

Environmental Assessment & Public Notice for Public Comment

- **Environmental Assessment &
supporting documents**
- **Public Notice for Public Comment
package**
 - Notice Area List
 - Notice Area Map
 - Form Checklist
 - PN- Letter to applicant
 - PN- Letter to editor
 - PN- Certificate of service
 - PN- Invoice & tear sheet
 - PN- Return mail
 - Public Comment files

**Environmental Assessment &
Public Notice for Public
Comment**

NOTICE AREA

Application No. **41K 30170695**

Regional Office # 6

Applicant's Name **Bonnie L. Larsen & Amanda S. Hendrickson**

Indian Reservation ☐ Yes ☒ No If yes, Reservation _____

Irrigation District ☐ Yes ☒ No If yes, District _____

Specialist **Matthew D. Shaw**

Date **October 9, 2025**

Project Overview Map--Application to Change a Water Right No. 41K 30170695



4/10/2025, 4:29:37 PM

- Proposed L&G outside historic POU (2.26 AC total)
- Historic place of use (6.20 AC)
- Proposed L&G inside historic POU (0.62 AC)
- 2-IN flexible pipe
- 1-IN pipe
- 2-IN pipe
- 1.5-IN pipe

- POD (pump)
- Valve
- Street Address

- NHD Flowlines
- 2025 Cadastral Parcels
- Section
- PLSS Township



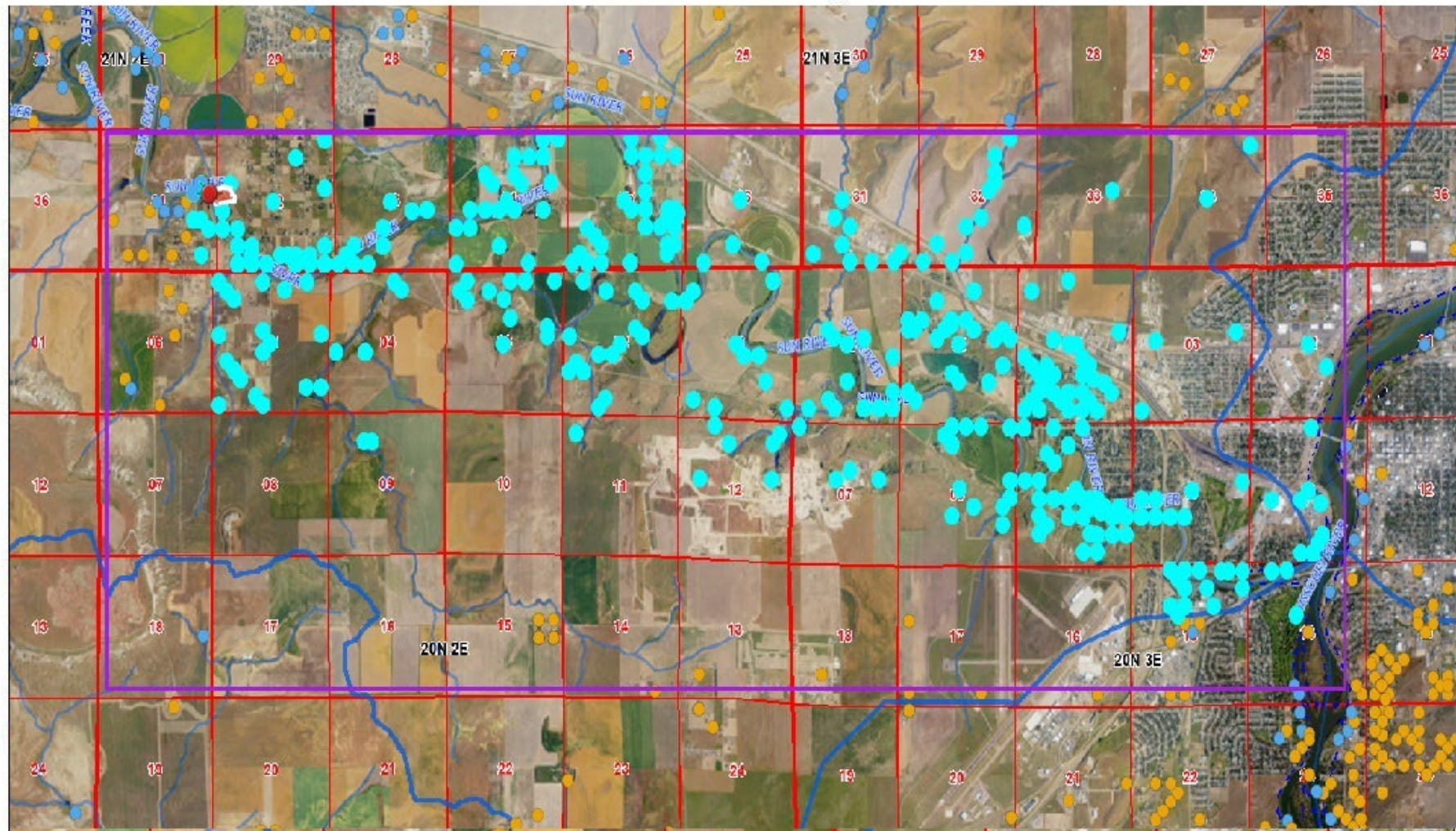
1:2,257
0 0.02 0.04 0.07 mi
0 0.03 0.06 0.12 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS User Community. Sources: Esri, Maxar, Airbus DS, USGS, NOAA, NASA, COIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasystem, Rijkswaterstaat, GSA, Geoland,

ArcGIS Web AppBuilder
Esri Community Maps Contributors, Montana State University, County of Lewis and Clark, Montana State Library, OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS | U.S.

Figure 1. Project Overview Map.

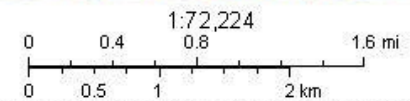
ArcGIS Web Map



9/19/2025, 3:57:55 PM

- POD
- NOTICE LIST WATER RIGHTS
- POU
- SURFACE
- PN Area
- GROUNDWATER
- DNRC Basins

- NHD Flowlines
- PLSS First Division
- Section
- PLSS Township



Esri, NASA, NGA, USGS, FEMA, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, OpenStreetMap contributors, and the GIS User Community

ArcGIS Web App Builder

Esri, NASA, NGA, USGS, FEMA | Montana State University, Montana State Library, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METVNASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS | U.S. Geological Survey, Montana State Library |

Figure 2. Notice List area map.

Water Right Owner	Water Right # (Basin, ID, and Number)
ARTHUR L TAYLOR; JENNIFER J TAYLOR	41K 100573 00
CLIFTON FAMILY TRUST	41K 104405 00
CLIFTON FAMILY TRUST	41K 104408 00
RONALD V HEPP	41K 104411 00
RONALD V HEPP	41K 104412 00
RONALD V HEPP	41K 104413 00
RONALD V HEPP	41K 104414 00
RONALD V HEPP	41K 104415 00
JOY W CORWIN; ROBERT E CORWIN	41K 104416 00
DAMON L CARROLL; TENELLA CARROLL; CLIFTON FAMILY TRUST; SIXBARN FAMILY TRUST 10/14/2021	41K 104417 00
DAMON L CARROLL; TENELLA CARROLL; CLIFTON FAMILY TRUST; MERRY, RONALD B TRUST	41K 104418 00
ANTHONY L HANNAH; KIMBERLEY HANNAH; LARRY L HANNAH	41K 104419 00
SHANE JOHNSON	41K 10670 00
SUSAN WHINNERY	41K 10937 00
ERIK R HAUGEN	41K 110150 00
DAVID F HORNER	41K 110171 00
DOJENA LLC	41K 113161 00
BARBARA L HITCHINGS; JOSEPH J HITCHINGS	41K 115060 00
NICHOLAS BRINLEE; TANGIE R BRINLEE	41K 115205 00
DOUGLAS A CONLEY; JANETTE A CONLEY	41K 11543 00
JACKSON, PAULA K REVOCABLE TRUST; GEORGE R MAHER	41K 11677 00
TYLER L LAPIERRE; JEFFREY J PONCELET; PAMELA K PONCELET	41K 11699 00
JANE E BRINKMAN; RONALD BRINKMAN	41K 11824 00
TERI A BELNAP; THOMAS D BELNAP; DAMON L CARROLL; TENELLA CARROLL; JOHNS, ANNA BLESKIN LIVING TRUST; JASMIN B REGIMBAL; SEAN M REGIMBAL; MARCIA K SHANAHAN; TRAVIS WURZ	41K 12031 00
CAROL L BROWN; MICHAEL G BROWN; FLOWER FARM INC; FAY M LOWERY; KENNETH J ROLL	41K 123547 00
JONATHAN J KUDRNA; STEPHANIE A OBLANDER	41K 12494 00
AMANDA E KETCHAM; KELLY E KETCHAM	41K 12494 01
JENNIFER L LONG; SETH R LONG	41K 12494 02
DEANN J ANDRE	41K 12494 03
CHRISTOPHER S MCVEDA; DAVID H MCVEDA; MARGARET M MCVEDA; MELISSA A MCVEDA	41K 12494 04
ASHLEY PARISH; HEATH PARISH	41K 12504 00
KELLY MANZER	41K 12579 00
SELSTAD SOD FARM INC	41K 1388 00
DAVID KILIAN; NICOLE KILIAN	41K 14031 00
FLOWER FARM INC	41K 146692 00
SELSTAD SOD FARM INC	41K 1603 00
DENNIS D SCHWECKE	41K 1612 00
JOHN DEWAR	41K 16535 00
ALISON R CRANE; DAVID R CRANE; FLOWER FARM INC; DAVID L HARRIS; PATRICIA J HARRIS; JODY L KROPP; KIM KROPP	41K 16772 00
NANCY L MICHAELSON; RONALD K MICHAELSON	41K 17934 00
AMANDA E SPRING; JASON R SPRING	41K 18781 00
CLINT HOUSTON	41K 1912 00
DAMON L CARROLL; TENELLA CARROLL	41K 19303 00

BRENDA J TILLERAAS; STEVEN M TILLERAAS	41K 19330 00
ROBERT T HARPER	41K 19932 00
JANNA M PFEIFLE; RYAN J PFEIFLE	41K 199331 00
WILLIAM L MCLAUGHLIN	41K 199346 00
STEVE C JARACZESKI	41K 200269 00
SAMANTHA L FETVEIT; NATALYA MCLEES; AARON WHITE	41K 200772 00
ROBERT J STAINSBY	41K 200774 00
GARY J WALTER; TYRA L WALTER	41K 200789 00
SANDI R WILSON; SCOTT W WILSON	41K 200792 00
SIXBARN FAMILY TRUST 10/14/2021	41K 200810 00
SIXBARN FAMILY TRUST 10/14/2021; DAVID M WIPF	41K 200811 00
CROXFORD LIVING TRUST	41K 202377 00
SHANE T FENTON	41K 202416 03
JAMES NEUMAN; MICHELLE NEUMAN	41K 205452 00
CENTENNIAL PROPERTIES LLC	41K 205747 00
BRENDA J TILLERAAS; STEVEN M TILLERAAS	41K 20706 00
LEONARD D REED	41K 208351 00
MANCHESTER CEMETERY ASSOC	41K 208416 00
GALLOWAY INVESTMENTS INC	41K 208417 00
ANGELA HASTINGS; KORY HASTINGS	41K 208704 00
DAMON L CARROLL; TENELLA CARROLL	41K 208705 00
SUNNYDALE WATER ASSOC	41K 208743 00
DAMON L CARROLL; TENELLA CARROLL; ALLEN D SCHMIDT; LOUISE R SCHMIDT	41K 208744 00
CROXFORD LIVING TRUST; PAULETTE L FREY; ROBERT C FREY; JOHN T THARES; NICHOLAS J THARES; PATRICIA T THARES; WILLIAM J THARES	41K 208748 00
JONATHAN J KUDRNA; STEPHANIE A OBLANDER	41K 208758 00
SELSTAD SOD FARM INC	41K 208764 00
SELSTAD SOD FARM INC	41K 208781 00
BATCH, LARRY L & DONNA M FAMILY TRUST	41K 208782 00
CYNTHIA L CAFFREY; EDWARD J CAFFREY	41K 209595 00
SHAUN PRIORE	41K 209598 00
DAMON L CARROLL	41K 209764 00
JUSTINE M MARCHION; RYAN R MARCHION	41K 209963 00
CARI A KENT; LARRY B KENT	41K 210177 00
ALEX B GILES; ANDREA GILES	41K 210178 00
ALEX B GILES; ANDREA GILES	41K 210179 00
MONICA J WOELKERS; PETER N WOELKERS	41K 210274 00
OLSON, JOHN K LIVING TRUST	41K 210351 00
OLSON, JOHN K LIVING TRUST	41K 210352 00
DEETTE WEBER; WILLIAM E WEBER	41K 210508 00
RANDY L STEFFENSON	41K 21365 00
CHRISTOPHER PRIEST	41K 21409 00
DAMON L CARROLL; TENELLA CARROLL	41K 214968 00
JAMES NEUMAN; MICHELLE NEUMAN	41K 214976 00
CONSTANCE BRUMBLE; MICHAEL R BRUMBLE	41K 215016 00
ANN MARIE MCCOLLUM; JAMES E MCCOLLUM	41K 2156 00
ANGELA HASTINGS; KORY HASTINGS	41K 216246 00
DAMON L CARROLL; TENELLA CARROLL	41K 216247 00
DAMON L CARROLL	41K 216256 00
DAMON L CARROLL; TENELLA CARROLL	41K 216257 00
SIXBARN FAMILY TRUST 10/14/2021; DAVID M WIPF	41K 216258 00
OLSON, JOHN K LIVING TRUST	41K 216259 00

CONSTANCE BRUMBLE; MICHAEL R BRUMBLE	41K 216272 00
GARY A ARNDT	41K 22826 00
JACKIE L DICKSON	41K 22871 00
BETH MCFADDEN; GAINES MCFADDEN	41K 23061 00
FELICIA A SHORT; NICHOLAS C SHORT	41K 23684 00
SHAUN PRIORE	41K 25161 00
EDWARD D MICHELS; ELVIN L MICHELS	41K 26131 00
JASON D BAILEY; KATHRYN L BAILEY; LEE B JANETSKI; VICKI A JANETSKI; GERI G RAY	41K 26136 00
JASON D BAILEY; KATHRYN L BAILEY; LEE B JANETSKI; VICKI A JANETSKI; GERI G RAY	41K 26137 00
BARBARA A LANKFORD; CLYDE S LANKFORD	41K 26148 00
KERRI HERMAN	41K 26149 00
CONSTANCE J SMITH	41K 26215 00
RICHARD D DAHLEN	41K 26471 00
MEGGHAN PAIVA; TONY PAIVA	41K 27473 00
MEGGHAN PAIVA; TONY PAIVA	41K 27474 00
MARTHA L SORENSEN	41K 27475 00
SHELBI LEMM	41K 27503 00
VM LAND CATTLE DEVELOPMENT INC	41K 27939 00
LION RIDGE LLC	41K 28146 00
MONTANA, STATE OF DEPT OF FISH WILDLIFE & PARKS	41K 30017592
DON J MATSKO	41K 32917 00
JAMES F ELLIS	41K 34322 00
GREEN ACRES IRRIGATION INC	41K 3463 00
EVELYN H CAMERON; GARRY M CAMERON	41K 3464 00
JAMES F FLOOD; TERESA A MARCEAU	41K 40928 00
TIMOTHY J WILKINSON	41K 41543 00
PATRICK J BLEE	41K 41544 00
SUN RIVER PARK WATER ASSOC	41K 44715 00
MARY ANN MCMILLEN	41K 48741 00
CLYDE B CORNELIUSEN	41K 5002 00
FORREST C LABELLE; LAURA A LABELLE	41K 5003 00
Applicants—AMANDA S HENDRICKSON; BONNIE L LARSEN	41K 5004 00
SUN PRAIRIE COUNTY WATER DISTRICT	41K 5009 00
RICHARD D DAHLEN	41K 53527 00
RONALD REARDON	41K 5434 00
GEORGE M SPRINGER; JENNIFER L SPRINGER	41K 5435 00
CONSTANCE BRUMBLE; MICHAEL R BRUMBLE	41K 5436 00
DAMON L CARROLL; TENELLA CARROLL	41K 5574 00
DAVID M TELLE; DEANNA TELLE	41K 5690 00
SCHUTZ, DAVID A REVOCABLE TRUST	41K 5852 00
KELLY MANZER	41K 6330 00
JANE L NELSON; ANDREW P SCHILE; ANN M SCHILE	41K 6376 00
BEN J HELLEN; STEFANI C STOLTZFUS; VIRGIL E STOLTZFUS	41K 6379 00
EDWARD F ANDERSON; ROBERT C BERNDT; DANIEL C BERNER; DANIELLE L BERNER; CHELSA M BUEHNER; LUCAS K BUEHNER; APRIL CONROY; DEVON CONROY; MELISSA L DACOULIAS; PETER G DACOULIAS; PEGGY C HESS; MARTY D KOHUT; ALICIA D KUBO; SHAWN A KUBO; LYNNE A LOWRANCE; LISA S MCFARLING; PHILLIP R MCFARLING; CYNTHIA J OAKLAND; LONNIE OAKLAND; SEAN P OCONNELL; TERESA R OCONNELL; CARL F SCHLIMM; JIMETTE SUE SCHLIMM; JOSEPH STEED; JOSEPHINE STEED; BONNIE THOMPSON; CORY	41K 6553 00

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

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601



1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

September 19, 2025

Bonnie L. Larsen
230 Riverfront Ln
Great Falls, MT 59404-6238

Amanda S. Hendrickson
215 Riverfront Ln
Great Falls, MT 59404-6238

Subject: Draft Preliminary Determination to Grant Water Right Change Application No. 41K 30170695

Dear Applicants,

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 change authorization found in §85-2-402, MCA. The Department has preliminarily determined that the criteria are met, and this application should be granted. A copy of the Draft Preliminary Determination to Grant 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 October 8, 2025, the Department will prepare a notice of opportunity to provide public comment per §85-2-307(4), MCA.

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.

Best,





Matthew D. Shaw
New Appropriations Specialist
Lewistown Regional Office
(406) 535-1927
matthew.shaw@mt.gov



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:* Bonnie L. Larsen
230 Riverfront Ln
Great Falls, MT 59404-6238

and

Amanda S. Hendrickson
215 Riverfront Ln
Great Falls, MT 59404-6238
2. *Type of action:* Application to Change a Water Right No. 41K 30170695
3. *Water source name:* Sun River
4. *Location affected by project:* SESENE Sec 31 T 21N R 2E; S2SWNW Sec 32 T 21N R 2E, Cascade County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
Bonnie L. Larsen and Amanda S. Hendrickson (Applicants) propose to temporarily change the place of use and purpose for Statement of Claim No. 41K 5004-00. The duration of the temporary change is proposed to be 10 years. The proposed place of use consists of a total of 2.88 acres in SESENE Sec 31 T 21N R 2E and S2SWNW Sec 32 T 21N R 2E, Cascade County. The purpose of use is proposed to be temporarily changed from irrigation to lawn & garden. Historically, a total of 6.20 acres was irrigated (irrigation purpose of use), via sprinkler, with the source of water being sun river. Four places of use, all within T 21N, R 2E, Cascade County, were claimed. The historical places of use include 2.12 acres in the SESENE Sec 31; 3.78 acres in the SESENE Sec 32; 0.12 acres in the NWNWSW Sec 32; and 0.18 acres in the NENESE Sec 31.

The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-402 MCA are met.
6. *Agencies consulted during preparation of the Environmental Assessment:*
(include agencies with overlapping jurisdiction)

Montana Natural Heritage Program
Montana Department of Fish Wildlife & Parks (MFWP)
Montana Department of Environmental Quality (MDEQ)

Endangered-Threatened Species
Dewatered Stream Information
TMDL Information

Part II. Environmental Review**1. Environmental Impact Checklist:****PHYSICAL ENVIRONMENT****WATER QUANTITY, QUALITY AND DISTRIBUTION**

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: No significant impact

N/A – According to Montana Fish, Wildlife, & Parks the Sun River is not a chronically or periodically dewatered stream.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: No significant impact

The Sun River, Muddy Creek to mouth (Missouri River) is listed on the 2020 Montana 303d list as not fully supporting Aquatic Life, Agriculture, and Primary Contact Recreation. The probable causes and probable sources for these impairments may be found within the Montana DEQ Assessment Record Summary for this waterbody ([SummaryReportForQAQCCycle](#) and in the file for Application to Change a Water Right No. 41K 30170695).

This appropriation has historically been used for irrigation purpose. Although the change would temporarily change the purpose to lawn & garden, the appropriation would operate in a manner like its historical use. The volume and flow rate will be used to the same or lesser extent.

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

Determination: No significant impact

No impacts identified. This project is part of an existing irrigation appropriation that is not increasing use.

DIVERSION WORKS - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

Determination: No significant impact

No impacts identified. This project is part of an existing irrigation appropriation that is not increasing use.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants, or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”*

Determination: No significant impact

The Montana Natural Heritage Program (MNHP) did not identify any endangered or threatened species in the project area. However, MNHP did identify the following Species Occurrences within the project area for the following Species of Concern (SOC): Long-billed Curlew; Ferruginous Hawk; Burrowing Owl; Brewer's Sparrow; Grizzly Bear. Other Potential Species lists can be found in the supplemental document portion of the change application file. The changes in this project are not anticipated to have an adverse effect on the listed species.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: No significant impact.

According to the National Wetlands Inventory (U.S. Fish & Wildlife Service) no wetlands are involved as a part of this change.

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

Determination: NA

There are no ponds associated with this project. There will be no impact to existing wildlife, waterfowl, or fisheries resources due to this proposed use.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: No significant impact

The soils in this area are primarily Kobar silty clay loam (0 to 2 percent and 2 to 4 percent slopes) and Havre loam. The USDA Web Soil Survey describes these as well drained, non-saline to very slightly saline soils which make for prime farmland if irrigated.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: No significant impact

The landowner is expected to prevent the establishment or spread of noxious weeds on their property.

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

Determination: No impact

There should be no deterioration of air quality due to increased air pollutants from this proposed project.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: NA-project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: No additional impacts on other environmental resources were identified.

HUMAN ENVIRONMENT

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

Determination: No impact identified

This proposed use is not inconsistent with any known locally adopted environmental plans and goals.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: No impact identified

The project is already in place; this project should have no new impact on recreational or wilderness activities.

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

Determination: No impact identified

There should be no significant impact on human health from this proposed use.

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

Yes___ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: No impact identified

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 None identified.

Cumulative Impacts None identified. There are no other pending applications for basin

41K.

3. ***Describe any mitigation/stipulation measures:*** There are no mitigation or stipulation measures required.
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:*** There are no reasonable alternatives to the proposed action.

PART III. Conclusion

1. ***Preferred Alternative*** To authorize the beneficial change use authorization.

2. ***Comments and Responses***

3. ***Finding:***

Yes ___ No X Based on the significance criteria evaluated in this EA, is an EIS required?

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: No significant environmental impacts were identified. No EIS required.

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

Name: Matthew Shaw

Title: Water Resource Specialist

Date: August 11, 2025

Assessment Record Summary

Reporting Cycle: 2020 Assessment Record: MT41K001_020 Status: Unassigned

WATER INFORMATION Status: Unassigned

Reporting Cycle: 2020
Assessment Unit: MT41K001_020
Name: Sun River
Location Description: SUN RIVER, Muddy Creek to mouth (Missouri River)

Water Type:	Size (Miles/Acres)	Use Class:
RIVER	17.3 MILES	B-3

Trophic Status:
Trophic Trend:

- 1 - Hydrologic Unit Code: 10030104
- 2 - HUC Name: Sun
- 3 - Watershed: Upper Missouri
- 4 - Basin: Upper Missouri
- 5 - TMDL Planning Area: Sun
- 6 - Ecoregion: Northwestern Glaciated Plains
- 7 - County: Cascade County
- 8 - LAT/LONG AU Upstream: Start: 47.548837 / -111.538253
- 9 - LAT/LONG AU Downstream: End: 47.494617 / -111.312105

Water Quality Category: 4A - All TMDLs needed to rectify all identified threats or impairments have been completed and approved.

Assessment Record Summary

Reporting Cycle: 2020 Assessment Record: MT41K001_020 Status: Unassigned

Beneficial Use Support Information					
Use Name	Fully Supporting	Not Fully Supporting	Threatened	Insufficient Information	Not Assessed
Aquatic Life		X			
Agricultural		X			
Drinking Water	X				
Primary Contact Recreation		X			

Assessment Information		
Use Name	Assessment Type	Assessment Confidence
NA		

Use Name	Assessment Methods
NA	

Impairment Information			
Use Name	Probable Causes	Probable Sources	TMDL Completed
Aquatic Life	Sedimentation/Siltation	Channelization	Y
		Crop Production (Irrigated)	
		Rangeland Grazing	
	Total Suspended Solids (TSS)	Channelization	Y
		Crop Production (Irrigated)	
		Rangeland Grazing	
	Nitrogen, Total	Crop Production (Irrigated)	Y
		Rangeland Grazing	
		Agriculture	
	Phosphorus, Total	Crop Production (Irrigated)	Y
		Rangeland Grazing	
Primary Contact Recreation	Flow Regime Modification	Crop Production (Irrigated)	N
	Nitrogen, Total	Crop Production (Irrigated)	Y
		Rangeland Grazing	
		Agriculture	
	Phosphorus, Total	Crop Production (Irrigated)	Y
		Rangeland Grazing	
Agricultural		Agriculture	
	Flow Regime Modification	Crop Production (Irrigated)	N

Assessment Record Summary

Reporting Cycle: 2020 Assessment Record: MT41K001_020 Status: Unassigned

Use Name	Observed Effects
NA	

Delisting / Category Changes			
Cause	Reason for Change	Change Date	Comments
Total Suspended Solids (TSS)	TMDL Approved or established by EPA (4A)	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLS were written for those pollutants.
Nitrogen, Total	TMDL Approved or established by EPA (4A)	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLS were written for those pollutants.
Phosphorus, Total	TMDL Approved or established by EPA (4A)	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLS were written for those pollutants.
Sedimentation/Siltation	TMDL Approved or established by EPA (4A)	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLS were written for those pollutants.
Sulfate	Applicable WQS attained; reason for recovery unspecified	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLS were written for those pollutants.

Assessment Record Summary

Reporting Cycle: 2020 Assessment Record: MT41K001_020 Status: Unassigned

Total Dissolved Solids (TDS)	Applicable WQS attained; reason for recovery unspecified	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLs were written for those pollutants.
Salinity	Applicable WQS attained; reason for recovery unspecified	02/23/2005	"Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area" approved by EPA on February 23, 2005 addressed TMDLs for suspended solids, siltation, nitrogen and total phosphorus for the lower Sun River. The Salinity Section indicates that the Lower Sun River is meeting water quality standards for temperature and salinity-related pollutants. Therefore, no TMDLs were written for those pollutants.



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Latitude	Longitude
47.51593	-111.49943
47.54685	-111.53668

Summarized by:
41K 30170695
(Custom Area of Interest)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 47.51593 to 47.54685 and Longitude -111.49943 to -111.53668. Retrieved on 8/1/2025.

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.



Environmental Summary

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.**

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



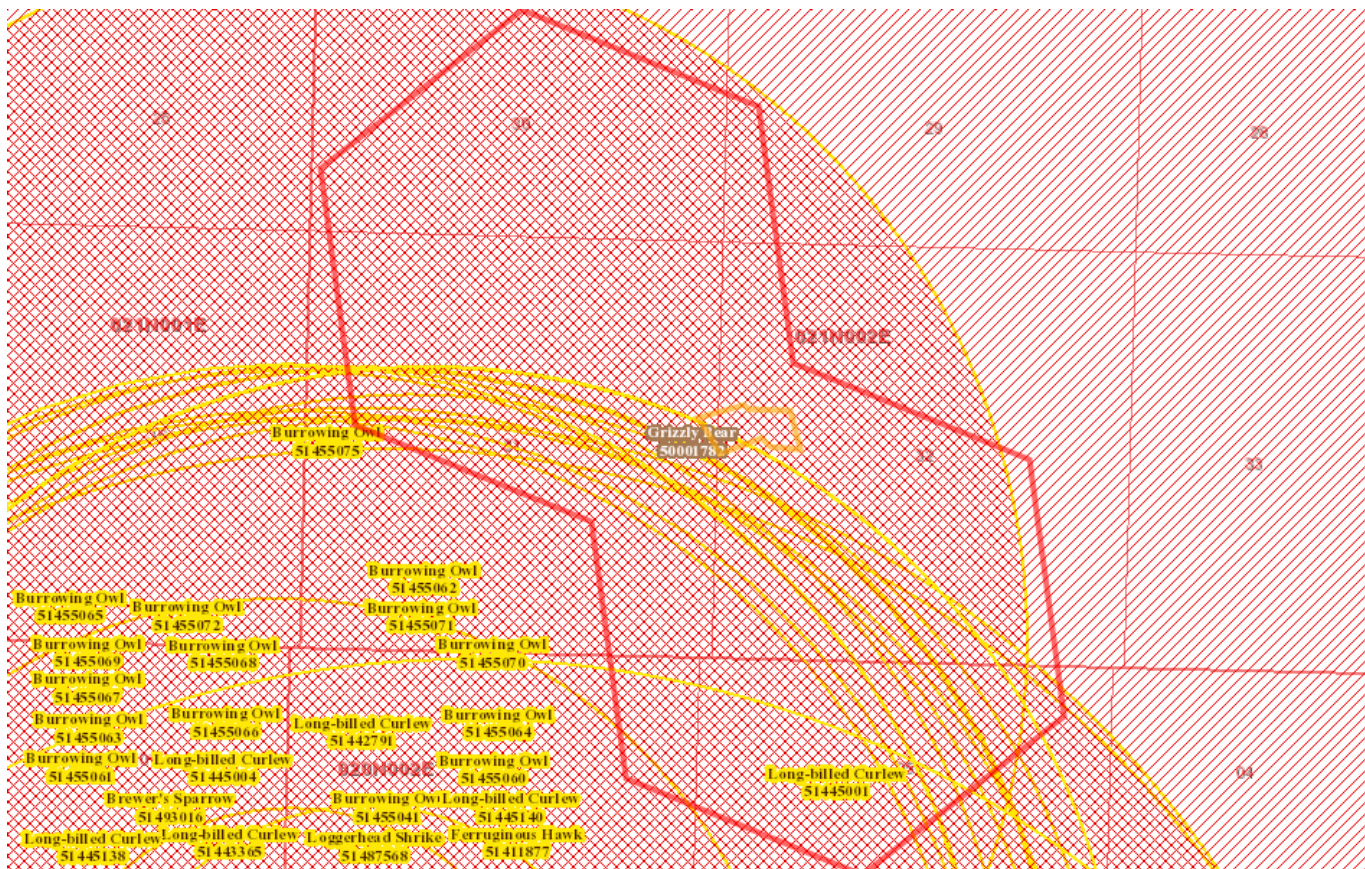
Latitude 47.51593
Longitude -111.49943
47.54685 -111.53668

Native Species

Summarized by: **41K 30170695** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
B - Long-billed Curlew (<i>Numenius americanus</i>) SOC		4			
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 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 200 meters in order to approximate the breeding territory size reported for the species in Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 18, 2024) Predicted Models: 100% Moderate (inductive)					
B - Ferruginous Hawk (<i>Buteo regalis</i>) SOC		1	1		
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 Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to encompass the average home range size reported for the species and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Sep 25, 2024) Predicted Models: 50% Moderate (inductive), 50% Low (inductive)					
B - Burrowing Owl (<i>Athene cunicularia</i>) SOC		15	1		
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: 1 Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, or territorial adults during the breeding season. Direct observation of a bird or birds at/on a prairie dog town is indirect but sufficient evidence of breeding (b). Point observation location is buffered by a minimum distance of 2,700 meters in order to encompass the maximum foraging distance reported for breeding adults and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Dec 19, 2024) Predicted Models: 100% Low (inductive)					
B - Brewer's Sparrow (<i>Spizella breweri</i>) SOC		1			
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 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 100 meters in order to encompass the maximum 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 26, 2024) Predicted Models: 50% Low (inductive)					

[View in Field Guide](#)

[View Range Maps](#)

[Species of Concern - Native Species](#)

Global: **G4** State: **S3** USFWS: **LT** BLM: **THREATENED** FWP SWAP: **SGCN2-3**

Delineation Criteria Species Occurrence polygons represent areas delineated by the U.S. Fish and Wildlife Service (USFWS) that encompass both home ranges and potential transitory movements based on verified sightings. Within these areas, the USFWS wants project proponents to consider whether the species “may be present” when evaluating the potential impacts of a project and to work with the USFWS to develop and implement best management practices to minimize or eliminate project effects on the species. (Last Updated: Dec 26, 2024)



A program of the Montana State Library's
Natural Resource Information System

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



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Native Species

Summarized by: 41K 30170695 (*Custom Area of Interest*)
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern

Other Observed Species

		USFWS Sec7	# Obs	Predicted Model	Range
B - Franklin's Gull (<i>Leucophaeus pipixcan</i>) SOC			1	Not Assessed	
View in Field Guide View Range Maps					
Species of Concern - Native Species		Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2			

Legend

Model Icons

- Suitable (native range)
- Optimal Suitability
- Moderate Suitability
- Low Suitability
- Suitable (introduced range)

Habitat Icons

- Common
- Occasional

Range Icons

- Native / Year-round
- Summer
- Winter
- Migratory
- Non-native
- Historical

Num Obs
Count of obs with
'good precision'
(≤1000m)

+ indicates
additional 'poor
precision' obs
(1001m-
10,000m)



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Native Species

Summarized by: **41K 30170695** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern

Other Potential Species

	USFWS Sec7	Predicted Model	Range
B - American White Pelican (<i>Pelecanus erythrorhynchos</i>) SOC 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: 50% Optimal (inductive), 50% Moderate (inductive)			
B - Great Blue Heron (<i>Ardea herodias</i>) SOC 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: 100% Moderate (inductive)			
I - Bombus suckleyi (<i>Suckley's Cuckoo Bumble Bee</i>) SOC View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2G3 State: S1 USFWS: P Predicted Models: 100% Moderate (inductive)			
V - Impatiens aurella (<i>Pale-yellow Jewel-weed</i>) 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 Predicted Models: 100% Moderate (inductive)			
B - Black-necked Stilt (<i>Himantopus mexicanus</i>) SOC View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA FWP SWAP: SGCN3 PIF: 3 Predicted Models: 100% Moderate (inductive)			
B - White-faced Ibis (<i>Plegadis chihi</i>) 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: 100% Moderate (inductive)			
I - Danaus plexippus (<i>Monarch</i>) SOC 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: 100% Moderate (inductive)			
M - Little Brown Myotis (<i>Myotis lucifugus</i>) SOC 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: 50% Moderate (inductive), 50% Low (inductive)			
M - Merriam's Shrew (<i>Sorex merriami</i>) 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: 50% Moderate (inductive), 50% Low (inductive)			
R - Plains Hog-nosed Snake (<i>Heterodon nasicus</i>) 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: 50% Moderate (inductive), 50% Low (inductive)			
M - Eastern Red Bat (<i>Lasiurus borealis</i>) SOC View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3G4 State: S3B BLM: SENSITIVE Predicted Models: 50% Moderate (inductive), 50% Low (inductive)			
M - Northern Hoary Bat (<i>Lasiurus cinereus</i>) 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: 50% Moderate (inductive), 50% Low (inductive)			

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Structured Surveys

Summarized by: **41K 30170695** (*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-Eastern Heath Snail (*Eastern Heath Snail Survey*)

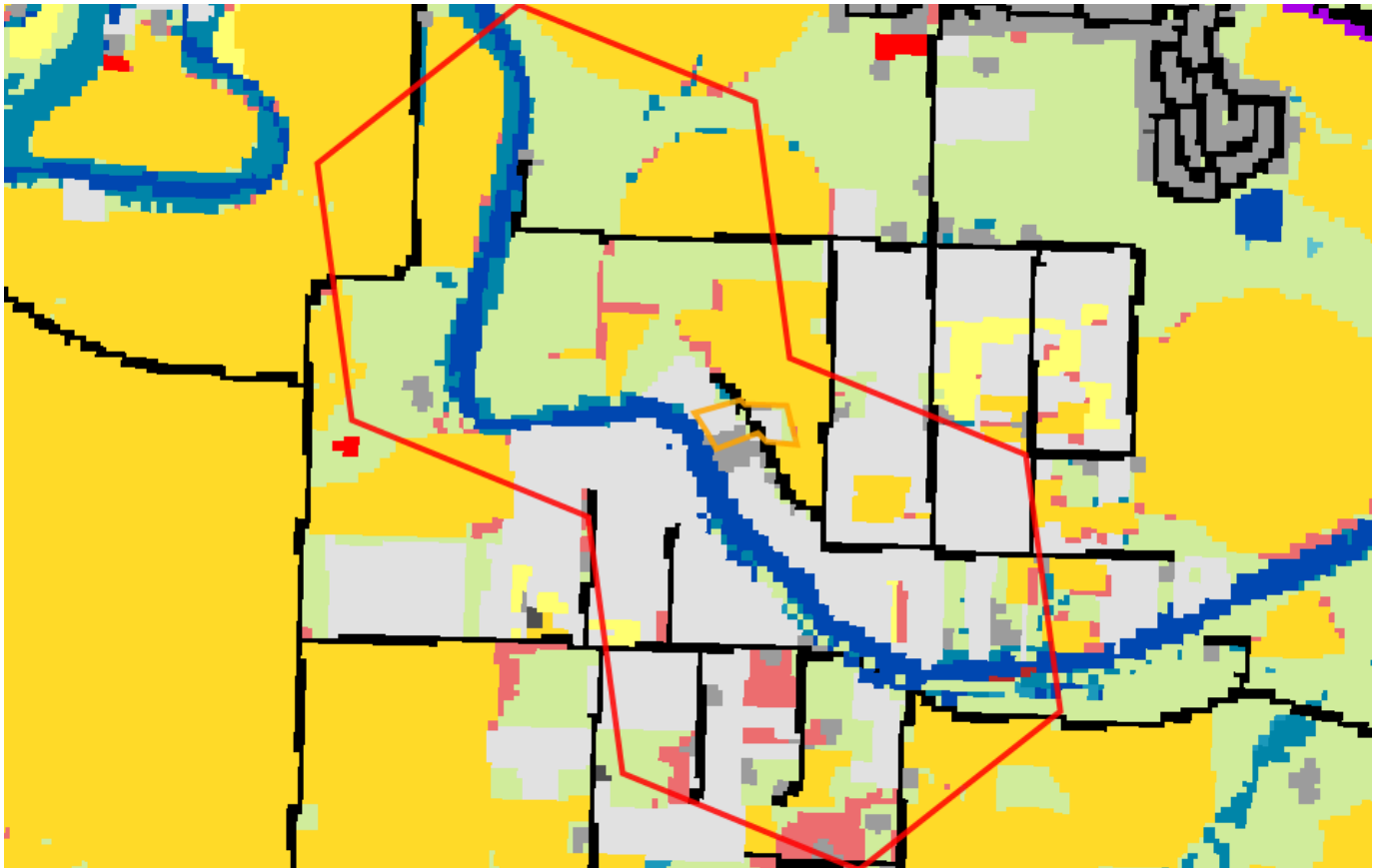
Survey Count: 1

Obs Count:

Recent Survey: 2012

Land Cover

Summarized by: **41K 30170695** (*Custom Area of Interest*)



Human Land Use Developed

Developed, Open Space

**28% (355
Acres)**

Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.



Grassland Systems Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

**26% (338
Acres)**

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 curtipetala*) 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.



Human Land Use Agriculture

Cultivated Crops

**23% (301
Acres)**

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.



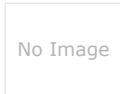
Wetland and Riparian Systems

Open Water

Open Water

7% (85 Acres)

All areas of open water, generally with less than 25% cover of vegetation or soil



Human Land Use

Developed

Other Roads

6% (74 Acres)

County, city and or rural roads generally open to motor vehicles.



Recently Disturbed or Modified

Introduced Vegetation

Introduced Upland Vegetation - Annual and Biennial Forbland

4% (47 Acres)

Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.



Wetland and Riparian Systems

Floodplain and Riparian

Great Plains Floodplain

3% (43 Acres)

This system occurs along the Missouri and Yellowstone Rivers and their larger tributaries, including parts of the Little Missouri, Clark's Fork Yellowstone, Powder, Tongue, Bighorn, Milk, and Musselshell rivers. These are the big perennial rivers of the region, with hydrologic dynamics largely driven by snowmelt and rainfall originating in their headwater watersheds, rather than local precipitation events. In the absence of disturbance, periodic flooding of fluvial and alluvial soils and channel migration will create depressions and backwaters that support a mosaic of wetland and riparian vegetation, whose composition and structure is sustained, altered and redistributed by hydrology. Dominant communities within this system range from floodplain forests to wet meadows to gravel/sand flats, linked by underlying soils and flooding regimes. In the western part of the system's range in Montana, the overstory dominant species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood (*Populus angustifolia*) and eastern 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 relatively undisturbed stands, willow (*Salix* species), redosier dogwood (*Cornus sericea*) and common chokecherry (*Prunus virginiana*) form a thick, multi-layered shrub understory, with a mixture of cool and warm season graminoid species below.

In Montana, many occurrences are now degraded to the point where the cottonwood overstory is the only remaining natural component. The hydrology of these floodplain systems has been affected by dams, highways, railroads and agricultural ditches, and as a result, they have lost their characteristic wetland /riparian mosaic structure. This has resulted in a highly altered community consisting of relict cottonwood stands with little regeneration. The understory vegetation is dominated by non-native pasture grasses, legumes and other introduced forbs, or by the disclimax western snowberry (*Symphoricarpos occidentalis*) and rose (*Rosa* species) shrub community.



Human Land Use

Developed

Low Intensity Residential

2% (30 Acres)

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.

Additional Limited Land Cover

<1% (5 Acres)  Pasture/Hay

<1% (2 Acres)  Great Plains Riparian

<1% (1 Acres)  Introduced Riparian and Wetland Vegetation

Wetland and Riparian

Summarized by: **41K 30170695** (*Custom Area of Interest*)



No Wetland records were found in the selected area

Land Management

Summarized by: 41K 30170695 (Custom Area of Interest)



Land Management Summary				
	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	11 Acres (1%)			
Local	11 Acres (1%)			
Local Government	11 Acres (1%)			
Local Government Owned	11 Acres (1%)			
Private Lands or Unknown Ownership	1,268 Acres (99%)			



Biological Reports

Summarized by: **41K 30170695** (*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

Legend

Model Icons

-  Suitable (native range)
-  Optimal Suitability
-  Moderate Suitability
-  Low Suitability
-  Suitable (introduced range)

Habitat Icons

-  Common
-  Occasional

Range Icons

-  Non-native

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



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Invasive and Pest Species

Summarized by: **41K 30170695** (*Custom Area of Interest*)

Aquatic Invasive Species

# Obs	Predicted Model	Range
V - Potamogeton crispus (<i>Curly-leaf Pondweed</i>) N2B/AIS		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models:  100% Moderate (inductive)		
V - Myriophyllum spicatum (<i>Eurasian Water-milfoil</i>) 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:  100% Low (inductive)		
V - Butomus umbellatus (<i>Flowering-rush</i>) N2A/AIS		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models:  50% Low (inductive)		
F - Common Carp (<i>Cyprinus carpio</i>) AIS		
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models:  100% Suitable (introduced range) (deductive)		
V - Nymphaea odorata (<i>American Water-lily</i>) AIS		
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models:  100% Suitable (introduced range) (deductive)		
V - Nymphaoides peltata (<i>Yellow Floating Heart</i>) AIS		
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models:  100% Suitable (introduced range) (deductive)		
Noxious Weeds: Priority 1A		
V - Phragmites australis ssp. australis (<i>European Common Reed</i>) N1A		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: G5T5 State: SNA Predicted Models:  100% Optimal (inductive)		
V - Isatis tinctoria (<i>Dyer's Woad</i>) N1A		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predicted Models:  50% Optimal (inductive),  50% Moderate (inductive)		
V - Centaurea solstitialis (<i>Yellow Starthistle</i>) N1A		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predicted Models:  100% Moderate (inductive)		
V - Taeniatherum caput-medusae (<i>Medusahead</i>) N1A		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: G4G5 State: SNA Predicted Models:  100% Low (inductive)		
Noxious Weeds: Priority 1B		
V - Lythrum salicaria (<i>Purple Loosestrife</i>) N1B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: G5 State: SNA Predicted Models:  100% Optimal (inductive)		
V - Chondrilla juncea (<i>Rush Skeletonweed</i>) N1B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predicted Models:  50% Moderate (inductive),  50% Low (inductive)		
V - Cytisus scoparius (<i>Scotch Broom</i>) N1B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNR State: SNA Predicted Models:  50% Moderate (inductive),  50% 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: GNR State: SNA Predicted Models: 50% Moderate (inductive), 50% 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: 50% Moderate (inductive), 50% 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: 50% Low (inductive)		

Noxious Weeds: Priority 2A

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: 50% Optimal (inductive), 50% Moderate (inductive)		
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: 50% Moderate (inductive), 50% 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: 100% 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: 100% Low (inductive)		
V - Butomus umbellatus (Flowering-rush) N2A/AIS View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: 50% Low (inductive)		
V - Hieracium aurantiacum (Orange Hawkweed) N2A View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predicted Models: 50% 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: 50% Low (inductive)		

Noxious Weeds: Priority 2B

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: 50% Optimal (inductive), 50% Moderate (inductive)		
V - Convolvulus arvensis (Field Bindweed) N2B View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 50% Optimal (inductive), 50% Moderate (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: 50% Optimal (inductive), 50% Moderate (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: 50% Optimal (inductive), 50% Moderate (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: 50% Optimal (inductive), 50% Moderate (inductive)		
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: 100% Moderate (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 100% Moderate (inductive)					
V - Cirsium arvense (Canada Thistle) 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 100% Moderate (inductive)					
V - Cynoglossum officinale (Common Hound's-tongue) 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 100% Moderate (inductive)					
V - Potamogeton crispus (Curly-leaf Pondweed) N2B/AIS					
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: M 100% Moderate (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: M 50% Moderate (inductive), L 50% 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: M 50% Moderate (inductive), L 50% 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 100% Low (inductive)					
V - Potentilla recta (Sulphur Cinquefoil) 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 - 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: L 100% Low (inductive)					
V - Hypericum perforatum (Common St. John's-wort) 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 50% 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 50% Low (inductive)					
Regulated Weeds: Priority 3					
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: M 100% Moderate (inductive)					
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)					
Biocontrol Species					
I - Aphthona lacertosa (Brown-legged Leafy Spurge Flea Beetle) BIOCNTL					
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 - Oberea erythrocephala (Red-headed Leafy Spurge Stem Borer) BIOCNTL					
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predicted Models: M 50% Moderate (inductive), L 50% Low (inductive)					
I - Cyphocleonus achates (Knapweed Root Weevil) BIOCNTL					
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 - Mecinus janthiniformis (Dalmatian Toadflax Stem-boring Weevil)	BIOCNTL	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predicted Models: 100% Low (inductive)		
I - Mecinus janthinus (Yellow Toadflax Stem-boring Weevil)	BIOCNTL	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predicted Models: 100% Low (inductive)		
I - Aphthona nigricutis (Black Dot Leafy Spurge Flea Beetle)	BIOCNTL	
View in Field Guide View Predicted Models View Range Maps Biocontrol Species - Non-native Species Global: GNR State: SNA Predicted Models: 50% 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.mt.gov

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

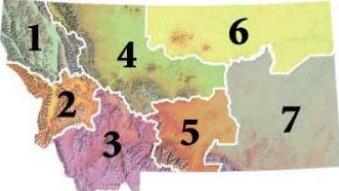
- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP 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 Conservation Districts

Clickable map for contact information across Montana: <https://macdnet.org/conservation-district-map/>
Montana Association of Conservation Districts Resources Directory: <https://macdnet.org/resources>

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

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/>

Email for questions: Montana.Reg@usace.army.mil

Phone for questions: (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>

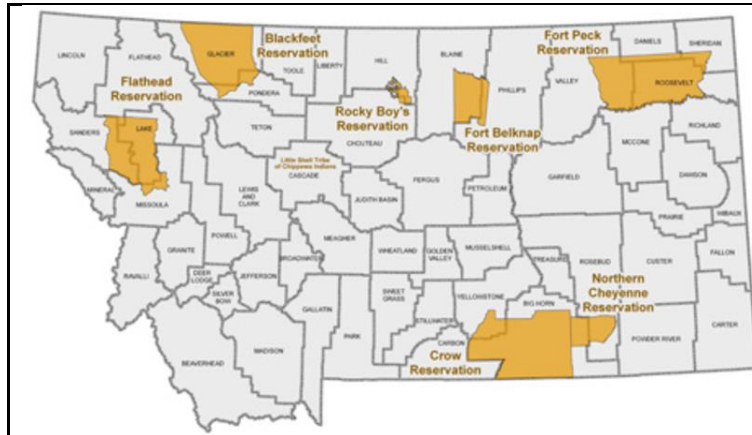
Montana Ecological Services Field Office: <https://www.fws.gov/office/montana-ecological-services> (406) 449-5225

United States Forest Service

Regional Office – Missoula, Montana Contacts

Assistant Regional TES PM	Diane Probasco	diane.probasco@usda.gov	(307) 709-2292
Assessment/Planning Wildlife Ecologist	T.J. Fontaine	joseph.fontaine@usda.gov	(406) 802-0617
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	mary.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669
Regional Hydrologist	Andy Efta	james.efta@usda.gov	(406) 329-3447

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

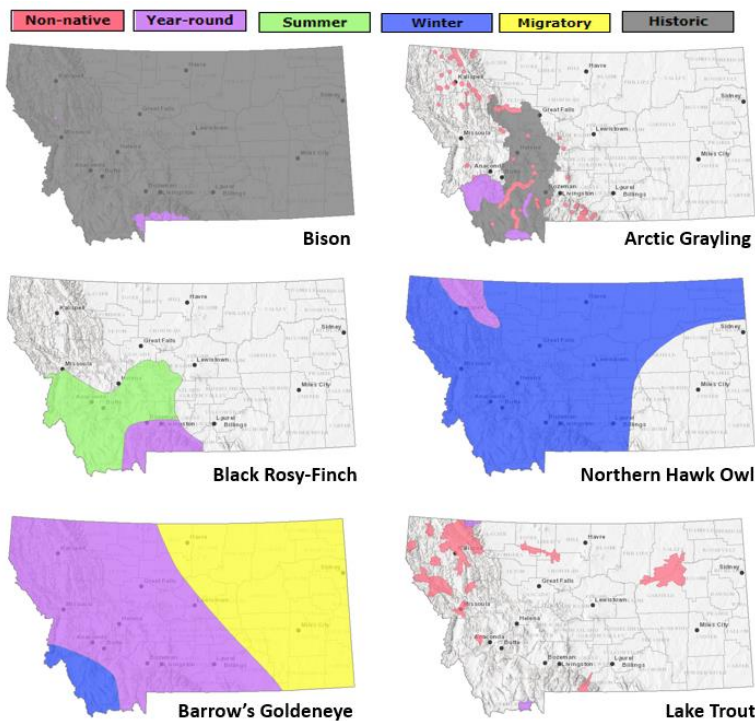
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream 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](#)

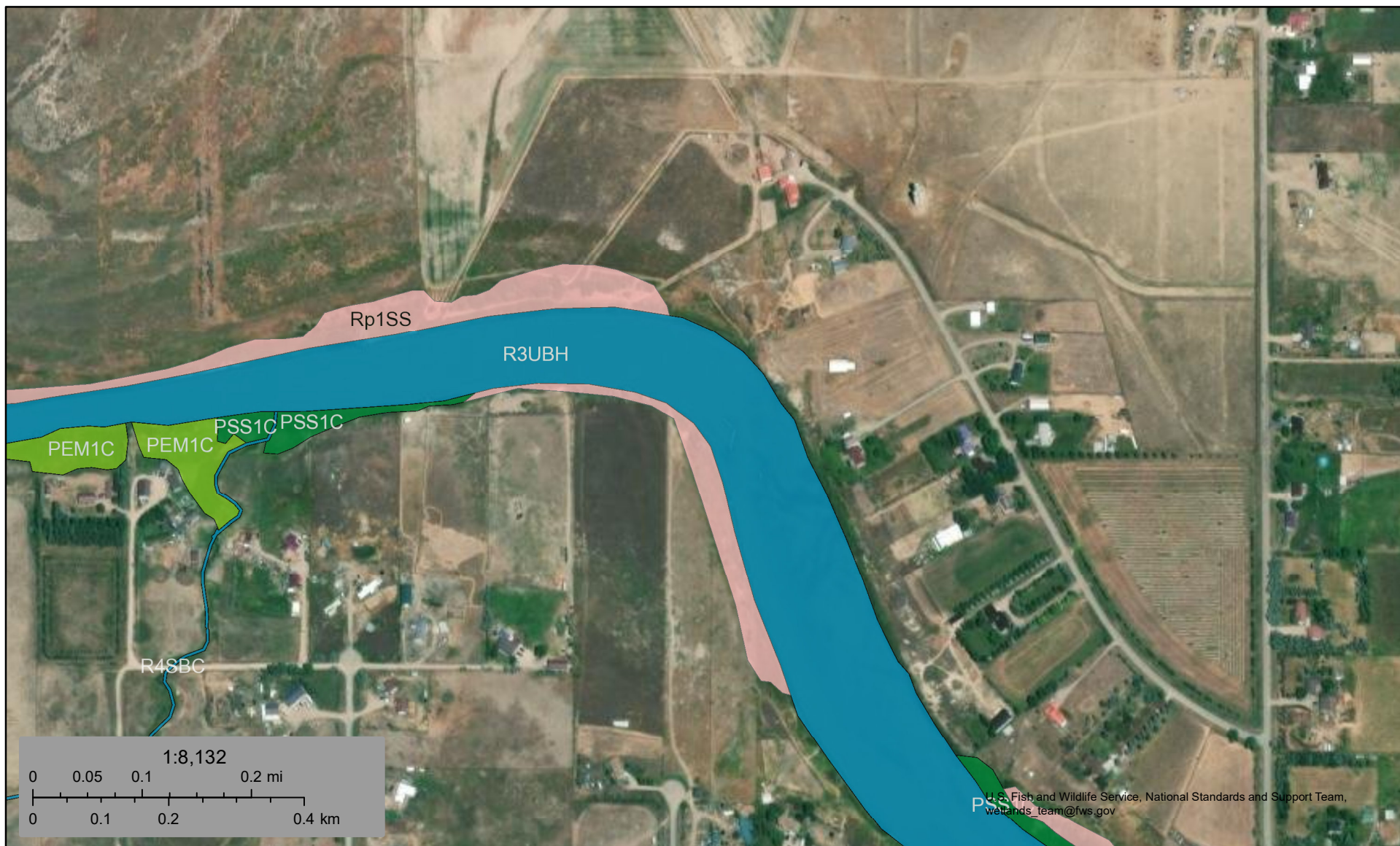
[Xerces Society for Invertebrate Conservation Resources](#)



U.S. Fish and Wildlife Service

National Wetlands Inventory

41K 30170695



U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

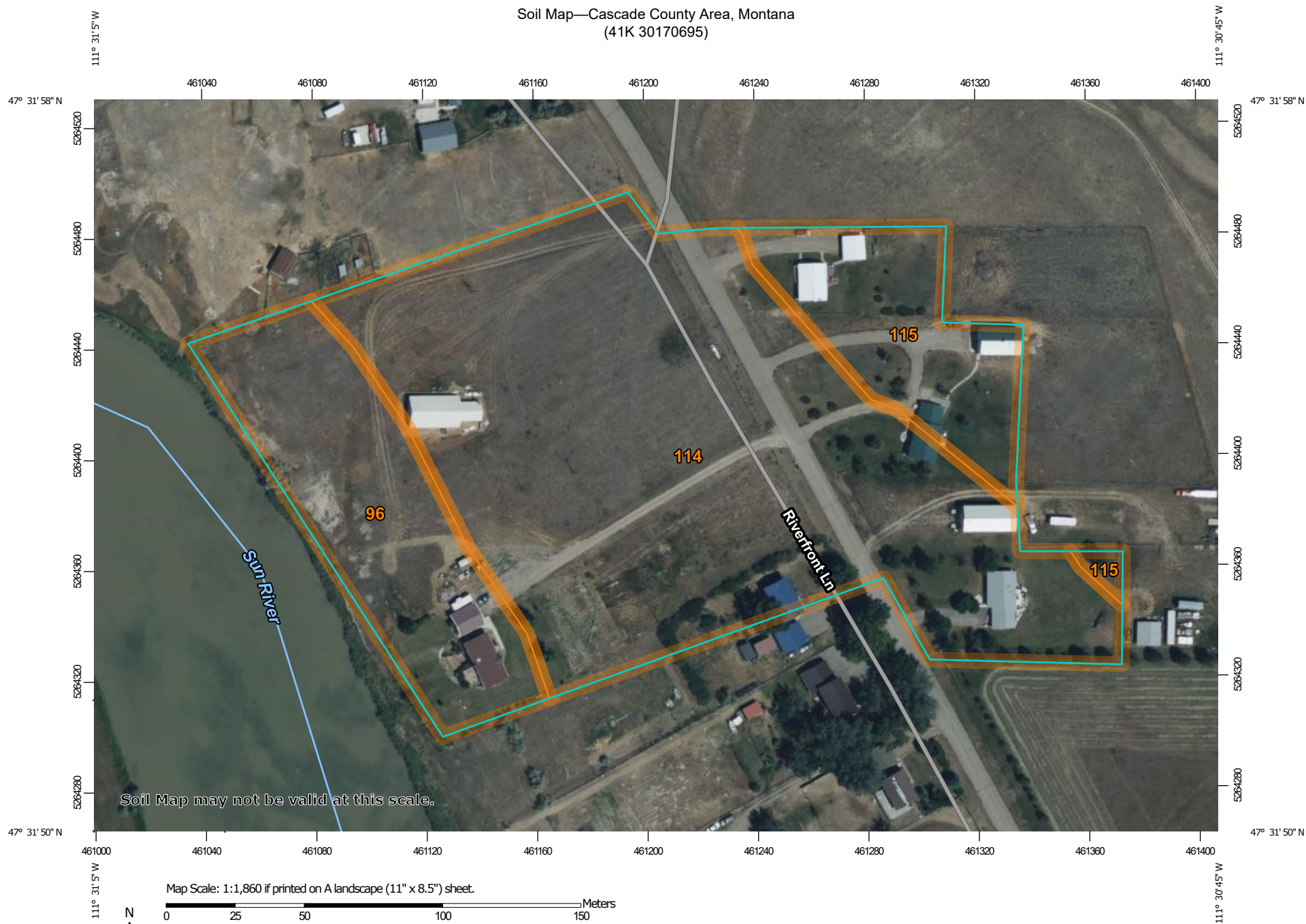
August 1, 2025

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Soil Map—Cascade County Area, Montana
(41K 30170695)



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/1/2025
Page 1 of 3

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 1:24,000.

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: Cascade County Area, Montana

Survey Area Data: Version 20, Aug 22, 2024

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

Date(s) aerial images were photographed: Jul 6, 2021—Sep 30, 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
96	Havre loam	2.0	19.3%
114	Kobar silty clay loam, 0 to 2 percent slopes	6.9	67.9%
115	Kobar silty clay loam, 2 to 4 percent slopes	1.3	12.8%
Totals for Area of Interest		10.2	100.0%

Cascade County Area, Montana

115—Kobar silty clay loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: cgmz

Elevation: 2,700 to 3,800 feet

Mean annual precipitation: 11 to 18 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 105 to 135 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Kobar and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kobar

Setting

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

A - 0 to 6 inches: silty clay loam

Bw - 6 to 12 inches: silty clay loam

Bk - 12 to 26 inches: silty clay loam

Bky - 26 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 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 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

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Minor Components

Lawther

Percent of map unit: 5 percent

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Marias

Percent of map unit: 5 percent

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Data Source Information

Soil Survey Area: Cascade County Area, Montana

Survey Area Data: Version 20, Aug 22, 2024

Cascade County Area, Montana

96—Havre loam

Map Unit Setting

National map unit symbol: cgvs

Elevation: 2,800 to 3,700 feet

Mean annual precipitation: 11 to 19 inches

Mean annual air temperature: 37 to 45 degrees F

Frost-free period: 105 to 135 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Havre and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Havre

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

A - 0 to 8 inches: loam

C - 8 to 60 inches: stratified fine sandy loam to 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 high to high (0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R052XN161MT - Silty (Si) 10-14" p.z.,

R046XP801MT - Bottomland Group

Hydric soil rating: No

Minor Components

Korent

Percent of map unit: 4 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN161MT - Silty (Si) 10-14" p.z.

Hydric soil rating: No

Rivra

Percent of map unit: 3 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R046XC507MT - Shallow to Gravel (SwGr) RRU
46-C 13-19 PZ

Hydric soil rating: No

Ryell

Percent of map unit: 3 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN161MT - Silty (Si) 10-14" p.z.

Hydric soil rating: No

Data Source Information

Soil Survey Area: Cascade County Area, Montana

Survey Area Data: Version 20, Aug 22, 2024

Cascade County Area, Montana

114—Kobar silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: cgmy

Elevation: 2,700 to 3,800 feet

Mean annual precipitation: 11 to 18 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 105 to 135 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Kobar and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kobar

Setting

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

A - 0 to 6 inches: silty clay loam

Bw - 6 to 12 inches: silty clay loam

Bk - 12 to 26 inches: silty clay loam

Bky - 26 to 60 inches: 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: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 3.0 mmhos/cm)

Sodium adsorption ratio, maximum: 10.0

Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Minor Components

Lawther

Percent of map unit: 5 percent

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Marias

Percent of map unit: 5 percent

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R052XN162MT - Clayey (Cy) 10-14" p.z.

Hydric soil rating: No

Data Source Information

Soil Survey Area: Cascade County Area, Montana

Survey Area Data: Version 20, Aug 22, 2024

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

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601



1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

August 7, 2025

Bonnie L. Larsen
230 Riverfront Ln
Great Falls, MT 59404-6238

Amanda S. Hendrickson
215 Riverfront Ln
Great Falls, MT 59404-6238

Subject: Correct and Complete Application for Change No. 41K 30170695

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.



DNRC

Matt Shaw

Water Resource Specialist

RECEIVED - DNRC

JUL 30 2025

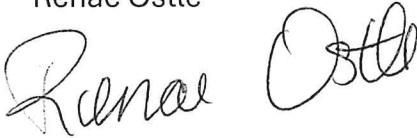
LEWISTOWN WATER
RESOURCES

We are aware of Bonnie Larsen and Amanda Hendrickson's Application to Change Water Right No. 41K30170695. We give permission for them to put water associated with that change to use for Lawn & Garden irrigation purposes on our property at 200 Riverfront Lane, Great Falls.

John R Ostle

A handwritten signature in cursive script that reads "John R Ostle".

Rena Ostle

A handwritten signature in cursive script that reads "Rena Ostle".

July 19, 2025

To: Montana Department of Natural Resources

From: Tyrone and Mary Robinson

Subject: Changes to Water Right

RECEIVED - DNRC

JUL 22 2025

LEWISTOWN WATER
RESOURCES

Attn: Mr. Matthew Shaw

We are aware of and give our permission to Bonnie Larsen and Amanda Hendrickson to include our property at 210 Riverfront Lane, Great Falls, MT for Lawn and Garden irrigation in their Application to Change water Right No. 41K 30170695

Tyrone Robinson, Mary Robinson



Mary Robinson

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.

Best,



Matthew D. Shaw
New Appropriations Specialist
Lewistown Regional Office
(406) 535-1927
matthew.shaw@mt.gov



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

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601



1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

June 13, 2025

Bonnie L. Larsen
230 Riverfront Ln
Great Falls, MT 59404-6238

Amanda S. Hendrickson
215 Riverfront Ln
Great Falls, MT 59404-6238

Subject: Completed Technical Analyses for Water Right Change Preapplication No. 41K 30170695

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 Water Right Change Preapplication No. 41K 30170695 based on the information provided in your Preapplication Meeting Form accepted by the Department on May 1, 2025. The technical analyses can be found in the attached report. Please note this Water Right Change Technical Analyses Report is a two-part publication, comprised of Part A, completed by New Appropriations Specialist, Matthew Shaw, of the Lewistown Regional Office, and Part B, completed by Groundwater Hydrologist, Kimberly Bolhuis, of Water Sciences Bureau.

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 §85-2-402, 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 (§85-2-402, MCA).



You have 180 days to submit the Water Right Change Application Form 606 considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Lewistown Regional Office by December 10, 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.

Regards,

A handwritten signature in blue ink, appearing to read "Matt D. Shaw".

Matthew D. Shaw
New Appropriations Specialist
Lewistown Regional Office
(406) 535-1927
matthew.shaw@mt.gov





Surface Water Change Technical Analyses Report – Part A

Department of Natural Resources and Conservation (DNRC or Department)

Water Resources Division

Matthew Shaw, Water Resource Specialist, Lewistown Regional Office

Application No.	41K 30170695	Proposed Point of Diversion	SESENE, Sec. 31, Twp 21N, Rge 2E, Cascade County
Applicant	Bonnie L. Larsen & Amanda S. Hendrickson		

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 § 85-2-402 Montana Code Annotated (MCA).

This Surface Water Change Technical Analyses Report – Part A contains the following sections:

Overview	1
1.0 Application Details	1
2.0 Historical Use Technical Analysis.....	2
2.1 Historical Field Consumed and Applied Volumes.....	2
2.2 Historical Conveyance Losses	3
2.3 Historical Diverted Volume	3
2.4 Summary of Historical Use	4
3.0 Analysis of Impacted Surface Water Sources.....	4
3.1 Summary of Proposed Use.....	4
3.2 Impacted Surface Water Sources	5
Review	6
References	6

1.0 Application Details

The Applicant proposes to temporarily change the place of use and purpose for Statement of Claim No. 41K 5004-00. The proposed place of use is located in the SWSWNW, Sec. 32, Twp 21N, Rge 2E. The project is in Cascade County and the source is the Sun River.



Table 1: Water Right(s) Proposed for Change

Water Right Number	Flow Rate	Volume	Purpose	Period Of Use	Place Of Use	Point(s) Of Diversion	Priority Date
41K 5004-00	38.40 GPM	Historical & Beneficial Use / Unquantified	Irrigation	05/01 to 10/31	SESENE, Sec. 31; SWSWNW, Sec. 32; NWNWSW, Sec 32 All in Twp 21N, Rge 2E, Cascade County	SESENE, Sec. 31, Twp 21N, Rge 2E, Cascade County	10/07/1892

Project Overview Map--Application to Change a Water Right No. 41K 30170695

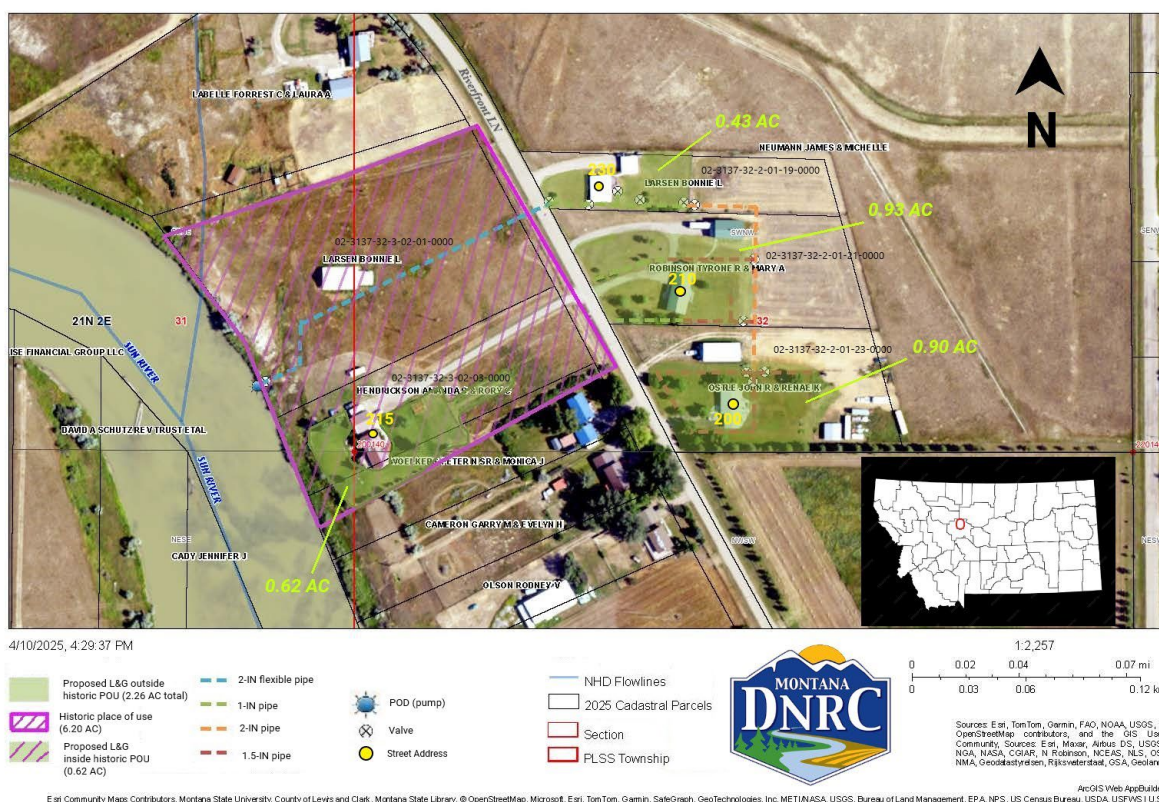


Figure 1: Project overview map showing the point of diversion and historical and proposed places of use.

2.0 Historical Use Technical Analysis

2.1 Historical Field Consumed and Applied Volumes

The consumed volume for irrigation is based on the net irrigation requirement (NIR) from USDA Natural Resources Conservation Service Irrigation Water Requirements (IWR) at a representative



weather station. The NIR is multiplied by a county-wide management factor (from ARM 36.12.1902) to produce an adjusted NIR representative of actual crop yields in Montana. Crop consumption is determined by multiplying the adjusted NIR by the number of acres of irrigation. Crop consumption is then divided by the field efficiency identified from the irrigation method and ARM 36.12.115. Irrecoverable losses (IL) are 5% of the field applied volume for flood irrigation or 10% for sprinkler irrigation. The total consumed volume for irrigation is the crop consumption plus irrecoverable losses. The total non-consumed volume is the field applied volume minus the total consumed volume.

Historically, a total of 6.20 AC was irrigated, via sprinkler. Four places of use, all within Twp 21N, Rge 2E, Cascade County, were claimed. The places of use include 2.12 AC in the SESENE Sec. 31; 3.78 AC in the SWSWNW Sec. 32; 0.12 AC in the NWNWSW Sec. 32; and 0.18 AC in the NENESE Sec. 31. No supplemental rights overlap the historical place of use. No historical places of storage are involved with Statement of Claim No. 41K 5004-00.

The historical consumed and field applied volumes have been calculated with the inputs shown in **Table 2** following the methods described above and in ARM 36.12.1902. As per ARM 36.12.1902(1)(a), a Management Factor of 0.70 is assigned as Statement of Claim No. 41K 5004-00 underwent a previous Change Authorization (Change Application No. 41K-500499, Operational Authority Date of May 27, 1986).

Table 2: Historical use.

Irrigation Method	Acres	IWR (in) ¹	Mgmt. Factor ²	Field Efficiency	Crop Consumption (AF)	Applied Volume (AF)	IL (AF)	Total Consumed Volume (AF)	Field Application Volume (AF)
Sprinkler	6.20	18.10	.70	.70	6.55	9.35	0.94	7.48	9.35

¹Sun River IWR Weather Station

²Cascade County Historical Use Management Factor (1973-2006)

2.2 Historical Conveyance Losses

Per ARM 36.12.1902(10), the historical conveyance loss volume is equal to the sum of the historical seepage loss, vegetation loss, and ditch evaporation volumes. There are no historical conveyance losses considered for the historical use of Statement of Claim No. 41K 5004-00 because water was historically conveyed via enclosed pipeline.

2.3 Historical Diverted Volume

Per ARM 36.12.1902(10), the historically diverted volume is equal to the sum of the historical field application volume and historical conveyance loss volume. **Table 3** below summarizes the historical field applied and conveyance loss volumes.



Table 3: Historic Diverted Volume of Statement of Claim No. 41K 5004-00.

Water Right No.	Field Application Apportionment	Apportioned Field Application Volume	Apportioned Conveyance Loss Volume	Apportioned HDV
41K 5004-00	100%	9.35	NA	9.35

2.4 Summary of Historical Use

The Department will consider the following values when evaluating the historical use of Statement of Claim No. 41K 5004-00 for the adverse effect criterion:

Table 4: Summary of historical use of Statement of Claim No. 41K 5004-00.

Water Right No.	Historical Purpose	Maximum Historical Acres	Historical Place of Use	Historical Point of Diversion	Maximum Historical Flow Rate (GPM)	Historically Consumed Volume (AF)	Historically Diverted Volume (AF)
41K 5004-00	Irrigation	6.20	SESENE, Sec. 31; SWSWNW, Sec. 32; NWNWSW, Sec 32 All in Twp 21N, Rge 2E, Cascade County	SESENE, Sec. 31, Twp 21N, Rge 2E, Cascade County	38.40	7.48	9.35

3.0 Analysis of Impacted Surface Water Sources

3.1 Summary of Proposed Use

The Applicant proposes to use Statement of Claim No. 41K 5004-00 as shown in **Table 5**:

Table 5: Summary of the proposed use of Statement of Claim No. 41K 5004-00. See below for an explanation of the proposed use.

Water Right No.	Proposed Purpose	Proposed Acres	Proposed Place of Use	Proposed Point of Diversion	Proposed Flow Rate	Proposed Consumptive Volume	Proposed Diverted Volume
41K 5004-00	Lawn & Garden	2.88	Government Lots Nos. 200, 210, 215, & 230 All in the SWSWNW, Sec. 32, Twp 21N, Rge 2E, Cascade County	SESENE, Sec. 31, Twp 21N, Rge 2E, Cascade County	38.40	5.80	7.20



The Applicant proposes to temporarily change both the purpose of use and place of use. The purpose will change temporarily from Irrigation to Lawn & Garden (L&G), with a cumulative 2.88 AC being L&G irrigated under the Department L&G standard of 2.5 AF/AC. The volumes associated with the proposed diverted and consumed use are summarized in **Table 6**.

Table 6: Values used to calculate the volumes associated with the proposed use.

Purpose	Proposed Acres	DNRC Standard (AF/AC)	Proposed Diverted Volume (AF)	Proposed Consumptive Volume
Lawn & Garden	2.88	2.50	7.20	5.80

Table 7: Comparison of volumes associated with historical and proposed use.

Purpose	Historically Consumed Volume	Proposed Consumptive Volume	Historically Diverted Volume	Proposed Diverted Volume
Irrigation	7.48	NA	9.35	NA
Lawn & Garden	NA	5.80	NA	7.20
Total	7.48	5.80	9.35	7.20

3.2 Impacted Surface Water Sources

The Department has considered an area of potential adverse effect on the source of supply. The historical flow rate and historical point of diversion are proposed to remain unchanged. Additionally, water will be left in the source due to a 2.20 AF reduction in diverted volume. Thus, the Department determines there is no area of potential adverse effect and there are no water rights therein to be considered for adverse effect.



Review

This document has been reviewed by the Department on June 12, 2025.

References

Department Standard Practice for Determining Historical Use
Department Standard Practice to Analyze Return Flows



Surface Water Change Technical Analyses Report - Part B

Department of Natural Resources and Conservation (DNRC)

Water Resource Division

Kim Bolhuis, Groundwater Hydrologist, Water Sciences Bureau

Applicant	Larsen/Hendrickson	Point of Diversion Legal Land Description	NESWSW Section 29, T01N R02E, Gallatin County
Application No.	41K 30170695		

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 change 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 §85-2-402, Montana Code Annotated (MCA). For applications in closed basins, this report fulfills the requirements of MCA 85-2-361.

This Surface Water Change Technical Analyses Report – Part B contains the following sections:

Overview	1
1.0 Executive Summary	2
2.0 Methodology	2
3.0 Adverse Effect – Return Flow Analysis	3
3.1. Consumed and Non-Consumed Volume.....	3
3.2 Hydraulically Connected Surface Water(s).....	3
3.3 Location of Return Flows.....	6
Review	8
References	8



1.0 Executive Summary

Water Right Details

The Applicant requests to temporarily change the purpose and place of use (POU) of Statement of Claim No. 41K 5004-00 from crop irrigation to lawn and garden irrigation. Historically, 9.35 acre-feet (AF) was diverted to irrigate 6.20 acres using handline sprinklers. The proposed temporary change would divert 7.2 AF to irrigate 2.88 acres, total, by sprinkler on four separate lots in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ corner of Section 32, Township 21 North, Range 2 East in Cascade County. The period of diversion is May 1st through October 31st. 2.2 AF of historically diverted water will be left instream during the period of diversion.

DNRC - WSB Technical Findings

Based on information submitted, the WSB quantified the historical non-consumed volume and location of historical return flows. These analyses are in support of the following criteria assessment: adverse effect. A summary of WSB findings described in subsequent sections are listed below.

TECHNICAL ANALYSES FINDINGS

ADVERSE EFFECT (RETURN FLOWS)	The historical non-consumed volume is 1.9 acre-feet (AF) and the location of historical return flows as identified in Figure 2 is to Sun River downstream of the eastern edge of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ corner of Section 31, Township 21 North, Range 2 East. The proposed non-consumed volume is 1.4 AF and the location of the proposed return flows is to the Sun River downstream of the eastern edge of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ corner of Section 31, Township 21 North, Range 2 East (Figure 2).
--------------------------------------	--

2.0 Methodology

DNRC will analyze the change to determine if:

- Return flows will enter back into the source where they have historically returned upstream of or at the location of the next downstream appropriator; or,
- Water is left instream so historically diverted flows are available during the historical period of diversion either below the point of diversion or where return flows historically returned to the source.

If the change in return flows impacts existing water rights, the return flow analysis must include a monthly breakdown of the rate and timing of return flows and evaluate impacts to the identified rights.

Return flows are evaluated by determining the volume of water that infiltrates past the root zone and identifying the likely receiving stream(s). The assumption is made that water applied for irrigation that is not consumed by a crop infiltrates to groundwater, becoming return flow and does not run off. The amount of water not consumed is the difference between the amount of water consumed and the amount of water applied to a field. The receiving stream is determined by proximity and evidence of hydraulic connection to groundwater and generally does not depend on



groundwater flow direction or land slope (Leake, 2011). Historical consumed volumes for irrigation are calculated following the procedures described in DNRC consumptive use rules in ARM 36.12.1902.

3.0 Adverse Effect – Return Flow Analysis

3.1. Non-Consumed Volume

The consumed volume for irrigation is based on the net irrigation requirement (NIR) from USDA Natural Resources Conservation Service Irrigation Water Requirements (IWR) at a representative weather station. The NIR is multiplied by a county-wide management factor (from ARM 36.12.1902) to produce an adjusted NIR representative of actual crop yields in Montana. Crop consumption is determined by multiplying the adjusted NIR by the number of acres of irrigation. Crop consumption is then divided by the field efficiency identified from the irrigation method and ARM 36.12.115. Irrecoverable losses (IL) are 5% of the field applied volume for flood irrigation or 10% for sprinkler irrigation. The total consumed volume for irrigation is the crop consumption plus irrecoverable losses. The total non-consumed volume is the field applied volume minus the total consumed volume.

The historical and proposed consumed and non-consumed volumes have been calculated with the inputs shown in **Table 1** and **Table 2** following the methods described above and in ARM 36.12.1902.

Table 1: Historical use.

Irrigation Method	Acres	IWR (in) ¹	Mgmt. Factor ²	Field Efficiency	Crop Consumption (AF)	Applied Field Volume (AF)	IL (AF)	Total Consumed Volume (AF)	Non-Consumed Volume (AF)
Hand-line Sprinkler	6.20	18.1	70%	70%	6.6	9.4	0.9	7.5	1.9

¹ Sun River IWR Weather Station

² Cascade County Historical Use Management Factor

Table 2: Proposed irrigation.

Irrigation Method	Acres	Applied Field Volume (AF) ¹	Field Efficiency	Crop Consumption (AF)	IL (AF)	Total Consumed Volume (AF)	Non-Consumed Volume (AF)
Sprinkler	2.88	7.2	70%	5.0	0.7	5.8	1.4

¹ Applied Volume was calculated using the DNRC volume standard for Lawn and Garden use of 2.5 AF/acre.

3.2 Hydraulically Connected Surface Water(s)

The receiving stream is determined by proximity and evidence of hydraulic connection to ground water. Mounding beneath irrigated fields propagates in all directions independent of ground water flow rate or direction and generally does not depend on surface topography (Leake, 2011). Return



flows may accrete to more than one receiving reach or to a different stream than the source water is diverted from. 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 (DNRC, 2019). 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 (DNRC, 2019).

As shown in **Figure 1**, the historical POU is adjacent to the Sun River that overlies Quaternary alluvial gravels. These alluvial gravels can range up to 270 ft thick in and near the Missouri River Valley but are often around 20 ft thick near smaller rivers and streams (Madison, 2025). The Sun River alluvium near the historical and proposed POUs is bounded to the northeast by Quaternary fine grained sediments and by shales of the Colorado Group to the south (Madison, 2025). Wells were queried from the Montana Bureau of Mines and Geology (MBMG) Groundwater Information Center (GWIC) database to investigate hydraulic connection of nearby surface water to groundwater. Numerous wells in the vicinity of the Sun River with static water levels of 10 ft or less and total depths of 50 ft or less were identified (**Figure 1**).

The historical POU borders the Sun River, with the centroid of the field approximately 300 ft from the river. The centroid of each proposed POU is less than 740 ft from the Sun River. There is no other perennial surface water source near the historical or proposed POUs. As shown in **Figure 1**, DNRC identifies the Sun River as the closest perennial surface water body to the historical and proposed places of use and the receiving stream for return flows.

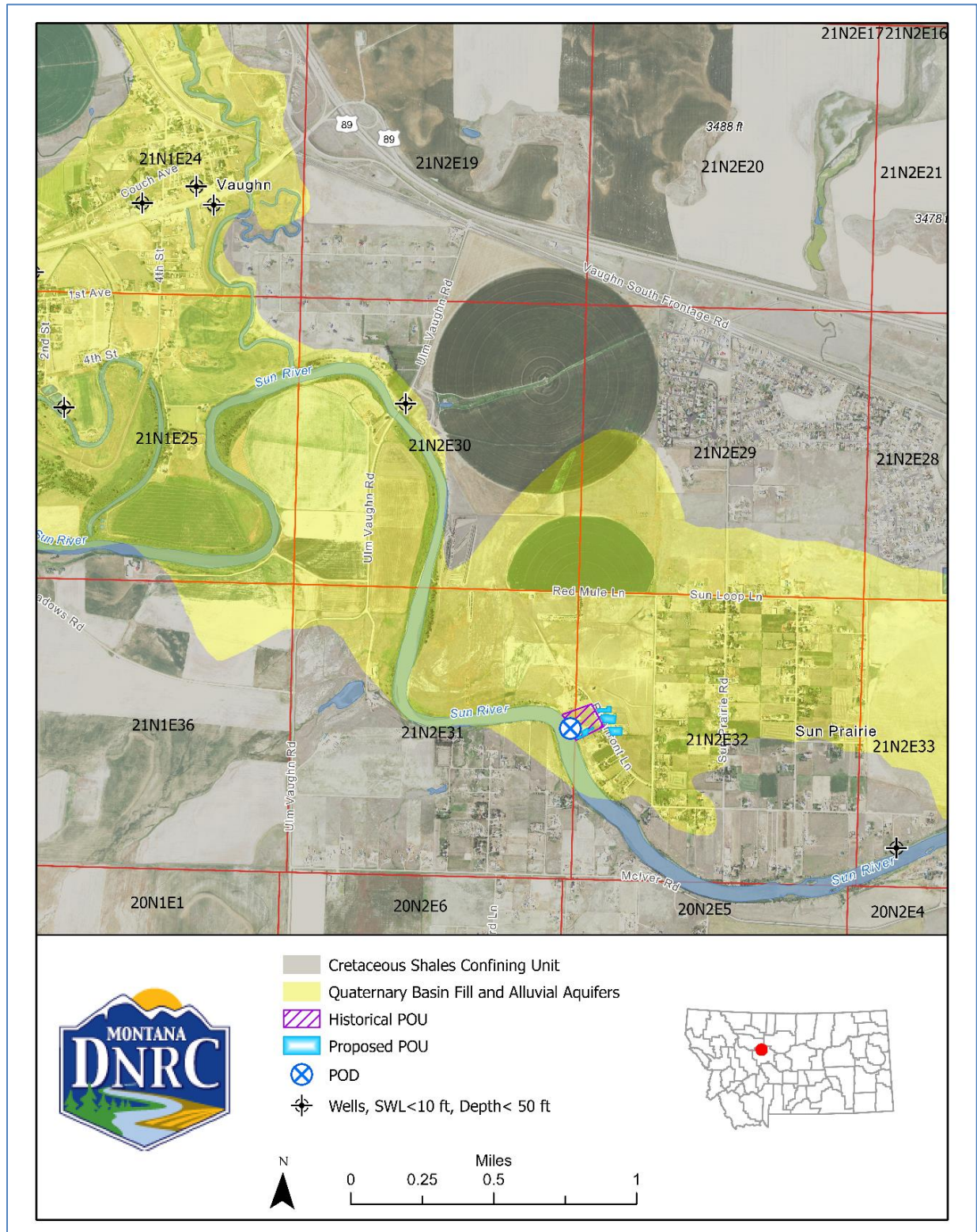


Figure 1: Location of historical and proposed POU. Wells with static water levels less than 10 ft and total depths less than 50 ft are shown for evidence of hydraulic connection to perennial surface water sources.



3.3 Location of Return Flows

The location of 1.9 AF of return flows from 6.2 acres of historical crop irrigation is the Sun River downstream of the eastern boundary of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ corner of Section 31, Township 21 North, Range 2 East, Cascade County (**Figure 2**).

Under the proposed change, 1.4 AF of return flows from 2.88 acres of lawn and garden irrigation would accrue to the Sun River beginning near the eastern boundary of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ corner of Section 31, Township 21 North, Range 2 East, Cascade County (**Figure 2**). The amount of consumed and non-consumed water for each POU for the proposed temporary change is shown in **Table 3**.

The Applicant proposed to leave 2.2 AF of historically diverted volume instream at the historical point of diversion. A monthly rate and timing analysis of return flows is necessary when a proposed change would impact existing water rights. This proposed change would result in both return flows entering back into the Sun River upstream of the next downstream appropriator and water left instream so that historically diverted flows would be available during the historical period of diversion at the POD. Therefore, no timing analysis is required for this proposed change.

Table 3: Consumed and non-consumed volume for Lawn and Garden irrigation, proportional to the acreage for each POU.

Field ID	Lawn & Garden Acres	Proportion of Total Acreage	Consumed Volume (AF)	Non-Consumed Volume (AF)
A	0.43	0.15	0.86	0.23
B	0.93	0.32	1.82	0.48
C	0.90	0.31	1.77	0.47
D	0.62	0.22	1.25	0.33

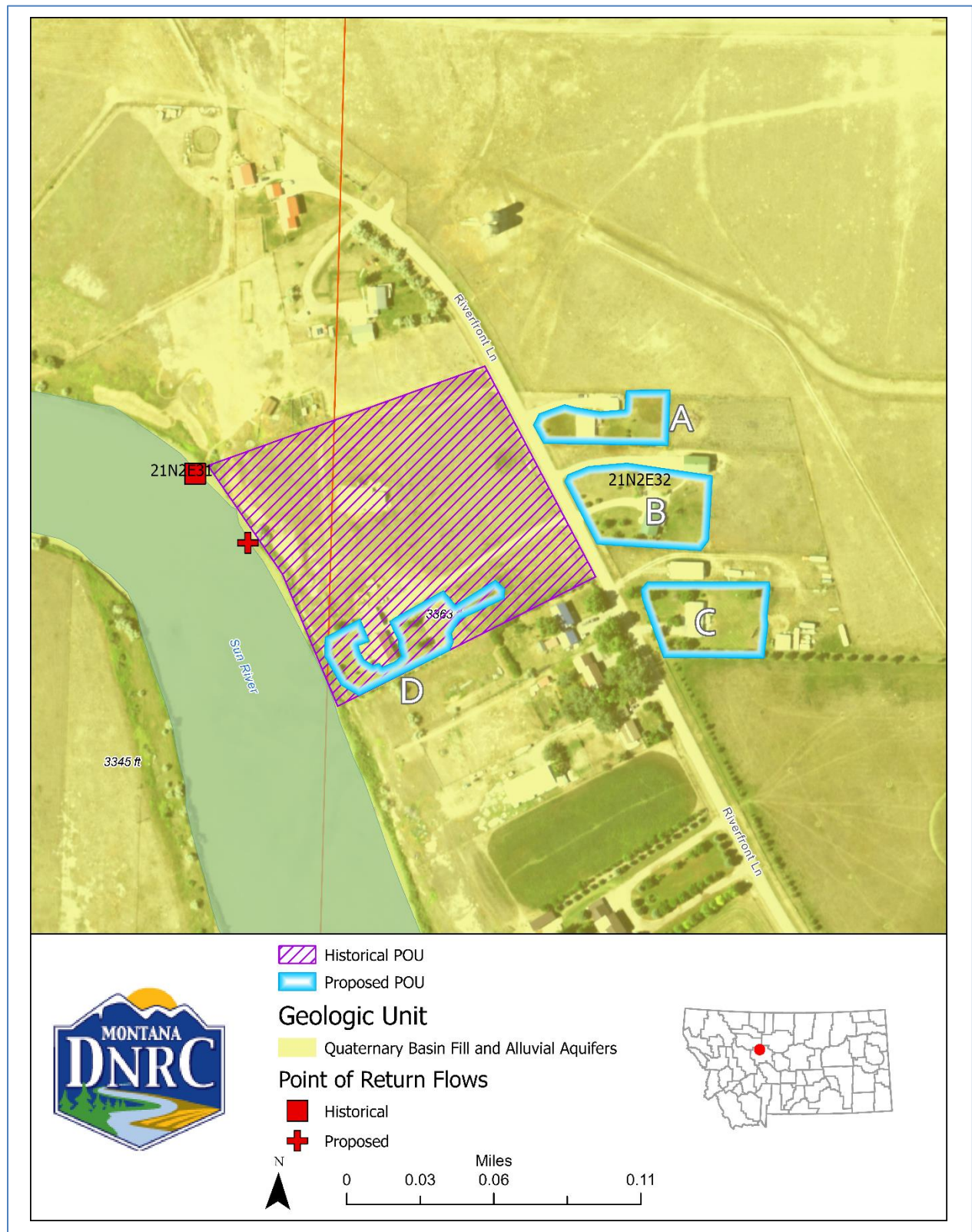


Figure 2: Location of return flows. Individual POUs are labeled A – D.



Review

This document has been reviewed on June 2, 2025 in accordance with Category 7 of [DNRC's Water Sciences Bureau Minimum Standards of Review](#), Version 2, February 2024.

References

DNRC, 2016. Technical Memorandum: Policy Memo – Return Flows. April 1, 2016.

DNRC, 2019. Technical Memorandum: Calculating Return Flow. April 18, 2019.

Groundwater Information Center, 2025. Montana Bureau of Mines and Geology, <http://mbmgwic.mtech.edu/>.

Leake, S.A., 2011. Capture – rates and direction of groundwater flow don't matter! Groundwater, Vol. 49, No. 4, p. 456 – 458.

Madison, James P., 2025, Hydrogeologic framework of Cascade and Teton Counties, Montana: Montana Bureau of Mines and Geology Montana Ground-Water Assessment Atlas 7-02, 20 p., 1 sheet.

Natural Resources Conservation Service (NRCS), 2003. Irrigation Water Requirement (IWR) computer program, <http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/manage/?cid=stelprdb1044890>.

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials



**APPLICATION TO
CHANGE A WATER RIGHT**
§ 85-2-302, MCA
Form No. 606 (Revised 2/2025)

For Department Use Only

RECEIVED - DNRC

JUL 17 2025

FILING FEE

\$2500/\$1500 – Without/with filing fee reduction.

\$400 – (The following types do not qualify for a filing fee reduction)

- Replacement well that exceeds 35 GPM or 10 AF per year
- Replacement municipal well that exceeds 450 GPM
- Replacement reservoir on the same source

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 606P-B will be credited toward filing fees shown above.

**LEWISTOWN WATER
RESOURCES**

Application # 30170695 Basin 41K
Priority Date 7/17/25 Time 2:46 AM/PM
Rec'd By SMY
Fee Rec'd \$ 1000.00 Check # 3932
Deposit Receipt # LWS 2600978
Payor Robinson, Tyrone R / Mary Ann
Refund \$ _____ Date _____
LWS 2518/03 \$500.00 3/6/25

Applicant Information: Add more as necessary.

Applicant Name Bonnie L. Larsen (220098)
Mailing Address 230 Riverfront Ln / 215 City Great Falls State MT Zip 59404-6238
Phone Numbers: Home _____ Work _____ Cell (406) 217-2824
Email Address _____

Applicant Name Amanda Hendrickson (439015)
Mailing Address 215 Riverfront Ln City Great Falls State MT Zip 59404-6238
Phone Numbers: Home _____ Work _____ Cell (406) 750-7383
Email Address a_gasvoda@hotmail.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

Contact/Representative Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

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 correspondence 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 Change Preapplication Meeting Form Part A and Part B (Form 606P-A and 606P-B)?

IF QUESTION 2 IS NO, answer 2.a and 2.b:

2.a. ☐ S Submit the Technical Analyses Addendum (Form 606-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 606P? **If yes,**

2.c.i. Please explain.

2.c.ii. ☐ S Submit the Technical Analyses Addendum (Form 606-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 606-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 the proposed change involves one or more places of storage, submit a Change Storage Addendum (Form 606-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)).
4. ☐ S ☒ NA If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, submit a Reasonable Use Addendum (Form 606-B).
5. ☐ S ☒ NA If the project involves out-of-state water use, submit an Out-of-State Use Addendum (Form 600/606-OSA).
6. ☐ S ☒ NA If the proposed purposes include marketing or selling water, submit a Water Marketing Purpose Addendum (Form 600/606-WMA). This doesn't include marketing for mitigation/aquifer recharge.
7. ☐ S ☒ NA If the proposed purpose includes instream flow, submit a Change to Instream Flow Addendum (Form 606-IFA).
8. ☐ S ☒ NA If the proposed purposes include mitigation, aquifer recharge, or marketing for mitigation/aquifer recharge, submit a Mitigation Purpose Addendum (Form 606/606-MIT).
9. ☐ S ☒ NA If the project is in designated sage grouse habitat, submit a review letter from the Montana Sage Grouse Habitat Conservation Program.
10. ☐ S ☒ NA If you propose to add a point of diversion or place of use on State of Montana Trust Land, submit documentation of consent from DRNC Trust Lands Management Division. If you propose to add a place of use on Trust Land with all points of diversion on private land, then, at a minimum, that component of the change authorization will be temporary for the duration of the lease term (§ 85-2-441, MCA).
11. ☐ Y ☒ 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.

APPLICATION DETAILS

12. How many change applications will be needed for this project? Refer to ARM 36.12.1305 for more information. one

13. Fill out the table below for the water rights proposed for change.

Water Right No.	Current Authorized Flow Rate			Flow Rate Needed for Project			Means of Diversion
	Flow	GPM	CFS	Flow	GPM	CFS	
41K 5004-00	38.4	☒	☐	38.4	☒	☐	
		☐	☐		☐	☐	
		☐	☐		☐	☐	
		☐	☐		☐	☐	
		☐	☐		☐	☐	



14. Is the source surface water or groundwater? Surface water

15. What is the source name? Sun River

16. Identify the water right elements proposed for change, with a checkmark, for each water right proposed for change.

Water Right No.	41K5004-00				
Point of Diversion	☐	☐	☐	☐	☐
Place of Use	☒	☐	☐	☐	☐
Purpose of Use	☒	☐	☐	☐	☐
Place of Storage	☐	☐	☐	☐	☐

17. ☒ S Submit a historical use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all historical points of diversion (POD) labeled with a unique POD ID ("H" followed by a number), all historical places of use (POU), all historical conveyance structures, all historical places of storage, and historical place of use for all overlapping water rights. More than one map may be submitted, if necessary, to clearly convey all required information. See form 606P-A

18. ☒ S Submit a proposed use map created on an aerial photograph or topographic map that shows section corners, township and range, scale bar, north arrow, and the following elements: points of diversion labeled with a unique POD ID ("P" followed by a number), places of use, conveyance structures, places of storage, and place of use for all overlapping water rights. Include all elements that will be on the water rights after the proposed change, regardless of whether the element will be modified by the change. The map should fully depict the water rights, as proposed, after the change. More than one map may be submitted, if necessary, to clearly convey all required information. See form 606P-A

19. ☐ Y ☒ N Does the proposed change involve a change in point of diversion?

IF YES,

19.a. Describe the location for all *new* and *unchanged* points of diversion to the nearest 10 acres. Label POD ID with the same POD ID number assigned for the proposed use map (question 18).

POD ID	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot	New or Unchanged

- 19.b. ☒ NA Describe the location of all historical PODs you propose to *retire*. Label POD ID with the same POD ID assigned for the historical use map (question 17). If none are proposed for retirement, select "NA" checkbox.

POD ID	¼	¼	¼	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot

- 19.c. What is the means of diversion for all *new* PODs? 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.

NIA

20. ☒ Y ☐ N Does the proposed change involve a change in place of use?

IF YES,

- 20.a. What are the geocodes of the proposed place of use?

see form 606P-A & 606P-B	
215 Riverfront Lane:	02-3137-32-3-02-03-0000

- 20.b. Describe the legal land description of the proposed place of use, and if the water rights being changed will have an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County
Total		see form 606P-B map						

21. ☒ Y ☐ N Does the proposed change involve a change in place of use or purpose?

IF YES,

21.a. ☐ Y ☒ N Do other water rights supplement or overlap the proposed place of use?

IF YES,

21.a.i. How will the water rights be operated to serve the proposed purposes?

21.a.ii. For each supplemental or overlapping water right, please list the average period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.

Water Right No.	Avg. Period of Diversion	Avg. Period of Use	Flow Rate			Volume Contributed
	MM/DD-MM/DD	MM/DD-MM/DD	Flow	GPM	CFS	AF
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

22. ☐ Y ☒ N Are you filing on behalf of another entity? If yes, describe.

23. ☒ Y ☐ N Do you own the entire historical place of use for all water rights proposed for change?

IF QUESTION 23 IS NO,

23.a. ☐ Y ☐ N Was the water historically used for sale, rental, distribution, municipal use, or any other context in which water is being supplied to another and it is clear that the ultimate user would not accept the supply without consenting to the use of water on the user's place of use?

IF QUESTION 23.a IS NO,

23.a.i. ☐ Y ☐ N List the water rights for which you do not own the entire historical place of use.

23.a.ii. ☐ Y ☐ N Are the water rights listed in question 23.a.i severed from the historical place of use?

IF QUESTION 23.a.ii IS YES,

23.a.ii.1. ☐ Y ☐ N Do you own the entirety of the severed water rights proposed for change? If yes, skip to question 24. If no, answer question 23.a.iii.

IF QUESTION 23.a.ii OR 23.a.ii.1 IS NO,

23.a.iii. ☐ Y ☐ N ☐ NA Are all owners of the historical place of use or, if applicable, owners of the severed water rights, willing to sign the application?



IF QUESTION 23.a.iii IS NO,

- 23.a.iii.1. ☐ S Submit a Form 641 or 642 to split the water rights being changed for which all owners will not sign.

ADVERSE EFFECT

24. Explain how you can control your diversion in response to a call being made.

We will ~~close~~ the pumps
turn off

25. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

Turn off the pump

26. ☐ 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?

26.a. If yes, explain.

27. Describe how the proposed change will or will not affect your ability to make call.

It will have no effect.

28. ☐ Y ☒ N Does a water commissioner distribute water or oversee water distribution on your proposed source, or if groundwater, on nearby surface water sources?

28.a. If yes, list the sources.

29. When was the last time each water right proposed for change was appropriated and used beneficially?

2024

IF THERE HAS BEEN A PERIOD OF NONUSE,

29.a. Why was the water right not used?

N/A

29.b. Why will a resumption of use not adversely affect other water users?

N/A

29.c. ☐ Y ☒ N Is the period of nonuse greater than 10 years for any of the water rights proposed for change? If yes, list which water rights.

29.d. ☐ Y ☒ N Have new water rights been authorized to use the source during the period of nonuse for any of the water rights proposed for change? If yes, explain.

30. ☐ Y ☒ N Do you propose to add one or more points of diversion or use new or existing conveyance infrastructure that will be shared with one or more existing water rights?

30.a. If yes, describe how the capacity of the shared points of diversion and/or conveyance infrastructure is sufficient for all water rights and how the proposed project will not adversely affect these water rights.

31. ☒ NA Answer questions 31.a to 31.b for point of diversion changes. If you do not propose a point of diversion change, mark "NA" instead.

31.a. Are the proposed points of diversion upstream or downstream of the historical points of diversion?

31.b. ☐ Y ☒ N Are there intervening water users between the historical and proposed points of diversion?

31.b.i. If yes, list the 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.

see form 606 P-A & 606 P-B



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.

N/A

See replacement pump invoice received from Applicant on 7/14/25. DNRC then found specs online + added that to the file.

-MS 7/18/25

Work Copy

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.

See form 606P-A and 606P-B

35. ☐ Y ☒ N Does the proposed conveyance require easements?

35.a. If yes, explain.

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.

N/A

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.

See form 606P-A and 606P-B

35. ☐ Y ☒ N Does the proposed conveyance require easements?

35.a. If yes, explain.

36. Describe your plan of operations, including 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.

see form 606P-A and 606P-B map

37. ☐ Y ☐ N ☒ NA If you propose to add one or more points of diversion, do you own the land where all proposed points of diversion are located? If you do not propose to add one or more points of diversion, mark "NA" instead.

37.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.

38. ☐ Y ☒ N Will your system be designed to discharge water from the project?

38.a. If yes, explain the wastewater disposal method.

38.b. ☐ Y ☐ N ☒ NA Have the necessary permits been obtained to comply with §§ 75-5-410 and/or 85-2-364, MCA?

39. ☐ Y ☒ N Is the means of diversion for any proposed point of diversion a well?

IF YES,

39.a. ☐ Y ☒ N Have all wells been drilled?

39.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

N/A

39.c. ☐ Y ☐ N ☒ NA For all wells yet to be drilled, will a licensed well driller construct the wells? If no wells are yet to be drilled, mark "NA" instead.

39.d. ☐ S ☒ NA Submit any well logs not yet submitted to the Department, such as for wells drilled after submittal of Form 606P. If all well logs have been submitted to the Department, mark "NA."



BENEFICIAL USE

40. ☒ Y ☐ N Does the Department have a standard period of diversion, period of use, flow rate, and/or volume for any of the purposes for which water is used? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, ARM 36.12.115, and ARM 36.12.1902.

40.a. If yes, list the purposes for which the Department has a standard and note whether the water use falls within or outside the standard.

See form 606 P-A and 606 P-B map

40.b. For any of the purposes with no Department standard or with proposed beneficial use that falls outside of Department standards, explain how the use is reasonable for that purpose.

N/A

41. ☐ Y ☒ N Will your proposed project be subject to Montana Department of Environmental Quality (DEQ) requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

42. ☐ Y ☒ N Are you proposing to use surface water for in-house domestic use?

42.a. ☐ Y ☐ N If yes, does a COSA exist for the proposed place of use?

42.a.i. ☐ S If yes, submit the COSA.



POSSESSORY INTEREST

43. ☐ Y ☒ N Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802 and § 85-2-402(2)(d), MCA? 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, and applications for the purposes of instream flow, mitigation, and marketing for mitigation.

Work Copy

43.a. If yes, explain.

44. ☒ 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.

44.a. ☐ S If no, explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the proposed place of use.

DNRC emailed Applicants + non-Applicant parties (Robinson + Ostle)
on 7/18/25, requesting written permissions. - ms 7/18/25

PROPOSED COMPLETION PERIOD

45. How many years will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 618)? N/A

46. Describe why this amount of time is needed to complete this project.

N/A

POSSESSORY INTEREST

43. ☐ Y ☒ N Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802 and § 85-2-402(2)(d), MCA? 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, and applications for the purposes of instream flow, mitigation, and marketing for mitigation.

43.a. If yes, explain.

44. ☒ 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.

44.a. ☐ S If no, explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the proposed place of use.

PROPOSED COMPLETION PERIOD

45. How many years will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 618)? N/A

46. Describe why this amount of time is needed to complete this project.

N/A

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.

Printed Name Donnie L. Larson

Applicant Signature Donnie L. Larson Date: 7-10-25

Printed Name Amanda Hendrickson

Applicant Signature Amanda Hendrickson Date: 7/10/25

Printed Name _____

Applicant Signature _____ Date: _____



Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601



1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

May 1, 2025

Bonnie Larsen
230 Riverfront Ln
Great Falls, MT
59404-6230

Subject: Complete Preapplication Form for Change Application No. 41K 30170695

Dear Applicant,

The Lewistown Regional Office of the Department of Natural Resources and Conservation (DNRC or Department) received your Preapplication Meeting Form and preapplication meeting fee on April 29, 2025, and the Department deemed the submitted Preapplication Meeting Form to be successfully completed per ARM 36.12.1302 on May 1, 2025.

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 May 1, 2025.



Please let me know if you have any questions.

Best,



Matthew D. Shaw

Water Resource Specialist

Lewistown Regional Office

matthew.shaw@mt.gov

(406) 535-1927



THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DIRECTOR'S OFFICE: (406) 444-2074
PO BOX 201601



1539 ELEVENTH AVENUE
HELENA, MONTANA 59620-1601

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

May 1, 2025

Amanda Hendrickson
215 Riverfront Ln
Great Falls, MT
59404-6230

Subject: Complete Preapplication Form for Change Application No. 41K 30170695

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Please let me know if you have any questions.

Best,



Matthew D. Shaw

Water Resource Specialist

Lewistown Regional Office

matthew.shaw@mt.gov

(406) 535-1927





**PREAPPLICATION MEETING FORM:
PART A
CHANGE**
§ 85-2-302(3)(b)

Form No. 606P-A (Revised 02/2025)

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)).

For Department Use Only

Application # 30170695 Basin 41K
Meeting Date 04/08/25 Time 1300
Variance Request Deadline _____
Completed Form Deadline 10/05/25

The Department will fill out Form 606P-A and will identify items for follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within 10 business days. Within 180 days of the preapplication meeting, the Applicant will complete Preapplication Meeting Form Part B (Form 606P-B), including identified follow-up, any amended responses, and the Follow-up and Amended Responses Affidavit & Certification.

Applicant Information: Add more as necessary.

Applicant Name Bonnie L. Larsen (220098)
Mailing Address 230 Riverfront Ln / 215 Riverfront Ln City Great Falls State MT Zip 59404-6238
Phone Numbers: Home _____ Work _____ Cell 406-217-2824
Email Address _____

Applicant Name Amanda S. Hendrickson (439015)
Mailing Address 215 Riverfront Ln City Great Falls State MT Zip 59404-6238
Phone Numbers: Home _____ Work _____ Cell 406-750-7383
Email Address a_gasvoda@hotmail.com

Contact/Representative Information: Add more as necessary.

Contact/Representative is: ☒ Applicant ☐ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

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. (ARM 36.12.122)

Meeting Attendees: Add more as necessary.

Name	Organization	Position
Hamilton/Sansone/Shaw	DNRC--LRO	Manager/Wtr Rsrc Spc/Wtr Rsrc Spc
Kimberley Bolhuis	DNRC--WSB	GW Hydrologist
Bonnie L. Larsen	Applicant	Applicant
Amanda S. Hendrickson	Applicant	Applicant
Renae & John Ostle	place of use owner	place of use owner
Maryanne & Tyrone Robinson	place of use owner	place of use owner



Table of Contents

Application Details	4
Historical Use	10
Historical Use: Place of Use	14
Historical Use: Point of Diversion	16
Historical Use: Period of Diversion	18
Historical Use: Historical Diverted Volume	19
Historical Use: Historical Consumed Volume	21
Historical Use: Historical Places of Storage	25
Surface Water.....	25
Return Flow Analysis	25
Extended Return Flow Analysis	27
GROUNDWATER.....	28
Groundwater Analysis for Changes.....	28
Groundwater Analysis: Well/Pumping Pit.....	28
Groundwater Analysis: Developed Spring	30
Groundwater Analysis: Pond	31
Surface Water Depletion Analysis for Changes.....	32
Surface Water Depletion Analysis: Well/Pumping Pit.....	32
Surface Water Depletion Analysis: Developed Spring	33
Surface Water Depletion Analysis: Pond	34
Extended Surface Water Depletion Analysis.....	35
Return Flow Analysis	36
Extended Return Flow Analysis	38
Mandatory Project-Specific Questions	39
Temporary Change	39
Change in Purpose	40
Ditch-Specific Questions	41
Change in Place of Storage	46
Mitigation, Aquifer Recharge, and Marketing for Mitigation/Aquifer Recharge	47
Instream Flow	51
Salvage Water	52
Non-Mandatory Questions for Criteria Analysis	53
Adverse Effect.....	53
Adverse Effect: Evaluation of Impacts to Identified Surface Water Rights for Return Flow Analysis	55
Adverse Effect: Evaluation of Impacts to Identified Water Rights for Surface Water Depletion Analysis ...	60
Adequate Means of Diversion and Operation	66
Beneficial Use	67
Possessory Interest.....	68
Non-Mandatory Project-Specific Questions.....	68
Change in Place of Storage	68
Instream Flow Change	69
Mitigation, Aquifer Recharge, and Marketing for Mitigation	70
Water Marketing	70



FOLLOW-UP 72

PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION 74



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. 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 the see attachment ("A") checkbox must be marked. Label units in narrative responses and tables. 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".

S = Submitted. Use when required item is included with form.

A = See attachment. Use when additional space is needed to answer a question.

F = Follow-up. Use when follow-up is necessary.

<u>Questions, Narrative Responses, and Tables</u>							<u>Check-boxes</u>	<u>Follow-Up</u>
1. Do you elect to have DNRC conduct technical analyses?							☒ Y ☐ N	☐ F
2. How many change applications will be needed for this project? Please refer to ARM 36.12.1305 for more information. One								☐ F
3. Which water right(s) are proposed for change?							☒ A	☐ F
Water Right No.	Current Authorized Flow Rate			Flow Rate Needed for Project			Means of Diversion	
	Flow	GPM	CFS	Flow	GPM	CFS		
41K 5004-00	38.4	☒	☐	38.4	☒	☐	pump	
		☐	☐		☐	☐		
		☐	☐		☐	☐		
		☐	☐		☐	☐		
		☐	☐		☐	☐		
4. Is the proposed change on a non-filed water project?							☐ Y ☒ N	☐ F
a. If yes, please submit a Non-Filed Water Project Addendum (Form 606/634-NFWPA). The project must meet the requirements of the addendum. The addendum is required before the Preapplication Meeting Form is completed.							☐ S	☐ F



5. Is the source surface water or groundwater? <u>surface</u>		
6. What is the source name? <u>Sun River</u>		
7. Identify the water right elements proposed for change, with a checkmark, for each water right proposed for change.	☒ A	☐ F

Water Right #	41K 5004-00					
Point of diversion	☐	☐	☐	☐	☐	☐
Place of use	☒	☐	☐	☐	☐	☐
Purpose of use	☒	☐	☐	☐	☐	☐
Place of storage	☐	☐	☐	☐	☐	☐

8. Submit a historical use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all historical points of diversion (POD) labeled with a unique POD ID ("H" followed by a number), all historical places of use (POU), all historical conveyance structures, all historical places of storage, and historical place of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	☐ S	☒ F
9. Submit a proposed use map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all proposed points of diversion labeled with a unique POD ID ("P" followed by a number), all proposed places of use, all proposed conveyance structures, all proposed places of storage, and proposed place of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	☐ S	☒ F
10. Does the change involve a change in point of diversion?	☐ Y ☒ N	☐ F
a. If yes, describe the location for all <i>new</i> and <i>unchanged</i> points of diversion to the nearest 10 acres. Label POD ID with the POD ID assigned for the proposed use map (question 9).	☐ A	☐ F

POD ID	1/4	1/4	1/4	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov. Lot	New or Unchanged



11. Describe the location of all historical PODs you propose to <i>retire</i> . Label POD ID with the POD ID assigned for the historical use map (question 8). If none are proposed for retirement, write "N/A" here: <u> N/A </u>	☐ A	☐ F
--	----------------------------	----------------------------

POD ID	¼	¼	¼	Sec.	Twp.	Rge	County	Lot	Block	Tract	Subdivision	Gov. Lot

12. What is the means of diversion for all <i>new</i> PODs? 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. <u> N/A </u>		☐ F
--	--	----------------------------

13. Does the change involve a change in place of use?	☒ Y ☐ N	☐ F
---	--	----------------------------

a. If yes,		
i. What are the geocodes of the proposed place of use?	☐ A	☒ F

02-3137-32-2-01-19-0000	
02-3137-32-2-01-21-0000	
02-3137-32-2-01-23-0000	
Add Geocode for 215	

ii. Describe the legal land description of the proposed place of use and, if the water rights being changed will have an irrigation or lawn and garden purpose, list the number of irrigated acres.	☐ A	☐ F
---	----------------------------	----------------------------

Acres	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County
0.43	230	SW	SW	NW	32	21N	2E	CASCADE
0.93	210	SW	SW	NW	32	21N	2E	CASCADE
0.90	200	SW	SW	NW	32	21N	2E	CASCADE
(0.62)	215	SW	SW	NW	32	21N	2E	CASCADE
2.26	Total							



iii. Do other water rights supplement or overlap the historical and/or proposed place of use?	☐ Y ☒ N	☐ F
1. If yes,		
a. How were the water rights operated to serve the historical purposes and how will they be operated to serve the proposed purposes? _____ _____ _____	☐ A	☐ F
b. For each supplemental or overlapping water right, please list whether they contribute water for historical use, proposed use, or both; the average period of contribution (MM/DD-MM/DD); flow rate contributed (GPM or CFS); and, if known, the volume of water contributed (AF) contributed (otherwise write "unknown").	☐ A	☐ F

Water Right No.	Contributions to Use			Average Period of Contribution	Flow Rate Contributed			Volume Contributed
	<i>Hist.</i>	<i>Prop.</i>	<i>Both</i>	<i>MM/DD-MM/DD</i>	<i>Flow</i>	<i>GPM</i>	<i>CFS</i>	<i>AF</i>
	☐	☐	☐			☐	☐	
	☐	☐	☐			☐	☐	
	☐	☐	☐			☐	☐	

14. Does the proposed change include a change in purpose of use? If yes, answer questions 101 to 108 for change in purpose of use and question 13.a.iii for supplemental or overlapping water rights.	☒ Y ☐ N	☐ F
15. Are conveyance ditches used for historical or proposed uses? If yes, answer ditch-specific questions 109 to 115.	☐ Y ☒ N	☐ F
16. Do you propose to add or modify one or more places of storage? 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)). If yes, answer mandatory questions 116 to 123. Additionally, you may choose to answer non-mandatory questions 175 to 179. A Change Storage Addendum (Form 606-SA) will be required at application submittal.	☐ Y ☒ N	☐ F
17. Is the proposed use temporary? If yes, answer questions 94 to 100 for temporary changes.	☒ Y ☐ N	☐ F
18. Are you filing on behalf of another entity? If yes, describe. _____ _____	☐ Y ☒ N	☐ F



19. Do you own the entire historical place of use for all water rights proposed for change?	☒ Y ☐ N	☐ F
a. If no, was the water historically used for sale, rental, distribution, municipal use, or any other context in which water is being supplied to another and it is clear that the ultimate user would not accept the supply without consenting to the use of water on the user's place of use?	☐ Y ☐ N	☐ F
i. If no,		
1. List the water rights for which you do not own the entire historical place of use. _____	☐ A	☐ F
2. Are the water rights listed in question 19.a.i.1 severed from the historical POU?	☐ Y ☐ N	☐ F
a. If yes, do you own the entirety of the severed water rights proposed for change?	☐ Y ☐ N	☐ F
i. If yes, skip to question 20. If no, answer question 19.a.i.3.		
b. If no, answer question 19.a.i.3.		
3. Are all owners of the historical place of use or, if applicable, owners of the severed water rights, willing to sign the application?	☐ Y ☐ N	☐ F
a. If no,		
i. A Form 641 or 642 to split the water rights being changed must be received and processed by the Department prior to application submittal.		
ii. Describe how the water rights will be split, and which part of the split water rights will be proposed for change. _____ _____ _____	☐ A	☐ F
20. Are you proposing to add a point of diversion or place of use on State of Montana Trust Land?	☐ Y ☒ N	☐ F
a. If yes,		
i. Documentation of consent from the DNRC Trust Lands Management Division will be required at application submittal.		
ii. Do you propose to add a place of use on Trust Land with all points of diversion on private land? If yes, the change authorization will be temporary for the duration of the lease term (§85-2-441, MCA); answer temporary change project-specific questions 94 to 100.	☐ Y ☐ N	☐ F



21. Will your system be designed to discharge water from the project?	☐ Y ☒ N	☐ F
a. If yes, explain the wastewater disposal method. A discharge permit may be required to comply with §§ 75-5-410 and 85-2-364, MCA. _____ _____ _____	☐ A	☐ F
22. Is the application to change the purpose of use or place of use of an appropriation of 4,000 or more acre-feet (AF) of water a year and 5.5 or more cubic feet per second (CFS)? If yes, you must submit a Reasonable Use Addendum (Form 606-B) with the application. The reasonable use criteria are found in §85-2-402(4-5), MCA.	☐ Y ☒ N	☐ F
23. Will you be transporting water for use outside of Montana? If yes, you will need to 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
24. Is the project located in designated sage grouse habitat? If yes, a review letter from the Montana Sage Grouse Habitat Conservation Program will be required at application submittal.	☐ Y ☒ N	☐ F
25. Does the application include a mitigation, aquifer recharge, or marketing for mitigation/aquifer recharge purpose? If yes, answer mandatory questions 124 to 129. Additionally, you may choose to answer non-mandatory questions 185 to 190. A Mitigation Addendum (Form 600/606-MIT) will be required with application submittal.	☐ Y ☒ N	☐ F
26. Does the application include the water marketing purpose? This does not include marketing for mitigation/aquifer recharge. If yes, answer the following question. Additionally, you may choose to answer non-mandatory questions 191 to 195. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ☒ N	☐ F
a. For what purposes will the marketed water be used? _____ _____ _____	☐ A	☐ F
27. Does the proposed purpose include instream flow? If yes, answer mandatory questions for instream flow changes 130 to 136. Additionally, you may choose to answer non-mandatory questions 180 to 184. A Change to Instream Flow Addendum (Form 606-IFA) will be required with application submittal.	☐ Y ☒ N	☐ F
28. Will the proposed use include water made available through creation of a "water saving method" (i.e., salvage water) as defined in ARM 36.12.101? If yes, answer questions 137 to 141 for Salvage Water.	☐ Y ☒ N	☐ F



Historical Use

The following questions are mandatory and must be filled out for both Surface Water and Groundwater Applications before the Preapplication Meeting Form is determined to be complete.

<u>Questions, Narrative Responses, and Tables</u>				<u>Check-boxes</u>	<u>Follow-Up</u>
29. What is the water right type for each water right proposed for change? Answer question 30 for each Statement of Claim, question 31 for each Provisional Permit, and question 32 for water right that is not a Statement of Claim or Provisional Permit. Statement of Claim 				☒ A	☐ F
30. In the table below, write the water right number for each Statement of Claim proposed for change in the "Statement of Claim Number" column. If there is one or more previous change authorizations, write the application numbers for the change authorizations in the "Previous Change Authorization Number" column. If there are no previous change authorizations, write "none" in the "Previous Change Authorization Number" column and "N/A" in all the remaining columns. Write the date of the Project Completion Notice for each previous change authorization in the "Project Completion Notice Date" column and if no Project Completion Notice has been submitted, write "none" instead. In the "Previous Historical Use Analysis Quality" column, describe the quality of the previous historical use analysis.				☒ A	☐ F
Statement of Claim Number	Previous Change Authorization Number	Project Completion Notice Date	Previous Historical Use Analysis Quality		
41K 5004-00	41K 500499-00	08/02/1986	Unquantified		



31. In the table below, write the water right number for each Provisional Permit proposed for change in the “Provisional Permit Number” column. In the “Project Completion Notice Date” column, write the date of the Project Completion Notice and if no Project Completion Notice has been submitted, write “none” instead. Write the application number for each previous change authorization in the “Previous Change Authorization Number” column. If there are no previous change authorizations, write “none” in the “Previous Change Authorization Number” column and “N/A” in all the remaining columns. Write the date of the Project Completion Notice for each previous change authorization in the “Previous Change Project Completion Notice” column and if no Project Completion Notice has been submitted, write “none” instead. In the “Previous Change Historical Use Analysis Quality” column, describe the quality of the previous historical use analysis.	☐ A	☐ F
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Provisional Permit Number	Project Completion Notice Date	Previous Change Authorization Number	Previous Change Project Completion Notice Date	Previous Historical Use Analysis Quality

32. In the table below, write the water right number for each water right proposed for change that is not a Statement of Claim or Provisional Permit, the type of water right, and the completion date. If a Groundwater Certificate, the completion date will be the date of filing. If an exempt or non-filed water right, the completion date will be July 1, 1973. If there are one or more previous change authorizations, write the application number for each change authorization in the “Previous Change Authorization Number” column. If there are no previous change authorizations, write “none” in the “Previous Change Authorization Number” column and “N/A” in all the remaining columns. Write the date of the Project Completion Notice for each previous change authorization in the “Previous Change Project Completion Notice Date” column and if the previous change authorization does not have a Project Completion Notice, write “none” instead. In the “Previous Historical Use Analysis Quality” column, describe the quality of the previous historical use analysis.	☐ A	☐ F
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Water Right Number	Water Right Type	Completion Date	Previous Change Authorization Number	Previous Change Project Completion Notice Date	Previous Historical Use Analysis Quality



33. Are there previous Montana Water Court approved stipulations, Water Master reports, or prior Montana Water Court or Department decisions related to the water right(s) being changed?	☒ Y ☐ N	☐ F
a. If yes, explain. <u>Stipulation that this right is from the original Campbell right and the flow rate for this right is 70 GPM and the places of use are Lots 1, 2, and 3 of Block 5, Twin Silos Ranchettes Subdivision.</u> _____ _____ _____ _____	☐ A	☐ F
34. Fill in the table below based on ARM 36.12.1902(1) and the information provided in questions 29 to 33. In column "Water Right Number", list all water rights proposed for change. Select one of the three historical use analysis options and fill in the required information associated with that option. Select "Full Historical Use Analysis N/A" only if an unperfected Provisional Permit will be used to serve as historical use in lieu of analysis. If the "Existing Historical Use Analysis" or "Full Historical Use Analysis N/A" option is selected, skip to question 57 because this section is complete.	☒ A	☐ F

Water Right No. Proposed for Change	Historical Use Analysis Options
41K 5004-00	☒ New Historical Use Analysis. Date for which historical use will be analyzed: <u>06/30/1973</u>
	☐ Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis: _____
	☐ Full Historical Use Analysis N/A. Water right number serving as historical use in lieu of analysis: _____



	☐ New Historical Use Analysis. Date for which historical use will be analyzed: _____
	☐ Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis: _____
	☐ Full Historical Use Analysis N/A. Water right number serving as historical use in lieu of analysis: _____
	☐ New Historical Use Analysis. Date for which historical use will be analyzed: _____
	☐ Existing Historical Use Analysis. Change authorization number with existing Historical Use Analysis: _____
	☐ Full Historical Use Analysis N/A. Water right number serving as historical use in lieu of analysis: _____

35. Do you have knowledge of historical use?	☒ Y ☐ N	☐ F
a. If yes,		
i. Is this firsthand knowledge?	☒ Y ☐ N	☐ F
ii. Who has this knowledge and what was their role? _____	☐ A	☒ F
b. If no, where will the historical use data be derived? _____ _____	☐ A	☐ F



Fill out the remaining *Historical Use* questions (questions 37 to 56) **one time for each** water right proposed for change. Use the “Additional Water Right Historical Use (606P)” sheet for each additional water right. You may answer **one time for all** water rights proposed for change that have the same purposes, place of use, supplemental water rights, points of diversion, period of use, conveyance, diverted volume parameters, and consumptive volume parameters.

36. What is the water right number for which questions 37 to 56 will be answered? 41K 5004-00		☐ F
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Historical Use: Place of Use

37. The historical use map submitted for question 8 must clearly identify the entire place of use for each overlapping water right that intersects the historical place of use. Does your historical use map meet this requirement?	☐ Y ☐ N	☒ F
38. Are you proposing to change all water rights associated with the historical place of use?	☒ Y ☐ N	☐ F
a. If no, identify the water rights associated with the historical place of use that are not included in this application. Provide the priority date for each water right and explain why all overlapping water rights are not included in the application. Include water received via contract from a company, district, or water users' association.	☐ A	☐ F

Water Right No.	Priority Date	Reason Not Included in Change



39. Answer the section of this question relevant to the historical purpose. If there is more than one purpose, then answer all relevant parts of this question.		
a. All purposes		
i. Does the legal land description from the abstract encompass the actual location of the historical place of use?	☐ Y ☐ N	☐ F
1. If no, explain the discrepancy and submit historical aerial photographs and/or other data sources to corroborate the location of these historical places of use, and, if a Statement of Claim, submit documentation of a written request submitted to the Water Court for amendment of the Claim. _____ _____	☐ S	☐ F
b. Irrigation		
i. Is the water right being changed a Statement of Claim?	☒ Y ☐ N	☐ F
1. If yes, does the Water Resources Survey corroborate the acres irrigated listed on the abstract?	☐ Y ☒ N	☒ F
a. If no, submit evidence that can corroborate the historical place of use, including the number of irrigated acres. This includes, but is not limited to, aerial photographs, irrigation journals, or logs.	☐ S	☒ F
2. If no, submit one or more aerial photographs that can corroborate the historical place of use, including the number of irrigated acres.	☐ S	☒ F
c. Lawn and garden		
i. Submit aerial photographs that can corroborate the historical place of use, including the number of irrigated acres.	☐ S	☐ F
d. Stock		
i. Submit aerial photographs, grazing records, or other records to corroborate the historical place of use.	☐ S	☐ F
ii. Did the stock drink direct from source or direct from ditch?	☐ Y ☐ N	☐ F
1. If no, submit data sources that make clear the location of the stock watering infrastructure.	☐ S	☐ F
e. Multiple domestic, domestic, municipal, mining, commercial, and other purposes		
i. Submit aerial photographs, deeds, other recorded documents or records, affidavits, or other published documents, such as magazine articles, to corroborate the historical place of use.	☐ S	☐ F



Historical Use: Point of Diversion

Continue to answer questions for water right(s) identified in question 36. Applications corroborating historical flow rate with the Historical Use Addendum (Form 606-HUA) may be eligible to skip question 42; see the Form 606-HUA for more information.

40. For all historical points of diversion, identify the means, location (¼ ¼ ¼ section), and if they are proposed for change. Label using the same POD ID letter as for the Historical Use Map (question 8).	☒ A	☐ F
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POD ID	Means	Location (¼ ¼ ¼ Section)	Proposed for Change?
1	pump	SESENE Sec 31 Twp 31N Rge 2 E Cascade	☐ Y ☒ N
			☐ Y ☐ N
			☐ Y ☐ N
			☐ Y ☐ N

41. Do the legal land descriptions from the abstract encompass the actual locations of all historical points of diversion?	☒ Y ☐ N	☐ F
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- a. If no, explain the discrepancy and submit historical aerial photographs and/or other data sources to corroborate the location of these historical points of diversion, and, if a Statement of Claim, submit documentation of a written request submitted to the Water Court for amendment of the Claim.

42. Answer questions below related to the diversion means for each of the historical points of diversion.		
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- a. Headgate

- i. For each headgate, provide dimensions in feet (FT), slope of the channel at the headgate (%), material of the headgate, estimated historical capacity in gallons per minute (GPM) or cubic feet per second (CFS) and the method used to estimate historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 8).

POD ID	Dimensions	Slope	Material	Estimated Capacity			Method
	FT	%		Cap.	GPM	CFS	
					☐	☐	
					☐	☐	
					☐	☐	
					☐	☐	
					☐	☐	



b. Pump, dike, dam, or other surface water point of diversion					
i. For each pump, dike, dam, or other surface water point of diversion, provide an estimate of the historical capacity (GPM or CFS) and the method used to estimate the historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 8).				☒ A	☐ F
POD ID	Estimated Capacity			Method	
	Cap.	GPM	CFS		
1	38.4	☒	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		

c. Well, pit, or other groundwater point of diversion					
i. For each well, pit, or other groundwater point of diversion, provide an estimate of the historical capacity (GPM or CFS) and the method used to estimate the historical capacity. Label using the same POD ID letter as for the Historical Use Map (question 8).				☐ A	☐ F
POD ID	Estimated Capacity			Method	
	Cap.	GPM	CFS		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		
		☐	☐		

43. Do other water rights share any of the points of diversion?					☐ Y ☒ N	☐ F
a. If yes, list the water rights, their flow rates (GPM or CFS), and the nature of the relationship. Label using the same POD ID letter as for the Historical Use Map (question 8).					☐ A	☐ F
POD ID	Water Right No.	Flow Rate			Relationship	
		Flow	GPM	CFS		
	41K 5004-00		☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		
			☐	☐		

Historical Use: Period of Diversion

(Continue to answer questions for water right(s) identified in question 36.)

44. Are the period of diversion and the period of use the same?		☒ Y ☐ N	☐ F
a. If no,			
i. Why are they different?		☐ A	☐ F

ii. Is there a place of storage?		☐ Y ☐ N	☐ F
45. When was water diverted for the purposes of the water rights being changed?		☒ A	☐ F
Start Date (Month (MM)/Day (DD))		End Date (MM/DD)	
May 1		Oct 31	



46. Does the Department have a standard, found in ARM 36.12.112, for the period of diversion for all purposes for which water is used?	☒ Y ☐ N	☐ F
a. If yes, does the period of diversion for all purposes fall within Department standards?	☒ Y ☐ N	☐ F
b. If no, or if any period of diversion falls outside Department standards, explain how the period of diversion is reasonable for the purpose. _____ _____ _____ _____	☐ A	☐ F

Historical Use: Historical Diverted Volume

Continue to answer questions for water right(s) identified in question 36. Applications corroborating historical diverted volume with the Historical Use Addendum (Form 606-HUA) may be eligible to skip question parts of question 47; see the Form 606-HUA for more information.

47. Answer all relevant sections of this question based on whether the historical purpose was irrigation, non-irrigation, or both.		
a. Irrigation		
i. Do you want ARM 36.12.1902(10) to be used to calculate historical diverted volume?	☒ Y ☐ N	☐ F
1. If no, submit a Historical Water Use Addendum (Form 606-HUA). Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is completed.	☐ S	☐ F
ii. What were the crop(s) grown? _____		☐ F
1. For hay, how many cuttings were there per season and how many days did cuttings last? Did irrigation cease throughout the place of use for cuttings? For other crops, explain whether irrigation regularly ceased within the irrigation season. For all crops, explain whether diversions ceased during times irrigation did not occur. _____ _____ _____	☐ A	☐ F



b. Non-irrigation			
i. Explain your historical diversion schedule, with sufficient detail to estimate the volume of water historically diverted. This may include, but is not limited to, days per year water was historically diverted or the number of diversions per year and the duration of each diversion. 		☐ A	☐ F
ii. Explain water diverted but not consumed by the non-irrigation purpose(s). This includes, but is not limited to, wastewater discharge and conveyance loss. Ditch-Specific Questions (questions 110 to 111) will gather information necessary for estimating losses from conveyance ditches. 		☐ A	☐ F
iii. Did historical diversions serve more than one non-irrigation purpose?		☐ Y ☐ N	☐ F
1. If yes, how much of the diversions served each non-irrigation purpose and how did you determine this? 		☐ A	☐ F
48. Did diversions ever regularly cease within the period of use due to insufficient water in source or calls based on priority date?		☐ Y ☒ N	☐ F
a. If yes, please explain. 		☐ A	☐ F



Historical Use: Historical Consumed Volume

Continue to answer questions for water right(s) identified in question 36. Applications corroborating historical consumptive volume with the Historical Use Addendum (Form 606-HUA) may be eligible to skip parts of question 50; see the Form 606-HUA for more information.

49. What are the historical purposes? Mark each purpose and answer the applicable questions below.		
☒ Irrigation. Answer question 50.		
☐ Lawn and garden. Answer question 51.		
☐ Stock. Answer question 52.		
☐ Domestic and multiple domestic. Answer question 53.		
☐ Municipal. Answer question 54.		
☐ Other. Answer question 55.		

50. Irrigation		
a. Will you use Department standards for historical consumptive use as defined in ARM 36.12.1902?	☒ Y ☐ N	☐ F
i. If no,		
1. What method will you use to determine historical consumptive use? _____ _____	☐ A	☐ F
2. Submit a Historical Water Use Addendum (Form 606-HUA) to the Department. Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is completed.	☐ S	☐ F
ii. If yes,		
1. What is the historical irrigation method type and subtype? Irrigation method types include flood and sprinkler. Flood irrigation subtypes include level border, graded border, furrow, contour ditch, or wild flood. Sprinkler subtypes include wheel line and center pivot. sprinkler _____	☒ A	☐ F
2. What was the slope (%) of the historical place of use? 6% _____		☐ F



3. Are there any factors beyond irrigation method type/subtype and place of use slope that may influence percent efficiency of irrigation?	☐ Y ☒ N	☐ F
a. If yes, submit evidence to support the modified percent efficiency of irrigation in the Historical Water Use Addendum (Form 606-HUA). These factors may include infrastructure age, soil characteristics, or field improvements. Form 606-HUA must be submitted to the Department before the Preapplication Meeting Form is completed.	☐ S	☐ F
4. Based on answers to the above questions, what is the percent efficiency of irrigation? 70%		☐ F
5. What is the County Management Factor? 70.0% (due to 1986 change authorization)		☐ F
6. What is evapotranspiration (ET) based on the irrigation method and county? 18.10 (from ARMs, Sun River Weather Station).		☐ F
7. What percent of applied water are irrecoverable losses per ARM 36.12.1902(17)? 10%		☐ F



51. Lawn and garden		
a. Will you use a Department standard for historical consumptive use volume for lawn and garden? Department standards include 2.5 acre-feet per acre, or a calculated volume based on Irrigation Water Requirements for turf grass.	☐ Y ☐ N	☐ F
i. If yes, which standard? _____		☐ F
ii. If no, please provide an estimate of historical water use based on expert analysis and methods used to determine this estimate. _____ _____	☐ A	☐ F

52. Stock		
a. Which volume standard for animal units applies to historical use and why? The standards are either 15 gallons per animal unit per day for new appropriations or 30 gallons per animal unit per day for claims. _____	☐ A	☐ F
b. How many animal units were historically served? _____		☐ F
c. Did these animal units rely entirely on the water right(s) proposed for change for their full water demand?	☐ Y ☐ N	☐ F
i. If no, explain. _____ _____	☐ A	☐ F



53. Domestic and multiple domestic		
a. How many households were served? _____		☐ F
b. Will the Department standard of 1 acre-foot per household be used? The same standard shall be applied to historical and proposed uses.	☐ Y ☐ N	☐ F
i. If no, what standard will be used? _____		☐ F
c. Did the historical use include wastewater disposal and treatment?	☐ Y ☐ N	☐ F
i. If yes, which of the following best describes the wastewater disposal and treatment system? Individual drain fields, central treatment facility with minimal consumption, or evaporation basin or land application? _____	☐ A	☐ F

54. Municipal		
a. What is the volume of water (AF) historically consumed for municipal purposes? _____		☐ F
b. Submit evidence to support historical municipal use. The data sources may include records that tie water use to the U.S Census, estimates of historical system capacity and estimates of leakage.	☐ S	☐ F

55. Other		
a. Specify the other purposes. _____		☐ F
b. What is the volume of water (AF) historically consumed for other purposes? _____		☐ F
c. Submit evidence to support the volume of water historically consumed.	☐ S	☐ F



Historical Use: Historical Places of Storage

(Continue to answer questions for water right(s) identified in question 36.)

56. Did the historical use include one or more places of storage? 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)).					☐ Y ☒ N	☐ F
a. If yes, for each historical place of storage please provide the surface area in acres (AC), capacity (AF), annual net evaporation (FT/YR), and number of times per year the place of storage was filled.					☐ A	☐ F
ID	Surface Area (AC)	Capacity (AF)	Annual Net Evaporation (FT/YR)	# of Annual Fillings		

Surface Water

☒ **Applicable**, move on to question 57. ☐ **Not Applicable**, skip to question 66.

The following questions are mandatory for changes to surface water rights and must be filled out before the Preapplication Meeting Form is determined to be complete.

Return Flow Analysis

Questions, Narrative Responses, and Tables	Check-boxes	Follow-Up
57. Do the purposes of the water rights proposed for change include irrigation?	☒ Y ☐ N	☐ F
a. If yes, does the proposed change include a change in place of use <i>and/or</i> a change in purpose? If you propose to retire acres in the historical place of use and/or add new acres outside the historical place of use, this constitutes a change in place of use.	☒ Y ☐ N	☐ F
i. If yes, a return flow analysis is required. Move on to answer question 58.		
ii. If no, this section is complete, and you may skip to question 94.		
58. Does the proposed change include a change in purpose?	☒ Y ☐ N	☐ F
a. If yes, consumptive use information is collected in the Change in Purpose section (questions 101 to 108), skip to question 59.		
b. If no, go to question 59.		
59. Does the proposed change include a change in place of use? If yes, move on to question 60. If no, skip to question 63.	☒ Y ☐ N	☐ F



60. Submit a map showing the new, unchanged historical, and retired historical places of use. Create map on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, and north arrow. If you have shapefiles associated with this map, in addition to submitting an image of the map, please submit electronic copies of the shapefiles to the Department.	☐ S	☒ F
61. How many acres, if any, will be retired from the historical place of use? 4.62 AC		☐ F
62. Are irrigated acres proposed that are outside the historical place of use?	☒ Y ☐ N	☐ F
a. If yes,		
i. How many acres? 2.26 AC		☐ F
ii. What is the proposed irrigation method type (e.g., flood or sprinkler) and subtype (e.g., level border, graded border, furrow, contour ditch, wild flood, center pivot, or wheel line) for the new acres? sprinkler;		☐ F
iii. What is the slope (%) of the new place of use? 6%		☐ F
iv. Based on 62.a.ii to 62.a.iii, what is the percent efficiency of irrigation for the new acres? 70%		☐ F
v. What is the County Management Factor for the new acres? 78.8%		☐ F
vi. What is the ET based on the irrigation method and county for the new acres? 19.45 (18.10)		☒ F
vii. What percent of applied water are irrecoverable losses for new acres? 10%		☐ F
63. Do you have information for the Department to consider about the source and location where return flows historically accrued?	☐ Y ☒ N	☐ F
a. If yes, submit this information to the Department.	☐ S	☐ F



Extended Return Flow Analysis

64. Based on the preliminary data provided by the Department at this preapplication meeting, to what surface water sources do return flows accrue before and after the proposed change? <i>*Return flow data provided by the Department at the preapplication meeting is preliminary and is subject to change during technical analyses. If the source or location of return flow data changes during technical analyses, then the analysis of impacts to identified surface water rights will reflect the technical analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> Sun River	☒ A	☐ F
65. If an extended return flow analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect, do you elect to answer non-mandatory questions 149 to 154 to provide information required for this extended analysis?	☒ Y ☐ N	☐ F
a. If yes, go to question 149. This information will be used if an extended return flow analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?	☐ Y ☐ N	☐ F
i. If yes, do you elect for the Department to use publicly available water quantity data for the extended return flow analysis? If the extended return flow analysis is needed and sufficient publicly available water quantity data are not available, then the Department will not be able to conduct the extended analysis. You will still have to prove a lack of adverse effect from the proposed change.	☐ Y ☐ N	☐ F
ii. If no, you may still include the extended return flow analysis with your technical analyses. The Department will include the extended analysis in its scientific credibility review of your technical analyses. You will still need to prove a lack of adverse effect from the proposed change.		



GROUNDWATER

☐ **Applicable**, move on to question 66. ☒ **Not Applicable**, skip to question 94.

The following questions are mandatory for changes to groundwater rights and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater Analysis for Changes

<u>Questions, Narrative Responses, and Tables</u>					<u>Check-boxes</u>	<u>Follow-Up</u>
66. Does the proposed change include a change in point of diversion?					☐ Y ☐ N	☐ F
a. If no, this section is complete; skip to question 77.						
b. If yes, a groundwater analysis for changes is required; answer questions specific to the groundwater diversion type.						
i. What is the groundwater diversion type? _____						☐ F
Well/Pumping Pit	Answer questions 67 to 72	Developed Spring	Answer question 73	Pond	Answer questions 74 to 76	

Groundwater Analysis: Well/Pumping Pit

☐ Applicable ☐ Not Applicable

67. Per ARM 36.12.121 a 24- or 72-hour aquifer test is required; do you propose not to conduct the test? An 8-hour test will be required, if no aquifer test is completed.	☐ Y ☐ N	☐ F
a. If yes, explain. The Department will let you know if the request is reasonable and identify additional data needs. _____ _____ _____ _____ _____	☐ A	☐ F



68. Submit Aquifer Test Data Form (Form 633) for each <i>new</i> well/pumping pit that will be constructed prior to technical analyses or <i>existing</i> well/pumping pit that is added by the change. If an aquifer test was already conducted for an <i>existing</i> well/pumping pit, and you would like to use that instead of conducting a new aquifer test, describe this in question 67.a. If a variance is requested, Form 633 must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 633 is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 633 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
69. Submit the Aquifer Testing Addendum (Form 600/606-ATA) and associated materials (e.g., well logs). If you request a variance, Form 600/606-ATA must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 600/606-ATA is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 633 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
70. Are you requesting a variance from ARM 36.12.121? If you are unsure if a variance request will be needed, mark follow-up and answer this question once Form 600/606-ATA and Form 633 are complete. A variance must be requested by the Variance Request Deadline.	☐ Y ☐ N	☐ F
a. If yes, submit Form 653, Form 600/606-ATA, and Form 633 together on or before the Variance Request Deadline.	☐ S	☐ F
b. If no, you may choose to submit Form 600/606-ATA and Form 633 before the Variance Request Deadline, and the Department will review these two forms. If the Department determines a variance is needed after the Variance Request Deadline, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).		
71. Have all the wells/pumping pits been constructed?	☐ Y ☐ N	☐ F
a. If no,		
i. Submit a list of the POD IDs for all wells/pumping pits and mark whether they have or have not been constructed.	☐ S	☐ F
ii. When will the proposed wells/pumping pits be constructed? _____		☐ F

iii. Is the requested volume for each proposed well/pumping pit known?							☐ Y ☐ N	☐ F
1. If yes, list the flow rate and volume requested for each proposed well/pumping pit. Label with POD ID. _____ _____							☐ A	☐ F
2. If no, what is the total requested volume (AF) and the number of proposed PODs? _____								☐ F
72. What is the flow rate (GPM or CFS), volume (AF), and period of diversion (MM/DD-MM/DD) required at each new well/pumping pit ("new") or existing well/pumping pit that is added by the change ("existing")? If the well/pumping pit is not yet constructed, use the estimated volume based on question 71.a.iii.2. What is the well/pumping pit depth (FT), if available, or estimated well/pumping pit depth (FT)? Label using the same POD ID number as the Proposed Use Map (question 9) and, if available, GWIC ID. List whether the POD is <i>new</i> or an <i>existing</i> well added by the change.							☐ A	☐ F

POD ID	GWIC ID (if available)	Flow Rate			Volume AF	Period of Diversion MM/DD-MM/DD	Depth FT	Measured or Estimated	New or Existing
		Flow	GPM	CFS					
			☐	☐					
			☐	☐					
			☐	☐					
			☐	☐					
			☐	☐					

Groundwater Analysis: Developed Spring

☐ Applicable ☐ Not Applicable

73. Have you measured each <i>new</i> developed spring or <i>existing</i> developed spring that will be added by the change?		☐ Y ☐ N	☐ F
a. If yes, submit the measurements to the Department and answer the following questions:		☐ S	☐ F
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 the Department standard of monthly flow measurements taken at regular intervals or at department-approved intervals during the proposed period of diversion?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with the Department standard, answer the following questions. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the Department standard.		
i. When do you plan to measure? _____	☐ A	☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater Analysis: Pond

☐ Applicable ☐ Not Applicable

74. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
75. Submit bathymetry data, survey, or engineering plans for each <i>new</i> pond added or <i>existing</i> pond added or modified by the proposed change. Label using the same POD ID number as the Proposed Use Map (question 9). List whether the pond is <i>new</i> or an <i>existing</i> pond.	☐ S	☐ F
76. Are any of the <i>new</i> ponds, or <i>existing</i> ponds added or modified by the proposed change the pond, fed or drained by surface water in addition to groundwater?	☐ Y ☐ N	☐ F
a. If yes,		
i. Explain. _____ _____ _____	☐ A	☐ F
ii. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F



Surface Water Depletion Analysis for Changes

77. Does the proposed change include any of the following scenarios that necessitate a surface water depletion analysis pursuant to ARM 36.12.1303(5)(c)?					☐ Y ☐ N	☐ F
• Change in point of diversion • Change in place of use, purpose of use, or place of storage that result in a change in consumptive use or pumping schedule.						
a. If no, this section is complete; skip to question 85.						
b. If yes, a surface water depletion analysis is required; answer questions specific to the groundwater diversion type.						
i. What is the groundwater diversion type? _____						☐ F
Well/Pumping Pit	Answer questions 78 to 79	Developed Spring	Answer question 80	Pond	Answer questions 81 to 82	

Surface Water Depletion Analysis: Well/Pumping Pit

☐ Applicable ☐ Not Applicable

78. Provide the following information for each well/pumping pit on the current version of the water rights proposed for change that will either remain on the water rights after the change (" <i>unchanged</i> ") or will be retired (" <i>retired</i> "): flow rate (GPM or CFS), volume (AF), period of diversion required (MM/DD-MM/DD), well/pumping pit depth (FT) (if available, otherwise or estimated well/pumping pit depth (FT)), and whether it is <i>unchanged</i> or <i>retired</i> . Please use the same POD ID as the Historical Use Map (question 8) and, if available, provide the GWIC ID number.								☐ A	☐ F
POD ID	GWIC ID (if available)	Flow Rate			Volume AF	Period of Diversion MM/DD-MM/DD	Depth FT	Measured or Estimated	Unchanged or Retired
		Flow Rate	GPM	CFS					
			☐	☐					
			☐	☐					
			☐	☐					
			☐	☐					
			☐	☐					

79. Provide the pumping schedule for each well/pumping pit (<i>new, existing, unchanged, or retired</i>) for both <i>before</i> and <i>after</i> the proposed change. Use the same POD ID as the project maps. For <i>new</i> and <i>existing</i> wells/pumping pits, use the Proposed Use Map (question 9). For <i>unchanged</i> and <i>retired</i> wells/pumping pits use the Historical Use Map (question 8). Attach any additional pumping schedules using “ <i>Additional Pumping Schedule (606P)</i> ” sheet. For <i>retired</i> wells/pumping pits, mark “N/A” checkbox for after the change and for <i>new</i> wells/pumping pits, mark “N/A” checkbox for before the change. Mark the checkbox “Diverted volume/# of Days” if it is a year-round use and the pump schedule is an allocation of diverted volume by the number of days in the month. Mark the checkbox “80% dry year IWR” if it is an irrigation/lawn and garden use and the pump schedule is the 80% dry year net irrigation requirement (IWR, NRCS 2003).	☐ A	☐ F
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(Before) POD ID				(After) POD ID			
☐ Diverted volume/# of Days ☐ 80% dry year IWR ☐ N/A				☐ Diverted volume/# of Days ☐ 80% dry year IWR ☐ N/A			
Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)	Month	Volume (AF)
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Surface Water Depletion Analysis: Developed Spring

☐ Applicable ☐ Not Applicable

80. Is the type of groundwater diversion for your proposed project a developed spring? If yes, skip to question 85 because no surface water depletion analysis will be necessary.	☐ Y ☐ N	☐ F
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Surface Water Depletion Analysis: Pond

☐ Applicable ☐ Not Applicable

81. Are there any ponds on the current version of the water rights proposed for change that will remain on the water rights unchanged (<i>"unchanged"</i>) or will be retired (<i>"retired"</i>)? If yes,	☐ Y ☐ N	☐ F
a. Did you skip questions 74 to 76 because there is no change in POD? If yes,	☐ Y ☐ N	☐ F
i. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
b. Submit bathymetry data, survey, or engineering plans for each <i>unchanged</i> pond or <i>retired</i> pond. Label the submittal with the POD ID and whether the pond is <i>unchanged</i> or <i>retired</i> .	☐ S	☐ F
c. Are any of the <i>unchanged</i> or <i>retired</i> ponds fed or drained by surface water, in addition to groundwater?	☐ Y ☐ N	☐ F
i. If yes,		
1. Explain. _____ _____ _____	☐ A	☐ F
2. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F



82. Provide the schedule of diversions for out-of-pond use for each pond (<i>new, existing, unchanged, or retired</i>) for both <i>before</i> and <i>after</i> the proposed change. Use the same POD ID as the project maps. For <i>new</i> and <i>existing</i> ponds, use the Proposed Use Map (question 9). For <i>unchanged</i> and <i>retired</i> ponds use the Historical Use Map (question 8). Attach any additional diversion schedules using the same format as the table below. For <i>retired</i> ponds, mark "N/A" checkbox for after the change and for <i>new</i> ponds, mark "N/A" checkbox for before the change. Mark the checkbox "Diverted volume/# of Days" if it is a year-round use and the diversion schedule is an allocation of diverted volume by the number of days in the month. Mark the checkbox "80% dry year IWR" if it is an irrigation or lawn and garden use and the diversion schedule is the 80% dry year net irrigation requirement (IWR, NRCS 2003).	☐ A	☐ F
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(Before) POD ID				(After) POD ID			
☐ Diverted volume/# of Days ☐ 80% dry year IWR ☐ N/A				☐ Diverted volume/# of Days ☐ 80% dry year IWR ☐ N/A			
Month	Diversions for Out-of-Pond Use Volume (AF)	Month	Diversions for Out-of-Pond Use Volume (AF)	Month	Diversions for Out-of-Pond Use Volume (AF)	Month	Diversions for Out-of-Pond Use Volume (AF)
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Extended Surface Water Depletion Analysis

83. Based on the preliminary net depletion data provided by the Department at this preapplication meeting, what are the hydraulically connected surface water sources before and after the proposed change? <i>*Net depletion data provided by the Department at the preapplication meeting are preliminary and are subject to change during the technical analyses. If the source or location of net depletion data changes during the technical analyses, then the extended surface water depletion analysis will reflect the technical analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> _____ _____ _____	☐ A	☐ F
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84. If an extended surface water depletion analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect, do you elect to answer non-mandatory questions 157 to 161 to provide information required for this extended surface water depletion analysis?	☐ Y ☐ N	☐ F
a. If yes, go to question 156. This information will be used if an extended surface water depletion analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?	☐ Y ☐ N	☐ F
i. If yes, do you elect for the Department to use publicly available water quantity data for the extended surface water depletion analysis? If this extended surface water depletion analysis is needed and sufficient publicly available water quantity data are not available, then the Department will not be able to conduct the extended surface water depletion analysis. You will still need to prove a lack of adverse effect from the proposed change.	☐ Y ☐ N	☐ F
ii. If no, you may still include the extended surface water depletion analysis with your technical analyses. The Department will include the extended analysis in its scientific credibility review of your technical analyses. You will still need to prove a lack of adverse effect from the proposed change.		

Return Flow Analysis

85. Do the purposes of the water rights proposed for change include irrigation?	☐ Y ☐ N	☐ F
a. If yes, does the proposed change include a change in place of use <i>and/or</i> a change in purpose? If you propose to retire acres in the historical place of use and/or add new acres outside the historical place of use, this constitutes a change in place of use.	☐ Y ☐ N	☐ F
i. If yes, a return flow analysis is required. Move on to answer question 86.		
ii. If no, this section is complete, and you may skip to question 94.		
86. Does the proposed change include a change in purpose?	☐ Y ☐ N	☐ F
a. If yes, consumptive use information is collected in the Change in Purpose section (questions 101 to 108), skip to question 87.		
b. If no, skip to question 87.		
87. Does the proposed change include a change in place of use? If yes, move on to question 88. If no, skip to question 91.	☐ Y ☐ N	☐ F

88. Submit a map showing the new, unchanged historical, and retired historical places of use. Create map on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, and north arrow. If you have shapefiles associated with this map, in addition to submitting an image of the map, please submit electronic copies of the shapefiles to the Department.	☐ S	☐ F
89. How many acres, if any, will be retired from the historical place of use? _____		☐ F
90. Are irrigated acres proposed that are outside the historical place of use?	☐ Y ☐ N	☐ F
a. If yes,		
i. How many acres? _____		☐ F
ii. What is the proposed irrigation method type (e.g., flood or sprinkler) and subtype (e.g., level border, graded border, furrow, contour ditch, wild flood, center pivot, or wheel line) for the new acres? _____	☐ A	☐ F
iii. What is the slope (%) of the new place of use? _____		☐ F
iv. Based on question 90.a.ii to 90.a.iii, what is the percent efficiency of irrigation for the new acres? _____		☐ F
v. What is the County Management Factor for the new acres? _____		☐ F
vi. What is the ET based on the irrigation method and county for the new acres? _____		☐ F
vii. What percent of applied water are irrecoverable losses for new acres? _____		☐ F
91. Do you have information for the Department to consider about the source and location where return flows historically accrued?	☐ Y ☐ N	☐ F
a. If yes, submit this information to the Department.	☐ S	☐ F

Extended Return Flow Analysis

92. Based on the preliminary data provided by the Department at this preapplication meeting, to what surface water sources do return flows accrue before and after the proposed change? <i>*Return flow data provided by the Department at the preapplication meeting are preliminary and are subject to change during technical analyses. If the source or location of return flow data changes during technical analyses, then the analysis of impacts to identified surface water rights will reflect the technical analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> _____ _____	☐ A	☐ F
93. If an extended return flow analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect, do you elect to answer non-mandatory questions 149 to 155 to provide information required for this extended analysis?	☐ Y ☐ N	☐ F
a. If yes, go to question 149. This information will be used if an extended return flow analysis is necessary to analyze impacts to identified surface water rights for the purpose of evaluating adverse effect.		
b. If no, did you elect in question 1 for the Department to conduct technical analyses?	☐ Y ☐ N	☐ F
i. If yes, do you elect for the Department to use publicly available water quantity data for the extended return flow analysis? If the extended return flow analysis is needed and sufficient publicly available water quantity data are not available, then the Department will not be able to conduct the extended analysis. You will still have to prove a lack of adverse effect from the proposed change.	☐ Y ☐ N	☐ F
ii. If no, you may still include the extended return flow analysis with your technical analyses. The Department will include the extended analysis in its scientific credibility review of your technical analyses. You will still need to prove a lack of adverse effect from the proposed change.		

Mandatory 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.

Temporary Change

<u>Questions, Narrative Responses, and Tables</u>	<u>Check-boxes</u>	<u>Follow-Up</u>
94. Does the proposal include a temporary change? <i>This includes proposing to add a place of use on State of Montana Trust Land, with all points of diversion on private land, because the change authorization will be temporary for the duration of the lease term.</i> If yes, answer the questions in this section (questions 95 to 100). If no, this section is complete; skip to question 100.	☒ Y ☐ N	☐ F
95. What elements of the water rights are being temporarily changed? Place of Use; Purpose		☐ F
96. For what purpose will the water rights be temporarily used? Lawn & Garden		☐ F
97. For how many years will the water rights be temporarily changed? 10		☐ F
98. Will the temporary change be intermittent over the years?	☐ Y ☒ N	☐ F
a. If yes, explain.	☐ A	☐ F
99. Is the quantity of water subject to the temporary change being made available from the development of a new water conservation or storage project?	☐ Y ☒ N	☐ F
a. If yes, explain the water conservation or storage project.	☐ A	☐ F
100. If you are answering Project-Specific Questions as they are referenced in Application Details, return to question 17 if you are proposing to add a place of use on State of Montana Trust Land and question 20.a.ii if you are proposing a temporary change that does not involve State of Montana Trust Land. If you are answering in consecutive order, go to question 101.		



Change in Purpose

101. Does the project involve a change in purpose? If yes, answer the questions in this section (questions 102 to 108). If no, this section is complete; skip to question 108.	☒ Y ☐ N	☐ F
102. Identify the new and unchanged purposes, flow rate (GPM or CFS), volume (AF), period of diversion, and period of use (MM/DD-MM/DD) for each purpose.	☐ A	☒ F

Purpose	New or Unchanged?	Period of Diversion	Period of Use	Flow Rate			Volume
		(MM/DD-MM/DD)	(MM/DD-MM/DD)	Flow Rate	GPM	CFS	(AF)
Lawn & Garden	New	May 1 to October 31	May 1 to October 31	38.40	☒	☐	5.65
					☐	☐	
					☐	☐	
					☐	☐	
					☐	☐	
Total				38.40	☒	☐	5.65

103. Answer the questions specific to each new and unchanged purpose identified in question 102.								
Lawn and garden	Question 104	Stock	Question 105	Domestic and multiple domestic	Question 106	Other purpose	Question 107	

104. Lawn and garden		
a. Will consumptive use be based on the standard of 2.5 acre-feet per acre or a calculated volume based on Irrigation Water Requirements for turf grass?	☒ Y ☐ N	☐ F
i. If yes, which standard? <u>2.5 AF/AC</u>		☐ F
ii. If no, describe how consumptive use will be estimated. This must be based on expert analysis. _____ _____	☐ A	☐ F
105. Stock		
a. How many animal units will be served? _____		☐ F



106. Domestic and multiple domestic		
a. How many households will be served? _____		☐ F
b. Will the Department standard of 1 acre-foot per household be used to determine consumptive use?	☐ Y ☐ N	☐ F
i. If no, what standard will be used? _____	☐ A	☐ F
c. Will the proposed use include wastewater disposal and treatment?	☐ Y ☐ N	☐ F
i. If yes, which of the following best describes the wastewater disposal and treatment system? Individual drain fields, central treatment facility with minimal consumption, or evaporation basin or land application? _____		☐ F
107. Other purpose		
a. What is the other purpose (e.g., municipal, commercial)? _____		☐ F
b. What is the percentage of consumption for the proposed use? Please explain. _____ _____ _____	☐ A	☐ F
108. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 14 and if you are answering in consecutive order, go to question 109.		

Ditch-Specific Questions

Applications corroborating historical diverted volume with the Historical Use Addendum (Form 606-HUA) may be eligible to skip one or more questions in this section; see the Form 606-HUA for more information.

109. Does the historical use of water include at least one conveyance ditch? If yes, answer questions 110 to 111. If no, skip to question 112.	☐ Y ☒ N	☐ F
110. Submit a Historical Use Ditch Map that shows every ditch conveying water for the historical use of all water rights proposed for change. Label the ditch names, PODs, the POUs, and the ditch measurement locations (requested in question 111.d). The map should be created on a historical image or topographic map with the following: section corners, township and range, scale bar, and north arrow.	☐ S	☐ F



111. Answer question 111.a to 111.h one time for each historical conveyance ditch. If there is more than one historical conveyance ditch, use an "Additional Historical Ditch (606P)" sheet for each additional ditch.		
a. What is the ditch name? _____		☐ F
b. List the water rights proposed for change that were conveyed by the ditch. _____ _____		☐ F
c. What is the distance water was historically 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
d. 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 110.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

e. 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
f. What type of soils compose the historical conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F



g. Are other water rights conveyed by the historical conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. List the water right numbers and their flow rates. _____ _____ _____	☐ A	☐ F
2. What is the sum of the flow rates, including the water rights proposed for change? _____	☐ A	☐ F
3. Submit a map with your best estimate of the historical POUs for the other water rights conveyed by the historical conveyance ditch. Include only POUs between the historical POD and your historical POU. If you do not know this information, the Department can help you create the map. The map should be created on an aerial photograph or topographic map and show the following: section corners, township and range, scale bar, and north arrow.	☐ S	☐ F
h. Were any water rights proposed for change part of one historical water right that was split?	☐ Y ☐ N	☐ F
i. If yes, were all split water rights split in such a way to ensure each post-split water right could stand alone and not be reliant on the others for carriage water?	☐ Y ☐ N	☐ F
1. If no, do any of the water rights proposed for change have a carriage water requirement?	☐ Y ☐ N	☐ F
a. If yes,		
i. List the water rights with a carriage water requirement _____		☐ F
ii. Update your Historical Use Ditch Map (question 110) to label the ditch segments where a carriage water requirement exists for a water right proposed for change. Also, use your best estimate to label the POUs for all water rights included in the carriage water requirement. If you do not know this information, the Department can help you update the map.	☐ S	☐ F
112. Does the proposed use include at least one existing or new conveyance ditch? If yes, answer questions 113 to 114. If no, or if you answered these questions earlier in the preapplication meeting, this section is complete; skip to question 115.	☐ Y ☒ N	☐ F



113. Submit a Proposed Use Ditch Map that shows every ditch conveying the water rights proposed for change, including any unchanged portions. Label all unchanged and proposed PODs, all unchanged and proposed POU's, and additional ditch measurement locations (requested in question 114.e). The map should be created on an aerial photograph or topographic map with the following: section corners, township and range, scale bar, and north arrow.	☐ S	☐ F
114. Answer the questions 114.a to 114.i one time for each proposed use conveyance ditch. Use an "Additional Proposed Use Ditch (606P)" sheet for each additional ditch.		
a. What is the ditch name? _____		☐ F
b. Is this ditch a historical conveyance ditch detailed in questions 110 to 111?	☐ Y ☐ N	☐ F
i. If yes, have any of the following details changed, to the best of your knowledge, from historical conditions: ditch length, distance water conveyed, ditch lining, or water rights conveyed by the ditch?	☐ Y ☐ N	☐ F
1. If yes, answer questions 114.c to 114.i using current data.		
2. If no, do not answer questions 114.c to 114.i for this ditch because the information remains unchanged. Move on to the next proposed use conveyance ditch, or if none remain, skip to question 115.		
c. List the water rights proposed for change that are going to be conveyed by the ditch. _____		☐ F
d. 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
e. 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 113.	☐ S	☐ F

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement



f. 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
g. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. _____ _____	☐ A	☐ F
h. Are other water rights conveyed by the proposed conveyance ditch?	☐ Y ☐ N	☐ F
i. If yes,		
1. List the water right numbers and their flow rates. _____ _____ _____	☐ A	☐ F
2. What is the sum of the flow rates, including the water rights proposed for change? _____	☐ A	☐ F
3. Submit a map with your best estimate of the location of current POUs for the other water rights conveyed by the proposed conveyance ditch. Include only POUs between the POD and your proposed POU. If you do not know this information, the Department can help you create the map. The map should be created on an aerial photograph or topographic map and show the following: section corners, township and range, scale bar, and north arrow.	☐ S	☐ F
i. Were any water right(s) proposed for change identified as having a carriage water requirement in question 111.h.i.1.a.i?	☐ Y ☐ N	☐ F
i. If yes, update your Proposed Use Ditch Map (question 113) to label the ditch segments where a carriage water requirement exists for a water right proposed for change. Also, use your best estimate to label the POUs for all water rights included in the carriage water requirement. If you do not know this information, the Department can help you update the map.	☐ S	☐ F
115. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 15 and if you are answering in consecutive order, go to question 116.		



Change in Place of Storage

116. Does the project involve a change in place of storage? If yes, answer the questions in this section (questions 117 to 122) for each individual place of storage. Use an "Additional Place of Storage (606P)" sheet for additional places of storage. If no, this section is complete; skip to question 123.	☐ Y ☒ N	☐ F
117. Is this application to add a new place of storage or change an existing place of storage? _____		☐ F
a. If application is to change an existing place of storage, list the water rights that include the place of storage and a short description of the proposed change. _____ _____	☐ A	☐ F
118. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
a. If no, describe any losses related to conveyance that are not detailed in "Ditch-Specific Questions." _____ _____ _____	☐ A	
119. What is the proposed capacity of the place of storage? 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: <i>Surface Acres x Maximum Depth (ft) x 0.5 = Capacity (AF)</i> _____	☐ S	☐ F
120. What is the proposed surface area of the place of storage? _____	☐ A	☐ F
121. What is the annual net evaporation of water from the place of storage based on the Department's gridded net evaporation layer? If you propose a different method, attach an explanation and justification of the method. _____	☐ A	☐ F
122. Will the place of storage be lined?	☐ Y ☐ N	☐ F
123. If you are answering Project-Specific Questions as they are referenced in Application Details, return to question 16 and if you are answering in consecutive order, go to question 109.		



Mitigation, Aquifer Recharge, and Marketing for Mitigation/Aquifer Recharge

124. Does your application include one of the following purposes? If no, this section is complete; skip to question 129.	☐ Y ☒ N	☐ F
a. Mitigation water. If yes, answer question 125 and 126.	☐ Y ☐ N	☐ F
b. Aquifer recharge water. If yes, answer question 125 and 127.	☐ Y ☐ N	☐ F
c. Marketing for mitigation/aquifer recharge. If yes, answer question 128.	☐ Y ☐ N	☐ F
125. Mitigation Water and Aquifer Recharge Water		
a. Identify the water right(s) for which the mitigation/aquifer recharge water will be used. _____	☐ A	☐ F
b. Identify the application or preapplication number where these water rights were identified as needing mitigation or aquifer recharge to meet the adverse effect criterion. _____	☐ A	☐ F
c. What is the timing, flow rate, and volume of net depletions identified as needing mitigation or aquifer recharge to meet the adverse effect criterion?	☐ A	☐ F

Month	Days	Flow Rate			Volume	Month	Days	Flow Rate			Volume
		Flow	GPM	CFS				Flow	GPM	CFS	
January			☐	☐		July			☐	☐	
February			☐	☐		August			☐	☐	
March			☐	☐		September			☐	☐	
April			☐	☐		October			☐	☐	
May			☐	☐		November			☐	☐	
June			☐	☐		December			☐	☐	



d. Will other water contribute to the need for mitigation or aquifer recharge water? This may include water rights with a mitigation or aquifer recharge purpose, marketing for mitigation contracts, or mitigation water secured via other types of contracts.	☐ Y ☐ N	☐ F
i. If yes, describe the origin of this water and in the table below, list how much it will contribute. _____	☐ A	☐ F

Month	Days	Flow Rate			Volume	Month	Days	Flow Rate			Volume
		Flow	GPM	CFS				Flow	GPM	CFS	
January			☐	☐		July			☐	☐	
February			☐	☐		August			☐	☐	
March			☐	☐		September			☐	☐	
April			☐	☐		October			☐	☐	
May			☐	☐		November			☐	☐	
June			☐	☐		December			☐	☐	

126. Mitigation Water			
a. What is legal land description (¼ ¼ ¼ section of start and end) and length (ft) of the mitigation reach? _____		☐ A	☐ F
b. By what means will mitigation water be made available? You must submit a copy of all relevant discharge permits at application submittal (§85-2-364, MCA). _____ _____ _____		☐ A	☐ F
127. Aquifer Recharge Water			
a. What is the legal land description (¼ ¼ ¼ section) of the start of net depletions for which the aquifer recharge water will be used? _____		☐ A	☐ F



b. What is the volume of net depletions that will be offset by the aquifer recharge water? <i>The volume of aquifer recharge water injected may not equal the volume of net depletions.</i> 	☐ A	☐ F
c. Describe the method of aquifer recharge. Include, if available, a preliminary design. You must submit a copy of all relevant discharge permits at application submittal (§85-2-364, MCA). 	☐ A	☐ F
d. Describe any constraints on the aquifer recharge schedule, such as priority date limitations. 	☐ A	☐ F
e. What is the proposed area or location of aquifer recharge? <i>The location is subject to refinement during technical analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> 	☐ A	☐ F
128. Marketing for Mitigation/Aquifer Recharge		
a. What is the proposed location of the reach where water is to be marketed (¼ ¼ ¼ section of the start and the end of the reach)? 	☐ A	☐ F
b. Is this marketing for mitigation	☐ Y ☐ N	☐ F
i. If yes, by what means will water be made available? 	☐ A	☐ F



c. Is this marketing for aquifer recharge?	☐ Y ☐ N	☐ F
i. If yes,		
1. Describe the method of aquifer recharge. Include, if available, a preliminary design. You must submit a copy of all relevant discharge permits at application submittal (§85-2-364, MCA). _____ _____ _____ _____	☐ A	☐ F
2. What is the volume of water that will be used for aquifer recharge? _____	☐ A	☐ F
3. Describe any constraints on the aquifer recharge schedule, such as priority date limitations. _____ _____	☐ A	☐ F
4. What is the proposed area or location of aquifer recharge? <i>The location is subject to refinement during technical analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).</i> _____ _____ _____	☐ A	☐ F
d. Describe your ability to measure and operate all existing diversions to adjust flow rate as water is sold or leased. _____ _____ _____ _____	☐ A	☐ F



e. How will you cease diversions for the existing beneficial use as water is sold or leased? _____ _____ _____	☐ A	☐ F
129. If you are answering Project-Specific Questions as they are referenced in Application Details, return to question 25 and if you are answering in consecutive order, go to question 130.		

Instream Flow

130. Does the project involve an instream flow change? If yes, answer the questions in this section (questions 131 to 136). If no, this section is complete; skip to question 136.	☐ Y ☒ N	☐ F
131. What is the source name where streamflow will be maintained or enhanced? _____		☐ F
132. What is the location (¼ ¼ ¼ section of start and end of reach) and length (FT) of the protected reach? _____	☐ A	☐ F
133. Describe the way the streamflow is to be maintained or enhanced. _____ _____	☐ A	☐ F
134. Do you propose to retire all water use associated with the historical purposes throughout the entire period of use? This includes conveyance loss associated with historical ditches.	☐ Y ☐ N	☐ F
a. If no, describe the proposed change to existing purposes, including flow rate, volume, and, if applicable, acres. _____ _____ _____ _____	☐ A	☐ F
135. Do historical and proposed return flows accrete to the source of supply? The Department provides an initial estimate of the source(s) that historical and proposed returns flows accrete to at the preapplication meeting.	☐ Y ☐ N	☐ F



136. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 27 and if you are answering in consecutive order, go to question 137.		
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Salvage Water

137. Does this project involve salvage water? Salvage water does not include destroying phreatophytes, removing vegetation, converting to a less consumptive crop, or converting to a partial irrigation schedule. If yes, answer the questions in this section (questions 138 to 141). If no, this section is complete; skip to question 141.	☐ Y ☒ N	☐ F
138. What water saving method was implemented? This may include lining an unlined ditch or canal, converting unlined ditch or canal to pipeline, converting high profile or high-pressure sprinklers to low pressure, and others. _____ _____	☐ A	☐ F
139. How much water was salvaged from implementation of the water saving method? Include flow rate (GPM or CFS) and volume (AF). _____		☐ F
140. How did you determine the amount of water salvaged? _____ _____ _____ _____	☐ A	☐ F
141. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 28 and if you are answering in consecutive order, go to question 142.		



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

<u>Questions, Narrative Responses, and Tables</u>	<u>Check-boxes</u>
142. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Turn off the pump _____ _____ _____ _____	☒ A
143. Explain how you can control your diversion in response to call being made. Turn off the pump _____ _____ _____	☐ A
144. Are you aware of any calls that have been made on any source of supply or depleted surface water source?	☐ Y ☒ N
a. If yes, explain. _____ _____	☐ A
145. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ☒ N
a. If yes, list the sources and explain. _____ _____	☐ A
146. Describe how the change will or will not affect your ability to make call. It will have no effect. _____ _____	☒ A



147. When was the last time each water right proposed for change was appropriated and used beneficially? If there has been a period of nonuse, answer questions 147.a to 147.d. 2024	
a. Why was the water right not used? _____ _____	☐ A
b. Why will a resumption of use not adversely affect other water users? _____ _____	☐ A
c. Is the period of nonuse greater than 10 years for any of the water rights proposed for change? If yes, list which water rights. _____	☐ Y ☐ N
d. Have water rights been authorized to use the source during the period of nonuse for any of the water rights proposed for change? If yes, explain. _____ _____	☐ Y ☐ N
148. Is this a point of diversion change?	☐ Y ☒ N
a. If yes,	
i. Are the proposed points of diversion upstream or downstream of the historical points of diversion? _____	
ii. Are there intervening water users between the historical and proposed points of diversion?	☐ Y ☐ N
1. If yes, list the water rights. _____ _____	☐ A



iii. Will any new points of diversion or conveyance infrastructure be shared with one or more existing water rights?	☐ Y ☐ N
1. If yes, describe how capacity of the new shared point of diversion and/or conveyance infrastructure is sufficient for all water rights. 	☐ A

Adverse Effect: Evaluation of Impacts to Identified Surface Water Rights for Return Flow Analysis

149. Respond to questions in this section if you elected in questions 65 or 93 to answer optional questions 150 to 154. Answer one time for each surface water source receiving return flows. Use "Additional Return Flow Source (606P)" sheet if there is more than one source. If you did not elect to answer these questions or answered these questions earlier in the preapplication meeting, this section is complete; skip to question 155.	
150. What is the surface water source for which you are answering questions 151 to 154? Sun River	
151. Are stream gage data available?	☒ Y ☐ N
a. If yes, answer question 152.	
b. If no, answer question 153.	
152. Stream gage data are available	
a. Is one stream gage located above, and one stream gage located below the location where return flows accrue?	☐ Y ☒ N
i. If no, is only one stream gage located near the location where return flows accrue?	☒ Y ☐ N
1. If yes, is the stream gage upstream or downstream? Upstream	
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: Sun River @ Simms USGS Gage 06085800 Gage 2: N/A	



c. What is the distance between the gage(s) and the location where return flows accrue? Write "N/A" for Gage 2 if one gage available. Gage 1: Approximately 30 miles _____ Gage 2: N/A _____	
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the location where return flows accrue? This includes dams that control the flow and streams with large gaining and/or losing reaches.	☐ Y ☒ N
i. If yes, explain. _____ _____	☐ A
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: Follow-up _____ Gage 2: _____	
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: USGS _____ Gage 2: _____	
g. Is each available stream gage operated and maintained by USGS or DNRC?	☒ Y ☐ N
i. If yes, skip to question 152.h.	
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.	
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____	
2. 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
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N



3. 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
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N
h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months when return flows accrue?	☒ Y ☐ N
i. If yes, record how many meet the standard, then skip to question 155 because this section is complete. Follow-up (DNRC) _____	
ii. If no, answer question 153.	
153. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months when return flows accrue, is the source otherwise measured?	☐ Y ☐ N
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 154.	
b. If yes,	
i. Submit measurements to the Department.	☐ S
ii. Who collected the measurements? _____	☐ A

iii. With what method were the data collected? _____ _____	☐ A
iv. What is the period of record? _____	
v. What is the frequency of measurement? _____	
vi. Are there gaps in the data?	☐ Y ☐ N
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____	☐ A
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N
1. If yes, explain. _____ _____	
viii. Do 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 months when return flows accrue?	☐ Y ☐ N
1. If yes, this section is complete. Skip to question 155.	
2. If no, answer question 154.	
154. Do 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
a. If yes,	
i. Describe how the measurements are representative of high, moderate, and low flows. USGS Gage Continuous _____ _____ _____	☒ A



ii. Describe the estimation technique. USGS Gage 	☐ A
b. If no, but a Department-accepted estimation technique will be appropriate for the source receiving return flows:	
i. Will measurements be collected prior to submission of a completed Form 606P-B 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
1. If yes,	
a. With what method will the data be collected? 	☐ A
b. What will be the interval of measurement? 	
c. Describe the proposed estimation technique. 	☐ A
2. If no, do you plan on requesting to deviate from 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? Neither the Department's technical analyses nor scientific credibility review of your technical analyses can commence until the Department receives measurements that meet Department measurement standards, or in combination with an approved request for variance from these standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N



c. If no, because no Department-accepted estimation technique will be appropriate for the source receiving return flows:	
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months when return flows accrue?	☐ Y ☐ N
1. If no, will measurements be collected prior to submission of a completed Form 606P that meet the Department's standard of monthly measurements throughout the months when return flows accrue?	☐ Y ☐ N
a. If yes, with what method will the data be collected? _____ _____	☐ A
b. If no, do you plan on requesting a variance to deviate from the Department's standard for monthly measurements throughout the months when return flows accrue? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request for a variance from these standards are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
155. If you went straight to this section when referenced, go back to question 65 for surface water changes and question 93 for groundwater changes. If you waited to answer in consecutive order and have completed all prior sections, move to question 156.	

Adverse Effect: Evaluation of Impacts to Identified Water Rights for Surface Water Depletion Analysis

156. Respond to questions in this section if you elected in question 84 to answer optional questions 157 to 161. Answer one time for each hydraulically connected source. Use "Additional Hydraulically Connected Source (606P)" sheet if there is more than one source. If you did not elect to answer these questions or answered these questions earlier in the preapplication meeting, this section is complete; skip to question 162.	
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157. What is the surface water source for which you are answering questions 158 to 161? _____	
158. Are stream gage data available?	☐ Y ☐ N
a. If yes, answer question 159.	
b. If no, answer question 160.	
159. Stream gage data are available	
a. Is one stream gage located above and one stream gage located below the point of net depletion accumulation?	☐ Y ☐ N
i. If no, is only one stream gage located near the point of net depletion accumulation?	☐ Y ☐ N
1. If yes, is the stream gage upstream or downstream? _____	
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____	
c. What is the distance between the gage(s) and the point of net depletion accumulation? Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____	
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the point where net depletions accrue? This includes dams that control the flow and streams with large gaining and/or losing reaches.	☐ Y ☐ N
i. If yes, explain. _____ _____	☐ A
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____	



f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____	
g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N
i. If yes, skip to question 159.h.	
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.	
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____	
2. 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
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N
3. 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
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N
a. Gage 1.	☐ Y ☐ N
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N



h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N
i. If yes, record how many meet the standard, then skip to question 162 because this section is complete. _____	
ii. If no, answer question 160.	
160. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions, is the source otherwise measured?	☐ Y ☐ N
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 161.	
b. If yes,	
i. Submit measurements to the Department.	☐ S
ii. Who collected the measurements? _____	☐ A
iii. With what method were the data collected? _____ _____	☐ A
iv. What is the period of record? _____	
v. What is the frequency of measurement? _____	
vi. Are there gaps in the data?	☐ Y ☐ N
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____	☐ A



vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N
1. If yes, explain. _____ _____	
viii. Do 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 months with net depletions?	☐ Y ☐ N
1. If yes, this section is complete. Skip to question 162.	
2. If no, answer question 161.	
161. Do 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
a. If yes,	
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____	☐ A
ii. Describe the estimation technique. _____ _____ _____ _____ _____	☐ A
b. If no, but a Department-accepted estimation technique will be appropriate for the hydraulically connected source:	
i. Will measurements be collected prior to submission of a completed Form 606P-B 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
1. If yes,	
a. With what method will the data be collected? _____ _____	☐ A



b. What will be the interval of measurement? _____	
c. Describe the proposed estimation technique. _____ _____ _____ _____	☐ A
2. If no, do you plan on requesting to deviate from 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? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
c. If no, because no Department-accepted estimation technique will be appropriate for the hydraulically connected source:	
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months with net depletions?	☐ Y ☐ N
1. If no, will measurements be collected prior to submission of a completed Form 606P that meet the Department's standard of monthly measurements throughout the months with net depletions?	☐ Y ☐ N
a. If yes, with what method will the data be collected? _____ _____	☐ A



b. If no, do you plan on requesting to deviate from the Department's standard for monthly measurements throughout the months with net depletions? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
162. If you went straight to this section when referenced, go back to question 84. If you waited to answer in consecutive order and have completed all prior sections, move to question 163.	

Adequate Means of Diversion and Operation

163. Submit a diagram of how you will operate your system from the point of diversion to the place of use.	☒ S
164. 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. Already Submitted	☒ A
165. Describe the size, materials, capacity, and configuration of infrastructure to convey water from point of diversion to place of use. Already submitted	☐ A
166. Does the proposed conveyance require easements?	☐ Y ☒ N
a. If yes, explain.	☐ A
167. Do you propose to add a point of diversion?	☐ Y ☒ N
a. If yes, do you own the land where all proposed points of diversion are located?	☐ Y ☐ N
i. If no, documentation to show you have the right to use all points of diversion located on each property you do not own will be required upon application submittal. 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.	



168. Describe your plan of operations, including 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. Follow-up _____ _____ _____	☐ A
169. 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

170. Does the Department have a standard for any of the purposes for which water is used? Department standards can be found in ARM 36.12.112 and ARM 36.12.115.	☒ Y ☐ N
a. If yes, list the purposes for which the Department has a standard and note whether the water use falls within or outside the standard. Lawn and Garden Falls within the standard of 2.5 AF/Acre _____ _____	
171. If no standard exists for any proposed purpose or if any proposed purpose falls outside of Department standards, explain how the use is reasonable for that purpose. _____ _____ _____ _____	☐ A
172. 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, have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
173. 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



Possessory Interest

174. 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.	☐ Y ☒ N
a. If yes, explain. _____ _____ _____ _____	☐ A
b. If no, do you own all proposed places of use?	☐ Y ☒ N
i. If no, explain. Documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use will be required at application submittal. Other owners will provide written permission for place of use. _____ _____ _____	☐ A

Non-Mandatory Project-Specific Questions

Change in Place of Storage

175. Does the project include one or more places of storage? If yes, answer questions 176 to 178 for each individual place of storage (use "Additional Place of Storage (606P)" sheet for additional places of storage). A Change Storage Addendum (606-SA) will be required at application submittal. If no, this section is complete; skip to question 179.	
176. Are preliminary designs available? Preliminary designs will be required at application submittal.	☐ Y ☐ N
a. If yes, submit preliminary designs.	☐ S
177. Will a drainage device be installed?	☐ Y ☐ N
178. Is the place of storage capacity calculated to be greater than 50 acre-feet?	☐ Y ☐ N
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



179. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 16 and if you are answering in consecutive order, go to question 180.	
--	--

Instream Flow Change

180. You may respond to the questions in this section if the project involves an instream flow purpose and you choose to answer the non-mandatory questions. Otherwise, this section is complete, skip to question 184.	
181. Does the protected reach begin at the existing point of diversion?	☐ Y ☐ N
a. If no, does the protected reach begin upstream of or downstream from the existing point of diversion? _____	
182. Provide initial details about a streamflow measuring plan, which include the points where measurements occur, the interval of measurement, and the methods and equipment used. A complete streamflow measuring plan will be required for the application. _____ _____ _____ _____ _____ _____	☐ A
183. Provide initial details about an operation plan, which may include the proposed protected flow rate (GPM or CFS), proposed protected volume (AF), and the proposed protected period. If you propose a trigger flow, please explain. A complete operation plan, based on the technical analyses, will be required for the application. _____ _____ _____ _____	☐ A
184. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 27 and if you are answering in consecutive order, go to question 185.	



Mitigation, Aquifer Recharge, and Marketing for Mitigation

185. You may respond to the questions in this section if the project involves mitigation, aquifer recharge, or marketing for mitigation, and you choose to answer the non-mandatory questions. Otherwise, this section is complete, skip to question 190. For mitigation water, answer questions 186, 187, and 188. For aquifer recharge water, answer questions 187 and 188. For marketing for mitigation/aquifer recharge, answer question 189.	
186. Do the water rights proposed for change to mitigation water have a period of use that is greater than or equal to the period when mitigation is necessary?	☐ Y ☐ N
a. If no, how will mitigation water be made available during the entire period when mitigation is necessary? _____ _____ _____	☐ A
187. How do the priority dates of the water rights proposed for change compare to other water rights on the source? _____ _____	☐ A
188. Do you have measurement records or Water Commissioner records that show the reliability of the water rights proposed for change to a mitigation water or aquifer recharge purpose?	☐ Y ☐ N
a. If yes, submit them to the Department.	☐ S
189. Describe the need for marketing for mitigation/aquifer recharge. _____ _____ _____ _____	☐ A
190. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 25 and if you are answering in consecutive order, go to question 191.	

Water Marketing

191. You may respond to the questions in this section if the project includes the water marketing purpose, and you choose to answer the non-mandatory questions. This does not include marketing for mitigation. Otherwise, this section is complete, skip to question 195.	☐ Y ☐ N
---	---



192. How will you control or limit access to the water? 	☐ A
193. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
194. Submit a service area map. Create map on an aerial photograph or topographic map and show the following: general service area boundary, section corners, township and range, scale bar, and north arrow.	☐ S
195. If you are answering Project Specific Questions as they are referenced in Application Details, return to question 26 and if you are answering in consecutive order, go to Follow-Up section.	



FOLLOW-UP

The table below will identify all questions marked for follow-up. Applicant follow-up will be submitted with the completed Preapplication Meeting Form: Part B (Form 606P-B). Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses." At the preapplication meeting, the Department may offer to provide the Applicant with information pertinent to identified follow-up. In this case, record in the notes column what information the Department will provide and the date by which the Department will email this information to the Applicant. This information will supplement but not replace Applicant follow-up. It is the responsibility of the Applicant to provide all follow-up, including questions supplemented by Department information, in the "Follow-up Responses" document.

The "Follow-up Responses" document must conform to the following standards. Label all responses with the question number. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", "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: Part A (Form 606P-A) signed at the Preapplication Meeting. Instead, the Applicant must use the Amended Responses procedure defined in Form 606P-B. Do not include additional information for questions that were not marked for follow-up on this table; instead include any additional information pursuant to the process for amending responses defined in Form 606P-B.

QUESTION #	NOTES
8 & 9	SUBMIT MAP OF HISTORICAL AND PROPOSED USE THAT MEETS DNRC STANDARDS.
	*Note that DNRC staff has created and attached a map (showing both historic and proposed use). Please review the map and either acknowledge the map represents your understanding of the project or inform the Department of corrections needed.
13(a)(i)	ADD GEOCODE FOR 215 RIVERFRONT LN (A PROPOSED PLACE OF USE).
	*Note DNRC staff finds the geocode in question to be 02-3137-32-3-02-03-0000. Please acknowledge or offer correct geocode.
35(a)(ii)	Please follow up with the names of individual(s) with knowledge of historical use and their role(s).
37	This question ensures that the entire place of use for each overlapping water right that intersects the historical place of use is shown in the historical use map (from Q # 8). *The Department finds no overlapping water rights intersect the historical place of use. Please either acknowledge your agreement with DNRC's finding or provide alternative information.
39(b)(i)(1 & 2)	*NO APPLICANT SUBMISSION/FOLLOWUP REQUIRED ON THIS ITEM (Note: While the Water Resource Survey book did not show any irrigation in the project area, DNRC staff has corroborated the historical place of use via 1950 Water Resource Survey aerial photos (MX-4G-31 & MX-4G-32, DATED 08/28/50). These photos are on file in the Lewistown Regional Office.)



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 meeting 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 five business days 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.

Applicant Signature

Date

Applicant Signature

Date

Department Signature

Date



FORM 606P-A

PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION



**PREAPPLICATION MEETING
FORM: PART B
PERMIT**
§ 85-2-302, MCA
Form No. 600P-B (Revised 02/2025)

For Department Use Only

Application # 3017068 Basin 41K
Form Received 4/29/25
Fee Rec'd \$ 500.00 Check # 3926
Deposit Receipt # LWS2518103
Payor Tyrone Robinson
Form Returned _____
Refund \$ _____ Date _____

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)).

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**LEWISTOWN WATER
RESOURCES**

The Applicant is responsible for providing a "Follow-up Responses" document for all follow-up identified in Preapplication Meeting Form Part A (Form 600P-A). The Applicant may not alter Form 600P-A. 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.

The following guidelines are applicable to both the "Follow-up Responses" and "Amended Responses" documents. Clearly label all question numbers. Answer questions in the same format as Form 600P-A. 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 included with the document.

1. ☐ Y ☒ N Are you submitting this form in response to a determination by the Department that a previously submitted Form 600P-B was inadequately completed?

If yes,

- Date form was returned ("Form Returned" date found in "For Department Use Only" box on the previously submitted Form 600P-B): _____
- If a "Follow-up Responses" or "Amended Responses" document is required by questions 2 or 3, submit complete updated documents with responses that stand-alone. The Department will only use the most recently submitted "Follow-up Responses" and "Amended Responses" documents for departmental technical analyses or scientific credibility review; the Department will not use multiple versions of a document.

2. ☒ Y ☐ N Were any questions identified as requiring follow-up on Form 600P-A?

If yes,

- ☒ S Submit "Follow-up Responses" document for all questions requiring follow-up.



FOLLOW-UP AND AMENDED RESPONSES AFFIDAVIT & CERTIFICATION

"I attest that this preapplication meeting form (Form 600P-A and Form 600P-B), follow-up, and amended responses accurately portray the 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, amended responses, or follow-up materials (ARM 36.12.1302(6)(a))."


Applicant Signature

4-21-25

Date


Applicant Signature

4/21/25

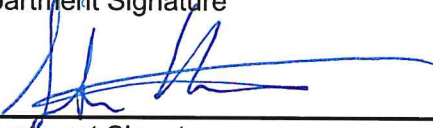
Date

"We confirm that the preapplication form (Form 600P-A and Form 600P-B), amended responses, 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 required element of technical analysis based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."


Department Signature

5/1/25

Date


Department Signature

5/1/25

Date



Shaw, Matthew

From: Bonnie Larsen <bonlarsen@gmail.com>
Sent: Tuesday, April 22, 2025 8:52 AM
To: Shaw, Matthew
Cc: Bonnie Larsen
Subject: [EXTERNAL] PreApplication Form Part A & B follow up information with Matt Shaw. 4/21/25, 1:04-1:28 p.m.

In the haste to get the signed documents in the mail, I'm positive I neglected to include our responses to the questions.

Please find below those responses.

Thank You.

----- Forwarded message -----

From: Bonnie Larsen <bonlarsen@gmail.com>
Date: Mon, Apr 21, 2025, 2:12 PM
Subject: PreApplication Form Part A & B follow up information with Matt Shaw. 4/21/25, 1:04-1:28 p.m.
To: Bonnie Larsen <bonlarsen@gmail.com>
Cc: <a_gasvoda@hotmail.com>

Responses to Part A questions for identification in Part B , 2.a.

Page 5 - # 8 & 9

We have reviewed the map submitted and are satisfied.

Page 6 - 13 a.1.

The GEO is correct as indicated in the notes section, page 72.

Page 13 - #35

Bonnie L. Larsen has the historical knowledge. She is the water rights owner since inception.

Page 14 - #37

Yes, as there is no over lapping.

Page 26 - #60

This is included on the same map as indicated for #8 & 9.

Page 40 - #102

5.65 volume was added by DNRC and now complete.

We look forward to hearing from you to proceed with the next steps.



REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)
(Revised 02/2025)

For Department Use Only
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MAR 12 2025

LEWISTOWN WATER
RESOURCES

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.

Date Received 3/12/25
Received By MAS
Scheduled Meeting Date _____

(220098)

(439015)

1. Applicant Name Bonnie Larsen + Amanda S. Hendrickson
Mailing Address 230 Riverfront Lane ; 215 Riverfront Lane
City Great Falls State Mt Zip 59404
Home Phone 406-750-7383 (Hendrickson cell) Other Phone 406-217-2824 (Larsen)
Email: bonlarsen@gmail.com ; a-gasvoda@hotmail.com

2. Representative Name (if other than Applicant) _____

☐ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address _____
City _____ State _____ Zip _____
Home Phone _____ Other Phone _____
Email: _____

3. Are you requesting a preapplication meeting for a permit or change application?

☐ Permit ☒ Change

Work Copy

4. Describe your project:

Change from 6 acre irrigation to 2.26 acre lawn and garden sprinklers





REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 02/2025)

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.

For Department Use Only

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MAR 12 2025

LEWISTOWN WATER
RESOURCES

Date Received 3/12/25
Received By MDS
Scheduled Meeting Date _____

1. **Applicant Name** Bonnie Larsen
Mailing Address 230 Riverfront Lane
City Great Falls **State** Mt **Zip** 59404
Home Phone _____ **Other Phone** 406-217-2824
Email: _____

2. **Representative Name** (if other than Applicant) _____
☐ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other
Mailing Address _____
City _____ **State** _____ **Zip** _____
Home Phone _____ **Other Phone** _____
Email: _____

3. **Are you requesting a preapplication meeting for a permit or change application?**

☐ Permit ☒ Change

4. **Describe your project:**

Change from 6 acre irrigation to 2.26 acre lawn and garden sprinklers



5. Identify the following elements of the proposed permit or change in appropriation.

- a) The flow rate and volume of water required:

Flow Rate 38.4 ☒ GPM ☐ CFS Volume 5.65 Acre-Feet

- b) The point of diversion:

Point of Diversion #1 SE 1/4 SE 1/4 NE 1/4 Section 31 ~~32~~, Township 21 ☒ N ☐ S, Range 02 ☒ E ☐ W
County Cascade

Lot/Tract 001 Block 005 Subdivision Name Twin silo ranchettes

Point of Diversion #2 1/4 1/4 1/4 Section , Township ☐ N ☐ S, Range ☐ E ☐ W
County

Lot/Tract Block Subdivision Name

Work Copy

- c) The place of use:

0.43 Acres Lot 19 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

0.93 Acres Lot 21 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

0.9 Acres Lot 23 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

 Acres Lot Block 1/4 1/4 1/4 Sec , Twp ☐ N ☐ S, Rge ☐ E ☐ W

 Acres Lot Block 1/4 1/4 1/4 Sec , Twp ☐ N ☐ S, Rge ☐ E ☐ W

- d) The source of water: Sun River

- e) The proposed purpose: Lawn + Garden

- f) For a change in appropriation right, the water right(s) proposed for change:

Type of water right Basin Water Right # 41k500400

Type of water right Basin Water Right #

Type of water right Basin Water Right #

Identify the water right elements proposed for change, with a checkmark for each water right proposed for change.

Water Right #	41k500400				
Point of diversion	☐	☐	☐	☐	☐
Place of use	☒	☐	☐	☐	☐
Purpose of use	☒	☐	☐	☐	☐
Place of storage	☐	☐	☐	☐	☐

5. Identify the following elements of the proposed permit or change in appropriation.

a) The flow rate and volume of water required:

Flow Rate 38.4 ☒ GPM ☐ CFS Volume 5.65 Acre-Feet

b) The point of diversion:

Point of Diversion #1 1/4 1/4 1/4 Section 32, Township 21 ☒ N ☐ S, Range 02 ☒ E ☐ W

County Cascade

Lot/Tract 001 Block 005 Subdivision Name Twin silo ranchettes

Point of Diversion #2 1/4 1/4 1/4 Section , Township ☐ N ☐ S, Range ☐ E ☐ W

County

Lot/Tract Block Subdivision Name

c) The place of use:

0.43 Acres Lot 19 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

0.93 Acres Lot 21 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

0.9 Acres Lot 23 Block Sw 1/4 Sw 1/4 Nw 1/4 Sec 32, Twp 21 ☒ N ☐ S, Rge 02 ☒ E ☐ W

 Acres Lot Block 1/4 1/4 1/4 Sec , Twp ☐ N ☐ S, Rge ☐ E ☐ W

 Acres Lot Block 1/4 1/4 1/4 Sec , Twp ☐ N ☐ S, Rge ☐ E ☐ W

d) The source of water:

e) The proposed purpose:

f) For a change in appropriation right, the water right(s) proposed for change:

Type of water right Basin Water Right # 41k500400

Type of water right Basin Water Right #

Type of water right Basin Water Right #

Identify the water right elements proposed for change, with a checkmark for each water right proposed for change.

Water Right #	41k500400				
Point of diversion	☐	☐	☐	☐	☐
Place of use	☒	☐	☐	☐	☐
Purpose of use	☒	☐	☐	☐	☐
Place of storage	☐	☐	☐	☐	☐

- g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

Going from ~~flood~~ ^{sprinkler} irrigation to lawn and garden with sprinklers

Work Copy

- 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 _____ ☐ 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 well or wells, the well depth(s) and location. If more than two wells, attach a separate sheet to this request:

Well #1 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

_____ 1/4 _____ 1/4 _____ 1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block _____ Subdivision Name _____

Estimated Well Depth _____ Feet

Well #2 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

_____ 1/4 _____ 1/4 _____ 1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block _____ Subdivision Name _____

Estimated Well Depth _____ Feet



- g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

Going from flood irrigation to lawn and garden with sprinklers

- 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 _____ ☐ 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 well or wells, the well depth(s) and location. If more than two wells, attach a separate sheet to this request:

Well #1 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

1/4 _____ 1/4 _____ 1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block _____ Subdivision Name _____

Estimated Well Depth _____ Feet

Well #2 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

_____ 1/4 _____ 1/4 _____ 1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

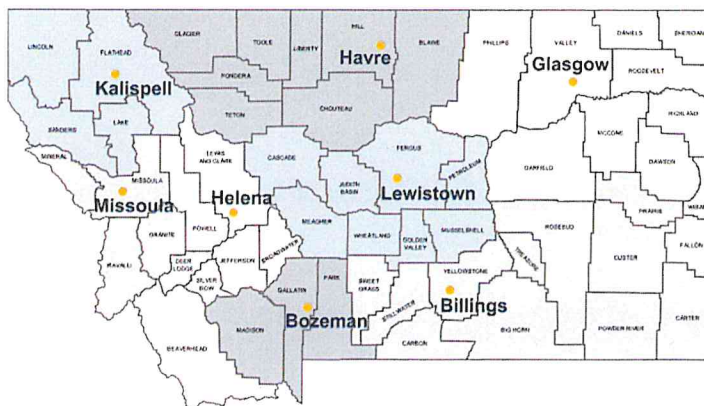
County _____

Lot/Tract _____ Block _____ Subdivision Name _____

Estimated Well Depth _____ Feet



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



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



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



KALISPELL

655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders 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



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



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



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

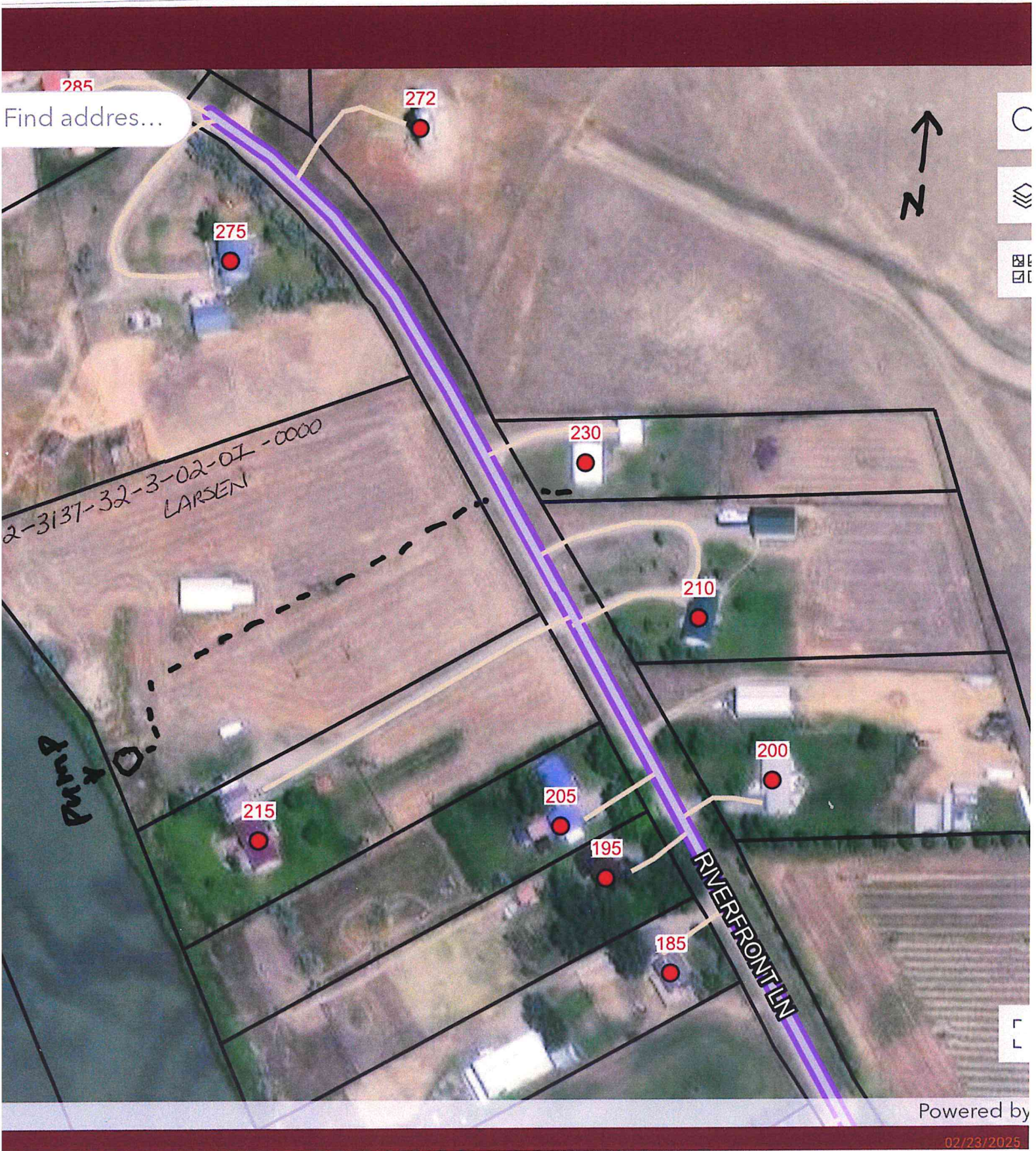
Granite, Mineral, Missoula, and Ravalli Counties



MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
Water Resources Division – Water Rights Bureau
<https://dnrc.mt.gov/Water-Resources/Water-Rights/>

Question 170

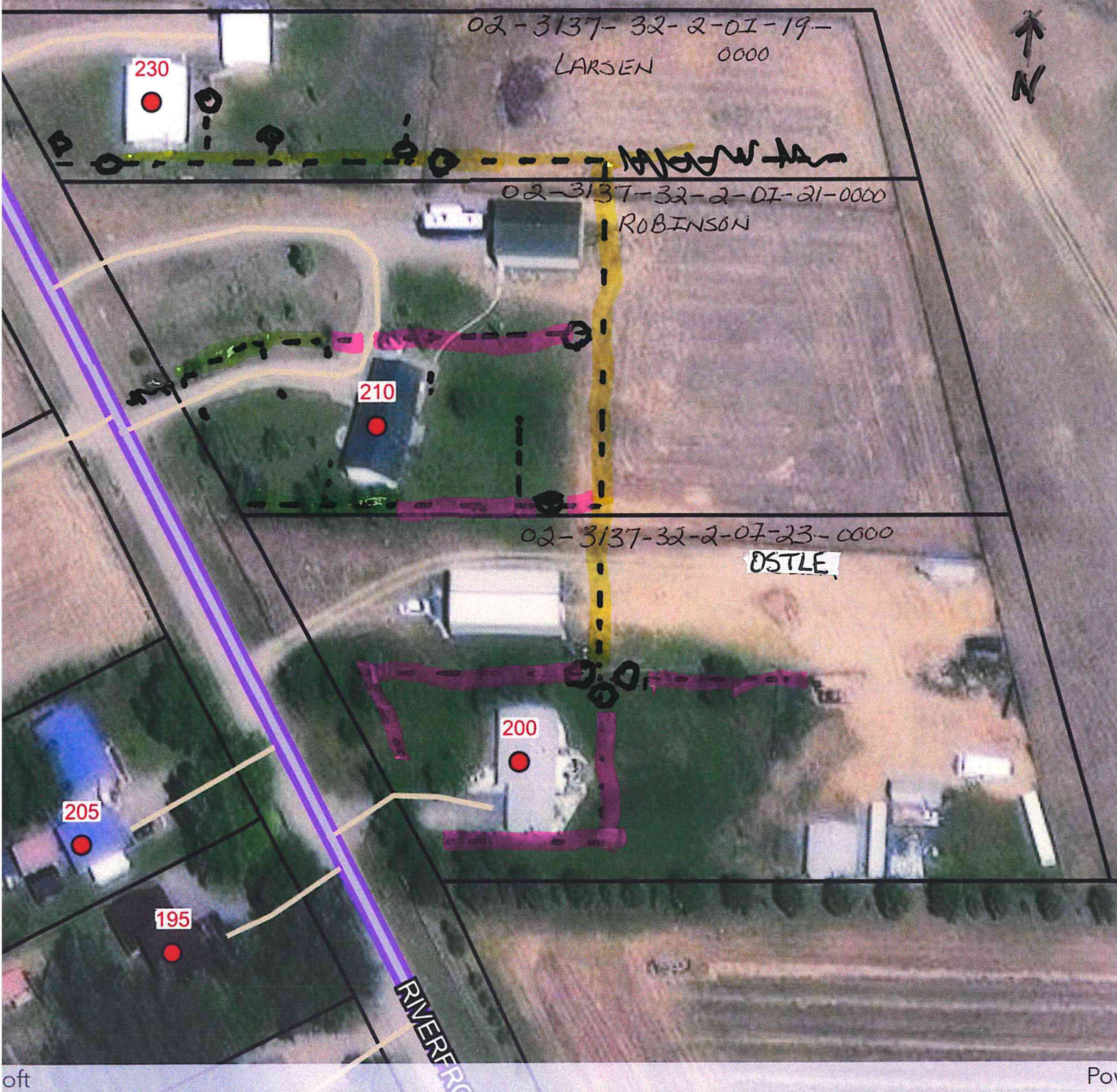
2" FLEXIBLE BLACK PIPE. ---



1 1/2" 
Valves 
1" 

2" 

Find address...



Within the boundaries of the Sun Prairie Estates and
win Silos Developments, the only housing Units not
egally authorized lawn and garden irrigation from
the Sun river are these three units.

This shows the dynamics of this application.

