BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

*** * * * * * ***

APPLICATION TO CHANGE WATER RIGHT NO. 41F 30155891 BY JUMPING HORSE STOCK RANCH LLC	**PRELIMINARY DETERMINATION TO GRANT CHANGE**

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On July 18, 2022, Jumping Horse Stock Ranch LLC (Applicant) submitted Application to Change Water Right No. 41F 30155891 to change Water Right Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 to the Bozeman Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the Application on its website. The Department sent the Applicant a deficiency letter under §85-2-302, Montana Code Annotated (MCA), dated December 13, 2022. The Applicant responded with information dated January 30, 2023. The Application was determined to be correct and complete as of April 25, 2023.

The Applicant subsequently submitted two Amendments to the Application that resulted in resetting statutory timelines. The first Amendment to the Application was received on December 16, 2023, to remove the proposed instream flow purpose, add a proposed point of diversion, and modify the proposed acres. The second Amendment to the Application was received on March 14, 2024, to add a stock purpose and place of storage to the proposed change. The amended Application was determined to be correct and complete as of September 10, 2024.

An Environmental Assessment for this Application was completed on January 7, 2025.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application to Change Water Right, Form 606
- Maps:
    - Exhibit IR.2.C 1976 aerial photo showing historical irrigation and ditches.
    - Exhibit IR.2.C 1976 aerial photo showing historical irrigation and ditches and possible return flow locations depicted by the Applicant.
    - Exhibit IR.2.E 2017 aerial photo showing proposed irrigation outside of historical place of use, continued irrigation within historical place of use, acres proposed to permanently retire, and acres proposed to temporarily retire for instream flow.
    - Appendix B 1976 aerial photo of historical place of use
    - 1947 aerial photo of historical place of use
    - 1976 aerial photo of historical place of use
    - 1979 aerial photo of historical place of use
    - 2019 aerial photo property overview
    - 2019 aerial photo of stock water uses
    - 1947, 1976, 1979 aerial photos of property boundary
- Notification of proposed change letter to Conner Kent Limited Partnership and Montana State Board of Land Commissioners, dated July 15, 2022
- Letter of support from Trout Unlimited for the proposed instream flow change, dated June 20, 2022
- Temporary Change Addendums for Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00
- Reasonable Use Addendum
- Change to Instream Flow Addendum
- Change in Purpose Addendum

Information Received after Application Filed

- Deficiency Letter Response dated January 30, 2023
- Settlement Agreement between the Applicant and Montana State Board of Land Commissioners for the purpose of resolving overlapping issue remarks with water rights in Basin 41F, attached to January 30, 2023, Deficiency Letter Response
- Amendment to Application dated December 16, 2023, to remove instream flow purpose
- Amendment to Application dated March 14, 2024, to places of storage for stock
- Amendment to Application dated January 7, 2024, to remove the Bench Ditch as a proposed point of diversion.
- March 27, 2024, email correspondence to correct amended flow rate.

Information within the Department's Possession/Knowledge

- Existing Water Right Files 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00
- Water Resource Survey, Madison County, 1954
- DNRC Technical Report, dated May 15, 2023
- Change Application Manual, updated March 11, 2024

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, part 4, MCA).

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

1. The Applicant proposes to change the purpose, point of diversion (POD), and place of use (POU) and add three places of storage for stock water for Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00. The water rights proposed for change have historically been used for irrigation of 3,190.0 acres located in Township 1 North, Range 1 East and Township 1 North, Range 2 East, Gallatin County (Table 1 and Table 3). Water was historically diverted at a pump site on the Madison River located in the NESWSW Section 29, T01N R02E, Gallatin County and conveyed approximately 2,800 feet (ft) to the Bench Ditch. Water was also diverted from headgates on the Madison River at the Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) located in the SESWSE and SWSENE Section 17, T01N R02E, Gallatin County. All six water rights were comingled and diverted at all three points of diversion for irrigation of 1,029.2 acres of flood irrigation and 2,160.8 acres of center-pivot sprinkler irrigation.

Table 1: Water Rights Proposed for Change

WR Number	Priority date	Purpose	Flow Rate	Volume	Period of Use	Point of diversion	Place of use	Acres
41F 132837-00	2/7/1971	Irrigation	37.5 CFS	NA[1]	4/1-11/1[2]	SWSENE Sec 17, T01N R02E (Francis-Walbert Ditch (East Ditch)) SESWSE Sec 17, T01N R02E (Dean Francis Ditch (Main Ditch)) NESWSW Sec 29, T01N R02E (Bench Ditch)	Numerous[3]	3,190
41F 132838-00	9/2/1970		65.0 CFS					
41F 136475-00	2/3/1910		23.04 CFS					
41F 136476-00	5/31/1897		4.63 CFS					
41F 136477-00	6/30/1884		102.87 CFS					
41F 136478-00	6/21/1910		102.87 CFS					

[1]A specific volume has not been decreed and the total volume shall not exceed the amount put to historical and beneficial use.

[2]The period of diversion for the six water rights proposed for change have a claimed period of diversion and period of use from 4/1-11/1. Due to a database conversion issue, the Department's records currently reflect a period from 4/1-11/4.

[3]Refer to the General Abstracts for a complete list of the place of use legal land descriptions, generally located in T01N R01E and T01N R02E, Gallatin County.

2. The proposed change involves amounts of water in excess of 5.5 CFS and consumed volume of 4,000 AF. Pursuant to MCA 85-2-402(4) and (5), the Applicant submitted a Reasonable Use Addendum describing how the criteria are met. The Department is authorized to approve a change if the applicant meets its burden to prove the applicable § 85-2-402, MCA, criteria by clear and convincing evidence.

3. All six water rights proposed for change are supplemental and share the same POD and POU for irrigation. No water rights in addition to those proposed for change have been used to irrigate the historical place of use.

4. Statement of Claim 41F 215610-00, owned by the State of Montana, is for irrigation of 12 acres in the N2NW Section 18, T01N R02E, Gallatin County. An issue remark on the water right abstracts state that overlapping places of use have been claimed for 41F 215610-00 (State of Montana) and the six water rights proposed for change. The place of use is located on land owned by the State of Montana, and the Applicant asserts that this late claim filing duplicates irrigation already claimed by the Applicant's predecessors. The Applicant's Deficiency Letter Response, dated January 30, 2023, included a copy of a signed agreement between the Applicant and the State of Montana stating that the parties agree that Statement of Claim 41F 215610-00 is a duplicate filing and the State agreed to withdraw this water right in the upcoming preliminary decree for basin 41F (Deficiency Letter Response, Exhibit A). This letter also serves as consent for use on State of Montana land.

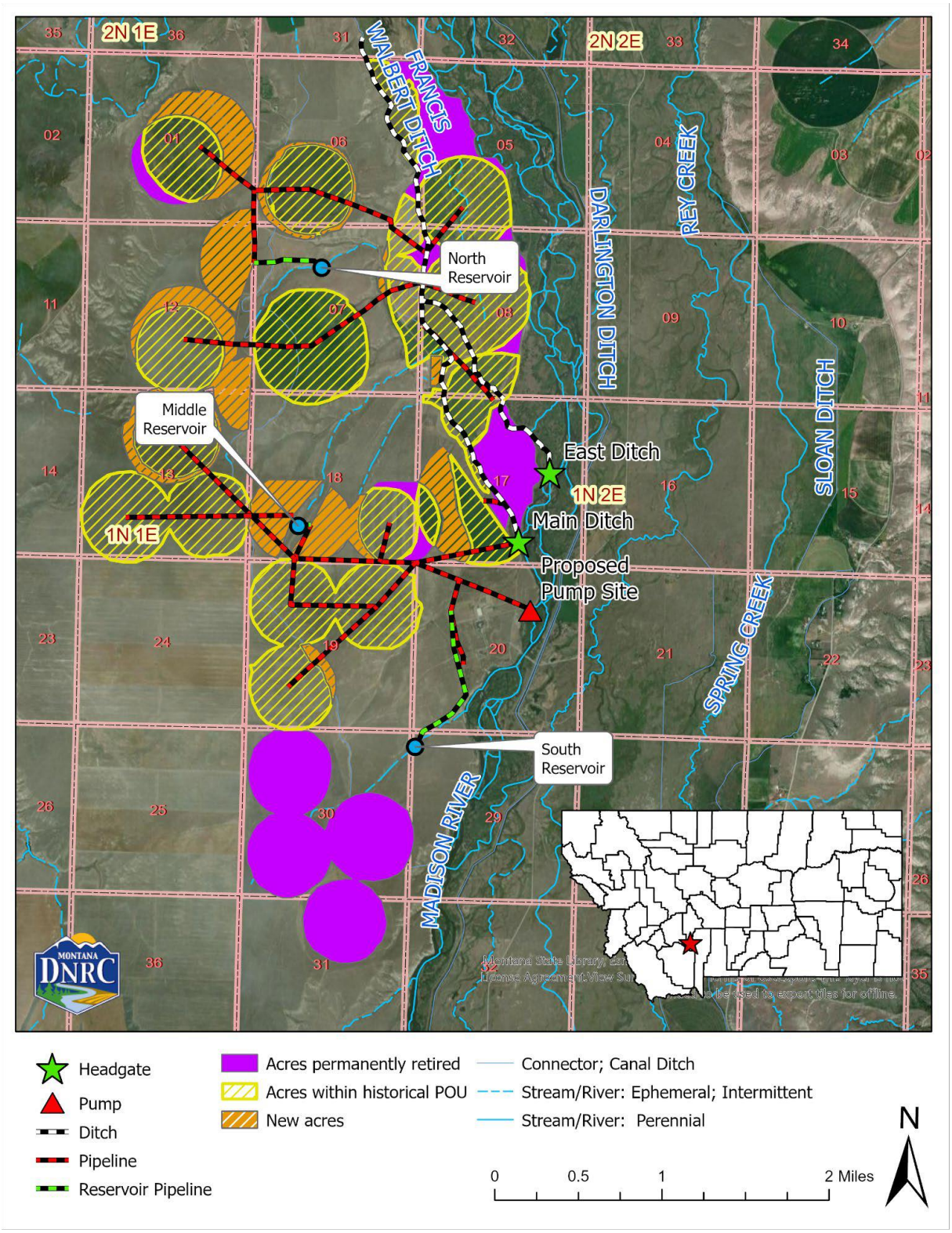

Figure 1: Map of the proposed change

CHANGE PROPOSAL

FINDINGS OF FACT

5. The Applicant proposes to change the place of use for Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00. The Applicant proposes to add 609.2 acres of irrigation and permanently retire 877.6 acres of historical irrigation to offset the new consumptive use occurring outside of the historical place of use. The Applicant proposes to continue to irrigate 2,312.4 acres within the historical place of use, resulting in a total of 2,921.6 acres of irrigation under the proposed change. The number of acres proposed is 268.4 acres less than the 3,190.0 acres irrigated historically.

6. The proposed irrigated acres outside of the historical place of use are center-pivot sprinkler footprints that extend outside of the historical footprints in Sections 1, 12 and 13, T01N R01E, and Sections 6, 7, 8, 18 ,17 and 19, T01N R02E, Gallatin County (Figure 1). The acres proposed to permanently retire are primarily located in the southern half of the historical place of use in Sections 30 and 31, T01N R02E, Gallatin County, and were historically served by the pump station and Bench Ditch that are no longer in operation. A complete list of acres proposed to be retired is included in Table 3.

7. The total proposed flow rate is 269.15 cfs equal to the total capacity of the Dean Francis Ditch (Main Ditch), Francis-Walbert Ditch (East Ditch), and the proposed pump site (Amendment to the Application dated December 16, 2023, Addendum A; March 27, 2024 email correspondence). The proposed flow rate is less than the total historical flow rate of 335.91 cfs.

8. The Applicant proposes to add three places of storage for stock water and add stock as a purpose to the water rights proposed for change (Table 2). The ponds would be lined, and the source of water is the Madison River.

Table 2: Proposed stock reservoirs.

Name	Location	Surface Area (acres)	Max Depth (ft)	Capacity (AF)	Net Evaporation (AF)	Total Volume (AF)
North Reservoir	S2NENW and N2SENW of Section 7, T1N R2E	0.7	9	2.52	1.79	4.31
Middle Reservoir	NWSESW of Secton 18, T1N R2E	0.4	7	1.12	1.02	2.14
South Reservoir	NWNWNW of Secton 29, T1N R2E	0.18	12	0.86	0.45	1.31
Total				**4.5**	**3.26**	**7.76**

9. The Applicant proposes to add a point of diversion at a pump site on the Madison River located in the NESWNE of Section 20, T1N R2E, Gallatin County, while retiring the old pump site diversion and Bench Ditch. The Applicant also proposes to divert water from the Madison River at the existing Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) points of diversion for a total of three points of diversion.

10. This application is subject to the higher evidentiary requirement of clear and convincing evidence because the requested flow rate and volume exceeds 5.5 CFS and 4,000 AF respectively, pursuant to § 85-2-402(5), MCA.

Table 3: Legal land descriptions for continued irrigation and acres permanently retired under the proposed change.

POD ID	Historical Acres	Retired Acres	Proposed Acres Outside Historical POU	Total Proposed Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge[1]
1	31.50	0.46	59.96	90.99		S2N2	1	1N	1E
2	117.90	24.75	45.71	138.86		S2	1	1N	1E
3	139.00	0.00	59.33	198.33		S2	12	1N	1E
4	138.30	0.00	56.75	195.05		N2	13	1N	1E
5	275.60	0.00	0.00	275.60		S2	13	1N	1E
6	4.10	0.00	0.00	4.10		W2W2SE	5	1N	2E
7	209.50	96.54	0.00	112.96		W2	5	1N	2E
8	71.10	17.77	0.00	53.33		E2NE	6	1N	2E
9	174.00	8.55	24.13	189.57		S2	6	1N	2E
10	142.50	5.11	5.42	142.81		E2	7	1N	2E
11	7.10	0.00	0.00	7.10		N2N2NW	7	1N	2E
12	25.60	0.00	0.00	25.60		S2NW	7	1N	2E
13	149.40	0.00	0.00	149.40		SW	7	1N	2E
14	62.40	17.60	0.00	44.80		W2E2	8	1N	2E
15	304.00	21.85	7.54	289.68		W2	8	1N	2E
16	83.20	80.34	0.00	2.86		W2E2	17	1N	2E
17	204.00	50.97	61.40	214.43		W2	17	1N	2E
18	10.60	0.00	0.00	10.60		N2N2N2	18	1N	2E
19	100.30	13.95	35.07	121.43		SE	18	1N	2E
20	1.30	0.00	0.00	1.30		W2W2SW	18	1N	2E
21	137.20	0.00	0.00	137.20		NE	19	1N	2E
22	2.10	0.00	0.00	2.10		N2N2SE	19	1N	2E
23	1.20	0.00	1.18	2.38		W2SWSE	19	1N	2E
24	253.70	0.00	9.45	263.15		W2	19	1N	2E
25	4.70	0.00	0.00	4.70		W2W2NW	20	1N	2E
26	3.00	3.00	0.00	0.00		W2NWSW	29	1N	2E
27	163.00	163.00	0.00	0.00		N2	30	1N	2E
28	263.70	263.70	0.00	0.00		S2	30	1N	2E
29	110.00	110.00	0.00	0.00		N2	31	1N	2E
N/A	0.00	0.00	103.56	103.56		NE	12	1N	1E
N/A	0.00	0.00	7.05	7.05		SENW	12	1N	1E
N/A	0.00	0.00	0.38	0.38		SWSE	12	1N	1E
N/A	0.00	0.00	2.79	2.79		NESW	13	1N	1E
N/A	0.00	0.00	3.05	3.05		NWSE	13	1N	1E
N/A	0.00	0.00	0.03	0.03		SESW	6	1N	2E
N/A	0.00	0.00	2.73	2.73	1		7	1N	2E
N/A	0.00	0.00	3.91	3.91		NENW	7	1N	2E
N/A	0.00	0.00	0.25	0.25		NWNE	7	1N	2E
N/A	0.00	0.00	95.93	95.93		SW	18	1N	2E
N/A	0.00	0.00	14.24	14.24		NESW	18	1N	2E
N/A	0.00	0.00	0.12	0.12		SESE	18	1N	2E
N/A	0.00	0.00	2.84	2.84		NWSE	19	1N	2E
N/A	0.00	0.00	6.39	6.39		N2N2	1	1N	1E
TOTAL	**3190.00**	**877.60**	**609.20**	**2921.60**					

[1]All in Gallatin County

CHANGE CRITERIA

11. The Department is authorized to approve a change if the Applicant meets its burden to prove the applicable § 85-2-402, MCA, criteria by a preponderance of the evidence. *Matter of Royston*, 249 Mont. 425, 429, 816 P.2d 1054, 1057 (1991); *Hohenlohe v. DNRC*, 2010 MT 203, ¶¶ 33, 35, and 75, 357 Mont. 438, 240 P.3d 628 (an Applicant's burden to prove change criteria by a preponderance of evidence is "more probable than not."); *Town of Manhattan v. DNRC*, 2012 MT 81, ¶ 8, 364 Mont. 450, 276 P.3d 920. Under this Preliminary Determination, the relevant change criteria in § 85-2-402(2), MCA, are:

> (2) Except as provided in subsections (4) through (6), (15), (16), and (18) and, if applicable, subject to subsection (17), the department shall approve a change in appropriation right if the appropriator proves by a preponderance of evidence that the following criteria are met:
>
> (a) The proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued under part 3.
>
> (b) The proposed means of diversion, construction, and operation of the appropriation works are adequate, except for: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.
>
> (c) The proposed use of water is a beneficial use.
>
> (d) The Applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use or, if the proposed change involves a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water. This subsection (2)(d) does not apply to: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow

pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.

12. Because this change proposes consumption of greater than 4,000 acre-feet of water per year and 5.5 CFS, the Department is authorized to approve a change if the applicant meets its burden to prove the applicable § 85-2-402, MCA, criteria by clear and convincing evidence. Clear and convincing evidence is defined as "a requirement that a preponderance of the evidence be definite, clear, and convincing, or that a particular issue must be clearly established by a preponderance of the evidence or by a clear preponderance of proof." Harding v. Savoy, 2004 MT 280, ¶ 51, 323 Mont. 261, 100 P.3d 976 (citations omitted) 85-2-402(2), (4) and (5), MCA. Under this Preliminary Determination, the relevant change criteria in § 85-2-402(2), MCA, are:

> (2) Except as provided in subsections (4) through (6), (15), (16), and (18) and, if applicable, subject to subsection (17), the department shall approve a change in appropriation right if the appropriator proves by a preponderance of evidence that the following criteria are met: (a) The proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued under part 3. For purposes of this section, adverse effects analysis is specific to the proposed change in appropriation right and a determination that water is not legally available pursuant to 85-2-311 does not necessarily mean that an adverse effect will occur. (b) The proposed means of diversion, construction, and operation of the appropriation works are adequate, except for: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation. (c) The proposed use of water is a beneficial use. (d) The applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use or, if the proposed change involves a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water. This subsection (2)(d) does not apply to: (i) a change in appropriation right for instream flow pursuant to 85-2- 320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.

13. The evaluation of a proposed change in appropriation does not adjudicate the underlying right(s). The Department's change process only addresses the water right holder's ability to make a different use of that existing right. E.g., *Hohenlohe*, at ¶¶ 29-31; *Town of Manhattan*, at ¶8; *In*

the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company (DNRC Final Order 1991).

14. Because this change proposes consumption of greater than 4,000 acre-feet of water per year and 5.5 CFS, the Department is authorized to approve a change if the Applicant meets its burden to prove the applicable § 85-2-402, MCA, criteria by clear and convincing evidence. Clear and convincing evidence is defined as "a requirement that a preponderance of the evidence be definite, clear, and convincing, or that a particular issue must be clearly established by a preponderance of the evidence or by a clear preponderance of proof." *Harding v. Savoy*, 2004 MT 280, ¶ 51, 323 Mont. 261, 100 P.3d 976 (citations omitted) 85-2-402(2), (4) and (5), MCA. Under this Preliminary Determination, the relevant change criteria in § 85-2-402(2), MCA, are:

> (2) Except as provided in subsections (4) through (6), (15), (16), and (18) and, if applicable, subject to subsection (17), the department shall approve a change in appropriation right if the appropriator proves by a preponderance of evidence that the following criteria are met:
>
> (a) The proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued under part 3. For purposes of this section, adverse effects analysis is specific to the proposed change in appropriation right and a determination that water is not legally available pursuant to 85-2-311 does not necessarily mean that an adverse effect will occur.
>
> (b) The proposed means of diversion, construction, and operation of the appropriation works are adequate, except for: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.
>
> (c) The proposed use of water is a beneficial use.
>
> (d) The Applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use or, if the proposed change involves a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written

special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water. This subsection (2)(d) does not apply to: (i) a change in appropriation right for instream flow pursuant to 85-2-320 or 85-2-436; (ii) a temporary change in appropriation right for instream flow pursuant to 85-2-408; or (iii) a change in appropriation right pursuant to 85-2-420 for mitigation or marketing for mitigation.

HISTORICAL USE AND ADVERSE EFFECT

FINDINGS OF FACT - Historical Use

15. The basis for all six water rights proposed for change are filings with the Gallatin County Clerk and Recorder. A Notice of Appropriation was filed with the Gallatin County Clerk and Recorder by Charles and Beverly Kyd for Statement of Claim Nos. 41F 132837-00 and 41F 132838-00 on February 7th, 1971, and February 2nd, 1970, respectively. A Notice of Water Right was filed by R.M. and O.E. Harris with Gallatin County on February 3rd, 1910, for Statement of Claim 41F 136475-00. A Notice of Appropriation was filed by John G Crowley with the Gallatin County Clerk and Recorder on September 28th, 1897, for Statement of Claim 41F 136476-00. A Notice of Water Right was filed by Duncan J. Hunter with Gallatin County on April 12th, 1887, for Statement of Claim 41F 136477-00. A Notice of Appropriation of Water Right was filed by C.E. Adams with the Gallatin County Clerk and Recorder on June 22nd, 1910, for Statement of Claim 41F 136478-00.

16. All six water rights proposed for change are part of the Madison River Temporary Preliminary Decree issued on July 25th, 1984, and the Madison River Preliminary Decree issued on March 1st, 2023. Table 1 lists the priority date and decreed flow rate for all six water rights proposed for change.

17. All six water rights have historically been used for irrigation of 3,190.0 acres, generally located in T01N R01E and T01N R02E, Gallatin County (Figure 2). The following information was provided by the Applicant or obtained by the Department to support the historical use of the water rights proposed for change:

- The 1953 Gallatin County Water Resources Survey shows 725.0 acres irrigated in Sections 5, 6, 7, 8, and 17, T01N R02E, Gallatin County.

- The 1947 USGS aerial photo shows approximately 725 acres irrigated by flood irrigation below the Francis-Walbert Ditch (East Ditch) and Dean Francis Ditch (Main Ditch).
- A pre-1973 aerial photo of the entire historical irrigated place of use is not available. Partial-coverage 1972 aerial photos (AR5720005521756 and AR5720005521755 dated 7/26/1972) show the western portion of the historical place of use irrigated, which includes most of the center-pivot footprints. This information corroborates that the irrigation documented in the 1976 and 1979 photos occurred prior to 1973.
- The 1976 aerial photo (#1-78 GS-VEFX, dated 8/6/1976) shows the entire historical place of use irrigated, totaling 3,190.0 acres.
- The 1979 infrared photo (#0603, dated 8/6/1979) shows the entire historical place of use irrigated, totaling 3,190.0 acres.

18. The Department finds the maximum historical use of Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 is 3,190.0 acres.

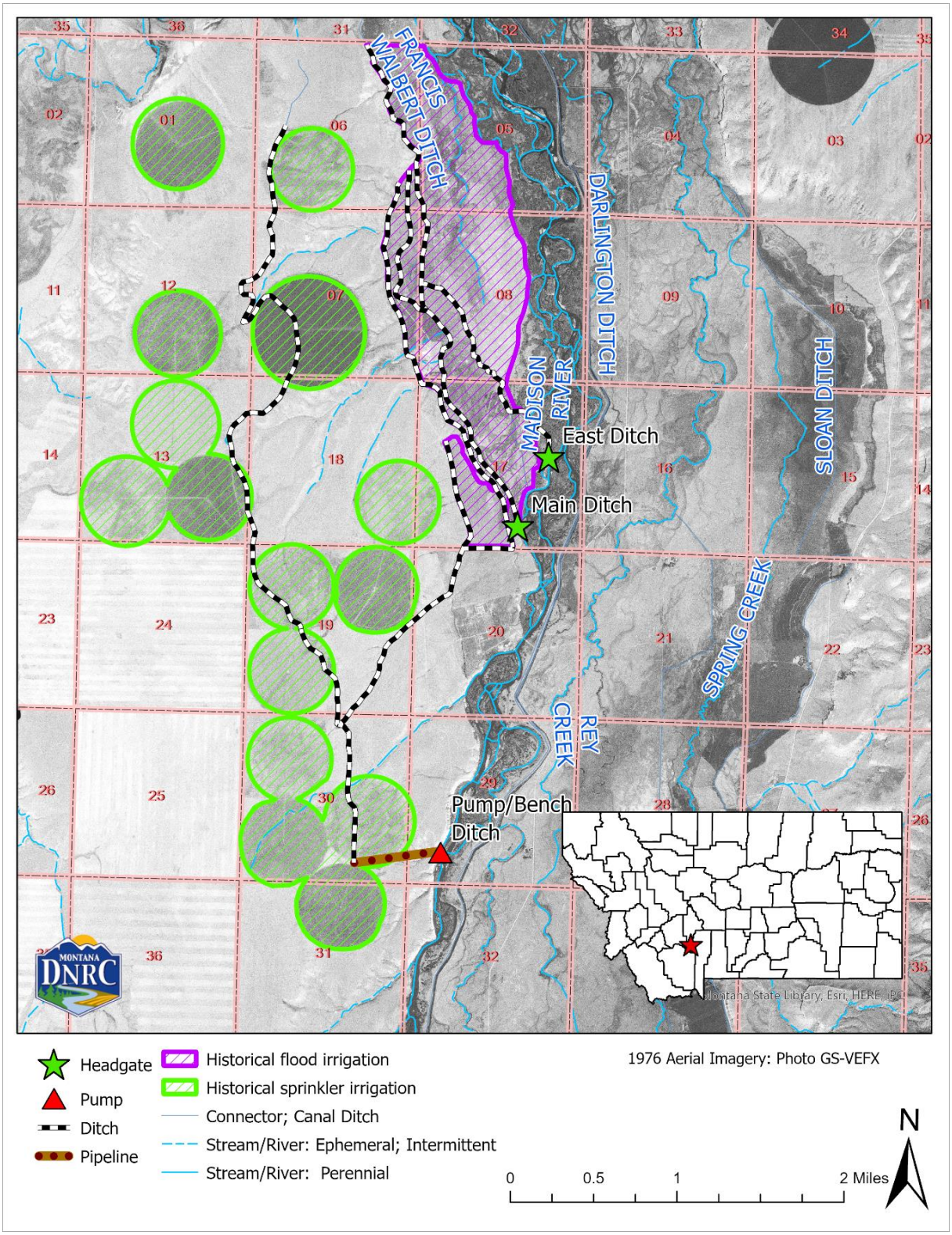

Figure 2: Historical use map.

Ditch Names

19. Water was diverted under all six water rights proposed for change at three points of diversion. The Francis-Walbert Ditch, referred to by the Applicant as the East Ditch, is located in the SWSENE Section 17, T01N R02E, Gallatin County. The Dean Francis Ditch, referred to by the Applicant as the Main Ditch, is located in the SESWSE Section 17, T01N R02E, Gallatin County. The pump site, referred to as the Bench Ditch, is located in the NESWSW Section 29, T01N R02E, Gallatin County. Ditch name references throughout this document include the Applicant's naming convention in parentheses to remain consistent with the Application Materials.

Flow Rate

20. Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 have a cumulative decreed flow rate of 335.91 CFS and were comingled at all three historical points of diversion (Application Materials, IR.3). The Applicant provided measurements taken from cross-sections of the Dean Francis Ditch (Main Ditch) and Bench Ditch at several locations, along with Manning equation results to estimate the maximum capacity of the Dean Francis Ditch (Main Ditch) and Bench Ditch (Application Materials, IR.3.C). The Applicant also provided measurements of the Francis-Walbert Ditch (East Ditch) in the December 16, 2023, Amendment to the Application. Based on the Applicant provided measurements and Manning equation results, the Dean Francis Ditch (Main Ditch) has a maximum capacity of 158.5 CFS, the Bench Ditch has a maximum capacity of 504.4 CFS, and the Francis-Walbert Ditch (East Ditch) has a maximum capacity of 102.05 CFS.

21. The Applicant stated that diversions were alternated between the Francis-Walbert Ditch (East Ditch) and Dean Francis Ditch (Main Ditch) and not used simultaneously. Therefore, the maximum capacity of the Dean Francis Ditch (Main Ditch) and Bench Ditch are representative of the maximum historical capacity of the diversion infrastructure. The information provided in the Application Materials indicates that the Dean Francis Ditch (Main Ditch) and Bench Ditch have a combined maximum capacity of 662.9 CFS and were capable of conveying the total decreed flow rate.

22. The Applicant stated that water was diverted throughout the entire irrigation season (215 days) in order to maintain the large flow rate necessary for irrigation of 3,190.0 acres. Water was conveyed in three large ditches with a total length of 4 miles (sum of the length of the Dean Francis

Ditch (Main Ditch) and Bench Ditch, which were used simultaneously). The Applicant stated that the decreed flow rate of 335.91 CFS was needed to deliver a sufficient volume of water for irrigation of 3,190.0 acres after accounting for conveyance loss and to maintain adequate water levels at the secondary pump sites for the irrigation system (Application Materials, IR.3, p15).

Historical Consumptive Use

23. Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 have historically been used to irrigate alfalfa, grass hay, barley, triticale, turnips, and radish (Application Materials, IR.3.K). The Applicant stated that water was historically diverted from the Madison River for flood and sprinkler irrigation throughout the entire period of diversion (April 1 – November 1).

24. The Applicant elected to use the Department's standard consumptive use methodology per ARM 36.12.1902(16) and described further in DNRC Consumptive Use Methodology memo, updated March 17, 2010.

25. Flood irrigation was historically used to irrigate 1,029.2 acres. The net irrigation requirement (NIR) from the NRCS Irrigation Water Requirements (IWR) program output for the Gallatin County Bozeman Experimental Farm weather station is 16.84 inches. A Gallatin County pre-1973 management factor of 73.5% (from ARM 36.12.1902) results in a historical crop consumptive use on 1,029.2 acres of 1,061.6 AF. An estimated field efficiency of 60% for contour ditch flood irrigation on 0.75% average field slope results in a total historical field applied volume of 1,769.3 AF. Irrecoverable losses resulting from flood irrigation are assumed to be 5%, or 88.5 AF, of the total 1,769.3 AF field applied volume, per the Department's Irrecoverable Loss Memo, dated April 15, 2013. The total historical consumptive use for flood irrigation of 1,029.2 acres is 1,150.0 AF (crop consumptive use plus irrecoverable losses).

26. Sprinkler irrigation was historically used to irrigate 2,160.8 acres. The NIR from the NRCS IWR program output for the Gallatin County Bozeman Experimental Farm weather station is 19.55 inches. A Gallatin County pre-1973 management factor of 73.5% (from ARM 36.12.1902) results in a historical crop consumptive use on 2,160.8 acres of 2,587.4 AF. An estimated field efficiency of 70% for center-pivot sprinkler irrigation results in a total historical field applied volume of 3,696.3 AF. Irrecoverable losses resulting from sprinkler irrigation are assumed to be 10%, or 369.6 AF, of the total 3,696.3 AF field applied volume (DNRC, 2013). The total historical consumptive use

for sprinkler irrigation of 2,160.8 acres is 2,957.1 AF (crop consumptive use plus irrecoverable losses).

27. The total historical consumptive use for irrigation of 3,190.0 acres is 4,107.1 AF.

Historical Diverted Volume

28. The Applicant elected to use the Department's standard methodology for calculating historical diverted volume per ARM 36.12.1902(10). The Applicant stated that water was diverted throughout the entire irrigation season (215 days) in order to maintain the large flow rate necessary for irrigation of 3,190.0 acres. Diversions at several secondary points of diversion were rotated throughout the irrigation period to allow for cuttings of hay. The Francis-Walbert Ditch (East Ditch) was historically used as an alternate conveyance structure to the Dean Francis Ditch (Main Ditch) and not used in combination with the Dean Francis Ditch (Main Ditch). In addition, the Francis-Walbert Ditch (East Ditch) has not been maintained and suitable locations for cross-section measurements are limited (December 16, 2023, Amendment to the Application). Therefore, conveyance loss volume was only calculated for the Dean Francis Ditch (Main Ditch) and Bench Ditch.

29. A branch and secondary headgate for the Francis-Walbert Ditch (East Ditch) is visible in aerial imagery in the SENWSE Section 17, T01N R02E, Gallatin County. The ditch branch flows approximately 2,800 ft through the Applicant's historical place of use prior to joining the main Francis-Walbert Ditch (East Ditch) where the Applicant's water rights have historically been diverted. This secondary ditch branch appears to have been constructed around 1973 based on review of historical aerial imagery. No evidence of use of this ditch branch was submitted by the Applicant or identified by the Department for the water rights proposed for change. Due to the lack of use of this ditch branch by the Applicant, no conveyance loss was assigned for this portion of the Francis-Walbert Ditch (East Ditch).

30. The cumulative decreed flow rate for all water rights proposed for change, equal to 335.91 CFS, was distributed to the Dean Francis Ditch (Main Ditch) and Bench Ditch based on the proportion of the total irrigated acres served by each ditch (Table 4).

Table 4: Proportion of total flow rate assigned to each ditch.

Ditch name	Acres	Proportion of total acres	Flow rate (CFS)
Dean Francis Ditch (Main Ditch)	1,029.2	0.32	108.35
Bench Ditch	2,160.8	0.68	227.56
TOTAL	3,190.0	1.0	335.91

31. No other water rights in addition to the six water rights proposed for change were conveyed in the Bench Ditch. Two other water rights were historically conveyed in the Dean Francis Ditch (Main Ditch). Statement of Claim 41F 29113-00 is diverted at a separate point of diversion and conveyed approximately 1.6 miles before joining the Dean Francis Ditch (Main Ditch). For purposes of estimating conveyance loss, only the length of the Dean Francis Ditch (Main Ditch) to the edge of the Applicant's field is analyzed and is approximately 1,500 feet in length from the main point of diversion. Therefore, 41F 29113-00 was not included in the conveyance loss calculations because it enters the ditch downstream of the reach assigned conveyance loss. Statement of Claim 41F 215610-00 owned by the State of Montana also shares a point of diversion at the Dean Francis Ditch (Main Ditch). However, as described previously, this water right is duplicative of the water rights proposed for change for irrigation of 12 acres in the N2NW Section 18, T01N R02E, Gallatin County (January 30, 2023, Deficiency Letter Response). Therefore, the flow rate for this water right was not included in this analysis.

32. The Applicant provided measurements and the model output for the Manning equation for the Bench Ditch and Dean Francis Ditch (Main Ditch). Model results were verified by the Department to ensure accuracy. The provided measurements and hydraulic parameters were used to model the maximum ditch capacity at the flow rates shown in Table 4 in order to calculate historical conveyance loss. The total historical conveyance loss for the Dean Francis Ditch (Main Ditch) and Bench Ditch is 9,683.6 AF. A breakdown of the calculations for the individual conveyance loss components is shown below.

Dean Francis Ditch (Main Ditch)

Seepage loss

Seepage loss = wetted perimeter x ditch length x ditch loss rate x days irrigated / 43,560 ft^3 per AF

The ditch loss rate is 2.0 ft^3/ft^2/day for sand, gravelly sandy loam (Natural Resource Conservation Service, Web Soil Survey).

Seepage loss = 16.4 ft x 1440.0 ft x 2.0 ft^3/ft^2/day x 215 / 43,560 ft^3 per AF = 233.1 AF

Vegetation loss

Vegetation loss = % loss/mile x flow rate x days irrigated x ditch length x 2

The Department's standard rate of 0.75% loss/mile was used to calculate vegetation loss.

Vegetation loss = 0.75% x 108.35 CFS x 215 x 0.3 mi x 2 = 95.3 AF

Evaporation

Evaporation = surface area x adjusted evaporation constant / 43,560 ft^2 per acre

Net evaporation for the period of diversion (215 days from 4/1-11/1) is 23.0 inches, Gridded Net Evaporation GIS Layer, DNRC 2022.

Evaporation = (12.48 ft x 1440.0 ft) x 1.92 ft / 43,560 ft^2 per acre = 0.8 AF

Total conveyance loss

Total conveyance loss = seepage loss + vegetation loss + evaporation

Total conveyance loss = 233.1 AF + 95.3 AF + 0.8 AF = 329.2 AF

Bench Ditch

Seepage loss

Seepage loss = wetted perimeter x ditch length x ditch loss rate x days irrigated / 43,560 ft^3 per AF

The ditch loss rate is 2.0 ft^3/ft^2/day for sand, gravelly sandy loam (Natural Resource Conservation Service, Web Soil Survey).

Seepage loss = 32.9 ft x 20,110.0 ft x 2.0 ft^3/ft^2/day x 215 / 43,560 ft^3 per AF = 6531.1 AF

Vegetation loss

Vegetation loss = % loss/mile x flow rate x days irrigated x ditch length x 2

The Department's standard rate of 0.75% loss/mile was used to calculate vegetation loss.

Vegetation loss = 0.75% x 227.56 CFS x 215 x 3.8 mi x 2 = 2795.1 AF

Evaporation

Evaporation = surface area x adjusted evaporation constant / 43,560 ft^2 per acre

Net evaporation for the period of diversion (215 days from 4/1-11/1) is 23.0 inches, Gridded Net Evaporation GIS Layer, DNRC 2022.

Evaporation = (31.82 ft x 20,110.0 ft) x 1.92 ft / 43,560 ft^2 per acre = 28.2 AF

Total conveyance loss

Total conveyance loss = seepage loss + vegetation loss + evaporation

Total conveyance loss = 6,531.1 AF + 2,795.1 AF + 28.2 AF = 9,354.4 AF

33. All six water rights proposed for change have been used in combination at all three points of diversion to irrigate the entire historical place of use (Application Materials, IR.3.A). Therefore, the total historical use was distributed to each water right based on the proportion of the individual flow rates to the cumulative flow rate, shown in Table 5 below.

Table 5: Historical use for all water rights proposed for change. The total volumes were distributed to each water right by the proportion of the individual flow rate to the total flow rate.

WR Number	Flow rate (CFS)	Proportion of total flow rate	Field application volume (AF)	Consumed volume (AF)	Conveyance loss volume (AF)	Diverted volume (AF)
41F 132837-00	37.5	0.11	610.2	458.5	1,081.0	1,691.2
41F 132838-00	65	0.19	1,057.6	794.7	1,873.8	2,931.4
41F 136475-00	23.04	0.07	374.9	281.7	664.2	1,039.1
41F 136476-00	4.63	0.01	75.3	56.6	133.5	208.8
41F 136477-00	102.87	0.31	1,673.8	1,257.8	2,965.5	4,639.3
41F 136478-00	102.87	0.31	1,673.8	1,257.8	2,965.5	4,639.3
TOTAL	**335.91**	**1.00**	**5,465.6**	**4,107.1**	**9,683.6**	**15,149.2**

34. The Department finds that the Applicant has proven by clear and convincing evidence the historical use of Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 in the amounts shown in the following table:

Table 6: Summary of Historical Use

WR No.	Priority Date	Flow Rate (CFS)	Diverted Volume (AF)	Consumed Volume (AF)	Acres	Point of Diversion
41F 132837-00	2/7/1971	37.5	1691.2	458.5	3190.0	SWSENE Sec 17, T01N R02E (Francis-Walbert Ditch (East Ditch))
41F 132838-00	9/2/1970	65.0	2931.4	794.7		
41F 136475-00	2/3/1910	23.04	1039.1	281.7		SESWSE Sec 17, T01N R02E (Dean Francis Ditch (Main Ditch))
41F 136476-00	5/31/1897	4.63	208.8	56.6		
41F 136477-00	6/30/1884	102.87	4639.3	1257.8		NESWSW Sec 29, T01N R02E (Bench Ditch)
41F 136478-00	6/21/1910	102.87	4639.3	1257.8		

FINDINGS OF FACT – Adverse Effect

Irrigation Change

35. The Applicant proposes to change the POU for Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 to irrigate 609.2 acres outside of the historical POU. To offset the new consumptive use associated with the new irrigation and stock reservoirs, the Applicant proposes to permanently retire 877.6 acres of historical irrigation. The Applicant proposes to continue to irrigate 2,312.4 acres within the historical POU, resulting in a total of 2,921.6 acres of irrigation under the proposed change.

36. The proposed acres outside of the historical POU will be irrigated by center pivot sprinklers. Per the Department's Change Application Manual, Change in Method of Irrigation Policy Guidance, only the proposed acres outside of the historical POU will be evaluated for a change in consumptive use.

37. The proposed consumptive use calculations for the areas outside of the historical POU were calculated following the standards in ARM 36.12.1902. The NIR for center-pivot sprinkler irrigation from the NRCS IWR program output for the Gallatin County Bozeman Experimental Farm weather station is 19.55 inches. A Gallatin County proposed use management factor of 98.6% (from ARM 36.12.1902) results in a crop consumptive use of 978.6 AF for 609.2 acres of center-pivot sprinkler irrigation. An estimated field efficiency of 70% for sprinkler irrigation results in a total field applied volume of 1,398.0 AF. Irrecoverable losses resulting from sprinkler irrigation are assumed to be 10%, or 139.8 AF, of the total 1,398.0 AF field applied volume (DNRC, 2013). The total consumptive use for proposed center-pivot sprinkler irrigation of 609.2 acres is 1,118.4 AF (crop consumptive use plus irrecoverable losses).

38. The total new consumed volume for the proposed irrigation outside of the historical POU is 1,118.4 AF on 609.2 acres.

39. The Applicant proposes to permanently retire a portion of the historically irrigated area to offset the new consumptive use that would occur outside the historical POU. The historical consumed volume for 1,029.2 acres of flood irrigation was 1,150.0 AF, or 1.12 AF/acre (FOF 25). The historical consumed volume for 2,160.8 acres of sprinkler irrigation was 2,957.1 AF, or 1.37 AF/acre (FOF 26). The Applicant proposes to permanently retire 284.8 acres of flood irrigation

equal to 318.2 AF based on 1.12 AF/acre. The Applicant proposes to permanently retire 592.8 acres of sprinkler irrigation equal to 811.2 AF based on 1.37 AF/acre (FOF 26).

40. The total historical consumptive use for 877.6 acres proposed to retire is 1,129.5 AF (FOF 39). The total consumptive use for irrigation proposed outside of the historical POU is 1,118.4 AF.

41. The Applicant proposes to continue to irrigate 744.4 acres within the historical flood irrigation POU and 1,568.0 acres within the historical center-pivot sprinkler irrigation POU, resulting in a consumptive use of 2,977.6 AF. The Applicant also proposes to add 609.2 acres of irrigation outside of the historical POU with a total consumptive use of 1,118.4 AF (FOF 38). The total consumptive use for the proposed irrigation (continued irrigation within the historical POU and new acres outside the historical POU) is 4,096.0 AF.

Stock Reservoirs

42. The Applicant proposes to add three places of storage for stock water. The three proposed reservoirs would be lined and would be filled during the historical period of diversion between April 1 and November 1. The total proposed consumed volume for stock is the reservoir capacity (4.5 AF) plus net evaporation (3.3 AF) equal to 7.8 AF.

43. A total of 1,150 animal units (AU) would drink from the proposed reservoirs with a total water requirement of 19.55 AF (1,150 x 0.017 AF/day/AU = 19.55 AF). However, the proposed stock use would be supplemental to the Applicant's existing stock water rights. Therefore, the total stock volume provided by the six water rights proposed for change is equal to the total reservoir capacity of 4.5 AF. The Applicant stated that they expect the full volume to be consumed by stock and no overflow would occur (Amendment to the Application, March 14, 2024).

44. The Applicant stated that the supplemental water supply from the proposed stock reservoirs would improve livestock and rangeland management on the Applicant's property. The existing stock water rights do not have a storage component and are supplied by different water sources than the water rights proposed for change (Amendment to the Application, March 14, 2024). The proposed change would increase flexibility for livestock management by allowing pasture rotation throughout the year. The north reservoir would serve the same pasture as 41F 132848-00, 41F 36500-00, and 41F 30153123. The middle reservoir would serve the same pasture as 41F 3222-00, 41F 132845-00, and 41F 59778-00. And the south reservoir would serve the same pasture as 41F 132847-00, 41F 3223-00, and 41F 132844-00.

45. The proposed stock reservoirs have a total surface area of 1.28 acres. The net evaporation rate is 2.56 ft/year from the north and middle reservoirs and 2.49 ft/year from the south reservoir based on the Department's Gridded Net Evaporation dataset. Therefore, the total net evaporation from 1.28 surface acres is 3.3 AF/year.

46. The total proposed consumed volume for stock is the sum of the total reservoir capacity of 4.5 AF and the total net evaporative loss of 3.7 AF/year equal to 7.8 AF/year.

Comparison of historical consumptive use to new consumptive use

47. The Applicant proposes to continue to irrigate 2,312.4 acres within the historical place of use with a consumed volume of 2,977.6 AF, and 609.2 acres outside of the historical POU with a consumed volume of 1,118.4 AF. The total proposed consumed volume for irrigation is 4,096.0 AF. The total consumed volume for the three proposed stock reservoirs is 7.8 AF.

48. The Applicant proposes to retire 877.6 acres with a historical consumed volume of 1,129.5 AF to offset the new consumptive use for irrigation occurring outside of the historical place of use and the total consumed volume for the proposed stock reservoirs.

49. The total proposed consumed volume for irrigation and stock is 4,103.8 AF. The total historical consumed volume for irrigation is 4,107.1 AF. The total proposed consumed volume is 3.3 AF less than the historical consumed volume.

Table 7: Breakdown of volumes under the proposed use. For acres occurring within the historical POU, volumes were distributed based on the proportion of the proposed acres to the historical acres. For the new proposed irrigation occurring outside the historical POU, volumes were quantified based on DNRC standards found in ARM 36.12.1902.

Type	Total acres	Field application volume (AF)	Consumed volume (AF)[1]
Historical flood irrigation	1,029.2	1,769.3	1,150.0
Historical sprinkler irrigation	2,160.8	3,696.3	2,957.1
Proposed irrigation within historical flood irrigation POU	744.4	1,279.7	831.8
Proposed irrigation within historical sprinkler irrigation POU	1,568.0	2,682.3	2,145.8
Proposed irrigation outside of historical POU	609.2	1,398.0	1,118.4
Proposed flood irrigation to permanently retire	284.8	489.6	318.2
Proposed sprinkler irrigation to permanently retire	592.8	1,014.1	811.2

[1]Consumed volume includes irrecoverable losses

Table 8: Summary of volumes for proposed irrigation, stock, and permanently retired acres.

Category	Total acres	Field application volume (AF)	Consumed volume (AF)
Historical use	3,190.0	5,465.6	4,107.1
Proposed irrigation	2,921.6	5,359.9	4,096.0
Stock	N/A	N/A	7.8
Proposed acres to permanently retire	877.6	1,503.7	1,129.5

Proposed diverted volume

50. The Applicant proposes to irrigate 2,921.6 acres. Water would be diverted at the historical Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) headgates and conveyed to the proposed place of use through the ditch to several secondary points of diversions and pipelines. The conveyance loss calculations are shown below using the same methods described previously to calculate historical conveyance loss.

Dean Francis Ditch (Main Ditch)

Seepage loss

Seepage loss = wetted perimeter x ditch length x ditch loss rate x days irrigated / 43,560 ft^3 per AF

The ditch loss rate is 2.0 ft^3/ft^2/day for sand, gravelly sandy loam (Soil Conservation Service, Web Soil Survey).

Seepage loss = 16.4 ft x 3325.0 ft x 2.0 ft^3/ft^2/day x 215 / 43,560 ft^3 per AF = 538.3 AF

Vegetation loss

Vegetation loss = % loss/mile x flow rate x days irrigated x ditch length x 2

The Department's standard rate of 0.75% loss/mile was used to calculate vegetation loss.

Vegetation loss = 0.75% x 108.35 CFS x 215 x 0.6 mi x 2 = 220.0 AF

Evaporation

Evaporation = surface area x adjusted evaporation constant / 43,560 ft^2 per acre

Net evaporation for the period of diversion (215 days from 4/1-11/1) is 23.0 inches, Gridded Net Evaporation GIS Layer, DNRC 2022.

Evaporation = (12.48 ft x 3325.0 ft) x 1.92 ft / 43,560 ft^2 per acre = 1.8 AF

Total conveyance loss

Total conveyance loss = seepage loss + vegetation loss + evaporation

Total conveyance loss = 538.3 AF + 220.0 AF + 1.8 AF = 760.2 AF

Francis-Walbert Ditch (East Ditch)

Seepage loss

Seepage loss = wetted perimeter x ditch length x ditch loss rate x days irrigated / 43,560 ft^3 per AF

The ditch loss rate is 2.0 ft^3/ft^2/day for sand, gravelly sandy loam (Natural Resource Conservation Service, Web Soil Survey).

Seepage loss = 19.22 ft x 3200 ft x 2.0 ft^3/ft^2/day x 215 / 43,560 ft^3 per AF = 607.1 AF

Vegetation loss

Vegetation loss = % loss/mile x flow rate x days irrigated x ditch length x 2

The Department's standard rate of 0.75% loss/mile was used to calculate vegetation loss.

Vegetation loss = 0.75% x 102.05 CFS x 215 x 0.6 mi x 2 = 199.5 AF

Evaporation

Evaporation = surface area x adjusted evaporation constant / 43,560 ft^2 per acre

Net evaporation for the period of diversion (215 days from 4/1-11/1) is 23.0 inches, Gridded Net Evaporation GIS Layer, DNRC 2022.

Evaporation = (18.0 ft x 3200.0 ft) x 1.92 ft / 43,560 ft^2 per acre = 2.5 AF

Total conveyance loss

Total conveyance loss = seepage loss + vegetation loss + evaporation

Total conveyance loss = 607.1 AF + 199.5 AF + 2.5 AF = 809.1 AF

51. The Applicant also proposes to add a POD at a pump site located in the NESWNE Section 20, T01N R02E, Gallatin County. The Applicant provided pump specifications prepared by Watson Irrigation as Exhibit E in the first Amendment to the Application, received on December 16, 2023. The proposed pump site would consist of two 125 horsepower Cornell 6H pumps operating in series with 12-inch intake screens. Based on the provided pump curve, each pump is capable of pumping 1,925 gpm or 4.3 cfs with a hydraulic head of 180 ft, which is necessary to deliver water to the proposed POU (Amendment to the Application, December 16, 2023, Exhibit E). The proposed pump site has a total capacity of 8.6 cfs (3,850.0 gpm).

52. The proposed pump site will also be used as an additional POD for two other water rights owned by the Applicant, 41F 8354-00 and 41F 8355-00, which are proposed for change in Change Application No. 41F 30163349. All water rights that will be diverted from the proposed pump site are owned by the Applicant. The proposed pump site has a capacity of 8.6 CFS. The Applicant proposes to divert 2.07 CFS through the pump site for irrigation of 152.2 acres under Claims 41F 8354-00 and 41F 8355-00. Following the proposed change, a remaining 6.53 CFS pump capacity will be available for use by water rights proposed for change in Change Application No. 41F 30155891. The Claims subject of this Preliminary Determination will also be diverted through two additional PODs to meet operational needs. After the proposed changes, the Applicant may divert water to all fields simultaneously, or rotate water between the fields depending on operation requirements and seasonal weather conditions.

53. Water would be conveyed from the proposed pump site via a pipeline to center-pivot sprinklers. Therefore, no conveyance loss is associated with the proposed POD.

54. The field application volume for the proposed irrigation is 5,359.9 AF (Table 8). The total proposed conveyance loss is the sum of the Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) equal to 1,569.3 AF. A total of 7.8 AF would be required for the proposed stock reservoirs (capacity plus net evaporation). The total proposed diverted volume (sum of the field application, conveyance loss, and stock volumes) is 6,937.0 AF. The difference between the historical diverted volume (15,149.2 AF) and the proposed diverted volume (6,937.0 AF) is 8,212.2 AF and will be left instream at the historical point of diversion.

55. The proposed diverted and consumed volumes were distributed to each water right proposed for change based on the proportion of the individual flow rate to the cumulative flow rate, shown in Table 9 below.

Table 9: Breakdown of volumes by type, distributed to each water right proposed for change based on the flow rate proportions.

			Consumed Volume (AF)			Diverted Volume (AF)
Water Right No.	**Flow rate (CFS)**	**Proportion of total flow rate**	**Irrigation**	**Stock**	**Retired**	**Irrigation + Stock + Conveyance Loss**
41F 132837-00	30.05	0.11	450.6	0.9	124.2	763.1
41F 132838-00	52.08	0.19	778.2	1.5	214.6	1,318.0
41F 136475-00	18.46	0.07	286.7	0.5	79.1	485.6
41F 136476-00	3.71	0.01	41.0	0.1	11.3	69.4
41F 136477-00	82.43	0.31	1,269.8	2.4	350.1	2,150.5
41F 136478-00	82.43	0.31	1,269.8	2.4	350.1	2,150.5
Total	269.15		4,096.0	7.8	1,129.5	6,937.0

Return Flows

56. The Madison River is the receiving surface stream for historical return flows. The Department's Surface Water Change Report, dated September 10, 2024, identified the Madison River downstream of the southern boundary of the NESWSW Section 29, T01N R02E, Gallatin County as the location of historical return flows.

57. Under the proposed change, the Madison River at the southern boundary of the SESW Section 20, T01N R02E, Gallatin County is the location of return flows.

58. Under historical practices, irrigation of 3,190.0 acres required a field application of 5,465.6 AF, historical consumed volume of 4,107.1 AF, and resulted in a non-consumed return flow volume of 1,358.5 AF.

59. Under the proposed change, irrigation of 2,921.6 acres would require a field application volume of 5,359.9 AF, consumed volume of 4,096.0 AF, and result in a non-consumed return flow volume of 1,263.9 AF. The return flow volume under the proposed change would be 94.6 AF less than historical practices.

60. Seven intervening water rights between the historical and proposed return flow locations were identified. Five water rights (Statement of Claim Nos. 41F 138560-00, 41F 138561-00, 41F 138563-00, 41F 138562-00, and Water Reservation 41F 30017505) are for instream flow purpose owned by Montana Fish, Wildlife and Parks. Two water rights (Statement of Claim Nos. 41F 8354-00 and 41F 8355-00) are for irrigation from the Madison River. The proposed irrigation will require less diverted volume compared to historical practices.

61. All instream flow water rights owned by Montana Fish, Wildlife and Parks have a priority date of December 21, 1970, with the exception of Water Reservation 41F 30017505 that has a priority date of July 1, 1985. Statement of Claim 41F 8354-00 has a priority date of September 2, 1970, and Statement of Claim 41F 8355-00 has a priority date of February 7, 1971. All intervening water rights are junior to the majority of the water rights proposed for change, with the exception of Statement of Claim Nos. 41F 132837-00 and 41F 132838-00 with priority dates of February 7, 1971, and September 2, 1970, respectively. Water will no longer be diverted at the Bench Ditch upstream of the intervening water rights and the Applicant proposes to divert water at the proposed pump site, Dean Francis Ditch (Main Ditch), and Francis-Walbert Ditch (East Ditch) within the reach of river that was historically affected by the Applicant's diversions. The Applicant will continue to use their historical point of diversion and will not create an adverse effect to other users due to a shift in the location of a call for water.

62. Under the proposed change, water will be left instream so that a portion of the historically diverted volume equal to 8,212.2 AF is available during the historical period of diversion beginning at the upstream-most POD. Return flows associated with the proposed irrigation will return back to the Madison River at the southern boundary of the SESW Section 20, T01N R02E, Gallatin County (DNRC, 2024); approximately one mile downstream of the historical location. In addition, the difference between the historical return flow volume and the proposed return flow volume is 94.6 AF and is less than the volume left instream (8,212.2 AF) under the proposed change. Per the Department's Change Application Manual, a quantification of the monthly volume returning to hydraulically connected surface water was not conducted.

63. No increase in consumptive use will occur with the proposed change. The historical consumed volume for irrigation of 3,190.0 acres is 4,107.1 AF. The proposed irrigation of 2,921.6 acres and three stock reservoirs would result in a consumed volume of 4,103.8 AF.

64. The proposed change will require a smaller diverted flow rate and volume than the historical use.

65. The Department finds the Applicant has proved with clear and convincing evidence that there will be no adverse effect to other water users resulting from this proposed change under the terms and conditions set out in this Preliminary Determination.

BENEFICIAL USE

FINDINGS OF FACT

66. The Applicant proposes to use water for irrigation and stock. (Application Materials, IR.6; Amendment to the Application, March 14, 2024)

67. The Applicant proposes to use 6,929.2 AF diverted volume and 269.15 CFS flow rate for continued irrigation. This amount is supported by the Department's standards for determining consumptive use for irrigation (ARM 36.12.1902, FOF 23-33).

68. The Applicant stated that water would be diverted throughout the entire irrigation season (215 days) in order to maintain the large flow rate necessary for irrigation of 2,921.6 acres. Water would be conveyed in two large ditches with a total length of 1.2 miles and a pump site. The Applicant stated that the large flow rate is needed to deliver a sufficient volume of water for irrigation after accounting for conveyance loss and to maintain adequate water levels at the secondary pump sites for the irrigation system (Application Materials, IR.3, p15). The secondary pump sites pump water directly from the ditches through pipelines to the sprinkler irrigation systems (Application Materials, IR.5.D).

69. The Applicant proposes to use 7.8 AF for stock purpose in three places of storage. The amount is supported by the total capacity of the reservoirs (4.5 AF) and the Departments standards for determining net evaporative loss of 3.3 AF (Technical Memorandum: Pond and Wetland Evaporation/Evapotranspiration, June 7, 2023). The reservoirs will provide stock water to 1,150 AU with a total water requirement of 19.55 AF. The proposed reservoirs will add storage for stock water supplied from a different source of water than the Applicant's existing water rights and improve livestock and rangeland management (FOF 42). The Applicant's existing stock water rights will provide the difference between the reservoir capacity and the total stock demand.

70. The Department finds that the Applicant has proven by clear and convincing evidence that the proposed irrigation and stock purpose is a beneficial use and that 6,937.0 AF and 269.15 CFS is the amount necessary for the proposed beneficial use.

ADEQUATE DIVERSION

FINDINGS OF FACT

71. The Applicant proposes to divert water at the Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) PODs for continued irrigation of 2,921.6 acres. The Applicant withdrew the Bench Ditch as a proposed POD in the Amendment to the Application dated January 7, 2025. The Dean Francis Ditch (Main Ditch) has a maximum capacity of 158.5 CFS and the Francis-Walbert Ditch (East Ditch) has a maximum capacity of 102.05 CFS (FOF 20).

72. The Applicant also proposes to add a POD at a pump site located in the NESWNE Section 20, T01N R02E, Gallatin County. The Applicant provided pump specifications prepared by Watson Irrigation as Exhibit E in the first Amendment to the Application, received on December 16, 2023. The proposed pump site would consist of two 125 horsepower Cornell 6H pumps operating in series with 12-inch intake screens. Based on the provided pump curve, each pump is capable of pumping 1,925 gpm or 4.3 cfs with a hydraulic head of 180 ft, which is necessary to deliver water to the proposed POU (Amendment to the Application, December 16, 2023, Exhibit E). The proposed pump site has a total capacity of 8.6 cfs (3,850.0 gpm).

73. The proposed flow rate of 269.15 CFS is equal to 533.0 AF/day (269.15 CFS x 1.98 = 533.0). At a diversion rate of 269.15 CFS, the total proposed field application plus stock volume of 5,367.7 AF could be achieved in a minimum period of 10.1 days (5,367.7 / 533.0 = 10.1); assuming a constant field application rate at the maximum flow rate and not accounting for conveyance loss and field rotations. Based on the maximum system capacity, the Dean Francis Ditch (Main Ditch), Francis-Walbert Ditch (East Ditch) and the proposed pump site are adequate for conveying a sufficient flow rate and volume for the proposed irrigation and stock purpose within the decreed period of diversion of 215 days (April 1 – November 4).

74. The Department finds that the Applicant has proven by clear and convincing evidence that the diversion infrastructure is adequate for the proposed use.

POSSESSORY INTEREST

FINDINGS OF FACT

75. The proposed irrigation includes 12 acres in the N2NW Section 18, T01N R02E, Gallatin County that overlaps with the place of use for Statement of Claim 41F 215610-00 owned by the State of Montana. The Applicant submitted a copy of the signed agreement with the State of Montana that states that Statement of Claim 41F 215610-00 is a duplicate filing and the State agreed to withdraw this water right in the upcoming preliminary decree for basin 41F (Deficiency Letter Response, Exhibit A), and this letter proves consent by the State of Montana.

76. The Applicant signed the affidavit on the application form affirming the Applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use (Department file).

REASONABLE USE

FINDINGS OF FACT

77. The Applicant proposes to change 6,937.0 AF and 269.15 CFS for irrigation and stock (FOF Nos. 5-9). Accordingly, the Applicant is required to prove that the proposed change in excess of 4,000 AF and flow rate of 5.5 CFS of water is a reasonable use pursuant to § 85-2-402(4)(b), MCA.

78. The Applicant's proposed change would require 6,937.0 AF diverted volume for irrigation and stock purpose. The difference between the historical diverted volume (15,149.2 AF) and the proposed diverted volume (6,937.0 AF) is 8,212.2 AF and will be left instream at the historical point of diversion (FOF 48) and will be available for appropriation by existing water rights and future beneficial uses.

79. The Applicant's proposed change provides the benefit of irrigation and stock water. The Applicant proposes to continue to irrigate 2,921.6 acres and provide stock water for 1,150 AUs, which are recognized beneficial uses of water and consistent with local and regional practices to support the rural agricultural economy. The proposed change will allow the Applicant to continue to put their water rights to a beneficial use and benefit financially from the continued irrigation.

80. The proposed change requires less diverted and consumed volume compared to historical practices. The Applicant proposes to leave 8,212.2 AF instream at the historical POD (FOF 48), which will benefit water quantity and quality in the Madison River.

81. An Environmental Assessment was completed on January 7, 2025, and no significant adverse environmental impacts of the proposed use of water was determined by the Department.

82. The Department finds the Applicant has proven the proposed change in place of use, purpose, and point of diversion for the six water rights included in this application and the appropriation of more than 4,000 AF and 5.5 CFS is a reasonable use of water.

CONCLUSIONS OF LAW

HISTORICAL USE AND ADVERSE EFFECT

83. Montana's change statute codifies the fundamental principles of the Prior Appropriation Doctrine. Sections 85-2-401 and -402(1)(a), MCA, authorize changes to existing water rights, permits, and water reservations subject to the fundamental tenet of Montana water law that one may change only that to which he or she has the right based upon beneficial use. A change to an existing water right may not expand the consumptive use of the underlying right or remove the well-established limit of the appropriator's right to water actually taken and beneficially used. An increase in consumptive use constitutes a new appropriation and is subject to the new water use permit requirements of the MWUA. *McDonald v. State*, 220 Mont. 519, 530, 722 P.2d 598, 605 (1986)(beneficial use constitutes the basis, measure, and limit of a water right); *Featherman v. Hennessy*, 43 Mont. 310, 316-17, 115 P. 983, 986 (1911)(increased consumption associated with expanded use of underlying right amounted to new appropriation rather than change in use); *Quigley v. McIntosh*, 110 Mont. 495, 103 P.2d 1067, 1072-74 (1940)(appropriator may not expand a water right through the guise of a change – expanded use constitutes a new use with a new priority date junior to intervening water uses); *Allen v. Petrick*, 69 Mont. 373, 222 P. 451(1924)("quantity of water which may be claimed lawfully under a prior appropriation is limited to that quantity within the amount claimed which the appropriator has needed, and which within a reasonable time he has actually and economically applied to a beneficial use. . . . it may be said that the principle of beneficial use is the one of paramount importance . . . The appropriator does not own the water. He has a right of ownership in its use only"); *Town of Manhattan*, at ¶ 10 (an appropriator's right only attaches to the amount of water actually taken and beneficially applied);

84. Sections 85-2-401(1) and -402(2)(a), MCA, codify the prior appropriation principles that Montana appropriators have a vested right to maintain surface and ground water conditions substantially as they existed at the time of their appropriation; subsequent appropriators may insist that prior appropriators confine their use to what was actually appropriated or necessary for

their originally intended purpose of use; and, an appropriator may not change or alter its use in a manner that adversely affects another water user. *Spokane Ranch & Water Co. v. Beatty*, 37 Mont. 342, 96 P. 727, 731 (1908); *Quigley*, 110 Mont. at 505-11,103 P.2d at 1072-74; *Matter of Royston*, 249 Mont. at 429, 816 P.2d at 1057; *Hohenlohe*, at ¶¶43-45.[1]

85. The cornerstone of evaluating potential adverse effect to other appropriators is the determination of the "historic use" of the water right being changed. *Town of Manhattan*, at ¶10 (recognizing that the Department's obligation to ensure that change will not adversely affect other water rights requires analysis of the actual historic amount, pattern, and means of water use). A change applicant must prove the extent and pattern of use for the underlying right proposed for change through evidence of the historic diverted amount, consumed amount, place of use, pattern of use, and return flow because a statement of claim, permit, or decree may not include the beneficial use information necessary to evaluate the amount of water available for change or potential for adverse effect.[2] A comparative analysis of the historic use of the water right to the proposed change in use is necessary to prove the change will not result in expansion of the original right, or adversely affect water users who are entitled to rely upon maintenance of conditions on the source of supply for their water rights. *Quigley*, 103 P.2d at 1072-75 (it is necessary to ascertain historic use of a decreed water right to determine whether a change in use

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[1] See also Holmstrom Land Co., Inc., v. Newlan Creek Water District,185 Mont. 409, 605 P.2d 1060 (1979); Lokowich v. Helena, 46 Mont. 575, 129 P. 1063(1913); Thompson v. Harvey, 164 Mont. 133, 519 P.2d 963 (1974)(plaintiff could not change his diversion to a point upstream of the defendants because of the injury resulting to the defendants); McIntosh v. Graveley, 159 Mont. 72, 495 P.2d 186 (1972)(appropriator was entitled to move his point of diversion downstream, so long as he installed measuring devices to ensure that he took no more than would have been available at his original point of diversion); Head v. Hale, 38 Mont. 302, 100 P. 222 (1909)(successors of the appropriator of water appropriated for placer mining purposes cannot so change its use as to deprive lower appropriators of their rights, already acquired, in the use of it for irrigating purposes); and, Gassert v. Noyes, 18 Mont. 216, 44 P. 959(1896)(change in place of use was unlawful where reduced the amount of water in the source of supply available which was subject to plaintiff's subsequent right).

[2]A claim only constitutes *prima facie* evidence for the purposes of the adjudication under § 85-2-221, MCA. The claim does not constitute *prima facie* evidence of historical use in a change proceeding under §85-2-402, MCA. For example, most water rights decreed for irrigation are not decreed with a volume and provide limited evidence of actual historic beneficial use. §85-2-234, MCA

expands the underlying right to the detriment of other water user because a decree only provides a limited description of the right); *Royston*, 249 Mont. at 431-32, 816 P.2d at 1059-60 (record could not sustain a conclusion of no adverse effect because the applicant failed to provide the Department with evidence of the historic diverted volume, consumption, and return flow); *Hohenlohe*, at ¶44-45; *Town of Manhattan v. DNRC*, Cause No. DV-09-872C, Montana Eighteenth Judicial District Court, *Order Re Petition for Judicial Review,* Pgs. 11-12 (proof of historic use is required even when the right has been decreed because the decreed flow rate or volume establishes the maximum appropriation that may be diverted, and may exceed the historical pattern of use, amount diverted or amount consumed through actual use); *Matter of Application For Beneficial Water Use Permit By City of Bozeman*, *Memorandum*, Pgs. 8-22 (Adopted by DNRC *Final Order* January 9,1985)(evidence of historic use must be compared to the proposed change in use to give effect to the implied limitations read into every decreed right that an appropriator has no right to expand his appropriation or change his use to the detriment of juniors).[3]

86. An applicant must also analyze the extent to which a proposed change may alter historic return flows for purposes of establishing that the proposed change will not result in adverse effect. The requisite return flow analysis reflects the fundamental tenant of Montana water law that once

[3] Other western states likewise rely upon the doctrine of historic use as a critical component in evaluating changes in appropriation rights for expansion and adverse effect: Pueblo West Metropolitan District v. Southeastern Colorado Water Conservancy District, 717 P.2d 955, 959 (Colo. 1986)("[O]nce an appropriator exercises his or her privilege to change a water right … the appropriator runs a real risk of requantification of the water right based on actual historical consumptive use. In such a change proceeding a junior water right … which had been strictly administered throughout its existence would, in all probability, be reduced to a lesser quantity because of the relatively limited actual historic use of the right."); Santa Fe Trail Ranches Property Owners Ass'n v. Simpson, 990 P.2d 46, 55 -57 (Colo.,1999); Farmers Reservoir and Irr. Co. v. City of Golden, 44 P.3d 241, 245 (Colo. 2002)("We [Colorado Supreme Court] have stated time and again that the need for security and predictability in the prior appropriation system dictates that holders of vested water rights are entitled to the continuation of stream conditions as they existed at the time they first made their appropriation); Application for Water Rights in Rio Grande County, 53 P.3d 1165, 1170 (Colo. 2002); Wyo. Stat. § 41-3-104 (When an owner of a water right wishes to change a water right … he shall file a petition requesting permission to make such a change …. The change … may be allowed provided that the quantity of water transferred … shall not exceed the amount of water historically diverted under the existing use, nor increase the historic rate of diversion under the existing use, nor increase the historic amount consumptively used under the existing use, nor decrease the historic amount of return flow, nor in any manner injure other existing lawful appropriators.); Basin Elec. Power Co-op. v. State Bd. of Control, 578 P.2d 557, 564 -566 (Wyo,1978) (a water right holder may not effect a change of use transferring more water than he had historically consumptively used; regardless of the lack of injury to other appropriators, the amount of water historically diverted under the existing use, the historic rate of diversion under the existing use, the historic amount consumptively used under the existing use, and the historic amount of return flow must be considered.)

water leaves the control of the original appropriator, the original appropriator has no right to its use and the water is subject to appropriation by others. E.g., *Hohenlohe*, at ¶44; *Rock Creek Ditch & Flume Co. v. Miller*, 93 Mont. 248, 17 P.2d 1074, 1077 (1933); *Newton v. Weiler*, 87 Mont. 164, 286 P. 133(1930); *Popham v. Holloron*, 84 Mont. 442, 275 P. 1099, 1102 (1929); *Galiger v. McNulty*, 80 Mont. 339, 260 P. 401 (1927); *Head v. Hale*, 38 Mont. 302, 100 P. 222 (1909); *Spokane Ranch & Water Co.,* 37 Mont. at 351-52, 96 P. at 731; *Hidden Hollow Ranch v. Fields*, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185; ARM 36.12.101(56) (Return flow - that part of a diverted flow which is not consumed by the appropriator and returns underground to its original source or another source of water - is not part of a water right and is subject to appropriation by subsequent water users).[4]

87. Although the level of analysis may vary, analysis of the extent to which a proposed change may alter the amount, location, or timing return flows is critical in order to prove that the proposed change will not adversely affect other appropriators who rely on those return flows as part of the source of supply for their water rights. *Royston*, 249 Mont. at 431, 816 P.2d at 1059-60; *Hohenlohe*, at ¶¶ 45-6 and 55-6; *Spokane Ranch & Water Co.,* 37 Mont. at 351-52, 96 P. at 731.

88. In *Royston*, the Montana Supreme Court confirmed that an applicant is required to prove lack of adverse effect through comparison of the proposed change to the historic use, historic consumption, and historic return flows of the original right. 249 Mont. at 431, 816 P.2d at 1059-60. More recently, the Montana Supreme Court explained the relationship between the fundamental principles of historic beneficial use, return flow, and the rights of subsequent appropriators as they relate to the adverse effect analysis in a change proceeding in the following manner:

> The question of adverse effect under §§ 85-2-402(2) and -408(3), MCA, implicates return flows. A change in the amount of return flow, or to the hydrogeologic pattern of return flow, has the potential to affect adversely downstream water rights. There consequently exists an inextricable link between the "amount historically consumed" and the water that re-enters the stream as return flow. . . .

[4] The Montana Supreme Court recently recognized the fundamental nature of return flows to Montana's water sources in addressing whether the Mitchell Slough was a perennial flowing stream, given the large amount of irrigation return flow which feeds the stream. The Court acknowledged that the Mitchell's flows are fed by irrigation return flows available for appropriation. *Bitterroot River Protective Ass'n, Inc. v. Bitterroot Conservation Dist.*, 2008 MT 377, ¶¶ 22, 31, 43, 346 Mont. 508, 198 P.3d 219,(*citing Hidden Hollow Ranch v. Fields*, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185).

> An appropriator historically has been entitled to the greatest quantity of water he can put to use. The requirement that the use be both beneficial and reasonable, however, proscribes this tenet. This limitation springs from a fundamental tenet of western water law-that an appropriator has a right only to that amount of water historically put to beneficial use-developed in concert with the rationale that each subsequent appropriator "is entitled to have the water flow in the same manner as when he located," and the appropriator may insist that prior appropriators do not affect adversely his rights.
> This fundamental rule of Montana water law has dictated the Department's determinations in numerous prior change proceedings. The Department claims that historic consumptive use, as quantified in part by return flow analysis, represents a key element of proving historic beneficial use.
> We do not dispute this interrelationship between historic consumptive use, return flow, and the amount of water to which an appropriator is entitled as limited by his past beneficial use.

Hohenlohe, at ¶¶ 42-45 (internal citations omitted).

89. The Department's rules reflect the above fundamental principles of Montana water law and are designed to itemize the type evidence and analysis required for an applicant to meet its burden of proof. Admin.R.M. 36.12.1901 through 1903. These rules forth specific evidence and analysis required to establish the parameters of historic use of the water right being changed. Admin.R.M. 36.12.1901 and 1902. The rules also outline the analysis required to establish a lack of adverse effect based upon a comparison of historic use of the water rights being changed to the proposed use under the changed conditions along with evaluation of the potential impacts of the change on other water users caused by changes in the amount, timing, or location of historic diversions and return flows. Admin.R.M. 36.12.1901 and 1903.

90. Applicant seeks to change existing water rights represented by its Water Right Claims. The "existing water rights" in this case are those as they existed prior to July 1, 1973, because with limited exception, no changes could have been made to those rights after that date without the Department's approval. Analysis of adverse effect in a change to an "existing water right" requires evaluation of what the water right looked like and how it was exercised prior to July 1, 1973. In *McDonald v. State*, the Montana Supreme Court explained:

> The foregoing cases and many others serve to illustrate that what is preserved to owners of appropriated or decreed water rights by the provision of the 1972 Constitution is what the law has always contemplated in this state as the extent of a water right: such amount of water as, by pattern of use and means of use, the owners or their predecessors put to beneficial use. . . . the Water Use Act

> contemplates that all water rights, regardless of prior statements or claims as to amount, must nevertheless, to be recognized, pass the test of historical, unabandoned beneficial use. . . . To that extent only the 1972 constitutional recognition of water rights is effective and will be sustained.

220 Mont. at 529, 722 P.2d at 604; see also *Matter of Clark Fork River Drainage Area*, 254 Mont. 11, 17, 833 P.2d 1120 (1992).

91. Water Resources Surveys were authorized by the 1939 legislature. 1939 Mont. Laws Ch. 185, § 5. Since their completion, Water Resources Surveys have been invaluable evidence in water right disputes and have long been relied on by Montana courts. In *re Adjudication of Existing Rights to Use of All Water in North End Subbasin of Bitterroot River Drainage Area in Ravalli and Missoula Counties*, 295 Mont. 447, 453, 984 P.2d 151, 155 (1999)(Water Resources Survey used as evidence in adjudicating of water rights); *Wareing v. Schreckendgust*, 280 Mont. 196, 213, 930 P.2d 37, 47 (1996)(Water Resources Survey used as evidence in a prescriptive ditch easement case); *Olsen v. McQueary*, 212 Mont. 173, 180, 687 P.2d 712, 716 (1984) (judicial notice taken of Water Resources Survey in water right dispute concerning branches of a creek).

92. While evidence may be provided that a particular parcel was irrigated, the actual amount of water historically diverted and consumed is critical. E.g., *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, DNRC Proposal for Decision adopted by Final Order (2005). The Department cannot assume that a parcel received the full duty of water or that it received sufficient water to constitute full-service irrigation for optimum plant growth. Even when it seems clear that no other rights could be affected solely by a particular change in the location of diversion, it is essential that the change also not enlarge an existing right. See *MacDonald*, 220 Mont. at 529, 722 P.2d at 604; *Featherman*, 43 Mont. at 316-17, 115 P. at 986; *Trail's End Ranch, L.L.C. v. Colorado Div. of Water Resources* 91 P.3d 1058, 1063 (Colo., 2004).

93. The Department has adopted a rule providing for the calculation of historic consumptive use where the applicant proves by a preponderance of the evidence that the acreage was historically irrigated. Admin. R. M. 36.12.1902 (16). In the alternative an applicant may present its own evidence of historic beneficial use. In this case Applicant has elected to proceed under Admin. R.M. 36.12.1902. (FOF No. 24).

94. If an applicant seeks more than the historic consumptive use as calculated by Admin.R.M .36.12.1902 (16), the applicant bears the burden of proof to demonstrate the amount of historic

consumptive use by a preponderance of the evidence. The actual historic use of water could be less than the optimum utilization represented by the calculated duty of water in any particular case. E.g., *Application for Water Rights in Rio Grande County* 53 P.3d 1165 (Colo., 2002) (historical use must be quantified to ensure no enlargement); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.,* supra; *Orr v. Arapahoe Water and Sanitation Dist.* 753 P.2d 1217, 1223 -1224 (Colo., 1988) (historical use of a water right could very well be less than the duty of water); *Weibert v. Rothe Bros., Inc.,* 200 Colo. 310, 317, 618 P.2d 1367, 1371 - 1372 (Colo. 1980) (historical use could be less than the optimum utilization "duty of water").

95. Based upon the Applicant's evidence of historical use, the Applicant has proven by a preponderance of the evidence the historical use of Water Right Claim No. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 of 15,172.1 AF diverted volume and 335.91 CFS flow rate with a consumptive use of 4,107.1 acre-feet. The historical use attributed to each water right proposed for change is shown in Table 10 below (FOF Nos. 15-34).

Table 10: Historical use for water rights proposed for change.

WR Number	Flow rate (CFS)	Proportion of total flow rate	Field application volume (AF)	Consumptive volume (AF)	Conveyance loss volume (AF)	Diverted volume (AF)
41F 132837-00	37.5	0.11	610.2	458.5	1,081.0	1,691.2
41F 132838-00	65	0.19	1,057.6	794.7	1,873.8	2,931.4
41F 136475-00	23.04	0.07	374.9	281.7	664.2	1,039.1
41F 136476-00	4.63	0.01	75.3	56.6	133.5	208.8
41F 136477-00	102.87	0.31	1,673.8	1,257.8	2,965.5	4,639.3
41F 136478-00	102.87	0.31	1,673.8	1,257.8	2,965.5	4,639.3
TOTAL	335.91	1.00	5,465.6	4,107.1	9,683.6	15,149.2

96. Based upon the comparative analysis of historical water use and return flows to water use and return flows under the proposed change, the Applicant has proven that the proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been

issued or for which a state water reservation has been issued. §85-2-402(2)(b), MCA. (FOF Nos. 56-65)

BENEFICIAL USE

97. A change applicant must prove by a preponderance of the evidence the proposed use is a beneficial use. §§85-2-102(4) and -402(2)(c), MCA. Beneficial use is and has always been the hallmark of a valid Montana water right: "[T]he amount actually needed for beneficial use within the appropriation will be the basis, measure, and the limit of all water rights in Montana . . ." *McDonald*, 220 Mont. at 532, 722 P.2d at 606. The analysis of the beneficial use criterion is the same for change authorizations under §85-2-402, MCA, and new beneficial permits under §85-2-311, MCA. Admin.R.M. 36.12.1801. The amount of water that may be authorized for change is limited to the amount of water necessary to sustain the beneficial use. E.g., *Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court (2003) (*affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518); *Worden v. Alexander*, 108 Mont. 208, 90 P.2d 160 (1939); *Allen v. Petrick*, 69 Mont. 373, 222 P. 451(1924); *Sitz Ranch v. DNRC*, DV-10-13390, Montana Fifth Judicial District Court, *Order Affirming DNRC Decision*, Pg. 3 (2011)(citing *BRPA v. Siebel*, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet); *Toohey v. Campbell*, 24 Mont. 13, 60 P. 396 (1900)("The policy of the law is to prevent a person from acquiring exclusive control of a stream, or any part thereof, not for present and actual beneficial use, but for mere future speculative profit or advantage, without regard to existing or contemplated beneficial uses. He is restricted in the amount that he can appropriate to the quantity needed for such beneficial purposes."); §85-2-312(1)(a), MCA (DNRC is statutorily prohibited from issuing a permit for more water than can be beneficially used).

98. The Applicant proposes to use water for irrigation and stock which are recognized beneficial uses. §85-2-102(5), MCA. The Applicant has proven by a preponderance of the evidence that irrigation is a beneficial use and that 6,937.0 AF of diverted volume and 269.15 CFS flow rate of water requested is the amount needed to sustain the beneficial use. The proposed volumes and flow rates are within the standards set by DNRC Rule. § 85-2-402(2)(c), MCA (FOF Nos. 66-70)

ADEQUATE MEANS OF DIVERSION

99. Pursuant to § 85-2-402 (2)(b), MCA, the Applicant must prove by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate. This codifies the prior appropriation principle that the means of diversion must be reasonably effective for the contemplated use and may not result in a waste of the resource. Crowley v. 6th Judicial District Court, 108 Mont. 89, 88 P.2d 23 (1939); In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC (DNRC Final Order 2002)(information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies based upon project complexity; design by licensed engineer adequate).

100. For the proposed irrigation and stock purpose, pursuant to §85-2-402 (2)(b), MCA, the Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. (FOF No. 71-74)

POSSESSORY INTEREST

101. Pursuant to §85-2-402(2)(d), MCA, the Applicant must prove by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. See also Admin.R.M. 36.12.1802

102. For the proposed irrigation and stock use, the Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (FOF Nos. 75-76)

REASONABLE USE

103. The Department may not approve a change in purpose of use or place of use of an appropriation of 4,000 or more acre-feet of water per year and 5.5 or more cubic feet per second of water unless the appropriator proves by clear and convincing evidence that the § 85-2-402(4),

MCA, criteria are satisfied and the proposed change in appropriation right is a reasonable use. Sections 85-2-402(4)-(5), MCA. The appropriator must consider: the existing legal demands of water rights on the state water supply and future beneficial purposes; the benefits to the applicant and the state; the effects on the quantity and quality of the water for existing uses; the availability of using low-quality water for the purpose of the appropriation; the effects on private property rights by any saline seep contributions; and the probable significant adverse environmental impacts of the proposed use. *Id.* The Applicant has proven by clear and convincing evidence that the proposed appropriation of 6,937.0 AF and 269.15 CFS is a reasonable use of water. (FOF Nos. 77-82)

PRELIMINARY DETERMINATION

Subject to the terms and analysis in this Preliminary Determination Order, the Department preliminarily determines that this Application to Change Water Right No. 41F 30155891 should be granted subject to the following.

The Applicant is authorized to change the point of diversion, place of use, and purpose for Statement of Claim Nos. 41F 132837-00, 41F 132838-00, 41F 136475-00, 41F 136476-00, 41F 136477-00, and 41F 136478-00 for irrigation of 609.2 acres and stock purpose for 1,150 animal units. The three authorized stock reservoirs are shown in Table 12 below. The Applicant is authorized to add a point of diversion at a pump site located on the Madison River in the NESWNE Section 20 T01N R02E, Gallatin County at a maximum flow rate of 8.6 cfs. Two historical points of diversion on the Madison River will remain the same and are located at the headgates for the Dean Francis Ditch (Main Ditch) and Francis-Walbert Ditch (East Ditch) located in the SESWSE and SWSENE Section 17, T01N R02E, Gallatin County.

The total number of acres authorized for irrigation is 2,921.6 with a diverted volume of 6,937.0 AF, consumed volume of 4,096.0 AF, and flow rate of 269.15 CFS. The period of diversion and period of use will remain the same and are from 4/1 to 11/1. A breakdown of the total volumes and flow rates by purpose and individual water rights authorized for change are shown in Table 11 and POU legal land descriptions in

Table 13 below.

Table 11: Distribution of volumes and flow rates authorized for irrigation and stock.

		Consumed volume (AF)		**Diverted volume (AF)**
Water Right Number	**Flow Rate (cfs)**	***Irrigation***	***Stock***	***Irrigation + Stock + Conveyance Loss***
41F 132837-00	30.05	450.6	0.9	763.1
41F 132838-00	52.08	778.2	1.5	1,318.0
41F 136475-00	18.46	286.7	0.5	485.6
41F 136476-00	3.71	41.0	0.1	69.4
41F 136477-00	82.43	1,269.8	2.4	2,150.5
41F 136478-00	82.43	1,269.8	2.4	2,150.5
Total	**269.15**	**4,096.0**	**7.8**	**6,937.0**

Table 12: Authorized place of storage for stock purpose.

Name	Location	Surface Area (acres)	Max Depth (ft)	Capacity (AF)	Net Evaporation (AF)	Total Volume (AF)
North Reservoir	S2NENW and N2SENW of Section 7, T1N R2E	0.7	9.0	2.52	1.79	4.31
Middle Reservoir	NWSESW of Secton 18, T1N R2E	0.4	7.0	1.12	1.02	2.14
South Reservoir	NWNWNW of Secton 29, T1N R2E	0.18	12.0	0.86	0.45	1.31
Total				**4.5**	**3.26**	**7.76**

Table 13: Legal land descriptions for the acres for continued irrigation within the historical POU and new irrigation outside the historical POU.

POD ID	Within Historical POU	Outside Historical POU	Total Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	31.04	59.96	90.99		S2N2	1	1N	1E	GALLATIN
2	93.15	45.71	138.86		S2	1	1N	1E	GALLATIN
3	139.00	59.33	198.33		S2	12	1N	1E	GALLATIN
4	138.30	56.75	195.05		N2	13	1N	1E	GALLATIN
5	275.60	0.00	275.60		S2	13	1N	1E	GALLATIN
6	4.10	0.00	4.10		W2W2SE	5	1N	2E	GALLATIN
7	112.96	0.00	112.96		W2	5	1N	2E	GALLATIN
8	53.33	0.00	53.33		E2NE	6	1N	2E	GALLATIN
9	165.45	24.13	189.57		S2	6	1N	2E	GALLATIN
10	137.39	5.42	142.81		E2	7	1N	2E	GALLATIN
11	7.10	0.00	7.10		N2N2NW	7	1N	2E	GALLATIN
12	25.60	0.00	25.60		S2NW	7	1N	2E	GALLATIN
13	149.40	0.00	149.40		SW	7	1N	2E	GALLATIN
14	44.80	0.00	44.80		W2E2	8	1N	2E	GALLATIN
15	282.15	7.54	289.68		W2	8	1N	2E	GALLATIN
16	2.86	0.00	2.86		W2E2	17	1N	2E	GALLATIN
17	153.03	61.40	214.43		W2	17	1N	2E	GALLATIN
18	10.60	0.00	10.60		N2N2N2	18	1N	2E	GALLATIN
19	86.35	35.07	121.43		SE	18	1N	2E	GALLATIN
20	1.30	0.00	1.30		W2W2SW	18	1N	2E	GALLATIN
21	137.20	0.00	137.20		NE	19	1N	2E	GALLATIN
22	2.10	0.00	2.10		N2N2SE	19	1N	2E	GALLATIN
23	1.20	1.18	2.38		W2SWSE	19	1N	2E	GALLATIN
24	253.70	9.45	263.15		W2	19	1N	2E	GALLATIN
25	4.70	0.00	4.70		W2W2NW	20	1N	2E	GALLATIN
26	0.00	0.00	0.00		W2NWSW	29	1N	2E	GALLATIN
27	0.00	0.00	0.00		N2	30	1N	2E	GALLATIN
28	0.00	0.00	0.00		S2	30	1N	2E	GALLATIN
29	0.00	0.00	0.00		N2	31	1N	2E	GALLATIN
N/A	0.00	103.56	103.56		NE	12	1N	1E	GALLATIN
N/A	0.00	7.05	7.05		SENW	12	1N	1E	GALLATIN
N/A	0.00	0.38	0.38		SWSE	12	1N	1E	GALLATIN
N/A	0.00	2.79	2.79		NESW	13	1N	1E	GALLATIN
N/A	0.00	3.05	3.05		NWSE	13	1N	1E	GALLATIN
N/A	0.00	0.03	0.03		SESW	6	1N	2E	GALLATIN
N/A	0.00	2.73	2.73	1		7	1N	2E	GALLATIN
N/A	0.00	3.91	3.91		NENW	7	1N	2E	GALLATIN
N/A	0.00	0.25	0.25		NWNE	7	1N	2E	GALLATIN
N/A	0.00	95.93	95.93		SW	18	1N	2E	GALLATIN
N/A	0.00	14.24	14.24		NESW	18	1N	2E	GALLATIN
N/A	0.00	0.12	0.12		SESE	18	1N	2E	GALLATIN
N/A	0.00	2.84	2.84		NWSE	19	1N	2E	GALLATIN
N/A	0.00	6.39	6.39		N2N2	1	1N	1E	GALLATIN
TOTAL	2312.40	609.20	2921.60						

NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§85-2-307, and -308, MCA. If this Application receives a valid objection, it will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and §85-2-309, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection(s) and the valid objection(s) are conditionally withdrawn, the Department will consider the proposed condition(s) and grant the Application with such conditions as the Department decides necessary to satisfy the applicable criteria. E.g., §§85-2-310, -312, MCA.

DATED this 8th day of January 2025,

/Original signed by Kerri Strasheim/

Kerri Strasheim, Manager
Bozeman Regional Office
Department of Natural Resources
and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 8th day of January 2025, by first class United States mail.

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