

Presented by:



Preliminary Engineering Report - Update

MIDDLE MUSSELSHELL COUNTY WATER DISTRICT

Water System Improvements

April 2024



Client Commitment



Empowered Employees



Quality Solutions

MIDDLE MUSSELSHELL COUNTY WATER DISTRICT

Water System Improvements

Preliminary Engineering Report

April 2023
Updated April 2024

Prepared By:
Kinsee Dodge, EI
Susan Hayes, PE

QA/QC By:
Bob Church, PE



Table of Contents

1.0	EXECUTIVE SUMMARY	1
1.1	Introduction and Background	1
1.2	Problem Definition	1
1.3	Alternatives Considered	2
1.4	Preferred Alternative	3
1.5	Project Costs and Budget	3
2.0	PROJECT PLANNING	5
2.1	Location	5
2.2	Environmental Resources Present	7
2.2.1	Land Resources	7
2.2.2	Biological Resources	8
2.2.3	Water Resources	8
2.2.4	Floodplains	9
2.2.5	Wetlands	9
2.2.6	Cultural Resources	9
2.2.7	Socio-economic and Environmental Justice Issues	9
2.3	Population Trends	10
2.4	Community Engagement	11
3.0	EXISTING FACILITIES	13
3.1	Location Map	13
3.2	History	13
3.3	Condition of Existing Facilities	13
3.3.1	Supply	13
3.3.2	Treatment	14
3.3.3	Storage	14
3.3.4	Pumping Stations	14
3.3.5	Distribution System	14
3.4	Operational and Management Practices and Capabilities	14
3.5	Financial Status of any Existing Facilities	14
3.6	Water/Energy/Waste Audits	15
4.0	NEED FOR PROJECT	16
4.1	Health, Sanitation and Security	16

4.2	Aging Infrastructure	18
4.3	Reasonable Growth	18
5.0	ALTERNATIVES CONSIDERED	20
5.1	Alternative Screening	20
5.2	Supply Alternatives	20
5.2.1	Alt. S-1: Do Nothing	20
5.2.2	Alt. S-2: Connect to CMRWA	20
5.3	Treatment Alternatives	21
5.4	Storage Alternatives	21
5.5	Pumping Station Alternatives	21
5.6	Distribution System Alternatives	22
5.6.1	Alt. D-1: CMRWA Two-Point Connection Loop	22
6.0	SELECTION OF AN ALTERNATIVE	29
6.1	Life Cycle Cost Analysis	29
6.2	Ranking Criteria	30
6.3	Scoring of Supply Alternatives	30
6.4	Scoring of Treatment Alternatives	30
6.5	Scoring of Storage Alternatives	30
6.6	Scoring of Pumping Station Alternatives	30
6.7	Scoring of Distribution System Alternatives	30
7.0	PROPOSED PROJECT	31
7.1	Preliminary Project Design	31
7.1.1	Water Supply	31
7.1.2	Treatment	31
7.1.3	Storage	31
7.1.4	Pumping Stations	31
7.1.5	Distribution System	31
7.2	Project Schedule	32
7.3	Permit Requirements	32
7.4	Sustainability Considerations	33
7.4.1	Water and Energy Efficiency	33
7.4.2	Green Infrastructure	33
7.5	Total Project Cost Estimate	33
7.6	Annual Operating Budget	34

7.6.1	Income	35
7.6.2	Annual O&M Costs	35
7.6.3	Debt Repayments	36
7.6.4	Reserves	36
8.0	CONCLUSIONS AND RECOMMENDATIONS	37
8.1	Funding	37
8.1.1	Funding Sources	37
8.1.2	Funding Strategy	41
8.2	Implementation	44
9.0	REFERENCES	46

List of Figures

Figure 2-1 - Vicinity Map	5
Figure 2-2 – Middle Musselshell County Water District Boundary	6
Figure 5-1 - Alternative D-1	25

List of Tables

Table 2-1 - Population Data	11
Table 5-1 - Opinion of Probably Cost - Alternative D-1	27
Table 5-2 - Operation and Maintenance - Alternative D-1	28
Table 6-1 – Life Cycle Costs	29
Table 7-1 - Opinion of Probable Cost for Preferred Alternative	34
Table 7-2 - Water System Annual Operation and Maintenance	35
Table 7-3 - Short Lived Assets	36
Table 8-1 - Funding Scenarios for Middle Musselshell Subdivision	43
Table 8-2 – Project Budget	44
Table 8-3 - Project Implementation Schedule	45

List of Appendices

- Appendix A District Bylaws and Covenants
- Appendix B Environmental Checklist
- Appendix C EA Letters and Responses
- Appendix D Census
- Appendix E Soils
- Appendix F Land Cover
- Appendix G Species of Concern
- Appendix H GWIC
- Appendix I Floodplains
- Appendix J Public Meetings
- Appendix K Surface Water
- Appendix L Wetlands
- Appendix M Water Quality
- Appendix N MMCWD Request – Inclusion in the MJRWS

1.0 EXECUTIVE SUMMARY

1.1 Introduction and Background

The new water district referred to as the Middle Musselshell County Water District (water district or District) generally encompasses the subdivision known as the Roundup Mesa Subdivision and is located in central Montana, located east of Montana Highway 87 immediately north of the city of Roundup. The area has not historically had a water district or a centralized water distribution system; instead, the residents in the area have relied on individual wells or cisterns which water is hauled to. The creation of a new water district has enabled the area to be eligible for grants and loans to help with both planning and potential construction of a centralized water source and water distribution system to serve the residents within the planning area.

Figure 2-2 shows the water district boundaries. The district is generally composed of the Roundup Mesa subdivision, though various landowners have opted to not be included in the District.

This report evaluates the alternatives, technical feasibility, and cost of constructing a water system to serve the area, including a source of supply, treatment, storage, and distribution system.

1.2 Problem Definition

The identified problems for the service area include a lack of adequate water supply and lack of high-quality drinking water.

- Roundup Mesa is a small subdivision located directly north of the city of Roundup. Residents of the area must provide their own drinking water, as well as their own wastewater treatment (septic systems and drain fields).
- Many residents in the area have reported drilling “dry” wells. Those who have not been able to successfully drill a well may have cisterns to which water is hauled or an outside entity is paid to provide water to individual homes on a regular basis.
- The central area of the subdivision is at a higher elevation than both the northern and southern regions of the district. This can result in the need for deeper, and more expensive wells. The water quality in the area is poor and water is scarce.

- Water quality analysis of four (4) private wells within the District boundaries show that manganese levels are at or above the manganese SMCL of 0.05 mg/l indicating that manganese is a contaminant of concern.

Additionally, there is no centralized distribution system within the District boundary, nor is there any storage capacity. To address the water quality and quantity issues of the area, a distribution system must be constructed, and a water source located.

1.3 Alternatives Considered

Initial evaluation of the system determined that the only viable supply alternative which could provide a known quantity and quality of water for the newly formed District was to connect to the Central Montana Rural Water Authority's (CMRWA) water system known as the Musselshell Judith Rural Water System (MJRWS), specifically Phase 4 of the system. With the use of the CMRWA as the source of supply there was no need to consider any treatment alternatives.

The consideration of storage alternatives did not yield the inclusion of any substantial storage within the proposed system for the following reasons:

- The CMRWA is designed to supply sufficient storage for system wide average day demands for 24 hours, while the system source and distribution system is designed to provide system wide maximum day demands.
- The evaluation of including on-site storage for fire flow was eliminated from consideration due to the lack of infrastructure and equipment in the area that would be capable of utilizing the volume and flowrate of water recommended by the fire code.

The water distribution alternative is centered around providing a newly constructed distribution system connected to the CMRWA transmission main. The desire to limit pressure zones and control valves in the most cost-effective and efficient manner possible was present for both the District and the CMRWA. Based on the needs of both entities, the distribution alternative evaluated in this report includes:

- CMRWA Two-Point Connection Loop – a single pressure zone would serve the entire district.

1.4 Preferred Alternative

The preferred alternative for a source of supply for the District is to connect to the CMRWA's MJRWS as stated previously. The MJRWS has adequate water quantity and water rights to include the District in their service area. The District is also a part of the planning area for the MJRWS, making the water transmission main extension eligible for funding as a part of the regional water system construction. The District would become a customer of the CMRWA as a consecutive system and make payments based on the water service agreement with the CMRWA. No water treatment will be necessary for this alternative.

The preferred alternative for a new distribution system for the District is a two-point connection loop as shown in Figure 5-1. This alternative involves several small and one large reach of distribution main provided by the District, as well as various service connections along the CMRWA transmission main. Preliminary planning indicates the District would contain a single pressure zone. This would be accomplished by connecting to the MJRWS along Alec Roy road in two separate places and utilizing pressure reducing valves – set to the same pressure – to allow for redundancy in the system while utilizing only a single pressure zone for the proposed water district. Further analysis will be required when the project is designed.

The preferred alternative for storage includes utilizing the storage provided by the CMRWA. No additional storage will be constructed as a part of the proposed project.

1.5 Project Costs and Budget

The proposed project includes the construction of a distribution system and various service connections to the CMRWA line. The total capital cost is approximately \$3.6 million, and the annual operations and maintenance (O&M) cost is estimated to be \$28,600.

The establishment of a rate structure will be required for the water district. There will be two components to the rate structure, the first to fund the capital cost and O&M on the new distribution system, and the second to provide the necessary payment to the CMRWA for the source of supply. As there is not currently a monthly rate due to the absence of a water system, it is difficult to state with certainty the actual increase to the monthly cost of water for the customers. Currently, customers must maintain their own sources of supply which varies from household to household. There will be a decrease to a customer's current budget due to no longer having to maintain their

own source of supply, but then also the estimated increase to fund and maintain the new distribution system and source of supply (connection to the CMRWA).

The estimated target rate for the new water district, based on the data available from the 2019 Musselshell County Census, is \$40.58 per month based on a current median household income (MHI) of \$34,783 annually. Two potential funding scenarios have been analyzed and are included in the detailed project funding presented in Table 8-1. A third funding scenario assume the District would have to pay for all of the infrastructure if the CMRWA were to not construct the main loop is included in the table to illustrate how the project would become unaffordable in that instance.

The user rates will be based on the f funding the District is able to obtain, however, the proposed funding scenario reflects a residential user rate of \$90.68 per month per EDU and assumes the funding will be obtained entirely from an emerging contaminants loan with principal forgiveness through SRF. Should a different funding scenario be needed, the user rate would change accordingly.

The estimated water rate of \$90.68 is 223.5% of the target rate for the area. However, if the proposed funding scenario is achieved, this is likely to be the most affordable it will be possible to make the project unless additional users are identified.

2.0 PROJECT PLANNING

2.1 Location

The Middle Musselshell County Water District is located in central Montana in western Musselshell County. The District is situated to the north and northeast of Roundup and the intersection of Montana Highways 87 and 12. The District includes portions of Sections 1, 2, 11, and 12 of Township 8 North, Range 25 East. The elevation varies from 3,300 feet above sea level in the northern region of the District to 3,450 feet above sea level near the Roundup Airport. Figure 2-1 shows a vicinity map of the project location.

Figure 2-1 - Vicinity Map

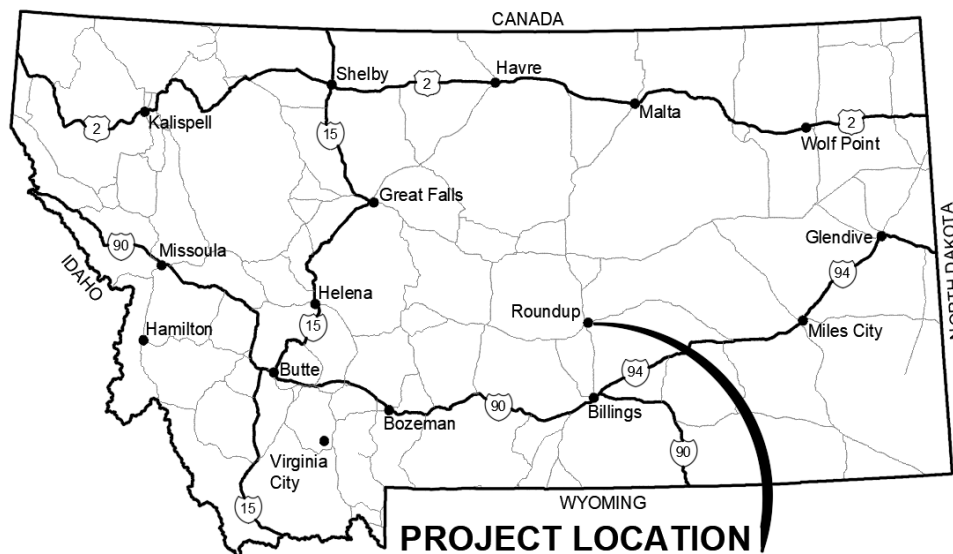
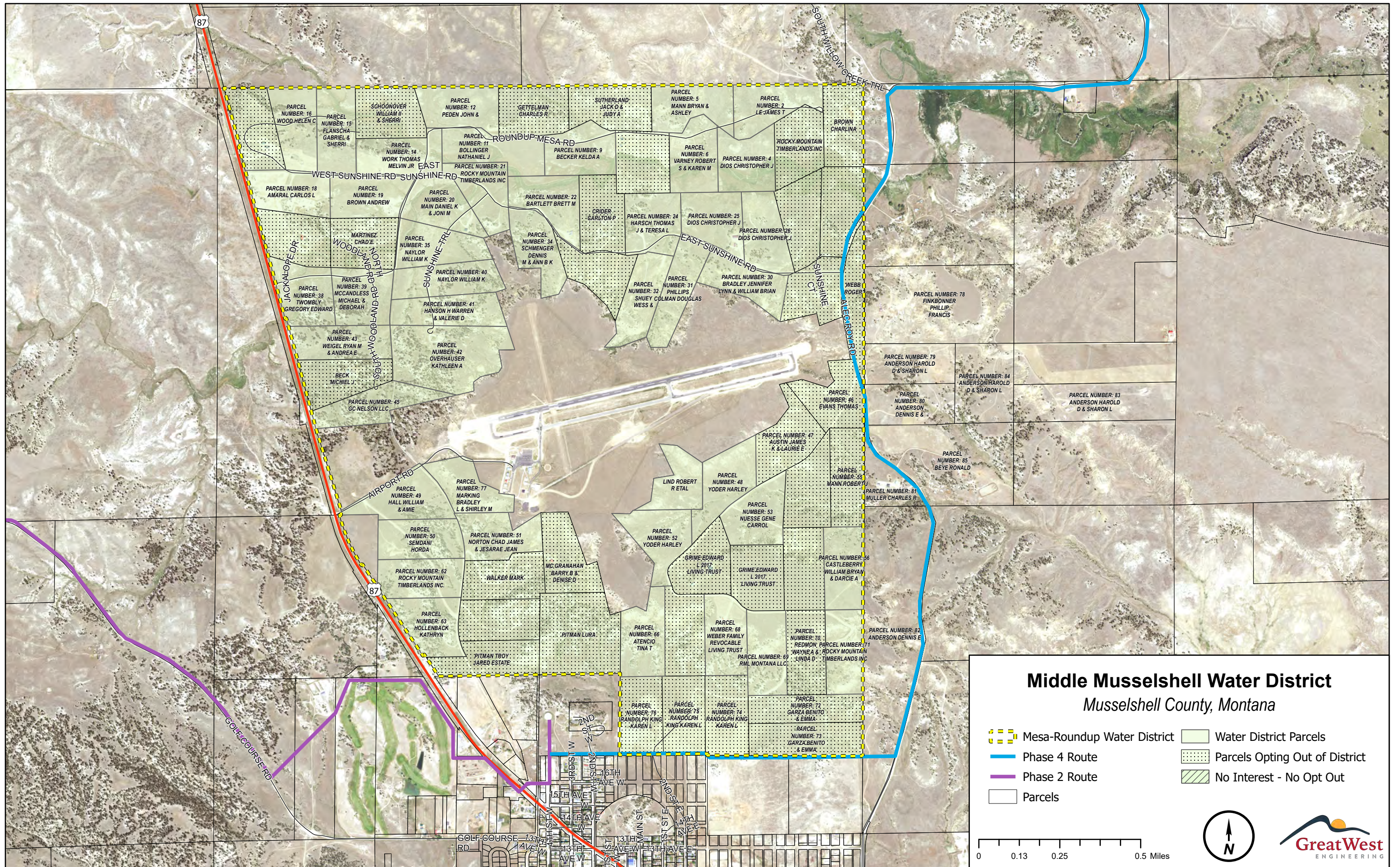


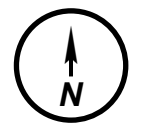
Figure 2-2 shows an aerial view of the District and the surrounding area. As can be seen in the figure there are a number of parcels within the District boundary which have opted out of being included in the district. This has been done through an organized process where owners were asked to submit a form to the County Clerk's office to officially state they do not have an interest in being included in the water district. Those that have not submitted the opt out form, but otherwise indicated at a public meeting that they are not interested in being included in the district are also shown as such and are not included in the total count of potential users. All other parcels are assumed to be part of the water district.



Middle Musselshell Water District Musselshell County, Montana

- Mesa-Roundup Water District
- Phase 4 Route
- Phase 2 Route
- Parcels
- Water District Parcels
- Parcels Opting Out of District
- No Interest - No Opt Out

0 0.13 0.25 0.5 Miles



2.2 Environmental Resources Present

As part of any major construction project, the impacts of the project on the surrounding environment should be considered and provisions made to mitigate any negative impacts. The Uniform Application streamlines the process by utilizing a standard procedure called the Uniform Environmental Checklist. A completed Uniform Environmental Checklist for the potential water improvements project for the water district is included in Appendix B.

As part of quantifying the impacts to various environmental resources, the Uniform checklist process includes sending letters to pertinent local, state, and federal agencies requesting comments on any potential environmental impacts as a result of potential improvements. The letters sent and the received responses to these letters are also included in Appendix C.

Several of the notified agencies provided feedback on the environmental assessment. The State Historic Preservation Office recommended a cultural resource inventory be conducted for the District. No other significant impacts were noted by the other agencies. A draft Environmental Assessment was advertised and made available for public viewing and comment prior to a public hearing and presentation on March 8, 2023, where public comment was accepted. No significant environmental impacts were determined. If the project receives funding to move forward the District advertise and present the Environmental Assessment for acceptance of resolution if required.

2.2.1 Land Resources

The Middle Musselshell County Water District and surrounding area consists primarily of residential homes, pastureland and forested areas. The District consists of a subdivided area with vacant, developed and currently developing lots. Highway 87 borders the western edge of the District, with Roundup to the immediate south. The proposed district contains only residential homes.

The primary soils within the District consists of Cabbart-Yawdim-Badland complex, Cabbart-Delpoint loams, Rentsac-Cabbart complex, and Cabbart-Delpoint calcareous-rock outcrop complex. Of the area included in the soil survey, little to no area is classified as farmland of statewide importance or prime farmland. See Appendices E and F for the area NRCS soil report and land use report.

2.2.2 Biological Resources

In general, wildlife in the area consists of deer, antelope, coyote, rabbit, mice, other small mammals, ducks, and various reptiles and amphibians. An NRIS search was conducted for the county in which the District lies and revealed several species of concern. Some of those listed include Black-tailed Prairie Dog, Eastern Red Bat, Little Brown Myotis, Golden Eagle, Ferruginous Hawk, Greater Sage Grouse, Western Milksnake, and Northern Redbelly Dace among others. The District lies on the southern edge of general sage grouse habitat. Proposed construction is primarily within assumed existing rights-of-way of the subdivision or county roads so it is not anticipated that the project will have an adverse effect on the listed species of concern. See Appendix G for plant and animal species of concern reports.

No plant species of concern were identified for the region.

Any disturbance associated with water system improvements will be temporary in nature. All disturbed areas will be restored to existing conditions upon completion of construction. Minimal adverse impacts to biological resources are anticipated.

2.2.3 Water Resources

Groundwater

Various private wells have been drilled within the area over the years, averaging in depth over 200 feet. A summary of the majority of the wells which were identified on the GWIC databases are included in Appendix H for reference. The area is not known for having high quality groundwater nor a high quantity of it. Residents of the area have not indicated that there is shallow groundwater. Therefore, groundwater is not assumed to be a concern during construction.

Surface Water

There are no significant bodies of surface water within the boundaries of the District; see Appendix K for reference. In the surrounding areas, the Musselshell River flows along the southern edge of Highway 12 south of Roundup, extending past the east and west boundaries of the District. Alkali Creek, a seasonally dry drainage, routes through the center of the District before converging with Willow Creek, a dry channel that routes from Lake Mason to the northwest to the Musselshell River.

2.2.4 Floodplains

Floodplain mapping completed by the FEMA National Flood Insurance Program indicates that the District is largely outside of floodplains. The area floodplain mapping is included in Appendix I for reference. A small region following the path of Alkali Creek lies within a special flood hazard area. This flood zone is located just outside of the district off the northeast corner. This is not a parcel that is anticipated to be served as part of the project.

The potential for floodplain disturbance will be considered carefully during preliminary design and if any floodplains will be impacted by the proposed project, all appropriate permits will be obtained prior to construction of the improvements.

2.2.5 Wetlands

No construction is proposed in any area containing wetlands. Should any impact to wetlands be identified during the design or construction of the project, the District will apply for and receive all necessary permits prior to proceeding with construction. Where the distribution system crosses any ditch or potential wetland, the design will include boring to avoid disturbing waterways or wetlands. See Appendix F for a land cover map of the area and Appendix L for the area wetlands map.

2.2.6 Cultural Resources

Cultural resources include historic and prehistoric archeological sites, historic architecture, engineering features and structures, and resources of significance to Native Americans. The Montana State Historic Preservation Office (SHPO) has been contacted to determine whether there are significant historical and cultural resources in the area. SHPO recommended a cultural resource inventory be completed for the area. This work will be completed during the design phase of the project. See the correspondence from SHPO in Appendix C.

2.2.7 Socio-economic and Environmental Justice Issues

The water district is located in Musselshell County. To analyze the socioeconomics of the water system, the Middle Musselshell County Water District, the City of Roundup and Musselshell County are considered. The data provided on the Montana Department of Commerce (MDOC) website utilized the 2015 to 2019 American Communities Survey.

The water district is listed as having a low to moderate income (LMI) of 44.28% and a median household income (MHI) of \$34,783 as presented from MDOC (see Appendix D).

The City of Roundup is listed as having a LMI level of 50.7% and a MHI of \$34,310 as shown on the MDOC website. For comparison the US Census Bureau 2020 ACS data indicates that the MHI of the area is \$41,520 with a LMI level of 13.3%.

Musselshell County is listed as having an LMI level of 45.1% and MHI of \$43,274 on the MDOC website. For comparison the US Census Bureau 2020 ACS data indicates that the MHI for the area is \$51,153.

The data for both areas is summarized in the following table.

Area	2019 ACS	2020 ACS
Middle Musselshell Water County District		
MHI	\$34,783	\$34,755
LMI %	44.28%	N/A
Target Rate (Water Only)	\$40.58	\$40.57
Musselshell County		
MHI	\$43,274	\$52,950
LMI %	45.1%	N/A
Target Rate (Water Only%)	\$50.49	N/A

The proposed improvements will affect the entire community equally. The improvements will be beneficial to human health and will not adversely impact the environment. There will be no disproportionate effects as a result of the proposed improvements.

2.3 Population Trends

Population analyses provide the basis for all planning efforts and play a large role in planning decisions. Projections of future populations are used in planning and engineering design properly sized facilities. Historic and projected populations for Musselshell County and the town of Roundup are shown in Table 2-1. Supporting census data is included in Appendix D.

Roundup is the largest town the Musselshell County at 1,742 residents according to the 2020 Census Bureau. The District lies to the north of Roundup and currently supports approximately

121 residents in 47-57 households. No historic data is available for the District as the population is recorded as part of the rural population of Musselshell County.

For planning purposes and to allow for growth throughout the community, the subdivision being built-out is assumed for the 40-year planning period (2062). This correlates to a design year population of 187. If recognized, this growth is anticipated to occur throughout the District, as no areas of concentrated growth are identified.

Table 2-1 - Population Data

Year	Roundup ¹	% Annual Increase/Decrease	Musselshell County	% Annual Increase/Decrease
1990	1808	--	4106	--
2000	1931	+6.8	4497	+9.5
2010	1788	-7.4	4538	+0.9
2020	1742	-2.6	4730	+4.2
Average		-1.1		+4.9
2065(3)	2134	+0.5		
(1) US Census Bureau				
(2) Population of Town at Design Year (2042) estimated from 2020 Census at conservative 0.5% Annual Growth				

The growth within the District is also constrained by the total number of lots. Currently there are 45 lots within the District which is the assumed current number of EDUs. There is the possibility that some of the lots which have currently opted out of the District would later choose to join. The number of lots which have opted out is 34. If they were all to join the District, there would be a total of 77 EDUs in the future. For this report only 45 EDUs will be assumed for estimating costs and rates as it is unknown if any other landowners would choose to join the District.

2.4 Community Engagement

On October 12, 2022, Great West Engineering conducted a Public Hearing, at which the proposed project was explained in detail, including the purpose the proposed area of the project, activities, budget, funding, and financial impacts that may result for local citizens as a result of the project. A second public hearing was scheduled for February 22, 2023 to present final findings of the PER as well as an environmental assessment. Due to weather the meeting took place on March 8, 2023. The public was then given the opportunity to ask questions and express opinions regarding the project and potential environmental impacts. A copy of the presentation and other meeting

information is included in Appendix J. A third public meeting is recommended prior to commencing a project to allow for additional comments on the Environmental Assessment for the district.

3.0 EXISTING FACILITIES

3.1 Location Map

The planning area of the Middle Musselshell County Water District is illustrated in Figure 2-2. It encompasses the subdivision to the north of Roundup as well as the airport.

3.2 History

The residents of the District have always had private water supply wells. There is no history of a public water supply system within the District.

The water quality and water quantity in the area have historically been challenging factors. While the water meets primary drinking water standards, based on known samples taken in the area, it is of poor aesthetic quality and also exceeds the secondary MCL for manganese (Appendix M – Water Quality). The ability to construct producing wells has also been challenging, according to area residents. It has been noted that it is not uncommon for “dry” wells to be drilled.

3.3 Condition of Existing Facilities

There are no existing public facilities in the area. The condition of private water supplies varies, though resident comments indicate that overall, the water quality is poor. Some residents haul water or pay to have water hauled on a regular basis to meet family needs. The lack of public facilities means that residents must maintain all their own infrastructure which can mean a lack of redundancy. There is also no centralized storage or water treatment available.

3.3.1 Supply

Source

The lack of a common water source and high-quality drinking water is an obstacle for sustainability and growth within the District. Individual wells may be susceptible to drought which increases risk for the residents in the area.

Water rights

The District does not currently have any water rights as they do not have any source of supply.

Water Quality

Water quality in the area is known to be poor. Although water meets primary drinking water standards, it has poor clarity and odor at multiple residences throughout the district. Additionally, the District has completed water sampling at 4 residences within the district and found that in 3 of the 4 samples the water exceed the SMCL limit for manganese (see Appendix M for results). Manganese is considered an emerging contaminant by the EPA and it is anticipated that it will have a maximum contaminant level assigned at some point in the future.

3.3.2 Treatment

There are no existing public treatment facilities in the District. Individual residences may employ the use of treatment at their homes depending on the quality of water produced by their wells.

3.3.3 Storage

There are no centralized storage facilities within the District. The addition of storage, and amount, will be discussed in the alternatives analysis.

3.3.4 Pumping Stations

There are no pumping facilities within the District. The addition of any necessary pump stations will be discussed in the alternatives analysis.

3.3.5 Distribution System

There is no distribution system within the District. The layout, sizing, and capacity will be discussed in the alternatives analysis.

3.4 Operational and Management Practices and Capabilities

There are no existing facilities, therefore there are currently no operational and management practices. The implementation of comprehensive O&M for the proposed project will be discussed in the alternatives analysis.

3.5 Financial Status of any Existing Facilities

The water district newly formed, therefore there are not currently any financial statements available, nor are there any debts. With the formation of the District, a governing board has been

elected. The bylaws to be adopted by the District will include the completion of annual reporting and audits as necessary. Rates and fees will be determined as part of the proposed project and adopted by the District prior to beginning design of the proposed project.

3.6 Water/Energy/Waste Audits

No audits have been completed as no infrastructure is currently in place. The proposed project will include the necessary equipment to enable water use audits (water balance) as well as monitor energy usage.

4.0 NEED FOR PROJECT

4.1 Health, Sanitation and Security

The individual systems that currently supply water to the community provide different levels of quality and quantity dependent on location, depth of well, system treatment if any, and age of system. Discussions with community members indicate that water quality throughout the District is poor, with high sulfur contents and poor aesthetic quality. Community members have also indicated that water resources are sparse, and several “dry” wells have been drilled. As previously discussed, based on input from individuals within the proposed service area and limited water sampling, the water in the area may pass primary drinking water standards but likely would not pass secondary drinking water standards or maximum contaminant level goals (MCLGs). Specifically it appears the water does not meet the MCGL for manganese.

Establishment of a water distribution system in the District would allow for centralized distribution, treatment and redundancy in the system. This would ensure the region has high quality drinking water and adequate quantity to supply maximum daily demand. A distribution system in the District would not only support the current residents, but also provide flow and storage capable of supporting future growth or development in the District.

Regulatory Requirements

The Safe Drinking Water Act (SDWA) was enacted by Congress in 1974 to provide a standard by which all persons in the United States could be provided safe drinking water through public water supplies. The Act was later amended in 1986 and 1996.

The State of Montana’s regulatory role in drinking water systems is twofold; regulate the SDWA by meeting primacy requirements established by the EPA and ensure satisfaction of state established design criteria for the construction of public water systems. The State has defined public water systems as systems serving ten or more homes, or 25 or more persons. The State has satisfied the primacy requirements of the federal government by passing a state law that is equally as stringent as the SDWA. Accordingly, the EPA has granted the State, via the DEQ, the right to enforce the SDWA. Some of the SDWA rules that apply to the Middle Musselshell County Water District.

National Primary Drinking Water Regulations:

The National Primary Drinking Water Regulations are enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water. The MDEQ has been given primacy for enforcing the primary maximum contaminant levels (MCLs). Because of the numerous contaminants with MCLs, the list is not included as part of this PER but is available on the EPA's website (<http://www.epa.gov>).

The MJRWS would provide high-quality water that meets primary and secondary drinking water standards.

National Secondary Drinking Water Regulations:

The National Secondary Drinking Water Regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic or aesthetic effects in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply, though; states may choose to adopt them as enforceable standards. At this time, the secondary contaminants are limited to: aluminum, chloride, color, copper, corrosivity, fluoride, foaming agents, iron, manganese, odor, pH, silver, sulfate, total dissolved solids, and zinc. Please note, some constituents listed on the Secondary MCLs also have MCLs if the concentrations reach an elevated level. Because of the numerous contaminants with secondary MCLs, the list is not included as part of this PER but is available on the EPAs website (<http://www.epa.gov>).

Emerging Contaminants – Manganese

As a secondary MCL, manganese does not have an enforceable limit. However the U.S. EPA does have a Health Advisory Limit of 0.3 for manganese, and an SMCL of 0.05 mg/L. The EPA recommends that infants up to 6 months of age should not be given water with manganese concentrations greater than 0.3 mg/L for more than a total of 10 days per year, nor should the water be used to make formula for more than ten days per year.

The EPA also recommends that the general population not ingest water with manganese concentrations greater than one mg/L for more than 10 days per year. As a precaution, the general population should consider limiting their drinking water consumption when levels of manganese are above the US EPA health advisory to decrease their exposure and the possibility of adverse neurological effects.

Potential Health Effects

- Many years of exposure to high levels of manganese can cause harm to the nervous system. A disorder similar to Parkinson's disease called Manganism can result. Tremors, shaking, and an unsteady gait are characteristic of very high exposure to manganese. This type of effect is most likely to occur in the elderly after a lifetime of exposure to high levels of manganese or with individuals exposed to welding vapor that contains high levels of manganese.
- Certain baby formulas contain manganese as a nutrient, and if prepared with water that also contains manganese, the infant may get a higher dose than recommended. Some studies suggest that prenatal and early childhood exposures to manganese can have effects on learning and behavior. Thus, it is important to know the manganese levels in drinking water to make baby formula. When manganese levels in drinking water are above 0.3 mg/L, infants under 6 months should immediately stop consuming the water and formula prepared with the water.

Montana Department of Environmental Quality Circular DEQ 1:

The state also established a detailed set of design and construction standards for public water systems that must be satisfied in the design and construction of new water facilities. These standards are described in Circular DEQ 1. State review and approval of the design is necessary prior to the construction of any public water system. All proposed improvements will comply with all of the state design standards specified in DEQ 1.

4.2 Aging Infrastructure

The District does not currently have any existing infrastructure. The only infrastructure in the area is from individual wells and cisterns constructed over the last 23 years (since 2000).

4.3 Reasonable Growth

Growth and projected population estimates are discussed in detail in Section 2.3. Subdivision build-out has been assumed for the 40-year planning period (year 2062) to allow for additional growth in the District. This correlates to a potential design year population of 187, or an additional 66 residents over the current population. This growth is anticipated to occur evenly throughout the District and will result in an estimated total of 77 EDUs.

Despite the potential for growth in the area, all planning within this report is completed with the current number of estimated EDUs of 45 as there is a high level of uncertainty regarding whether other landowners would opt to join the District in the future.

5.0 ALTERNATIVES CONSIDERED

5.1 Alternative Screening

Alternatives have been identified to address the developing needs of the proposed water district, though there are few viable options. Source of supply, distribution, treatment and storage have been considered for the district's water system. The alternatives considered for further analysis were schematically and conceptually designed and evaluated to determine the estimated probable project capital and O&M costs.

5.2 Supply Alternatives

Source of supply options for the district includes do nothing and connection to the Central Montana Regional Water Authority (CMRWA) transmission main.

5.2.1 Alt. S-1: Do Nothing

The Do Nothing alternative does not address the water quality and quantity needs of the district and will not be considered for further analysis.

5.2.2 Alt. S-2: Connect to CMRWA

This alternative involves connection to Phase 4 of the MJRWS transmission main that is anticipated to run along the east side of the District. The District would connect to the transmission main on the east edges of the District, as is further described in the distribution system alternatives. This alternative meets the water quality and quantity needs of the of the District and is assumed to be the source of supply for the District. There is no cost analysis to be completed related to the source of supply as it will be owned and operated the CMRWA. The District would be a customer of the CMRWA, paying monthly fees associated with the number of connections and volume of water utilized. That cost will be included in the financial analysis to be completed for the overall preferred alternative.

5.3 Treatment Alternatives

No treatment is required if the District moves forward with the MJRWS as the new source of supply. All water coming through the MJRWS will be treated (disinfected) prior to pumping to subsequent cities, towns, and districts. Therefore, no treatment alternatives are evaluated.

5.4 Storage Alternatives

Water storage alternatives are not considered as the District will be a subsequent system of the CMRWA, and would be provided with average daily demand storage and system maximum day demand capacity. The MJRWS includes of 1.12 million gallons of regional storage. The CMRWA assumes an average demand of 153 gallons per capita per day (gpcd) and a maximum day demand (MDD) peaking factor of 3.5. With an estimated current District population of 128, the average daily demand (ADD) is approximately 20,000 gallons per day (gpd) and the MDD approximately 70,000 gpd.

The design population is defined by build-out of the subdivision and while not all parcels within the subdivision are currently part of the water district for the purposes of estimating maximum future water use for the area it is assumed that all parcels would receive water. This corresponds with an estimated design population of 187 residents. The ADD for the design population is 38,600 gpd, with a MDD of 100,000 gpd or 70 gpm.

Considering the total storage to be available, as well as the regional system's capacity of 2,750 gpm, there is no need for the proposed District to install additional storage at this time.

The inclusion of additional fire flow storage does not meet the intended purpose of the project. Fire flow and fire storage will be explored further in the future if the proposed District determines that they would like the system to also provide fire flow and also have the equipment and infrastructure to be able to utilize fire flow and storage.

5.5 Pumping Station Alternatives

The project does not include any pump station improvement alternatives.

5.6 Distribution System Alternatives

The goal of the proposed water district is to deliver water of acceptable quality to its users in adequate quantities. To do this, water must be available to the north and south regions, as well as to the airport located at the center of the District. Due to the landscape and layout of the subdivision, few alternatives were feasible as there are limited locations at which the District can connect to the MJRWS main. The connection points and routes of the MJRWS were based on the preliminary design of the regional water system, recent route updates to the regional water system, and the CMRWA's ability to include the transmission pipeline within their project. The routes considered generally follow existing roads to ensure that easements for the pipeline can be obtained while limiting the need for private easements not located within established roadways.

The District and the CMRWA discussed the possibility of different routes to minimize costs to both parties. Based on those discussions, as well as preliminary hydraulic analysis, the distribution alternatives are as follows:

- Do Nothing: This alternative does not serve the goals of the District and will not be further evaluated.
- D-1: MJRWS two-point connection loop with various line extensions within the proposed District.
 - o For cost comparison purposes, a cost was also developed assuming that the CMRWA would not construct any portion of the distribution system within the proposed district area. Aside from looking at the cost comparison that alternative is not presented as it is deemed unaffordable for the area as it added approximately \$2.5 million, or \$580 per month per EDU, to the total project cost. However, it is referenced throughout the next sections of this report to illustrate the much higher project cost the District would need to undertake if the CMRWA were not able to construct a portion of the main distribution system.

5.6.1 Alt. D-1: CMRWA Two-Point Connection Loop

The District would connect to the transmission main near the intersection of Alec Roy Road and East Sunshine Road on the east side of the District, with a potential additional connection at the

intersection of Snowflake Road and Alec Roy Road, also on the east side of the District. Connecting at 2 points allows for redundancy in the system.

This alternative would include District owned water mains in the north and south regions, allowing access for users not located in parcels bordering the MJRWS transmission main loop. The District would be responsible for pipe reaches along the following roads: West Sunshine Road, Roundup Mesa Road, and Airport Road. The District would also be responsible for service connections to the MJRWS transmission main along East Sunshine Road, Snowflake Drive, the west end of Roundup Mesa Road, and various property boundaries.

The project would also include the service lines on private property – extending from the District owned meter pit to the point of use on each property. The service lines are included in the project cost estimate. Post construction, the maintenance of the private service lines would be the responsibility of the land owners/customers, but the initial cost of construction would be funded through the same project as the water distribution mains.

While the MJRWS transmission main and water main would create a loop through the central and southern regions of the District, all connections to the line within the water district would be customers of the Middle Musselshell County Water District.

The proposed system is composed of a single pressure zone: pressures throughout the system would vary significantly depending on elevation, however all points in the proposed boundary can be served from a single pressure zone. Depending on the final location of service line connections, some may require their own pressure reducing valve to reduce pressure before entering a residence to protect indoor fixtures.

Each main connection point to the MJRWS would require a pressure reducing valve to reduce the pressure to the District's system. Further analysis of the pressure zones will be required when the project is designed.

The system will primarily be made up of 6" HDPE equivalent water main, with 4" main utilized on long distance, low demand lines. Service lines from the meter pits to the point of use are assumed to be ¾, 1-inch, or 2-inch.

Design Criteria

All water system improvements will comply with those requirements set forth in Circular DEQ-1. All design criteria presented in Circular DEQ-1 is applicable to each alternative considered, but

specifically, water supply system improvements will meet the requirements of Chapter 3 – Source Development and Chapter 8 – Transmission Mains, Distribution Systems, Piping and Appurtenances. All proposed improvements will receive MDEQ approval prior to commencement of any construction activity.

Map

Figure 5-1 presents the proposed route of the MJRWS transmission main throughout the District, as well as the locations of District owned water main. The figure also depicts the assumed water service connections to individual lots which are part of the District who have not opted out. Only the portions which would be owned and operated by the District are included in the capital cost analysis of this alternative, though the cost of being served by the MJRWS will be included in the total cost per EDU of the proposed system.

Environmental impacts

No significant environmental impacts are anticipated, as the proposed improvements are assumed to primarily occur in the subdivision and county road rights-of-way. It does not appear that there would be significant impacts on any floodplains, wetlands, or other important land resources, endangered species, historical and archeological properties, etc. A temporary disturbance may occur related to construction due to dust and noise. The contract documents would require that the Contractor provide dust control. The contract documents shall also require that Best Management Practices (BMPs) be employed before, during, and after construction until all areas of disturbance have been fully reclaimed and/or re-vegetated. This will be considered carefully during preliminary design of the proposed improvements and all permits will be obtained prior to construction activity taking place. The generation of residuals and wastes is expected to be minimal, and containment and disposal would be the responsibility of the contractor. All permitting will be completed during preliminary design of the project. Refer to Appendices B and C for environmental agency correspondence and the Environmental Checklist.

Land Requirements

Acquisition of easements will be necessary for placement of water mains and services to customers. Any cost associated with easement acquisition has not been included in the cost estimates. Due to the makeup of the proposed water district, it is not possible to determine at this juncture whether or not the payment for easements would be necessary. The District would be responsible for obtaining all the easements for the project including the piping loop constructed by the CMRWA.

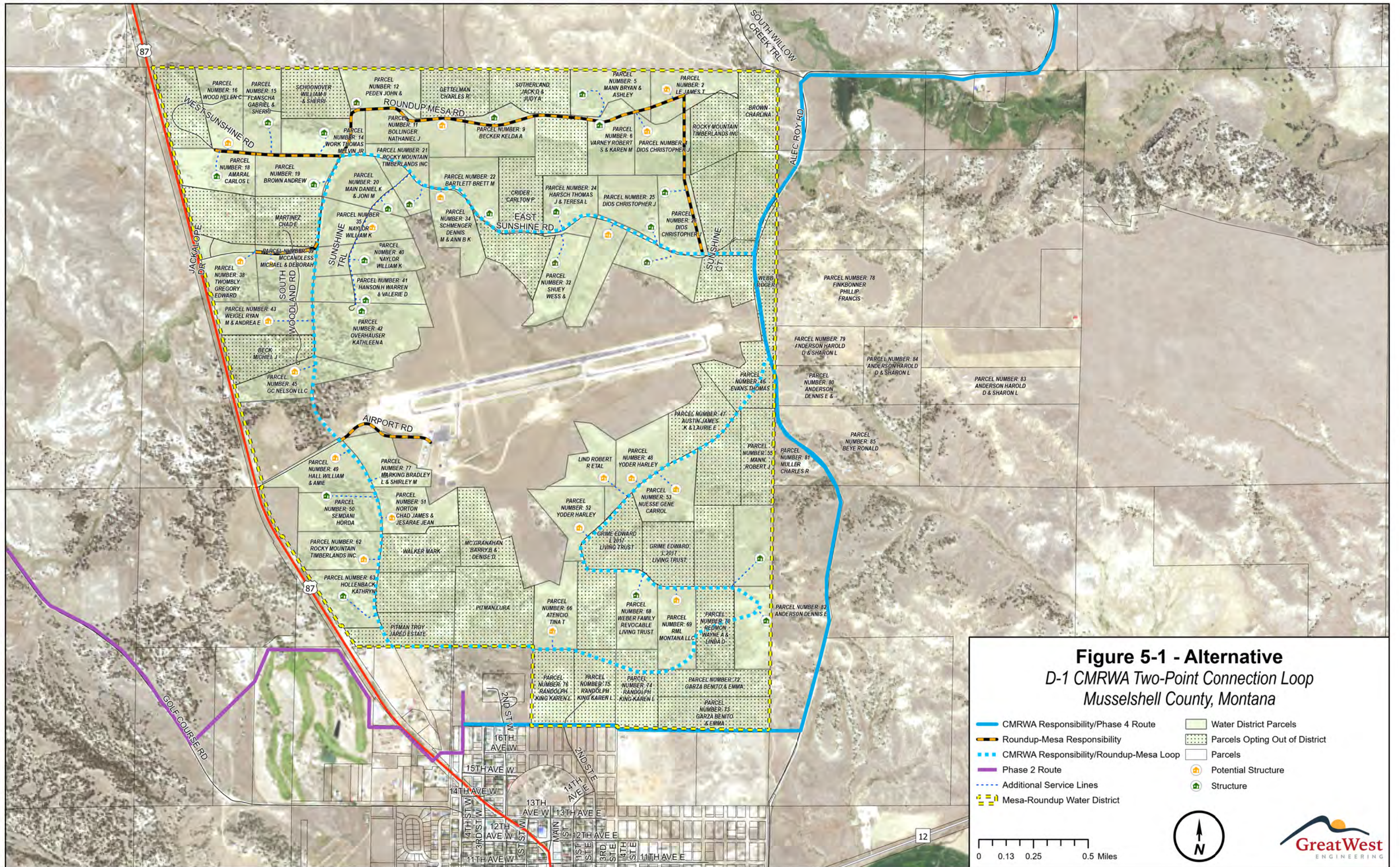
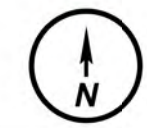


Figure 5-1 - Alternative D-1 CMRWA Two-Point Connection Loop Musselshell County, Montana

- CMRWA Responsibility/Phase 4 Route
- Roundup-Mesa Responsibility
- - - CMRWA Responsibility/Roundup-Mesa Loop
- Phase 2 Route
- - - Additional Service Lines
- Mesa-Roundup Water District
- Water District Parcels
- Parcels Opting Out of District
- Parcels
- 🏠 Potential Structure
- 🏠 Structure

0 0.13 0.25 0.5 Miles



Potential Construction Problems

No unique concerns exist regarding construction of the proposed improvements.

Sustainability Considerations

Construction of a water distribution system will support the residents of the District, both seasonal and permanent. Individual wells are more susceptible to drought. The proposed project will provide a reliable, high quality water option for District residents. Improvements to the system will also support future growth in the area.

Water and Energy Efficiency

The source of supply for the District, the MJRWS, is primarily a gravity system only utilizing pumps at the wells and to serve the communities of Broadview and Deadman's Basin. The goal of the system is to maintain energy efficiency, including through subsequent users. Additionally, a centralized system is more efficient than individual systems and provides equal quality to all users.

Green Infrastructure

Stormwater management during the project will include temporary erosion and sediment control measures including the installation and maintenance of temporary structural control measures to reduce or eliminate the erosion of soils and transport of sediment offsite as a result of construction activities. As a condition of the contract documents, the contractor will be required to complete and adhere to a Storm Water Pollution Prevention Plan (SWPPP).

Cost Estimates

Tables 5-1 presents an estimated option of probable cost for Alternative D-1. Estimated operation and maintenance costs are presented in Table 5-2. Given the current uncertain construction, materials, and supply chain market conditions that are anticipated to continue into the foreseeable future, the cost estimate includes a 10% contingency in addition to inflation.

For the purpose of comparison, the estimated capital cost of the system if the CMRWA did not construct the main loop through the District is \$6 million.

Table 5-1 - Opinion of Probable Cost - Alternative D-1

Opinion of Probable Cost Alternative D-1: MJRWS Two-Point Connection					
#	Bid Item	Qty	Units	Unit Price ¹	Total
1	SWPPP Implementation and Maintenance	1	LS	\$ 7,500.00	\$ 7,500
2	Exploratory Excavation	8	HR	\$ 250.00	\$ 2,000
3	6" HDPE Water Main	17,500	LF	\$ 45.00	\$ 787,500
4	4" HDPE Water Main	5,500	LF	\$ 30.00	\$ 165,000
5	Tie into 10" HDPE Transmission Main	2	EA	\$ 3,500.00	\$ 7,000
6	Imported Bedding	10,000	LF	\$ 4.50	\$ 45,000
7	Type I Bedding	10,000	LF	\$ 20.00	\$ 200,000
8	3/4" Water Service w/ Meter	23	EA	\$ 3,500.00	\$ 80,500
9	Rural Water Service w/ PRV & Meter	20	EA	\$ 4,000.00	\$ 80,000
10	Service Line to Residence	17,500	LF	\$ 15.00	\$ 262,500
11	6" Tee	6	EA	\$ 1,250.00	\$ 7,500
12	6" 90° Elbow	10	EA	\$ 1,250.00	\$ 12,500
13	6" 45° Elbow	10	EA	\$ 1,250.00	\$ 12,500
14	2" Fill Hydrant	2	EA	\$ 7,000.00	\$ 14,000
15	Type B Surface Restoration	2,500	LF	\$ 25.00	\$ 62,500
16	Type C Surface Restoration - Native	20,500	LF	\$ 2.00	\$ 41,000
17	2.5" Blow Off Hydrant	6	EA	\$ 5,000.00	\$ 30,000
18	6" Gate Valve w/ Valve Box (AIS)	10	EA	\$ 3,000.00	\$ 30,000
19	4" Gate Valve w/ Valve Box (AIS)	2	EA	\$ 2,000.00	\$ 4,000
20	Pressure Relief Vault	2	EA	\$ 100,000.00	\$ 200,000
Direct Construction Subtotal					\$ 2,051,000
Mobilization				10%	\$ 205,000
Traffic Control				1%	\$ 21,000
Construction Subtotal					\$ 2,277,000
Construction Cost Inflated to ²			2026	8.0%	\$ 2,656,000
Contingency				10%	\$ 266,000
Engineering Design				10%	\$ 292,200
Engineering Construction				10%	\$ 292,200
Grant Admin, Legal, & Administrative				3%	\$ 87,660
TOTAL					\$ 3,594,060

¹ Estimated unit costs are based upon estimates from suppliers and bid tabs for similar projects throughout Montana.

² The ENR average Construction Cost Index is +2.32% (as of September 2023), so capital costs are projected to the anticipated construction date using a 3% inflation rate.

Table 5-2 - Operation and Maintenance - Alternative D-1

Estimate Increase/Decrease in O&M Costs Alternative D-1: MJRWS Two-Point Connection				
O&M Item	Estimated Cost	Recurrence Interval	Equivalent Annual O&M ¹	Present Worth ²
Distribution System (7.2.1 & 7.2.2) Maintenance	\$4,000	1	\$4,000	\$65,406
Meters (7.2.3)				
Additional Operator Time	\$4,000	1	\$4,000	\$65,406
Meter Replacement (1/3 Every 10 Years)	\$11,000	10	\$1,350	\$22,076
Meter Replacement (1/3 Every 10 Years)	\$11,000	20	\$818	\$13,370
Battery Replacement (1/3 Every 10 Years)	\$2,200	10	\$270	\$4,415
Battery Replacement (1/3 Every 10 Years)	\$2,200	20	\$164	\$2,674
Direct Administrative Costs				
Admin Staff/Operator	\$10,000	1	\$10,000	\$163,514
Insurance	\$5,000	1	\$5,000	\$81,757
Water Testing	\$1,500	1	\$1,500	\$24,527
Materials and Supplies	\$1,500	1	\$1,500	\$24,527
Total			\$28,601	\$173,347
Construction Cost Index	3.00%			
Discount Factor ³	2.00%			

¹ Equivalent Annual O&M calculated using discount rate based upon estimated inflation and interest.

² Present worth based upon a 20 year life cycle using calculated discount rate.

³ Discount rate from OMB Circular No. A-94, Appendix C

6.0 SELECTION OF AN ALTERNATIVE

Each of the technically feasible alternatives considered meet the design criteria and applicable regulations identified in the alternative description. This section will examine advantages and disadvantages of each in terms of life cycle costs, operational and maintenance considerations, permitting concerns, social impacts, environmental impacts, and other non-monetary considerations.

6.1 Life Cycle Cost Analysis

The cost of extensive capital improvements to meet minimum health and safety requirements, applicable regulations, and environmental impacts is a great concern to small communities with limited budgets and resources. At the same time, some alternatives may have a low capital cost but high O&M costs that will put a continual burden on the community. A life cycle cost analysis provides a method to compare the costs of each alternative to one another.

To complete the life cycle cost analysis, the anticipated annual increase to O&M costs, and estimated salvage value of any improvements based upon a straight-line depreciation are converted to present day dollars using the “real” discount rate from Appendix C of OMB A-94. The “real” interest rate for a 20-year project is 2 percent. The net present value is then calculated by adding the estimated capital cost and present worth of the increased O&M and then subtracting the present worth of the calculated salvage value.

Table 6-1 summarizes the 20-year life cycle cost analysis for the alternative and is compared to the life cycle cost of construction without the CMRWA’s MJRWS.

Table 6-1 – Life Cycle Costs

Alternative	Capital Cost	Operation & Maintenance	Present Worth based on 20-year Life Cycle Cost
D-1 w/ MJRWS	\$3,594,000	\$28,600	\$3,581,000
D-1 w/o MJRWS	\$6,000,000	\$28,600	\$5,441,000

6.2 Ranking Criteria

As previously discussed, there is one recommended action for both supply and distribution to meet the District's goals. As such, no ranking criteria or decision matrices were necessary for the weighting of alternatives.

6.3 Scoring of Supply Alternatives

The only supply alternative considered to address the needs of the water district is to connect to the MJRWS transmission main that is expected to run along the east side of the proposed district. No scoring will be evaluated as no other option is presented in this report.

6.4 Scoring of Treatment Alternatives

No treatment alternatives are considered in this report.

6.5 Scoring of Storage Alternatives

No storage alternatives are considered in this report.

6.6 Scoring of Pumping Station Alternatives

No pump station alternatives are considered in this report.

6.7 Scoring of Distribution System Alternatives

The distribution alternative considered in this report includes a loop and several short reaches connected to the MJRWS transmission main loop. This distribution alternative is primarily affected by the chosen route of the separate project undertaken by the CMRWA. No other alternatives were presented in this report as no other feasible distribution alternatives were identified. As such, scoring of the alternative is not applicable as there is no basis for completing a comparison.

7.0 PROPOSED PROJECT

The District's top priority is to bring high quality water to the District's users in adequate quantities. Implementation of this system could be cost prohibitive depending upon grant funds received. The alternatives will be further explored and reevaluated based on funds received as necessary. The recommended improvements include Alternative D-1, shown in Figure 5-1.

7.1 Preliminary Project Design

7.1.1 Water Supply

The Middle Musselshell County Water District will be a consecutive system of the MJRWS that is planned to include a water transmission main from near Roundup to Melstone as part of their Phase 4 construction along the east side of the District. The MJRWS has two established wells located northwest of Judith Gap, with two more under construction as of March 2024, that will provide high quality water in adequate quantities to the entire population included in the CMRWA's planning area.

7.1.2 Treatment

The recommended project does not include water treatment.

7.1.3 Storage

The recommended project does not include water storage.

7.1.4 Pumping Stations

The recommended project does not include pumping stations.

7.1.5 Distribution System

Figure 5-1 included in Chapter 5 illustrates the location and sizes of proposed distribution system improvements included in the recommended improvements project. The preferred alternative includes the following distribution system improvements:

- Alternative D-1: CMRWA Two-point Connection Loop

- Installation of 17,500 lineal feet of 6-inch HDPE and 5,500 lineal feet of 4-inch HDPE water main, and approximately 45 water service connections (for a total of 43 EDUs), along with 17,500 ft of service lines between the meter and the point of use.

The proposed project does not include fire flows as the district does not have any fire prevention machinery or equipment.

7.2 Project Schedule

Chapter 8 of this report includes a detailed implementation schedule. Tasks associated with implementation of the project include establishing a district, securing funding, permitting, design, bidding, and construction. The District intends to pursue funding from the SRF emerging contaminants (EC) fund design and construction of the project. The District is not pursuing MCEP or DNRC funding at this time as the EC funding source better fits their proposed design and construction schedule. Additionally, the EC funding would enable them to keep the user rate to less than half of what would be needed if MCEP, RRG, and SRF loan were the funding sources.

Should the application for EC funds be unsuccessful, the next funding cycle for MCEP and RRGL will be in 2026 with funds becoming available (if awarded) in July of 2027.

The goal of the District is to complete design and construction of the project by the end of 2025 to coincide with the CMRWA project to provide water to Phase 4 users. It would be proposed that design would take place in the fall of 2025 with DEQ approval expected by the spring of 2026, followed by bidding in the second quarter of 2026 and construction in the second half of 2026. It should be noted that this schedule depends on the ability of the CMRWA to complete design and construction of the main service loop in the District. At this time, the CMRWA does not have a schedule proposed for that project. However, on March 13, 2024 the District formally requested to be included as a customer of the MJRWS. The letter and its attachments are included in Appendix N for reference.

7.3 Permit Requirements

The design phase of the project will include obtaining approval of plans and specifications from Montana Department of Environmental Quality Public Water Supply Section. Such permits will be obtained during preliminary design. County road right-of-way occupancy permits will also be

necessary where distribution lines or services are installed within the road right-of-way. Finalization of all easement requests – public and private must be finalized as part of planning/design. Construction permits will likely include a Stormwater Pollution Prevention Plan (SWPPP), which will be the responsibility of the selected contractor.

7.4 Sustainability Considerations

Replacement of aging and deteriorated water system infrastructure, public or individual private systems, is a sustainable utility management practice that aids in creating a resilient utility and provides social, economic, and environmental benefits. The current individual systems have been noted to be unreliable and have poor water quality if District residents have a system at all.

The MJRWS line that would support the proposed District is a gravity fed system whose goal is to create a sustainable water source for rural Montana cities, towns, and districts. The regional water system has accomplished this through strategic design of the transmission main to minimize electrical needs along the main and for subsequent systems.

7.4.1 Water and Energy Efficiency

The CMRWA system is a gravity fed system outside of the pumps at the source wells, with the exception of a planned pump station to serve the communities of Broadview and Deadman's Basin. The goal of the MJRWS is to eliminate a large percentage of typical operation and maintenance costs in their system and subsequent systems by utilizing landscape for gravity systems.

7.4.2 Green Infrastructure

Stormwater management during the project will include temporary erosion and sediment control measures including the installation and maintenance of temporary structural control measures to reduce or eliminate the erosion of soils and transport of sediment offsite as a result of construction activities.

7.5 Total Project Cost Estimate

Table 7-1 provides a detailed project cost for the preferred supply and distribution system improvements.

Table 7-1 - Opinion of Probable Cost for Preferred Alternative

Opinion of Probable Cost Alternative D-1: MJRWS Two-Point Connection					
#	Bid Item	Qty	Units	Unit Price ¹	Total
1	SWPPP Implementation and Maintenance	1	LS	\$ 7,500.00	\$ 7,500
2	Exploratory Excavation	8	HR	\$ 250.00	\$ 2,000
3	6" HDPE Water Main	17,500	LF	\$ 45.00	\$ 787,500
4	4" HDPE Water Main	5,500	LF	\$ 30.00	\$ 165,000
5	Tie into 10" HDPE Transmission Main	2	EA	\$ 3,500.00	\$ 7,000
6	Imported Bedding	10,000	LF	\$ 4.50	\$ 45,000
7	Type I Bedding	10,000	LF	\$ 20.00	\$ 200,000
8	3/4" Water Service w/ Meter	23	EA	\$ 3,500.00	\$ 80,500
9	Rural Water Service w/ PRV & Meter	20	EA	\$ 4,000.00	\$ 80,000
10	Service Line to Residence	17,500	LF	\$ 15.00	\$ 262,500
11	6" Tee	6	EA	\$ 1,250.00	\$ 7,500
12	6" 90° Elbow	10	EA	\$ 1,250.00	\$ 12,500
13	6" 45° Elbow	10	EA	\$ 1,250.00	\$ 12,500
14	2" Fill Hydrant	2	EA	\$ 7,000.00	\$ 14,000
15	Type B Surface Restoration	2,500	LF	\$ 25.00	\$ 62,500
16	Type C Surface Restoration - Native	20,500	LF	\$ 2.00	\$ 41,000
17	2.5" Blow Off Hydrant	6	EA	\$ 5,000.00	\$ 30,000
18	6" Gate Valve w/ Valve Box (AIS)	10	EA	\$ 3,000.00	\$ 30,000
19	4" Gate Valve w/ Valve Box (AIS)	2	EA	\$ 2,000.00	\$ 4,000
20	Pressure Relief Vault	2	EA	\$ 100,000.00	\$ 200,000
Direct Construction Subtotal					\$ 2,051,000
Mobilization				10%	\$ 205,000
Traffic Control				1%	\$ 21,000
Construction Subtotal					\$ 2,277,000
Construction Cost Inflated to ²			2026	8.0%	\$ 2,656,000
Contingency				10%	\$ 266,000
Engineering Design				10%	\$ 292,200
Engineering Construction				10%	\$ 292,200
Grant Admin, Legal, & Administrative				3%	\$ 87,660
TOTAL					\$ 3,594,060

¹ Estimated unit costs are based upon estimates from suppliers and bid tabs for similar projects throughout Montana.

² The ENR average Construction Cost Index is +2.32% (as of September 2023), so capital costs are projected to the anticipated construction date using a 3% inflation rate.

7.6 Annual Operating Budget

Since the District does not currently have an established water or sewer system, there is no history available on an annual operating budget. An estimate of yearly O&M costs can be found in Section 7.6.2.

7.6.1 Income

Based on MHI, the target rate for the District is \$40.58. Based on the cost estimate of the recommended alternative and successfully obtaining the desired funding package, the water rate proposed will be 223% of the target, costing \$90.68 per EDU.

7.6.2 Annual O&M Costs

Table 7-2 summarizes the District's proposed annual operating budget estimated to increase costs annually by \$28,600.

Table 7-2 - Water System Annual Operation and Maintenance

Estimate Increase/Decrease in O&M Costs Alternative D-1: MJRWS Two-Point Connection				
O&M Item	Estimated Cost	Recurrence Interval	Equivalent Annual O&M ¹	Present Worth ²
Distribution System (7.2.1 & 7.2.2) Maintenance	\$4,000	1	\$4,000	\$65,406
Meters (7.2.3)				
Additional Operator Time	\$4,000	1	\$4,000	\$65,406
Meter Replacement (1/3 Every 10 Years)	\$11,000	10	\$1,350	\$22,076
Meter Replacement (1/3 Every 10 Years)	\$11,000	20	\$818	\$13,370
Battery Replacement (1/3 Every 10 Years)	\$2,200	10	\$270	\$4,415
Battery Replacement (1/3 Every 10 Years)	\$2,200	20	\$164	\$2,674
Direct Administrative Costs				
Admin Staff/Operator	\$10,000	1	\$10,000	\$163,514
Insurance	\$5,000	1	\$5,000	\$81,757
Water Testing	\$1,500	1	\$1,500	\$24,527
Materials and Supplies	\$1,500	1	\$1,500	\$24,527
Total			\$28,601	\$173,347

Construction Cost Index 3.00%

Discount Factor³ 2.00%

¹ Equivalent Annual O&M calculated using discount rate based upon estimated inflation and interest.

² Present worth based upon a 20 year life cycle using calculated discount rate.

³ Discount rate from OMB Circular No. A-94, Appendix C

7.6.3 Debt Repayments

The District does not currently have any outstanding debt.

7.6.4 Reserves

The District is newly formed and does not currently have any reserves.

Debt Service Reserve

The Drinking Water State Revolving Fund, SRF, requires a 10% bond reserve be maintained on loan funds. Should an SRF loan be utilized, the bond reserve will be included in the total cost of the project.

Short-Lived Asset Reserve

Short-lived assets are typically accounted for in operation and maintenance costs and would include costs for replacement of parts such as meters, meter boxes, hydrants and blow offs, vaults, lids, and access hatches. Specific short-lived assets have been estimated below for the District.

Table 7-3 - Short Lived Assets

Short Lived Assets	
	Total
1-5 Years	Contributions
Meter/valve appurtenances	\$1,500
Computer Software	\$500
Total 1-5 years	\$2,000
Annual Contributions	\$400
5-10 Years	Contributions
Meters (\$250 x 5)	\$1,250
Total 5-10 years	\$1,250
Annual Contributions	\$250
10-15 Years	Contributions
Individual water meters (\$250 x 60)	\$15,000
Total 10-15 years	\$15,000
Annual Contributions	\$3,000
TOTAL Annual Contributions	\$3,650

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following sections will develop a proposed funding plan and implementation schedule for the preferred alternative and subsequent funding.

8.1 Funding

8.1.1 Funding Sources

The following sections provide a brief description of the potential funding sources and whether or not the Middle Musselshell County Water District would be eligible for those funds.

Montana Coal Endowment Program (MCEP)

MCEP is a state funded grant program, which is administered by the Montana Department of Commerce (MDOC). MCEP grants are available on a competitive basis for issues related to health and safety, and financial need impacting local governments. MCEP provides financial assistance to local governments for infrastructure improvements. Grants can be obtained from MCEP for up to \$500,000 if the projected user rates are less than 125% of the target rate, for up to \$625,000 if projected user rates are between 125% and 150% of the target rate, and for up to \$750,000 if the projected user rates are over 150% of the target rate. MCEP grant recipients are required to match the grant dollar for dollar, but the match may come from a variety of sources including other grants, loans, or cash contributions.

Based on an MHI of \$34,783 and current rate projection of 323%, the District will be eligible for the full \$750,000 grant. At this time, the District is opting to pursue other sources of funding, however should that be unsuccessful it is recommended that the District apply for these grant funds in the next funding cycle.

Renewable Resource Grant and Loan Program (RRGL)

RRGL is a state program that is funded through interest accrues on the Resource Indemnity Trust Fund and the sale of Coal Severance Tax Bonds and is administered by the Montana Department of Natural Resources and Conservation (DNRC). Eligible applicants include cities, counties, or other political subdivision including water districts. The primary purpose of the RRGL is to enhance Montana's renewable resources. For public facilities projects that conserve, manage, develop, or protect renewable resources, grants of up to \$125,000 are available.

The preferred funding scenario does not assume any RRGL funds at this time. However, should the proposed funding scenario be unsuccessful it would be recommended that the District pursue RRGL funds in the future.

Although the RRGL program is competitive, the proposed project will promote the District's water conservation efforts by eliminated outdated individual water sources and utilizing a large-scale gravity fed system. Water conservation also promotes energy conservation in that minimal pumping will be required for the source system, the MJRWS, and no pumping will be used by the water district itself. Replacing deteriorated individual user infrastructure (private wells) will reduce wasted water, promote water conservation within the local groundwater system, save energy, and improve the District's competitiveness in obtaining up to \$125,000 of grant funds through the DNRC-RRGL program if and when it is decided to apply.

Community Development Block Grant (CDBG)

CDBG is a federally funded program that is also administered by the Montana Department of Commerce (MDOC). The primary purpose of CDBG funds is to benefit low to moderate income (LMI) families. Hence, a municipality must have an LMI of 51% or greater. This is usually determined by the current Census. However, under certain circumstances, the MDOC may allow an income survey to be completed (such as there have been major economic changes since the Census or if a community is only slightly under the required LMI percentage).

The CDBG grant funds can be applied for in an amount of up to \$750,000 with a limit of \$15,000 per LMI household, so a community needs 50 LMI households to apply for the maximum grant funds. The use of CDBG funds requires a 25% local match that can be provided through cash funds, loans, or a combination thereof.

CDBG funding does not allow water and sewer districts to apply. The Middle Musselshell County Water District would need to request Musselshell County to apply to CDBG on their behalf. Based on the 2015-2019 American Communities Survey data, Musselshell County's LMI is 45.1%, which is not eligible for CDBG funding. Therefore, an income survey of the district would need to be completed to determine the eligibility.

State Revolving Fund (SRF)

SRF provides low-interest loan funds for both water and wastewater projects through the Drinking Water State Revolving Fund (DWSRF) and the Water Pollution Control State Revolving Fund (WPCSRF), respectively. The SRF program is administered by the Montana Department of

Environmental Quality. Eligible organizations include community public water systems owned by private persons or municipalities, non-profit organizations, and non-community water systems. Current loan terms include an interest rate of 2.5% for a 20-year period. In some instances, SRF has approved a 30 or 40-year term. The loan requires a debt service reserve (1/2-year payment) and requires 10% annual loan coverage.

SRF also has limited "principal forgiveness" funds available for projects. For water projects, 75% of the SRF funding for a project, up to \$750,000, may be obtained, depending on the availability of funds.

The Middle Musselshell County Water District is eligible to apply for this funding. The District would need to apply to be placed on the DWSRF priority list. A funding scenario was evaluated for the District utilizing an SRF loan and loan forgiveness, however at this time District's hopes to limit the need for any SRF loan through the use the emerging contaminants funding available through SRF.

Emerging Contaminants

In the 2021 Bipartisan Infrastructure Legislation (BIL), EPA provided two funding programs to address emerging contaminants in drinking water. The first funding program will be provided through the State Revolving Fund program and consists of 100% loan forgiveness. The second funding program is specific to small and disadvantaged communities and is a grant.

Emerging contaminants (EC or ECs) are chemicals or materials characterized by a perceived, potential, or real threat to human health or the environment or by a lack of published health standards. A contaminant also may be "emerging" because of the discovery of a new source or a new pathway to humans. Emerging Contaminants can be found in pharmaceuticals, fragrances, fire retardants, detergents, insecticides, and industrial chemicals.

Montana SRF has identified the following emerging contaminants that can be addressed utilizing the EC loan forgiveness and grant funds; perfluoroalkyl and polyfluoroalkyl substances (PFAS), manganese, and other emerging contaminants.

The Middle Musselshell County Water District sampled area wells for manganese, will submit an application to be included on the SRF priority list for emerging contaminants in March of 2024 followed by a uniform application to utilize EC funding for the proposed project. Preliminary conversations with SRF staff indicate that the proposed project is eligible.

USDA Rural Development (RD)

RD provides grant and loan funding to municipalities for water and wastewater projects that improve the quality of life and promote economic development in Rural America. Municipalities with a population of less than 10,000 are eligible to apply, though; priority is given to those with a population of less than 5,500.

Grant eligibility and loan interest rates are based on the community's median household income (MHI) and user rates. If the area to be served has a MHI of \$38,205 or lower and the project is necessary to alleviate a health and/or sanitation concern, up to 75% of the project costs are grant eligible. Up to 45% of the project costs are grant eligible if the planning area has an MHI between \$38,205 and \$47,757.

RD currently offers the following loan interest rates:

- Poverty – 2.125%. A community qualifies for the poverty rate if its median household income (MHI) is less than \$38,205 and the project is necessary to alleviate a health or sanitary problem.
- Intermediate – 2.750%. Applies to communities with an MHI greater than \$38,205 and less than \$47,757 without an existing health or sanitary problem. This rate also applies to communities with an MHI below \$38,205 without a documented health or sanitary problem.
- Market – 3.500%. Applies to communities with an MHI greater than \$47,757.

The District's MHI is \$34,783, technically qualifying them for the intermediate rate for loan interest rates. However, due to the limited number of proposed users within the District it is possible that USDA RD funds would not be available to the proposed District due to the high cost and therefore affordability of the project to the end users. Initial conversations with the staff at USDA RD indicate that the very high user rate, well in excess of 200% of the target rate, may make it a difficult project for RD to consider funding.

Montana Coal Board

The Coal Board provides grant funding to local governmental units to adequately provide for the expansion of public services or facilities needed as a direct consequence of coal development activities. There is no maximum limit to the amount the Coal Board can fund, but available funding

is very limited so it can be difficult to receive any funds from the Coal Board, especially large sums.

The Middle Musselshell County Water District is in Montana's coal impacted area. As such, the District is eligible to apply for this funding however it is not currently included in the proposed funding scenario.

Economic Development Administration (EDA)

The objective of the EDA's Public Works Program is to help distressed communities revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, and create or retain long-term, private-sector jobs, and investment. EDA funding is extremely competitive, so unless a private sector company provides documentation that the project is necessary to expand or build a new facility, the District's EDA application would not be funded. This project does not meet this criterion; therefore, the District will not pursue EDA funding.

INTERCAP

INTERCAP provides loan funds at a low cost, variable interest rate to any municipal corporation or political subdivision of the state. The program is a variable rate loan program, where interest rates are adjusted on February 16th of each year. The current interest rate is 5.75% through February 15, 2024. The variable rate changes every February 16. INTERCAP is administered by the Montana Board of Investments and is very flexible in the variety of funding which would include both water and wastewater projects. There is no funding cycle (funds are always available), however, the maximum loan term is 10 years.

The District is eligible to apply for this funding, however at this time it is not recommended as the District has no funding source to enable them to pay interest on a loan. And due to the availability of SRF financing and principal forgiveness available, an INTERCAP loan is not recommended for long-term financing.

8.1.2 Funding Strategy

Consideration of various combinations of the above funding strategy is depicted in Table 8-1, along with the resulting impacts user rates. Work sessions with the District indicate that the community is most interested in the alternative that provides that least impact to user rates.

In summary, the District's preferred funding package and recommended by this PER is Scenario #2, which includes:

- \$3,594,000 Emerging Contaminants (principal forgiveness)

Table 8-1 - Funding Scenarios for Middle Musselshell Subdivision

ITEM	Funding Options		
	SCENARIO #1	SCENARIO #2	SCENARIO #3
	SRF Emerging Contaminants Principal Forgiveness Loan (20-yrs, 2.5%)	MCEP, RRGL, SRF Loan (20-yrs, 2.5%), SRF Forgiveness	MCEP, RRGL, SRF Loan (20-yrs, 2.5%), SRF Forgiveness - No CMRWA
MMCWD Water System	\$3,594,000	\$3,594,000	\$6,050,000
Rounded Total	\$3,594,000	\$3,594,000	\$6,050,000
DNRC Grant	\$0.00	\$125,000.00	\$125,000.00
MCEP Grant	\$0.00	\$750,000.00	\$750,000.00
SRF/EC Forgiveness	\$3,594,000.00	\$750,000.00	\$750,000.00
CDBG Grant	\$0.00	\$0.00	\$0.00
SRF Loan	\$0	\$1,969,000	\$4,425,000
Total Project Funds	\$3,594,000	\$3,594,000	\$6,050,000
RD - Interim Interest (loans > \$500,000, see link to calculate)			
SRF Bond Reserve (1/2 year payment)	\$0.00	\$63,204.90	\$142,042.50
Total Loan Amount	\$0	\$2,032,205	\$4,567,043
Annual Loan Payment	\$0	\$130,470	\$293,210
Total Loan Payments Over Life of Loan	\$0	\$2,609,400	\$5,864,200
Total Interest Paid Over Life of Loan	\$0	\$577,195	\$1,297,158
Annual Loan Coverage	\$0	\$13,047	\$29,321
TOTAL ANNUAL CAPITAL DEBT SERVICE COST	\$0	\$143,517	\$322,531
<i>User Capital Cost/Month²</i>	<i>\$0.00</i>	<i>\$265.77</i>	<i>\$597.28</i>
Current Annual O&M ¹	\$0.00	\$0.00	\$0.00
Current Annual Debt Service ¹	\$0.00	\$0.00	\$0.00
Additional O&M Due To Project	\$28,600.00	\$28,600.00	\$28,600.00
Annual Short Lived Asset Reserve/Capital Reserve	\$0.00	\$0.00	\$0.00
TOTAL ANNUAL O&M COSTS	\$28,600	\$28,600	\$28,600
<i>User O&M Cost/Month²</i>	<i>\$52.96</i>	<i>\$52.96</i>	<i>\$52.96</i>
USER COST/MONTH²	\$52.96	\$318.74	\$650.24
Existing Average User Cost/Month/EDU	\$0.00	\$0.00	\$0.00
COST/MONTH INCREASE/EDU	\$52.96	\$318.74	\$650.24
Average Existing Other System Cost/Month	\$37.72	\$37.72	\$37.72
Total Proposed Water & Sewer Cost/Month	\$90.68	\$356.46	\$687.96
Combined Systems Target Rate ³	\$40.58	\$40.58	\$40.58
PERCENT OF COMBINED TARGET RATE	223.5%	878.4%	1695.3%

¹ The system currently does not have any O&M or debt

² Based on an estimated 45 EDUs

³ <https://comdev.mt.gov/Resources/Target-Rate>

Table 8-2 – Project Budget

Activity Item	Emerging Contaminants – SRF Principal Forgiveness	Total
Professional Services	\$27,000.00	\$27,000.00
Legal Costs	\$5,000.00	\$5,000.00
Personnel	\$2,000.00	\$2,000.00
Office Supplies	\$1,500.00	\$1,500.00
Travel & Training	\$2,160.00	\$2,160.00
Audit Fees	\$25,000.00	\$25,000.00
Loan Reserve		\$
Bond Counsel	\$25,000.00	\$25,000.00
Total Administration	\$ 87,660.00	\$87,660.00
Engineering Basic Services	\$404,400.00	\$404,400.00
RPR	\$180,000.00	\$180,000.00
Construction	\$2,656,000.00	\$2,656,000.00
Contingency	\$266,000	\$266,000.00
Total Activity	\$3,504,400.00	\$13,504,400.00
Total Project Budget	\$3,594,060.00	\$3,594,060.00

8.2 Implementation

Before implementation of the project, all funding must be secured. As noted previously, the proposed funding package for the District would use EC funds (principal forgiveness), assuming 100% principal forgiveness of \$3,594,000.

This funding scenario assumes the District will forego the state grant applications (DNRC and MCEP) which are due in May of 2024. Instead, a SRF uniform application will be prepared and submitted to secure the EC funding.

Upon securing all funding, the project start-up phase for the funding programs is expected to be about a two-month process. Pending concurrence with the CMRWA on whose source of supply the District will depend, it is anticipated that final design and approvals could be completed by early to mid 2025, and bidding could take place in 2025 followed by construction. Long lead permitting will be initiated early in the preliminary design phase to not delay the overall project

schedule. Commencement of construction activities could begin as early as start mid to late 2025. If that schedule is achieved, construction could be completed by early 2026. The potential overall project implementation schedule is summarized below.

Table 8-3 - Project Implementation Schedule

Action	Date
PER Complete	Spring 2024
Submit Uniform Application	March/April 2024
Finalize Financing and Budget	August 2024
Contracting for Engineering Begin Design	August/September 2024
Coordinate Schedule with CMRWA	September 2024
Apply for Permits	November 2024
Design Basis Report/Cost Estimates to the District	February 2025
Submit Design Plans and Specifications to MDEQ	March/April 2025
MDEQ Review & Approval	May 2025
Advertise and Open Bids	May/June 2025
Finalize Financing	July 2025
Start Construction	July 2025
Complete Distribution System Construction	February 2026

9.0 REFERENCES

Montana Bureau of Mines and Geology (MBMG). Montana Groundwater Information Center Water Well Data. Helena, Montana: Montana State Library.

https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did={B40FCBD4-DA34-483A-A8C9-F9C1E95F7A21}

Montana Department of Commerce, Census and Economic Information Center (CEIC). U.S. Census Bureau 1990 Census and 2000 Census data.

<https://ceic.mt.gov/Maps/Demographics/Population>

Montana Department of Environmental Quality. Circular DEQ 1: Standards for Water Works. 2018 Edition.

<http://deq.mt.gov/Portals/112/Water/WQInfo/Documents/Circulars/Circulars/2018DEQ-1.pdf>

Montana Department of Environmental Quality Source Water Protection Program. City of Choteau Public Water System PWSID # MT0000175 Source Water Delineation and Assessment Report. 02/22/01. <http://deq.mt.gov/Water/DrinkingWater/SourceWater>

Montana Natural Heritage Program (MTNHP). Montana Land Cover/Land Use Theme. 2016. Helena, Montana. <http://mtnhp.org/mapviewer/?t=1>

Montana Natural Heritage Program (MTNHP). Montana Wetland and Riparian Framework. 2020. Helena, Montana. <http://mtnhp.org/mapviewer/?t=8>

Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. Montana Animal Species of Concern Report. Retrieved on 4/9/2020, from

<http://mtnhp.org/SpeciesOfConcern/?AorP=a>

Natural Heritage Program. Montana Plant Species of Concern Report. Retrieved on 4/9/2020, from <http://mtnhp.org/SpeciesOfConcern/?AorP=p>

Montana Sage Grouse Habitat Conservation Program. Montana Sage Grouse Habitat Conservation Map. <https://sagegrouse.mt.gov/ProgramMap>

Montana State Library. Geographic Information Clearinghouse. <http://geoinfo.msl.mt.gov/>

United States Census Bureau, Population Division. Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. American Fact Finder. <http://factfinder.census.gov>

United States Department of Agriculture Natural Resources Conservation Service. Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

United States Fish and Wildlife Service. National Wetlands Inventory NWI Mapper. <https://www.fws.gov/wetlands/Data/Mapper.html>

Appendix A

District Bylaws and Covenants

BY-LAWS OF THE ROUNDUP MESA LANDOWNER'S ASSOCIATION

ARTICLE I: FORMATION AND OBJECTIVES

Section 1.1: Formation

The Roundup Mesa Homeowner's association is a nonprofit eleemosynary corporation organized and existing under the laws of the State of Montana.

Section 1.2: Objectives

The objectives of the Corporation are:

- a. To maintain, preserve and improve the common areas used by members of the Corporation, their guests and other permitted users, for ingress, egress, recreational and utility purposes: and
- b. To enforce covenants heretofore or hereafter adopted affecting Roundup Mesa Subdivision (hereafter called the Subdivision),
- c. To negotiate and monitor grazing leases, if any,
- d. To perform such other functions consistent with the law and validly directed by the Board of Directors to be performed by the Corporation.

ARTICLE II: MEMBERSHIP

Section 2.1: Definition of Members

Those persons and entities described as the "Developer"; "Lot Owners", "Lot Purchasers" and their successors in interest are and shall be members of the Corporation.

"Developer" is the Rocky Mountain Timberlands, Inc., a Montana corporation.

"Lot Owners" are those persons and entities who have received a Warranty Deed for one or more lots in the Subdivision, and who have not sold or otherwise transferred the lot. A lot for which a warranty Deed shall have been delivered shall be deemed "owned". "Lot Purchasers" are those persons or entities who have entered into a Contract for Deed to purchase one or more lots in the Subdivision has

not been delivered pursuant to such Contract for Deed.

Those persons or entities who by reason of purchase, assignment or otherwise acquire the rights of lot owners or lot purchasers are and shall be deemed, respectively, lot owners or lot purchasers, as the case may be.

Section 2.2: Classes of Members

Lot owners and Lot Purchasers shall be Class A Members.

Section 2.3: Voting

Class A Members shall for each lot owned or purchased have one vote for at large Members of the Board of Directors and for all other issues upon which votes shall be taken.

The Developer shall have one vote on each matter subject to vote for each lot of the Subdivision owned by the Developer.

Where there is more than one person or entity comprising the Grantee of any individual lot of the Subdivisions, the person or entity first named in the Warranty Deed as Grantee shall be entitled to exercise the vote attributable to such lot UNLESS all of the persons or entities, collectively named as Grantee, shall unanimously exercise such vote or shall vote a person or entity different from that above described.

Section 2.4: Proxies

Any member entitled to vote may do so in person or by proxy. No proxy shall be valid for more than eleven months after the date of execution thereof unless otherwise provided in the proxy instrument.

Any officer of the Developer or of a Member entity shall have the right to exercise the appropriate voting rights.

ARTICLE III: MEETINGS OF MEMBERS

Section 3.1: Annual Meeting

There shall be an annual meeting of Members of the Corporation to be held in Montana, unless some other place shall be designated in the notice of the meeting.

The annual meeting shall be held in July each year, commencing in 2002, or upon such other date, not later than ninety days thereafter, as shall be designated in the notice.

Notice of the date of annual meeting of any special meeting shall be mailed to all

Members at least thirty days prior to the date set for such meeting.

Section 3.2: Business to be conducted At the Annual Meeting

Whether specified in the notice, or not, the following reports shall be presented to the Members at the Annual Meeting.

- a. Report of the activities of the Corporation for a preceding year.
- b. Report of the financial condition of the Corporation.
- c. Budget for the forthcoming year with identification of proposed expenditures for the forthcoming year and anticipated revenues.

Election of Directors shall be held at the Annual Meeting.

Section 3.3: Special Meeting of Members

Special meetings of the Members may be called by a majority of the Board of Directors.

Section 3.4: Agenda for Meetings

All notices of meetings, annual or special, shall set forth all matters upon which action of the Members will be requested.

Section 3.5: Voting, Quorum

No action shall be taken nor be binding upon the Corporation unless:

- a. The matter shall have been duly noticed for action in the call for the meeting or in these by-laws; and
- b. The action shall have been affirmatively voted upon by the Developer and by a majority of those Members entitled to vote who were present in person and by proxy at the meeting; or the Board of Directors was authorized by such vote of the Members of developer to take such action; and
- c. There was a quorum present, in person or by proxy, at said meeting, the quorum comprising the Developer and the owners of at least ten- percent (10%) of the lots of the Subdivision.

ARTICLE IV: DIRECTORS

Section 4.1: Number of Directors

There shall be five Directors of the Corporation together constituting the Board of Directors.

Section 4.2: Election of Directors

There shall be at least one Director who is a resident of Roundup Mesa. This individual will be the Resident Director and will be the chairman. Residency is determined by residing at Roundup Mesa for a minimum of 11 months our of a year (excluding vacations or business trips.) The four remaining Directors will be elected at large.

Section 4.2: Terms of Office

The Resident Director elected by members shall hold office for one year.

The Directors at Large shall each hold office for three years, except that at the first election of Directors the persons receiving the first, second and third largest number of votes as Directors, respectively, for three years, two years and one year.

Section 4.3: Directors' Meetings

There shall be at least one meeting of the Board of Directors annually, the first to be held immediately after the Annual Meeting of the Members. The Chairman upon ten days prior written telephoned notice may call other meeting of the Board.

A majority of the Directors shall constitute a quorum, all business conducted shall require the affirmative action of a majority of the Directors present at the meeting.

Section 4.4: Functions of Directors

Directors shall establish the policies and the programs of the Corporation, these to be executed by the officers of the Corporation.

Section 4.5: Informal Approval of Actions

Meetings of Directors may be held although the Directors shall not have been physically present together at the same time. Actions resulting from meetings by electronic or other means must be ratified and confirmed in subsequent writings.

ARTICLE V: OFFICERS

Section 5.1: Titles

There shall be a President and a Secretary of the Corporation and the Board of

Directors may deem such other officers as necessary. The officers shall be appointed by the Board of Directors and shall serve at the pleasure of the Board. Members of the Board of Directors may be officers, but need not be.

Section 5.2: Duties of Officers

The Board of Directors by resolution shall specify and delineate the duties and responsibilities of the officers of the Corporation. No officer shall be required to undertake his office until the duties and responsibilities of his office shall have been set forth in writing and acknowledged by him.

ARTICLE VI: GENERAL PROVISIONS RELATING TO THE DIRECTORS AND OFFICERS

Section 6.1: Payment for Services

Members of the Board of Directors shall not be eligible for any remuneration for their services. Officers of the Corporation shall be paid such amounts as shall be determined by the Board of Directors. Members of the Board of Directors and officers of the Corporation shall be reimbursed all of their respective expenses justifiably and necessarily incurred in the performance of their duties. The Board may institute such procedures for control of and payment for such expenses as it may deem appropriate.

Officers may be appointed for specific terms, not to exceed two years, pursuant to contract with the Corporation.

Section 6.2: Holding Over

The term of office of Directors and Officers shall automatically be extended to the date that the successor of each such Director and Officer shall take office, except in the case of removal of such Director or Officer.

Section 6.3: Removal of Officers and Directors

Any officer of Director may be removed from office prior to the expiration of his of her term for the following causes:

DIRECTORS

- a. For malfeasance, upon conviction thereof in any court of law.

- b. Without any grounds alleged or cause assigned by the affirmative vote of three-fourths of the Members entitled to vote and the assent of the Developer at a special meeting held for that purpose.

OFFICERS

- a. For malfeasance, upon conviction thereof in any court of law.
- b. For malfeasance, upon action of the Board of Directors.
- c. For violation of the provisions of any employment contract between the Officer of the Corporation, upon action of the Board of Directors.

Section 6.4: Registration

Any Director of Officer may resign, such resignation being effective upon delivery of notice thereof to the Secretary of the Corporation or at such later date stated in the notice.

Section 6.5: Filling Vacancies

Vacancies in the Board of Directors shall be filled by appointment of temporary Directors to serve until the next annual meeting of the Corporation, such appointments to be made by the remaining Director or Directors.

If there shall at any time be no Directors, the President shall immediately call a special meeting of Members to elect a new Board of Directors in accordance with Section 4.2 hereof.

Section 6.6: Waivers, Ratification's

Notices of meeting of Directors may be waived in writing. Actions of the Board and/or the officers may be, ratified by the Members of the Board of Directors, as the case may be, where such action was not properly authorized when taken.

ARTICLE VII: RECORDS

Section 7.1: Records to Be Maintained

The Corporation shall maintain at Resident Directors the following records in a current status.

- a. Minutes of all meetings of Members of the Corporation and all meetings of the Board of Directors.
- b. A record of the status of all Members as to be payment of maintenance assessments,

- whether the same shall have required by contract or other undertaking or as a result of the action of the Corporation.
- c. Financial data showing all receipts and disbursements of the Corporation and a balance sheet as of the end of each fiscal year showing the assets and liabilities of the Corporation.

Nothing in this Section shall be construed to limit the records to be maintained only to those mentioned above.

At this option, the Developer may, with reasonable notice, request the Corporation to maintain its records elsewhere.

Section 7.2: Custody of Legal Instruments

The Corporation shall safely and securely maintain all legal documents and instruments, which may be delivered to its custody.

ARTICLE VIII: FINANCES

Section 8.1: Budget

Prior to the Annual Membership Meeting, the Board of Directors will cause a proposed budget for the forthcoming year to be prepared. A copy of that budget, with any explanation deemed desirable by the Board, shall be sent to each Member with the notice of the meeting. The proposed budget shall be considered at the Annual Meeting of Members. Members not present may make their views known by writing to the Secretary prior to the meeting.

Section 8.2: Balanced Budget

The budget as proposed and as adopted shall provide in anticipated revenues adequate funds to pay for all anticipated expenditures during the same period.

Section 8.3: Determination of Assessments

According to the Covenants and Articles of Incorporation.

Section 8.4: Unpaid Assessments Lienable

The Board of Directors may authorize any Corporation officer to file a lien against the interest of any owner or purchaser of a lot within the Subdivision for the amount of any assessment remaining unpaid after becoming due. Such lien may provide by its terms that is

be enforceable be foreclosure or other appropriate judicial process.

Section 8.5: Special assessments

In addition to the annual assessments hereinabove provided. The Board of Directors may make special assessments to provide for emergencies. The Board of Directors may require special assessments for lots deriving special or unequal benefits.

Section 8.6: No Change to Contracts

Nothing in the Article VIII or any other provision of these By Laws shall be construed as amending or purporting to amend any provision of any contract, condition or covenant heretofore entered into between the Developer and any lot owner or lot purchaser.

ARTICLE IX: PROTECTIVE COVENANTS

Section 9.1: Enforcement of Protective Covenants

The Corporation acknowledges the existence of certain protective covenants applicable to the Subdivision which covenants have heretofore been recorded by the Developer, said covenants being hereby incorporated and made a part of these by-laws by reference.

The Corporation hereby assumes the right to enforce the said protective covenants.

The expensed of such enforcement shall be deemed proper items for inclusion as expenditures for which assessments shall be required.

ARTICLE X: PROTECTION OF AND RESTRICTION UPON DIRECTORS AND OFFICERS

Section 10.1: Indemnity

The Corporation shall indemnify and Director or officer against expenses actually and necessarily incurred by him in connection with the defense of any action, suit or proceeding in which he is made a party by reason of being or having been such Director or officer, except in relation to matters as to which he shall be adjudged in such action, suit or proceeding liable for negligence or misconduct in the performance of duty. The Corporation may also reimburse any Director or officer the reasonable costs of settlement of any such action, suit or proceedings if it shall be found by a majority of the directors not involved

in the controversy (whether or not a quorum) that it was to the interest of the Corporation that such settlement be made and that such Director or officer was not guilty of negligence of misconduct. Such rights of indemnification and reimbursement shall not be deemed exclusive of any other rights to which such Director or Officer may be entitled under any By Law, agreement, vote of Members or otherwise.

Section 10.2: Conflicts of Interest

An officer or Director may act for the Corporation although he is associated with or interested in another party which is involved in the transaction, provided that he is fully disclosed that interest to the Corporation and no other officer or Director has made known any objection.

Section 10.3: Loans

The Corporation shall make no loan to any Director or officer.

ARTICLE XI: ACCOUNTING YEAR

Section 11.1 Fiscal Year

The fiscal year of the corporation shall commence on July 1st of each year and terminate on June 30th of that next year.

ARTICLE XVII: AMENDMENTS

Section 12.1

These by-laws may be amended by the affirmative vote of a majority of the members who are entitled to vote in accordance with Section 2.3 hereof, present at any meeting duly called and held, the notice of which meeting shall be stated that a purpose of the meeting was to consider the amendment or repeal of the by-laws. In accordance with Section 416, 79, *Montana Revised Statutes*, the signers of the Petition have adopted these by-laws for Charter.

Dated this 21 day of November, 2000.

ROCKY MOUNTAIN TIMBERLANDS, INC.,
a Montana corporation


Wayne Joyner, President


Susan P. Joyner, Secretary

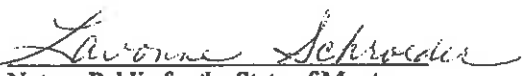
State of Montana)

: ss.

County of Gallatin)

On this 21 day of November, 2000, before me a notary public in and for the State of Montana, personally appeared Wayne Joyner and Susan P. Joyner, known to be the President and Secretary, respectively, of Rocky Mountain Timberlands, Inc., a corporation, and acknowledged to me that they executed the foregoing instrument for and on behalf of said corporation.

In witness whereof, I have hereunto set my hand and seal the day and year first above written.


Notary Public for the State of Montana
Residing at Bozeman, Montana
My commission expires: 5-21-02



BOOK 373 PAGE 175

DECLARATION OF COVENANTS
Roundup Mesa

ROCKY MOUNTAIN TIMBERLANDS, INC., a Montana corporation of P. O. Box 1153, Bozeman, MT 59771-1153, herein the Grantor, is the owner of that certain property located in Musselshell County, Montana, more particularly described as follows:

SEE EXHIBIT "A"

Rocky Mountain Timberlands, Inc., as the Grantors, hereby subject said property to the conditions, covenants and restrictions set forth herein. These restrictions, conditions, covenants and limitations shall run with the land and shall be binding upon the present owners and all subsequent grantees of any portion of any area included within the aforesaid legal description.

The immediate Grantor and all future Grantees, their successors, heirs and assigns forever, of any portion of the said property, covenant and agree by the acceptance of a conveyance to faithfully observe and comply with the following restrictions, conditions, covenants and limitations.

1. Any and all animals kept on the property must be fenced or contained within the boundaries of said property. Pets shall not be allowed to run at large and shall be in control at all times. No property owner or resident shall be permitted to operate a commercial hog farm, a commercial feedlot, a commercial chicken farm on the property. Any animals kept on this property shall be for domestic or household use only, including pets, and are subject to paragraph 5 herein. Commercial dog kennels or boarding will not be allowed. Grazing animals will be limited to 2 per parcel.
2. Any property owner must assume the burden of supplying and developing water and sewage facilities for his own domestic use. Wells and water systems shall be drilled, installed and maintained at all times in accordance with all applicable rules and regulations of any public agency having authority over same.
3. All future Grantees consent and agree that any roads giving access to this property are not maintained by Grantor. Roundup Mesa Landowners Association is totally responsible for providing and maintaining non-public roads. Owners association shall assess all landowners an annual fee for said maintenance. Until 80% of these tracts are sold, said annual amount shall be \$100 per tract. After that the association will set its own fee amount. All future grantees covenant and agree that until such grantees have developed the access to their individual property to county standards that said grantees will not petition or request any assistance or development by the county for road improvements.

4. All future Grantees covenant and agree that the Grantor is reserving a sixty-foot (60') easement for general ingress and egress across the property sold herein on any existing or proposed road. An existing public utilities easement has been signed by grantors herein to Fergus Electric Cooperative, Inc. Other utilities (such as, but not limited to, telephone or gas lines) shall be installed within the one hundred foot wide utility easement. All future Grantees covenant and agree that Grantor is granting said Grantee an easement for ingress and egress to the property sold herein over and across all roads which Grantor has the right to travel to said property. The sixty-foot (60') easement will be reserved on all existing roads, and on any additional easements recorded, or proposed, or reserved on said property's Certificate of Survey, or sales map, unless stated otherwise. Both the utility easement and ingress and egress easement will have a center line at the center of roads as built. Trees and other obstacles may be removed within the utility easement at the utility company's discretion.

5. All future Grantees covenant and agree not to build, maintain, operate or construct, or in any way cause to be placed any permanent, or temporary, structure within fifty feet (50') of the boundary lines of the subject property, (customary boundary fencing is excepted). All future Grantees further covenant and agree not to cause any condition that will cause the accumulation or existence of garbage, junk or condition causing a noxious odor on subject property, including, but not limited to, inoperative motor vehicles and scrap materials of every sort. Owner's Association shall determine, at its discretion, what is judged to be garbage, junk, a noxious odor, or inoperative vehicles. Any inoperative motor vehicles shall be stored in a finished building upon arrival or said property.

6. All future Grantees covenant and agree that no gates, fences or other obstructions shall be placed upon any access road. This restriction shall not prevent a future Grantee from placing a gate on an access road, on Grantee's property, if the road terminates on that Grantee's property. Metal cattle guards will be allowed if installed in accordance with county road regulations.

7. All future Grantees covenant and agree to abide by any and all applicable regulations as imposed by the Roundup Airport zoning ordinance and Montana State Law.

8. All future Grantees covenant and agree that any construction of homes, outbuildings or any other buildings must be completed on the exterior within eighteen (18) months of the commencement of construction. Minimum square footage shall be 600 sq. ft.

9. All future Grantees covenant and agree that mobile homes may not be placed on the subject property unless they are factory modular homes or double-wide mobile homes (no more than five years old at the date of installation on this property and no less than 980 sq. ft.) and the home is to be completely skirted within thirty (30) days of arrival at subject property. Exterior and skirting materials shall be of non-reflective and non-metallic materials. In the case of exterior walls, said non-reflective and non-metallic materials must have been factory installed. No mobile home may be installed on subject property and then covered with wood siding. This covenant is

not intended to prohibit a property owner from storing a factory constructed recreational vehicle on the subject property following completion of Grantees residence. A property owner may use a recreational vehicle for temporary use on this property such as during hunting season, during vacations, or during construction. In the case of construction, two (2) years shall be the maximum use, but never as a permanent residence. During such construction said construction must be obvious to Grantor or 90 days per year is maximum time said recreation vehicle may be kept on subject property prior to permanent residence being completed. Construction must be on-going. 90 days shall be the maximum use in the case of hunting season and/or vacations. No remodeled buses will be allowed on subject property unless approved, in writing, by the Homeowners Association. Tent or teepee camping will be restricted to 21 days or less in any calendar year.

10. All future grantees covenant and agree that no signs or advertisements shall be place on this property except for a sign designating the owner's name, lot number and/or address. This restriction shall not preclude any future grantee from placing a "For Sale" sign on the property. This restriction is intended to prohibit no trespassing signs, among others. (Orange glow paint serves as a no trespassing sign under Montana law and is recommended in place of no trespassing signs.) Businesses shall be allowed only to the extent that they can be operated out of an established residence or garage, and are secondary to the residence itself (such as a guide, taxidermits, mail-order sales, etc.) In such case, a sign of less than ten sq ft shall be allowed for identification purposes. No bed and breakfast inns to be allowed.

11. All future grantees covenant and agree not to commercially harvest growing trees on the subject property without written permission signed by Grantor herein. Written permission for commercial logging shall not be necessary when purchaser's contract for deed is paid in full. Growing or dead trees on the property may be used for improvement or subject property, such as fences or buildings, at any time without written permission by Grantor.

12. All future grantees covenant and agree not to further subdivide subject property. A maximum density of one residence per parcel and one water well per parcel will be allowed. A septic permit must be obtained by property authorities (currently Musselshell County) prior to home site construction, or in the case of a recreational vehicle being used during construction.

13. Landowners will be responsible to control noxious weeds on their property in accordance with MCA-7-21-2152, the County Noxious Weed Control Act.

14. Provisions 1, 2, 4, 5, 6, 7, 8, 9 and 10 herein may be amended or revoked, and additional provisions added, at any time by written instrument duly signed and acknowledged by the owners of record of not less than 60% of the parcels covered under these covenants as described in the legal description on Page 1 herein. Provisions 3, 11, 12, 13 and 14 may not be amended or revoked without written approval of the Musselshell County Commissioners.

15. Disputes between Roundup Mesa property owners with respect to covenants, homeowners association by laws or any other property related issues will be resolved as outlined in the Articles of Incorporation (or by-laws) of Roundup Mesa Landowners Association.

Dated this 27 day of October, 2000.

ROCKY MOUNTAIN TIMBERLANDS, INC.,
a Montana corporation



Wayne Joyner, President




Lavonne Schroeder, Office Manager

State of Montana)
 : ss.
County of Gallatin)

On this 27 day of October, 2000, before me a notary public in and for the State of Montana, personally appeared Wayne Joyner and Lavonne Schroeder, known to be the President and Office Manager, respectively, of Rocky Mountain Timberlands, Inc., a corporation, and acknowledged to me that they executed the foregoing instrument for and on behalf of said corporation.

In witness whereof, I have hereunto set my hand and seal the day and year first above written.



Notary Public for the State of Montana
Residing at Bozeman, Montana
My commission expires: 08/08/2004



Appendix B

Environmental Checklist

Environmental Checklist

NAME OF PROJECT	Roundup Mesa Water Potential district
PROPOSED ACTION	Water System Improvements
LOCATION	Roundup Mesa Subdivision, Montana

Environmental Checklist Prepared by:

On: February 6, 2023

Susan Hayes
 Name of Person 1
 406-431-8438
 Phone Number

Great West Engineering
 Organization
 shayes@greatwesteng.com
 Email

Name of Person 2

Organization

Phone Number

Email

List additional people above. Include organization, phone number, and emails for all.

As the engineer that prepared the preliminary engineering report, I Susan Hayes, P.E., have reviewed the information presented in this checklist and believe that it accurately identifies the environmental resources in the area and the potential impacts that the project could have on those resources. In addition, the required state and federal agencies were provided with the required information about the project and requested to provide comments on the proposed public facility project. Their comments have been incorporated into the attached to the Preliminary Engineering Report.

Engineers Signature: Susan Hayes

Date: April 18, 2023

Physical Environmental			
Impact Code	Impact Type	Permits/Mitigation Required?	Explanation of Impact to Resource
1. Soil Suitability, Topographic and/or Geologic Constraints (example: soil slump, steep slopes, subsidence, seismic activity)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The primary soils within the Potential district consist of Cabbart-Yawdim-Badland complex, Cabbart-Delpoint loams, Rentsac-Cabbart complex, and Cabbart-Delpoint calcareous-rock outcrop complex. Of the area included in the soil survey, little to no area is classified as farmland of statewide importance or prime farmland.</p> <p><u>Preferred Alternative Environmental Narrative:</u> The construction of a water distribution system will have little to no impact on suitability of the soils. Areas disturbed during construction will be restored to their reconstruction conditions.</p>

2. Hazardous Facilities (example: power lines, hazardous waste sites, acceptable distance from explosive and flammable hazards including chemical/petrochemical storage tanks, underground fuel storage tanks, and related facilities such as natural gas storage facilities and propane storage tanks)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> According to the Montana DEQ Underground Tanks, Petroleum Releases, and Release Compensation Sites there are 20 sites recorded in and around Roundup, four of which are active. <u>Preferred Alternative Environmental Narrative:</u> The proposed construction area of the water system improvements contains no hazardous areas of concern.
3. Surrounding Air Quality (example: dust, odors, emissions)			
<input type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> No surrounding air quality concerns exist. <u>Preferred Alternative Environmental Narrative:</u> A temporary negative impact on air quality due to dust is expected during construction. Reasonable efforts will be taken during construction to minimize these temporary impacts.
4. Groundwater Resources and Aquifers (example: quantity, quality, distribution, depth to groundwater, sole source aquifers)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input checked="" type="checkbox"/> Mitigation <input type="checkbox"/> NA	<u>Current Conditions:</u> Various private wells have been drilled within the area over the years, averaging in depth over 200 feet. The area is not known for having high quality groundwater nor a high quantity of it. Residents of the area have not indicated that there is shallow groundwater. <u>Preferred Alternative Environmental Narrative:</u> Groundwater is not assumed to be a concern during construction.
5. Surface Water/Water Quality, Quantity and Distribution (example: streams, lakes, storm runoff, irrigation systems, canals)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input checked="" type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input type="checkbox"/> NA	<u>Current Conditions:</u> There are no significant bodies of surface water within the boundaries of the potential district. In the surrounding areas, the Musselshell River flows along the southern edge of Highway 12 south of Roundup, extending past the east and west boundaries of the potential district. Alkali Creek, a seasonally dry drainage, routes through the center of the Potential district before converging with Willow Creek, a dry channel that routes from Lake Mason to the northwest to the Musselshell River. <u>Preferred Alternative Environmental Narrative:</u> The project is not anticipated to impact local surface waters. The proposed pipeline crosses the dry creek bed in two locations. The contractor will take necessary precautions to prevent discharge of runoff to surface waters during construction, including acquisition of a permit if necessary.
6. Floodplains and Floodplain Management (Identify any floodplains within one mile of the boundary of the project.)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Floodplain mapping completed by the FEMA National Flood Insurance Program indicates that the potential district is largely outside of floodplains. A small region following the path of Alkali Creek lies within a special flood hazard area. This flood zone only intersects the northeastern most parcel

			<p>in the potential district, which is not currently included in the potential district.</p> <p><u>Preferred Alternative Environmental Narrative:</u> The potential for floodplain disturbance will be considered carefully during preliminary design and if any floodplains will be impacted by the proposed project, all appropriate permits will be obtained prior to construction of the improvements.</p>
<p>7. Wetlands (Identify any wetlands with in one mile of the boundary of the project and state potential impacts.)</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> No wetlands lie within the boundaries of the proposed water district.</p> <p><u>Preferred Alternative Environmental Narrative:</u> Should any impact to wetlands be identified during the design or construction of the project, the potential district will apply for and receive all necessary permits prior to proceeding with construction. Where the distribution system crosses and ditch or potential wetland, the design will include boring to avoid disturbing waterways or wetlands.</p>
<p>8. Agricultural Lands, Production, and Farmland Protection (example: grazing, forestry, cropland, prime or unique agricultural lands) Identity any prime or important farm ground or forest lands within one mile of the boundary of the project.</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The Mesa Roundup Water Potential district and surrounding area consists primarily of residential homes, pastureland and forested areas. The potential district consists of a subdivided area with vacant, developed and currently developing lots. Highway 87 borders the western edge of the potential district, with Roundup to the immediate south.</p> <p><u>Preferred Alternative Environmental Narrative:</u> The proposed construction of the water distribution system is anticipated to have little to no impact on surrounding pasture and forested areas.</p>
<p>9. Vegetation and Wildlife Species and Habitats, Including Fish (example: terrestrial, avian and aquatic life and habitats)</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> In general, wildlife in the area consists of deer, antelope, coyote, rabbit, mice, other small mammals, ducks, and various reptiles and amphibians. An NRIS search was conducted for the county in which the potential district lies and revealed several species of concern. Some of those listed include Black-tailed Prairie Dog, Eastern Red Bat, Little Brown Myotis, Golden Eagle, Ferruginous Hawk, Greater Sage Grouse, Western Milksnake, and Northern Redbelly Dace among others. The potential district lies on the southern edge of general sage grouse habitat. No plant species of concern were identified for the region.</p> <p><u>Preferred Alternative Environmental Narrative:</u> Proposed construction is primarily within existing rights-of-way of county roads so it is not anticipated that the project will have an adverse effect on the listed species of concern.</p>
<p>10. Unique, Endangered, Fragile, or Limited Environmental Resources, Including Endangered Species (example: plants, fish, or wildlife)</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> In general, wildlife in the area consists of deer, antelope, coyote, rabbit, mice, other small mammals, ducks, and various reptiles and amphibians. An NRIS search was</p>

			<p>conducted for the county in which the Potential district lies and revealed several species of concern. Some of those listed include Black-tailed Prairie Dog, Eastern Red Bat, Little Brown Myotis, Golden Eagle, Ferruginous Hawk, Greater Sage Grouse, Western Milksnake, and Northern Redbelly Dace among others. The Potential district lies on the southern edge of general sage grouse habitat. No plant species of concern were identified for the region.</p> <p>Preferred Alternative Environmental Narrative: Proposed construction is primarily within existing rights-of-way of county roads so it is not anticipated that the project will have an adverse effect on the listed species of concern.</p>
--	--	--	---

11. Unique Natural Features (example: geologic features)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> There are no known unique natural features within the project area.</p> <p><u>Preferred Alternative Environmental Narrative:</u> No known unique natural features will be impacted by the proposed project.</p>

12. Access to, and Quality of, Recreational and Wilderness Activities, Public Lands and Waterways (including Federally Designated Wild & Scenic Rivers), and Public Open Space)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The potential district area offers many outdoor activities including hunting, biking, hiking, fishing, and camping.</p> <p><u>Preferred Alternative Environmental Narrative:</u> Access to, and quality of recreational & wilderness activities, public lands, waterways, and public open space are not anticipated to be impacted by this project.</p>

Human Environment			
Impact Code	Impact Type	Permits/Mitigation Required?	Explanation of Impact to Resource

1. Visual Quality – Coherence, Diversity, Compatibility of Use and Scale, Aesthetics			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The project area is residential and currently has no public water supply.</p> <p><u>Preferred Alternative Environmental Narrative:</u> The proposed improvements will not impact visual quality.</p>

2. Nuisances (example: glare, fumes)			
<input type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input checked="" type="checkbox"/> Mitigation <input type="checkbox"/> NA	<p><u>Current Conditions:</u> No existing glare, fumes, or other nuisances are known at or around the project area.</p> <p><u>Preferred Alternative Environmental Narrative:</u> Temporary nuisances such as noise and exhaust fumes may occur during construction. Efforts will be made to minimize nuisances and address specific problems as they occur. No permanent adverse impacts are anticipated.</p>

3. Noise – Suitable Separation Between Housing and Other Noise Sensitive Activities and Major Noise Sources (example: aircraft, highways and railroads.)			
<input type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input checked="" type="checkbox"/> Mitigation <input type="checkbox"/> NA	<p><u>Current Conditions:</u> No aircraft, highways, railroads, or other major sources will result from this project.</p> <p><u>Preferred Alternative Environmental Narrative:</u></p>

			Nearby residences may be temporarily affected by noise from construction activity; however, no long-term impacts are anticipated.
4. Historic Properties, Cultural and Archaeological Resources (Please see end of Environmental Checklist for details if Cultural Survey has not been performed per SHPO Section 106)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Cultural resources include historic and prehistoric archeological sites, historic architecture, engineering features and structures, and resources of significance to Native Americans. The Montana State Historic Preservation Office (SHPO) has been contacted to determine whether there are significant historical and cultural resources in the area. <u>Preferred Alternative Environmental Narrative:</u> SHPO has requested a cultural resources inventory prior to any disturbance.
5. Changes in Demographic (Populations Characteristics (example: quantity, distribution, density))			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Roundup is the largest town the Musselshell County at 1,742 residents according to the 2020 Census Bureau. The potential district lies to the north of Roundup and currently supports approximately 121 residents in 47-57 households. No historic data is available for the potential district as the population is recorded as part of the rural population of Musselshell County. <u>Preferred Alternative Environmental Narrative:</u> For planning purposes and to allow for growth throughout the community, area build-out is assumed for the 40-year planning period (year 2062). This correlates to a design year population of 187, or an additional 66 residents. The proposed project will support additional growth in the community.
6. General Housing Conditions – Quality, Quantity, Affordability			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The potential district consists of a subdivision north of Roundup that has no public infrastructure beyond roadways. <u>Preferred Alternative Environmental Narrative:</u> Water infrastructure improves the potential district's ability to handle growth and additional housing.
7. Businesses or Residents (example: loss of displacement, or relocation)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The project area consists of a residential neighborhood with no businesses. <u>Preferred Alternative Environmental Narrative:</u> No long-term impact to residents will occur. Some residents may be temporarily affected by construction activity. The construction contractor will be required to maintain access to residences.
8. Public Health and Safety			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Public health and safety are currently as risk due to the potential contamination risk of private wells in the project area. <u>Preferred Alternative Environmental Narrative:</u>

			The proposed improvements will allow private well users to connect to the public water system. The project improves quality and quantity of water available to the system's users.
9. Local Employment – Quantity or Distribution of Employment, Economic Impact			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The proposed district currently has no central source of water or distribution system. <u>Preferred Alternative Environmental Narrative:</u> During construction of the proposed water system and future improvements, there may be local job opportunities that were not previously present. The proposed water distribution may have a minor positive impact on employment.
10. Income Patterns – Economic Impact			
<input type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The proposed water district is located in Musselshell County. To analyze the socioeconomics of the water system, both the City of Roundup and Musselshell County are considered. The data provided on the Montana Department of Commerce (MDOC) website utilized the 2015 to 2019 American Communities Survey. The City of Roundup is listed as having a low to moderate income (LMI) level of 50.7% and a median household income (MHI) of \$34,310 as shown on the MDOC website. For comparison the US Census Bureau 2021 ACS data indicates that the MHI of the area is \$41,520 with a LMI level of 13.3%. Musselshell County is listed as having an LMI level of 45.1% and MHI of \$43,274 on the MDOC website. For comparison the US Census Bureau 2020 ACS data indicates that the MHI for the area is \$51,153 with a poverty rate of 13.0%. <u>Preferred Alternative Environmental Narrative:</u> The proposed improvements will affect the entire community equally. The improvements will be beneficial to human health and will not adversely impact the environment. There will be no disproportionate effects as a result of the proposed improvements.
11. Local and State Tax Base and Revenues			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> For planning purposes and to allow for growth throughout the community, the subdivision being built-out is assumed for the 40-year planning period (2062). This correlates to a design year population of 187. If recognized, this growth is anticipated to occur throughout the potential district, as no areas of concentrated growth are identified. <u>Preferred Alternative Environmental Narrative:</u> Residential growth would stimulate the economy and would increase the tax base.
12. Community and Government Services and Facilities (example: educational facilities, health and medical services and facilities; police; emergency medical services; and parks, playgrounds and open space)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The potential district does not have their own community and government services. The City of Roundup serves as the hub for educational facilities, health and medical services and facilities, etc.

			<u>Preferred Alternative Environmental Narrative:</u> Community and government services and facilities will continue to operate as they currently do and will not be impacted by the project.
13. Commercial and Industrials Facilities – Production and Activity, Growth or Decline			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The potential district does not have commercial or industrial facilities. <u>Preferred Alternative Environmental Narrative:</u> The project will not impact production, growth or decline of commercial or industrial facilities.
14. Social Structures and Mores (example: standards of social conduct/social conventions)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Social conduct, structures, and behaviors follow conventions that are typical of central Montana. <u>Preferred Alternative Environmental Narrative:</u> No changes in social structure are expected to occur because of the proposed distribution system.
15. Land Use Compatibility (example: growth, land use change, development activity, adjacent land uses and potential conflicts)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The subdivision does not currently have any infrastructure, so rights-of-way are available. Land in the region is either developed, being developed, or parceled for development. <u>Preferred Alternative Environmental Narrative:</u> The proposed district has little opportunity for growth outside of the already platted subdivision. The proposed project is vastly in existing road rights-of-way, so no impact to surround land is anticipated. The proposed district is willing to serve residents in parcels adjacent to the subdivision.
16. Energy Resources – Consumption and Conservation			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> There is no existing infrastructure in the proposed district, so energy resources are consumed on a residence-by-residence basis. <u>Preferred Alternative Environmental Narrative:</u> The construction of a distribution system will likely reduce the required energy resources used by the district as the system will not require energy resources. Individual energy requirements by residents will decrease as a result of the system.
17. Solid Waste Management			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Solid waste from the subdivision is currently collected by an outside entity or hauled by individual landowners. <u>Preferred Alternative Environmental Narrative:</u> The proposed installation of the water distribution system should not impact solid waste management.
18. Wastewater Treatment – Sewage System			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The proposed district does not currently have a sewer system. Each residence has its own septic system. <u>Preferred Alternative Environmental Narrative:</u>

			The proposed installation of the water distribution system should not impact wastewater treatment.
19. Stormwater – Surface Drainage			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> There is no stormwater collection system in the area. Stormwater runoff follows the topography of the roads to leave the area. <u>Preferred Alternative Environmental Narrative:</u> The proposed construction of the distribution system may temporarily impact the runoff of stormwater during construction. The contractor will be required to provide a SWPPP plan prior to commencement of construction.
20. Community Water Supply			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The Potential district does not have any centralized water system at this time. Residents utilize individual systems, haul water or pay to have water hauled to residences on a regular basis. <u>Preferred Alternative Environmental Narrative:</u> The objective of this project is to provide the Potential district with an analysis of the feasibility and plan for establishing a centralized water system.
21. Fire Protection - Hazards			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input checked="" type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The County currently provides fire protection with its rural fire department. <u>Preferred Alternative Environmental Narrative:</u> Installation of a distribution system equipped with fill hydrants will provide closer access to water in the case of an emergency.
22. Cultural Facilities, Cultural Uniqueness and Diversity			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> N/A <u>Preferred Alternative Environmental Narrative:</u> No impact.
23. Transportation Networks and Traffic Flow Conflicts(example: rail, auto including local traffic, airport runway clear zones – avoidance of incompatible land use in airport runway clear zones)			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input checked="" type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> The subdivision has streets to serve local traffic. <u>Preferred Alternative Environmental Narrative:</u> During construction, traffic flow will be impacted and may have to be rerouted. The site will return to existing conditions upon project completion, and no long-term impacts are anticipated.
24. Consistency with Local Ordinances, Resolutions, or Plans (example: conformance with local comprehensive plans, zoning, or capital improvement plans)			
<input type="checkbox"/> No Impact <input checked="" type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<u>Current Conditions:</u> Property owners are currently responsible for individual water and sewer systems on each property. <u>Preferred Alternative Environmental Narrative:</u> The construction of a water distribution system will directly benefit the subdivision’s residents by providing adequate quantities of high-quality water.
25. Private Property Rights (example: a regulatory action or project activity that reduces, minimizes, or eliminates the use of private property)			

<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The project area contains both lots with private residences and public land.</p> <p><u>Preferred Alternative Environmental Narrative:</u> All the proposed work will be completed on public land and within existing rights-of-way, or additional easements will be negotiated with private property owners. There should be no negative impact to private property rights.</p>
<p>26. Environmental Justice (example: does the project avoid placing lower income households in areas where environmental degradation has occurred, such as adjacent to brownfield sites?)</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The project is not located in areas where environmental degradation occurred.</p> <p><u>Preferred Alternative Environmental Narrative:</u> No impact to environmental justice will occur.</p>
<p>27. Lead Based Pain and/or Asbestos (example: does the project replace asbestos lined pipes? Do any structures qualify as containing lead-based paint?)</p>			
<input checked="" type="checkbox"/> No Impact <input type="checkbox"/> Beneficial <input type="checkbox"/> Adverse	<input type="checkbox"/> Direct <input type="checkbox"/> Indirect <input type="checkbox"/> Cumulative	<input type="checkbox"/> Permit <input type="checkbox"/> Mitigation <input checked="" type="checkbox"/> NA	<p><u>Current Conditions:</u> The project does not include asbestos pipe or lead based paint.</p> <p><u>Preferred Alternative Environmental Narrative:</u> New pipes will be installed, constructed of PVC or HDPE.</p>

Appendix C

EA Letters and Responses

See what's possible.



February 7, 2023

Department of Commerce, Census and Economic Information Center
PO Box 200505
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Commerce, Census and Economic Information Center,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Commerce, Census and Economic Information Center has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Department of Labor and Industry
PO Box 1728
Helena MT 59624

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Labor and Industry,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Labor and Industry has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Department of Environmental Quality
Permitting and Compliance Division
PO Box 200901
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Environmental Quality,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Environmental Quality has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Department of Fish, Wildlife and Parks
1420 E. 6th Ave.
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Fish, Wildlife and Parks,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Fish, Wildlife and Parks has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Department of Natural Resources and Conservation
Attn: Resource Development Bureau Engineer
PO Box 201601
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Natural Resources and Conservation,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Natural Resources and Conservation has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Department of Transportation
PO Box 201001
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Department of Transportation,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx

www.greatwesteng.com



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Department of Transportation has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

State Historic Preservation Office
PO Box 201202
Helena MT 59620

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear State Historic Preservation Office,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] State Historic Preservation Office has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

File Search Request Form



Montana State Historic Preservation Office
1301 E. Lockey, PO Box 201202
Helena MT 59620

SEND TO:

Damon Murdo dmurdo@mt.gov (406) 444-7767

Contact Name:	Susan Hayes		
Organization:	Great West Engineering		
Address:	2501 Belt View Dr		
City:	Helena		
State:	MT	Zip Code:	59601
Telephone:	(406) 495-6157		
Email:	shayes@greatwesteng.com		

Project Name: Roundup Mesa Water District Preliminary Engineering Report

Project Description: This project includes installation of a water distribution system in the Roundup Mesa subdivision located immediately northeast of the town of Roundup. The system will be supported by **Phase 3** of the Central Montana Regional Water Authority, providing quality water in adequate quantities to the District's users. Installation includes approximately ___ feet of transmission main, as well as the necessary valves, **hydrants** and appurtenances related to the upgrades.

Land Use: Residential **County:** Musselshell County

Agency Involved: Private, **MDEQ?** **Land Ownership:** Private
(Private,FWP,BLM)

Project Area Location Information

File Search Fee Structure

Township(N/S)	Range (E/W)	Section(s)
8N	24E	1, 2, 11, 12
8N	26E	6

\$25 / section

Please complete this form and attach a copy of the appropriate quad map showing the project location. Feel free to attach additional project information if available.

All fields must be completed in order to process your request.

All sections must be added up and entered in to the box below before a file search will take place.

An invoice will be sent with your file search results.

Total Sections to be searched:	5
--------------------------------	---

Total amount to be paid to SHPO:	\$125.00
----------------------------------	-----------------

See what's possible.



February 7, 2023

Musselshell County
Floodplain Administrator
12 Main St
Roundup MT 59072

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Musselshell County,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA

2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS

6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE

3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS

702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE

9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Musselshell County has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

US Environmental Protection Agency
Montana Office
Federal Building
10 West 15th Stree, Suite 3200
Helena MT 59625

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear US Environmental Protection Agency,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] US Environmental Protection Agency has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

US Fish and Wildlife Service
Ecological Services
585 Shepherd Way
Helena MT 59601

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear US Fish and Wildlife Service,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx

www.greatwesteng.com



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] US Fish and Wildlife Service has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

US Forest Service
Region 1
26 Fort Missoula RD
Missoula MT 59804

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear US Forest Service,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] US Forest Service has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

National Park Service
PO Box 25287
Denver CO 80225

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear National Park Service,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA

2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS

6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE

3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS

702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE

9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] National Park Service has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Federal Aviation Administration
Airport District Office
2725 Skyway Drive
Suite 2
Helena MT 59602

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Federal Aviation Administration,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA

2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS

6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE

3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS

702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE

9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Federal Aviation Administration has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.

HELENA

2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS

6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE

3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS

702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE

9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



February 7, 2023

Bureau of Land Management
5001 Southgate Drive
Billings MT 59101

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Bureau of Land Management,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Bureau of Land Management has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Bureau of Indian Affairs
2021 4th Ave N.
Billings MT 59101

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Bureau of Indian Affairs,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Bureau of Indian Affairs has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Natural Resource Conservation Service
10 E. Babcock St.
Bozeman MT 59771

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Natural Resource Conservation Service,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430

Y:\Shared\Helena Projects\11-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\EA Letter Mesa.docx

www.greatwesteng.com



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Natural Resource Conservation Service has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

Occupational Safety and Health Administration
2900 4th Ave. N
Billings MT 59101

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear Occupational Safety and Health Administration,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] Occupational Safety and Health Administration has reviewed the enclosed information and has no comment on the project at this time.

Signature

Date

See what's possible.



February 7, 2023

US Department of Transportation
585 Shephard Way
Helena MT 59601

RE: Roundup Mesa Water System Preliminary Engineering Report

Dear US Department of Transportation,

We are requesting your review of possible environmental impacts from improvements planned for the Roundup Mesa Water District water system. The improvements include several elements that address a variety of problems within the water system:

- Install a water distribution system, approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

To help visualize the proposed project area, maps of the proposed water system are enclosed with this letter.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The District currently does not have any water infrastructure and its users have individually sourced water supplies including domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

Please take a few moments to review the site and the proposed project. Please provide a written response detailing any comments you may have regarding the project and any potential environmental impacts that should be considered in the project design, avoidance, or mitigation measures.

If you have no comment on this project, please check the box below and countersign the bottom of this letter and return both pages to Great West Engineering, Inc. at the address listed below. Feel free to send your response electronically to the email address listed below. Please return your written comments to Susan Hayes by February 21, 2023, at shayes@greatwesteng.com or the following address:

Great West Engineering, Inc.
Attn: Susan Hayes
2501 Belt View Drive
Helena, MT 59601

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Thank you for your participation in the Environmental Assessment process for this project. If you need any further information or wish to discuss the project, please contact me directly at (406) 495-6157.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

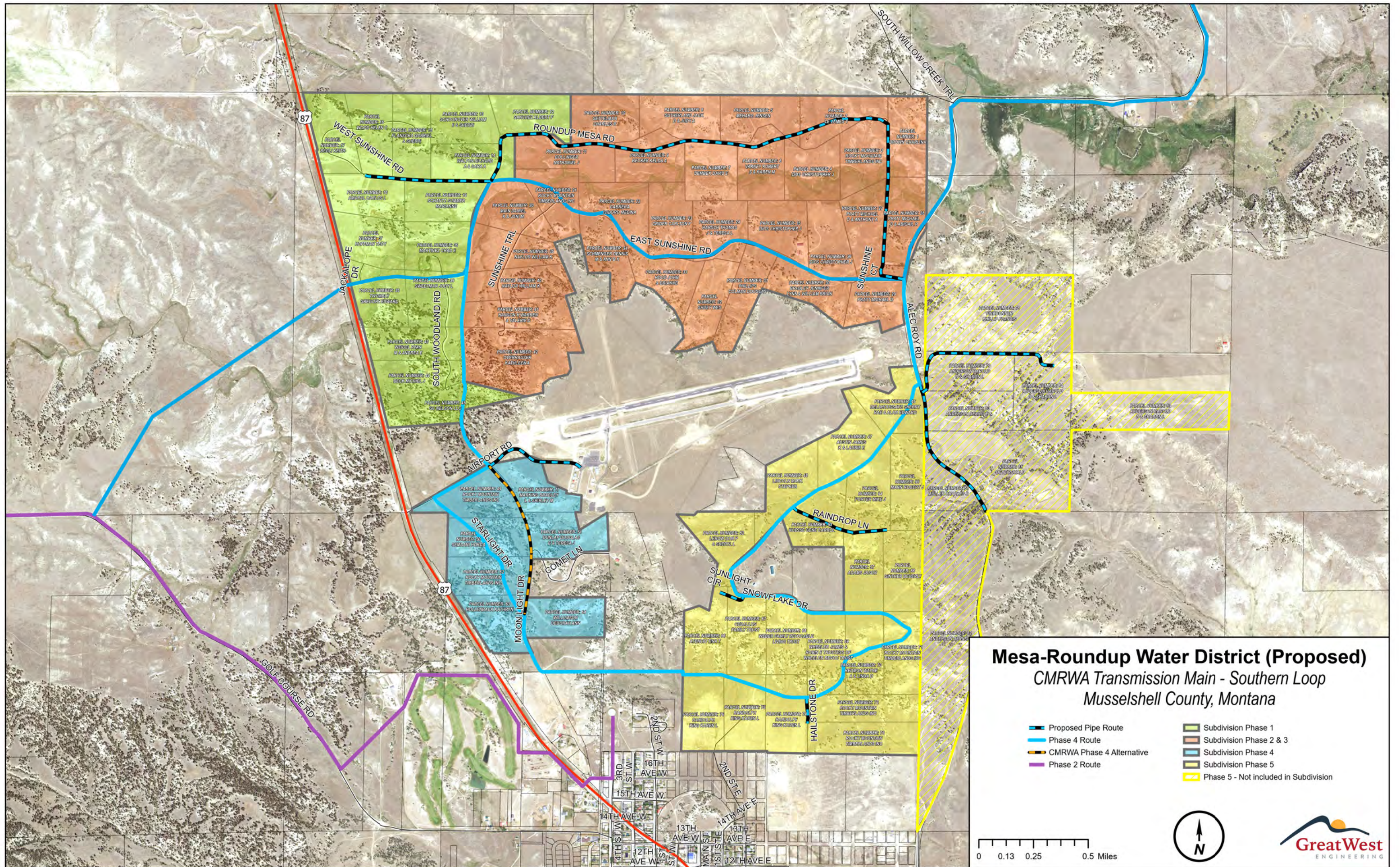
Susan Hayes, PE
Project Engineer

Attached: Figure 1 of the Potential Water System Improvement Area

[] US Department of Transportation has reviewed the enclosed information and has no comment on the project at this time.

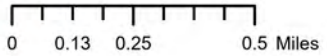
Signature

Date



Mesa-Roundup Water District (Proposed)
 CMRWA Transmission Main - Southern Loop
 Musselshell County, Montana

- Proposed Pipe Route
- Phase 4 Route
- CMRWA Phase 4 Alternative
- Phase 2 Route
- Subdivision Phase 1
- Subdivision Phase 2 & 3
- Subdivision Phase 4
- Subdivision Phase 5
- Phase 5 - Not included in Subdivision



See what's possible.



February 7, 2023

Apache Tribe of Oklahoma
Bobby Komardley
Chairman
PO Box 1330
Anadarko OK 70035

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Bobby Komardley:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.



February 7, 2023

Crow Tribe of Montana
Aaron Brien
THPO
PO Box 159
Crow Agency MT 59022

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Aaron Brien:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.



February 7, 2023

Crow Tribe of Montana
AJ Not Afraid
Chairperson
PO Box 159
Crow Agency MT 59022

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear AJ Not Afraid:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes". The signature is written in a cursive, flowing style.

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.



February 7, 2023

Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
Michael Blackwolf
THPO
656 Agency Main Street
Harlem MT 59526

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Michael Blackwolf:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes". The signature is written in a cursive, flowing style.

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.



February 7, 2023

Fort Belknap Indian Community of the Fort Belknap Reservation of Montana
Jeffery Stiffarm
President
RR1, Box 66
Harlem MT 59526

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Jeffery Stiffarm:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.

HELENA

2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS

6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE

3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS

702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE

9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



February 7, 2023

Little Shell Tribe
Duane Reid
PO Box 211
Elmo MT 59915

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Duane Reid:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects

See what's possible.



February 7, 2023

Shoshone-Bannock Tribes of the Fort Hall Reservation
Tino Batt
Chairman
PO Box 306
Fort Hall ID 83203

**RE: United States Department of Agriculture (USDA) – Rural Development (RD) Rural Utilities Service (RUS) Applicant THPO Section 106 Initiation
Mesa Roundup Water District Preliminary Engineering Report
Roundup, Musselshell County, MT**

Dear Tino Batt:

The Mesa Roundup Water District plans to seek financial assistance from the USDA Rural Development (RD), Rural Utilities Service (RUS) under its water and waste loan and grant program for Mesa Roundup Water District Water System Improvements.

The water system improvements include several elements that address a variety of problems within the water system, including:

- Install a water distribution system with approximately 11.9 miles of transmission main, sourcing from Phase 4 of the Central Montana Regional Water Authority;
- Install valves, fill hydrants, and appurtenances as related to pipe upgrades.

The proposed project addresses the District's highest priority of bringing high quality water in adequate quantities to its users, improving public health and safety. Implementation of this project is economically feasible. The proposed district currently does not have any infrastructure and its users have individual domestic wells, water trucks and cisterns. Implementation of the project will also help to provide a nearby source of flow in the case of a fire.

If RUS elects to fund the Project, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800.

RUS defines the area of potential effect (APE), as an area that includes all Project construction and excavation activity required to construct, modify, improve, or maintain any facilities; any right-of-way or easement areas necessary for the construction, operation, and maintenance of the Project; all areas used for excavation of borrow material and habitat creation; all construction staging areas, access routes, utilities, spoil areas, and stockpiling areas. Impacts that come from the undertaking at the same time and place with no intervening causes, are considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). "Indirect" effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

Based on this definition, the Mesa Roundup Water District proposes that the APE for the referenced project consists of disturbed right-of-way (ROW) in the proposed district and along the CMRWA transmission main pipeline route as shown on the enclosed map. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

Y:\Shared\Helena Projects\1-22198-Mesa Roundup Subdivision Water PER\Project\Reports\PER\Environmental\EA-THPO-Env Ltr\THPO Letter Mesa.docx

HELENA
2501 Belt View Drive
Helena, MT 59601
Ph: (406) 449-8627
F: (406) 449-8631

BILLINGS
6780 Trade Center
Avenue
Billings, MT 59101
Ph: (406) 652-5000
F: (406) 248-1363

BOISE
3050 N Lakeharbor
Lane
Suite 201
Boise, ID 83703
Ph: (208) 576-6646

GREAT FALLS
702 2nd Street S, #2
Great Falls, MT 59405
Ph: (406) 952-1109

SPOKANE
9221 N Division Street
Suite F
Spokane, WA 99218
Ph: (509) 413-1430



Pursuant to 36 CFR § 800.2(c)(4), and 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation for its applicants to initiate and proceed through Section 106 review if there is agreement.

In delegating this authority, RUS is advocating for the direct interaction between its water and waste disposal loan and grant program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

At the direction of RUS, on February 7, 2023, the Mesa Roundup Water District notified the following Indian tribes about the Roundup Mesa Water District Water System Improvements: the Apache Tribe of Oklahoma, the Crow Tribe of Montana, the Fort Belknap Indian Community of the Fort Belknap Reservation of Montana, the Little Shell Tribe, and the Shoshone-Bannock Tribes of the Fort Hall Reservation. Should the referenced tribes elect to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following address – 2501 Belt View Dr. Helena, MT 59601 or shayes@greatwesteng.com.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Roundup Mesa Water District will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Justin Bailey, State Environmental Coordinator, USDA Rural Development, 790 Colleen Street, Helena, MT 59601. Mr. Bailey's phone number is (406) 449-5000 ext. 3879, and his email address is Justin.Bailey@usda.gov.

Please submit your response electronically by February 21, 2023. RUS will proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at the mailing address and email provided above.

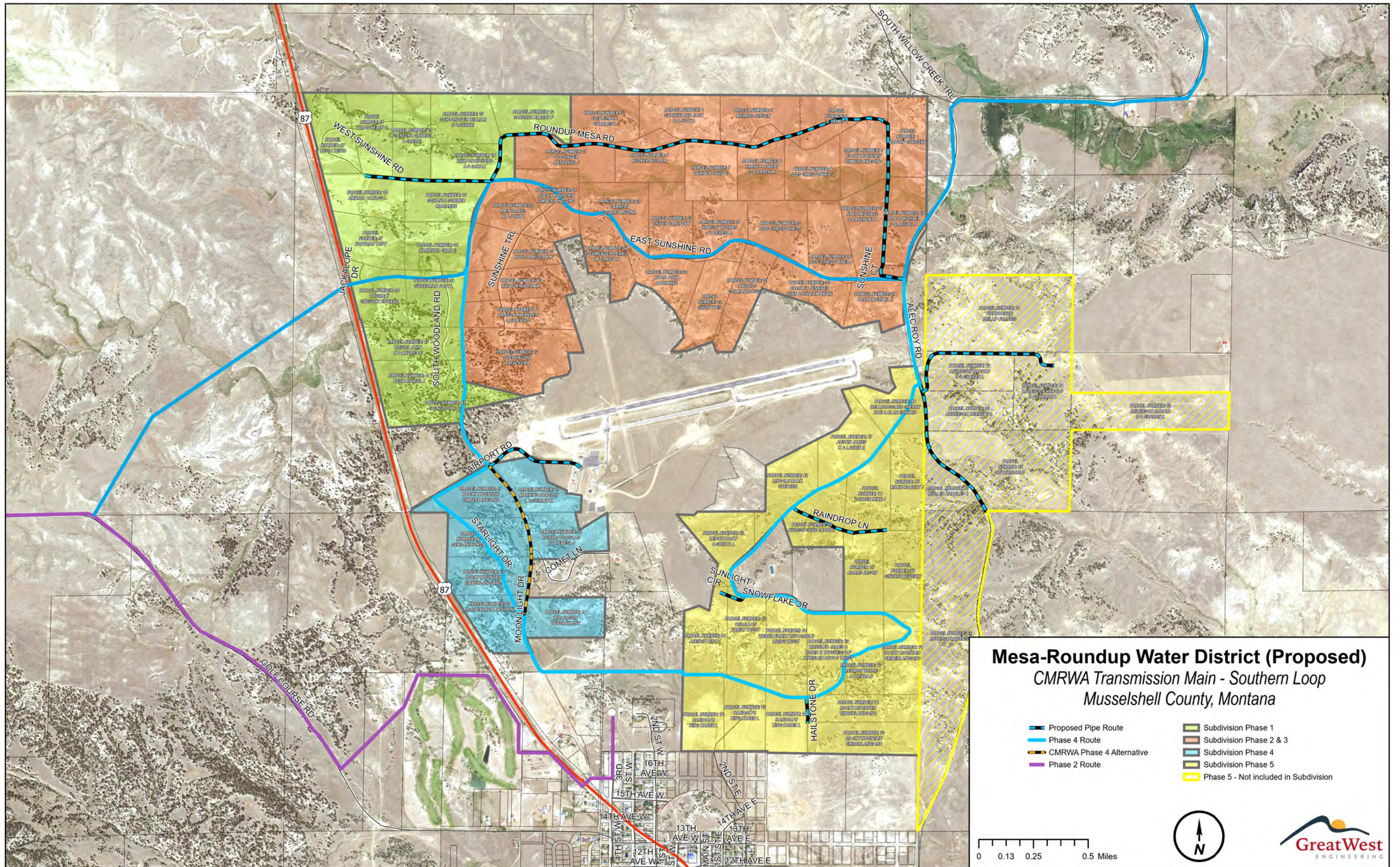
Sincerely,

Great West Engineering, Inc.

A handwritten signature in blue ink that reads "Susan Hayes".

Susan Hayes, PE
Project Engineer

Enclosure: Map of Area of Potential Effects



Mesa-Roundup Water District (Proposed)
 CMRWA Transmission Main - Southern Loop
 Musselshell County, Montana

- Proposed Pipe Route
- Phase 4 Route
- CMRWA Phase 4 Alternative
- Phase 2 Route
- Subdivision Phase 1
- Subdivision Phase 2 & 3
- Subdivision Phase 4
- Subdivision Phase 5
- Phase 5 - Not included in Subdivision

0 0.13 0.25 0.5 Miles



Susan Hayes

From: Murdo, Damon <dmurdo@mt.gov>
Sent: Tuesday, February 14, 2023 2:28 PM
To: Susan Hayes
Subject: ROUNDUP MESA WATER SYSTEM PER
Attachments: Reports.pdf; Sites.pdf; 2023021401.pdf

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

February 14, 2023

Susan Hayes
Great West Engineering
2105 Belt View Drive
Helena MT 59601



MONTANA
HISTORICAL SOCIETY

Historic Preservation Office
1301 E. Lockett, PO Box 201202
Helena, MT 59620-1202

RE: ROUNDUP MESA WATER SYSTEM PER. SHPO Project #: 2023021401

Dear Susan:

I have conducted a cultural resource file search for the above-cited project located in Sections 1, 2, 11, 12, T8N R25E, and Section 6, T8N R26E. According to our records there have been a few previously recorded sites within the designated search locales. In addition to the sites there have been a few previously conducted cultural resource inventories done in the areas. I've attached a list of these sites and reports. If you would like any further information regarding these sites or reports, you may contact me at the number listed below.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing in the National Register of Historic Places. If any structures are within the Area of Potential Effect, and are over fifty years old, we would recommend that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place.

Based on the sites within and near the proposed water mains and the lack of previous inventory and the ground disturbance required by this undertaking we feel that this project has the potential to impact cultural properties. We, therefore, recommend that a cultural resource inventory be conducted in order to determine whether or not sites exist and if they will be impacted.

If you have any further questions or comments, you may contact me at (406) 444-7767 or by e-mail at dmurdo@mt.gov. I have attached an invoice for the file search. Thank you for consulting with us.

Sincerely,

Damon Murdo
Cultural Records Manager
State Historic Preservation Office

File: DEQ/AWWM/2023



STATE HISTORIC PRESERVATION OFFICE Montana Cultural Resource Database

CRABS Township, Range, Section Results

Report Date: 2/14/2023

Township: 8 N Range: 25 E Section: 2

WOOD GARVEY C.

8/4/1988 HILDE CONSTRUCTION - ONDRACEK BORROW SOURCE 161-2

CRABS Document Number: ML 4 6315 Agency Document Number:

Township: 8 N Range: 25 E Section: 1

KOENIG ORRIN AND LYNELLE A. PETERSEN

7/8/2002 A CLASS III CULTURAL RESOURCES INVENTORY OF THE ROUNDUP AIRPORT, MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 25066 Agency Document Number:

Township: 8 N Range: 25 E Section: 2

KOENIG ORRIN AND LYNELLE A. PETERSEN

7/8/2002 A CLASS III CULTURAL RESOURCES INVENTORY OF THE ROUNDUP AIRPORT, MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 25066 Agency Document Number:

Township: 8 N Range: 25 E Section: 11

KOENIG ORRIN AND LYNELLE A. PETERSEN

7/8/2002 A CLASS III CULTURAL RESOURCES INVENTORY OF THE ROUNDUP AIRPORT, MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 25066 Agency Document Number:

Township: 8 N Range: 25 E Section: 12

KOENIG ORRIN AND LYNELLE A. PETERSEN

7/8/2002 A CLASS III CULTURAL RESOURCES INVENTORY OF THE ROUNDUP AIRPORT, MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 25066 Agency Document Number:

Township: 8 N Range: 25 E Section: 11

BABCOCK WILLIAM A. AND ELIZABETH WOOD

11/1/1983 HISTORICAL RESOURCES SURVEY OF THE CITY OF ROUNDUP MONTANA IN MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 26748 Agency Document Number:

Township: 8 N Range: 25 E Section: 12

BABCOCK WILLIAM A. AND ELIZABETH WOOD

11/1/1983 HISTORICAL RESOURCES SURVEY OF THE CITY OF ROUNDUP MONTANA IN MUSSELSHELL COUNTY MONTANA

CRABS Document Number: ML 6 26748 Agency Document Number:

Township: 8 N Range: 25 E Section: 2

O ' DONNCHADHA BRIAN

9/1/2010 LETTER REPORT OF TESTING AT 24ML0758, ROUNDUP AIRPORT

CRABS Document Number: ML 6 33235 Agency Document Number:

Township: 8 N Range: 26 E Section: 6

LANCE MARK A.

9/29/2011 A CULTURAL RESOURCE INVENTORY REPORT FOR ALEC ROY ROAD, MUSSELSHELL COUNTY, MONTANA

CRABS Document Number: ML 6 33283 Agency Document Number:

Township: 8 N Range: 25 E Section: 2

WENDEL RYAN

8/19/2019 MID-RIVERS ROUNDUP FIBER OPTIC CABLE EXCHANGE: A CLASS III INVENTORY ON BLM LANDS IN MUSSELSHELL COUNTY, MONTANA

CRABS Document Number: ML 2 39879 Agency Document Number: 2019-MT-010-12



STATE HISTORIC PRESERVATION OFFICE Cultural Resource Information Systems

CRIS Township, Range, Section Report

Report Date: 2/14/2023

Site #	Twp	Rng	Sec	Qs	Site Type 1	Site Type 2	Time Period	Owner	NR Status
24ML0271	8N	25E	2	NW	Historic Architecture		1910-1919	MDOT Other	Undetermined*
24ML0735	8N	25E	2	Comb	Historic Road		Historic More Than One Decade	State Owned	Ineligible
24ML0735	8N	25E	11	Comb	Historic Road		Historic More Than One Decade	State Owned	Ineligible
24ML0757	8N	25E	2	SE	Precontact Lithic Material Concentration	Precontact Firehearths or Roasting Pits, FCR	No Indication of Time	State Owned	Undetermined*
24ML0758	8N	25E	2	SE	Precontact Lithic Material Concentration		No Indication of Time	State Owned	Undetermined*
24ML1118	8N	25E	12	SE	Historic Industrial Development		1950-1959	Private	Undetermined*

Susan Hayes

From: Murphy, Ryan <Ryan.Murphy@mt.gov>
Sent: Thursday, February 23, 2023 10:13 AM
To: Susan Hayes
Cc: Hamilton, Steven
Subject: Roundup Mesa Water System Preliminary Engineering Report

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Susan,

I have received your letter for the Roundup Mesa Water District water system. Comments are as follows:

- The proposed area is not located within the mapped floodplain.
- Ensure water rights are in order for the project.

Attached to the email is Steven Hamilton the Lewistown Regional Manager and he can assist you in any water rights related questions.

Thanks

Ryan Murphy, EI
Civil Engineering Specialist
Lewistown Regional Office
Dept. of Natural Resources & Conservation
613 NE Main, Suite E
Lewistown, MT 59457
Ryan.Murphy@mt.gov
Office: (406)538-7459
Cell: (406) 533-9124



Susan Hayes

From: Martin, Jacob <jacob_martin@fws.gov>
Sent: Thursday, February 16, 2023 10:32 AM
To: Susan Hayes
Subject: Roundup Mesa Water System, Musselshell County, Montana

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Dear Ms. Hayes:

Thank you for your February 7, 2023, letter requesting U.S. Fish and Wildlife Service (USFWS) comment on installation of a water system by the Roundup Mesa Water District near Roundup, Musselshell County, Montana. The proposed project would install 11.9 miles of transmission mains and associated distribution lines, fire hydrants, and related appurtenances as detailed in your letter and its attached map.

The USFWS reviewed your letter. Based on the information provided, we have no comments regarding federally listed or proposed threatened or endangered species or other trust species. Additional information regarding listed species that may occur within the project footprint may be obtained using the IPaC project-planning tool, which streamlines the USFWS environmental review process at <https://ecos.fws.gov/ipac/>.

Thank you for the opportunity to comment. If you have any questions or comments about this correspondence, please contact me via reply email or at the address or phone numbers, below.

Sincerely,

Jacob M. (Jake) Martin
Assistant Field Supervisor
Montana Ecological Services Office
585 Shephard Way, Suite 1
Helena, Montana 59601
(406) 422-8524 (cell, preferred, I'm teleworking)
(406) 430-9007 (office)
jacob_martin@fws.gov

Appendix D

Census

INCOME IN THE PAST 12 MONTHS (IN 2021 INFLATION-ADJUSTED DOLLARS)		United States[®] Census Bureau
Note: The table shown may have been modified by user selections. Some information may be missing.		
DATA NOTES		
TABLE ID:	S1901	
SURVEY/PROGRAM:	American Community Survey	
VINTAGE:	2021	
DATASET:	ACSST5Y2021	
PRODUCT:	ACS 5-Year Estimates Subject Tables	
UNIVERSE:	None	
FTP URL:	None	
API URL:	https://api.census.gov/data/2021/acs/acs5/subject	
USER SELECTIONS		
GEOS	Roundup city, Montana	
EXCLUDED COLUMNS		
	None	
APPLIED FILTERS		
	None	
APPLIED SORTS		
	None	
PIVOT & GROUPING		
PIVOT COLUMNS	None	
PIVOT MODE	Off	
ROW GROUPS	None	
VALUE COLUMNS	None	
WEB ADDRESS		
	https://data.census.gov/table?g=1600000US3064525&tid=ACSST5Y2021.S1901	

Table: ACSST5Y2021.S1901

TABLE NOTES	<p>Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.</p>
	<p>Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.</p> <p>Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.</p>
	<p>Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates</p>
	<p>Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.</p>
	<p>When information is missing or inconsistent, the Census Bureau logically assigns an acceptable value using the response to a related question or questions. If a logical assignment is not possible, data are filled using a statistical process called allocation, which uses a similar individual or household to provide a donor value. The "Allocated" section is the number of respondents who received an allocated value for a particular subject.</p>
	<p>Between 2018 and 2019 the American Community Survey retirement income question changed. These changes resulted in an increase in both the number of households reporting retirement income and higher aggregate retirement income at the national level. For more information see Changes to the Retirement Income Question .</p>
	<p>The categories for relationship to householder were revised in 2019. For more information see Revisions to the Relationship to Household item.</p>

Table: ACSST5Y2021.S1901

	The 2017-2021 American Community Survey (ACS) data generally reflect the March 2020 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.
	Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.
	Explanation of Symbols:- The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution. For a 5-year median estimate, the margin of error associated with a median was larger than the median itself.N The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area. (X) The estimate or margin of error is not applicable or not available.median- The median falls in the lowest interval of an open-ended distribution (for example "2,500-")median+ The median falls in the highest interval of an open-ended distribution (for example "250,000+").** The margin of error could not be computed because there were an insufficient number of sample observations.*** The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.***** A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.
COLUMN NOTES	None

+
 -
 Home
 Refresh

Find address or place

3547 ft

Roundup CCD



RESOURCES

Consolidated Plan

Past Programs

Census and Target Rate

Income and Rent Limits

TARGET RATE CALCULATION RESOURCE

The Community Development Division (CDD) has updated the U.S. Census Bureau's American Communities Survey (ACS) data set 2015-2019 for the calculation of local government target rates. The Montana Coal Endowment Program (MCEP) and Community Development Block Grant (CDBG) programs use ACS information as the base data set to calculate applicant target rates for community infrastructure systems.

These calculated rates, along with other demographic information, are components of the review and analysis of applications submitted to the programs for funding requests. Applications to be submitted in 2021 or later for MCEP or CDBG programs must use the 2015-2019 ACS data for the calculation of target rates for an applicant.

Low and moderate income (LMI) data is subject to change due to information released by the U.S Department of Housing and Urban Development (HUD).

Search below for 2015-2019 American Communities Survey data used to calculate target rates when applying to the **Montana Coal Endowment Program** and **Community Development Block Group Grant Program**.

Step 1a:

Select a geography type

(All) ▾

OR

Step 1b:

Select a county or counties

(All) ▾

Step 2:

Select a geography

Roundup city ▾



Selected Geography	Roundup city
Associated County	Musselshell County
Population	1,790
Total Households	854
Median Household Income	\$34,310
Low & Moderate Income Percent	50.7%
Percent Poverty	14.0%

Target Rates

Water & Wastewater	\$65.76
Water Only	\$40.03
Wastewater Only	\$25.73
Solid Waste Only	\$8.58



Susan Hayes

From: Anseth, Becky <BAnseth@mt.gov>
Sent: Wednesday, March 29, 2023 2:03 PM
To: Craig Erickson; Byrom, Gus
Cc: Kinsee Dodge; Susan Hayes
Subject: RE: Mesa Roundup data sets

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Craig

As a reminder, the upcoming MCEP (2024) and CDBG (2023) funding rounds will use the 2015-2019 MHI data as currently posted on our websites. The maps we provided a few weeks back had the 2015-2019 MHI data. Toady's map was for 2020 MHI, which I understand will help with USDA RD applications.

BECKY ANSETH
Infrastructure Manager

MONTANA
DEPARTMENT OF COMMERCE
T: 406.841.2865
COMMERCE.MT.GOV

From: Anseth, Becky
Sent: Wednesday, March 29, 2023 1:22 PM
To: Craig Erickson <cerickson@greatwesteng.com>; Byrom, Gus <gbyrom@mt.gov>
Cc: Kinsee Dodge <kdodge@greatwesteng.com>; Susan Hayes <shayes@greatwesteng.com>
Subject: RE: Mesa Roundup

Craig

Gus and I thoroughly discussed the district area boundaries lying in two block groups. Given that there are few actual residences (8) in the northern Tract 1, Block Group 1, division boundaries. we recommend using just the tract 2, block group 2 MHI. Tract 1 Block group1 encompasses a very large area with 449 housing units, so just averaging the two tracts would produce a significantly skewed number.

Let us know if you have other thoughts.

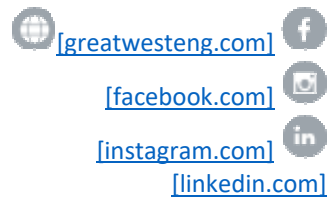
Thanks!

BECKY ANSETH
Infrastructure Manager
406.841.2865

From: Craig Erickson <cerickson@greatwesteng.com>
Sent: Wednesday, March 29, 2023 9:47 AM
To: Anseth, Becky <BAnseth@mt.gov>
Cc: Kinsee Dodge <kdodge@greatwesteng.com>; Susan Hayes <shayes@greatwesteng.com>
Subject: [EXTERNAL] RE: Mesa Roundup

Good morning, Becky,

Thank you for sending the map. So, our next question is, which MHI should we use? Is taking the average of the two numbers acceptable?



We're Hiring!

[greatwesteng.com]

Craig Erickson
Senior Funding Specialist

d: (406) 495-6189
c: (406) 399-0104

2501 Belt View Drive
Helena, MT 59601

This message has been sent to you as the official business of Great West Engineering. This e-mail and any attachments may be considered confidential. If you are not the intended recipient, please be advised that you are legally prohibited from retaining, using, copying, distributing, or disclosing this information. If you have received this communication in error, please reply to the sender and then immediately delete it. I appreciate your cooperation.

From: Anseth, Becky <BAnseth@mt.gov>
Sent: Tuesday, March 28, 2023 3:12 PM
To: Craig Erickson <cerickson@greatwesteng.com>
Cc: Kinsee Dodge <kdodge@greatwesteng.com>; Susan Hayes <shayes@greatwesteng.com>
Subject: RE: Mesa Roundup

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Craig

We have a map showing the 2020 MHIs for the Mesa Roundup area. Due to size, I am going to send via the transfer service.

Thanks!

BECKY ANSETH
Infrastructure Manager
406.841.2865

From: Craig Erickson <cerickson@greatwesteng.com>
Sent: Thursday, March 23, 2023 2:47 PM
To: Anseth, Becky <BAseth@mt.gov>
Cc: Kinsee Dodge <kdodge@greatwesteng.com>; Susan Hayes <shayes@greatwesteng.com>; Craig Erickson <cerickson@greatwesteng.com>
Subject: [EXTERNAL] Mesa Roundup

Good afternoon, Becky,

Per our earlier discussion, we would like your help determining the Mesa Roundup District's 2020 median household income. This information will help us prepare funding scenarios for the District's water system PER.

I appreciate your help, and please let me know if you have any questions.



Craig Erickson

Senior Funding Specialist

d: (406) 495-6189
c: (406) 399-0104

2501 Belt View Drive
Helena, MT 59601



[\[greatwesteng.com\]](http://greatwesteng.com)



[\[facebook.com\]](https://www.facebook.com/greatwesteng)



[\[instagram.com\]](https://www.instagram.com/greatwesteng)



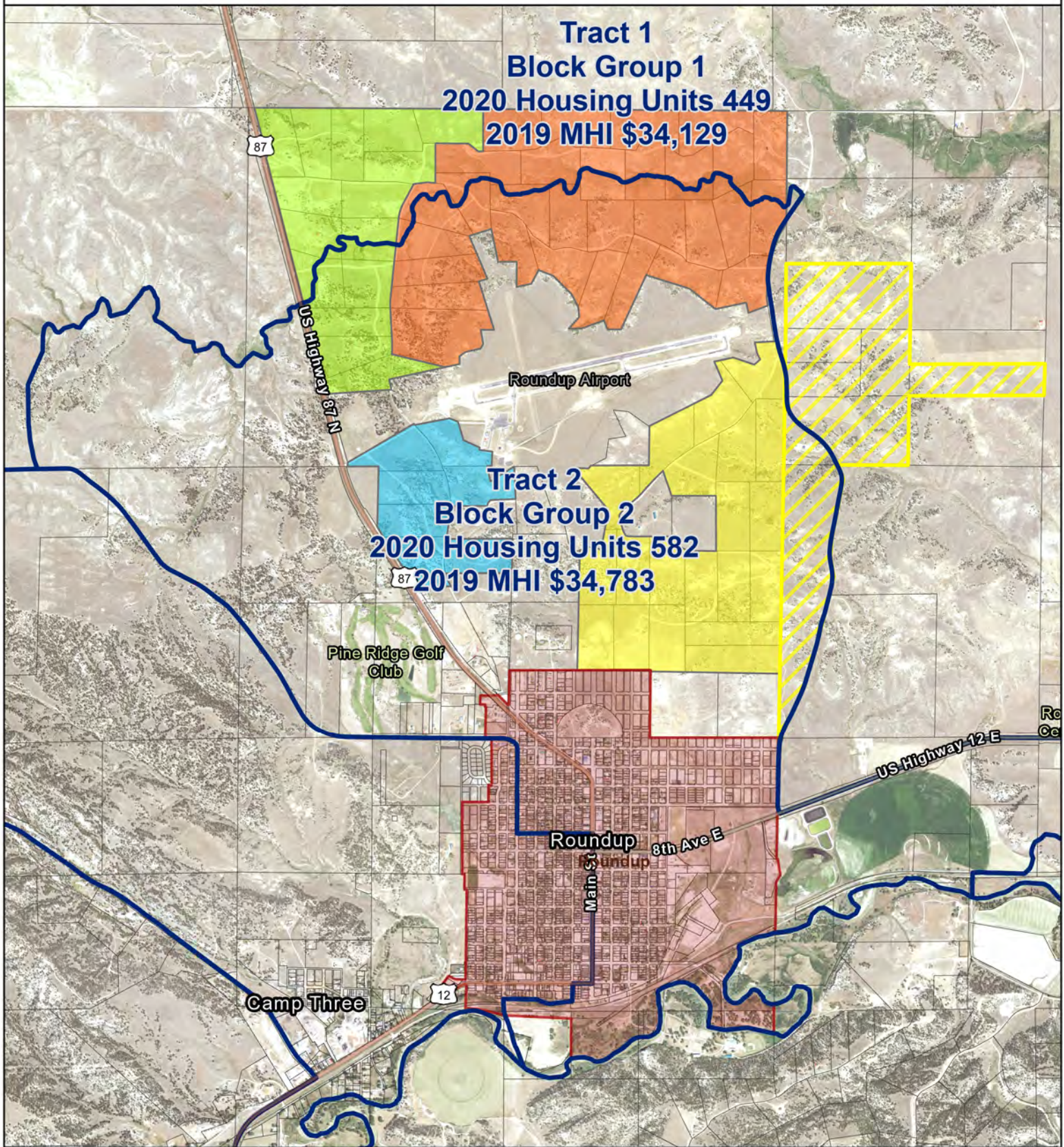
[\[linkedin.com\]](https://www.linkedin.com/company/greatwesteng)

[We're Hiring!](#)

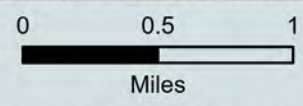
[\[greatwesteng.com\]](http://greatwesteng.com)

This message has been sent to you as the official business of Great West Engineering. This e-mail and any attachments may be considered confidential. If you are not the intended recipient, please be advised that you are legally prohibited from retaining, using, copying, distributing, or disclosing this information. If you have received this communication in error, please reply to the sender and then immediately delete it. I appreciate your cooperation.

Mesa-Roundup Map #1



- 2020 Census Block Group
- City Boundary
- Owner Parcel
- Subdivision Phase 1
- Subdivision Phase 2 & 3
- Subdivision Phase 4
- Subdivision Phase 5
- Phase 5 - Not Included in Subdivision



Data Sources: Subdivision boundary from Great West Engineering, PL94171 Decennial Census 2020 Block Group Housing Units and ACS 5YR 2015-2019 Block Group Median Household Income (MHI) from U.S. Census Bureau. Incorporated City and Town Boundaries, Owned Parcels and NAIP Imagery from Montana State Library.

County

Musselshell County, Montana

Musselshell County, Montana has 1,869.0 square miles of land area and is the 36th largest county in Montana by total area. Musselshell County, Montana is bordered by Petroleum County, Montana, Golden Valley County, Montana, Yellowstone County, Montana, Fergus County, Montana, and Rosebud County, Montana.

// United States / Montana / Musselshell County, Montana

[Display Sources](#)

Populations and People

Total Population
4,730
P1 | 2020 Decennial Census

Education

Bachelor's Degree or Higher
20.9%
S1501 | 2021 American Community Survey 5-Year Estimates

Housing

Total Housing Units
2,633
H1 | 2020 Decennial Census

Business and Economy

Total Employer Establishments
110
CB2000CBP | 2020 Economic Surveys Business Patterns

Race and Ethnicity

Hispanic or Latino (of any race)
146
P2 | 2020 Decennial Census

Income and Poverty

Median Household Income
\$51,153
S1901 | 2021 American Community Survey 5-Year Estimates

Employment

Employment Rate
50.4%
DP03 | 2021 American Community Survey 5-Year Estimates

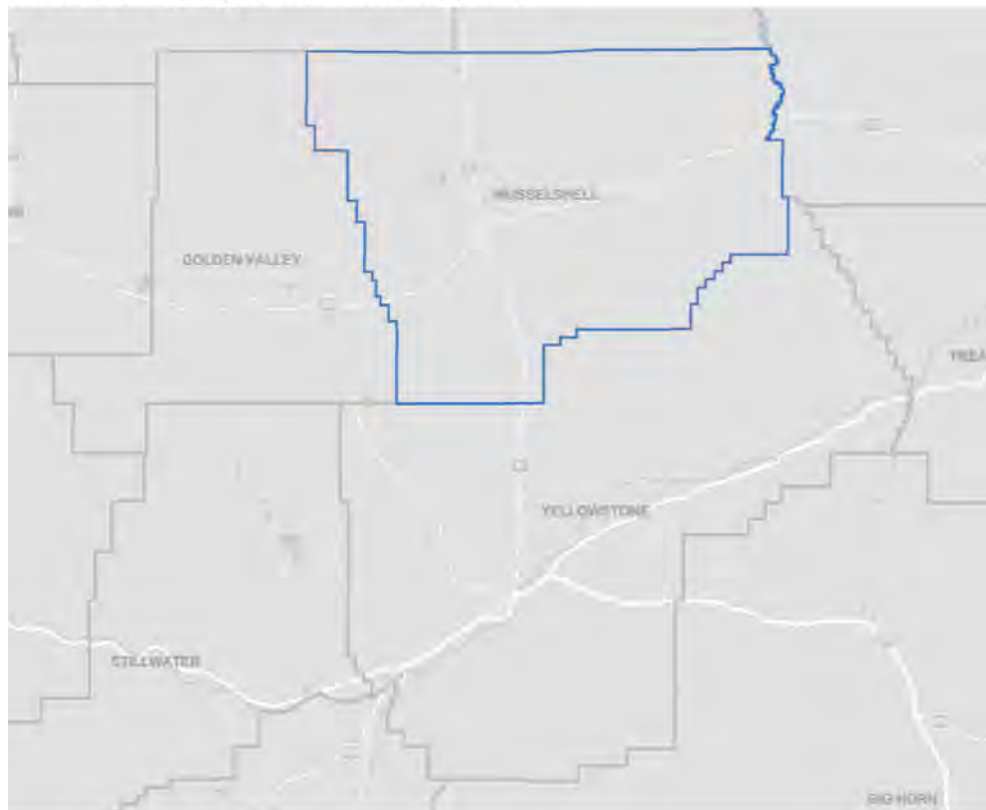
Health

Without Health Care Coverage
4.7%
S2701 | 2021 American Community Survey 5-Year Estimates

Families and Living Arrangements

Total Households
2,179
DP02 | 2021 American Community Survey 5-Year Estimates

Musselshell County, Montana Reference Map



Source: U.S. Census Bureau

Populations and People

Age and Sex

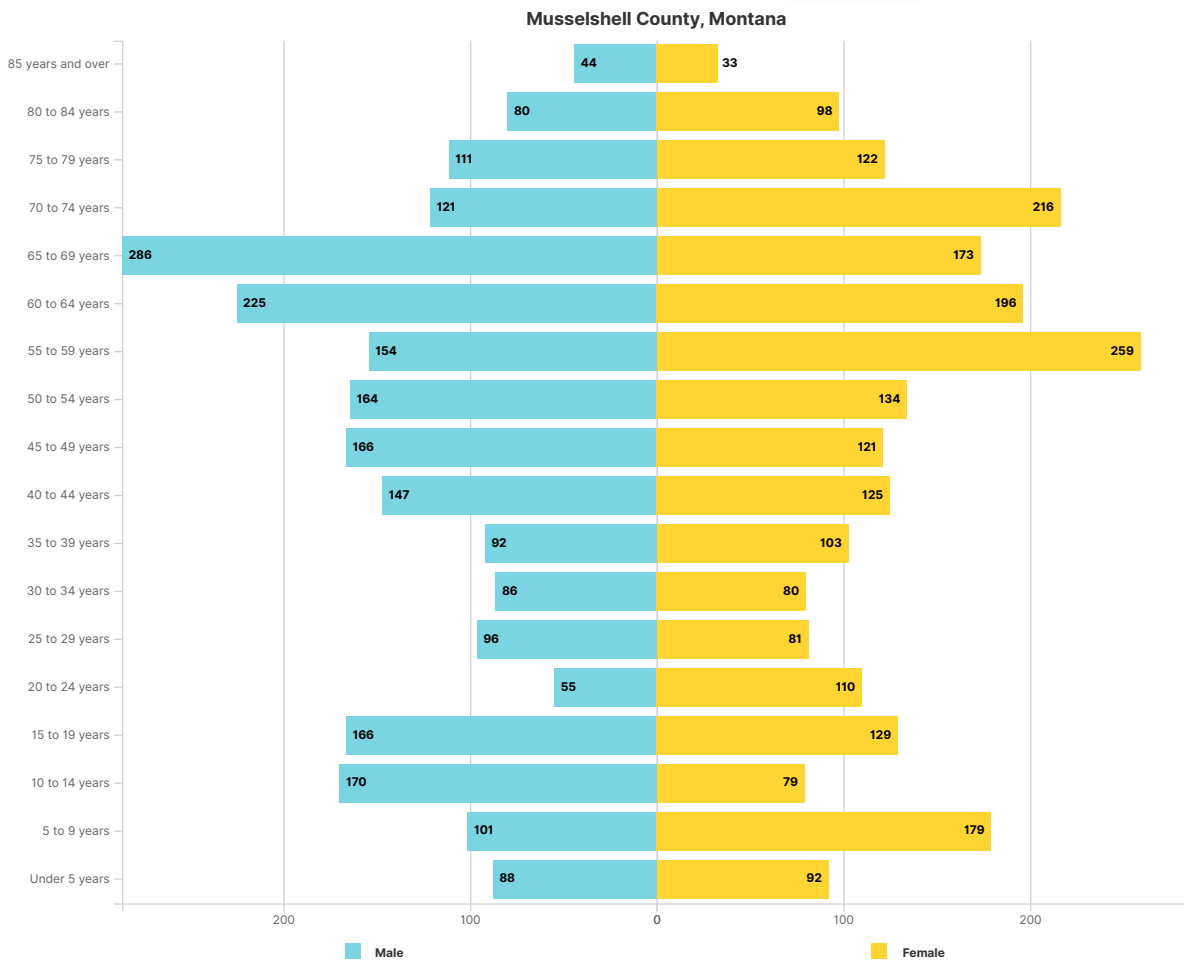
52.1 ± 1.2
Median Age in Musselshell County, Montana

40.1 ± 0.3
Median Age in Montana

S0101 | 2021 American Community Survey 5-Year Estimates

Population Pyramid: Population by Age and Sex in Musselshell County, Montana

Share / Embed



Display Margin of Error
S0101 | 2020 ACS 5-Year Estimates Subject Tables

Ancestry

1.6% ± 1.1%
Italian Ancestry in Musselshell County, Montana

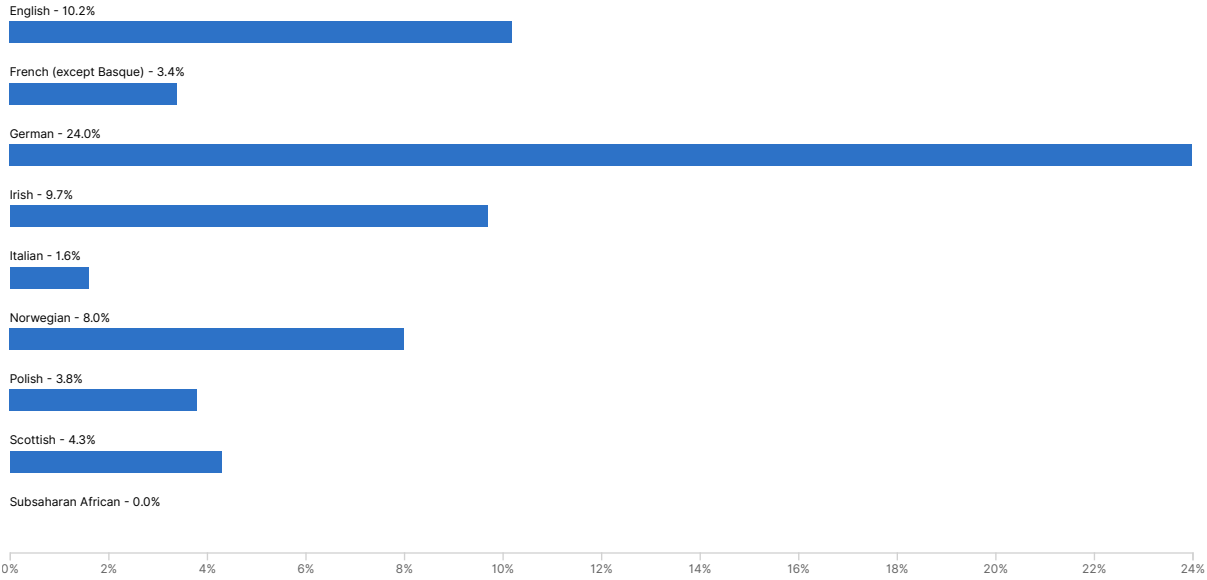
3.6% ± 0.4%
Italian Ancestry in Montana

DP02 | 2021 American Community Survey 5-Year Estimates

Ancestry

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error
DP02 | 2021 ACS 5-Year Estimates Data Profiles

Language Spoken at Home

2.2% ± 1.0%

Language Other Than English Spoken at Home in Musselshell County, Montana

3.9% ± 0.4%

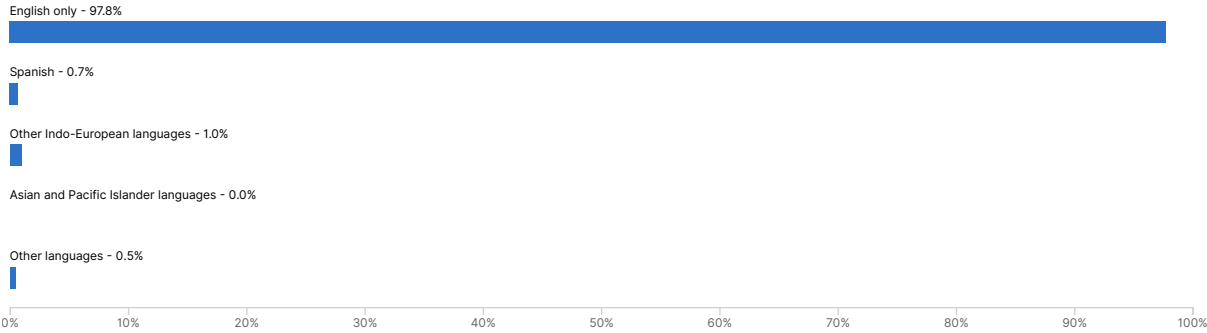
Language Other Than English Spoken at Home in Montana

S1601 | 2021 American Community Survey 5-Year Estimates

Types of Language Spoken at Home

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error
DP02 | 2021 ACS 5-Year Estimates Data Profiles

Native and Foreign Born

1.6% ± 1.1%

Foreign Born population in Musselshell County, Montana

2.2% ± 0.3%

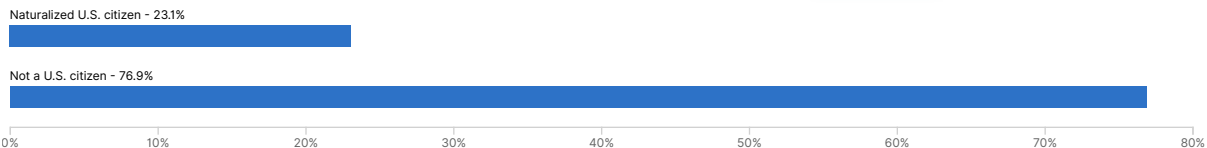
Foreign Born population in Montana

DP02 | 2021 American Community Survey 5-Year Estimates

Foreign Born Population

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error
DP02 | 2021 ACS 5-Year Estimates Data Profiles

Older Population

27.7% ± 1.3%

65 Years and Older in Musselshell County, Montana

19.7% ± 0.1%

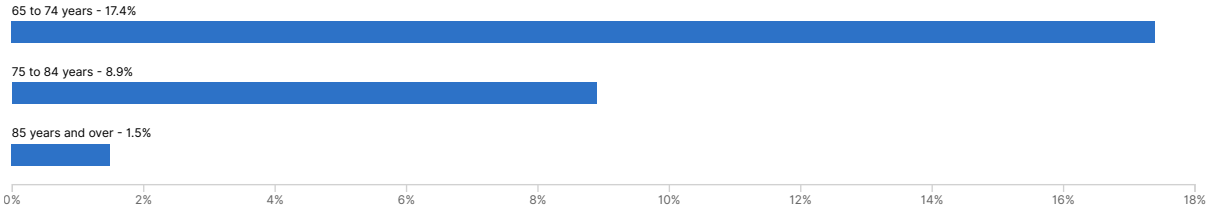
65 Years and Older in Montana

[DP05](#) | 2021 American Community Survey 5-Year Estimates

Older Population by Age

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error

[DP05](#) | 2021 ACS 5-Year Estimates Data Profiles

Residential Mobility

2.6% ± 1.5%

Moved From a Different State in the Last Year in Musselshell County, Montana

4.1% ± 0.5%

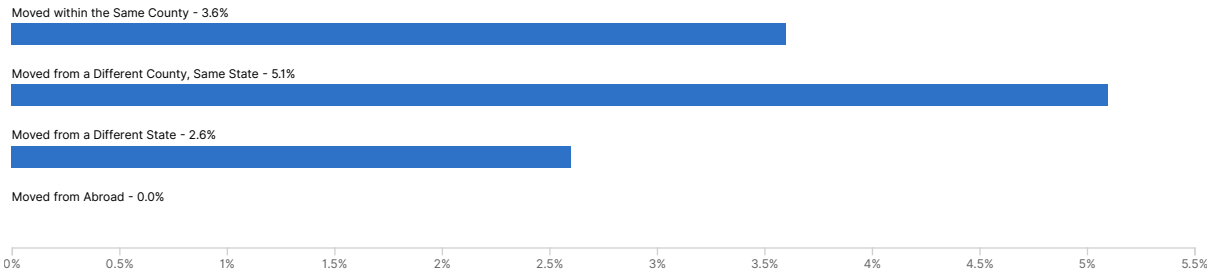
Moved From a Different State in the Last Year in Montana

[S0701](#) | 2021 American Community Survey 5-Year Estimates

Residential Mobility in the Last Year

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error

[S0701](#) | 2021 ACS 5-Year Estimates Subject Tables

Veterans

11.7% ± 2.4%

Veterans in Musselshell County, Montana

9.4% ± 0.5%

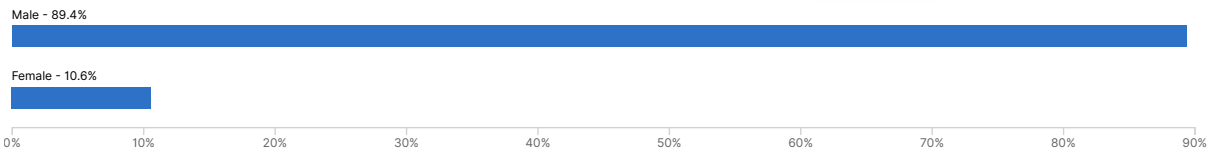
Veterans in Montana

[S2101](#) | 2021 American Community Survey 5-Year Estimates

Veterans by Sex

in Musselshell County, Montana

[Share / Embed](#)



Display Margin of Error

[S2101](#) | 2021 ACS 5-Year Estimates Subject Tables

Nearby Counties

[Accessibility](#) | [Information Quality](#) | [FOIA](#) | [Data Protection and Privacy Policy](#) | [U.S. Department of Commerce](#) | [Release Notes](#)

RESOURCES

Consolidated Plan

Past Programs

Census and Target Rate

Income and Rent Limits

TARGET RATE CALCULATION RESOURCE

The Community Development Division (CDD) has updated the U.S. Census Bureau's American Communities Survey (ACS) data set 2015-2019 for the calculation of local government target rates. The Montana Coal Endowment Program (MCEP) and Community Development Block Grant (CDBG) programs use ACS information as the base data set to calculate applicant target rates for community infrastructure systems.

These calculated rates, along with other demographic information, are components of the review and analysis of applications submitted to the programs for funding requests. Applications to be submitted in 2021 or later for MCEP or CDBG programs must use the 2015-2019 ACS data for the calculation of target rates for an applicant.

Low and moderate income (LMI) data is subject to change due to information released by the U.S Department of Housing and Urban Development (HUD).

Search below for 2015-2019 American Communities Survey data used to calculate target rates when applying to the **Montana Coal Endowment Program** and **Community Development Block Group Grant Program**.

Step 1a:

Select a geography type

(All) ▾

OR

Step 1b:

Select a county or counties

(All) ▾

Step 2:

Select a geography

Musselshell County ▾



Selected Geography	Musselshell County
Associated County	Musselshell County
Population	4,766
Total Households	2,181
Median Household Income	\$43,274
Low & Moderate Income Percent	45.1%
Percent Poverty	12.7%

Target Rates

Water & Wastewater	\$82.94
Water Only	\$50.49
Wastewater Only	\$32.46
Solid Waste Only	\$10.82



Place

Roundup city, Montana

Roundup city, Montana is a city, town, place equivalent, and township located in [Montana](#).

// [United States](#) / [Montana](#) / Roundup city, Montana

[Display Sources](#)

Populations and People

Total Population
1,742
P1 | 2020 Decennial Census

Education

Bachelor's Degree or Higher
14.7%
S1501 | 2021 American Community Survey 5-Year Estimates

Housing

Total Housing Units
937
H1 | 2020 Decennial Census

Families and Living Arrangements

Total Households
831
DP02 | 2021 American Community Survey 5-Year Estimates

Income and Poverty

Median Household Income
\$41,520
S1901 | 2021 American Community Survey 5-Year Estimates

Employment

Employment Rate
51.5%
DP03 | 2021 American Community Survey 5-Year Estimates

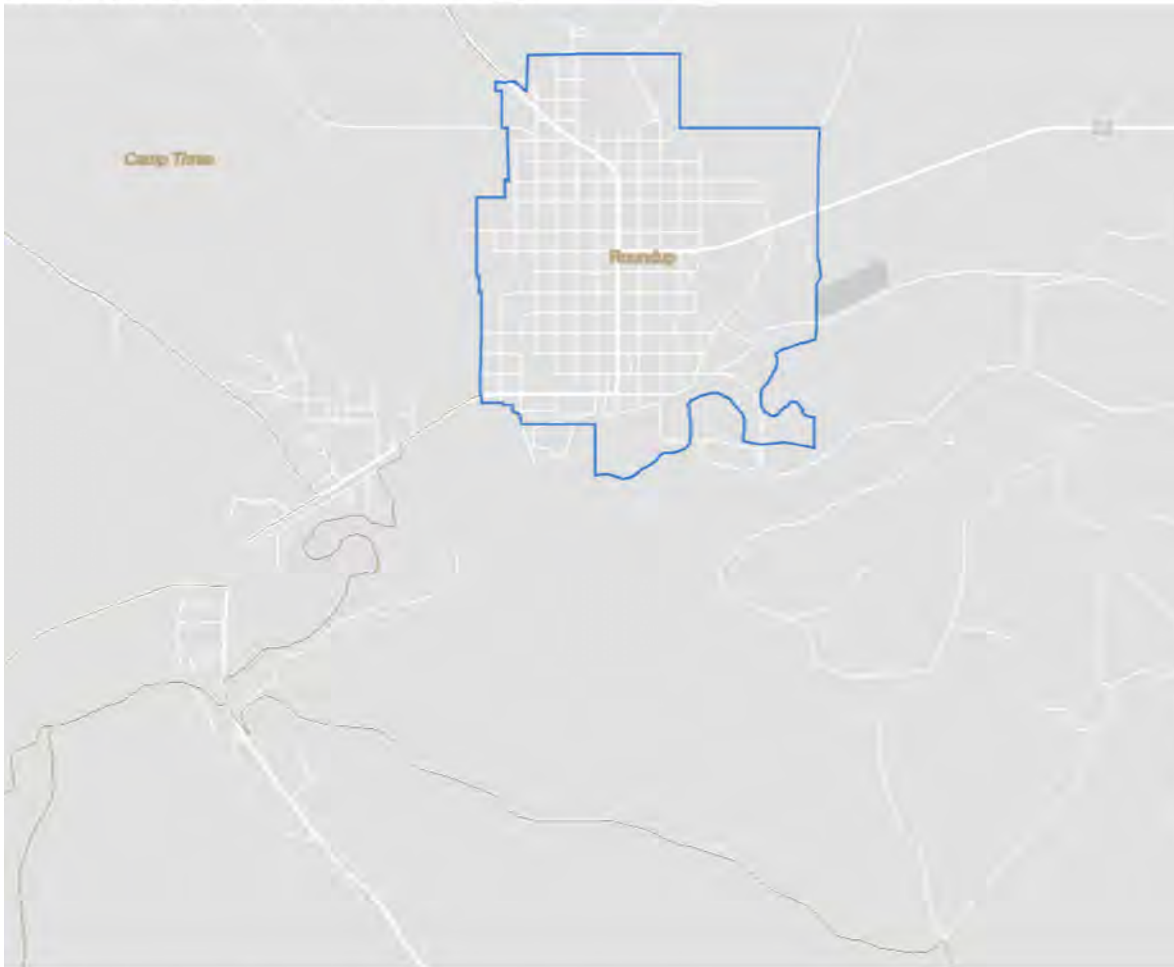
Health

Without Health Care Coverage
6.5%
S2701 | 2021 American Community Survey 5-Year Estimates

Race and Ethnicity

Hispanic or Latino (of any race)
67
P2 | 2020 Decennial Census

Roundup city, Montana Reference Map



Source: U.S. Census Bureau

Populations and People

Age and Sex

49.8 ± 7.5

Median Age in Roundup city, Montana

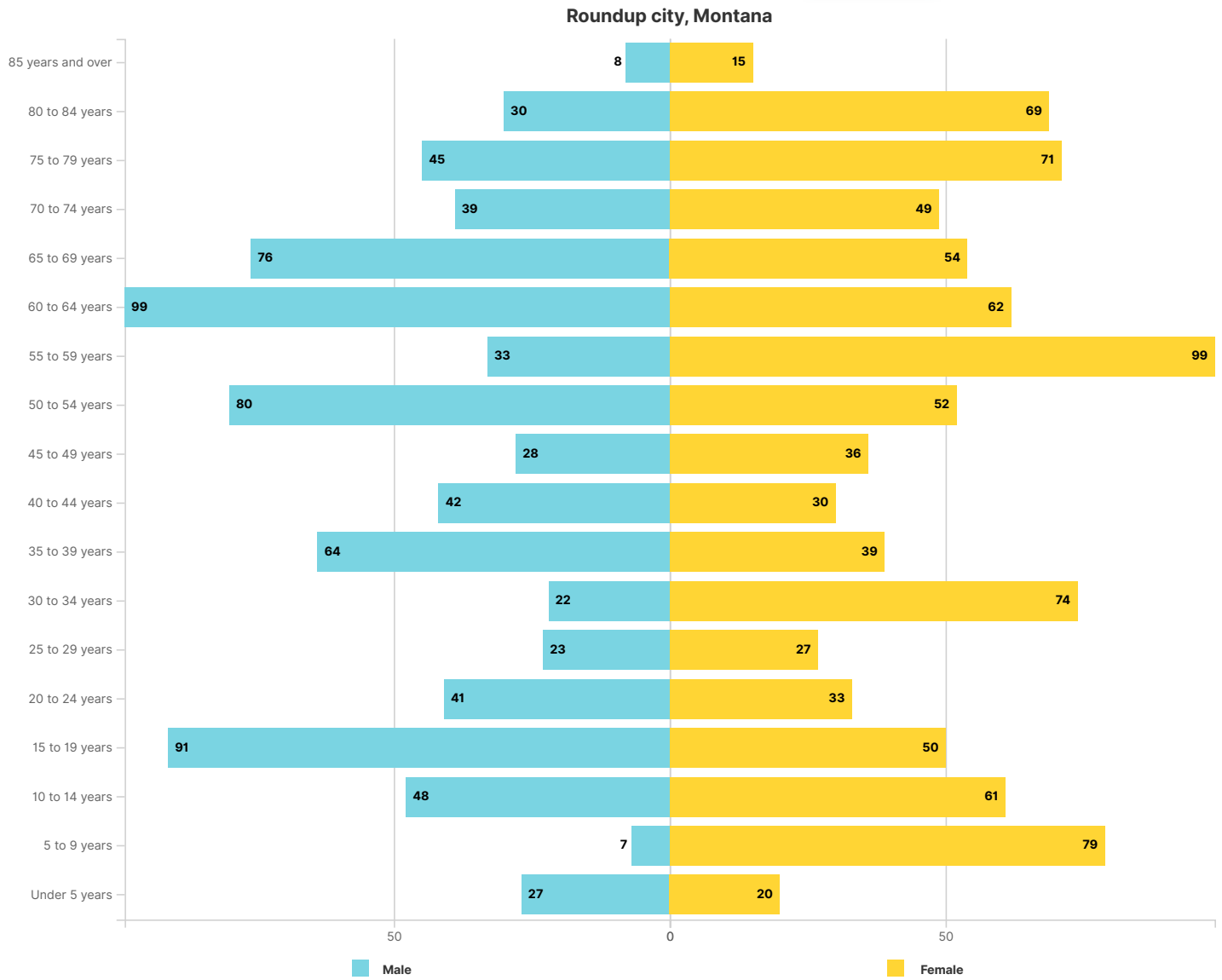
40.1 ± 0.3

Median Age in Montana

[S0101](#) | 2021 American Community Survey 5-Year Estimates

Population Pyramid: Population by Age and Sex
in Roundup city, Montana

[Share / Embed](#)



Display Margin of Error
[S0101](#) | 2020 ACS 5-Year Estimates Subject Tables

Ancestry

1.9% ± 1.4%

Italian Ancestry in Roundup city, Montana

3.6% ± 0.4%

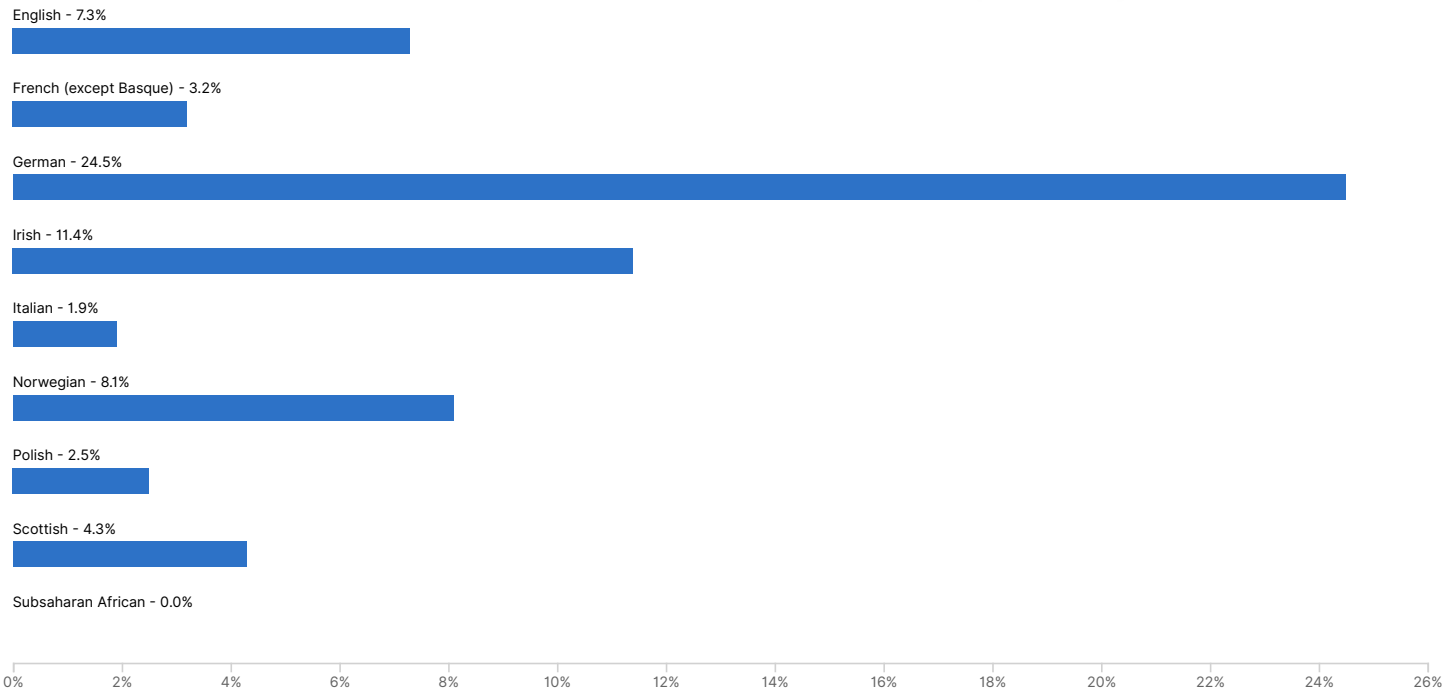
Italian Ancestry in Montana

[DP02](#) | 2021 American Community Survey 5-Year Estimates

Ancestry

in Roundup city, Montana

[Share / Embed](#)



Display Margin of Error
DP02 | 2021 ACS 5-Year Estimates Data Profiles

Language Spoken at Home

3.1% ± 1.6%

Language Other Than English Spoken at Home in Roundup city, Montana

3.9% ± 0.4%

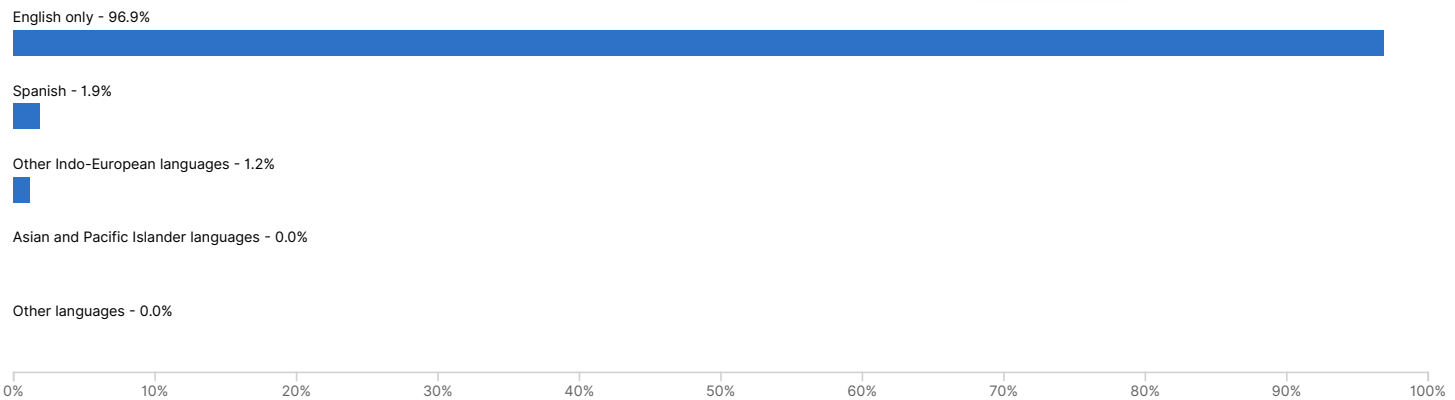
Language Other Than English Spoken at Home in Montana

S1601 | 2021 American Community Survey 5-Year Estimates

Types of Language Spoken at Home

in Roundup city, Montana

[Share / Embed](#)



Display Margin of Error
DP02 | 2021 ACS 5-Year Estimates Data Profiles

Native and Foreign Born

3.5% ± 2.7%

Foreign Born population in Roundup city, Montana

2.2% ± 0.3%

Foreign Born population in Montana

DP02 | 2021 American Community Survey 5-Year Estimates

Foreign Born Population

in Roundup city, Montana

[Share / Embed](#)

Naturalized U.S. citizen - 18.6%



Not a U.S. citizen - 81.4%



Display Margin of Error
[DP02](#) | 2021 ACS 5-Year Estimates Data Profiles

Older Population

24.2% ± 4.8%

65 Years and Older in Roundup city, Montana

19.7% ± 0.1%

65 Years and Older in Montana

[DP05](#) | 2021 American Community Survey 5-Year Estimates

Older Population by Age

in Roundup city, Montana

[Share / Embed](#)

65 to 74 years - 13.3%



75 to 84 years - 9.4%



85 years and over - 1.5%



Display Margin of Error
[DP05](#) | 2021 ACS 5-Year Estimates Data Profiles

Residential Mobility

4.2% ± 3.4%

Moved From a Different State in the Last Year in Roundup city, Montana

4.1% ± 0.5%

Moved From a Different State in the Last Year in Montana

[S0701](#) | 2021 American Community Survey 5-Year Estimates

Residential Mobility in the Last Year

in Roundup city, Montana

[Share / Embed](#)

Moved within the Same County - 5.3%



Moved from a Different County, Same State - 7.6%



Moved from a Different State - 4.2%



Moved from Abroad - 0.0%



Display Margin of Error
[S0701](#) | 2021 ACS 5-Year Estimates Subject Tables

Veterans

9.8% ± 3.5%

Veterans in Roundup city, Montana

9.4% ± 0.5%

Veterans in Montana

[S2101](#) | 2021 American Community Survey 5-Year Estimates

Veterans by Sex

in Roundup city, Montana

[Share / Embed](#)

Male - 92.5%

Female - 7.5%



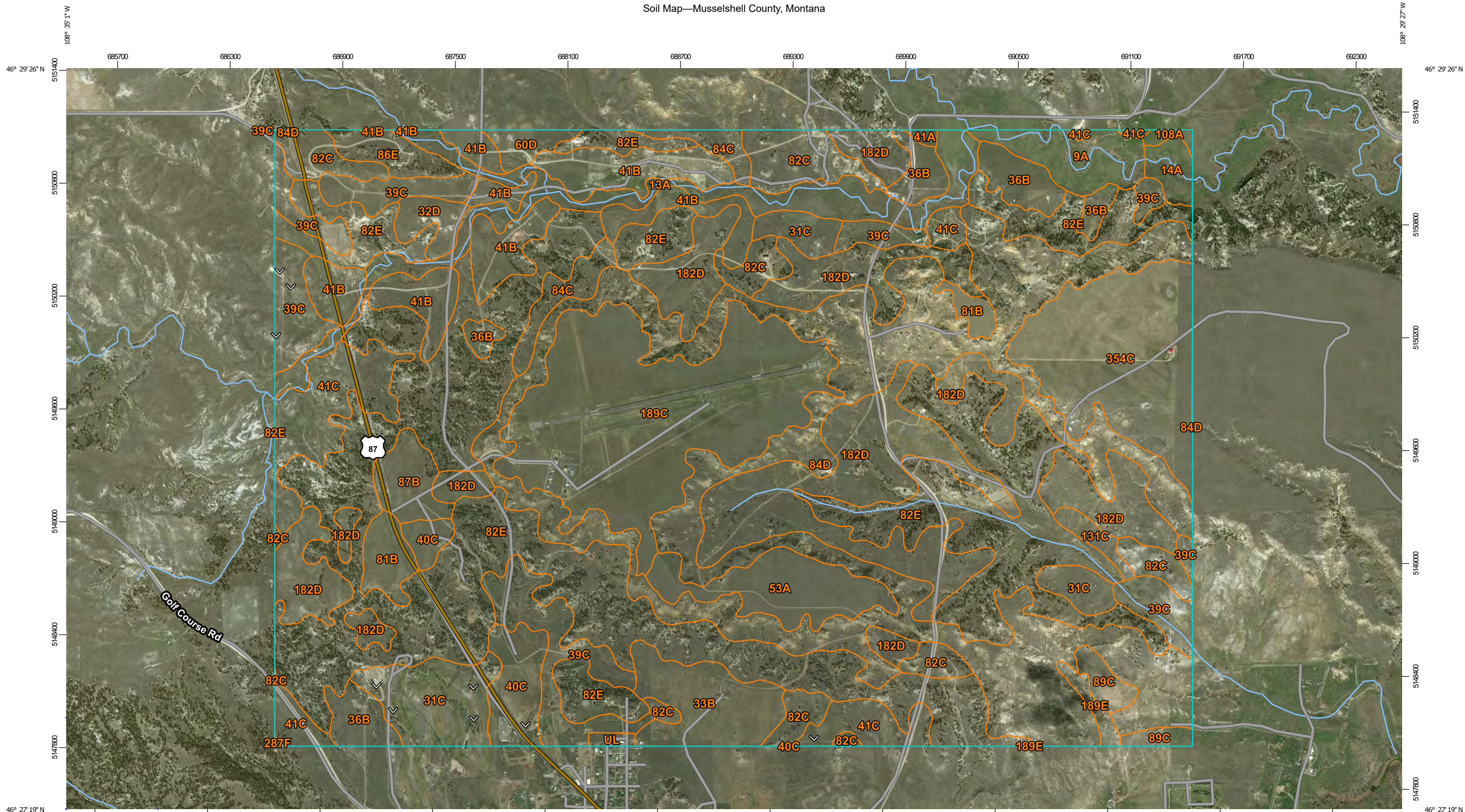
Display Margin of Error

[S2101](#) | 2021 ACS 5-Year Estimates Subject Tables

Appendix E

Soils

Soil Map—Musselshell County, Montana



Map Scale: 1:19,200 if printed on B landscape (17" x 11") sheet.
0 250 500 1000 1500 Meters
0 500 1000 2000 3000 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

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.

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: Musselshell County, Montana

Survey Area Data: Version 17, Sep 2, 2021

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

Date(s) aerial images were photographed: Jul 3, 2013—Oct 30, 2016

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
9A	Havre loam, 0 to 2 percent slopes, rarely flooded	48.9	1.2%
13A	Havre loam, calcareous, 0 to 2 percent slopes, rarely flooded	127.7	3.2%
14A	Havre, calcareous-Glendive complex, 0 to 2 percent slopes, rarely flooded	17.3	0.4%
31C	Delpoint-Cabbart-Yamacall loams, 4 to 15 percent slopes	104.9	2.6%
32D	Twilight-Blacksheep-Rock outcrop, complex, 4 to 25 percent slopes	20.8	0.5%
33B	Yamacall loam, 2 to 8 percent slopes	74.3	1.9%
36B	Yamacall-Delpoint loams, 2 to 8 percent slopes	83.4	2.1%
39C	Delpoint, calcareous-Cabbart-Yamacall, calcareous, loams, 4 to 15 percent slopes	191.7	4.8%
40C	Kobase silty clay loam, calcareous surface, 1 to 8 percent slopes	55.0	1.4%
41A	Yamacall loam, calcareous, 0 to 2 percent slopes	2.7	0.1%
41B	Yamacall loam, calcareous, 2 to 8 percent slopes	178.6	4.5%
41C	Yamacall-Delpoint loams, calcareous, 2 to 8 percent slopes	130.7	3.3%
53A	Tanna loam, 1 to 6 percent slopes	74.7	1.9%
60D	Neldore-Abor silty clays, 4 to 15 percent slopes	15.5	0.4%
81B	Delpoint-Cabbart loams, 2 to 8 percent slopes	35.9	0.9%
82C	Cabbart-Delpoint, calcareous-Rock outcrop complex, 4 to 15 percent slopes	133.1	3.3%
82E	Cabbart-Delpoint, calcareous-Rock outcrop complex, 8 to 45 percent slopes	929.5	23.4%
84C	Cabbart-Yawdim-Delpoint complex, 4 to 15 percent slopes	40.0	1.0%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
84D	Cabbart-Yawdim-Badland complex, 4 to 35 percent slopes	630.9	15.9%
86E	Cabbart-Rock outcrop complex, 4 to 35 percent slopes	26.1	0.7%
87B	Delpoint, calcareous-Cabbart loams, 2 to 8 percent slopes	32.8	0.8%
89C	Rentsac fine sandy loam, 2 to 8 percent slopes	22.9	0.6%
108A	Harlake-Havre complex, 0 to 2 percent slopes, rarely flooded	4.4	0.1%
131C	Delpoint-Yamacall loams, 2 to 8 percent slopes	11.9	0.3%
182D	Cabbart-Delpoint loams, 4 to 15 percent slopes	453.6	11.4%
189C	Rentsac-Cabbart complex, 2 to 15 percent slopes	328.0	8.3%
189E	Rentsac-Rock outcrop complex, 15 to 45 percent slopes	9.8	0.2%
287F	Cabbart, moist-Delpoint, dry loams, 8 to 45 percent slopes	0.3	0.0%
354C	Bonfri-Cabbart loams, 2 to 8 percent slopes	184.9	4.7%
UL	Urban land	4.3	0.1%
Totals for Area of Interest		3,975.3	100.0%

Musselshell County, Montana

82E—Cabbart-Delpoint, calcareous-Rock outcrop complex, 8 to 45 percent slopes

Map Unit Setting

National map unit symbol: 2yk0c
Elevation: 2,780 to 4,730 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 105 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Cabbart, calcareous, and similar soils: 45 percent
Delpoint, calcareous, and similar soils: 25 percent
Rock outcrop: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cabbart, Calcareous

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from interbedded sedimentary rock

Typical profile

A - 0 to 3 inches: loam
Bk1 - 3 to 10 inches: loam
Bk2 - 10 to 16 inches: loam
Cr - 16 to 60 inches: bedrock

Properties and qualities

Slope: 8 to 45 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.
Hydric soil rating: No

Description of Delpoint, Calcareous

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from interbedded sedimentary rock

Typical profile

A - 0 to 3 inches: loam
Bw - 3 to 11 inches: loam
Bk - 11 to 22 inches: loam
Cr - 22 to 60 inches: bedrock

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Description of Rock Outcrop

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Minor Components

Blacksheep

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14" p.z.

Hydric soil rating: No

Yawdim

Percent of map unit: 3 percent

Landform: Hills

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: R058AC059MT - Shallow Clay (SwC) RRU 58A-C 11-14" p.z.

Hydric soil rating: No

Yamacall

Percent of map unit: 2 percent

Landform: Alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.

Hydric soil rating: No

Data Source Information

Soil Survey Area: Musselshell County, Montana

Survey Area Data: Version 17, Sep 2, 2021

Musselshell County, Montana

182D—Cabbart-Delpoint loams, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w7p5

Elevation: 2,580 to 4,690 feet

Mean annual precipitation: 10 to 14 inches

Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 105 to 135 days

Farmland classification: Not prime farmland

Map Unit Composition

Cabbart and similar soils: 45 percent

Delpoint and similar soils: 40 percent

Minor components: 15 percent

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

Description of Cabbart

Setting

Landform: Low hills

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Nose slope, side slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Residuum weathered from sedimentary rock

Typical profile

A - 0 to 4 inches: loam

Bk1 - 4 to 10 inches: loam

Bk2 - 10 to 16 inches: loam

Cr - 16 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.

Hydric soil rating: No

Description of Delpoint

Setting

Landform: Low hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Residuum weathered from interbedded
sedimentary rock

Typical profile

A - 0 to 3 inches: loam

Bw - 3 to 12 inches: loam

Bk - 12 to 28 inches: loam

Cr - 28 to 60 inches: bedrock

Properties and qualities

Slope: 4 to 8 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0
mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.

Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent

Hydric soil rating: No

Yamacall

Percent of map unit: 5 percent

Landform: Alluvial fans
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Yawdim

Percent of map unit: 3 percent
Landform: Low hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R058AC059MT - Shallow Clay (SwC) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Blacksheep

Percent of map unit: 2 percent
Landform: Low hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14" p.z.
Hydric soil rating: No

Data Source Information

Soil Survey Area: Musselshell County, Montana
Survey Area Data: Version 17, Sep 2, 2021

Musselshell County, Montana

84D—Cabbart-Yawdim-Badland complex, 4 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2zg5z

Elevation: 2,710 to 4,740 feet

Mean annual precipitation: 10 to 14 inches

Mean annual air temperature: 46 to 48 degrees F

Frost-free period: 105 to 135 days

Farmland classification: Not prime farmland

Map Unit Composition

Cabbart and similar soils: 35 percent

Yawdim and similar soils: 30 percent

Badland: 20 percent

Minor components: 15 percent

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

Description of Cabbart

Setting

Landform: Hills

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy residuum weathered from interbedded sedimentary rock

Typical profile

A - 0 to 3 inches: loam

Bk1 - 3 to 10 inches: loam

Bk2 - 10 to 16 inches: loam

Cr - 16 to 60 inches: bedrock

Properties and qualities

Slope: 4 to 35 percent

Depth to restrictive feature: 10 to 20 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.28 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Gypsum, maximum content: 5 percent

Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.
Hydric soil rating: No

Description of Yawdim

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Clayey residuum weathered from shale

Typical profile

A - 0 to 3 inches: silty clay loam
C - 3 to 18 inches: silty clay loam
Cr - 18 to 60 inches: bedrock

Properties and qualities

Slope: 4 to 35 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 3 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Ecological site: R058AC059MT - Shallow Clay (SwC) RRU 58A-C
11-14" p.z.
Hydric soil rating: No

Description of Badland

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Minor Components

Kobase

Percent of map unit: 5 percent

Landform: Fans

Down-slope shape: Linear

Across-slope shape: Linear

*Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14"
p.z.*

Hydric soil rating: No

Delpoint

Percent of map unit: 3 percent

Landform: Low hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R058AC040MT - Silty (Si) RRU 58A-C 11-14" p.z.

Hydric soil rating: No

Orinoco

Percent of map unit: 3 percent

Landform: Low hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Concave

Across-slope shape: Linear

*Ecological site: R058AC041MT - Clayey (Cy) RRU 58A-C 11-14"
p.z.*

Hydric soil rating: No

Havre

Percent of map unit: 2 percent

Landform: Drainageways

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Concave

*Ecological site: R058AC045MT - Overflow (Ov) RRU 58A-C 11-14"
p.z.*

Hydric soil rating: No

Bullhook

Percent of map unit: 2 percent

Landform: Drainageways

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

*Ecological site: R058AC050MT - Saline Upland (SU) RRU 58A-C
11-14" p.z.*

Hydric soil rating: No

Data Source Information

Soil Survey Area: Musselshell County, Montana
Survey Area Data: Version 17, Sep 2, 2021

Musselshell County, Montana

189C—Rentsac-Cabbart complex, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2yk1j
Elevation: 3,040 to 4,680 feet
Mean annual precipitation: 10 to 14 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 105 to 135 days
Farmland classification: Not prime farmland

Map Unit Composition

Rentsac and similar soils: 50 percent
Cabbart and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rentsac

Setting

Landform: Pediments
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Residuum weathered from calcareous sandstone

Typical profile

A - 0 to 2 inches: channery loam
Bk - 2 to 16 inches: very flaggy fine sandy loam
R - 16 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.
Hydric soil rating: No

Description of Cabbart

Setting

Landform: Pediments
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum weathered from interbedded sedimentary rock

Typical profile

A - 0 to 3 inches: loam
Bk1 - 3 to 10 inches: loam
Bk2 - 10 to 16 inches: loam
Cr - 16 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.00 to 0.28 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 14 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 5 percent

Blacksheep

Percent of map unit: 5 percent
Landform: Pediments
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.

Hydric soil rating: No

Twilight

Percent of map unit: 3 percent

Landform: Pediments

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R058AC042MT - Sandy (Sy) RRU 58A-C 11-14"
p.z.

Hydric soil rating: No

Beenom, calcareous

Percent of map unit: 2 percent

Landform: Pediments

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R058AC057MT - Shallow (Sw) RRU 58A-C 11-14"
p.z.

Hydric soil rating: No

Data Source Information

Soil Survey Area: Musselshell County, Montana

Survey Area Data: Version 17, Sep 2, 2021

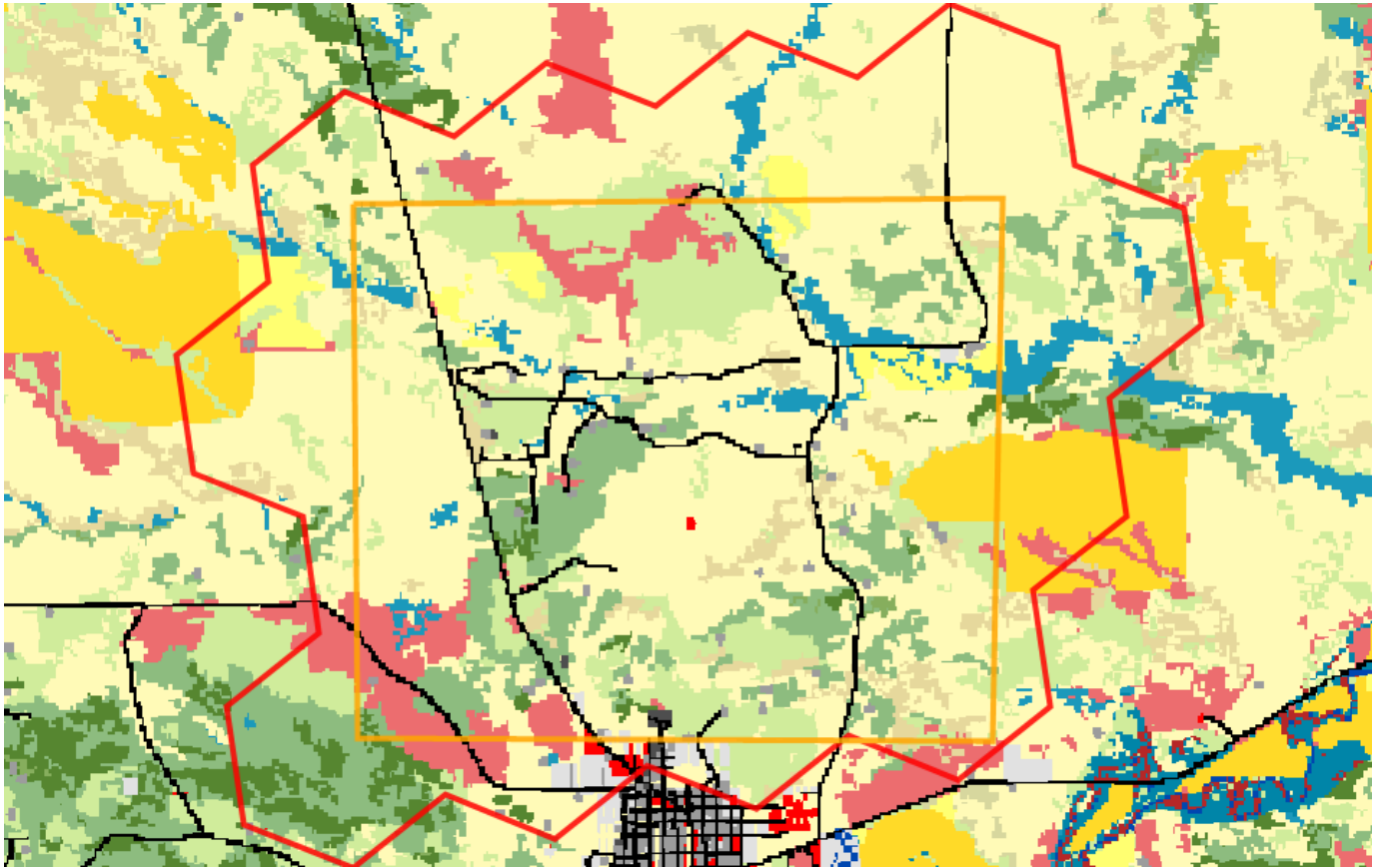
Appendix F

Land Cover



Land Cover

Summarized by: (Custom Area of Interest)



Shrubland, Steppe and Savanna Systems Sagebrush Steppe

Big Sagebrush Steppe

48% (5,259
Acres)

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



Grassland Systems Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

14% (1,564
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 curtiseta*) dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis*/*Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass (*Pascopyrum smithii*) or into pure crested wheatgrass (*Agropyron cristatum*) stands.



Forest and Woodland Systems Conifer-dominated forest and woodland (xeric-mesic)

Rocky Mountain Foothill Woodland-Steppe Transition

11% (1,198 Acres)

This inland Pacific Northwest ecological system occurs in the foothills of the Montana Rocky Mountains, where it forms a broad ecotone between true forests and true steppe, shrublands, or grasslands, typically on warm, dry, exposed sites too droughty to support a closed tree canopy. This is not a fire-maintained system. The "steppe" character results from a climate-edaphic interaction that results in a graminoid-dominated landscape with widely scattered trees; even in the absence of fire, a "woodland" or "forest" structure will not be obtained. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops on southerly or western aspects are most common. They can be found on glacial till, glacio-fluvial sand and gravel, dune, basaltic rubble, colluvium, deep loess or volcanic ash-derived soils, with characteristic features of good aeration and drainage, coarse texture, and an abundance of mineral material. Ponderosa pine (*Pinus ponderosa*) or Douglas-fir (*Pseudotsuga menziesii*) are the predominant conifers. Limber pine (*Pinus flexilis*) may be present in some occurrences. In fire-protected transition areas with big sagebrush steppe systems, antelope bitterbrush (*Purshia tridentata*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), big sagebrush (*Artemisia tridentata* ssp. *tridentata*), and three-tip sagebrush (*Artemisia tripartita*) may be common. Deciduous shrubs such as common ninebark (*Physocarpus malvaceus*), common snowberry (*Symphoricarpos albus*), or birch leaf spirea (*Spiraea betulifolia*) may be abundant in occurrences west of the Continental Divide. Important grass species include bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg's bluegrass (*Poa secunda*), needle and thread (*Hesperostipa comata*), needlegrass (*Achnatherum species*), and bottlebrush squirreltail (*Elymus elymoides*). This system is very similar to Northern Rocky Mountain Ponderosa Pine Woodland and Savanna, but with more widely scattered trees.



Recently Disturbed or Modified Introduced Vegetation

Introduced Upland Vegetation - Annual and Biennial Forbland

6% (663 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.



Human Land Use Agriculture

Cultivated Crops

4% (471 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.



Sparse and Barren Systems Bluff, Badland and Dune

Great Plains Badlands

3% (380 Acres)

The Western Great Plains Badlands ecological system occurs within the mixed grass and sand prairie regions of eastern and southeastern Montana, where the land lies well above or below its local base level, shaped by the carving action of streams, erosion, and erodible parent material. It is easily recognized by its rugged, eroded, and often colorful land formations, and the relative absence of vegetative cover. In those areas with vegetation, species can include scattered individuals of many dryland shrubs or herbaceous taxa, including curlycup gumweed (*Grindelia squarrosa*), threadleaf snakeweed (*Gutierrezia sarothrae*) (especially with overuse and grazing), greasewood (*Sarcobatus vermiculatus*), Gardner's saltbush (*Atriplex gardneri*), buckwheat (*Eriogonum* species), plains muhly (*Muhlenbergia cuspidata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and Hooker's sandwort (*Arenaria hookeri*). Patches of sagebrush (*Artemisia* spp.) can also occur. Climate is typical of mid continental regions with long severe winters and warm summers. Precipitation ranges from 7 to 14 inches per year, with two-thirds of the precipitation falling during the summer, and a third falling in the spring. The sedimentary parent material of exposed rocks and the resultant eroded clay soils are derived from Cretaceous sea beds and are often fossil-rich. Dominant soil types are in the order Entisols. These mineral soils are found primarily on uplands, slopes, and creek bottoms and are easily erodible. The growing season is short, averaging 115 days, with a range from 100 days on the Canadian border to 130 days on the Wyoming border. Land use is limited, except for off-highway vehicle recreation and incidental grazing.



Wetland and Riparian Systems Floodplain and Riparian

Great Plains Riparian

3% (331 Acres)

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

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



Forest and Woodland Systems Conifer-dominated forest and woodland (xeric-mesic)

Great Plains Ponderosa Pine Woodland and Savanna

2% (258 Acres)

These ponderosa pine (*Pinus ponderosa*) occurrences differ from the Rocky Mountain Ponderosa Pine Woodland and Savanna systems in that they are typically found within the matrix of the Great Plains grassland systems. They are often surrounded by mixed-grass prairie, in places where available soil moisture is higher or soils are more coarse and rocky. Elevation ranges from 1,189 meters (3,900 feet) in southeastern Montana to 1,646 m (5,400 feet) in north-central Montana. Occurrences are usually on east- and north-facing aspects. These woodlands can be physiognomically variable, ranging from very sparse patches of trees on drier sites, to nearly closed-canopy forest stands on north slopes or in draws where available soil moisture is higher.

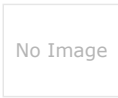


Human Land Use Agriculture

Pasture/Hay

**2% (249
Acres)**

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



Human Land Use Developed

Other Roads

**2% (228
Acres)**

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

Additional Limited Land Cover

- 1% (88 Acres)  Low Intensity Residential
- 1% (66 Acres)  Developed, Open Space
- 1% (58 Acres)  Major Roads
- <1% (20 Acres)  Great Plains Sand Prairie
- <1% (17 Acres)  Commercial / Industrial
- <1% (10 Acres)  High Intensity Residential
- <1% (10 Acres)  Great Plains Wooded Draw and Ravine

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 at the Montana State Library's [Geographic Information Clearinghouse](#)

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.

Appendix G

Species of Concern



PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • tel 406.444.5363 • <https://mtnhp.org>

March 26, 2024

Kinsee Dodge
Great West Engineering
2501 Belt View Dr,
Helena, MT 59601

Dear Kinsee Dodge,

Thank you for your request for Natural Heritage information for Plant and Animal SOCs, in Township 8N, Range 25E, Sections 1, 2, 11, and 12, Montana. Included with this letter is an Environmental Summary report PDF and a companion Excel workbook summarizing information managed in the Montana Natural Heritage Program's (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 (organized efforts following 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. The PDF report contains introductory materials and limitations associated with the use of each of these data types, a list of additional information resources, data use terms and conditions, and suggested contacts. The Excel workbook contains worksheets for each data type that can be easily sorted to summarize particular information needs. In addition to these materials, we have included a compilation of one page snapshots containing general description, habitat, spatial and temporal distribution, and conservation status information for each species listed in the species occurrence, other observed species, and other potential species sections of the Environmental Summary report. These three field guide compilations are excerpted from the full accounts found on the Montana Field Guide <https://fieldguide.mt.gov> for general reference use and, if desired, as appendices to environmental review documents.

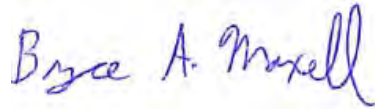
Please keep in mind the following when using and interpreting the enclosed information:

- (1) This information is intended for distribution or use only within your department, agency, or business. Please see the Data Use Terms and Conditions in the Environmental Summary report PDF for additional guidelines.

- (2) Our minimum search area for standard information requests consists of the requested area buffered by an additional mile in order to capture records that may be immediately adjacent to the requested area. Please let us know if a buffer greater than 1 mile would be of use to your efforts.
- (3) Additional information on animal, plant, and lichen species and ecological systems in Montana is available on the Montana Field Guide at <https://fieldguide.mt.gov/>
- (4) In addition to the information you receive from us, we encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located (see Environmental Summary report PDF).

I hope the enclosed information is helpful to you. Please feel free to contact me at the phone or email address below if you have any questions, require additional information, or have suggestions for how we could improve our information resources.

Sincerely,



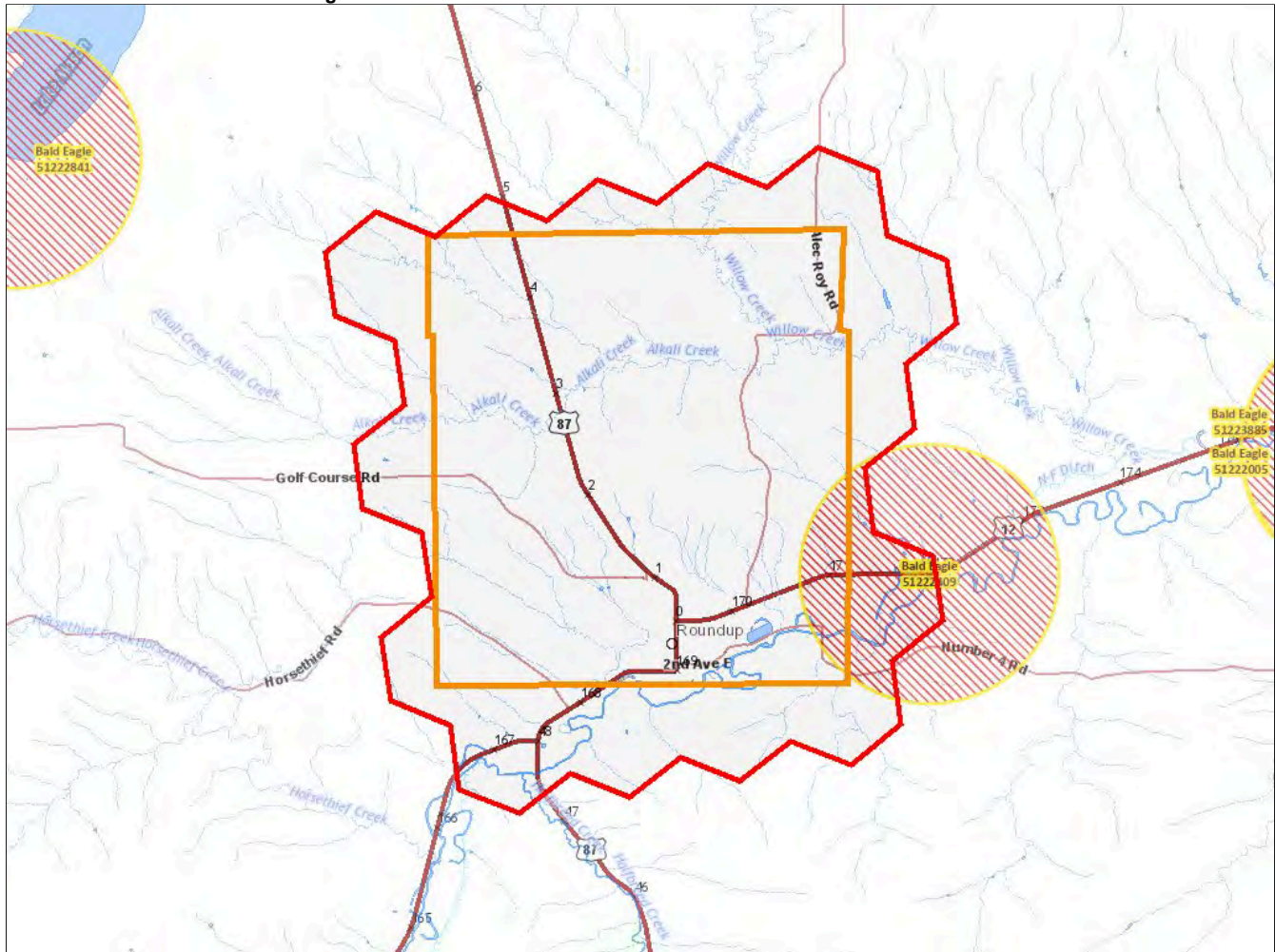
Bryce A. Maxell
Montana Natural Heritage Program
(406) 444-3989
bmaxell@mt.gov



Montana SOC Occurrences Report

SOC Occurrences for Birds = Bald Eagle

Report generated 3/26/2024 8:48:26 AM



Birds - Bald Eagle (*Haliaeetus leucocephalus*) SO Count: 4 Obs Count: 11 Earliest Obs: 1999 Recent Obs: 2015

Special Status Species	Agency Status	Delineation Criteria	Last Updated
Native Species	USFWS: BGEPA; MBTA	Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for re-nesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area.	Mar 13, 2024
Global Rank: G5	USFS: Sensitive - Known in Forests (LOLO)		
State Rank: S4	BLM: SENSITIVE		
	FWP SWAP:		
	PIF: 2		

SO ID	Acres	Obs Count	Earliest Obs	Recent Obs
SO ID: 51222005	3,105	8	2003	2010
SO ID: 51222409	3,105	1	2015	2015
SO ID: 51222841	3,105	1	2013	2013
SO ID: 51223885	3,105	1	1999	1999

Citation for this report:
 Montana SOC Occurrences Report
 SOC Occurrences for Birds = Bald Eagle
 Within Lat/Long: (46.39660,-108.33835) to (46.53997,-108.75861)
 Natural Heritage Map Viewer. Montana Natural Heritage Program.
 Retrieved on March 26, 2024, from <https://mntnhp.org/MapViewer/SORReport.aspx>



MONTANA STATE LIBRARY

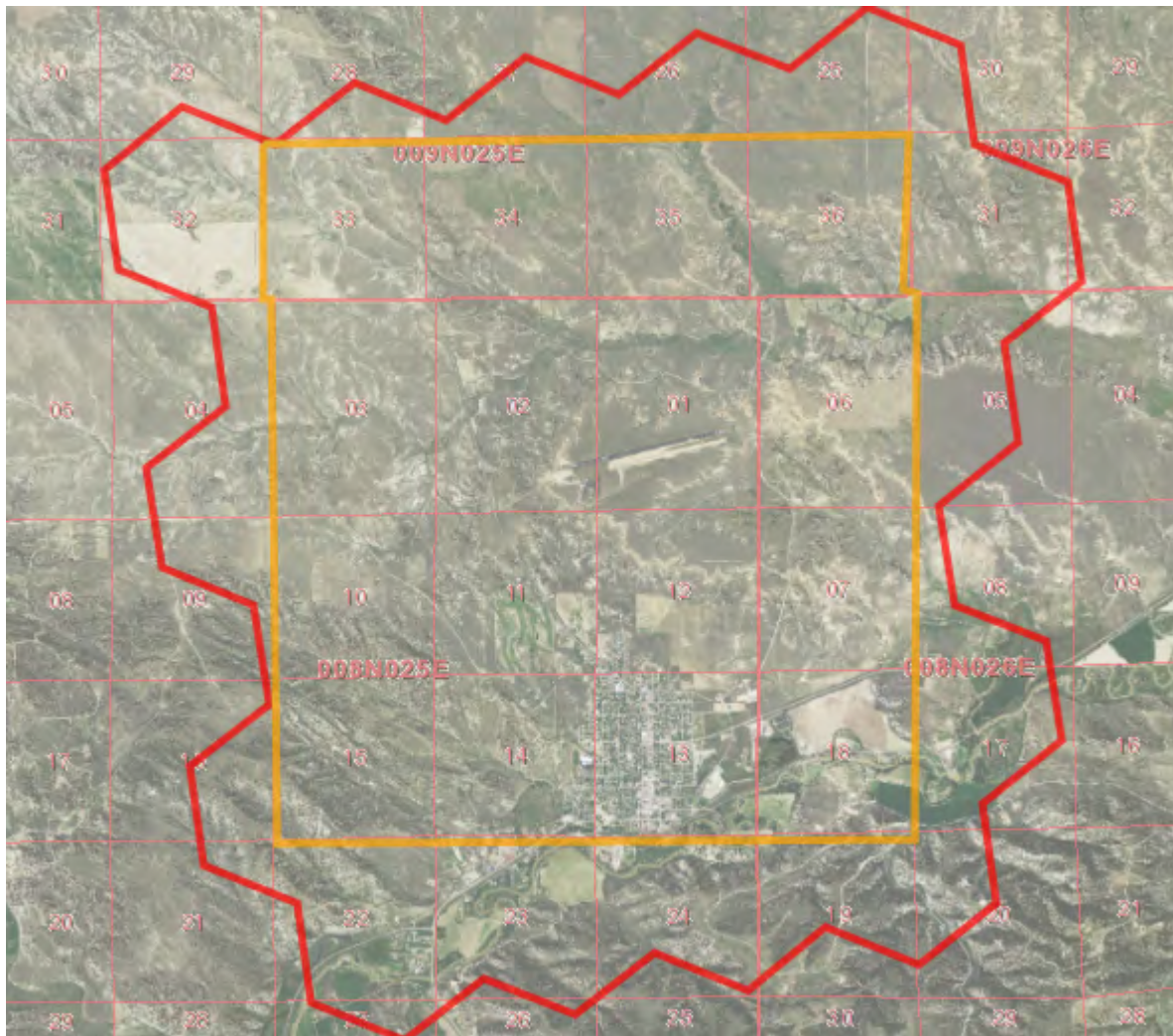
NATURAL HERITAGE PROGRAM mtnhp.org

1201 11th Ave • P.O. Box 201800 • Helena, MT 59620-1800 • fax 406-444-0266 • phone 406-444-3989



Latitude 46.42273
Longitude -108.48447
46.51419 -108.61294

Summarized by:
24PRVT0278
(Custom Area of Interest)



Suggested Citation

Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 46.42273 to 46.51419 and Longitude -108.48447 to -108.61294. Retrieved on 3/26/2024.

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.



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	Migratory	
Low Suitability	Non-native	Historical	
Suitable (introduced range)			



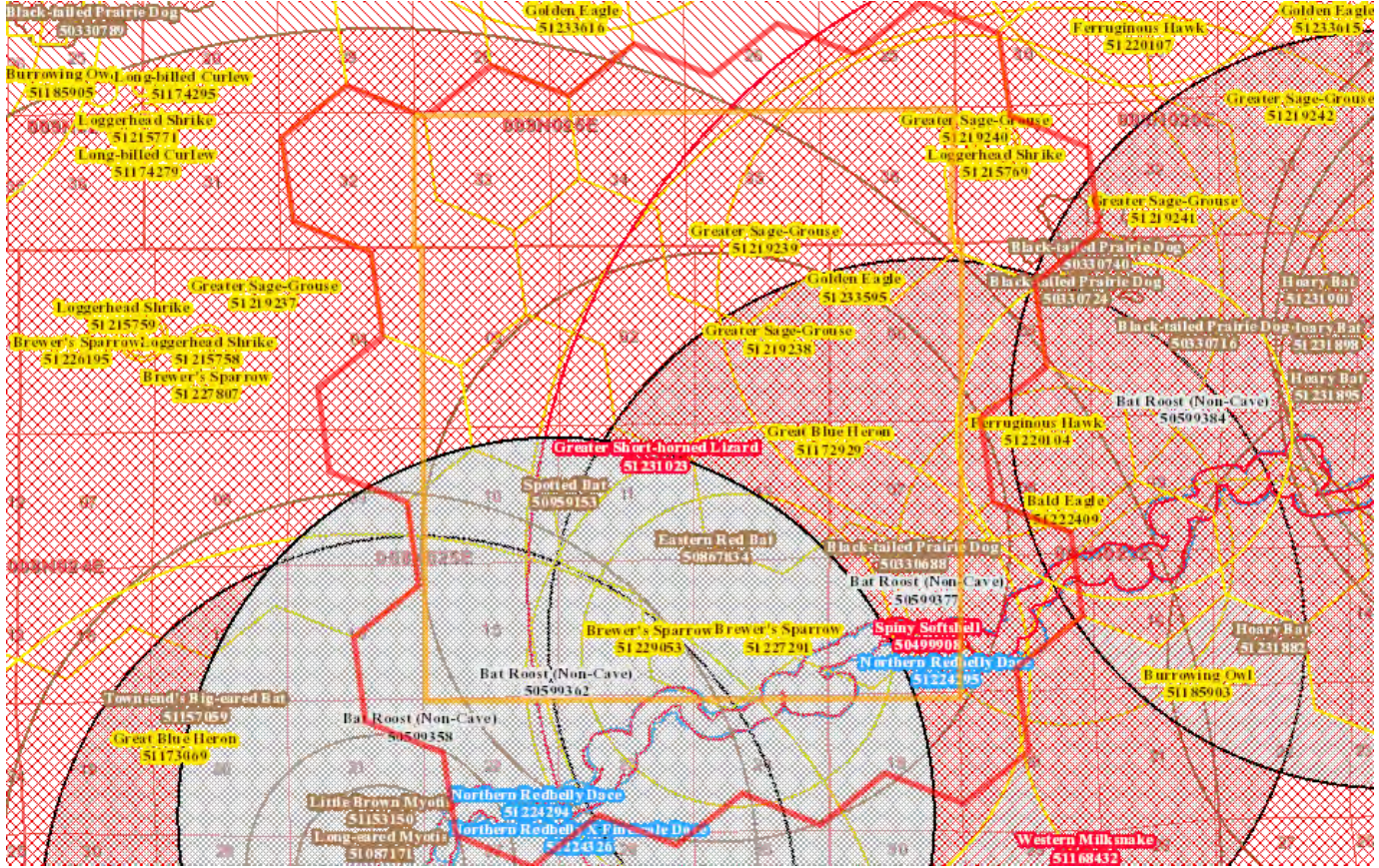
Latitude 46.42273
Longitude -108.48447
46.51419 -108.61294

Native Species

Summarized by: **24PRVT0278** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

USFWS	Sec7	# SO	# Obs	Predicted Model	Range
F - Northern Redbelly Dace (<i>Chrosomus eos</i>) SOC		2	1		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 FWP SWAP: SGCN3 Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024) Predicted Models: 25% Suitable (native range) (deductive)					
F - Northern Redbelly X Finescale Dace (<i>Chrosomus eos x Chrosomus neogaeus</i>) SOC		1	1		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: GNA State: S3 BLM: SENSITIVE FWP SWAP: SGCN3 Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 19, 2024) Predicted Models: 4% Suitable (native range) (deductive)					
M - Black-tailed Prairie Dog (<i>Cynomys ludovicianus</i>) SOC		3	5		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3 Delineation Criteria Areas with recent evidence of activity (i.e. burrow entrances) visible on recent National Agricultural Imagery Program (NAIP) aerial color photographic imagery that are within a distance of 200 meters of definitive observations buffered by the locational uncertainty of less than or equal to 1,000 meters. (Last Updated: Jul 03, 2019) Predicted Models: 39% Moderate (inductive), 50% Low (inductive)					

M - Townsend's Big-eared Bat (*Corynorhinus townsendii*) **SOC** 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for the species in California and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 4,500 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jul 06, 2023)

Predicted Models: 36% Moderate (inductive), 46% Low (inductive)

M - Little Brown Myotis (*Myotis lucifugus*) **SOC** 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G3G4** State: **S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN3**

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, or definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 1,600 meters in order to encompass the greater than 1,500 meters foraging distance reported for the species in New Brunswick, Canada and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,600 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jul 06, 2023)

Predicted Models: 32% Moderate (inductive), 68% Low (inductive)

M - Eastern Red Bat (*Lasiurus borealis*) **SOC** 1 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles during the active season. Point observation location is buffered by a minimum distance of 3,500 meters in order to be conservative about encompassing the maximum reported foraging distance for the congeneric *Lasiurus borealis* and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Jul 20, 2022)

Predicted Models: 32% Moderate (inductive), 54% Low (inductive)

B - Greater Sage-Grouse (*Centrocercus urophasianus*) **SOC** 5 13+

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observations are mapped in the center of a one-square mile hexagon to protect the exact locations of leks. The outer edges of this hexagon are then buffered by a distance of 6,400 meters in order to encompass a body of research indicating that females typically nest within this distance of a lek and that lek numbers are negatively impacted by fossil fuel drilling activities within this distance of a lek. If the locational uncertainty associated with the observation is greater than this distance, it is buffered by the locational up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Jan 05, 2024)

Predicted Models: 32% Moderate (inductive), 43% Low (inductive)

M - Long-eared Myotis (*Myotis evotis*) **SOC** 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a minimum distance of 1,000 meters in order to encompass the average distances traveled from capture locations to roosts and between roosts in western Montana, Alberta, and Oregon and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. When cave locations are involved, point observations are mapped in the center of a one-square mile hexagon to protect the exact location of the cave entrance as per the Federal Cave Resource Protection Act and associated regulations (U.S. Code Title 16 Chapter 63, Code of Federal Regulations Title 43 Subtitle A Part 37). The outer edges of the hexagon are then buffered by a distance of 1,000 meters and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Mar 22, 2023)

Predicted Models: 29% Moderate (inductive), 68% Low (inductive)

B - Brewer's Sparrow (*Spizella breweri*) **SOC** 3 4

[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 10,000 meters. (Last Updated: Mar 21, 2024)

Predicted Models: 29% Moderate (inductive), 50% Low (inductive)

B - Great Blue Heron (*Ardea herodias*) **SOC** 2 20

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 6,500 meters in order to be conservative about encompassing the areas commonly used for foraging near the breeding colony and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 22, 2023)

Predicted Models: 21% Moderate (inductive), 50% Low (inductive)

M - Spotted Bat (*Euderma maculatum*) **SOC** 1

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Confirmed area of occupancy based on the documented presence (mistnet captures, definitively identified acoustic recordings, and definitively identified roosting individuals) of adults or juveniles. Point observation location is buffered by a distance of 10,000 meters in order to encompass the reported maximum foraging distance for the species in British Columbia. If the locational uncertainty associated with the observation is greater than 10,000 meters, the observation is not valid for creation of a species occurrence. (Last Updated: Dec 22, 2022)

Predicted Models: 11% Moderate (inductive), 89% Low (inductive)

B - Loggerhead Shrike (*Lanius ludovicianus*) **SOC** 1 9

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN3** PIF: **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 300 meters in order to encompass the maximum breeding territory size reported for the species in Alberta and Idaho and otherwise is buffered by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Dec 28, 2023)

Predicted Models: 11% Moderate (inductive), 79% Low (inductive)

B - Bald Eagle (*Haliaeetus leucocephalus*) **SSS** | 1 | 6 | [Progress Bar] | [Y]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Mar 13, 2024)

Predicted Models: [M] 11% Moderate (inductive), [L] 50% Low (inductive)

R - Spiny Softshell (*Apalone spinifera*) **SOC** | 1 | 8 | [Progress Bar] | [Y] [H]

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Delineation Criteria Stream reaches and impounded streams within the species' native range where the species naturally occurs and their presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters and impounded streams 50 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Mar 22, 2024)

Predicted Models: [M] 4% Moderate (inductive), [L] 39% Low (inductive)

B - Burrowing Owl (*Athene cunicularia*) **SOC** | 1 | [Progress Bar] | [S] [M]

[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 10,000 meters. (Last Updated: Dec 28, 2023)

Predicted Models: [L] 71% Low (inductive)

B - Ferruginous Hawk (*Buteo regalis*) **SOC** | 1 | 3 | [Progress Bar] | [S] [M]

[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 10,000 meters. (Last Updated: Mar 04, 2024)

Predicted Models: [L] 14% Low (inductive)

O - Bat Roost (Non-Cave) (*Bat Roost (Non-Cave)*) **IAH** | 4 | [Progress Bar] | Not Assessed

[View in Field Guide](#)

Important Animal Habitat - Native Species Global: **GNR** State: **SNR**

Delineation Criteria Confirmed area of occupancy based on the documented presence of adults or juveniles of any bat species at non-cave natural roost sites (e.g. rock outcrops, trees), below ground human created roost sites (e.g. mines), and above ground human created roost sites (e.g., bridges, buildings). Point observation locations are buffered by a distance of 4,500 meters in order to encompass the 95% confidence interval for nightly foraging distance reported for Townsend's Big-eared Bat (a resident Montana bat Species of Concern) and otherwise by the locational uncertainty associated with the observation up to a maximum distance of 10,000 meters. (Last Updated: Oct 22, 2019)

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 46.42273
Longitude -108.48447
46.51419 -108.61294

Native Species

Summarized by: **24PRVT0278** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
F - Brassy Minnow (<i>Hybognathus hankinsoni</i>) PSOC		3		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 Predicted Models: 25% Suitable (native range) (deductive)				
F - Plains Minnow (<i>Hybognathus placitus</i>) PSOC		7+		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G4 State: S4 Predicted Models: 21% Suitable (native range) (deductive)				
B - Plumbeous Vireo (<i>Vireo plumbeus</i>) PSOC		13		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4B USFWS: MBTA PIF: 3 Predicted Models: 7% Optimal (inductive), 18% Moderate (inductive), 46% Low (inductive)				
B - Chimney Swift (<i>Chaetura pelagica</i>) PSOC		13		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G4G5 State: S3S4B USFWS: MBTA; BCC11 FWP SWAP: SGIN PIF: 3 Predicted Models: 4% Optimal (inductive), 32% Low (inductive)				
R - Greater Short-horned Lizard (<i>Phrynosoma hernandesi</i>) SOC		+		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3, SGIN Predicted Models: 79% Moderate (inductive), 21% Low (inductive)				
B - Common Poorwill (<i>Phalaenoptilus nuttallii</i>) PSOC		2		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA FWP SWAP: SGIN PIF: 3 Predicted Models: 50% Moderate (inductive), 50% Low (inductive)				
B - Cassin's Kingbird (<i>Tyrannus vociferans</i>) PSOC		4		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA Predicted Models: 46% Moderate (inductive), 46% Low (inductive)				
B - Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>) SOC		3		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3 State: S3 USFWS: MBTA; BCC10; BCC17 FWP SWAP: SGCN3 Predicted Models: 39% Moderate (inductive), 61% Low (inductive)				
B - American White Pelican (<i>Pelecanus erythrorhynchos</i>) SOC		1		
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: 21% Moderate (inductive), 71% Low (inductive)				
A - Northern Leopard Frog (<i>Lithobates pipiens</i>) SOC		2+		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S1,S4 USFS: Sensitive - Suspected in Forests (KOOT, LOLO) BLM: SENSITIVE FWP SWAP: SGCN1 Predicted Models: 21% Moderate (inductive), 68% Low (inductive)				
B - Golden Eagle (<i>Aquila chrysaetos</i>) SOC		17+		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: BGEPA; MBTA BLM: SENSITIVE FWP SWAP: SGCN3 Predicted Models: 11% Moderate (inductive), 64% Low (inductive)				
B - Ovenbird (<i>Seiurus aurocapilla</i>) PSOC		1		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA PIF: 3 Predicted Models: 4% Moderate (inductive), 43% Low (inductive)				

B - Thick-billed Longspur (<i>Rhynchophanes mccownii</i>) SOC	1	
<p> View in Field Guide View Predicted Models View Range Maps </p> <p> Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 </p> <p> Predicted Models: 43% Low (inductive) </p>		
B - Bobolink (<i>Dolichonyx oryzivorus</i>) SOC	1	
<p> View in Field Guide View Predicted Models View Range Maps </p> <p> Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC10; BCC11; BCC17 FWP SWAP: SGCN3 PIF: 3 </p> <p> Predicted Models: 32% Low (inductive) </p>		
M - Hayden's Shrew (<i>Sorex haydeni</i>) PSOC	+	
<p> View in Field Guide View Predicted Models View Range Maps </p> <p> Potential Species of Concern - Native Species Global: G5 State: S3S4 </p> <p> Predicted Models: 29% Low (inductive) </p>		
B - Clark's Nutcracker (<i>Nucifraga columbiana</i>) SOC	1	
<p> View in Field Guide View Predicted Models View Range Maps </p> <p> Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA USFS: Species of Conservation Concern in Forests (FLAT) FWP SWAP: SGCN3 PIF: 3 </p> <p> Predicted Models: 11% Low (inductive) </p>		
B - Northern Hawk Owl (<i>Sumia ulula</i>) SOC	+	Not Assessed
<p> View in Field Guide View Range Maps </p> <p> Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA FWP SWAP: SGCN3, SGIN </p>		
B - Hooded Merganser (<i>Lophodytes cucullatus</i>) PSOC	4	Not Assessed
<p> View in Field Guide View Range Maps </p> <p> Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 </p>		
B - Tennessee Warbler (<i>Leiothlypis peregrina</i>) PSOC	3	Not Assessed
<p> View in Field Guide View Range Maps </p> <p> Potential Species of Concern - Native Species Global: G5 State: S3S4B USFWS: MBTA </p>		

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 46.42273
Longitude -108.48447
46.51419 -108.61294

Native Species

Summarized by: **24PRVT0278** (*Custom Area of Interest*)

Filtered by:

Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

Species	USFWS Sec7	Predicted Model	Range
A - Great Plains Toad (<i>Anaxyrus cognatus</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 Predicted Models: 11% Optimal (inductive), 50% Moderate (inductive), 39% Low (inductive)			
B - Yellow-billed Cuckoo (<i>Coccyzus americanus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: PS: LT; MBTA BLM: THREATENED FWP SWAP: SGCN3, SGIN PIF: 2 Predicted Models: 7% Optimal (inductive), 54% Moderate (inductive), 25% Low (inductive)			
R - Western Milksnake (<i>Lampropeltis gentilis</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 Predicted Models: 4% Optimal (inductive), 54% Moderate (inductive), 39% Low (inductive)			
B - Eastern Screech-Owl (<i>Megascops asio</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 USFWS: MBTA PIF: 3 Predicted Models: 4% Optimal (inductive), 29% Moderate (inductive), 43% Low (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: C USFS: Sensitive - Migratory in Forests (BD, BRT, KOOT) Predicted Models: 4% Optimal (inductive), 21% Moderate (inductive), 64% Low (inductive)			
B - Dickcissel (<i>Spiza americana</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA Predicted Models: 4% Optimal (inductive), 11% Moderate (inductive), 57% 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: 4% Optimal (inductive), 7% Moderate (inductive), 71% Low (inductive)			
M - Western Spotted Skunk (<i>Spilogale gracilis</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: SU FWP SWAP: SGIN Predicted Models: 86% Moderate (inductive), 7% 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: 79% Moderate (inductive), 21% Low (inductive)			
V - Pediomelum hypogaeum var. hypogaeum (<i>Little Indian Breadroot</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5T4 State: S3S4 Predicted Models: 43% Moderate (inductive), 18% Low (inductive)			
M - North American Porcupine (<i>Erethizon dorsatum</i>) PSOC			
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 FWP SWAP: SGIN Predicted Models: 39% Moderate (inductive), 61% Low (inductive)			
B - Sage Thrasher (<i>Oreoscoptes montanus</i>) SOC			
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 3 Predicted Models: 39% Moderate (inductive), 43% Low (inductive)			


M - 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: 36% Moderate (inductive), 64% Low (inductive)		
V - Cyperus schweinitzii (<i>Schweinitz's Flatsedge</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 Plant Threat Score: Low Predicted Models: 36% Moderate (inductive), 54% Low (inductive)		
V - Physaria brassicoides (<i>Double Bladderpod</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 Plant Threat Score: No Known Threats Predicted Models: 36% Moderate (inductive), 32% Low (inductive)		
M - Fringed Myotis (<i>Myotis thysanodes</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3 BLM: SENSITIVE FWP SWAP: SGCN3 Predicted Models: 29% Moderate (inductive), 57% Low (inductive)		
M - Silver-haired Bat (<i>Lasionycteris noctivagans</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G3G4 State: S4 Predicted Models: 25% Moderate (inductive), 75% Low (inductive)		
M - Dwarf Shrew (<i>Sorex nanus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S2S3 FWP SWAP: SGCN2-3 Predicted Models: 14% Moderate (inductive), 86% Low (inductive)		
B - Eastern Bluebird (<i>Sialia sialis</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA Predicted Models: 14% Moderate (inductive), 50% Low (inductive)		
B - Short-eared Owl (<i>Asio flammeus</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA; BCC11; BCC17 PIF: 3 Predicted Models: 14% Moderate (inductive), 43% Low (inductive)		
B - Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3, SGIN PIF: 2 Predicted Models: 14% Moderate (inductive), 29% Low (inductive)		
B - Long-billed Curlew (<i>Numenius americanus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC11 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 2 Predicted Models: 11% Moderate (inductive), 82% Low (inductive)		
M - Long-legged Myotis (<i>Myotis volans</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4G5 State: S3 Predicted Models: 11% Moderate (inductive), 75% Low (inductive)		
V - Chenopodium subglabrum (<i>Smooth Goosefoot</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3G4 State: S2 Plant Threat Score: Unknown CCVI: Highly Vulnerable Predicted Models: 7% Moderate (inductive), 61% Low (inductive)		
V - Senecio integerrimus var. scribneri (<i>Scribner's Ragwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5T2T3 State: S2S3 Plant Threat Score: No Known Threats CCVI: Less Vulnerable Predicted Models: 7% Moderate (inductive), 29% Low (inductive)		
V - Triodanis leptocarpa (<i>Slim-pod Venus'-looking-glass</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5? State: S3 Plant Threat Score: No Known Threats CCVI: Moderately Vulnerable Predicted Models: 4% Moderate (inductive), 50% Low (inductive)		
I - Bombus suckleyi (<i>Suckley Cuckoo Bumble Bee</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G2G3 State: S1 Predicted Models: 4% Moderate (inductive), 46% Low (inductive)		
M - Preble's Shrew (<i>Sorex preblei</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: 4% Moderate (inductive), 43% Low (inductive)		

<input type="checkbox"/>	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: 4% Moderate (inductive), 14% Low (inductive)			
<input type="checkbox"/>	B - Sharp-tailed Grouse (<i>Tympanuchus phasianellus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: SX,S4 FWP SWAP: SGCN1 PIF: 2 Predicted Models: 100% Low (inductive)			
<input type="checkbox"/>	B - Green-tailed Towhee (<i>Pipilo chlorurus</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: 82% Low (inductive)			
<input type="checkbox"/>	V - Astragalus geyeri (<i>Geyer's Milkvetch</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S2 Plant Threat Score: No Known Threats CCVI: Highly Vulnerable Predicted Models: 68% Low (inductive)			
<input type="checkbox"/>	B - Barrow's Goldeneye (<i>Bucephala islandica</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4 USFWS: MBTA FWP SWAP: SGIN PIF: 2 Predicted Models: 64% Low (inductive)			
<input type="checkbox"/>	B - Veery (<i>Catharus fuscescens</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: 57% Low (inductive)			
<input type="checkbox"/>	V - Elodea bifoliata (<i>Long-sheath Waterweed</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4G5 State: S2? Plant Threat Score: No Known Threats Predicted Models: 50% Low (inductive)			
<input type="checkbox"/>	V - Physaria ludoviciana (<i>Silver Bladderpod</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 Plant Threat Score: No Known Threats Predicted Models: 46% Low (inductive)			
<input type="checkbox"/>	B - Mountain Plover (<i>Charadrius montanus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G3 State: S2B USFWS: MBTA; BCC10; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 1 Predicted Models: 46% Low (inductive)			
<input type="checkbox"/>	V - Cypripedium parviflorum (<i>Small Yellow Lady's-slipper</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S3S4 USFS: Sensitive - Known in Forests (LOLO) Species of Conservation Concern in Forests (CG, HLC) Predicted Models: 39% Low (inductive)			
<input type="checkbox"/>	B - Chestnut-collared Longspur (<i>Calcarius ornatus</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN2 PIF: 2 Predicted Models: 39% Low (inductive)			
<input type="checkbox"/>	B - Cassin's Finch (<i>Haemorhous cassinii</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S3 USFWS: MBTA; BCC10 FWP SWAP: SGCN3 PIF: 3 Predicted Models: 32% Low (inductive)			
<input type="checkbox"/>	V - Carex crawei (<i>Crawe's Sedge</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2S3 Plant Threat Score: Low Predicted Models: 32% Low (inductive)			
<input type="checkbox"/>	B - Baird's Sparrow (<i>Centronyx bairdii</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G4 State: S3B USFWS: MBTA; BCC11; BCC17 BLM: SENSITIVE FWP SWAP: SGCN3 PIF: 1 Predicted Models: 32% Low (inductive)			
<input type="checkbox"/>	B - Black-and-white Warbler (<i>Mniotilta varia</i>) PSOC		
View in Field Guide View Predicted Models View Range Maps Potential Species of Concern - Native Species Global: G5 State: S4B USFWS: MBTA Predicted Models: 32% Low (inductive)			
<input type="checkbox"/>	V - Stellaria crassifolia (<i>Fleshy Stitchwort</i>) SOC		
View in Field Guide View Predicted Models View Range Maps Species of Concern - Native Species Global: G5 State: S2 Plant Threat Score: No Known Threats Predicted Models: 29% Low (inductive)			

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

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)


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

Predicted Models:  29% Low (inductive)

B - American Bittern (*Botaurus lentiginosus*) **SOC**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)


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

Predicted Models:  25% Low (inductive)

B - Sprague's Pipit (*Anthus spragueii*) **SOC**

[View in Field Guide](#) [View Predicted Models](#) [View Range Maps](#)

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

Predicted Models:  14% Low (inductive)

Structured Surveys

Summarized by: **24PRVT0278** (*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.

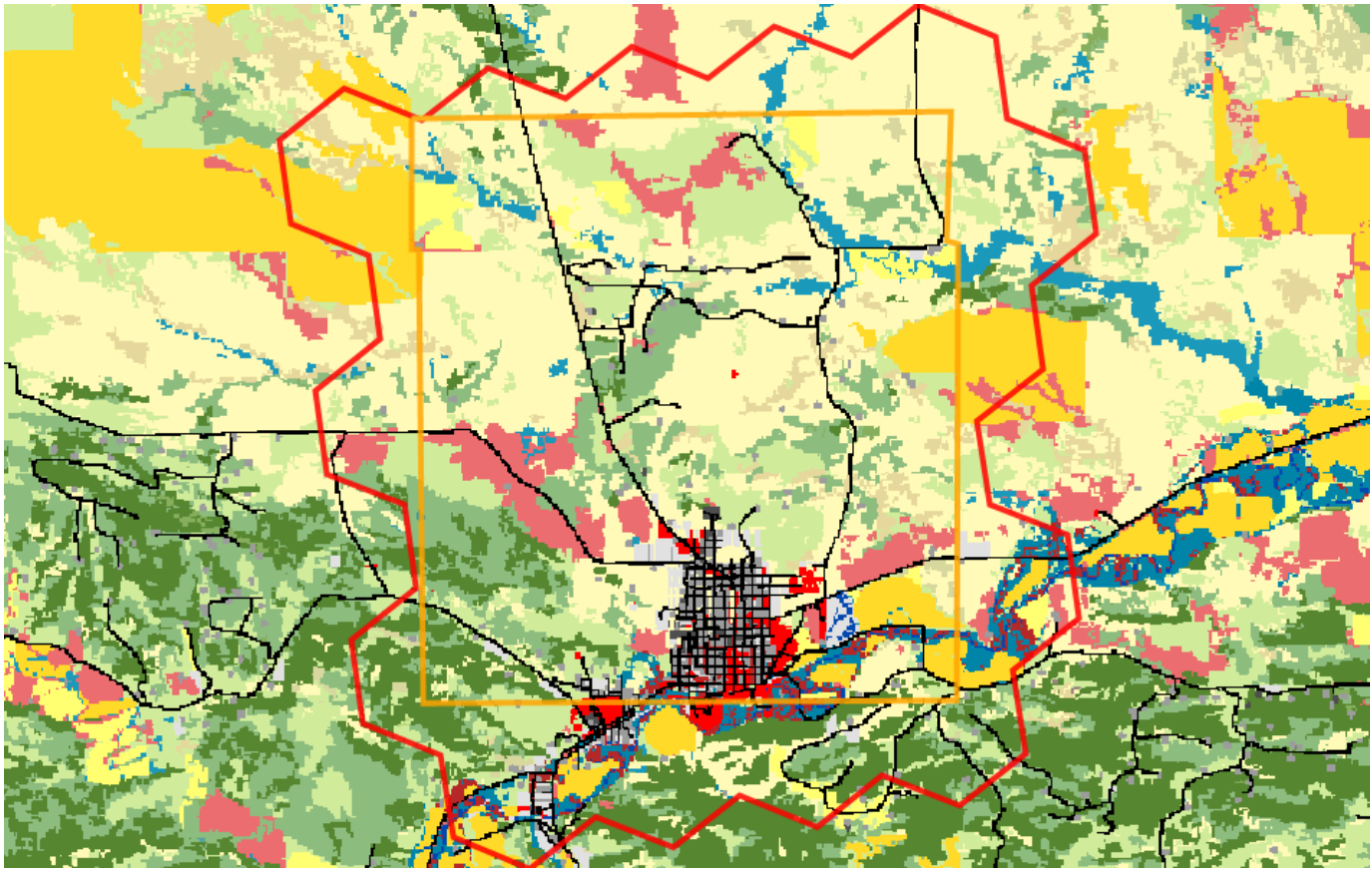
MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

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.

A-Nocturnal Calling Amphibian (<i>Nocturnal Breeding Amphibian Calling Survey</i>)	Survey Count: 2	Obs Count: 2	Recent Survey: 2005
B-Cuckoo Playback Survey (<i>Riparian Playback Surveys for Cuckoos</i>)	Survey Count: 4	Obs Count:	Recent Survey: 2012
B-Dependent Double Observer (<i>Dependent Double Observer Walking Transect</i>)	Survey Count: 8	Obs Count: 67	Recent Survey: 2015
B-Nightjar Survey (<i>Nightjar Surveys - Poorwill and Nighthawk</i>)	Survey Count: 2	Obs Count: 4	Recent Survey: 2019
B-Raptor nest (<i>Raptor Nest Survey</i>)	Survey Count: 13	Obs Count: 12	Recent Survey: 2023
B-Sage Grouse Lek (<i>Greater Sage Grouse Lek Survey</i>)	Survey Count: 57	Obs Count: 13	Recent Survey: 2002
E-Eastern Heath Snail (<i>Eastern Heath Snail Survey</i>)	Survey Count: 1	Obs Count:	Recent Survey: 2012
E-Eurasian Water-milfoil Rake (<i>Rake tows/pulls for Eurasian Water-milfoil</i>)	Survey Count: 7	Obs Count: 2	Recent Survey: 2023
E-Invasive Mussel Plankton Tow (<i>Plankton tows for veligers of Invasive Mussels</i>)	Survey Count: 7	Obs Count:	Recent Survey: 2023
E-Kicknet (<i>Kicknet Collection Survey for Invasive Mussels and Snails</i>)	Survey Count: 10	Obs Count: 1	Recent Survey: 2023
E-Noxious Weed, Road-based (<i>Noxious Weed Road-based Visual Surveys</i>)	Survey Count: 8	Obs Count: 23	Recent Survey: 2005
E-Visual Aquatic Invasives (<i>Visual Encounter Surveys for Aquatic Invasives on Shorelines or Underwater</i>)	Survey Count: 10	Obs Count: 4	Recent Survey: 2023
F-Fish Other Survey (<i>Fish Other Survey (FWP Survey Type)</i>)	Survey Count: 12	Obs Count: 45	Recent Survey: 2006
F-Fish Trapping/Netting (<i>Fish Trapping or Netting Surveys</i>)	Survey Count: 2	Obs Count: 16	Recent Survey: 2003
I-Aquatic Invert Lotic Dipnet (<i>Invertebrate Lotic Site Dipnet and Visual Encounter Survey</i>)	Survey Count: 1	Obs Count: 11	Recent Survey: 1997
I-Mosquito Traps (<i>Montana Mosquito Surveillance Project</i>)	Survey Count: 1	Obs Count: 2	Recent Survey: 2017
I-Mussel (<i>Stream Mussel Survey</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 1997
I-Odonates/Butterfly VES (<i>Visual Encounter Survey for Damselfly/Dragonfly/Butterfly</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 1999
M-Bat Roost (Active Season) (<i>Bat Roost (Active Season) Survey</i>)	Survey Count: 2	Obs Count: 2	Recent Survey: 2017
M-Prairie Dog Ground (<i>Prairie Dog Town Ground Survey</i>)	Survey Count: 1	Obs Count: 1	Recent Survey: 2010
P-AIM Terrestrial Plot (<i>BLM AIM Terrestrial Survey Plot</i>)	Survey Count: 1	Obs Count: 46	Recent Survey: 2017
P-Algal scraping (<i>Algal Scraping</i>)	Survey Count: 6	Obs Count: 338	Recent Survey: 2016
P-Wetland EIA (<i>MTNHP Wetland EIA</i>)	Survey Count: 1	Obs Count: 19	Recent Survey: 2015
R-Turtle Trapping (<i>Turtle Trapping Surveys</i>)	Survey Count: 6	Obs Count: 4	Recent Survey: 2015

Land Cover

Summarized by: **24PRVT0278** (Custom Area of Interest)



Shrubland, Steppe and Savanna Systems Sagebrush Steppe

Big Sagebrush Steppe

36% (6,468 Acres)

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



Grassland Systems Lowland/Prairie Grassland

Great Plains Mixedgrass Prairie

14% (2,454 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 curtiseta*) dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis*/*Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass (*Pascopyrum smithii*) or into pure crested wheatgrass (*Agropyron cristatum*) stands.



10% (1,734 Acres)

Forest and Woodland Systems

Conifer-dominated forest and woodland (xeric-mesic)

Rocky Mountain Foothill Woodland-Steppe Transition

This inland Pacific Northwest ecological system occurs in the foothills of the Montana Rocky Mountains, where it forms a broad ecotone between true forests and true steppe, shrublands, or grasslands, typically on warm, dry, exposed sites too droughty to support a closed tree canopy. This is not a fire-maintained system. The "steppe" character results from a climate-edaphic interaction that results in a graminoid-dominated landscape with widely scattered trees; even in the absence of fire, a "woodland" or "forest" structure will not be obtained. Occurrences are found on all slopes and aspects; however, moderately steep to very steep slopes or ridgetops on southerly or western aspects are most common. They can be found on glacial till, glacio-fluvial sand and gravel, dune, basaltic rubble, colluvium, deep loess or volcanic ash-derived soils, with characteristic features of good aeration and drainage, coarse texture, and an abundance of mineral material. Ponderosa pine (*Pinus ponderosa*) or Douglas-fir (*Pseudotsuga menziesii*) are the predominant conifers. Limber pine (*Pinus flexilis*) may be present in some occurrences. In fire-protected transition areas with big sagebrush steppe systems, antelope bitterbrush (*Purshia tridentata*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), big sagebrush (*Artemisia tridentata* ssp. *tridentata*), and three-tip sagebrush (*Artemisia tripartita*) may be common. Deciduous shrubs such as common ninebark (*Physocarpus malvaceus*), commonsnowberry (*Symphoricarpos albus*), or birch leaf spiraea (*Spiraea betulifolia*) may be abundant in occurrences west of the Continental Divide. Important grass species include bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg's bluegrass (*Poa secunda*), needle and thread (*Hesperostipa comata*), needlegrass (*Achnatherum species*), and bottlebrush squirreltail (*Elymus elymoides*). This system is very similar to Northern Rocky Mountain Ponderosa Pine Woodland and Savanna, but with more widely scattered trees.



8% (1,456 Acres)

Forest and Woodland Systems

Conifer-dominated forest and woodland (xeric-mesic)

Great Plains Ponderosa Pine Woodland and Savanna

These ponderosa pine (*Pinus ponderosa*) occurrences differ from the Rocky Mountain Ponderosa Pine Woodland and Savanna systems in that they are typically found within the matrix of the Great Plains grassland systems. They are often surrounded by mixed-grass prairie, in places where available soil moisture is higher or soils are more coarse and rocky. Elevation ranges from 1,189 meters (3,900 feet) in southeastern Montana to 1,646 m (5,400 feet) in north-central Montana. Occurrences are usually on east- and north-facing aspects. These woodlands can be physiognomically variable, ranging from very sparse patches of trees on drier sites, to nearly closed-canopy forest stands on north slopes or in draws where available soil moisture is higher.



7% (1,299 Acres)

Human Land Use

Agriculture

Cultivated Crops

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



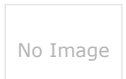
5% (918 Acres)

Recently Disturbed or Modified

Introduced Vegetation

Introduced Upland Vegetation - Annual and Biennial Forbland

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.



4% (705 Acres)

Human Land Use

Developed

Other Roads

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



3% (480 Acres)

Sparse and Barren Systems

Bluff, Badland and Dune

Great Plains Badlands

The Western Great Plains Badlands ecological system occurs within the mixed grass and sand prairie regions of eastern and southeastern Montana, where the land lies well above or below its local base level, shaped by the carving action of streams, erosion, and erodible parent material. It is easily recognized by its rugged, eroded, and often colorful land formations, and the relative absence of vegetative cover. In those areas with vegetation, species can include scattered individuals of many dryland shrubs or herbaceous taxa, including curlycup gumweed (*Grindelia squarrosa*), threadleaf snakeweed (*Gutierrezia sarothrae*) (especially with overuse and grazing), greasewood (*Sarcobatus vermiculatus*), Gardner's saltbush (*Atriplex gardneri*), buckwheat (*Eriogonum* species), plains muhly (*Muhlenbergia cuspidata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and Hooker's sandwort (*Arenaria hookeri*). Patches of sagebrush (*Artemisia* spp.) can also occur. Climate is typical of mid continental regions with long severe winters and warm summers. Precipitation ranges from 7 to 14 inches per year, with two-thirds of the precipitation falling during the summer, and a third falling in the spring. The sedimentary parent material of exposed rocks and the resultant eroded clay soils are derived from Cretaceous sea beds and are often fossil-rich. Dominant soil types are in the order Entisols. These mineral soils are found primarily on uplands, slopes, and creek bottoms and are easily erodible. The growing season is short, averaging 115 days, with a range from 100 days on the Canadian border to 130 days on the Wyoming border. Land use is limited, except for off-highway vehicle recreation and incidental grazing.



2% (356 Acres)

Human Land Use

Agriculture

Pasture/Hay

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



2% (351 Acres)

Wetland and Riparian Systems Floodplain and Riparian

Great Plains Riparian

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

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



2% (341 Acres)

Human Land Use Developed

Low Intensity Residential

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.



2% (310 Acres)

Wetland and Riparian Systems Floodplain and Riparian

Great Plains Floodplain

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.



2% (270 Acres)

Human Land Use Developed

Developed, Open Space

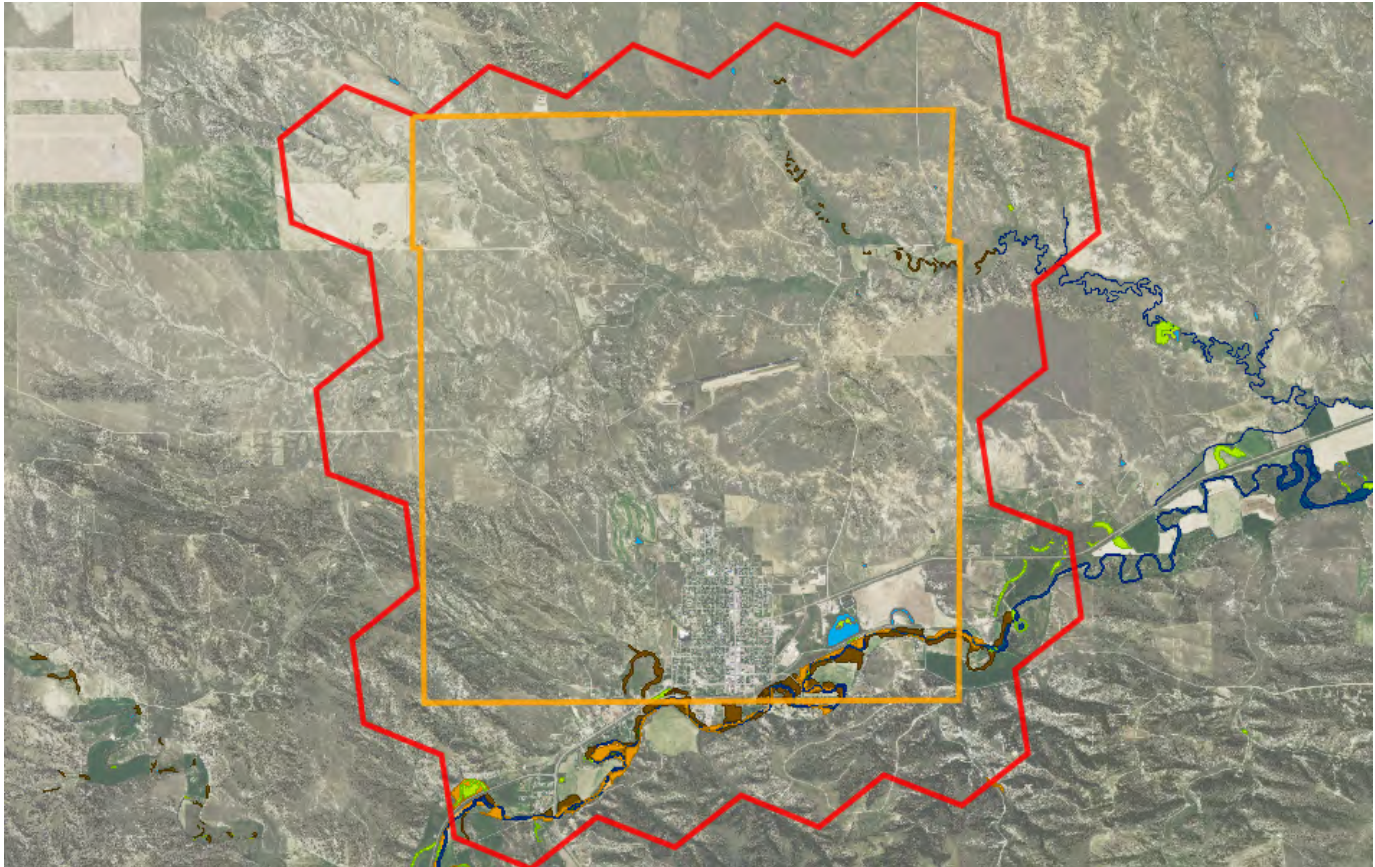
Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Impervious surfaces account for less than 20% of total cover. This category often includes highway and railway rights of way and graveled rural roads.

Additional Limited Land Cover

- 1% (227 Acres) ■ [Introduced Riparian and Wetland Vegetation](#)
- 1% (187 Acres) ■ [Commercial / Industrial](#)
- 1% (146 Acres) ■ [Major Roads](#)
- <1% (79 Acres) ■ [Great Plains Sand Prairie](#)
- <1% (72 Acres) ■ [Open Water](#)
- <1% (33 Acres) ■ [High Intensity Residential](#)
- <1% (12 Acres) ■ [Great Plains Wooded Draw and Ravine](#)
- <1% (2 Acres) ■ [Great Plains Cliff and Outcrop](#)
- <1% (2 Acres) ■ [Rocky Mountain Lower Montane, Foothill, and Valley Grassland](#)

Wetland and Riparian

Summarized by: **24PRVT0278** (Custom Area of Interest)



Wetland and Riparian Mapping

P - Palustrine

AB - Aquatic Bed

F - Semipermanently Flooded	9 Acres	
(no modifier)	7 Acres PABF	
h - Diked/Impounded	2 Acres PABFh	
K - Artificially Flooded	20 Acres	
x - Excavated	20 Acres PABKx	

P - Palustrine, AB - Aquatic Bed

Wetlands with vegetation growing on or below the water surface for most of the growing season.

US - Unconsolidated Shore

C - Seasonally Flooded	4 Acres	
(no modifier)	<1 Acres PUSC	
h - Diked/Impounded	4 Acres PUSCh	

P - Palustrine, US - Unconsolidated Shore

Wetlands with less than 75% areal cover of stones, boulders, or bedrock. AND with less than 30% vegetative cover AND the wetland is irregularly exposed due to seasonal or irregular flooding and subsequent drying.

EM - Emergent

A - Temporarily Flooded	2 Acres	
(no modifier)	1 Acres PEMA	
h - Diked/Impounded	1 Acres PEMAh	
C - Seasonally Flooded	7 Acres	
(no modifier)	7 Acres PEMC	
F - Semipermanently Flooded	17 Acres	
(no modifier)	17 Acres PEMF	
K - Artificially Flooded	3 Acres	
x - Excavated	3 Acres PEMKx	

P - Palustrine, EM - Emergent

Wetlands with erect, rooted herbaceous vegetation present during most of the growing season.

SS - Scrub-Shrub

A - Temporarily Flooded	<1 Acres	
(no modifier)	<1 Acres PSSA	
C - Seasonally Flooded	2 Acres	
(no modifier)	2 Acres PSSC	

P - Palustrine, SS - Scrub-Shrub

Wetlands dominated by woody vegetation less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom			R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom
H - Permanently Flooded	66 Acres		<i>Stream channels where the substrate is at least 25% mud, silt or other fine particles.</i>
(no modifier)	66 Acres	R2UBH	
US - Unconsolidated Shore			R - Riverine (Rivers), 2 - Lower Perennial, US - Unconsolidated Shore
A - Temporarily Flooded	18 Acres		<i>Shorelines with less than 75% areal cover of stones, boulders, or bedrock and less than 30% vegetation cover. The area is also irregularly exposed due to seasonal or irregular flooding and subsequent drying.</i>
(no modifier)	18 Acres	R2USA	

4 - Intermittent

SB - Stream Bed			R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed
A - Temporarily Flooded	1 Acres		<i>Active channel that contains periodic water flow.</i>
(no modifier)	1 Acres	R4SBA	
C - Seasonally Flooded	2 Acres		
(no modifier)	2 Acres	R4SBC	

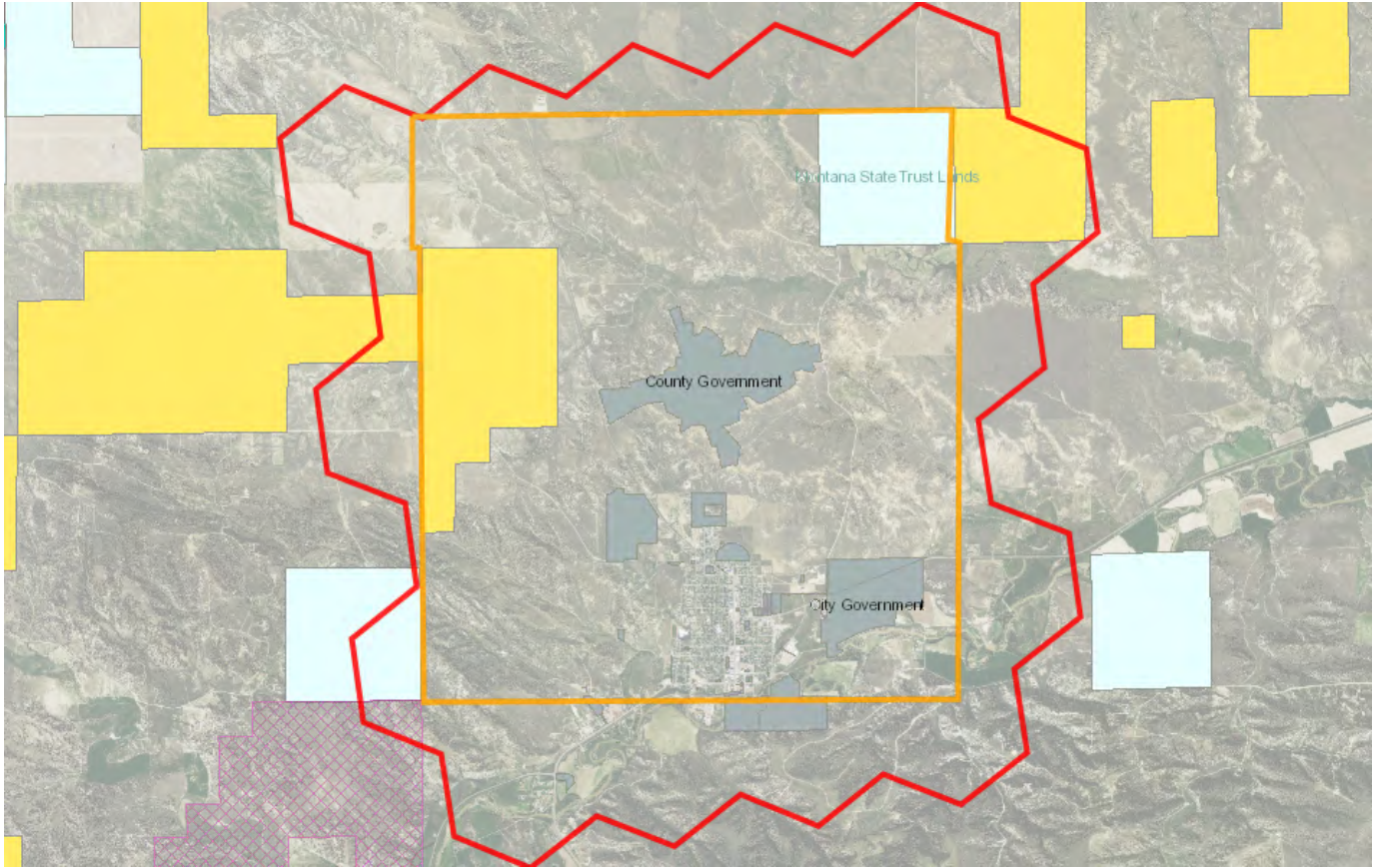
Rp - Riparian

1 - Lotic

SS - Scrub-Shrub			Rp - Riparian, 1 - Lotic, SS - Scrub-Shrub
(no modifier)	83 Acres	Rp1SS	<i>This type of riparian area is dominated by woody vegetation that is less than 6 meters (20 feet) tall. Woody vegetation includes tree saplings and trees that are stunted due to environmental conditions.</i>
FO - Forested			Rp - Riparian, 1 - Lotic, FO - Forested
(no modifier)	137 Acres	Rp1FO	<i>This riparian class has woody vegetation that is greater than 6 meters (20 feet) tall.</i>
EM - Emergent			Rp - Riparian, 1 - Lotic, EM - Emergent
(no modifier)	4 Acres	Rp1EM	<i>Riparian areas that have erect, rooted herbaceous vegetation during most of the growing season.</i>

Land Management

Summarized by: **24PRVT0278** (Custom Area of Interest)



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	3,547 Acres (20%)			
Federal	1,682 Acres (9%)			
US Bureau of Land Management	1,682 Acres (9%)			
BLM Owned	1,682 Acres (9%)			
State	857 Acres (5%)			
Montana State Trust Lands	857 Acres (5%)			
MT State Trust Owned	857 Acres (5%)			
Local	1,008 Acres (6%)			
Local Government	1,008 Acres (6%)			
Local Government Owned	1,008 Acres (6%)			
Conservation Easements			67 Acres (<1%)	
Private			67 Acres (<1%)	
The Nature Conservancy			67 Acres (<1%)	
Private Lands or Unknown Ownership	14,286 Acres (80%)			



Biological Reports

Summarized by: **24PRVT0278** (*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

- Bramblett, R.G., and A.V. Zale. 2002. Montana Prairie Riparian Native Species Report. Montana Cooperative Fishery Research Unit, Montana State University - Bozeman.
-  Confluence Consulting and Morrison Maierle, Inc. 2010. Roundup Wetland, Musselshell County, Montana, Montana Department of Transportation Wetland Mitigation Monitoring Report: Year 2010. Bozeman, MT: Confluence Consulting and Morrison Maierle, Inc. 19 p plus appendices.
-  Confluence Consulting Inc. 2010. **Montana Department of Transportation Wetland Mitigation Monitoring Reports (various sites). MDT Helena, MT.**
- Faunawest Wildlife Consultants. 1998. Status of the black-tailed and white-tailed prairie dog in Montana. Prepared for Montana Department of Fish, Wildlife & Parks.
- McCann, S. 1974. **A four-year population study of *Peromyscus maniculatus* in Musselshell County, Montana.** Proceedings Montana Academy of Science 34:37-42.
-  Respec. 2016. Rostad Ranch Mitigation Site, Meagher County, Montana, Montana Department of Transportation Wetland Mitigation Monitoring Report: Year 2016. Helena, MT: Respec. 27 p plus appendices.
-  Tobalske, Claudine and Linda Vance. 2017. **Predicting the distribution of Russian Olive stands in eastern Montana valley bottoms using NAIP imagery.** Report to the US EPA. Montana Natural Heritage Program. Helena, MT. 40pp.

Legend

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



Latitude 46.42273
Longitude -108.48447
46.51419 -108.61294

Invasive and Pest Species

Summarized by: **24PRVT0278** (*Custom Area of Interest*)

	# Obs	Predicted Model	Range
Aquatic Invasive Species			
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: 54% 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: 29% Low (inductive)			
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: 68% Suitable (introduced range) (deductive)			
F - Common Carp (<i>Cyprinus carpio</i>) AIS	5+		
View in Field Guide View Predicted Models View Range Maps Aquatic Invasive Species - Non-native Species Global: G5 State: SNA Predicted Models: 25% Suitable (introduced range) (deductive)			
Noxious Weeds: Priority 1A			
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: 7% Optimal (inductive), 36% Moderate (inductive), 25% Low (inductive)			
V - Isatis tinctoria (<i>Dyer's Woad</i>) N1A	1		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1A - Non-native Species Global: GNR State: SNA Predicted Models: 7% Optimal (inductive), 29% Moderate (inductive), 50% Low (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: 29% 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: 11% Optimal (inductive), 21% Moderate (inductive), 21% Low (inductive)			
V - Polygonum cuspidatum (<i>Japanese Knotweed</i>) N1B			
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNRTR State: SNA Predicted Models: 4% Optimal (inductive), 7% Moderate (inductive), 29% Low (inductive)			
V - Polygonum x bohemicum (<i>Bohemian Knotweed</i>) N1B			
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 1B - Non-native Species Global: GNA State: SNA Predicted Models: 4% Moderate (inductive), 32% 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: 21% Low (inductive)			
Noxious Weeds: Priority 2A			
V - Rhamnus cathartica (<i>Common Buckthorn</i>) N2A			
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predicted Models: 11% Optimal (inductive), 14% Moderate (inductive), 18% Low (inductive)			
V - Hieracium praealtum (<i>Kingdevil Hawkweed</i>) N2A			
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predicted Models: 36% Moderate (inductive), 50% Low (inductive)			

<input type="checkbox"/> V - <i>Ventenata dubia</i> (<i>Ventenata</i>) N2A		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predicted Models: 7% Moderate (inductive), 68% Low (inductive)		
<input type="checkbox"/> V - <i>Lepidium latifolium</i> (<i>Perennial Pepperweed</i>) N2A	2	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2A - Non-native Species Global: GNR State: SNA Predicted Models: 57% Low (inductive)		
<input type="checkbox"/> V - <i>Myriophyllum spicatum</i> (<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: 54% Low (inductive)		
<input type="checkbox"/> V - <i>Butomus umbellatus</i> (<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: 29% Low (inductive)		

Noxious Weeds: Priority 2B

<input type="checkbox"/> V - <i>Tamarix ramosissima</i> (<i>Salt Cedar</i>) N2B	19	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 11% Optimal (inductive), 21% Moderate (inductive), 68% Low (inductive)		
<input type="checkbox"/> V - <i>Linaria dalmatica</i> (<i>Dalmatian Toadflax</i>) N2B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: G5 State: SNA Predicted Models: 4% Optimal (inductive), 50% Moderate (inductive), 43% Low (inductive)		
<input type="checkbox"/> V - <i>Centaurea diffusa</i> (<i>Diffuse Knapweed</i>) N2B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 4% Optimal (inductive), 50% Moderate (inductive), 39% Low (inductive)		
<input type="checkbox"/> V - <i>Convolvulus arvensis</i> (<i>Field Bindweed</i>) N2B	7	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 4% Optimal (inductive), 46% Moderate (inductive), 46% Low (inductive)		
<input type="checkbox"/> V - <i>Lepidium draba</i> (<i>Whitetop</i>) N2B	2	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 4% Optimal (inductive), 39% Moderate (inductive), 54% Low (inductive)		
<input type="checkbox"/> V - <i>Centaurea stoebe</i> (<i>Spotted Knapweed</i>) N2B	81	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 61% Moderate (inductive), 36% Low (inductive)		
<input type="checkbox"/> V - <i>Euphorbia virgata</i> (<i>Leafy Spurge</i>) N2B	52	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 43% Moderate (inductive), 57% Low (inductive)		
<input type="checkbox"/> V - <i>Cirsium arvense</i> (<i>Canada Thistle</i>) N2B	87	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: G5 State: SNA Predicted Models: 36% Moderate (inductive), 64% Low (inductive)		
<input type="checkbox"/> V - <i>Acroptilon repens</i> (<i>Russian Knapweed</i>) N2B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 36% Moderate (inductive), 61% Low (inductive)		
<input type="checkbox"/> V - <i>Cynoglossum officinale</i> (<i>Common Hound's-tongue</i>) N2B	15	
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 32% Moderate (inductive), 54% Low (inductive)		
<input type="checkbox"/> V - <i>Tanacetum vulgare</i> (<i>Common Tansy</i>) N2B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 18% Moderate (inductive), 21% Low (inductive)		
<input type="checkbox"/> V - <i>Potentilla recta</i> (<i>Sulphur Cinquefoil</i>) N2B		
View in Field Guide View Predicted Models View Range Maps Noxious Weed: Priority 2B - Non-native Species Global: GNR State: SNA Predicted Models: 39% 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: 29% 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: 18% Optimal (inductive), 4% Moderate (inductive), 68% Low (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: 43% Moderate (inductive), 54% Low (inductive)

Biocontrol Species

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: 4% Optimal (inductive), 71% Moderate (inductive), 25% Low (inductive)

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: 64% Moderate (inductive), 29% 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: 36% Moderate (inductive), 64% 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: 18% Moderate (inductive), 46% 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: 82% Low (inductive)

Introduction to Montana Natural Heritage Program



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

INTRODUCTION

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

VISION

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

CORE VALUES

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

CONFIDENTIALITY

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

INFORMATION MANAGED

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

Data Use Terms and Conditions


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

Suggested Contacts for Natural Resource Management Agencies

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

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

Montana Fish, Wildlife, and Parks

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

Montana Department of Agriculture

General Contact Information: <https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices>

Noxious Weeds: <https://agr.mt.gov/Noxious-Weeds>

Montana Department of Environmental Quality

Permitting and Operator Assistance for all Environmental Permits: <https://deq.mt.gov/Permitting>

Montana Department of Natural Resources and Conservation

Overview of, and contacts for, licenses and permits for state lands, water, and forested lands:

<https://dnrc.mt.gov/Permits-Services>

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

<https://dnrc.mt.gov/Licenses-and-Permits/Stream-Permitting>

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

Bureau of Land Management

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

United States Army Corps of Engineers

Montana Regulatory Office for federal permits related to construction in water and wetlands

<https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/> (406) 441-1375

United States Environmental Protection Agency

Environmental information, notices, permitting, and contacts <https://www.epa.gov/mt>

Gateway to state resource locators <https://www.envcap.org/srl/index.php>

United States Fish and Wildlife Service

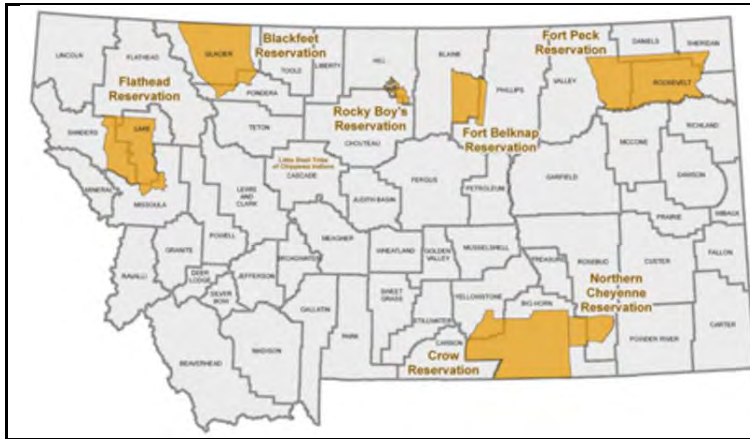
Information Planning and Conservation (IPAC) website: <https://ipac.ecosphere.fws.gov>

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

United States Forest Service

Regional Office – Missoula, Montana Contacts			
Wildlife Program Leader	Tammy Fletcher	tammy.fletcher2@usda.gov	(406) 329-3086
Wildlife Ecologist	Cara Staab	cara.staab@usda.gov	(406) 329-3677
Aquatic Ecologist	Justin Jimenez	justin.jimenez@usda.gov	(435) 370-6830
TES Program	Lydia Allen	lydia.allen@usda.gov	(406) 329-3558
Interagency Grizzly Bear Coordinator	Scott Jackson	scott.jackson@usda.gov	(406) 329-3664
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Regional Vegetation Ecologist	Mary Manning	marry.manning@usda.gov	(406) 329-3304
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669

Tribal Nations



[Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation](#)

[Assiniboine & Sioux Tribes – Fort Peck Reservation](#)

[Blackfeet Tribe - Blackfeet Reservation](#)

[Chippewa Creek Tribe - Rocky Boy's Reservation](#)

[Crow Tribe – Crow Reservation](#)

[Little Shell Chippewa Tribe](#)

[Northern Cheyenne Tribe – Northern Cheyenne Reservation](#)

[Salish & Kootenai Tribes - Flathead Reservation](#)

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

[Alberta Conservation Information Management System](#)

[British Columbia Conservation Data Centre](#)

[Idaho Natural Heritage Program](#)

[North Dakota Natural Heritage Program](#)

[Saskatchewan Conservation Data Centre](#)

[South Dakota Natural Heritage Program](#)

[Wyoming Natural Diversity Database](#)

Invasive Species Management Contacts and Information

Aquatic Invasive Species

[Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff](#)

[Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program](#)

[Montana Invasive Species Council \(MISC\)](#)

[Western Montana Conservation Commission](#)

Noxious Weeds

[Montana Weed Control Association Contacts Webpage](#)

[Montana Biological Weed Control Coordination Project](#)

[Montana Department of Agriculture - Noxious Weeds](#)

[Montana Weed Control Association](#)

[Montana Fish, Wildlife, and Parks - Noxious Weeds](#)

[Montana State University Integrated Pest Management Extension](#)

[Integrated Noxious Weed Management after Wildfires](#)

[Fire Management and Invasive Plants](#)

Introduction to Native Species

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

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

<https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx>

Observations

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

Species Occurrences

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

Plant Species Occurrences

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

Animal Species Occurrences

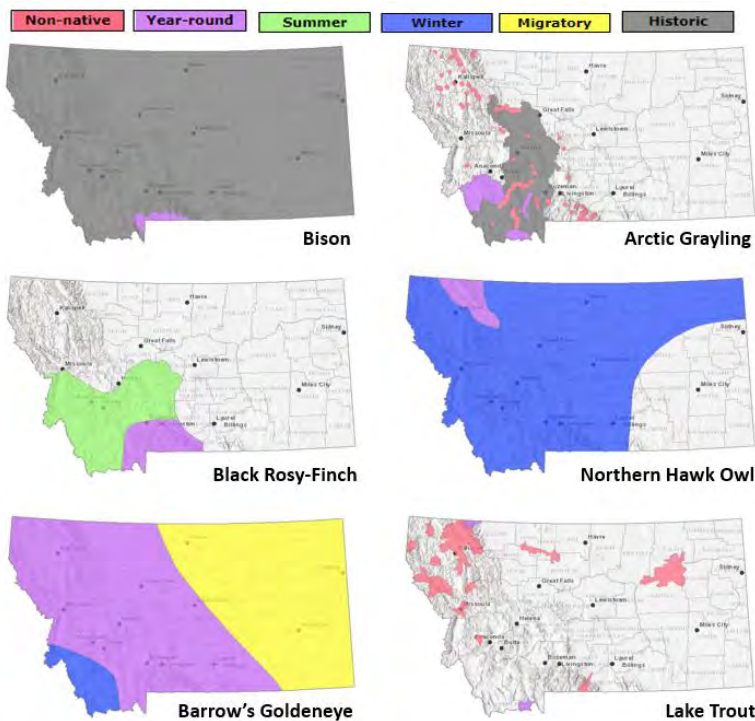
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream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

Other Occurrence Polygons

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

Geographic Range Polygons

Geographic range polygons are still under development for most plant and invertebrate species. Native year-round, summer, winter, migratory and historic geographic range polygons as well as polygons for introduced



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

Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, *Ecological Modeling* 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's [Predicted Suitable Habitat Models](#) webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species.

Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species. We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Associated Habitats

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

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

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

Introduction to Land Cover

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

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

Literature Cited

- Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

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

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

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

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

Literature Cited

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.
- Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.
- U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

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

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

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

[Public Lands](#)

[Conservation Easements](#)

[Private Conservation Lands](#)

[Managed Areas](#)

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

Introduction to Invasive and Pest Species

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

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

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

<https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx>

Additional Information Resources

[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 GIS Data Layers](#)

[Montana GIS Data Bundler](#)

[Montana Greater Sage-Grouse Project Submittal Site](#)

[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](#)

[Laws, Treaties, Regulations, and Agreements on Animals and Plants](#)

[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)

[Web Soil Survey Tool](#)

Appendix H

GWIC

910721		EWY 13-2	08N	24E	2	BC	No	PETWELL										
124229		88204	BLM - HORSETHIEF CREEK	08N	24E	2	CAAD	Yes	WELL	240.00	190.00	238.00	190.00	10.00	AIR	5/8/1991	STOCKWATER	
20998			RATHS, NICHOLAS AND MARIE	08N	24E	2	CD	No	WELL	100.00	75.00	75.00		15.00	OTHER	1/1/1957		
284862			MILLER, MONTY	08N	24E	2	DB	No	WELL	370.00	78.00		78.00	6.00	AIR	10/7/2015	DOMESTIC	
21004			ONDRACEK, CHAS	08N	24E	11	CA	No	WELL	230.00	30.00	100.00		17.00	BAILER	12/21/1972	STOCKWATER	

End of Report.
22 record(s) listed.

Items of Note:






¹This report is restricted to site types of **WELL, BOREHOLE, SPRING, COAL BED METHANE WELL, PETWELL, PIEZOMETER.**

²A single well record (a distinct GWIC Id) may be represented by more than one line in this report if more than one performance test was conducted on the well at the time of drilling.

Explanation of Columns:

GWIC Id = Key field for the GWIC database. Links to one page reports.

PDF = Are scanned documents available through the Document Manager?

-  = Yes, click on the icon to download the PDF file.
-  = No, well was submitted electronically. No paper record exists.
-  = No, record does have a known well log but it is not scanned yet.
-  = No, record may or may not have a document to scan. Metadata is unclear.
-  = No, record was created from a source other than a well log. No paper record exists.

DNRC WR = Water right number assigned to this site by Department of Natural Resources and Conservation.

Site Name = Current owner name assigned to GWIC record.

Location = Location of site in Montana township, range, section, and quarter-section coordinates.

Ver? = Has this location been verified by field staff?

Type = Type of site assigned to GWIC record.

Td = Total depth of well in feet below ground.

Swl = Static water level in feet above/below ground - Negative values are reported for water levels that are above land surface.

Pwl = Pumping water level in feet below ground.

Rwl = Recovery water level in feet below ground.

Yield = Yield in gallons per minute.

Test = Type of performance test reported.

Date = Completion date of well/borehole.

Use = Reported use of water.

Disclaimer:

The preceding materials represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user at the time and date of the retrieval [8/3/2022 3:24:28 PM]. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. There may be wells in the request area that are not recorded at the Information Center.



Ground Water Information Center | MBMG Data Center
Montana Bureau of Mines and Geology
Montana Technological University
 1300 West Park Street - Natural Resources Building Room 329
 Butte Montana 59701-8997
 Ph: (406) 496-4336 Fx: (406) 496-4343

You are currently signed in. | 2/20/2024
[Sign Out](#)

[Home](#) | [Well Data](#) | [Reports](#) | [Data Coop](#) | [DrillerWeb](#) | [DNRC](#) | [Help!](#)

Menus: | [Main](#) | [SWL](#) | [GWCP](#) | [Projects](#) | [Coal](#) | [Coal Quality](#) | [Geothermal](#)

GWIC Data > Well Construction Data > Township: 08N Range: 25E Sec: 2, 1, 11, 12

The following data were returned from the GWIC databases for the area you requested. For a more detailed description of the data view the [GWIC Metadata report](#). If you notice data entry errors or have questions please let us know by sending us an Email at GWIC@mtech.edu. If you wish to view a one page report for a particular site, click the hyperlinked **Gwic Id** for that well. Scroll to the right of your screen to view all the data. All data displayed on the screen may not show up when printed.

Retrieval Statistics*			
Field	Max	Min	Avg
Total Depth (ft)	660.00	37.00	268.18
Static Water Level (ft)	174.00	14.00	69.79
Yield (gpm)	30.00	2.00	8.31

* These statistics do not take any geographic, topographic, or geologic factors into consideration. Negative swl values are reported for water levels that are above land surface.

Did you know about...

Other GWIC data
 GWIC has 1 field visit(s) for this request area.
 GWIC has 1 water level(s) for this request area.

Thanks, Just take me back to the menu.

Other MBMG data
 MBMG has 430 publications available for MUSSELSHELL county.
 MBMG has 0 abandoned mine record(s) for this request area.

Gwic Id	PDF	DNRC WR	Site Name	Tw	Rng	Sec	Q Sec	Ver?	Type	Td	Swl	Pwl	Rwl	Yield	Test	Date	Use
227653			ADAMS, LINDA	08N	25E	1		No	WELL	130.00	50.00	110.00	50.00	10.00	BAILER	9/10/2004	DOMESTIC
246832			ADAMS, MIKE	08N	25E	1		No	WELL	130.00	50.00		50.00	10.00	BAILER	9/10/2004	DOMESTIC
277369			PRATT, MICHAEL	08N	25E	1		No	WELL	255.00	102.00		102.00	9.00	AIR	3/8/2014	DOMESTIC
230586		30051537	BRUMAGE, RANDY	08N	25E	1	A	No	WELL	320.00	83.00		83.00	10.00	AIR	7/19/2006	DOMESTIC
318219			MEHARG, JENSEN AND JACOB	08N	25E	1	AA	No	WELL	210.00	87.00		87.00		AIR	9/19/2021	DOMESTIC
21032			PETERS, MABEL	08N	25E	1	AB	No	WELL	120.00	15.00	90.00		30.00	BAILER	10/1/1957	STOCKWATER
300266			BROWN, JERIMY AND CHARLENE	08N	25E	1	ABB	No	WELL	160.00	80.00		80.00	15.00	AIR	5/24/2018	DOMESTIC
319928			BRADLEY, BILL	08N	25E	1	AC	No	WELL	330.00				4.00	AIR	5/13/2021	DOMESTIC
21033			ONDRACEK, CHARLES	08N	25E	1	AC	No	WELL	37.00	15.00	30.00		10.00	AIR	9/29/1984	STOCKWATER
311750			SUTHERLAND, JACK & JUDY	08N	25E	1	BB	No	WELL	120.00	60.00		60.00	19.00	AIR	1/10/2021	DOMESTIC
251367		30046607	PATTERSON, MIKE	08N	25E	1	BBA	No	WELL	280.00	48.00		48.00	7.00	AIR	6/1/2009	DOMESTIC
21034			PETERS, MABEL	08N	25E	1	DD	No	WELL	190.00	47.00	47.00		5.00	BAILER	9/30/1957	STOCKWATER
21035			PETERS, MABEL	08N	25E	2		No	WELL	165.00	14.00	150.00		8.00	BAILER	12/30/1958	STOCKWATER
21036			PETERS, MABEL	08N	25E	2		No	WELL	410.00	25.00	50.00		7.00	BAILER	5/1/1957	STOCKWATER
218112		30064111	BREWER, THOMAS L./ JEFFERY- MOUGHAN, BOBBIE	08N	25E	2	AC	No	WELL	400.00	53.00		53.00	8.00	AIR	4/8/2005	DOMESTIC
200266			OVERHAUSER, KATHLEEN A.	08N	25E	2	ACD	Yes	WELL	660.00	131.00			2.50	AIR	8/28/2002	DOMESTIC
296005		30122349	SMITH, SHAUN	08N	25E	2	AD	No	WELL	420.00	61.00		61.00	8.00	AIR	1/20/2018	DOMESTIC
232073			LOVE, HAROLD	08N	25E	2	BA	No	WELL	270.00	56.00		56.00	9.00	AIR	12/2/2006	DOMESTIC
223742			KEISER, THOMAS V. AND JACQUE C.	08N	25E	2	BC	No	WELL	440.00	30.00		30.00	8.00	AIR	11/5/2005	DOMESTIC

238040		HARVEY, BRENT	08N 25E 2	CC	No	WELL	350.00	45.00		15.00	AIR	8/27/2007	DOMESTIC	
21048		HANSEN, GEORGE (BUD)	08N 25E 11	A	No	WELL	235.00				OTHER	1/1/1958	UNKNOWN	
300253		ADAMS, JOHN	08N 25E 11	AAA	No	WELL	300.00			3.00	AIR	7/2/2018	DOMESTIC	
281282		WILLIAMSON, KARL AND DEBBIE	08N 25E 11	ADB	No	WELL	295.00	173.00	173.00	7.00	AIR	9/16/2014	DOMESTIC	
284863		ROUNDUP SPORTSMANS ASSOCIATION	08N 25E 11	C	No	WELL	270.00	160.00		3.00	AIR	9/1/2015	IRRIGATION	
21050		61385 MEEHAN, ED	08N 25E 11	D	No	WELL	230.00	49.00	230.00	7.50	BAILER	3/20/1986	DOMESTIC	
21049		STOCKART, MARTY	08N 25E 11	D	No	WELL	170.00	90.00		4.50	BAILER	4/9/1983	UNKNOWN	
177524		ROCKY MOUNTAIN TIMBERLANDS	08N 25E 11	DA	No	WELL	520.00	80.00	440.00	80.00	19.00	PUMP	10/27/1999	DOMESTIC
235181		30031157 HOMESTEAD VET CLINIC	08N 25E 11	DAB	No	WELL	120.00	54.00		10.00	AIR	7/20/2006	DOMESTIC	
279468		BEASLEY, MARYROSE	08N 25E 11	DAC	No	WELL	135.00	56.00	56.00	9.50	AIR	3/24/2014	DOMESTIC	
21052		PETERS, JOE	08N 25E 12		No	WELL	155.00	70.00	140.00	2.50	BAILER	1/20/1957	PUBLIC WATER SUPPLY	
299584		GLAMS, JOHN	08N 25E 12	AAA	No	WELL	300.00			3.00	AIR	7/2/2018	DOMESTIC	
323575		YODER, HARLEY	08N 25E 12	BA	No	WELL	330.00	160.00	160.00	2.00	AIR	9/19/2022	DOMESTIC	
253032		30047361 MCGRANAHAN, BARRY	08N 25E 12	BBB	No	WELL	295.00	174.00	174.00	8.50	AIR	8/18/2009	DOMESTIC	
21051		PETERS, MABEL	08N 25E 12	C	No	WELL	204.00	60.00	200.00	4.00	BAILER	11/28/1960	STOCKWATER	
128954		81929 SHIPP, DONALD AND KATHLEEN	08N 25E 12	CDB	No	WELL	450.00	54.00	450.00	54.00	7.00	PUMP	3/26/1992	DOMESTIC
21053		WILDIN, J. E.	08N 25E 12	D	No	WELL	150.00	15.00		5.00	OTHER	1/1/1959	STOCKWATER	
134899		84366 KUNSMAN, DANNY AND LUANN	08N 25E 12	DBB	No	WELL	460.00	95.00	450.00	95.00	5.00	AIR	3/17/1993	STOCKWATER
254175		30047918 KING, KAREN	08N 25E 12	DC	No	WELL	175.00	31.00	31.00	4.00	AIR	10/9/2009	STOCKWATER	

End of Report.
38 record(s) listed.

Items of Note:

- ¹This report is restricted to site types of **WELL, BOREHOLE, SPRING, COAL BED METHANE WELL, PETWELL, PIEZOMETER.**
- ²A single well record (a distinct GWIC Id) may be represented by more than one line in this report if more than one performance test was conducted on the well at the time of drilling.

Explanation of Columns:

GWIC Id = Key field for the GWIC database. Links to one page reports.
PDF = Are scanned documents available through the Document Manager?

- = Yes, click on the icon to download the PDF file.
- = No, well was submitted electronically. No paper record exists.
- = No, record does have a known well log but it is not scanned yet.
- = No, record may or may not have a document to scan. Metadata is unclear.
- = No, record was created from a source other than a well log. No paper record exists.

DNRC WR = Water right number assigned to this site by Department of Natural Resources and Conservation.

Site Name = Current owner name assigned to GWIC record.

Location = Location of site in Montana township, range, section, and quarter-section coordinates.

Ver? = Has this location been verified by field staff?

Type = Type of site assigned to GWIC record.

Td = Total depth of well in feet below ground.

Swl = Static water level in feet above/below ground - Negative values are reported for water levels that are above land surface.

Pwl = Pumping water level in feet below ground.

Rwl = Recovery water level in feet below ground.

Yield = Yield in gallons per minute.

Test = Type of performance test reported.

Date = Completion date of well/borehole.

Use = Reported use of water.

Disclaimer:

The preceding materials represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user at the time and date of the retrieval [2/20/2024 8:28:04 AM]. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. There may be wells in the request area that are not recorded at the Information Center.

Ground Water Information Center Online © 1998 - 2024
[Staff](#) | [Privacy Statement](#)



GWIC Data > Well Construction Data > Township: 08N Range: 26E Sec: 6

The following data were returned from the GWIC databases for the area you requested. For a more detailed description of the data view the [GWIC Metadata report](#). If you notice data entry errors or have questions please let us know by sending us an Email at GWIC@mtech.edu. If you wish to view a one page report for a particular site, click the hyperlinked **Gwic Id** for that well. Scroll to the right of your screen to view all the data. All data displayed on the screen may not show up when printed.

Retrieval Statistics*			
Field	Max	Min	Avg
Total Depth (ft)	510.00	42.00	286.58
Static Water Level (ft)	177.00	27.00	92.50
Yield (gpm)	50.00	2.00	13.50

* These statistics do not take any geographic, topographic, or geologic factors into consideration. Negative swl values are reported for water levels that are above land surface.

Did you know about...

Other GWIC data

GWIC has 2 field visit(s) for this request area.
GWIC has 1 water level(s) for this request area.

Thanks, Just take me back to the menu.

Other MBMG data

MBMG has 404 publications available for MUSSELSHELL county.
MBMG has 1 abandoned mine record(s) for this request area.

Gwic Id	PDF	DNRC WR	Site Name	Twn	Rng	Sec	Q Sec	Ver?	Type	Td	Swl	Pwl	Rwl	Yield	Test	Date	Use
204769		30066570	GREEN, DOLORES	08N	26E	6		No	WELL	390.00	66.00		66.00	8.00	AIR	3/7/2003	DOMESTIC
21203		27278	NEWMAN, BYRAN	08N	26E	6		No	WELL	190.00	90.00			15.00	BAILER	11/28/1979	DOMESTIC
280428			WILKERSON, LEE	08N	26E	6		No	WELL	510.00	60.00			4.00	AIR	9/5/2014	DOMESTIC
21204			LIND, DICK	08N	26E	6	A	No	WELL	42.00	27.00			40.00	BAILER	1/1/1951	UNKNOWN
21205			LIND, ROBERT AND FLORENCE	08N	26E	6	AA	No	WELL	150.00	30.00			50.00	OTHER	4/1/1949	DOMESTIC
900757			ROYAL RES. MONT.POWE	08N	26E	6	AA	No	PETWELL								
21206		11172	LIND, ROBERT JR.	08N	26E	6	AC	No	WELL	117.00	30.00	60.00		15.00	BAILER	3/27/1976	DOMESTIC
215726			WALTERS, GORDON	08N	26E	6	BB	No	WELL	425.00	177.00	237.00	177.00	8.00	BAILER	11/4/2004	DOMESTIC
159227		100600	ANDERSON, HAROLD AND SHARON	08N	26E	6	C	No	WELL	280.00	112.00	275.00	112.00	5.00	AIR	10/10/1996	DOMESTIC
21207			JONES, JAMES R.	08N	26E	6	C	No	WELL	335.00	100.00	320.00		2.00	BAILER	1/30/1981	UNKNOWN
122888		51254	MCGLAUGHLIN, M.D.	08N	26E	6	CB	No	WELL	400.00	120.00	120.00		7.00	BAILER	4/22/1983	DOMESTIC
246947			WALTERS, GORDON	08N	26E	6	D	No	WELL	340.00	130.00			6.00	BAILER	4/14/2006	STOCKWATER
197995		30000076	ONEILL, CLYDE A. AND KATHY W.	08N	26E	6	DBD	No	WELL	260.00	168.00		168.00	2.00	AIR	6/27/2001	DOMESTIC

End of Report.
 13 record(s) listed.

Items of Note:






¹This report is restricted to site types of **WELL, BOREHOLE, SPRING, COAL BED METHANE WELL, PETWELL, PIEZOMETER.**

²A single well record (a distinct GWIC Id) may be represented by more than one line in this report if more than one performance test was conducted on the well at the time of drilling.

Explanation of Columns:

GWIC Id = Key field for the GWIC database. Links to one page reports.

PDF = Are scanned documents available through the Document Manager?

-  = Yes, click on the icon to download the PDF file.
-  = No, well was submitted electronically. No paper record exists.
-  = No, record does have a known well log but it is not scanned yet.
-  = No, record may or may not have a document to scan. Metadata is unclear.
-  = No, record was created from a source other than a well log. No paper record exists.

DNRC WR = Water right number assigned to this site by Department of Natural Resources and Conservation.

Site Name = Current owner name assigned to GWIC record.

Location = Location of site in Montana township, range, section, and quarter-section coordinates.

Ver? = Has this location been verified by field staff?

Type = Type of site assigned to GWIC record.

Td = Total depth of well in feet below ground.

Swl = Static water level in feet above/below ground - Negative values are reported for water levels that are above land surface.

Pwl = Pumping water level in feet below ground.

Rwl = Recovery water level in feet below ground.

Yield = Yield in gallons per minute.

Test = Type of performance test reported.

Date = Completion date of well/borehole.

Use = Reported use of water.

Disclaimer:

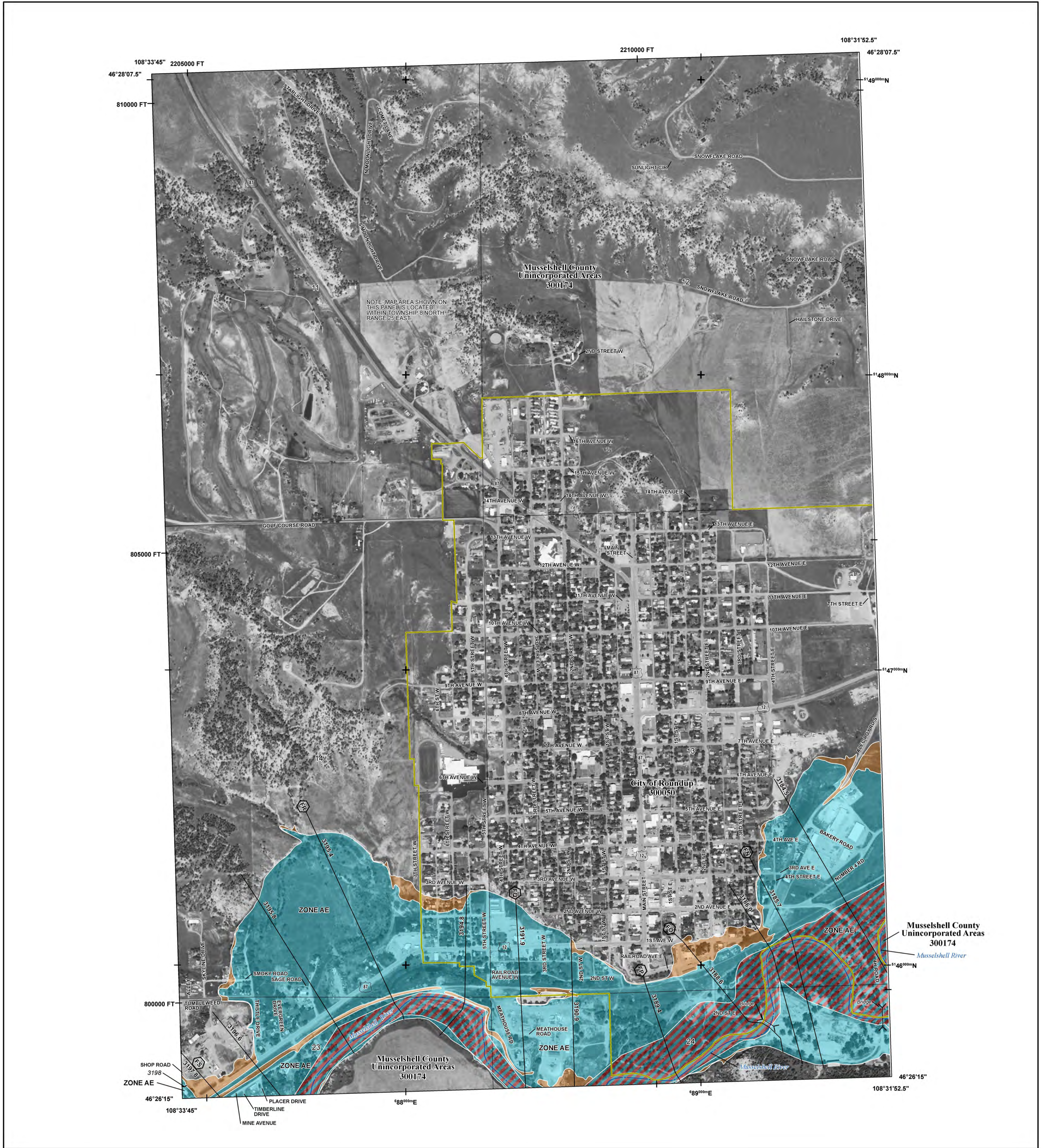
The preceding materials represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user at the time and date of the retrieval [8/3/2022 3:25:50 PM]. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted. There may be wells in the request area that are not recorded at the Information Center.

Ground Water Information Center Online © 1998 - 2022

[Staff](#) | [Privacy Statement](#)

Appendix I

Floodplains



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information Exchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <http://mfc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

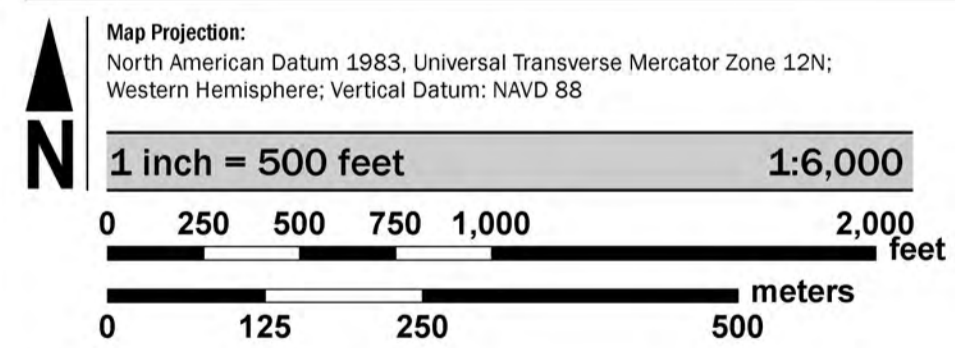
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

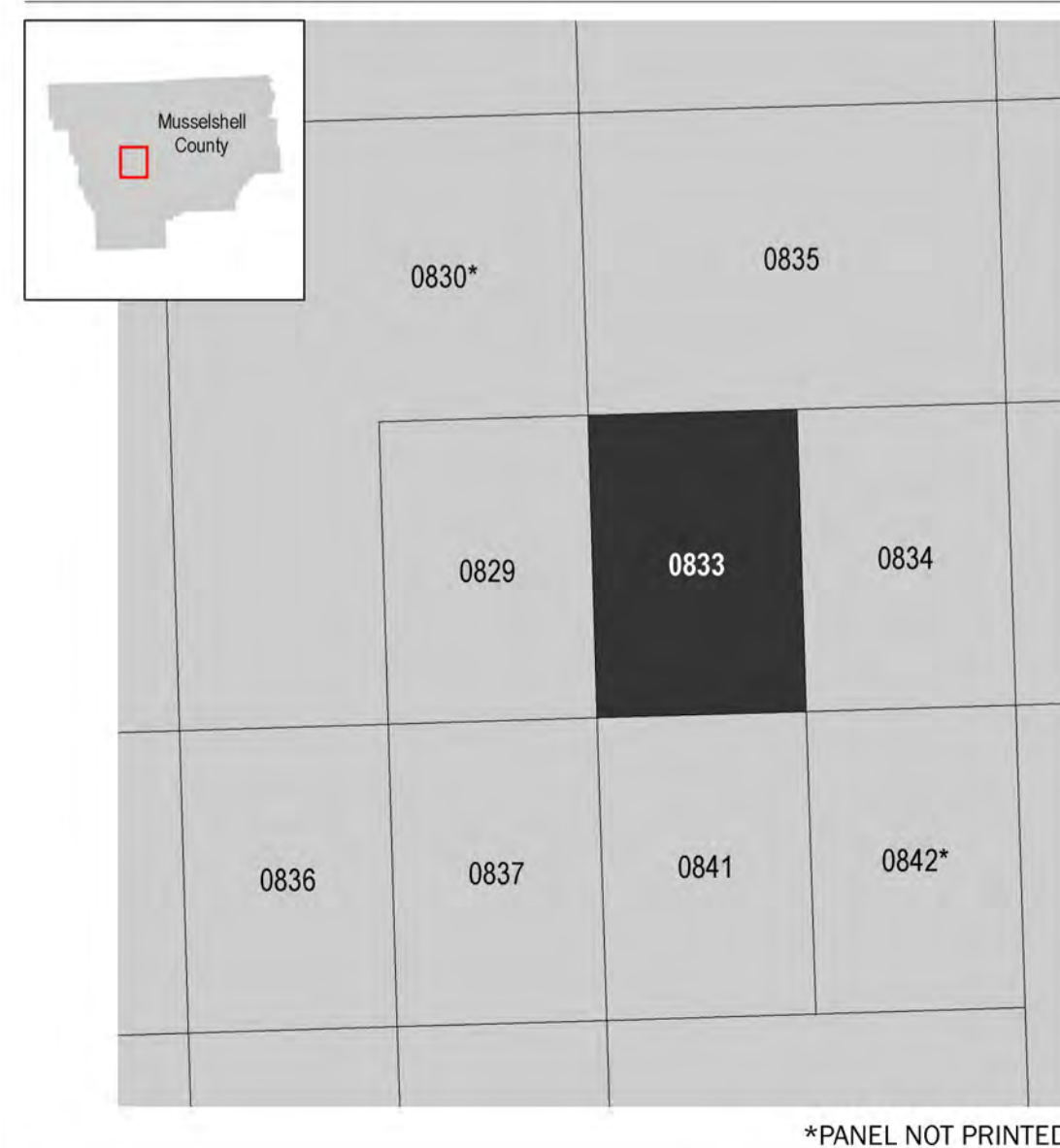
To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. This imagery was flown in 2013 and was produced with a 1.0-meter ground sample distance. Base map information shown on this FIRM was provided in digital format by Montana State Library 2015.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

MUSSELSHELL COUNTY, MONTANA
 and Incorporated Areas

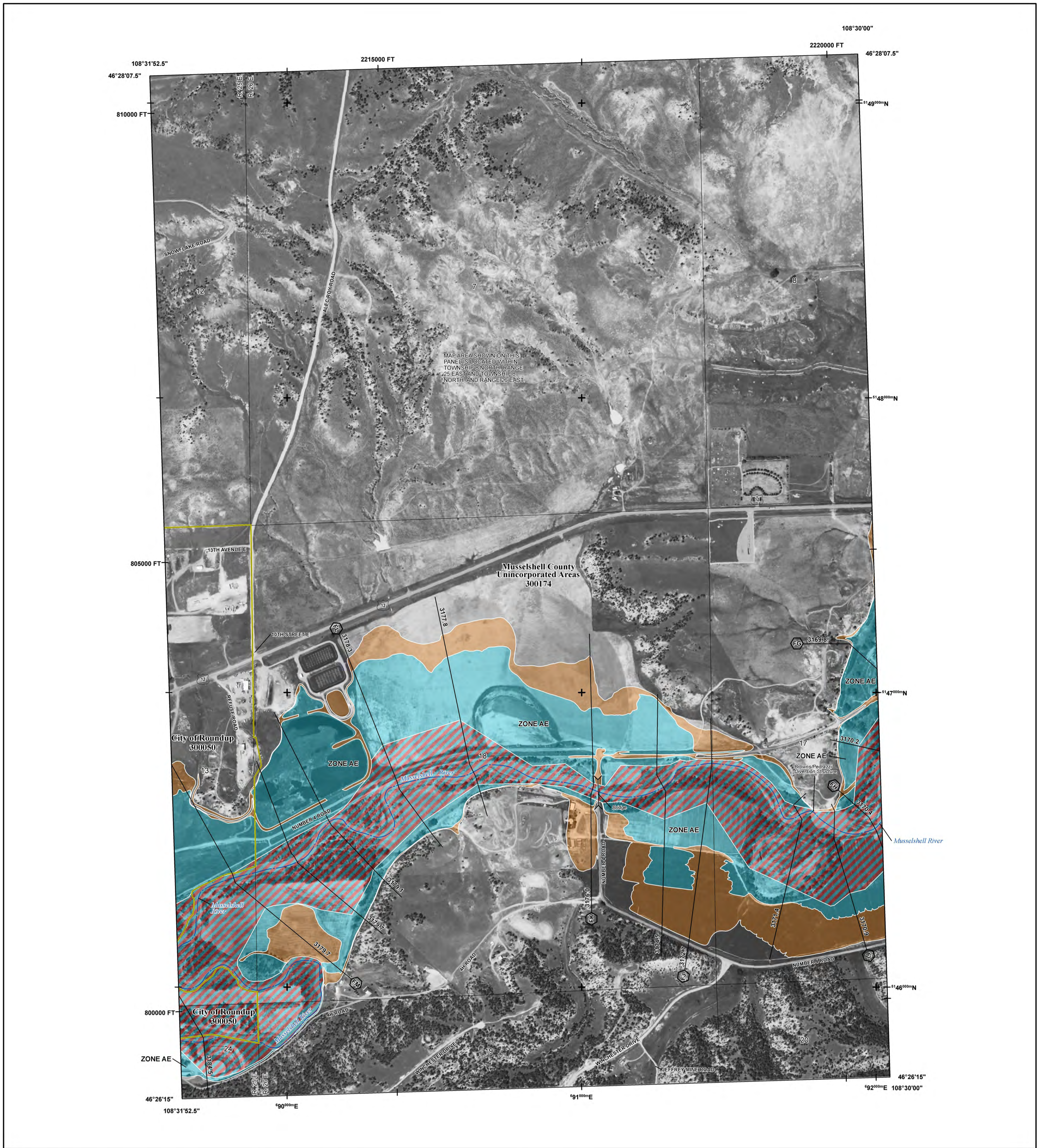
PANEL 833 OF 1325

COMMUNITY	NUMBER	PANEL	SUFFIX
MUSSELSHELL COUNTY	300174	0833	C
ROUNDUP, CITY OF	300050	0833	C

VERSION NUMBER
2.3.3.0

MAP NUMBER
30065C0833C

EFFECTIVE DATE
NOVEMBER 15, 2019



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A,V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes. Zone X
	Area with Flood Risk due to Levee Zone D
	NO SCREEN Area of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

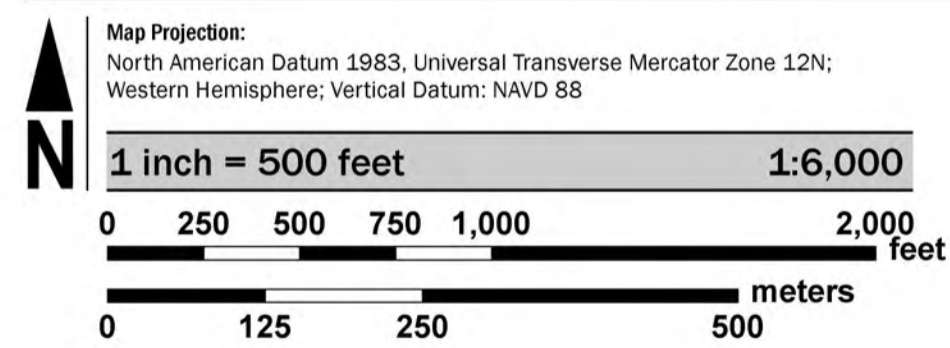
For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information Exchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <http://mxc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

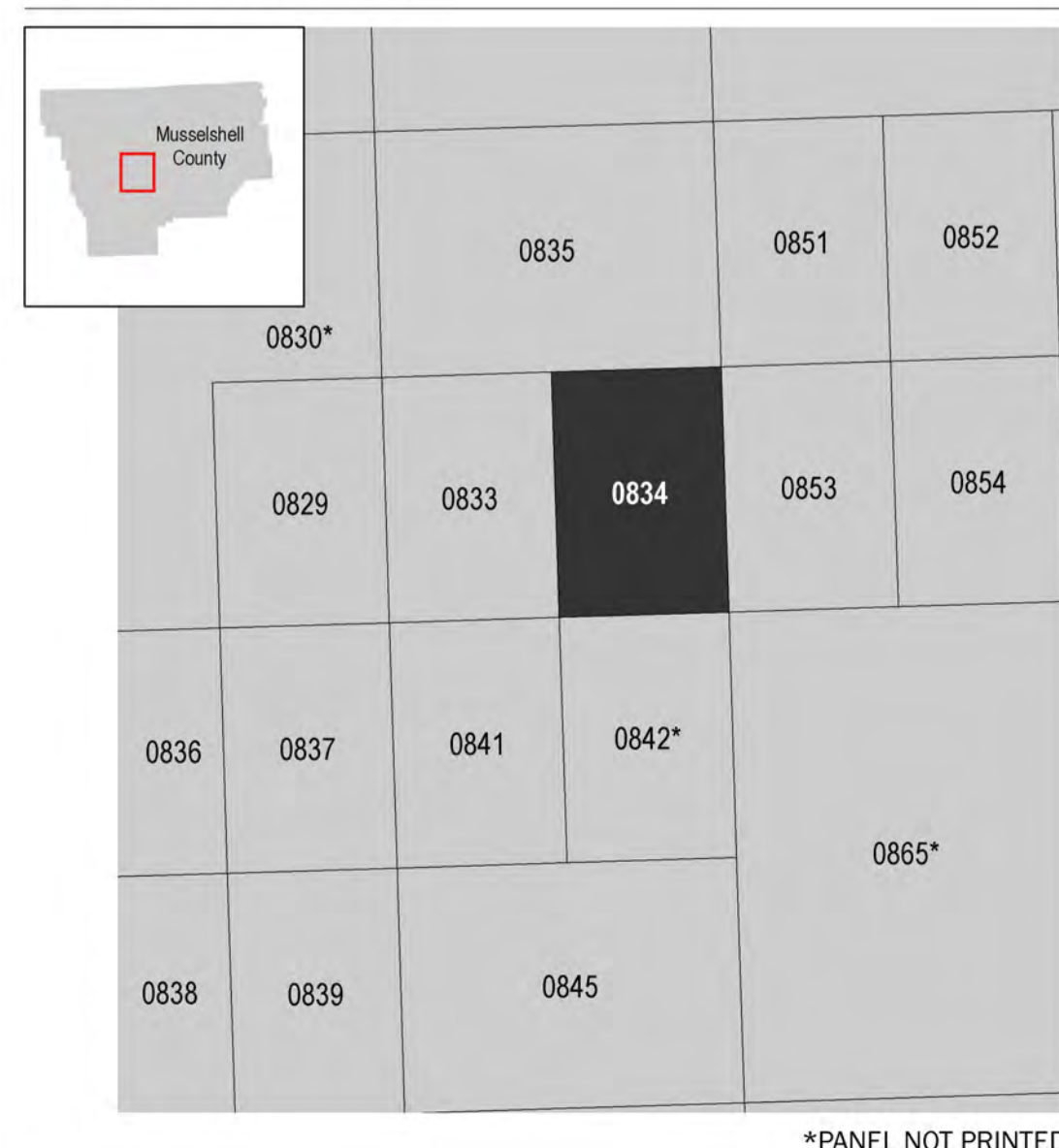
For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction. To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from digital orthophotography collected by the U.S. Department of Agriculture Farm Service Agency. This imagery was flown in 2013 and was produced with a 1.0-meter ground sample distance. Base map information shown on this FIRM was provided in digital format by Montana State Library 2015.

SCALE



PANEL LOCATOR



National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

MUSSELSHELL COUNTY, MONTANA
 and Incorporated Areas

PANEL 834 OF 1325

COMMUNITY	NUMBER	PANEL	SUFFIX
MUSSELSHELL COUNTY	300174	0834	C
ROUNDUP, CITY OF	300050	0834	C

VERSION NUMBER
2.3.3.0

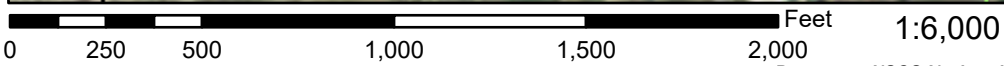
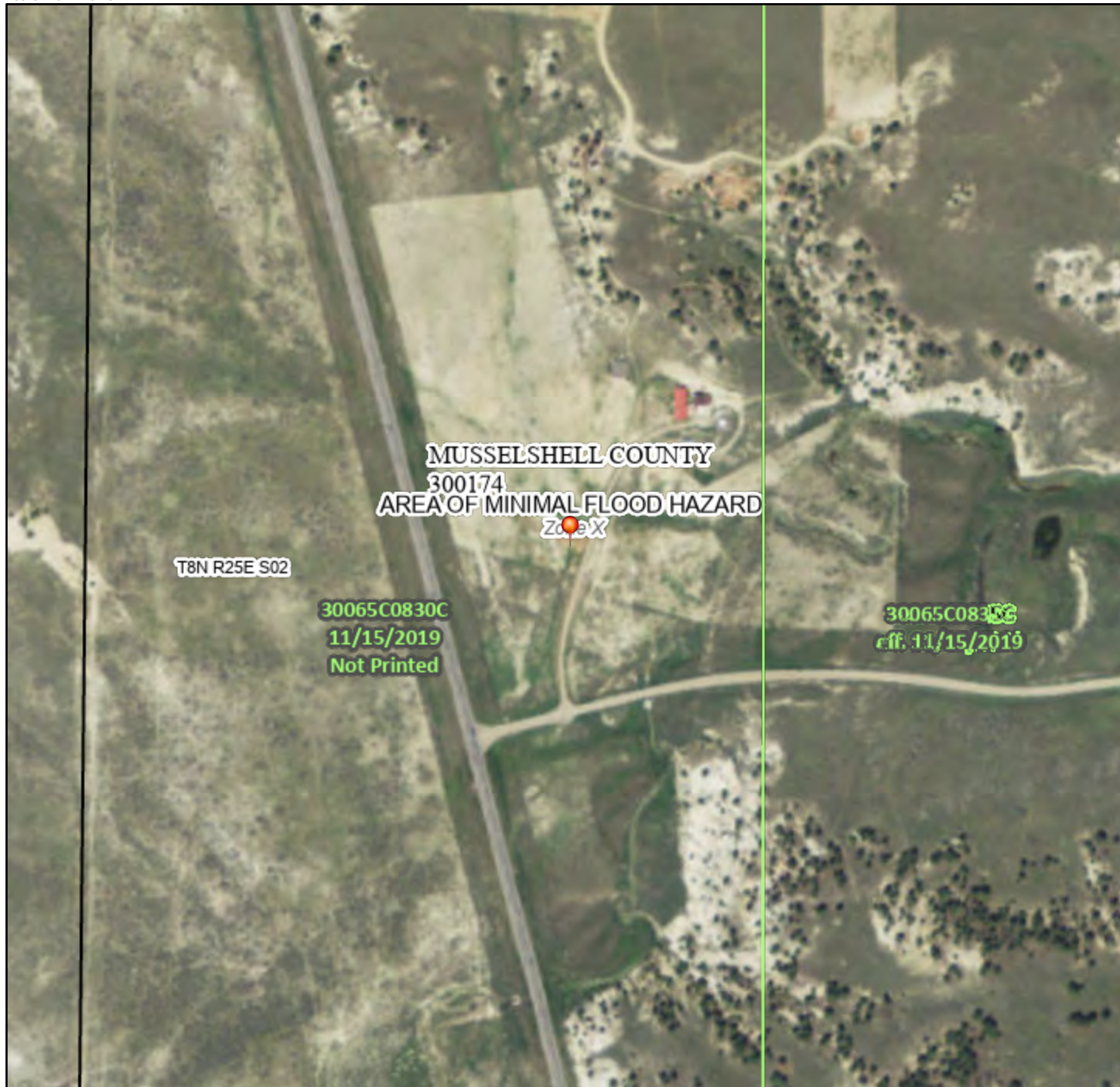
MAP NUMBER
30065C0834C

EFFECTIVE DATE
NOVEMBER 15, 2019

National Flood Hazard Layer FIRMette



108°34'10"W 46°29'4"N



108°33'33"W 46°28'39"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/3/2022 at 5:53 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Appendix J

Public Meetings

See What's *Possible*.

www.greatwesteng.com

Roundup-Mesa Proposed Water District

Proposed Water System Preliminary Engineering Report

October 5, 2022

Susan Hayes, PE
Bob Church, PE



WHY ARE WE HERE



Identified water system needs



Formation of a Water District to
Evaluate Funding Scenarios



Discuss Preliminary
Engineering Report
(PER) Initial Findings

Discuss
Environmental
Assessment (EA)
Public comment



PRELIMINARY ENGINEERING REPORT



» **Evaluate Existing Conditions**

Problem Definition
Alternative Solutions



» **Establish Estimated Costs**

Cost Estimates
Funding Scenarios



» **Solicit Public Comment**

Public Hearing

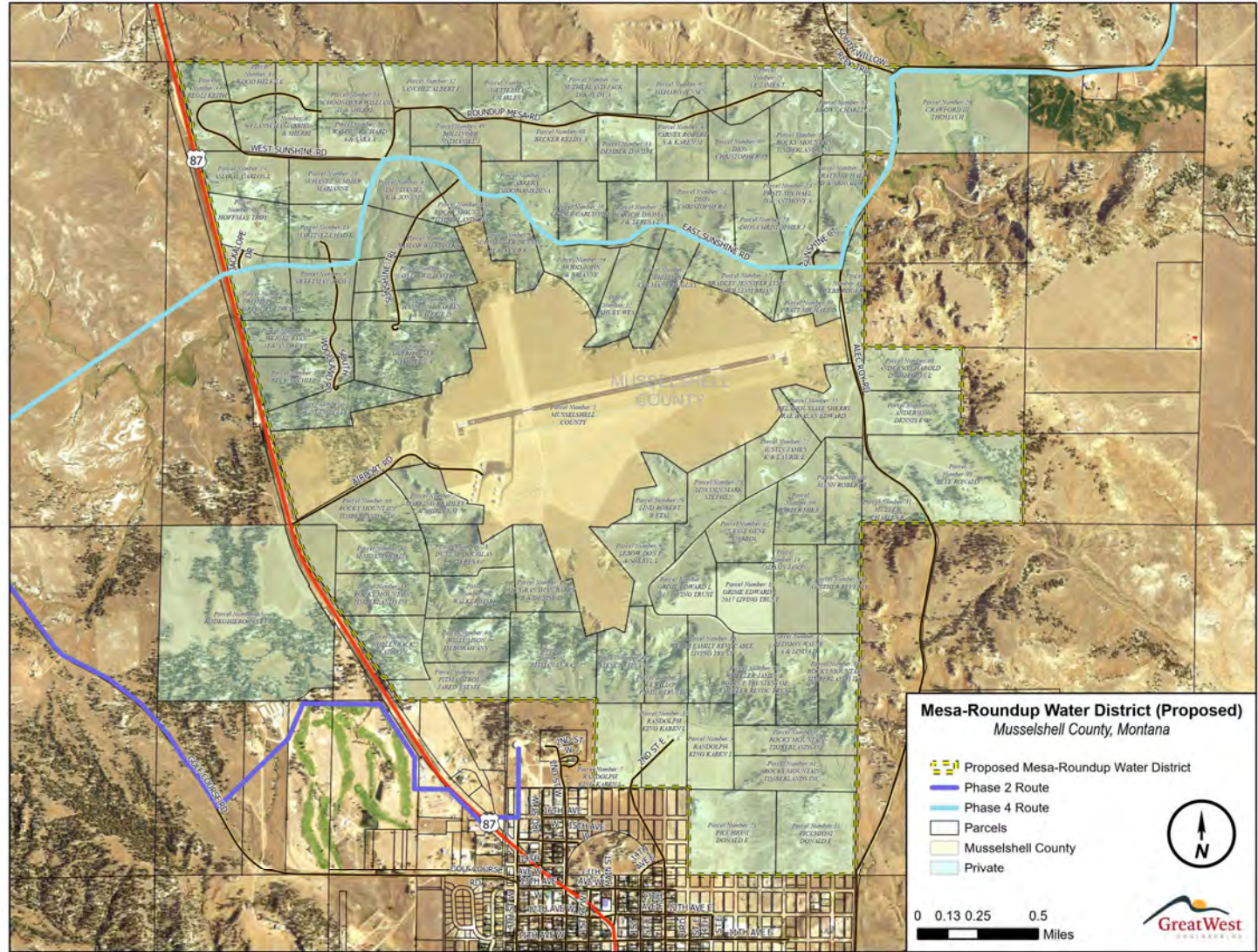


» **Required by Funding Agencies**

Technical Analysis
Environmental Assessment
Grant Applications



PLANNING AREA



DISTRICT FORMATION

- The formation of a water or sewer district within a county is not part of the PER process.
- The PER will provide a cost estimate and possible funding scenarios, however, to pursue any of the funding scenarios it is necessary for there to be a water district
- To form a water district
 - It is recommended to consult with an attorney
 - Close coordination with the County Clerk will be necessary
 - Determination of when an election will be held
 - Decide on a district boundary
 - Hold an election - **40% of all qualified electors must vote in favor of creating a district.**
 - If there are 100 qualified electors
 - There must be 40 “yes” votes in the election to create a district

POPULATION

Current Population

- Estimated current population is 94 to 114 in 47 to 57 total households (assuming 2 people per household)

2062 Design (Full Buildout) Population Estimate

- 1.16% annual growth projection
- 176 estimated design year population in 88 households

EVALUATION OF EXISTING SYSTEM



Roundup-Mesa

- Individual, private wells
- Water hauling
- No centralized source of water or distribution



MJRWS

- Currently 2 production wells
 - Buildout of 4 to 5 wells
- Regional water distribution system
- Storage capacity for average day demand of entire system
- No water treatment beyond disinfectant residual (chlorine)
- Anticipated date of Roundup connection – end of 2024

WATER USE EVALUATION

Water Use Assumptions

Year	Gallons per Capita per Day	Population	Total Daily Water Use	Total Annual Water Use
2022	153	118	18,054	6,589,700
2062	153	176	26,928	9,828,720

Water Demands

Year	Estimated Population	Average Day Use (gpd)	Maximum Day Use (gpd)
2022	118	18,054	63,189
2062	176	26,928	94,248

WATER SUPPLY & TREATMENT

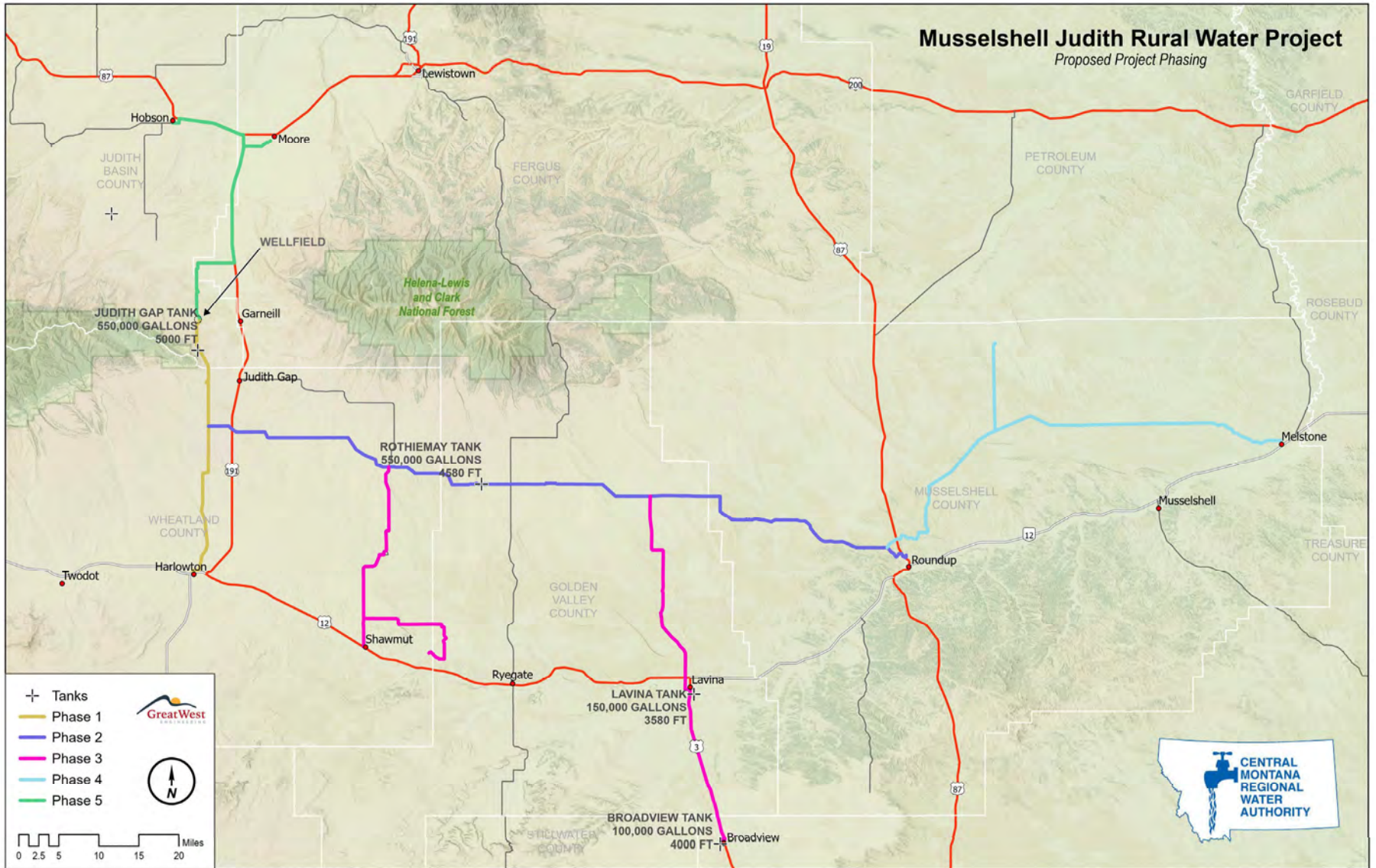
- Water supply will be the Musselshell Judith Rural Water System
- Phase 1 of the system is currently under construction
- The construction of the line to Roundup will be in 2023/2024 and construction of the line to Melstone will be in 2025
- Potential connection of the Roundup Mesa subdivision may be part of both the Roundup and Melstone Phases depending on hydraulic calculations



- No treatment of the water is required
- Disinfection with chlorine gas will be utilized
- Total capacity of the wellfield at buildout will meet or exceed 2,750 gpm

Musselshell Judith Rural Water Project

Proposed Project Phasing



WATER SUPPLY ALTERNATIVES



- Current private supplies consist of wells or water hauling
- Cost of hauling water is typically higher than being connected to a central supply
- Cost of drilling/maintaining private wells varies, but can be more expensive than being connected to a central supply
- MJRWS supply has been proven through the construction of two production wells to date
- Quality of the water meets all primary and secondary drinking water standards.

STORAGE

- Storage is included in the design of the MJRWS
- 24 hours of average day demand storage will be constructed, a total of 1.12 million gallons
- Maximum day demand will be supplied through well capacity and sizing of the transmission mains
- Peak instantaneous demand for Roundup-Mesa subdivision can be met with the MJRWS storage
- NO fire flow storage or capacity is included in the design of the MJRWS

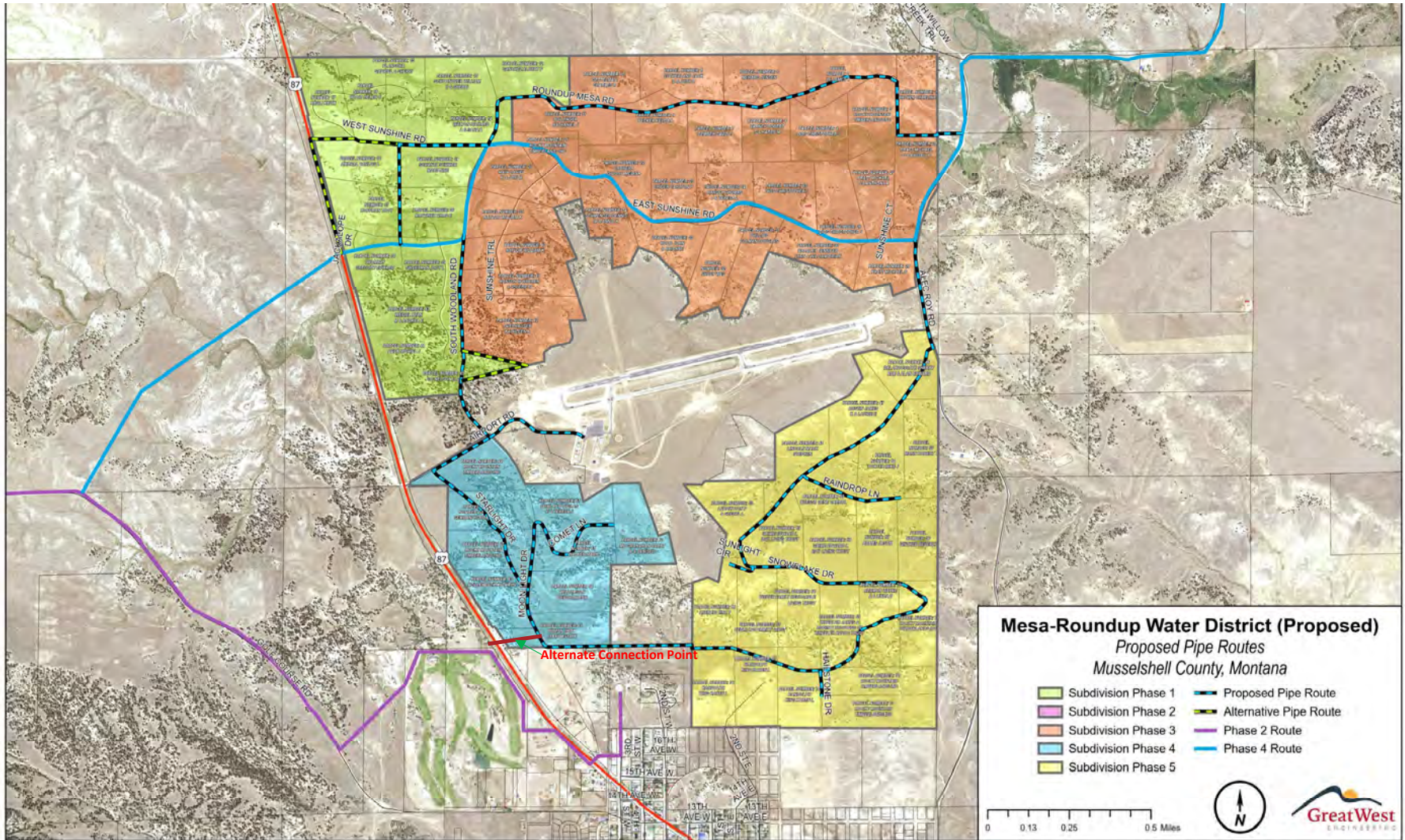


STORAGE ALTERNATIVES



- Sufficient storage is supplied through the connection to the MJRWS for normal operations
- No fire flow storage is included – an evaluation of whether or not the subdivision would like to include their own tank can be completed
- The need for a tank should be considered along with the type of fire fighting equipment that would be used
- A tank adds capital cost as well as long term O&M costs that should be evaluated if additional storage is desired

DISTRIBUTION SYSTEM



DISTRIBUTION SYSTEM ALTERNATIVES



- One or two pressure zones
- High pressure areas with individual PRVs
- Fully metered system
- Possible fill hydrants for rural firefighting (not standard fire hydrants)
- Construction in one or more phases
- Easements and ROW

ALTERNATIVES ANALYSIS

Supply Alternatives

Alt. S-1: No Action

Alt. S-2: Connect to MJRWS

Treatment Alternatives

None

Storage Alternatives

Alt. R-1: Utilize MJRWS Storage

Alt. R-2: Construct Local Storage

Distribution System Alternatives

Alt. D-1: No Action

Alt. D-2: High pressure with PRVs

Alt. D-3: Lower Pressure

Alt. D-4: Combination

PREFERRED ALTERNATIVE

- Connect to the MJRWS
- One pressure zone
- Minimal or no additional storage
- Utilize existing road ROW to limit easement acquisition
- Easement acquisition where necessary to create a looped system with minimum dead end lines



FUNDING SCENARIOS

FUNDING OPTIONS FOR ROUNDUP MESA SUBDIVISION PROPOSED WATER SYSTEM IMPROVEMENTS			
ITEM	SCENARIO #1 Limited CMRWA	SCENARIO #2 w/ CMRWA loop	SCENARIO #2c w/CMRWA loop (SRF)
	MCEP, RRGL, RD Grant/Loan 45/55 (40-yrs, 2.75% ⁴)	MCEP, RRGL, RD Grant/Loan 45/55 (40-yrs, 2.75% ⁴)	MCEP, RRGL, SRF Loan (30- yrs, 2.5%), SRF Forgiveness <i>(discuss forgiveness amt with SRF staff)</i>
Distribution Alternative 1	\$4,542,630	\$2,472,540	\$2,472,540
Rounded Total	\$4,542,630	\$2,472,540	\$2,472,540
DNRC Grant	\$125,000	\$125,000	\$125,000
MCEP Grant	\$750,000	\$750,000	\$750,000
RD Grant/SRF Forgiveness	\$1,650,434	\$718,893	\$750,000
RD Loan /SRF Loan	\$2,017,197	\$878,647	\$847,540
<i>User Capital Cost/Month²</i>	<i>\$74.45</i>	<i>\$32.43</i>	<i>\$38.81</i>
Additional O&M Due To Project	\$30,000	\$30,000	\$30,000
TOTAL ANNUAL O&M COSTS	\$30,000	\$30,000	\$30,000
<i>User O&M Cost/Month²</i>	<i>\$25.51</i>	<i>\$25.51</i>	<i>\$25.51</i>
USER COST/MONTH²	\$99.96	\$57.94	\$64.32
Existing Other System Cost/Month	\$48.00	\$48.00	\$48.00
Total Proposed Water & Sewer Cost/Month	\$147.96	\$105.94	\$112.32
Water Only Target Rate ³	\$40.58	\$40.58	\$40.58
PERCENT OF COMBINED TARGET RATE	364.6%	261.1%	276.8%

- The above table assumes a total of 98 EDUs at buildout; 88 residential EDUs and 10 commercial (airport)



ENVIRONMENTAL ASSESSMENT (TO BE COMPLETED)

Factors Considered:

- Land Cover
- Land Management
- Soils and Farmland Classification
- Biological Resources
- Water Resources
- Floodplains
- Wetlands
- Cultural and Historical Resources
- Socio-economic and Environmental Justice Issues
- Hazardous Materials

Public document
analyzing complexity
and seriousness of
environmental issues

Local, State, Federal,
and Tribal agencies
were contacted

Public comment
accepted

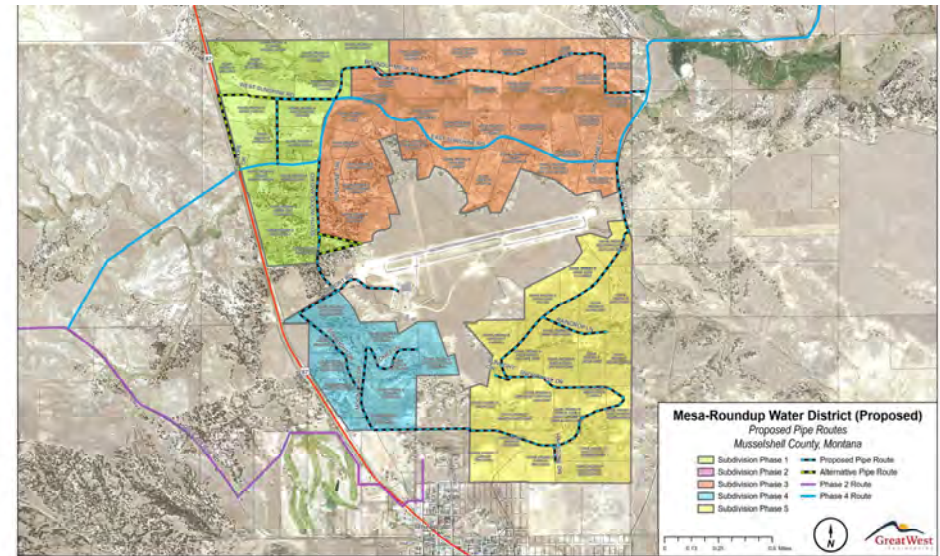
ENVIRONMENTAL ASSESSMENT

Correspondence to be sent to:

- US Fish and Wildlife Service
- Montana Historical Society
- DNRC Water Resources
- US Department of Transportation
- US Army Corps of Engineers
- Other pertinent agencies

Decision:

- Either no significant impact or determination that further study is required



WHERE DO WE GO FROM HERE

#1 DISTRICT FORMATION



Funding Applications

May/June/July 2024



Funding Awards

May 2025



Design

July 2025



Bidding

January 2026



Construction

Spring 2026

QUESTIONS

**Water/Wastewater ▪ Transportation ▪ Grant Services ▪ Solid Waste ▪
Structural ▪ Bridges ▪ Natural Resources ▪ Planning**

BILLINGS

6780 Trade Center Avenue
Billings, MT 59101
Phone (406) 652-5000

BOISE

3050 N. Lakeharbor Lane,
Suite 201
Boise, ID 83703
Phone (208) 576-6646

GREAT FALLS

702 2nd Street South #2
Great Falls, MT 59405
Phone (406) 952-1109

HELENA

2501 Belt View Drive
Helena, MT 59604
Phone (406) 449-8627
Fax (406) 449-8631

SPOKANE

9221 N. Division St.,
Suite F
Spokane, WA 99218
Phone (509) 413-1430



Central Montana Regional Water Authority
 ROUNDUP MESA MEETING
 October 05, 2022
 Roundup Commons

Name	Address	Representing	E-mail/Telephone
Thoms Harsel	81 E Saushear Rd	S-1/R	tufboti@yahoo.com
Corry CRIDER	63E SUNSHINE SEEF	NONE	
Bob Karney	172 Roundup Mesa Rd		406-351-1531
DAVE Shreave	185 Snowflake Rd		Prairie Fire 756@gmail.com
Robert + Louise Mann	19 Snowflake Rd		Cassiemann10@yahoo.com 323-3020
Mike + Debby McEndless	26 Roundup Mesa Rd		Mikeanddebby@fairpoint.net 509 480-0854
Lura Pitman (Tray Jared Pitman)	18 S Moonlight Dr		lurasmail@gmail.com
Phillip Finkbeiner	Aleg Ray Rd 184		360-815-6715 P.O. Box 321
Dennis Anderson	180 Alec Ray Rd		406-749-0566

See What's *Possible*.

www.greatwesteng.com

Roundup-Mesa Proposed Water District

Proposed Water System Preliminary Engineering Report

March 8, 2023

Susan Hayes, PE
Bob Church, PE



WHY ARE WE HERE



Identified water system needs



Formation of a Water District to Evaluate Funding Scenarios



Discuss Preliminary Engineering Report (PER) Initial Findings

Discuss Environmental Assessment (EA) Public comment



PRELIMINARY ENGINEERING REPORT



» **Evaluate Existing Conditions**

Problem Definition
Alternative Solutions



» **Establish Estimated Costs**

Cost Estimates
Funding Scenarios



» **Solicit Public Comment**

Public Hearing

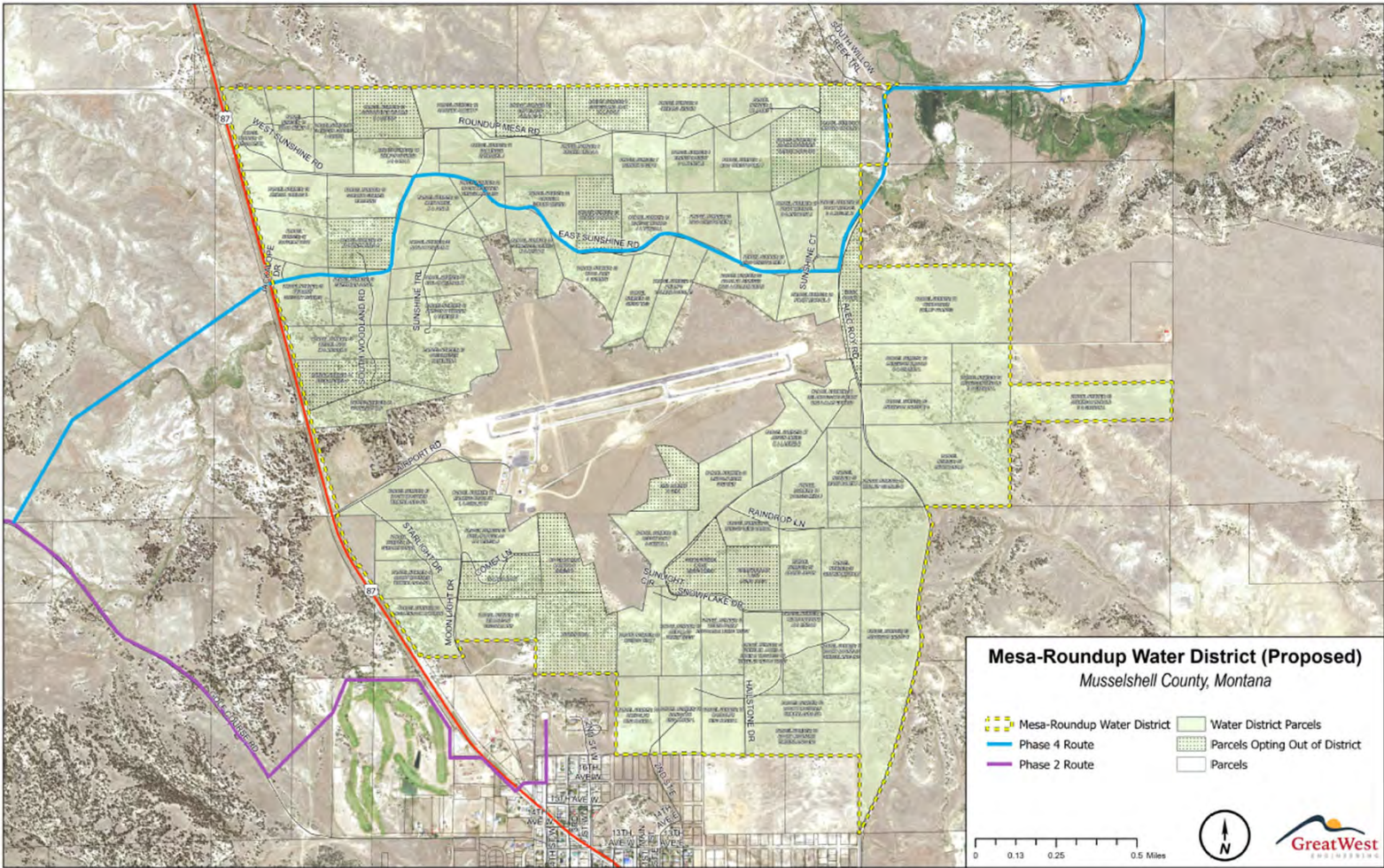


» **Required by Funding Agencies**

Technical Analysis
Environmental Assessment
Grant Applications



PLANNING AREA



DISTRICT FORMATION

- The formation of a water or sewer district within a county is not part of the PER process.
- The PER will provide a cost estimate and possible funding scenarios, however, to pursue any of the funding scenarios it is necessary for there to be a water district.
- To form a water district
 - It is recommended to consult with an attorney
 - Close coordination with the County Clerk will be necessary
 - Determination of when an election will be held
 - Decide on a district boundary
 - Hold an election - **40% of all qualified electors must vote in favor of creating a district.**
 - If there are 100 qualified electors
 - There must be 40 “yes” votes in the election to create a district

POPULATION

Current Population

- Estimated current population is 94 to 114 in 47 to 58 total households (assuming 2 people per household)

2062 Design (Full Buildout) Population Estimate

- 1.16% annual growth projection
- 176 estimated design year population in 81 households (maximum number of parcels within boundary)

EVALUATION OF EXISTING SYSTEM



Roundup-Mesa

- Individual, private wells
- Water hauling
- No centralized source of water or distribution



MJRWS

- Currently 2 production wells
 - Buildout of 4 to 5 wells
- Regional water distribution system
- Storage capacity for average day demand of entire system
- No water treatment beyond disinfectant residual (chlorine)
- Anticipated date of Roundup connection – end of 2024

WATER USE EVALUATION

Water Use Assumptions

Year	Gallons per Capita per Day	Population	Total Daily Water Use	Total Annual Water Use
2022	153	118	18,054	6,589,700
2062	153	176	26,928	9,828,720

Water Demands

Year	Estimated Population	Average Day Use (gpd)	Maximum Day Use (gpd)
2022	118	18,054	63,189
2062	176	26,928	94,248

WATER SUPPLY & TREATMENT

- Water supply will be the Musselshell Judith Rural Water System
- Phase 1 of the system is currently under construction
- The construction of the line to Roundup will be in 2023/2024 and construction of the line to Melstone will be in 2025
- Potential connection of the Roundup Mesa subdivision may be part of both the Roundup and Melstone Phases depending on hydraulic calculations

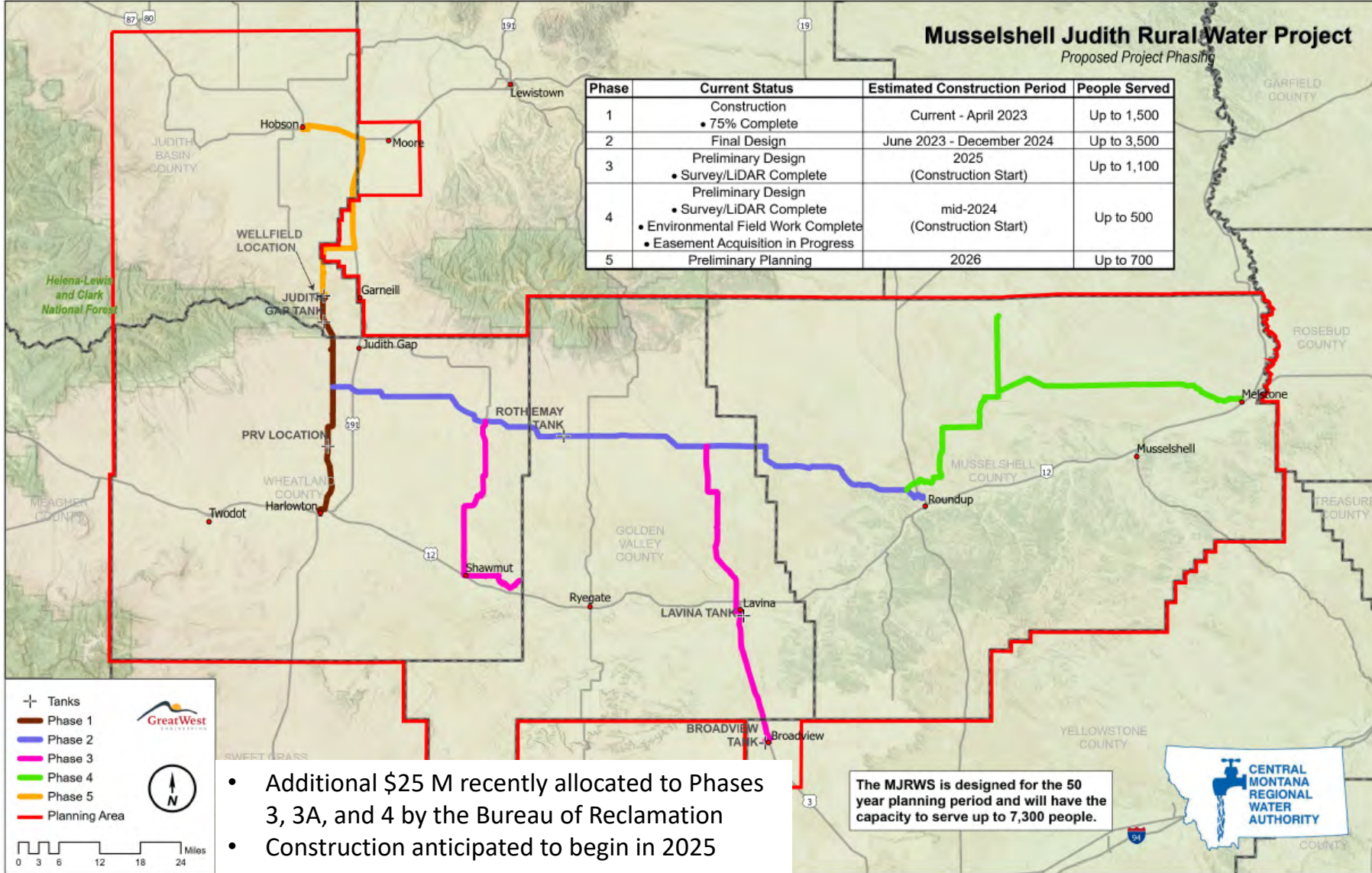


- No treatment of the water is required
- Disinfection with chlorine gas will be utilized
- Total capacity of the wellfield at buildout will meet or exceed 2,750 gpm

Musselshell Judith Rural Water Project

Proposed Project Phasing

Phase	Current Status	Estimated Construction Period	People Served
1	Construction • 75% Complete	Current - April 2023	Up to 1,500
2	Final Design	June 2023 - December 2024	Up to 3,500
3	Preliminary Design • Survey/LIDAR Complete	2025 (Construction Start)	Up to 1,100
4	Preliminary Design • Survey/LIDAR Complete • Environmental Field Work Complete • Easement Acquisition in Progress	mid-2024 (Construction Start)	Up to 500
5	Preliminary Planning	2026	Up to 700



- Additional \$25 M recently allocated to Phases 3, 3A, and 4 by the Bureau of Reclamation
- Construction anticipated to begin in 2025

The MJRWS is designed for the 50 year planning period and will have the capacity to serve up to 7,300 people.



Legend:

- ⊕ Tanks
- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5
- Planning Area

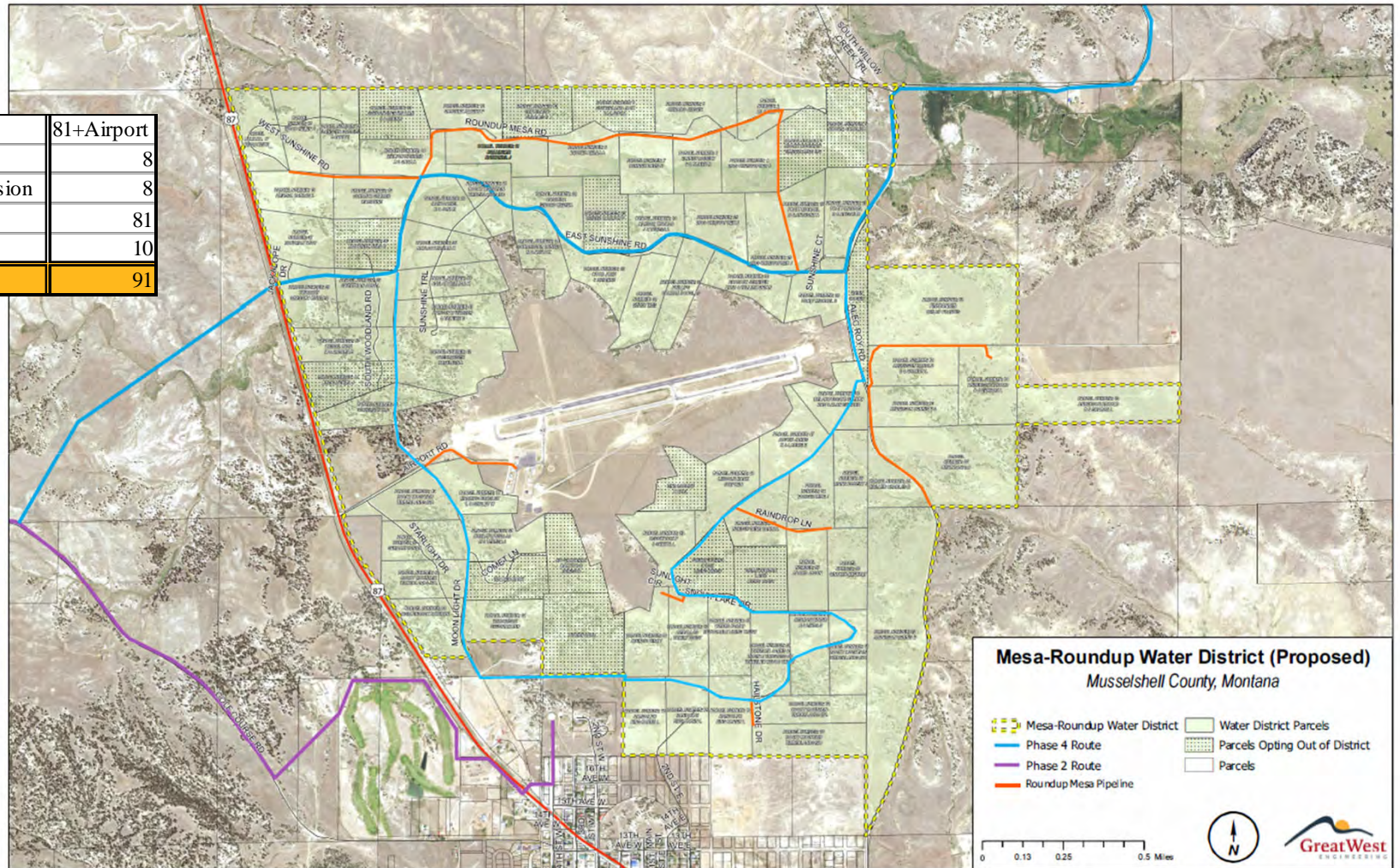
STORAGE

- Storage is included in the design of the MJRWS
- 24 hours of average day demand storage will be constructed, a total of 1.12 million gallons
- Maximum day demand will be supplied through well capacity and sizing of the transmission mains
- Peak instantaneous demand for Roundup-Mesa subdivision can be met with the MJRWS storage
- NO fire flow storage or capacity is included in the design of the MJRWS



DISTRIBUTION SYSTEM

Parcels in District	81+Airport
Parcels Opted Out	8
Parcels Outside Subdivision	8
Total District EDUs	81
Total Airport EDUs	10
Total EDUs	91



PREFERRED ALTERNATIVE

- Connect to the MJRWS
- Two pressure zones
 - Potentially 2 PRVs to create a lower pressure loop – increase to previous cost
- Minimal or no additional storage
- Utilize existing road ROW to limit easement acquisition
 - Responsibility of the proposed water district
- Easement acquisition where necessary to create a looped system with minimum dead-end lines
 - Responsibility of the proposed water district



FUNDING SCENARIOS

FUNDING OPTIONS FOR ROUNDUP MESA SUBDIVISION PROPOSED WATER SYSTEM IMPROVEMENTS			
ITEM	SCENARIO #1 Limited CMRWA	SCENARIO #2 w/ CMRWA loop	SCENARIO #2c w/CMRWA loop (SRF)
	MCEP, RRGL, RD Grant/Loan 45/55 (40-yrs, 2.75% ⁴)	MCEP, RRGL, RD Grant/Loan 45/55 (40-yrs, 2.75% ⁴)	MCEP, RRGL, SRF Loan (30- yrs, 2.5%), SRF Forgiveness <i>(discuss forgiveness amt with SRF staff)</i>
Distribution Alternative 1	\$4,815,500	\$2,999,000	\$2,999,000
Rounded Total	\$4,815,500	\$2,999,000	\$2,999,000
DNRC Grant	\$125,000	\$125,000	\$125,000
MCEP Grant	\$750,000	\$750,000	\$750,000
RD Grant/SRF Forgiveness	\$1,773,225	\$955,800	\$750,000
RD Loan /SRF Loan	\$2,167,275	\$1,168,200	\$1,374,000
<i>User Capital Cost/Month²</i>	<i>\$115.27</i>	<i>\$62.14</i>	<i>\$90.66</i>
Additional O&M Due To Project	\$32,139	\$32,139	\$32,139
TOTAL ANNUAL O&M COSTS	\$32,139	\$32,139	\$32,139
<i>User O&M Cost/Month²</i>	<i>\$39.39</i>	<i>\$39.39</i>	<i>\$39.39</i>
USER COST/MONTH²	\$154.66	\$101.53	\$130.04
Cost of 7,500 gal/month from CMRWA	\$48.00	\$48.00	\$48.00
Total Proposed Water Cost/Month	\$202.66	\$149.53	\$178.04
Water Only Target Rate ³	\$40.03	\$40.03	\$40.03
PERCENT OF COMBINED TARGET RATE	506.3%	373.5%	444.8%

- The above table assumes a total of 68 EDUs – current estimated residences plus 10 EDUs at the airport



COST BY EDU

- » **Starting rate based on current EDUs, \$150 per month per unit (alternative includes CMRWA contribution to route).**
- » **Anticipated end rate of \$124 per month per unit at buildout, provided recommended funding scenario is achieved.**
 - » Rate is higher than previously discussed \$110 at buildout due to increased pipe length as well as addition of 2 main PRVs to allow for a lower pressure loop.
 - » Cost is a planning estimate that will be affected by final hydraulic design and layout.

Cost Based on Equivalent Dwelling Unit (EDU) Proposed Water System Improvements			
	Scenario #1	Scenario #2	Scenario #2c
Total Current EDUs (68)			
User Cost/Month	\$202.66	\$149.53	\$178.04
% of Combined Target Rate	506.3%	373.5%	444.8%
Projected 2045 EDUs (79)			
User Cost/Month	\$183.11	\$136.70	\$161.61
% of Combined Target Rate	457.4%	341.5%	403.7%
Design Buildout EDUs (91)			
User Cost/Month	\$163.57	\$123.87	\$145.17
% of Combined Target Rate	408.6%	309.4%	362.7%



ENVIRONMENTAL ASSESSMENT

Factors Considered:

- Land Cover
- Land Management
- Soils and Farmland Classification
- Biological Resources
- Water Resources
- Floodplains
- Wetlands
- Cultural and Historical Resources
- Socio-economic and Environmental Justice Issues
- Hazardous Materials

Public document analyzing complexity and seriousness of environmental issues

Local, State, Federal, and Tribal agencies were contacted

Public comment accepted

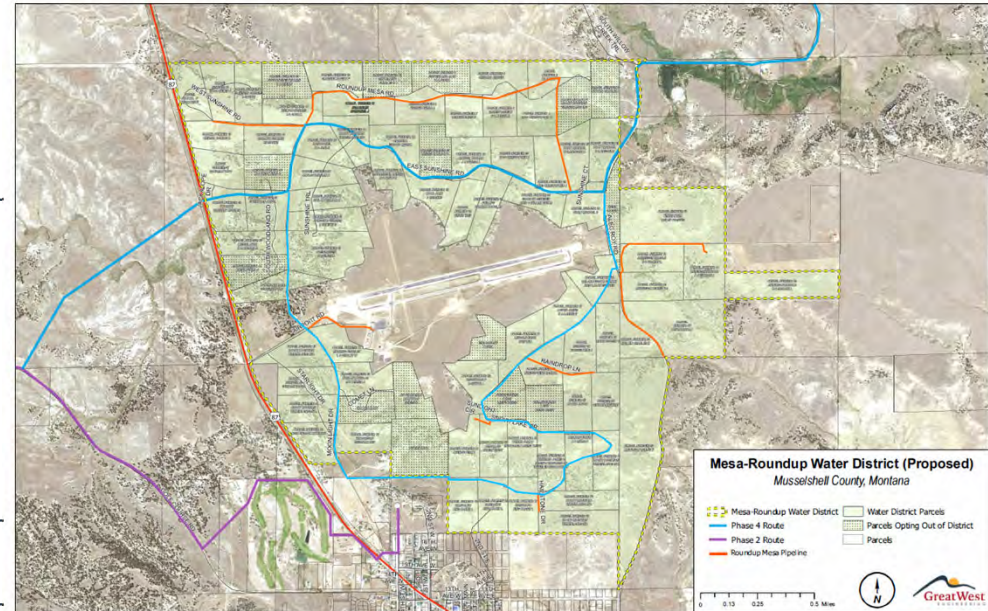
ENVIRONMENTAL ASSESSMENT

Comments received from:

- US Fish and Wildlife Service
- Montana Historical Society
- Other pertinent agencies

Decision:

- Further study is required (SHPO)



WHERE DO WE GO FROM HERE

#1 DISTRICT FORMATION



Funding Applications

May/June/July 2024



Funding Awards

May 2025



Design

July 2025



Bidding

January 2026



Construction

Spring 2026

QUESTIONS

**Water/Wastewater ▪ Transportation ▪ Grant Services ▪ Solid Waste ▪
Structural ▪ Bridges ▪ Natural Resources ▪ Planning**

BILLINGS

6780 Trade Center Avenue
Billings, MT 59101
Phone (406) 652-5000

BOISE

3050 N. Lakeharbor Lane,
Suite 201
Boise, ID 83703
Phone (208) 576-6646

GREAT FALLS

702 2nd Street South #2
Great Falls, MT 59405
Phone (406) 952-1109

HELENA

2501 Belt View Drive
Helena, MT 59604
Phone (406) 449-8627
Fax (406) 449-8631

SPOKANE

9221 N. Division St.,
Suite F
Spokane, WA 99218
Phone (509) 413-1430



Central Montana Regional Water Authority

March 8, 2023

Roundup, MT 59072

PER MEETING #2 ROUNDUP MESA SUBDIVISION

178 - 108 Snowflake Road

Name

Address - P.O. Box 6 LOT #

E-mail/Telephone

(406) 351-1531

David & Judy Shore - 69 Prairie Fire 75@gmail.com

Ashley Mann 165 Roundup Mesa Rd Ashleyman532@gmail.com

Teresa Harsch 81 East Sunshine Rd tufbot1@yahoo.com

Michelle & Harvey Blegen 311 Ace-Boy Rd blengengallways@mtdrivers.com

Willie Pitt - 6 Snowflake Ct Askeyswood@gmail.com

Central Montana Regional Water Authority
 ROUNDUP MESA MEETING
 October 05, 2022
 Roundup Commons

Name Address Representing E-mail/Telephone

Mike Coffey Musselshell

Charles GERTSCHMAN 1st Rmd A

Mike Butler Shovelhead @ judy.sutherlands@mslbc.net

Judy Sutherland Self

Jane Beck Self

Catherine Dembak 158 Roundup Mesa Self 3237008

Melvin Brown Self Brownjandco@yahoo.com

Classifieds - Legals - Notices

Legal Notice

**MONTANA FOURTEENTH JUDICIAL DISTRICT COURT
MUSSELSHELL COUNTY**

IN THE MATTER OF:) Cause No. DN-20-11
)
C.A.D.,)
) **SUMMONS FOR**
) **PUBLICATION**
)
Youth in Need of Care.)

TO: Putative Father's
YOU ARE HEREBY NOTIFIED that a *Petition for Termination of Any Putative Father's Parental Rights and Permanent Legal Custody* ("the Petition") regarding **C.A.D.**, the child who is the subject of the above-captioned proceedings brought pursuant to Title 41, Chapter 3 of the Montana Code Annotated, has been filed in Cause No. DN-20-11 in Montana Fourteenth Judicial District Court, in Musselshell County by the Montana Department of Public Health and Human Services, Child and Family Services Division (CFS), located at 506 Main Street, Roundup, MT.

The Petition requested that CFS be granted the following relief: Termination of Any Putative Father's Parental Rights and Permanent Legal Custody. A copy of the Petition is filed with the Clerk of District Court for Musselshell County, (406) 323-1413, and is hereby served upon you at this time by publication of the filing.

The child who is the subject of the proceedings, **C.A.D.**, was born on January 6, 2018, in Billings, Montana. The child's birth mother is Amber Dodd; other names she has used include Amber Stewart and Amber Davis, and her rights have been terminated. The child's presumed natural father is Derek Davis and his rights have been terminated.

NOW, THEREFORE, YOU ARE HEREBY NOTIFIED, pursuant to *41-3-609(1)b) and * 41-2-102 (1)(a)(i) MCA, that the Department petitions the Court for Termination of Any Putative Father's Parental Rights and Permanent Legal Custody. A copy of the *Petition for Termination of Any Putative Father's Parental Rights and Permanent Legal Custody and Order Setting Hearing on Petition for Termination of Any Putative Father's Parental Rights and Permanent Legal Custody* are filed with the Clerk of District Court for Musselshell County, located at 506 Main Street, Roundup, MT 59072. (406) 323-1413. The Department, CFS is located at 26 Main Street, Roundup, MT 59072. (406) 320-2293.

NOW, THEREFORE, YOU ARE HEREBY DIRECTED to appear on the 14th day of March, 2023, at 2:00 o'clock p.m. at the Courtroom of the above entitled Court at the Courthouse, 506 Main Street, in Roundup, Musselshell County, Montana, then and there to show cause, if any you may have, why said youth should not be declared youth in need of care; why the Department should not be granted Termination of Any Putative Father's Parental Rights and Permanent Legal Custody.

WITNESS my hand and the seal of this Court this 30th day of January, 2023

Clerk of District Court
By: Deputy Clerk

(Pub. Feb. 8, 15 & 22, 2023)

**MONTANA FOURTEENTH JUDICIAL DISTRICT COURT,
MUSSELSHELL COUNTY**

In the Matter of the Estate of) **Probate Case No.:**
)
RONALD BURNETT,) **Judge:**
)
Deceased.) **NOTICE TO CREDITORS**

NOTICE IS HEREBY GIVEN that the undersigned has been appointed Personal Representative of the above-named estate. All persons having claims against the Decedent are required to present their claims within four months after the date of the first publication of this notice or said claims will be forever barred.

Claims must either be mailed to the Personal Representative, **Leslie Herbert**, return receipt requested, in care of his attorney, Molly Considine of Patten, Peterman, Bekkedahl & Green, PLLC PO Box 1239 Billings, Montana 59103, or filed with the Clerk of the above Court.

Dated this ____ day of January, 2023.

Leslie Herbert, Personal Representative of the Estate of Ronald Burnett

(Pub. Feb. 15, 22 & Mar. 1, 2023)

HELP WANTED

HELP WANTED NOTICE

Musselshell County will be taking applications for a fulltime Fleet-Vehicle Maintenance/Operator for the County Road Dept. February 13, 2023 until filled.

Applicant must have a valid Class A Federal commercial driver's license, be able to perform heavy manual labor, pass a physical examination and random drug testing. Must have mechanical experience and experience operating heavy equipment is a plus. Reporting area will be the Musselshell County Shop in Roundup, Montana with starting salary \$18.35 per hour plus benefits. Experience will be taken into consideration.

Applications and job description can be picked up at the Clerk & Records Office in the Musselshell County Court House, 506 Main St., Roundup, MT 59072

Musselshell County is an EOE. The County Commissioners reserve the right to reject all applications not in the best interest of Musselshell County.

Dated this 7th DAY of February 2023 at Roundup Montana
(Pub. Feb. 15 & 22, 2023)

THE CITY OF ROUNDUP

Will be hiring LIFEGUARDS

Applications may be picked up at the City Office. Applicants must be 15 years old by June 1, 2023 or work start date. Applicants will be required to complete advanced lifesaving & water safety, standard first aid, & CPR for the professional rescuer. Applicants may be subject to a background check.

All applications must be returned to the City Office by 5:00 on Tuesday February 28, 2023.
(Pub. Feb. 15 & 22, 2023)

FT Help Wanted

Parts Manager for Musselshell Valley Equipment, Wage D.O.E. plus benefits. Apply at 418 Main
For more info call Mitch
(406) 323-2605

From The Musselshell County Sheriff's Office

02/12/23 00:23:27 Traffic Hazard
02/12/23 06:36:17 Domestic
02/12/23 09:08:10 Info
02/12/23 15:04:48 Medical
02/12/23 15:51:55 Info
02/12/23 15:58:07 Theft
02/12/23 16:09:43 911 No
02/12/23 16:27:30 Fire Wildland
02/12/23 16:47:38 911 Hang Up
02/12/23 20:30:42 Traffic
02/12/23 20:58:13 Traffic Stop
02/13/23 04:05:56 Info
02/13/23 06:18:13 911 Hang Up
02/13/23 08:56:09 Medical
02/13/23 10:24:15 Medical
02/13/23 11:19:17 Medical
02/13/23 13:34:28 911 Hang Up
02/13/23 16:47:09 Traffic
02/13/23 17:46:50 Welfare
02/13/23 18:07:29 Animal
02/13/23 19:17:03 Info
02/13/23 19:47:35 911 No

Public Notice

NOTICE OF PUBLIC HEARING

The Mesa Roundup Subdivision potential water district and Musselshell County will hold a public hearing on Wednesday, February 22, 2023, beginning at 6:00 p.m. at the Musselshell Commons Building, 700 block of 2nd St. W, Roundup, MT 59072. The County and potential water district have scheduled the hearing to obtain public comments regarding proposed construction of a public water system. With assistance from Great West Engineering, the County and potential water district are preparing a water system preliminary engineering report (PER) and are considering preparing applications for funding from the Montana Department of Commerce, Montana Department of Natural Resources and Conservation, USDA Rural Development, and/or the Department of Environmental Quality's Drinking Water State Revolving Fund Program.

At the public hearing, representatives of the County, the potential water district, and Great West Engineering will explain the purpose of the project, the project area, the scope of work, budget, possible sources of funding, and any costs that may result for local citizens because of the project. Great West Engineering will also present its assessment of the project's impact on the environment. Copies of the draft environmental assessment and PER will be available for review following the hearing upon request. During the public hearing, residents may ask questions and express their opinions regarding the project and its impact on the proposed district. Residents can submit written comments and questions about the project at any time by mailing them to Great West Engineering, Attn: Susan Hayes, 2501 Belt View Dr, Helena, MT 59601. Residents may also contact the Project Manager for Great West Engineering at (406) 431-8438 or shayes@greatwesteng.com with questions.
(Pub. Feb. 15 & 22, 2023)

Notice of Availability of Request for Proposals For Water System Operation Services

The Central Montana Regional Water Authority (CMRWA) is requesting proposals for Water System Operation Services to assist the CMRWA in operating the newly constructed regional water system from the well-sites west of Garneill, MT to Harlowton, MT in compliance with requirements by all participating funding agencies and sources, and all applicable requirements of the MT Dept. of Environmental Quality (DEQ) and other regulatory authorities having jurisdiction over this project. Copies of the detailed Request For Proposals (RFP), including a description of the services to be provided and the factors used to evaluate the responses, can be obtained by contacting Monty L. Sealey, Project Administrator, 34 3rd Ave. West, P.O. Box 660 Roundup, MT 59072; telephone during regular business hours at 406-860-5864; e-mail at cmrcd@midrivers.com. All responses to the detailed RFP for Water System Operation Services must be received by 5:00 PM, Tuesday, March 8, 2023.
(Pub. Feb. 15 & 22, 2023)

MUSSELSHELL COUNTY/ROUNDUP MUNICIPAL AIRPORT REQUEST FOR QUALIFICATIONS

ROUNDUP MUNICIPAL AIRPORT is soliciting requests for qualifications and experience to be used in selecting a Principal Consultant to provide AVIATION PLANNING SERVICES or ARCHITECTURAL/ENGINEERING SERVICES FOR AIRPORT DEVELOPMENT PROJECTS for Musselshell County/Roundup City Airport. Services are outlined in FAA Advisory Circular 150/5100-14E, Change 1, SECTION 1.4.1 (PLANNING) or SECTION 1.4.2 (DEVELOPMENT) for the following project(s): Design and construct a terminal and hanger. Electrical work and designs as needed. Other planning survey or design projects as needed by the Roundup Municipal Airport. THE SERVICES ARE LIMITED TO THOSE SPECIFIC PROJECTS THAT THE SPONSOR REASONABLY EXPECTS TO INITIATE WITHIN 5 YEARS OF THE EFFECTIVE DATE OF THE INITIAL CONTRACT.

The work may be accomplished during the course of multiple grants. All parties are advised that some of the services may not be required and that the Sponsor reserves the right to initiate additional procurement action for any of the services included in the initial procurement.

If more than one party is selected, the expected projects to be performed by each party will be defined, together with the statement of work and the required services, at the time of the procurement action. The Sponsor will provide notification to each firm of the projects they are being awarded. Please send all RFQ's to the Clerk & Records Office, 506 Main Street, Roundup, MT 59072 by end of day March 3, 2023
(Pub. Feb. 22 & Mar. 1, 2023)

Low Income Assistance Available to Mid-Rivers Customers

Mid-Rivers Communications offers Lifeline low-income assistance to qualifying subscribers with discounts of \$9.25 per month on qualifying Internet or bundles. Larger discounts are available to qualifying customers on Tribal Lands. Mid-Rivers also participates in the Affordable Connectivity Program (ACP), a government program that can further reduce Internet bills for qualifying customers. ACP discounts are up to \$30 per month, or \$75 per month for customers on Tribal Lands. These assistance services are non-transferable and allow for only one discount per qualifying household. Eligibility standards are determined by the Federal Communications Commission (FCC). Call 1-800-452-2288, text 406-359-6887, or visit www.midrivers.com/internet/acp/ for more information.
(Pub. Feb. 22, 2023)

02/13/23 20:01:55 Traffic Stop
02/13/23 20:28:01 Traffic Stop
02/13/23 22:13:44 Welfare
02/13/23 23:08:30 Medical
02/14/23 06:28:11 Info
02/14/23 10:23:25 Medical
02/14/23 10:37:21 Info
02/14/23 12:04:13 Info
02/14/23 18:01:28 Animal
02/14/23 18:35:26 Welfare
02/14/23 19:23:11 Medical
02/15/23 06:27:52 Info
02/15/23 09:38:48 911 Hang Up
02/15/23 11:35:32 Traffic Stop
02/15/23 12:07:04 Medical
02/15/23 12:43:29 Welfare
02/15/23 16:08:34 Traffic
02/15/23 16:16:01 Motor
02/15/23 16:55:05 Animal
02/15/23 17:40:07 Suspicious
02/15/23 23:12:01 Criminal
02/16/23 09:25:47 Civil Assist
02/16/23 10:58:48 911 No
02/16/23 11:26:15 Traffic Stop
02/16/23 13:19:30 Traffic
02/16/23 13:22:41 911 No
02/16/23 20:37:29 911 Transfer
02/16/23 22:13:36 Traffic Stop
02/17/23 06:24:24 Criminal
02/17/23 07:49:16 Medical
02/17/23 09:46:26 Fire Other
02/17/23 09:58:12 Disorderly
02/17/23 16:49:17 Animal
02/17/23 18:03:02 911 No
02/17/23 18:05:06 Info
02/17/23 18:36:04 Traffic Stop
02/17/23 19:12:41 Welfare
02/17/23 20:02:01 Traffic Stop
02/17/23 20:03:39 Traffic
02/17/23 20:15:56 Traffic Stop
02/17/23 20:50:02 Traffic Stop
02/17/23 23:25:52 Info
02/18/23 08:03:46 Theft
02/18/23 12:10:25 Traffic
02/18/23 15:26:10 Traffic Stop
02/18/23 18:35:57 Fire Other
02/18/23 20:17:02 911 No
02/18/23 23:54:47 Medical

Continued From Page 2 Why Risk War

ordered the Ukrainian Ministry of Defense to destroy all state documents affiliated with the US biotech companies, 'Metabiota and Battelle' the day that missiles started flying February 24 2022, because he knew Putin was looking for the bioweapons." *The WHO advised Ukraine to destroy all their pathogens (at the labs that the mainstream media said didn't exist)... because the WHO knew Putin

RIMROCK REALTORS

Jerry & Emma Fraser



Whether you are buying or selling, we have the experience and knowledge to help with all your real estate needs. 702 Main Roundup, MT
Serving the greater Musselshell Valley for over 20 years, PH 323-2525
Main Street location, member of Billings Association of REALTORS and Billings ML service. www.soilseller.com
e-mail: soilsell@midrivers.com
Call today and let us help you!

SERVING YOUR REAL ESTATE NEEDS FROM THE GROUND UP!

SMOKE FREE APARTMENTS

Now taking applications for 62 yrs or disabled
Low income affordable housing for all ages or disabled 1 & 2 BR.
Fridge, range, local cable and RO system in all apts.
Elevator * Pets Allowed
NO MONTHLY UTILITY BILLS. Laundry rooms on every floor.
Monthly social activities
Comfortable, Quiet Living. Give us a call today

Homes on the Range

406-323-1291 TTY 711

Storage Units

Al's (406) 323-3488
Mini-Storage
Clean. Secured. Convenient.

Gravel For Sale

Pit Run Gravel!
Kilby Butte Colony
For road base or construction.
Delivery only.
George (406) 320-0439

For Sale



Vintage RC Allen Cash Register, \$50 (406) 320-0322



Safeclimb Baker Style Scaffold Rolling Platform, 1100 lbs. Load Capacity, 6 ft. W x 6.25 ft. H x 2.5 ft. D, Steel. MetalTech 6 ft. x 2.5 ft. x 3.4 ft. Steel Scaffold Guard Rail System, Parts/Accessories for Baker Scaffolding Towers \$350. Call (406) 320-0322

Rental Equipment

S & K Trucking Ready Mix
EQUIPMENT RENTAL
Skid Steer * Mini Excavator
Concrete Tools
(406) 323-1541

Notices

Clean & Check your rings for FREE! *Jewelry Repair *Custom Design *Remounts *Watch Repair. Engraving available. Now selling Helium Balloons. Diana's Jewelry and Repair, 1102 First St. E. Roundup. 406-323-1762

Wanted

Wanted
20 ft Conex, water tight, cash paid. Call (406) 320-0322

For Sale

60" x 30" x 39" (adjustable) all metal work table, \$125 (406) 320-0322

Tell it, sell it, rent it, buy it with an economical classified ad. \$6.50 first 20 words, 10¢ per word after that. Call (406) 320-0322

Continued From Page 6 Roundup Boys Basketball

enough to win a thriller 59-55. Scoring was as follows: **Kylen Wolff 14, Jace Lemmel 12, Braedan Bilden 12, Morgan Sanner 8, Jordan Olson 8, and Dustin Gairrett 5.**

Saturday was the consolation game at the District 4B tournament between the Panthers and the Red Devils. The winner would advance to the divisional and loser has its season come to a close. The Panthers got off to a better start than the other day and jumped out to an 8-4 lead in the first two minutes of the game. From that point forward it was just an absolute struggle to get any shots to fall for the Panthers. The Red Devils were very aggressive in the man to man defense and at times got away with some very physical play. It wore on the Panthers as they didn't have the same kind of legs that they had earlier in the week. The fourth game in four days was just a little too much for the Panthers struggled on the offensive end. The Panthers trailed 26-12 at the half and only scored five points in the third quarter. It was a tough ending to the season for the Panthers as they had been playing very good basketball over the last three weeks. The Red Devils eliminated the Panthers from tournament play 48-32. Scoring was as follows: **Kylen Wolff 10, Braedan Bilden 7, Jace Lemmel 5, Dustin Gairrett 4, Jordan Olson 4, and Morgan Sanner 2.**

The Panthers would like to thank all the parents and fans that supported them throughout the season and into the district tournament.

Tell it, sell it, rent it, buy it with an economical classified ad. \$6.50 first 20 words, 10¢ per word after that. Call the Roundup Record-Tribune @ (406) 320-0322



Central Montana Regional Water Authority
34 3rd Ave. West
406-323-6060
Roundup, MT 59072
PO Box 660

ROUNDUP MESA WATER MEETING NOTICE

This letter is to notify land owners in the Roundup Mesa Subdivision, Musselshell County, Montana, that an opportunity is being offered to residents of the subdivision to possibly acquire high quality municipal water to each lot, home, etc., within the area.

Central MT Regional Water Authority (CMRWA) has been working many years to develop this project. It is finally in the early phases of construction. The main pipeline will likely reach Roundup within the next 1 ½ to 2 years. Shortly thereafter the pipeline will continue on to Melstone and will therefore be within relatively close proximity to the Roundup Mesa Subdivision.

CMRWA is mailing this notice to the property owners within the subdivision outlining the time for two different meetings to explain the project, costs, and steps to move forward. Both will be held at the Roundup City Council Chambers at 34 3rd Ave. W. in Roundup; June 1st at 7:00 PM and June 8 at 7:00 PM. You are invited to attend either or both meetings. The Project Engineer and Project Administrator will be in attendance to outline the total project and answer questions. No decision will have to be made by subdivision owners unless and until a Professional Engineering Report (PER) is conducted to establish potential distribution routes and costs; all information will become available to affected parties. The Musselshell County Commissioners have committed the funding to pay for the PER if enough interest exists to potentially support a water district.

We will attempt to also present this meeting by TEAM Meeting on the computer for those who live out of the area. If you want to participate by TEAM , please sent your e-mail address to:

Monty L. Sealey, Project Administrator at pmservices@midrivers.com. Ph. # 406-860-5864.

Additional information about the project is available at www.centralmontanawater.com.



Central Montana Regional Water Authority
34 3rd Ave. West
406-323-6060
Roundup, MT 59072

ROUNDUP MESA WATER MEETING NOTICE

This letter is to notify landowners in and around the Roundup Mesa Subdivision, Musselshell County, Montana, about the scheduled 2nd required meeting before the final PER document can become official and published. We intended to conduct this 2nd meeting in November or December, however, our schedules were adjusted because changes occurred in the timing of our funding contracts for Phase II of our water project to Roundup. There is much to be done regarding Phase II so we can be ready to go to bids in February for that work. We still hope to have the pipeline to Roundup completed by the end of 2024.

This meeting is for the purpose of providing additional information about if and how, good municipal water could be provided to the properties in and around Roundup Mesa Subdivision. There will be discussion about any changes since the October meeting; also about costs and how they would probably change if the estimated number of members of the yet to be formed Water District changes.

Based upon the area's displayed interest in acquiring good water, the next step will be your desire to form a legal water district. The Musselshell County Commissioners will conduct an election of the land-owners, whether or not to form the water district. That process will likely include election of a Water District Board of Directors.

Included with this meeting notice is a document that you may use to "Opt Out" of the proposed water district. This document needs to be signed by the land-owner and notarized; then **submitted to the Clerk and Recorder's office at the courthouse in Roundup**. Once you Opt Out it will be up to the newly elected Water District Board to set the future requirements about if and/or how you may get back into the district. Those requirements could also include engineering, hydraulic or cost issues.

The proposed meeting is scheduled for February 22, 2022, at the Roundup Commons Building on 2nd St. W. in Roundup at 6:00 PM. This meeting will include any updated information about the potential district, pipeline routes, estimated costs, etc.

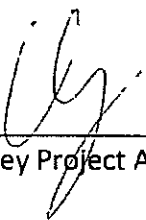
This meeting should be the last PER meeting before the County Commissioners conduct the election to form the water district and elect a Board of Directors. Questions or correspondence

can be addressed to the Musselshell County Clerk and Recorder at 506 Main Street, Roundup, MT., 59072 or Monty L. Sealey, Project Administrator-Musselshell-Judith Rural Water System at pmservices@midrivers.com or 406-860-5864.

At this meeting will be representatives of the Central MT Regional Water Authority Board, Project Engineering Representatives and County Commissioners. We will again attempt to conduct the meeting using ZOOM for those who cannot attend. We found, though this is a challenging method and perhaps less than effective than live because of the amount of people involved.

The signed, "Opt Out" documents must be returned to the Clerk and Recorder's office no later than March 15, 2023. The "Opt Out" numbers are important to determine participating numbers of users and final pipeline routes within the subdivision.

Thank you for your interest and participation in the meeting(s) and process. Following the March 15 deadline for the "Opt Out" response, the County Commissioners will be able to move forward with the election whether to form the Water District.



Monty L. Sealey Project Administrator for CMRWA

01/14/2023
Date

**ACKNOWLEDGMENT AND WAIVER OF INCLUSION IN THE PROPOSED
CENTRAL MUSSELHELL COUNTY WATER DISTRICT**

I _____ (Legal Name) as the owner of:

(Property address, i.e. 66 Airport Rd, Roundup, MT 59072)

(Legal Description, if known)

by execution and delivery of this Acknowledgement, waive the inclusion and participation of myself and the above-named property in the Proposed Central Musselshell County Water District ("The District"). I understand that I have the right, pursuant to Mont. Code Ann. § 7-13-2209 to have my property considered for inclusion in The District. By signing this document, I state that the above-described property will not benefit from inclusion in the proposed District as contemplated in Mont. Code Ann. § 7-13-2208(1) and knowingly lodge this acknowledgment and waiver to the Board of County Commissioners as the opposition and protest to inclusion in Mont. Code Ann. § 7-13-2206.

I understand and acknowledge that pursuant to Mont. Code Ann. § 7-13-2341(1) that I may, at a later date, petition the Central Musselshell County Water District Board ("The Board") to have my property added to The District, subject to approval by the Board. I also understand and acknowledge that if my property is initially included in The District I may, at a later date petition The Board under Mont. Code Ann. § 7-13-2343 through 2348 to have my property excluded from The District.

I expressly state that my property, described above, should be excluded from the proposed Central Musselshell County Water District.

Dated this _____ day of _____, 2023.

State of _____

County of _____

(Signature of Property Owner)

This instrument was signed or acknowledged before me on the above date by:

Notary Signature: _____

News - Legals - Notices

Public Notice

NOTICE OF PUBLIC HEARING

The Board of Supervisors of the County of San Diego is hereby giving notice that it will hold a public hearing on the proposed amendments to the County and general laws of the County of San Diego, California, relating to the County's public water system. The amendments are contained in the proposed County and general laws of the County of San Diego, California, relating to the County's public water system, which are available for public review and comment at the County Administration Center, 1600 La Jolla Village Drive, San Diego, California 92161, from 8:00 a.m. to 5:00 p.m., Monday through Friday, beginning on the date of this notice and continuing until the date of the public hearing. The public hearing will be held on the date and at the time and place specified below. Any person wishing to present comments or objections to the proposed amendments should appear at the public hearing and present such comments or objections to the Board of Supervisors. The Board of Supervisors will consider all comments and objections presented at the public hearing and will make its decision on the proposed amendments at the public hearing. The Board of Supervisors will also make its decision on the proposed amendments at the public hearing. The Board of Supervisors will also make its decision on the proposed amendments at the public hearing.

Notice of Availability of Request for Proposals for Water System Operation Services

The Central Municipal Services Water Department is currently seeking proposals for the operation and maintenance of the County of San Diego's water system. The proposals should be submitted to the County of San Diego, Central Municipal Services Water Department, 1600 La Jolla Village Drive, San Diego, California 92161, by the deadline date specified below. The proposals should be submitted to the County of San Diego, Central Municipal Services Water Department, 1600 La Jolla Village Drive, San Diego, California 92161, by the deadline date specified below. The proposals should be submitted to the County of San Diego, Central Municipal Services Water Department, 1600 La Jolla Village Drive, San Diego, California 92161, by the deadline date specified below.

MUSKELSHOE COUNTY ROUND BAY MUNICIPAL AIRPORT REQUEST FOR QUALIFICATIONS

ROUND BAY MUNICIPAL AIRPORT

Architectural and engineering services for the development of the Round Bay Municipal Airport. The project is located at the intersection of Highway 163 and Highway 56, in the City of Escondido, California. The project consists of the design and construction of a new terminal building, parking lot, and other airport facilities. The project is estimated to cost \$10 million. The architect and engineer for the project will be responsible for the design and construction of the project. The architect and engineer will also be responsible for the operation and maintenance of the project. The architect and engineer will also be responsible for the operation and maintenance of the project.

RIMROCK REALTORS Equal Housing Opportunity

Home **R** **MLS**

Real Estate Services

1600 La Jolla Village Drive, San Diego, CA 92161

Phone: (619) 434-1111

Fax: (619) 434-1112

Website: www.rimrockrealty.com

SERVING YOUR REAL ESTATE NEEDS FROM THE GROUND UP!

SMOKE FREE APARTMENTS

New listing applications for 2 yrs or disabled
Low income of \$1000 for housing for all ages or disabled 1 & 2 BR.
Fridge, range, front loader and HD system in all apt.
Elevator & Pets Allowed
NO MONTHLY UTILITY BILLS Laundry room on every floor
Weekly social activities
Comfortable, Quiet Living. Give us a call today

Homes on the Range

406-323-1291 TTY 711

Storage Units

1600 La Jolla Village Drive
Mini-Storage

Rental Equipment

E-Z Trucking Ready Mix
EQUIPMENT RENTAL
Skid Steer & Mini Excavator
Concrete Forms
(406) 323-1541

Gravel for Sale

Pit Run Gravel
Kilby Buffer Gravel
1600 La Jolla Village Drive
San Diego, CA 92161
Phone: (619) 434-1111

Notices

Public Notice

1600 La Jolla Village Drive
San Diego, CA 92161
Phone: (619) 434-1111

For Sale

1600 La Jolla Village Drive
San Diego, CA 92161
Phone: (619) 434-1111

Wanted

1600 La Jolla Village Drive
San Diego, CA 92161
Phone: (619) 434-1111

For Sale

1600 La Jolla Village Drive
San Diego, CA 92161
Phone: (619) 434-1111

From: pmservices@midrivers.com
To: [Susan Hayes](#)
Cc: rpancratz@co.musselshell.mt.us
Subject: Rdp Mesa notices
Date: Thursday, March 28, 2024 3:13:14 PM
Attachments: [Meeting Notices.pdf](#)

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

FYI

I have attached some documentation about meeting notices for Roundup Mesa.

I would note to you that some of this occurred before the County Commissioners had fully taken over the process only to assist them to move the issue forward.

The first letter was mailed regular mail by my office to all the Roundup Mesa residents on the list provided by the RMLA Secretary.

That Notice was initialed by me. This letter was mailed on May 18, 2022.

The second meeting notice with the "Opt Out Form" was mailed by Certified Mail to all the Roundup Mesa land owners on the list provide by the Clerk & Recorder.

Only six (6) were returned to me unclaimed. Note that the letter was signed by me. This Notice was mailed on January 17, 2023.

The third document is a xerox copy of the Notice of Public Hearing from the Roundup Record Tribune from March 22, 2023.

From that point on, I backed out of the notices, etc., because the Commissioners were fully engaged.

Monty

Appendix K

Surface Water



Lake Mason

Alkali Creek

Roundup Airport

Pine Ridge Golf Club

Roundup

Horseshier Creek

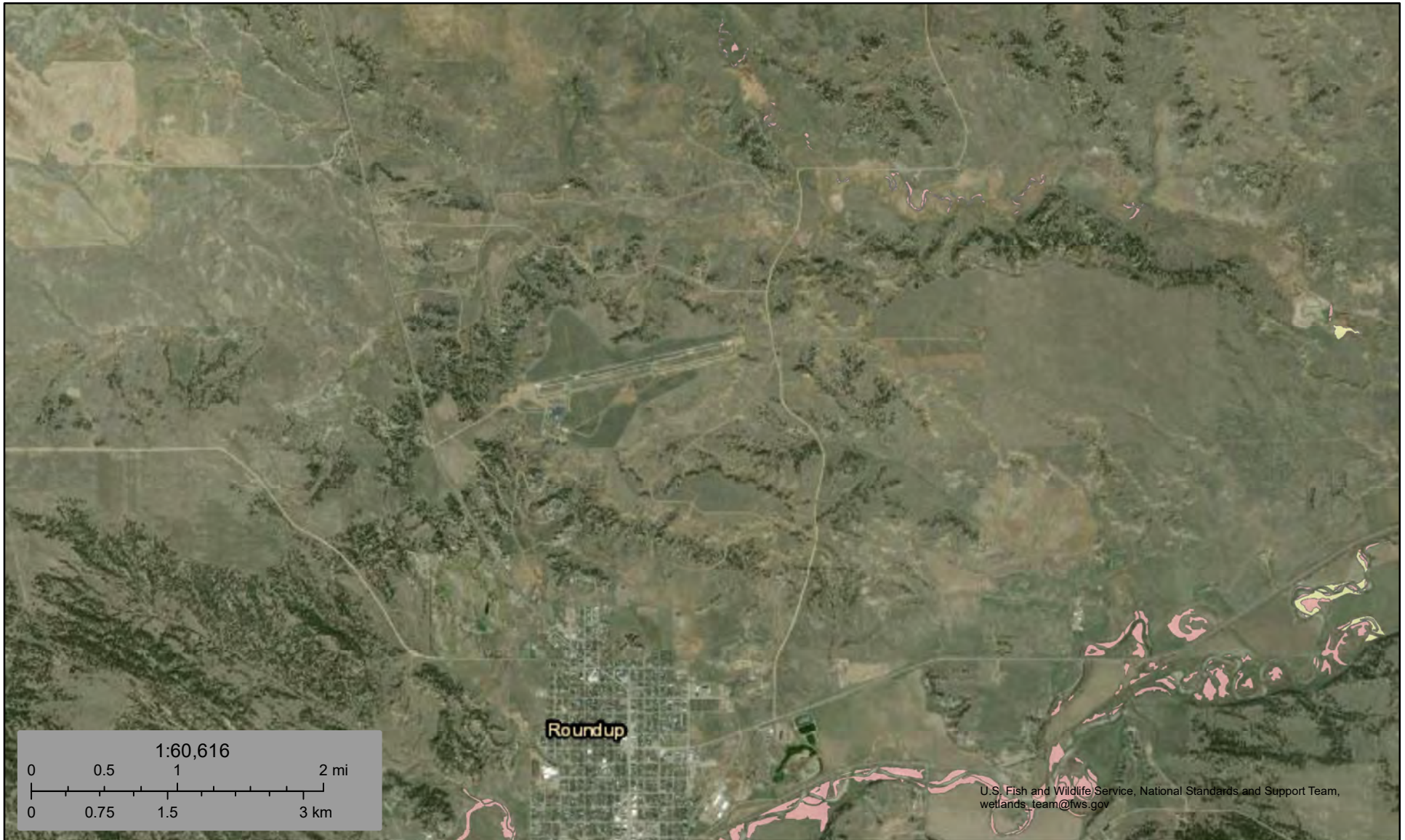
West Patrot Creek

12





Appendix L

Wetlands



August 3, 2022

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.

Appendix M

Water Quality



ANALYTICAL SUMMARY REPORT

January 04, 2024

Middle Musselshell County Water District

PO Box 497

Roundup, MT 59072-0457

Work Order: B23121679

Project Name: MMCWD

Energy Laboratories Inc Billings MT received the following 4 samples for Middle Musselshell County Water District on 12/27/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23121679-001	Ken Naylor	12/21/23 13:00	12/27/23	Drinking Water	Metals by ICP/ICPMS, Drinking Water Metals Digestion by E200.2
B23121679-002	Chris Dios	12/26/23 11:00	12/27/23	Drinking Water	Same As Above
B23121679-003	Ashliegh Iman	12/26/23 11:30	12/27/23	Drinking Water	Same As Above
B23121679-004	Sherri Frasker	12/26/23 12:00	12/27/23	Drinking Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Middle Musselshell County Water District
Project: MMCWD
Lab ID: B23121679-001
Client Sample ID: Ken Naylor

Report Date: 01/04/24
Collection Date: 12/21/23 13:00
DateReceived: 12/27/23
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Manganese	0.046	mg/L		0.001		E200.8	12/29/23 17:42 / aem

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Middle Musselshell County Water District
Project: MMCWD
Lab ID: B23121679-002
Client Sample ID: Chris Dios

Report Date: 01/04/24
Collection Date: 12/26/23 11:00
DateReceived: 12/27/23
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Manganese	0.084	mg/L		0.001		E200.8	12/30/23 02:15 / aem

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Middle Musselshell County Water District
Project: MMCWD
Lab ID: B23121679-003
Client Sample ID: Ashliegh Iman

Report Date: 01/04/24
Collection Date: 12/26/23 11:30
DateReceived: 12/27/23
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Manganese	0.087	mg/L		0.001		E200.8	12/29/23 17:47 / aem

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Middle Musselshell County Water District
Project: MMCWD
Lab ID: B23121679-004
Client Sample ID: Sherri Frasker

Report Date: 01/04/24
Collection Date: 12/26/23 12:00
DateReceived: 12/27/23
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS, TOTAL							
Manganese	0.096	mg/L		0.001		E200.8	12/29/23 17:53 / aem

Report Definitions: RL - Analyte Reporting Limit
QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Middle Musselshell County Water District

Work Order: B23121679

Report Date: 01/04/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS209-B_231229A		
Lab ID: CCV	Continuing Calibration Verification Standard									
Manganese		0.0502	mg/L	0.0050	100	90	110			12/29/23 16:45
Lab ID: QCS	Initial Calibration Verification Standard									
Manganese		0.258	mg/L	0.0050	103	90	110			12/29/23 20:04
Lab ID: CCV	Continuing Calibration Verification Standard									
Manganese		0.0506	mg/L	0.0050	101	90	110			12/30/23 01:47
Method: E200.8								Batch: 186031		
Lab ID: MB-186031	Method Blank									
Manganese		ND	mg/L	0.0001						Run: ICPMS209-B_231229A 12/30/23 01:42
Lab ID: LCS4-186031	Laboratory Control Sample									
Manganese		0.518	mg/L	0.0010	103	85	115			Run: ICPMS209-B_231229A 12/30/23 01:59
Lab ID: B23121681-001AMS4	Sample Matrix Spike									
Manganese		0.556	mg/L	0.0010	100	70	130			Run: ICPMS209-B_231229A 12/30/23 02:27
Lab ID: B23121681-001AMSD4	Sample Matrix Spike Duplicate									
Manganese		0.607	mg/L	0.0010	111	70	130	8.9	20	Run: ICPMS209-B_231229A 12/30/23 02:32
Method: E200.8								Batch: R414522		
Lab ID: LRB	Method Blank									
Manganese		ND	mg/L	0.0001						Run: ICPMS209-B_231229A 12/29/23 12:09
Lab ID: LFB	Laboratory Fortified Blank									
Manganese		0.0502	mg/L	0.0050	100	85	115			Run: ICPMS209-B_231229A 12/29/23 12:26
Lab ID: B23121660-008AMS	Sample Matrix Spike									
Manganese		0.0519	mg/L	0.0010	99	70	130			Run: ICPMS209-B_231229A 12/29/23 17:14
Lab ID: B23121660-008AMSD	Sample Matrix Spike Duplicate									
Manganese		0.0540	mg/L	0.0010	103	70	130	4.0	20	Run: ICPMS209-B_231229A 12/29/23 17:19
Lab ID: B23121689-035AMS	Sample Matrix Spike									
Manganese		0.0588	mg/L	0.0010	104	70	130			Run: ICPMS209-B_231229A 12/30/23 00:51
Lab ID: B23121689-035AMSD	Sample Matrix Spike Duplicate									
Manganese		0.0583	mg/L	0.0010	103	70	130	0.8	20	Run: ICPMS209-B_231229A 12/30/23 00:57

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Middle Musselshell County Water District

B23121679

Login completed by: Crystal M. Jones

Date Received: 12/27/2023

Reviewed by: darcy

Received by: Irs

Reviewed Date: 12/28/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	18.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Contact and Corrective Action Comments:

None



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page _____ of _____

Account Information (Billing Information)

Company/Name: Middle Russell Shell Bunk with D&A

Contact: Warren Hanson

Phone: 218-779-6180

Mailing Address: PO Box 457

City, State, Zip: Roanoke mt 59072

Email: mmclwp23@gmail.com

Receive Invoice Hard Copy Email Receive Report Hard Copy Email

Purchase Order: 180104 Quote: _____

Report Information (if different than Account Information)

Company/Name: _____

Contact: _____

Phone: _____

Mailing Address: _____

City, State, Zip: _____

Email: _____

Receive Report Hard Copy Email

Special Report/Formats: _____

LEVEL IV NELAC EDD/EDT (contact laboratory) Other _____

Comments

Project Information

Project Name, PWSID, Permit, etc.: MMCLWD

Sampler Name: Tom Harsch Sampler Phone: 406-6718070

Sample Origin State: mt EPA/State Compliance: Yes No

URANIUM MINING CLIENTS MUST indicate sample type

Unprocessed Ore

Processed Ore (Ground or Reined) **CALL BEFORE SENDING

11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

A - Air

W - Water

S - Solids

V - Vegetation

B - Bioassay

O - Oil

DW - Drinking Water

Analysis Requested

Sample ID	Sample Name	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)
1	Ken Maglov	12-21	1300	1	W
2	Chris Dick	12-24	1100	1	W
3	Ashleigh Morgan	12-26	1130	1	W
4	Shelli Forster	12-26	1200	1	W
5					
6					
7					
8					
9					

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

ELI LAB ID Laboratory Use Only: B2321679

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Received by (print)	Signature	Date/Time	Received by Laboratory (print)	Signature	Date/Time
Tom Harsch	[Signature]	12-27-29	Ken Shandone	[Signature]	12-27-11:18

LABORATORY USE ONLY

Shipped By: _____ Cooler ID(s): _____ Custody Seals: Y N C B Intact: Y N Receipt Temp: _____ °C Temp Blank: Y N On Ice: Y N

Payment Type: _____ Amount: \$ _____

CC: _____ Cash: _____ Check: _____

Receipt Number (cash/check only): _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



Trust our People. Trust our Data.
www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 • Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

BOTTLE ORDER 180104



SHIPPED TO: Residential Testing

To report an issue with this order, view Safety Data Sheets, or let us know how we are doing, scan here or go to energylab.com/contact-us



Contact: Thomas Harsch
81 East Sunshine Road
Roundup MT 59072

Order Created by: Gina McCartney
Shipped From: Billings, MT
Ship Date: 12/13/2023
VIA: Ground

Phone:
Project: Manganese

Bottle Size/Type	Bottles Per Samp	Method	Tests	Critical Hold Time	Preservative	Notes	Num of Samp
(5 Sets) 250 mL Plastic	1	E200.7_8	Metals by ICP/ICPMS, Drinking Water		<input checked="" type="checkbox"/> HNO3	Manganese	1

Comments

HNO3 - Nitric Acid H2SO4 - Sulfuric Acid NaOH - Sodium Hydroxide
 ZnAc - Zinc Acetate HCl - Hydrochloric Acid H3PO4 - Phosphoric Acid

Material Safety Data Sheets(MSDS) Available @ EnergyLab.com ->Services -> MSDS Sheets

Corrosive Chemicals: Nitric, Sulfuric, Phosphoric, Hydrochloric Acids and Sodium Hydroxide. Zinc Acetate is a skin irritant.

Subcontracting of sample analyses to an outside laboratory may be required. If so, Energy Laboratories will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

We strongly suggest that the samples are shipped the same day as they are collected.

BO#: 180104

1 of 1

Appendix N

MJRWS Service Request

Middle Musselshell County Water District

PO Box 497
Roundup MT 59072

March 13, 2024

Central Montana Regional Water Authority
34 3rd Ave W
PO Box 660
Roundup MT 59072

Re: Inclusion in the Musselshell-Judith Rural Water System (MJRWS)

The Middle Musselshell County Water District (MMCWD) was incorporated on September 1st, 2023.
Please see Exhibit A.

The MMCWD boundaries lie within the Roundup Mesa subdivision and includes 75 20-acre tracts and 1 40 acre tract. This also includes the Roundup Airport. Please see Exhibit B.

The MMCWD has legal access to all easements within the subdivision. Please see Exhibit C.

A Preliminary Engineering Report is being updated by Great West Engineering and will be available soon.

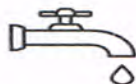
The MMCWD had water tested within the subdivision and it was discovered that because of contamination that the MMCWD is eligible for a grant that will likely eliminate the need for loans.

On behalf of the board of directors and the members of the Middle Musselshell County Water District (MMCWD), it is requested that the MMCWD be included in the Musselshell-Judith Rural Water System as it will be of great benefit to the residents of the Roundup Mesa Development as well as the Roundup Airport.

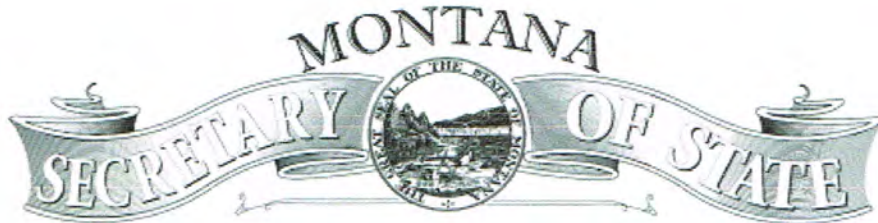
Thank you for your consideration.

Sincerely,

Dave Ponte
President MMCWD



MMCWD



CERTIFICATE OF INCORPORATION

I, **CHRISTI JACOBSEN**, Secretary of State for the State of Montana, do hereby certify that the Election Administrator of **Musselshell County**, pursuant to Mont. Code Ann. § 7-13-2214, duly filed an Order for the Creation of a County Water and/or Sewer District for:

Middle Musselshell County Water District

with my office on **September 1, 2023**, and on that date was considered incorporated with all the rights, privileges, and powers set forth in Title 7, chapter 13, parts 22 and 23, Montana Code Annotated.



IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of Montana, at Helena, the Capital, this 1st day of September, 2023

Christi Jacobsen

Christi Jacobsen
Montana Secretary of State

Certificate Number: D1385405

Exhibit B

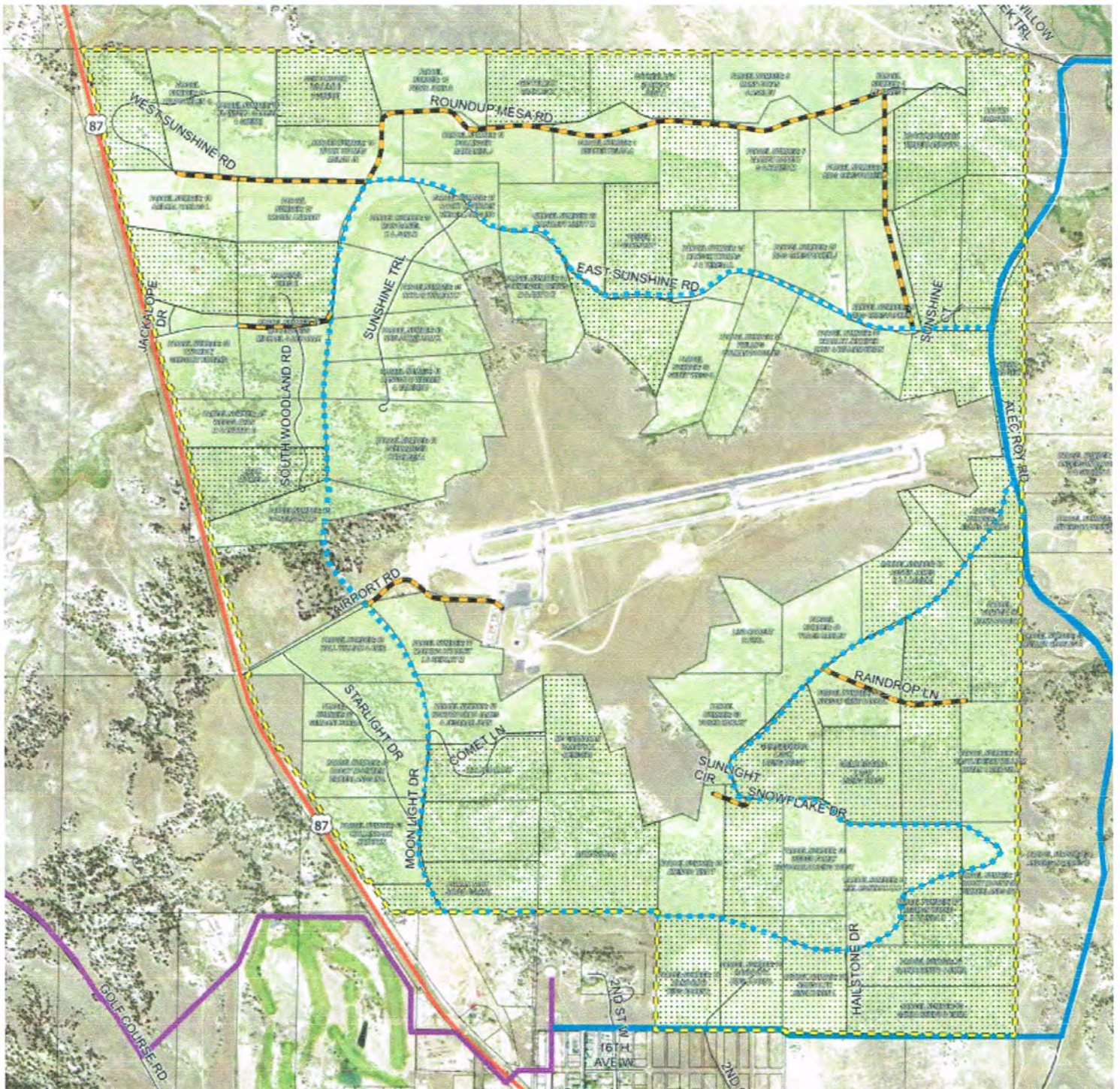


Exhibit C

Knudsen & Knudsen, PLLC

Attorneys at Law

Jordan W. Knudsen
Hannah Scott Knudsen

February 13, 2024

Roundup Mesa Landowners Assoc.
PO Box 583
Roundup, MT 59072

COPY

Mr. Chairman,

Greetings. My name is Jordan Knudsen. I am an attorney in Hardin, MT, and I represent the Middle Musselshell County Water District (MMCWD). I am writing to you about the proposed routes for water lines to be installed by the Central Montana Rural Water Authority (CMRWA), and routes for water lines to be installed by the MMCWD in the Roundup-Mesa subdivision. Although I do not represent the CMRWA, it has come to my attention that members of the RMLA board and some individual owners oppose the installation of any water lines throughout the RMLA subdivision, whether those lines are installed by CMRWA or MMCWD. I am writing to you to address concerns that you may have about the project, from the MMCWD's perspective.

Currently the CMRWA has plans to install main lines along the southern and eastern boundaries of the RMLA subdivision. According to the most recent plans in my possession, CMRWA also plans to lay a distribution loop through the subdivision, mostly following the established roads in the subdivision. There appear to be short portions of the loop that will not follow roads, however, but they are still within the easements granted along lot lines. After the main loop is installed, the MMCWD intends to install shorter distribution lines from this loop.

I have reviewed the relevant Certificates of Survey that established the subdivision, and I have concluded that there are multiple utility easements which can be used by both the CMRWA and the MMCWD to lay these water lines. Specifically, each COS established a 100-foot-wide easement wherever there is a road, and 80-foot-wide easement along lot lines. I have reviewed your letter to the CMRWA, dated February 15, 2023, and compared that to the language of the COS's and I have concluded that the RMLA does not have the legal authority to refuse access to these utility easements. I have also concluded that many of the conditions asserted by you in that letter are unenforceable, and are do not comport with the legal nature of the utility easements granted in the COS's. The express language of the easements has granted access to all utilities, both **public and private**. An easement creates a dominant estate and

PO Box 450
Hardin, MT 59034

(406)665-1600
attorney@knudsenknudsen.com

Exhibit C continued

Knudsen & Knudsen, PLLC

Attorneys at Law

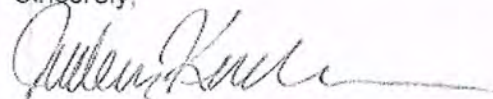
Jordan W. Knudsen
Hannah Scott Knudsen

servient estate. Any purchaser of a parcel in the RMLA subdivision has taken ownership subject to these easements, and therefore the owners of the parcels are the servient estate holders. Therefore, neither the RMLA nor any individual owner has the legal authority to stop the construction, maintenance or repair of these water lines as long as they are within these easements. I completely understand that concern over liability, however I don't see the likelihood that the RMLA would be liable for any damages caused by the CMRWA or the MMCWD for the installation and maintenance of these lines. I find the chances that the RMLA would be liable for any personal or property damages related to the installation of these water utilities to be very remote. It's my understanding that upgraded phone lines were recently installed in these easements in the subdivision. The process for the installation of water lines will be similar, and the risk to the RMLA would be nearly non-existent, just as with the installation of upgrade lines.

The MMCWD does not intend to abuse these easements, nor do they intend to install any water lines outside of the established easements without landowner consent. However, if the RMLA or any individual attempts to prevent the installation of these water utility lines in these established utility easements, the MMCWD may respond with swift legal action, which could include a Temporary Restraining Order, and an Injunction to accompany a Declaratory Judgment Action. Please do not take this as a legal demand or threat of action, but just an assertion of legal rights by the MMCWD to install water utility lines in the recorded easements. I genuinely desire that the RMLA and the MMCWD can come to an understanding on this matter, and that we don't have to end up in litigation.

It is my understanding that the RMLA does not currently have an attorney retained. If this is not the case, or if you retain an attorney, please have them contact me on the information on this letterhead. I sincerely hope that the RMLA will realize the positive impact on the subdivision that the water utilities will provide, and that this matter can be put to rest without further legal action. Having personally experienced a rural water project in my home county nearly twenty years ago, I can tell you that the project is truly a benefit to the subdivision. Feel free to call me or email me. Thank you.

Sincerely,



Jordan W. Knudsen

PO Box 450
Hardin, MT 59034

(406)665-1600
attorney@knudsenknudsen.com