☐ A

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PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting and that the items marked for follow-up will require the applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves the first five days of the 45-day period in ARM 36.12.1302(4) or (5) to return the form to the applicant if:

1 – the completed form does not include all necessary follow-up information identified in the meeting, OR
2 – the completed form is not adequate for the Department to proceed with technical analyses, OR
3 – the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
4 – the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the $500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the $500 payment received to the new preapplication meeting, or refund the payment to the Applicant if the Applicant desires.

	Manager	Cougar Investments, LLC	11/22/2024
Applicant Signature			Date

Applicant Signature			Date
Mark Elison	Regional Manager	Montana Department of Natural Resources and Con	11/22/2024
Department Signature			Date

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FOLLOW-UP PAGE

Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting. Instead, the Applicant must use the Amended Responses procedure defined below. Do not include additional information for questions not marked for follow-up here; instead include any additional information pursuant to the process for amending responses defined below.

Questions marked for follow-up

2 - Map	
5 - Volume/employee/day for Commercial	
6 - POD list	
8 - POU List	
30 - Form 600-ATA Submitted	
31 - Form 633 Submitted (and Form 653)	
32.ii.a.2.a - Map of proposed wells	
40.b all sub questions re: Danford Drain measurements from MBMG	
42 - Flow rate, volume, period for each POD	

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AMENDED RESPONSES PAGE

The Applicant may not alter the Preapplication Meeting Form signed at the Preapplication Meeting or the Follow-up Page. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. The Applicant will mark all question numbers with an amended response in the table below and note for each question whether the response will replace the response given at the preapplication meeting or will provide additional information to consider in conjunction with the response given at the preapplication meeting. The Applicant will return the "Amended Responses" document with the "Follow-up Responses" document and the signed Preapplication Meeting Form.

Questions with amended responses

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FOLLOW-UP PAGE AFFIDAVIT & CERTIFICATION

"I/we attest that this preapplication meeting form, follow-up page, and amended responses page accurately portray my proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a))."

DocuSigned by:
4D20F217D60248F...

Erin Kirschenmann — 1/17/2025

Applicant Signature — Date

Applicant Signature — Date

"We confirm that the preapplication form and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the applicant has elected to complete technical analyses, we confirm they have submitted each piece of technical analysis required based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

~~Veronica Corbett~~

Department Signature — Date

Department Signature — 2/6/2025 — Date

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PERFORMANCE ENGINEERING
3412 Colton Boulevard, Suite 202 • Billings, MT 59102 • 406-384-0080

January 15, 2025

Department of Natural Resources and Conservation
Water Resources Division – Billings Regional Office
Airport Industrial Park
1371 Rimtop Drive
Billings, MT 59105

RE: 43Q 30164891

To Whom it May Concern:

Performance Engineering, LLC (PE) is writing this letter to provide follow-up information deemed necessary by the Department of Natural Resource and Conservation (DNRC) from the Pre-Application Meeting held on November 20, 2024.

2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance structures, all proposed places of storage, and places of use for all overlapping water rights.

Please see the attached exhibits showing the POD's within the proposed subdivision.

5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF).

At present it is unknown what types of commercial facilities will utilize the proposed subdivision. As such, assumptions have been made to approximate the volume of water that will be utilized for commercial use. The current septic system was designed to handle use by 24 employees per lot, assuming 16 gpd (gallons per day)/employee. This rate closely follows the DNRC Water Calculation Guide rate for Offices, however, it is assumed these businesses will have water needs that will not be captured via the septic system, i.e., outdoor cleaning of vehicles and other equipment. Therefore, the assumed consumption of water per employee utilized was 35 gpd/employee, resulting in a total domestic volume consumed by the subdivision of 10,920 GPD, or 12.22 AF/year. This 35 gpd/employee is equivalent to the top end range the DNRC Water Calculation Guide provides for workers in Factories. The peak domestic flow rate for the subdivision was calculated assuming a flow rate of 5 gpm per lot utilized over the 13 subdivided lots, resulting in a domestic flow rate of 65 gpm over the subdivision. It was assumed the peak flow rate for irrigation use would be 70 gpm, bringing the total peak flow rate for the subdivision to 135 gpm. The DNRC Water Calculation Guide provides the volume standards for "Lawn, garden, shrubbery, and shelterbelts" to be 2.5 AF/acre. Total volume calculations were tabulated by assuming 20% of each lot would be irrigated, as well as the entirety of Lot 7 (Utility), Block 3. The total volume of water to

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be used for irrigation over the subdivision would be 35.79 AF during the months of April through October. Considering both domestic and irrigation use, a resulting volume of 48.01 AF of water is anticipated to be used by the subdivision.

Purpose	Period of Diversion (MM/DD-MM/DD)	Period of Use (MM/DD-MM/DD)	Flow Rate			Volume
			Flow Rate	GPM	CFS	(AF)
Commercial	01/01-12/31	01/01-12/31	65	☒	☐	12.22
Lawn & Garden	04/01-10/31	04/01-10/31	70	☒	☐	35.79
		Total	135	☒	☐	48.01

6. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD ID number used for the project map (question 2).

The table below provides the proposed locations of the POD's to the nearest 10 acres, the corresponding POD ID can be located on the attached exhibit. It should be noted, in order to save space, the subdivision name was omitted from the table after the first POD. All POD's are located within the proposed Platinum Commercial Park Subdivision.

POD #	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot	SW or GW	Source Name	Means
1	NW	SW	SW	30	01S	25E	Yellowstone	1	1		Platinum Commercial Park Subd.		GW	43Q	Well
2	NW	SW	SW	30	01S	25E	Yellowstone	2	1				GW	43Q	Well
3	NE	SW	SW	30	01S	25E	Yellowstone	3	1				GW	43Q	Well
4	NW	SE	SW	30	01S	25E	Yellowstone	4	1				GW	43Q	Well
5	NW	SE	SW	30	01S	25E	Yellowstone	1	2				GW	43Q	Well
6	NE	SE	SW	30	01S	25E	Yellowstone	2	2				GW	43Q	Well
7	NE	SE	SW	30	01S	25E	Yellowstone	3	2				GW	43Q	Well
8	SW	SW	SW	30	01S	25E	Yellowstone	1	3				GW	43Q	Well
9	SW	SW	SW	30	01S	25E	Yellowstone	2	3				GW	43Q	Well
10	SE	SW	SW	30	01S	25E	Yellowstone	3	3				GW	43Q	Well
11	SW	SE	SW	30	01S	25E	Yellowstone	4	3				GW	43Q	Well
12	SW	SE	SW	30	01S	25E	Yellowstone	5	3				GW	43Q	Well
13	SE	SE	SW	30	01S	25E	Yellowstone	6	3				GW	43Q	Well
14	SW	SE	SW	30	01S	25E	Yellowstone	7	3				GW	43Q	Well

8. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.

The table below provides the legal land description for the proposed place of use and irrigated acres. Irrigated acres per lot are based on an assumption of 20% landscaping on the developed lot, excepting Lot 7 (Utility), Block 3 which is a utility lot and will be wholly landscaped. Each place of use described below is a proposed lot within Platinum Commercial Park Subdivision.

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Acres	Irrigated Acres	Lot	Block	1/4	1/4	1/4	Sec.	Twp.	Rge.	County
5.672	1.134	1	1	NW	SW	SW	30	01S	25E	Yellowstone
4.825	0.965	2	1	NW	SW	SW	30	01S	25E	Yellowstone
4.846	0.969	3	1	NE	SW	SW	30	01S	25E	Yellowstone
2.744	0.549	4	1	NW	SE	SW	30	01S	25E	Yellowstone
2.744	0.549	1	2	NW	SE	SW	30	01S	25E	Yellowstone
4.003	0.801	2	2	NE	SE	SW	30	01S	25E	Yellowstone
3.037	0.607	3	2	NE	SE	SW	30	01S	25E	Yellowstone
5.469	1.094	1	3	SW	SW	SW	30	01S	25E	Yellowstone
4.716	0.943	2	3	SW	SW	SW	30	01S	25E	Yellowstone
4.717	0.943	3	3	SE	SW	SW	30	01S	25E	Yellowstone
5.681	1.136	4	3	SW	SE	SW	30	01S	25E	Yellowstone
2.627	0.525	5	3	SW	SE	SW	30	01S	25E	Yellowstone
2.465	0.493	6	3	SE	SE	SW	30	01S	25E	Yellowstone
3.612	3.612	7	3	NW	SE	SW	30	01S	25E	Yellowstone
57.158	14.321	Total								

30. Provide the Aquifer Testing Addendum (Form 600-ATA). This form will be required before the Preapplication Meeting Form is deemed complete.

Form 600-ATA has been completed and sent to the DNRC. Please see the attached Aquifer Testing Addendum (ATA) – Review Form.

31. Have you submitted a completed Form 633 to DNRC for review?
    a. If no, submit Form 633 to DNRC for review. Form 633 is required by the time the Preapplication Meeting Form is deemed complete.

Form 633 along with Form 653 have been sent to the DNRC for review. Please see the attached variance approval letter for verification.

32.a.ii.2.a If yes, provide an initial map to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.

Please see the attached exhibits showing the location of the wells within the proposed subdivision.

40.b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?
    i. If yes,
        1. Submit measurements to the department.

Pages from a report by the Montana Bureau of Mines and Geology titled "Basic Hydrogeologic Data For: The West-Billings Area (1999-2000), Yellowstone County, Montana" (Olson and Reiten), dated June of 2001 have been attached. The attachment shows surface water field measurements at 5 separate locations along the Danford Drain.

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3. With what method was the data collected?

According to Hydrogeology of the West Billings Area: Impacts of Land-Use Changes on Water Resources (Olson & Reiten), stream flows were measured using a wading rod and current velocity meter.

4. What is the period of record?

The data for Danford Drain was collected from January 14, 1999 to October 8, 2000. However, for the section of Danford Drain nearest the project site data was collected only between January 14, 1999 and April 6, 1999.

5. What is the frequency of measurement?

The data was collected either monthly or bi-weekly for the majority of the Danford Drain study area. Nearest the site, only 3 measurements were taken, all between January 14, 1999 and April 6, 1999.

6. Are there gaps in the data?

It does not appear there are any major gaps in the data.

7. Is there a process for maintaining the data and meeting specified accuracy limits?

No process was specified in the report.

8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?

It does not appear the available measurement data will meet the Department's standards.

42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each groundwater point of diversion? If the POD is a well, provide the well depth (FT), if available, or estimated well depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.

The "Commercial Use" column below was calculated assuming 24 employees will utilize each lot. The "Irrigation Use" column below was calculated assuming 2.5 AF/acre of irrigated area.

POD #	Commercial Flow Rate (gpm)	Commercial Use (AF)	Irrigation Flow Rate (gpm)	Irrigation Use (AF)	Period of Diversion (Commercial) (MM/DD-MM/DD)	Period of Diversion (Irrigation) (MM/DD-MM/DD)	Well Depth (FT)	Measured or Estimated
1	5	0.94	5	2.84	01/01 – 12/31	04/01-10/31	37	Measured
2	5	0.94	5	2.41	01/01 – 12/31	04/01-10/31	37	Estimated
3	5	0.94	5	2.42	01/01 – 12/31	04/01-10/31	37	Estimated
4	5	0.94	5	1.37	01/01 – 12/31	04/01-10/31	37	Estimated
5	5	0.94	5	1.37	01/01 – 12/31	04/01-10/31	37	Estimated
6	5	0.94	5	2.00	01/01 – 12/31	04/01-10/31	37	Estimated
7	5	0.94	5	1.52	01/01 – 12/31	04/01-10/31	37	Estimated
8	5	0.94	5	2.73	01/01 – 12/31	04/01-10/31	37	Estimated
9	5	0.94	5	2.36	01/01 – 12/31	04/01-10/31	37	Estimated
10	5	0.94	5	2.36	01/01 – 12/31	04/01-10/31	37	Estimated
11	5	0.94	5	2.84	01/01 – 12/31	04/01-10/31	37	Estimated
12	5	0.94	5	1.31	01/01 – 12/31	04/01-10/31	37	Estimated
13	5	0.94	5	1.23	01/01 – 12/31	04/01-10/31	37	Estimated
14	N/A	N/A	5	9.03	N/A	04/01-10/31	37	Estimated
TOTAL	65	12.22	70	35.79				

Feel free to contact me with any questions or concerns at (406) 384-0080 or taylor@performance-ec.com. Thank you for your consideration and coordination in our project.

Best Regards,



Taylor Kasperick, PE
Project Manager

List of Attachments:

1. Aquifer Testing Addendum (ATA) – Review
2. Variance Approval Letter
3. POD Location Exhibit
4. Vicinity Map
5. Pages from "Basic Hydrogeologic Data For: The West-Billings Area (1999-2000), Yellowstone County, Montana by Olson and Reiten

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PARKLAND LAZY KU SUBD

LOT 12 LAZY KU SUBD

PARCEL 1 (COS 2301)

PARCEL 1A (COS 1646)

UNPLATTED LT 3, SESW, S30, T 01S, R25E

PARCEL 1 (COS 3206)

QUARTER CORNER

LOT 1 (COS 1133)

LOT 2 (COS 1133)

LOT 3 (COS 1133)

LOT 4 (COS 1133)

LOT 5 (COS 1133)

LOT 6 (COS 1133)

~BLOCK 1~

~BLOCK 2~

~BLOCK 3~

RESOURCE WAY

72ND STREET W

68TH STREET W

DANFORD ROAD

Lot: 1
247080 SQ FT
5.672 ACRES

Lot: 2
210176 SQ FT
4.825 ACRES

Lot: 3
211087 SQ FT
4.846 ACRES

Lot: 4
119531 SQ FT
2.744 ACRES

Lot: 1
119530 SQ FT
2.744 ACRES

Lot: 2
174386 SQ FT
4.003 ACRES

Lot: 3
132271 SQ FT
3.037 ACRES

Lot: 7 (Park)
157353 SQ FT
3.612 ACRES

Lot: 6
107368 SQ FT
2.465 ACRES

Lot: 5
114419 SQ FT
2.627 ACRES

Lot: 1
238221 SQ FT
5.469 ACRES

Lot: 2
205412 SQ FT
4.716 ACRES

Lot: 3
205468 SQ FT
4.717 ACRES

Lot: 4
247486 SQ FT
5.681 ACRES

POD #1
PRODUCTION WELL

POD #2

POD #3

POD #4

POD #5

POD #6

POD #7

POD #8

POD #9

POD #10

POD #11

POD #12
WS

POD #13

POD #14

IRR

EXISTING 60' WIDE COUNTY ROAD EASEMENT

40' PROPOSED ROAD

80'

TRACT 2 (COS 3861)

EXISTING 60' ROAD (COS 1133)

SEC 25, T01S, R24E

SEC 36, T01S, R24E

SEC 30, T01S, R25E

SEC 31, T01S, R25E

SECTION CORNER

60' R-O-W DEDICATION

EXISTING 30' COUNTY ROAD EASEMENT

EXISTING 30' COUNTY ROAD R-O-W (COS 1133)

UNPLATTED LOTS 1&2, NENW S31, T 01S, R25E

OHP

FO

G

0 100 200
IN FEET

REVISIONS				
NO.	DESCRIPTION	DATE	BY	CHECKED BY
1				
2				
3				
4				
5				
6				

VERIFY SCALE!
THESE PRINTS MAY BE REDUCED.
LINE BELOW MEASURES ONE-INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY

BGR
DESIGNED BY

BGR
DRAWN BY

QUALITY ASSURANCE

TJK
CHECKED BY

EXHIBIT

PERFORMANCE ENGINEERING
3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD LOCATION EXHIBIT

NOT FOR CONSTRUCTION

PROJECT NUMBER
2023-100

SHEET NUMBER
1 OF 2

DRAWING NUMBER
EX A

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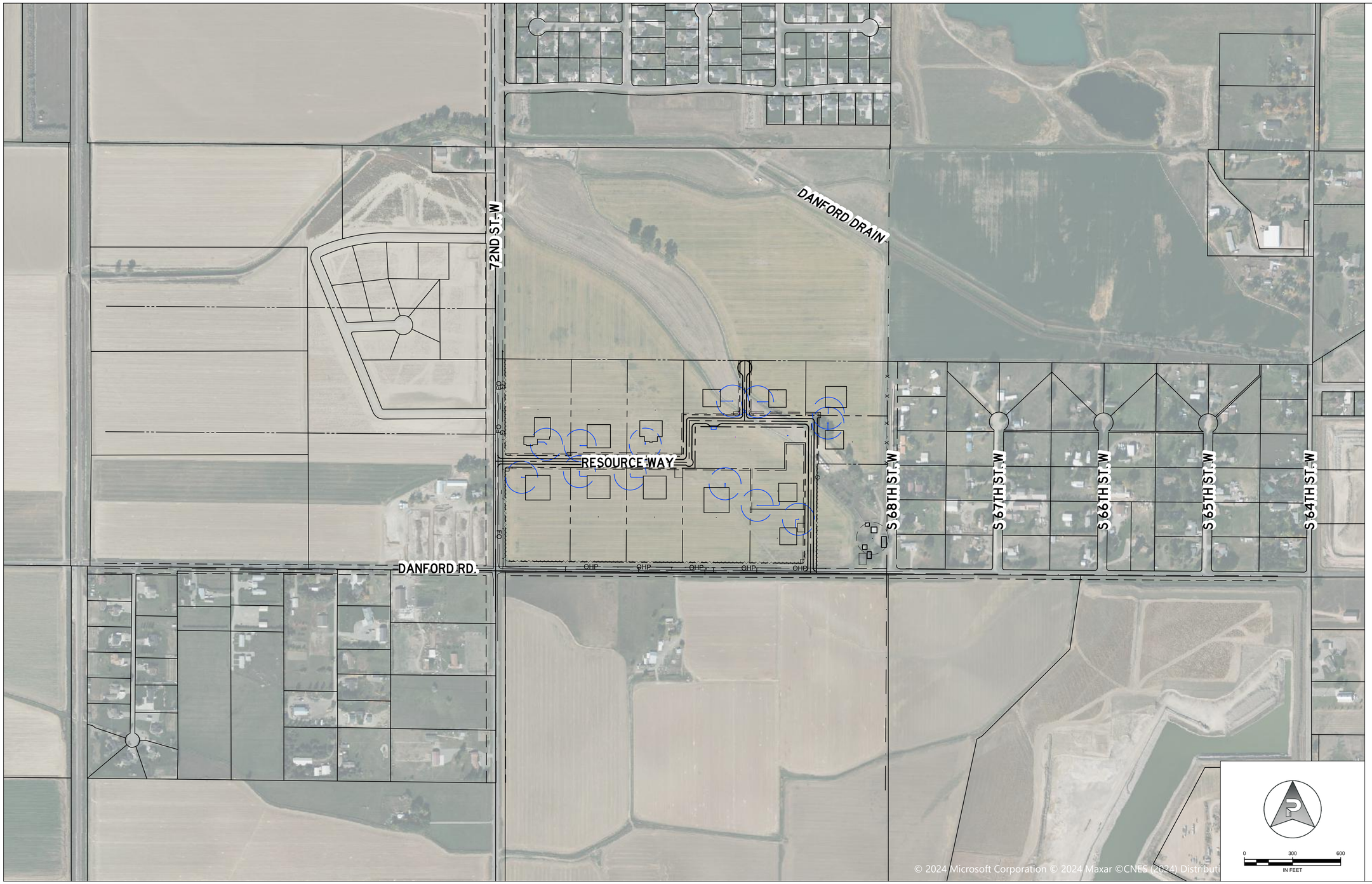
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REVISIONS				
NO.	DESCRIPTION	DATE	BY	CHECKED BY
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LINE BELOW MEASURES ONE-INCH ON ORIGINAL DRAWING.

MODIFY SCALE ACCORDINGLY

BGR
DESIGNED BY

BGR
DRAWN BY

QUALITY ASSURANCE

TJK
CHECKED BY

EXHIBIT

PERFORMANCE ENGINEERING
3412 COLTON BLVD, STE 202 (406) 384-0080
BILLINGS, MT 59102 performance-ec.com

PLATINUM COMMERCIAL PARK SUBDIVISION

POD VICINITY MAP W/ AERIAL

NOT FOR CONSTRUCTION

PROJECT NUMBER
2023-100

SHEET NUMBER
2 OF 2

DRAWING NUMBER
EX B

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Docusign Envelope ID: 200BD761-51DE-410D-854B-B776BAACA637

Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
DANFORD DRAIN									
Danford Drain@Wise Ln.	01/14/99	5.85	4.1	1,150	8.9	8.24			
T01S-R25E-SECTION35-TRACTBBBB	02/12/99	5.84	4.2	679	15.3	8.2			
	03/17/99	5.89	3.4						
	04/06/99	5.89	3.8						
	05/19/99	5.83	4.4						
	06/14/99	5.09	30.0						
	07/19/99	4.78	50.2						
	08/18/99	4.73	54.0						
	08/31/99	4.61	64.0						
	09/27/99	4.60	64.9						
	10/19/99	5.21	23.9						
	11/08/99	5.42	15.2						
	11/15/99	5.46	13.7						
	11/24/99	5.58	10.0						
	12/05/99	5.64	8.4						
	12/15/99	5.70	6.9						
	12/27/99	5.77	5.5						
	03/01/00	5.83	3.4	1,150	8.9	8.24			
	04/17/00	5.90	3.3						
	04/19/00	5.96	2.5						
	05/08/00	5.80	4.6						
	05/26/00	5.54	12.1	635					
	06/06/00	5.25	20.9						
	07/07/00	5.13	28.1						
	08/02/00	5.21	23.9						
	10/08/00	5.57	10.2						

Docusign Envelope ID: 200BD761-51DE-410D-854B-B776BAACA637

Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
Danford Drain at Crystal Springs									
T01S-R24E-SECTION33-TRACTABCC	01/14/99	4.00	4.1	1,271	5.4	8.47			
	02/12/99	4.08	4.3	1,268	2.8	8.47			
	03/17/99	4.10	2.9	917	9.1	8.31			
	04/06/99	4.10	3.3	1,230	14.9	8.79			
	05/19/99	3.95	4.7						
	05/21/99	3.42	13.1	1,006	14.2	8.16	22	70	
	06/14/99	3.38	114.0	657	17.7	7.9			
	07/19/99	3.10	21.6						
	07/23/99	3.13	20.1						
	08/18/99	3.00	23.2						
	08/31/99	2.88	26.4						
	10/19/99	3.16	19.2						
	11/08/99	3.42	13.5						
	11/15/99	3.50	11.9						
	11/24/99	3.59	10.1						
	12/05/99	3.70	8.3						
	12/15/99	3.78	7.0						
	12/27/99	3.88	5.6						
	01/15/00	3.72	4.0						
	02/02/00	4.08	3.1						
	02/24/00	4.06	3.3	1,337	10.4	8.69			
	03/01/00	4.10	2.9						
	03/21/00	4.10	2.9	1,140	10.8	8.36			
	04/17/00	4.12	2.7						
	05/08/00	4.02	4.1						
	05/26/00	3.83	6.5	662					

Docusign Envelope ID: 200BD761-51DE-410D-854B-B776BAACA637

Surface water field measurements

Location	Date	Depth to water (ft from MP)	Flow (cfs)	Conductance (umhos/cm)	Temperature (°C)	pH	Turbidity (NTU)	TSS (MG/L)	NO_3 as N (mg/l)
Danford Drain@51 St.	04/07/99		2.8	1,105	14.3	8.6			3
T01S-R25E-SECTION33-TRACTAACD	05/20/99	1.60	1.5	1,369	16.3	8.31	43	150	
	06/14/99	3.25		239	16.7	8.08			
	06/21/99	1.10							
Danford Drain@64th St.	02/12/99			1,477	6.1	8.23			
T01S-R25E-SECTION30-TRACTCBCC	04/06/99		1.9						
Danford Drain@72nd St. drain	01/14/99			1,510	9.2	7.94			3
T01S-R25E-SECTION30-TRACTCBBB	03/17/99			1,200	12.9	7.47			
	04/06/99		0.34						
CITY-COUNTY DRAIN									
City-County Drain @ McDougal	03/17/99	4.50	5.5						
	04/06/99	4.51	5.3						
	05/20/99	3.90	29.4						
	06/17/99	3.58	45.2						
	08/18/99	3.58	44.9						
	10/19/99	4.00	25.2						
City County Drain @BLM	04/06/99	7.10	4.9	1,480	10.4	8.08			3
T01S-R26E-SECTION17-TRACTAAB	05/20/99	6.75	28.0						
	07/09/99	6.75	30.6						
	07/19/99	6.50	47.0						
	10/19/99	6.95	15.0						
	11/24/99	7.08	5.6						
	02/02/00	7.09	5.3						
	02/24/00	7.10	4.8						
	03/01/00	7.13	3.8						
	03/21/00	7.14	3.5	1,694	11.9	8.16			2
	04/17/00	7.08	5.7						
	05/08/00	6.63	45.5	630	12.1	8.04			<1
	05/26/00	6.83	22.5	570					
	06/14/00	6.71	35.4						
	07/07/00	6.75	30.6						
	08/02/00	6.80	25.4						
	10/08/00	6.88	18.1						

REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 01/2024)

For Department Use Only

Date Received _____

Received By _____

Scheduled Meeting Date _____

Instructions

Use this optional form to submit a written request for a preapplication meeting, as required in ARM 36.12.1302(2) for applicants electing to complete a preapplication meeting with the department prior to submitting an application for a beneficial water use permit or change in appropriation right pursuant to §85-2-302, MCA. Use additional sheets as necessary.

Submit this form to the appropriate regional office; see contact information on the last page of this form.

---

1. Applicant Name Platinum Commercial Park Subdivision Owners Association

Mailing Address 9428 Anglers Way

City Billings State MT Zip 59101

Home Phone (406) 855-8004 Other Phone N/A

Email: bryce@keconstruction.com

2. Representative Name (if other than Applicant) Performance Engineering

☒ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address 3412 Colton Boulevard, Suite 202

City Billings State MT Zip 59102

Home Phone (406) 384-0080 Other Phone N/A

Email: taylor@performance-ec.com

3. Are you requesting a preapplication meeting for a permit or change application?

☒ Permit ☐ Change

4. Identify the following elements of the proposed permit or change in appropriation.

a) The flow rate and volume of water required:

Flow Rate 135 ☒ GPM ☐ CFS Volume 32.09 Acre-Feet

b) The point of diversion:

Point of Diversion #1 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ☒ S, Range 25 ☒ E ☐ W

County Yellowstone

Lot/Tract 1 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #2 NW 1/4 NW 1/4 SW 1/4 Section 30, Township 1 ☐ N ☒ S, Range 25 ☒ E ☐ W

County Yellowstone

Lot/Tract 2 Block 1 Subdivision Name Platinum Commercial Park

c) The place of use:

5.626 Acres 1 Lot 1 Block NW 1/4 SW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

4.798 Acres 2 Lot 1 Block NW 1/4 NW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

4.776 Acres 3 Lot 1 Block NE 1/4 SW 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☒ S, Rge 25 ☒ E ☐ W

3.269 Acres 4 Lot 1 Block NW 1/4 SE 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ☐ S, Rge 25 ☒ E ☐ W

2.637 Acres 5 Lot 1 Block NW 1/4 SE 1/4 SW 1/4 Sec 30, Twp 1 ☐ N ■ S, Rge 25 ■ E ☐ W

d) The source of water: Groundwater

e) The proposed purpose: Domestic Use and Irrigation

f) For a change in appropriation right, the water right(s) proposed for change:

Type of water right _____ Basin _____ Water Right # _____

Type of water right _____ Basin _____ Water Right # _____

Type of water right _____ Basin _____ Water Right # _____

g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

h) Any proposed place of storage, if applicable (only if storage capacity is greater than 0.1 acre-feet):

#1 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township 1 ☐ N ☐ S, Range ___ ☐ E ☐ W

#2 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#3 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

i) For applications proposing a new well or wells, the well depth(s) and location:

New Well #1 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ■ S, Range 25 ■ E ☐ W

County Yellowstone

Lot/Tract 1 Block 1 Subdivision Name Platinum Commercial Subdivision

Estimated Well Depth 35 Feet

New Well #2 NW 1/4 SW 1/4 SW 1/4 Section 30, Township 1 ☐ N ■ S, Range 25 ■ E ☐ W

County Yellowstone

Lot/Tract 2 Block 1 Subdivision Name Platinum Commercial Subdivision

Estimated Well Depth 35 Feet

PERFORMANCE ENGINEERING
3412 Colton Boulevard, Suite 202 • Billings, MT 59102 • 406-384-0080

b) The point of diversion (continued from application sheet):

Point of Diversion #3 NE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #4 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #5 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #6 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #7 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 Block 1 Subdivision Name Platinum Commercial Park

Point of Diversion #8 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 1 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #9 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 2 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #10 SE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #11 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #12 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #13 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 2 Subdivision Name Platinum Commercial Park

Point of Diversion #14 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E

County Yellowstone
Lot/Tract 7 (Park Tract) Block 2 Subdivision Name Platinum Commercial Park

c) The place of use:

Same as point of diversion list.

i) For applications proposing a new well or wells, the well depth(s) and location:

New Well #3 NE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #4 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #5 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #6 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #7 NE 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 Block 1 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #8 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 1 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #9 SW 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 2 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #10 SE 1/4 SW 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 3 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #11 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 4 Block 2 Subdivision Name Platinum Commercial Park

Estimated Well Depth 35 Feet

New Well #12 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 5 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #13 SW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 6 Block 2 Subdivision Name Platinum Commercial Park
Estimated Well Depth 35 Feet

New Well #14 NW 1/4 SE 1/4 SW 1/4 Section 30, Township 01 S, Range 25 E
County Yellowstone
Lot/Tract 7 (Park Tract) Block 2 Subdivision Name Platinum Commercial Park

SITE DATA	
NUMBER OF LOTS	14
MAXIMUM LOT AREA	± 288,271 SF
MINIMUM LOT AREA	± 114,867 SF
PARKLAND AREA REQUIRED	N/A
PARKLAND AREA PROVIDED	± 129,117 SF
LINEAL FEET OF STREET ℄	± 3,142 LF
NET LOT ACREAGE	± 53.846 AC
GROSS ACREAGE	± 69.054 AC
EXISTING ZONING	UNZONED
EXISTING LAND USE	AGRICULTURAL
PROPOSED LAND USE	COMMERCIAL
SANITARY SEWER	COMMUNITY SEPTIC
WATER	INDIVIDUAL WATER
FIRE SERVICE AREA	BUFSA

PRELIMINARY PLAT OF

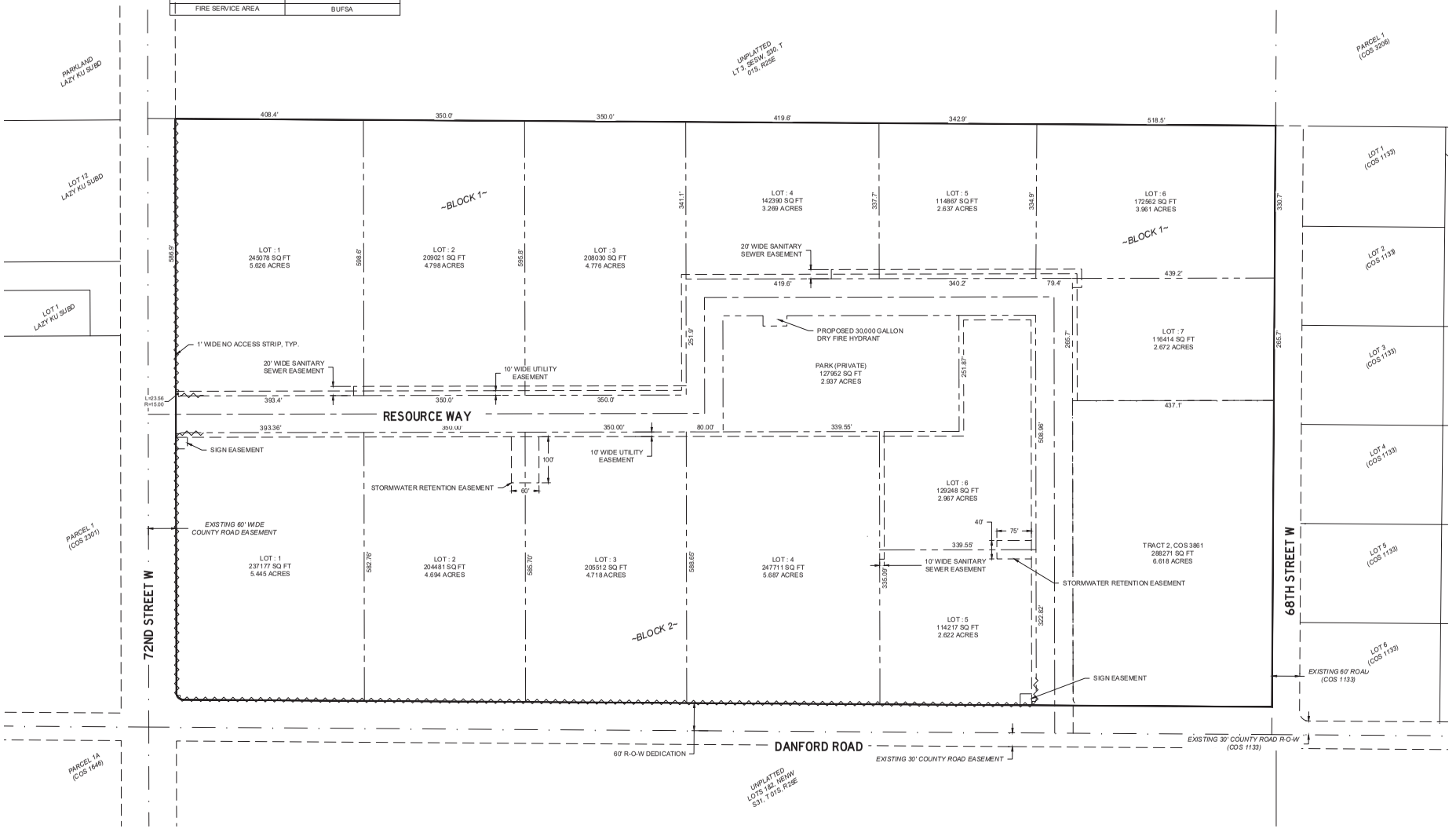
PLATINUM COMMERCIAL PARK SUBDIVISION

BEING LOCATED ON LOT 4, SE 1/4 SW 1/4 SECTION 30, TOWNSHIP 1 SOUTH, RANGE 25 EAST, YELLOWSTONE COUNTY, MONTANA

PREPARED FOR : KE CONSTRUCTION

PREPARED BY : PERFORMANCE ENGINEERING, LLC

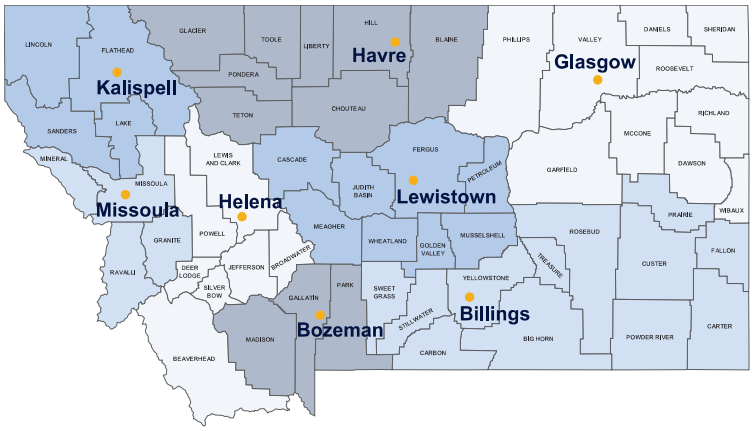
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SHEET 1 OF 1

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10/5/2024 4:47:43 PM
PE: EBERT, C.J.S.

WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties