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

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APPLICATION TO CHANGE WATER RIGHT NO. 40C 30170690 BY PAUL AND NATALIE BOYD	**PRELIMINARY DETERMINATION TO GRANT IN MODIFIED FORM CHANGE**

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On December 19, 2025, Paul and Natalie Boyd (Applicants) submitted Application to Change Water Right No. 40C 30170690 to change Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00 to the Billings Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the application on its website. A preapplication meeting was held between the Department, the Applicants, and the Applicants' consultant Patrick Riley on April 8, 2025, in which the Applicants designated that the technical analyses for this application would be completed by the Department. The Applicants returned the completed Preapplication Checklist on August 6, 2025. The Department delivered the Department- completed technical analyses on September 26, 2025. The Application was determined to be correct and complete as of January 13, 2026. An Environmental Assessment for this application was completed on March 11, 2026. The Department received three (3) public comments and this Preliminary Determination to Grant in Modified Form incorporates the Department's consideration of, and responses to these public comments.

INFORMATION

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

Application as filed:

- Application for Change of Appropriation Water Right, Form 606
- Attachments:
    - Affidavit of Paul Boyd regarding historical irrigation of ranch he now owns and operates, dated April 7, 2025
    - Attachment titled "Boyd change application for change details" with list of water right numbers proposed for change, historical flow rate, historical acres irrigated, how many acres proposed to be moved, proposed acres, proposed flow rate, and a narrative description of the proposed change.

- Copy of letter from DNRC Hydrologist Christine Schweigert to Paul and Natalie Boyd, dated September 26, 2025, regarding the Department-completed Technical Analysis for Change Application No. 40C 30170690 labeled 2.d
- Copy of the Department-completed Technical Analysis, dated September 26, 2025, labeled 2.e.i
- Letter from Montana Sage Grouse Habitat Conservation Program to Patrick Riley, dated May 8, 2025
- Pump curve for Cornell 4HH 1,800 RPM pump showing capacity of over 1,300 GPM, labeled Question 30a and Question 33
- Pump curve for Cornell 4 RB 1,800 RPM pump showing capacity of nearly 1,400 GPM, labeled Question 30a and Question 33
- Three pages from https://resourses.hy-techroof.com showing water flow capacity based on ID size and pressure and water flow capacity in steel pipes (sch 40) for various PSI and pipe diameters labeled 34CC
- Two undated photos of the manufacturer plate for a Cornell model 4RB-40-3-4 pump
- Undated photo showing Cornell pump connected to unidentified motor and pipeline
- Undated photo showing unidentified motor with unreadable manufacturer information plate. Motor is connected to an unidentified pump
- Two undated photos of a manufacturer information plate for the unidentified motor
- Two undated photos showing two pumps and two motors connected by a T-fitting to a single pipeline, from different angles
- General Abstracts for each of the Statements of Claim proposed for change: 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00, dated October 20, 2025

- Maps:
  - Map titled “Question 17. Historical” showing undated aerial imagery overlain with public land survey system grid, historical points of diversion, and historical places of use labeled for each of the water rights proposed for change
  - Map titled “Question 18. Proposed” showing undated aerial imagery overlain with public land survey system grid, proposed reach for transitory diversion, and proposed places of use

- Map titled “Question 32. Project Infrastructure” showing undated aerial imagery overlain with public land survey system grid, historical points of diversion, and historical places of use labeled for each of the water rights proposed for change

- Department-completed Technical Analyses Parts A and B based on information provided in the Preapplication Checklist, dated September 26, 2025

Information within the Department’s Possession/Knowledge

- USDA aerial photo no. 278-21, dated September 14, 1979
- USDA aerial photo no. 278-29, dated September 14, 1979
- USDA aerial photo no. 478-87, dated July 21, 1980
- Water Resources Survey photo no. MA-29 159, dated circa 1944
- Water Resources Survey photo no. MA-29 160, dated circa 1944
- Rosebud County Water Resources Survey, dated July 1948
- Petroleum County Irrigation Area Maps 1971-1973
- Montana DNRC Water Right Information System (WRIS)
- Claim files for water rights proposed for change

- The Department also routinely considers the following information. The following information is not included in the administrative file for this Application but is available upon request. Please contact the Billings Regional Office at 406-247-4419 to request copies of the following documents.
    - Montana DNRC Change Manual, February 2025
    - Department Standard Practice for Determining Historical Use
    - Department Standard Practice for Analyzing Return Flows
    - Water Right Claim Examination Rules Amended by the Montana Supreme Court – Effective December 5, 2006

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).

For the purposes of this document, Department or DNRC means the Department of Natural Resources & Conservation; AC means acres; AF means acre-feet; AF/YR means acre-feet per year; CFS means cubic feet per second; GPM means gallons per minute; IWR means Irrigation Water Requirement; NRCS mean Natural Resource Conservation Service; POD means point of

diversion; POU means place of use; R means Range; Sec. means Section; T means Township; and USDA means United States Department of Agriculture.

Public Comments Received

- The Department received and considered three (3) public comments on the adverse effect analysis. The Department has considered these public comments and has not modified the criteria analysis or preliminary determination decision, and has determined that the information provided did not demonstrate that the adverse effect criterion was inadequately addressed and that the Department will not reevaluate the criterion. The preliminary determination is to grant in modified form. The Department responded to issues raised by comments in the relevant criteria section. The Public Comment forms received can be found in the administrative file.
    - Three (3) public comments were considered regarding the adverse effect analysis, and five (5) issues were raised by these comments. These issues generally called into question the non-use of the water rights proposed for change over an extended period of time, whether the water rights should be considered abandoned, the commenters being subject to a call they have not been subject to for an extended period of time, the use of a tributary water right, and irrigation of acres that have not historically been irrigated.

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

1. The Applicants seek to change the points of diversion and places of use of Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00 in this application. The historical means of diversion for all five of the water rights is one or more pumps diverting water from the Musselshell River for irrigation of separate places of use. Each water right had its own historical place of use; there was no historical overlap in acres irrigated. Each pump diverted water directly onto the place of use, there were no historical ditches or pipelines used to convey the water. Therefore, there are no conveyance losses attributable to the water rights proposed for change. There are no historically supplemental water rights for any of the water rights proposed for change. Table 1 shows the elements of the water rights proposed for change.

Table 1. Water Rights Proposed for Change

Water Right Number	Flow Rate (CFS)	Volume	Purpose/ Acres	Period Of Use	Place Of Use	Point(s) Of Diversion	Priority Date
40C 167385-	1.71	Amount put to	Irrigation 45 AC	5/1 to 10/15	W2NESE, NWSE,	SWSESE Sec. 29, T12N,	10/1/1908

00		historical and beneficial use			NWSESE, and E2NESW Sec. 29, T12N, R31E, Rosebud County	R31E, Rosebud County	
40C 167386-00	0.61 (273.77 GPM)	Amount put to historical and beneficial use	Irrigation 16 AC	5/1 to 10/15	SWNENE, NWSENE, and SWSENE Sec. 32, T12N, R31E, Rosebud County	SWSESE Sec. 29, T12N, R31E; NWSWNW Sec. 33, T12N, R31E; NWSWNW Sec. 33, T12N, R31E, Rosebud County	10/1/1908
40C 167387-00	2.05	Amount put to historical and beneficial use	Irrigation 54 AC	5/1 to 10/15	SWNE, SENW, and NWSE Sec. 20, T12N, R31E, Petroleum County	NWNWSE Sec. 20, T12N, R31E, Petroleum County	7/13/1963
40C 167389-00	1.82	Amount put to historical and beneficial use	Irrigation 37 AC	5/1 to 10/15	S2NENW, SENWNW, N2SENW, and SWNW Sec. 29, T12N, R31E, Rosebud County	NESENW Sec. 29, T12N, R31E, Rosebud County	5/12/1969
40C 19338-00	3.12	115 AF	Irrigation 35 AC	5/1 to 9/30	NE Sec. 32, T12N, R31E, and W2NWNW Sec. 33, T12N, R31E, Rosebud County	SESENE Sec. 32, T12N, R31E, Rosebud County	12/31/1947

2. There have been no previous change authorizations for any of the water rights proposed for change.

CHANGE PROPOSAL

FINDINGS OF FACT

3. The Applicants propose to change the points of diversion and places of use for Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00. The historical points of diversion for all five water rights are to be changed to a transitory reach extending from the southern boundary of the SESWSE Sec. 29, T12N, R31E, Rosebud County, downstream to the northern boundary line of the NWNESW Sec. 29, T12N, R31E, Rosebud County. The Musselshell River has moved significantly over time making stationary points of diversion on the river challenging to maintain. Two physically manifold pumps would be moveable anywhere along the east bank of the Musselshell River along the

water right owner's property boundary, currently through the W2SESE, SWSE, E2SESW, E2NESW, and NWNESW Sec. 29, T12N, R31E, Rosebud County. The historical places of use for Statement of Claim nos. 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00 containing a total of 142 acres would be removed from irrigation. The Applicants will also retire 4.6 acres from the historical place of use for Statement of Claim 40C 167385-00. The total number of acres retired will be 148.6 acres. The Applicants proposed to add 146 new acres which include 44 acres in the NE Sec. 29, T12N, R31E, and 102 acres in the W2 of Sec. 28, T12N, R31E, Rosebud County. Under the proposed change, the Applicants will continue to irrigate 40.4 acres of the historical POU under Statement of Claim 40C 167385-00, but those 40.4 acres will be irrigated by all 5 water rights. Water from the retired acres under Statement of Claim nos. 40C 167386-00, 40C 167387-00, 40C 167389-00, 40C 19338-00, and 40C 167385-00 will be combined to irrigate the proposed POU which includes 40.4 acres historically irrigated under 40C 167385-00, as well as 102 acres under a full circle center pivot irrigation system in the W2 Sec. 28 and 44 acres under a partial circle center pivot irrigation system in the NE Sec. 29, T12N, R31E, Rosebud County.

4. Statement of Claim 40C 167388-00 is for water spreading irrigation from an unnamed tributary of the Musselshell River from May 1 to October 15. The point of diversion is a dam in the NWNENE Sec. 29, T12N, R31E, Rosebud County. The claimed place of use is 43 acres in the NE of Sec. 29, T12N, R31E. The POU historically covered by this water right overlaps approximately 21 acres of the POU proposed in NE of Sec. 29, T12N, R31E, Rosebud County. This water right has not been used supplementally in the past. Historically, this water right has provided one irrigation during spring runoff events in approximately 3 out of every 5 years. The reservoir has silted in and does not have the storage capacity it historically had. The reservoir operates as a direct flow water spreading system. The reservoir must fill in order to spill onto the POU. Because this system is unreliable and does not provide irrigation water in some years, it is not accounted for in the calculations for the proposed use. The Applicants are not proposing any changes to 40C 167388-00. In years when some water is provided by this proposed supplemental right, the Applicants will reduce the amount of water applied to the POU from the Musselshell River. Figure 1 shows the overlapping acres for 40C 167388-00 and the proposed POU.

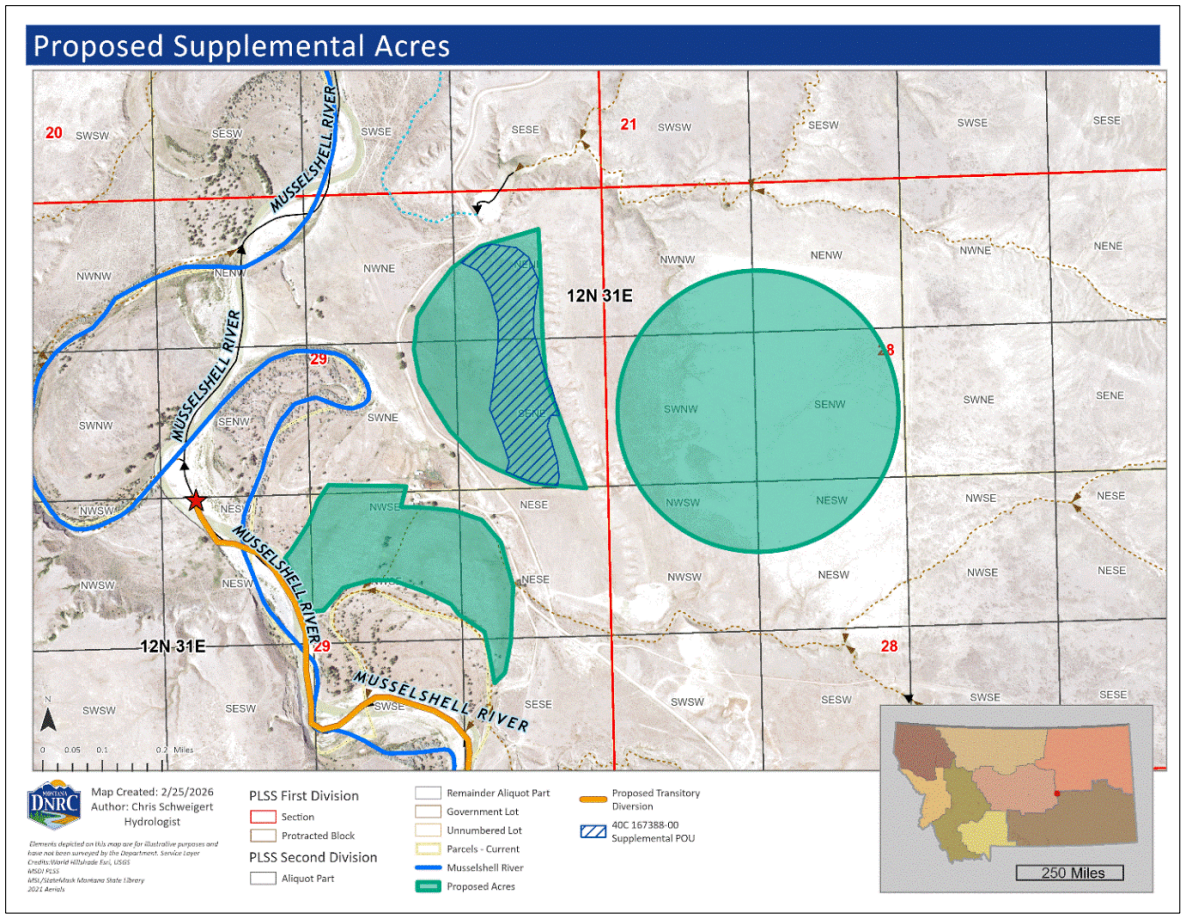

Figure 1. Overlapping acres for 40C 167388-00 and proposed POU

5. The combined total flow rate from the historical points of diversion is 9.31 CFS (Table 1, FOF 1); the combined total proposed flow rate for the proposed use is 3.7 CFS based on the Applicants' proposed irrigation system and pump capacity. The Applicants' proposed change would leave 5.61 CFS (9.31 - 3.7 = 5.61) instream from May 1 through September 30 and would leave 2.49 CFS instream from October 1 through October 15 (1.82 CFS from Statement of Claim 40C 167389-00 and 0.67 CFS left instream from Statement of Claim 40C 167389-00 which is proposed to be reduced from 2.05 CFS to 1.38 CFS in this change application (1.82 CFS + 0.67 CFS = 2.49 CFS)). The proposed use will require the full historically consumed volume from each of the five water rights proposed for change. Allowing the Applicant to continue diversion after Statement of Claim 40C 19338-00 is shut down (September 30) would be an enlargement of that right. The Department may approve a change in appropriation right subject to the terms, conditions, restrictions, and limitations that it considers necessary to satisfy the criteria per MCA 85-2-402(8). Therefore, the Department proposes to change the period of diversion and use for all five water rights to match the period of diversion and use of Statement

of Claim 40C 19338-00. This proposed modification will leave 6.19 CFS instream from October 1 through October 15 which is the combined total historical flow rates of Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, and 40C 167389-00 (Table 1 FOF 1).

6. The Applicants are proposing to retain the entire flow rate historically diverted under Statement of Claim nos. 40C 167385-00 and 40C 167386-00, 1.71 CFS and 0.61 CFS, respectively. They propose to reduce the flow rate diverted under 40C 167387-00 from 2.05 CFS to 1.38 CFS. They propose to remove the flow rates diverted under Statement of Claim nos. 40C 167389-00 and 40C 19338-00, 1.82 CFS and 3.12 CFS, respectively. They would continue to use the entire volume historically consumed for all five of the water rights and a portion of the historically diverted volume. The Department proposes granting this change with a modification that would reduce the period of diversion of Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, and 40C 167389-00 to May 1 through September 30. Water would be diverted at a rate of 3.7 CFS from May 1 through September 30 for irrigation of 186.4 acres. Details of the proposed change are shown in Table 2.

Table 2. Proposed Change

Water Right No.	**Proposed Flow Rate (CFS)**	**Period of Diversion and Period of Use under Proposed Department Modification**	**Proposed POD**	**Proposed POU (AC)**
40C 167385-00	1.71	5/1 – 9/30	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County
40C 167386-00	0.61	5/1 – 9/30	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County
40C 167387-00	1.38	5/1 – 9/30	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29,	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29,

			T12N, R31E, Rosebud County	T12N, R31E, Rosebud County
40C 167389-00	0	5/1 – 9/30	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County
40C 19338-00	0	5/1 – 9/30	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County

7. The Applicants are proposing to discontinue the irrigation and diversion of water at the historical PODs and individual POUs and consolidate their water use and diversions under a single irrigation system consisting of a full center pivot covering 102 acres in the W2 of Sec. 28, a partial circle center pivot covering 44 acres in the NE of Sec. 29, and a flood irrigation system covering 40.4 acres including 2.5 acres in the E2NESW and 37.9 acres in the SE of Sec. 29, T12N, R31E, Rosebud County. The historical and proposed PODs and POUs are shown in Table 3. A visual representation of the proposed project is shown in Figure 2.

Table 3. Historical and Proposed PODs, POUs, Periods of Diversion and Periods of Use

Water Right No.	**Historical POD**	**Proposed POD**	**Historical POU (AC)**	**Proposed POU (AC)**	**Historical Period of Diversion and Use**	**Proposed Modified Period of Diversion and Use**
40C 167385-00	SWSESE Sec. 29, T12N, R31E, Rosebud County	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	45 AC in the W2NESE, NWSE, NWSESE, and E2NESW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	5/1-10/15	5/1-9/30
40C 167386-00	SWSESE Sec. 29, T12N, R31E; NWSWNW	From the southern boundary of the SESWSE Sec.	16 AC in the SWNENE, NWSENE, and SWSENE Sec.	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC	5/1-10/15	5/1-9/30

	Sec. 33, T12N, R31E; NWSWNW Sec. 33, T12N, R31E, Rosebud County	29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	32, T12N, R31E, Rosebud County	in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County		
40C 167387-00	NWNWSE Sec. 20, T12N, R31E, Petroleum County	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	54 AC in the SWNE, SENW, and NWSE Sec. 20, T12N, R31E, Petroleum County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	5/1-10/15	5/1-9/30
40C 167389-00	NESENW Sec. 29, T12N, R31E, Rosebud County	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	37 AC in the S2NENW, SENWNW, N2SENW, and SWNW Sec. 29, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	5/1-10/15	5/1-9/30
40C 19338-00	SESENE Sec. 32, T12N, R31E, Rosebud County	From the southern boundary of the SESWSE Sec. 29, T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	35 AC in the NE Sec. 32, T12N, R31E, and W2NWNW Sec. 33, T12N, R31E, Rosebud County	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	5/1-9/30	5/1-9/30

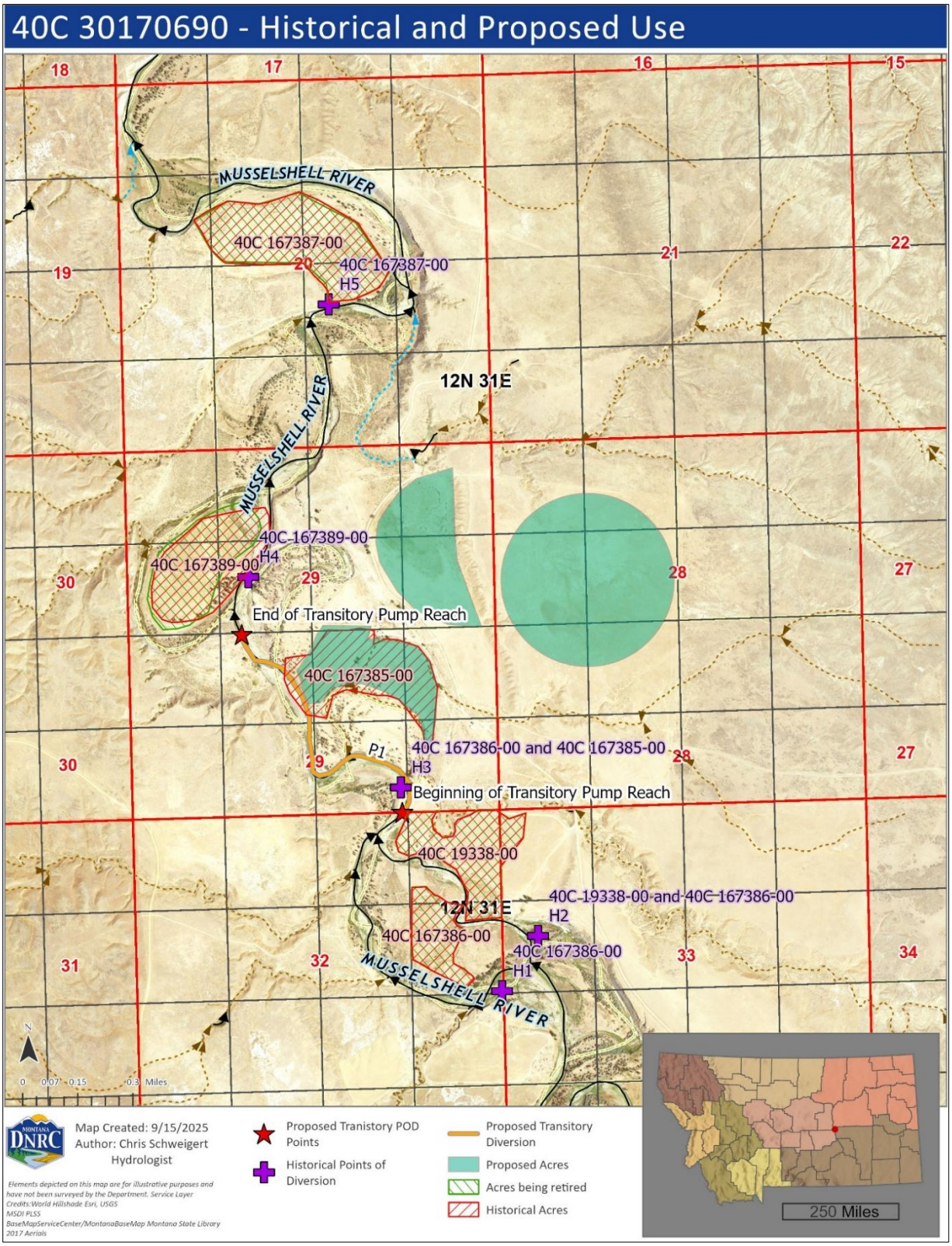

Figure 2. Map of the Applicants' historical and proposed POD and historical and proposed POU

8. The historical and proposed diverted and consumed volumes were calculated by the Department using the methodology in ARM 36.12.1902(16) (FOF 11-29). The proposed diverted and consumed volumes calculated using the Department method are greater than the historical diverted and consumed volumes (FOF 33-34). Because water rights cannot be expanded or increased through a change application (ARM 36.12.1902(3)), the Department proposes to modify this application by restricting the proposed use to the amounts historically diverted and consumed and restricting the proposed period of diversion and use to May 1 through September 30 (MCA 85-2-402(8)). In this appropriation, consumptive use is the limiting factor.

CHANGE CRITERIA

9. 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.

10. 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*, ¶¶ 29-31; *Town of Manhattan*, ¶ 8; *In the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company* (DNRC Final Order 1991).

HISTORICAL USE AND ADVERSE EFFECT

FINDINGS OF FACT - Historical Use

11. Basin 40C – Musselshell River, below Roundup, has an Interlocutory Decree, which was issued October 31, 2025, and a Preliminary Decree, which was issued June 7, 2017. The five Statements of Claim proposed for change historically irrigated separate places of use from separate points of diversion. Each right was diverted by pump directly onto their places of use. There are no conveyance losses attributable to any of the water rights proposed for change. There are no historically supplemental water rights (FOF 1, 4) for any of the water rights proposed for change. Table 4 shows the priority date and decree status for each Statement of Claim proposed for change.

Table 4. Priority date and Decree Status of Statements of Claim Proposed for Change

Water Right No.	Priority Date	Source	Decree Status	Master's Report?	County
40C 167385-00	10/1/1908	Musselshell River	Interlocutory	No	Rosebud
40C 167386-00	10/1/1908	Musselshell River	Interlocutory	No	Rosebud
40C 167387-00	7/13/1963	Musselshell River	Interlocutory	No	Petroleum
40C 167389-00	5/12/1969	Musselshell River	Interlocutory	Yes	Rosebud
40C 19338-00	12/31/1947	Musselshell River	Interlocutory	Yes	Rosebud

12. The Applicants have elected to have the historical diverted and consumed volumes calculated by the Department using the methodology in ARM 36.12.1902(16). The parameters used in the calculations for each water right are included in the description for each water right in the following findings of fact. The consumed volume for irrigation is based on the net irrigation requirement (NIR) from USDA NRCS Irrigation Water Requirements (IWR) at a representative weather station. The NIR is multiplied by a county-wide management factor (from ARM

36.12.1902(16)) to produce an adjusted NIR representative of actual crop yields in Montana. Crop consumption is determined by multiplying the adjusted NIR by the number of acres of irrigation. Crop consumption is then divided by the field efficiency, selected by the Applicant based on the irrigation method, to determine the field applied volume. The Department adds irrecoverable losses (IL) per ARM 36.12.1902(17) based on the type of irrigation system. Irrecoverable losses are 5% of the field applied volume for flood irrigation or 10% of the field applied volume for sprinkler irrigation. The irrecoverable losses will be shown in the historical use table for each water right in the following findings of fact. The total consumed volume for irrigation is the crop consumption plus irrecoverable losses. The total non-consumed volume is field applied volume minus the total consumed volume.

13. **Statement of Claim 40C 167385-00** has historically been used to flood irrigate 45 acres with a priority date of October 1, 1908, from the Musselshell River using a pump in the SWSESE Sec. 29, T12N, R31E, Rosebud County at 1.17 CFS from May 1 to October 15. The period of diversion and use is within Department standards, which are from March 15 to November 15 in Climate Area 1. The POU includes 6 acres in the W2NESE, 21 acres in the NWSE, 3 acres in the NWSESE, and 15 acres in the E2NESW Sec. 29, T12N, R31E, Rosebud County. The 45 acres claimed appear irrigated in USDA aerial photo no. 278-21, dated September 14, 1979, and USDA aerial photo no. 478-87, dated July 21, 1980. Water Resources Survey photo MA-29 159, dated circa 1944, shows 45 acres irrigated within the claimed POU. The Applicants did not provide information to substantiate the flow rate. The flow rate is consistent with the other pumps used by this claimant and is typical for this type of irrigation, where water is diverted directly from the river onto the field. The flow rate on the claim was reduced from 5 CFS to 1.71 CFS by the Department in 1984 after applying the Montana Supreme Court Rules for Claims Examination, irrigation standard of 17 GPM per acre for 45 acres. The flow rate was maintained on the Reexamination version of Statement of Claim 40C 167385-00. The flow rate was not objected to in the Preliminary Decree. The Interlocutory Decree is currently ongoing.

14. The historically consumed and field applied volumes have been calculated with the inputs shown in Table 5, following the methods described in FOF 12 and in ARM 36.12.1902(16). The irrigation method was taken from the claim file, and the field efficiency was chosen by the Applicants' consultant at the preapplication meeting on April 8, 2025. The field application volume is calculated by dividing the crop consumption by the field efficiency.

Table 5. Historical Diverted and Consumptive Use for Statement of Claim 40C 167385-00

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
Flood	45	23.18	0.477	0.6	41.46	3.46	44.92	69.11

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 5% of the filed application volume

15. The Department finds the following historical use, as shown in Table 6.

Table 6. Summary of Historical Use Findings for Statement of Claim 40C 167385-00

Water right No.	Priority Date	Diverted Volume	Flow Rate (CFS)	Purpose (Total Acres)	Consumptive Use (AF)	Place of Use	Point of Diversion
40C 167385-00	10/1/1908	69.11	1.71	Irrigation of 45 AC	44.92	45 AC in the W2NESE, NWSE, NWSESE, and E2NESW Sec. 29, T12N, R31E, Rosebud County	SWSESE Sec. 29, T12N, R31E, Rosebud County

16. **Statement of Claim 40C 167386-00** has historically been used to flood irrigate 16 acres with a priority date of October 1, 1908, from the Musselshell River using a pump in the SWSESE Sec. 29, a pump in the NWSWNW Sec. 33, and a pump in the NWSWNW Sec. 33, T12N, R31E, Rosebud County at 273.77 GPM (0.61 CFS) from May 1 to October 15. The period of diversion and use is within Department standards which are from March 15 to November 15 in Climate Area 1. The POU includes 2 acres in the SWNENE, 10 acres in the NWSENE, and 4 acres in the SWSENE Sec. 32, T12N, R31E, Rosebud County. The 16 acres claimed appear irrigated in USDA aerial photo no. 278-21 and 278-29, dated September 14, 1979. Water Resources Survey photo MA-29 159, dated circa 1944, shows 16 acres irrigated within the claimed place of use. The Applicants did not provide information to substantiate the flow rate. The flow rate is consistent with the other pumps used by this claimant and is typical for this type of irrigation where water is diverted from the river directly onto the field. The flow rate on the claim was reduced from 5 CFS to 273.77 GPM (0.61 CFS) by the Department in 1984 after applying the Montana Supreme Court Rules for Claims Examination irrigation standard of 17 GPM per acre for 16 acres. The flow rate was maintained on the Reexamination version of Statement of Claim 40C 167386-00. The flow rate was not objected to in the Preliminary Decree. The Interlocutory Decree is currently ongoing.

17. The historically consumed and field applied volumes have been calculated with the inputs shown in Table 7, following the methods described in FOF 12 and in ARM 36.12.1902(16). The irrigation method was taken from the claim file, and the field efficiency was chosen by the Applicants' consultant at the preapplication meeting on April 8, 2025. The field application volume is calculated by dividing the crop consumption by the field efficiency.

Table 7. Historical Diverted and Consumptive Use for Statement of Claim 40C 167386-00

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
Flood	16	23.18	0.477	0.6	14.74	1.23	15.97	24.57

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 5% of the field application volume

18. The Department finds the following historical use, as shown in Table 8.

Table 8. Summary of Historical Use Findings for Statement of Claim 40C 167386-00

Water right No.	Priority Date	Diverted Volume	Flow Rate (CFS)	Purpose (Total Acres)	Consumptive Use (AF)	Place of Use	Point of Diversion
40C 167386-00	10/1/1908	24.57	0.61 (273.77 GPM)	Irrigation of 16 AC	15.97	16 AC in the SWNENE, NWSENE, and SWSENE Sec. 32, T12N, R31E, Rosebud County	SWSESE Sec. 29, T12N, R31E; NWSWNW Sec. 33, T12N, R31E; NWSWNW Sec. 33, T12N, R31E, Rosebud County

19. **Statement of Claim 40C 167387-00** has historically been used to flood irrigate 54 acres with a priority date of July 13, 1963, from the Musselshell River using a pump in the NWNWSE Sec. 20, T12N, R31E, Petroleum County at 2.05 CFS from May 1 to October 15. The period of diversion and use is within Department standards which are from March 15 to November 15 in Climate Area 1. The POU includes 22 acres in the SWNE, 22 acres in the SENW, and 10 acres in the NWSE Sec. 20, T12N, R31E, Petroleum County. The 54 acres claimed appear irrigated in USDA aerial photo no. 478-87, dated July 21, 1980. The Applicants' affidavit, based on personal knowledge and information from the original claimant, explains that the historical flow rate is based on the historical pump driven by a 540 power-take-off (PTO) of a 4020 John Deere tractor. The pump curve for a 10-inch Crisafulli pump indicates that the pump

has a capacity of 7.79 CFS, 4.04 CFS greater than the claimed 3.75 CFS. The flow rate for this claim was reduced to 2.05 CFS by the Department in 1984 after applying the Montana Supreme Court Rules for Claims Examination irrigation standard of 17 GPM per acre for 54 acres. The flow rate was not objected to in the Preliminary Decree. The Interlocutory Decree is ongoing.

20. The historically consumed and field applied volumes have been calculated with the inputs shown in Table 9, following the methods described in FOF 12 and in ARM 36.12.1902(16). The irrigation method was taken from the claim file, and the field efficiency was chosen by the Applicants' consultant at the preapplication meeting on April 8, 2025. The field application volume is calculated by dividing the crop consumption by the field efficiency.

Table 9. Historical Diverted and Consumptive Use for Statement of Claim 40C 167387-00

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
Flood	54	23.18	0.477	0.6	49.76	4.15	53.90	82.93

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 5% of the field application volume

21. The Department finds the following historical use, as shown in Table 10.

Table 10. Summary of Historical Use Findings for Statement of Claim 40C 167387-00

Water right No.	Priority Date	Diverted Volume	Flow Rate (CFS)	Purpose (Total Acres)	Consumptive Use (AF)	Place of Use	Point of Diversion
40C 167387-00	7/13/1963	82.93	2.05	Irrigation of 54 AC	53.90	54 AC in the SWNE, SENW, and NWSE Sec. 20, T12N, R31E, Petroleum County	NWNWSE Sec. 20, T12N, R31E, Petroleum County

22. **Statement of Claim 40C 167389-00** has historically been used to flood irrigate 37 acres with a priority date of May 12, 1969, from the Musselshell River using a pump in the NESENW Sec. 29, T12N, R31E, Rosebud County at 1.82 CFS from May 1 to October 15. The period of diversion and use is within Department standards which are from March 15 to November 15 in Climate Area 1. The POU includes 7 acres in the S2NENW, 3 acres in the SENWNW, 8 acres in the N2SENW, and 19 acres in the SWNW Sec. 29, T12N, R31E, Rosebud County. The 37

acres claimed appear irrigated in USDA aerial photo nos. 278-21, dated September 14, 1979, and 478-87, dated July 21, 1980. The Applicants' affidavit, based on personal knowledge and information from the original claimant, explains that the historical flow rate is based on the historical pump driven by a 540 power-take-off (PTO) of a 4020 John Deere tractor. The same pump was used for Statement of Claim 40C 167387-00. The pump curve for a 10-inch Crisafulli pump indicates that the pump has a capacity of 7.79 CFS. A Master's Report filed November 17, 1992, and adopted December 21, 1992, explains that the claimed flow rate of 130 CFS and volume of 240 AF for irrigation of 48 acres were changed by the Department during claims examination according to the Montana Supreme Court Rules for Claims Examination. The volume was removed and replaced with a standard remark limiting the volume to the amount put to historical and beneficial use. The acreage was reduced to 37 acres based on verified acres found during the claim examination. The flow rate for this claim was not reduced with the acreage and is 22.1 GPM per acre. A memorandum in the file, dated January 20, 2004, from Jim Gilman, DNRC, to Bruce Loble, Chief Water Judge, explains that standards were run for basin 40C and that several Statements of Claim, including 40C 167389-00, did not conform to standards and that the flow rate for 40C 167389-00 should be reduced to 1.4 CFS which would equate to 17 GPM per acre for 37 acres. At this time, that change has not been made to Statement of Claim 40C 167389-00, and the flow rate remains at 1.82 CFS. The flow rate was not objected to in the Preliminary Decree. The Interlocutory Decree is ongoing.

23. The historically consumed and field applied volumes have been calculated with the inputs shown in Table 11, following the methods described in FOF 12 and in ARM 36.12.1902(16). The irrigation method was taken from the claim file, and the field efficiency was chosen by the Applicants' consultant at the preapplication meeting on April 8, 2025. The field application volume is calculated by dividing the crop consumption by the field efficiency.

Table 11. Historical Use for Statement of Claim 40C 167389-00

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
Flood	37	23.18	0.477	0.6	34.09	2.84	36.93	56.82

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 5% of the field application volume

24. The Department finds the following historical use, as shown in Table 12.

Table 12. Summary of Historical Use Findings for Statement of Claim 40C 167389-00

Water right No.	Priority Date	Diverted Volume	Flow Rate (CFS)	Purpose (Total Acres)	Consumptive Use (AF)	Place of Use	Point of Diversion
40C 167389-00	5/12/1969	56.82	1.82	Irrigation of 37 AC	36.93	37 AC in the S2NENW, SENWNW, N2SENW, and SWNW Sec. 29, T12N, R31E, Rosebud County	NESENW Sec. 29, T12N, R31E, Rosebud County

25. **Statement of Claim 40C 19338-00** has historically been used to irrigate 35 acres under a wheeline sprinkler with a priority date of December 31, 1947, from the Musselshell River using a pump in the SESENE Sec. 32, T12N, R31E, Rosebud County at 3.12 CFS from May 1 to September 30. The period of diversion and use is within Department standards which are from March 15 to November 15 in Climate Area 1. The POU includes 30 acres in the NE Sec. 32, and 5 acres in the W2NWNW Sec. 33, T12N, R31E, Rosebud County. Statement of Claim 40C 19338-00 is a multiple use right with Statement of Claim 40C 19336-00. These claims are multiple uses of the same right. The use of this water right for several purposes does not increase the extent of the water right. Rather, it decrees the right to alternate and exchange use (purpose) of the water right in accordance with historical practices. Statement of Claim 40C 19336-00 is for 100 GPM for domestic use year-round for 4 households and up to 1.5 acres. The 35 acres claimed appear irrigated in USDA aerial photo no. 278-21, dated September 14, 1979. Water Resources Survey photo MA-29 159, dated circa 1944, shows 35 acres irrigated within the claimed place of use. The Applicants' affidavit, based on personal knowledge and information from the original claimant, explains that the historical flow rate is based on the historical pump, which was a 1,400 GPM (3.12 CFS) pump to level border dikes. The Applicant's affidavit states the historical pump was a 6-inch Crisafulli regular lift pump driven by a 540 PTO on a 706 International tractor. Based on 20 feet of lift, the 6-inch Crisafulli could generate the 1,400 GPM (3.12 CFS) flow rate claimed. A Master's Report filed April 21, 1992, adopted May 12, 1992, explains that Statement of Claim 40C 19338-00 was filed for a flow rate of 1,400 GPM by means of a pump from the Musselshell River and a volume of 115 AF per year for the irrigation of 50 acres in Sec. 32 and 33, T12N, R31E. It further explains that the claimed acres were changed by the Department during claims examination according to the Montana Supreme Court Rules for Claims Examination. The acreage was reduced from 50 acres to 35 acres based on verified acres found on USDA aerial photo no. 378-242 dated 1979, during the

claim examination. The flow rate, 1,400 GPM (3.12 CFS), was not reduced with the acreage, is based on the pump capacity, and is equal to 40 GPM per acre. After the Master's Report was adopted, a volume of 115 AF was added to Statement of Claim 40C 19338-00 and a volume remark was added which says, "The Water Court has determined that a volume quantification is required to adequately administer this right." The Applicants have chosen to use the Department method for calculating the historical diverted and consumed volumes, therefore the Department will calculate a volume using standard practice independent of the assigned volume. A Master's Report filed February 18, 2020, adopted April 17, 2020, explains the claims included in Case 40C-R258, including 40C 19338-00, filed November 27, 2019, received a late objection during the adjudication of the Basin 40C Temporary Preliminary Decree from Marion and Leo Collier. Because the late objection was not previously resolved, an issue remark was placed on the claim. The objection was based on ownership, but the objectors passed away before the Water Court addressed the issue. The objection was dismissed, and the issue remark was removed from the claim. The flow rate was not objected to in the Preliminary Decree. The Interlocutory Decree is ongoing.

26. The historically consumed and field applied volumes have been calculated with the inputs shown in Table 13 following the methods described in FOF 12 and in ARM 36.12.1902(16). The irrigation method was taken from the claim file, and the field efficiency was chosen by the Applicants' consultant at the preapplication meeting on April 8, 2025. The field application volume is calculated by dividing the crop consumption by the field efficiency.

Table 13. Historical Diverted and Consumptive Use for Statement of Claim 40C 19338-00

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
Sprinkler	35	23.18	0.477	0.7	32.25	4.61	36.86	46.07

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 10% of the field application volume

27. The Department finds the following historical use, as shown in Table 14.

Table 14. Summary of Historical Use Findings for Statement of Claim 40C 19338-00

Water right No.	Priority Date	Diverted Volume	Flow Rate (CFS)	Purpose (Total Acres)	Consumptive Use (AF)	Place of Use	Point of Diversion
40C 19338-00	12/31/1974	46.07	3.12	Irrigation of 35 AC	36.86	35 AC in the NE Sec. 32, T12N, R31E, and W2NWNW Sec. 33, T12N, R31E, Rosebud County	SESENE Sec. 32, T12N, R31E, Rosebud County

28. Per ARM 36.12.1902(10), the historically diverted volume is equal to the sum of the historical field application volume (historically consumed volume divided by on-farm efficiency) and the historical conveyance loss volume. Because there are no conveyance losses attributable to any of the water rights proposed for change, the historical diverted volume is equal to the historical field applied volume.

29. The Department finds the following historical use for the water rights proposed for change as shown in Table 15.

Table 15. Summary of Historical Diverted and Consumptive Use for all Statements of Claim Proposed for Change

Water Right No.	Irrigation Method	AC	IWR (in)[1]	Mgmt. Factor[2]	Field Efficiency	Crop Consumption (AF)	IL (AF)[3]	Total Consumed Volume (AF)	Field Application Volume (AF)
40C 167385-00	Flood	45	23.18	0.477	0.6	41.46	3.46	44.92	69.11
40C 167386-00	Flood	16	23.18	0.477	0.6	14.74	1.23	15.97	24.57
40C 167387-00	Flood	54	23.18	0.477	0.6	49.76	4.15	53.9	82.93
40C 167389-00	Flood	37	23.18	0.477	0.6	34.09	2.84	36.93	56.82
40C 19338-00	Sprinkler	35	23.18	0.477	0.7	32.25	4.61	36.86	46.07
Summary									
	Flood	152	23.18	0.477	0.6	140.05	11.68	151.72	233.43
	Sprinkler	35	23.18	0.477	0.7	32.25	4.61	36.86	46.07
Total		**187**				**172.3**	**16.29**	**188.58**	**279.49**

[1]Ingomar Weather Station IWR Flood Irrigation, Wheeline & Handline Seasonal ET (inches)
[2]Rosebud County Historical Use Management Factor 1964-1973 (Pre-July 1, 1973)
[3]Irrecoverable losses are 5% of field application volume for flood irrigation and 10% of field application volume for sprinkler irrigation

FINDINGS OF FACT -Adverse Effect

30. Distribution of water on the Musselshell River is managed by Water Commissioners appointed by District Court. All diversions have flow meters installed and are monitored. Calls on the river are regulated by Water Commissioners. A website posts usable priority dates and is updated whenever water availability changes. The Applicants can and will shut down their pumps whenever a valid call is made or when their water rights are out of priority.

31. The Applicants propose to retire their historical points of diversion for Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00. They also propose to retire 142 acres under Statement of Claim nos. 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00. They will continue to irrigate 40.4 acres of the

historical place of use for 40C 167385-00. The retired and proposed PODs and POUs are shown in Table 3 FOF 6. A summary of the proposed use is shown in Table 11.

Table 16. Summary of the proposed use of Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00

Water Right No.	Proposed Purpose	Proposed Acres	Proposed Place of Use	Proposed Point of Diversion	Proposed Flow Rate
40C 167385-00	Irrigation	186.4 AC	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	Transitory pump from the southern boundary of the W2SESE Sec. 29. T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	1.71 CFS
40C 167386-00	Irrigation	186.4 AC	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	Transitory pump from the southern boundary of the W2SESE Sec. 29. T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	0.61 CFS (273.77 GPM)
40C 167387-00	Irrigation	186.4 AC	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	Transitory pump from the southern boundary of the W2SESE Sec. 29. T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	1.38 CFS
40C 167389-00	Irrigation	186.4 AC	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	Transitory pump from the southern boundary of the W2SESE Sec. 29. T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	0.00 CFS
40C 19338-00	Irrigation	186.4 AC	102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County	Transitory pump from the southern boundary of the W2SESE Sec. 29. T12N, R31E to the northern boundary of the NWNESW Sec. 29, T12N, R31E, Rosebud County	0.00 CFS

32. The proposed flow rate is 3.7 CFS, was determined by the Applicants, and is based on the flow rate required to run the proposed center pivots and flood irrigation systems. The proposed flow rate is less than the historical flow rate and will leave 5.61 CFS (FOF 5) instream above and below the proposed transitory diversion reach from May 1 to September 30 and would leave 2.49 CFS instream from October 1 through October 15 (1.82 CFS from Statement of Claim 40C 167389-00 and 0.67 CFS left instream from Statement of Claim 40C 167389-00 which is proposed to be reduced from 2.05 CFS to 1.38 CFS in this change application (1.82 CFS + 0.67 CFS = 2.49 CFS)). The proposed use will require the full historically consumed volume from each of the five water rights proposed for change. Allowing the Applicant to continue diversion after Statement of Claim 40C 19338-00 is shut down (September 30) would be an enlargement of that right. The Department may approve a change in appropriation right subject to the terms, conditions, restrictions, and limitations that it considers necessary to satisfy the criteria per MCA 85-2-402(8). Therefore, the Department proposes to change the period of diversion and use for all five water rights to match the period of diversion and use of Statement of Claim 40C 19338-00. This proposed modification will leave 6.19 CFS instream from October 1 through October 15, which is the combined total historical flow rates of Statement of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, and 40C 167389-00 (Table 1, FOF 1).

33. The proposed volume was calculated by the Department using the method described in FOF 12 and in ARM 36.12.1902(16). Per MCA 85-2-102(7)(b), a change in appropriation right does not include a change in method of irrigation; method of irrigation is also not an element that can be proposed for change. Thus, when calculating the proposed consumed and diverted volumes for a change, the Department will consider a change in the method of irrigation only on newly irrigated acreage, outside of the historically irrigated footprint. The proposed consumed and diverted, but non-consumed volumes have been calculated with the inputs shown in Table 17. The field efficiencies were chosen by the Applicants at the preapplication meeting on April 8, 2025, based on their knowledge of the historical and proposed irrigation systems. The field application volume was calculated by dividing the crop consumption volume by the on-farm efficiency. The proposed efficiency for the flood irrigation is 60% based on the historical practices. The proposed efficiency for the center pivot irrigation is 90% based on the proposed center pivot irrigation system and the Applicants' ability to manage their water use through the system.

Table 17. Proposed new irrigation inside and outside of the historical place of use

Irrigation Method	Acres	IWR (in)[1]	Mgmt. Factor	Field Efficiency	Crop Consumption (AF)	Field Application Volume (AF)	IL (AF)[5]	Total Consumptive Volume (AF)	Non-Consumptive Volume (AF)
Flood (Inside Historical POU)	40.4	23.18[1]	0.477[3]	0.6	37.22	62.04	3.1	40.33	21.71
Pivot (Outside Historical POU)	146	25.83[2]	0.727[4]	0.9	228.47	253.86	25.39	253.86	0[6]
Total	186.4	-	-	-	265.7	315.90	-	294.18	21.71

[1]Ingomar IWR Weather Station – Flood Irrigation, Wheeline & Handline Seasonal ET inches
[2]Ingomar IWR Weather Station – Center Pivot Irrigation Seasonal ET inches
[3]Rosebud County Historical Use Management Factor 1964-1976 (Pre-July 1, 1973)
[4]Rosebud County Proposed Use Management Factor 1997-2006 (Proposed Use)
[5]Irrecoverable losses are 5% of field application volume for flood irrigation and 10% of field application volume for sprinkler irrigation
[6]Proposed use is 100% consumptive due to 90% efficient sprinkler irrigation and 10% irrecoverable losses

34. The proposed diverted volume is 36.41 AF greater than the historically diverted volume (315.90 AF proposed (Table 17, FOF 33) – 279.49 AF historical (Table 15, FOF 29) = 36.41 AF increase). The proposed consumed volume is 105.6 AF greater than the historically consumed volume (294.18 AF proposed (Table 17, FOF 33) – 188.58 (Table 15, FOF 29) = 105.6AF increase). A comparison of the historical and proposed diverted and consumed volumes are shown in Table 18.

Table 18. Comparison of volumes associated with historical and proposed use.

Purpose	Historically Consumed Volume	Proposed Consumptive Volume	Historically Diverted Volume	Proposed Diverted Volume
Irrigation	188.58	294.18	279.49	315.90

35. A water right cannot be expanded or increased through a change authorization (ARM 36.12.1902(3). In order to prevent the Applicants from increasing their diverted or consumed volume, the Department may propose to grant with modifications, and the Department may add conditions to a change authorization (MCA 85-2-402(8)). Because water rights cannot be expanded or increased through a change application the Department proposes to modify this application by restricting the proposed use to the amounts historically diverted and consumed

and restricting the period of diversion and use to May 1 through September 30. In this appropriation, the consumptive use is the limiting factor. The total historical consumed volume for the five water rights proposed for change was found to be 188.58 AF, Table 15, FOF 29.

36. The Applicants propose to continue irrigating 40.4 acres within the historical footprint of Statement of Claim 40C 167385-00. The historically consumed volume (without irrecoverable losses) calculated for Statement of Claim 40C 167385-00 was 41.46 AF (Table 5, FOF 14, Crop Consumption column), which equates to 0.9213 AF/AC for 45 acres. The proposed acres within the historical footprint of Statement of Claim 40C 167385-00 are 40.4 AC. The proposed consumed volume for the acres in the historical footprint would be 37.22 AF (40.4 * 0.9213 = 37.22 AF). With a 60% efficient system (preapplication meeting form), the diverted volume required to achieve the consumptive use would be 37.22 /0.6 = 62.04 AF.

37. The total number of acres proposed for irrigation under this change are 186.4 AC, with 40.4 acres flood irrigated within the historical footprint of Statement of Claim 40C 167385-00. The remaining 146 acres proposed will be under center pivot irrigation systems. The total historically diverted volume was 279.49 AF (Table 15, FOF 29, Field Application Volume column). The total historically consumed volume was 188.58 AF (Table 15, FOF 29). The consumptive use of the 40.4 acres within the historical footprint of Statement of Claim 40C 167385-00 will be 37.22 AF (FOF 36), leaving 151.36 AF of consumed volume available to apply to the proposed 146 acres under center pivot sprinkler irrigation. Flood irrigation of the 40.4 acres within the historical footprint of 40C 167385-00 will require 62.04 AF diverted volume (FOF 36), leaving 217.45 AF (279.49 AF – 62.04 AF = 217.45 AF) of historically diverted volume available to apply to the proposed 146 acres under center pivot sprinkler irrigation.

38. The proposed center pivot irrigation systems are 90% efficient (preapplication meeting form), with 10% added for irrecoverable losses for sprinkler irrigation (ARM 36.12.1902(17)), which makes their water use 100% consumed from the source (90% + 10% = 100%). This makes the diverted and consumed volumes required for this system equal (the volume available divided by the system efficiency, 1, is itself). The consumed volume of the 40.4 acres flood irrigated is 37.22 AF (FOF 36), leaving 151.36 AF (188.58 AF – 37.22 AF = 151.36 AF) of historically consumed volume available for both application and consumption by the proposed 146 acres under center pivot sprinkler irrigation. The Applicants are limited to a diversion of 151.36 AF for the 146 AC under center pivot irrigation in the NE of Sec. 29 and W2 of Sec. 28, T12N, R31E, Rosebud County. While this volume is less than is needed for full-service irrigation, any water for irrigation is better than none and will provide a benefit to the Applicants.

39. The diverted volume required for the irrigation of 40.4 acres in the historical footprint of Statement of Claim 40C 167385-00 is 62.04 AF (FOF 36). With 151.36 AF diverted volume available for irrigation of 146 acres of new irrigation and 62.04 AF required for flood irrigation of acres within the historical footprint of 40C 167385-00, the total volume of water diverted under the proposed appropriation shall not exceed 213.4 AF (62.04 AF + 151.36 AF = 213.4 AF), which is 66.09 AF less than was historically diverted (279.49 AF historically diverted – 213.4 AF proposed diverted = 66.09 AF).

40. The Department calculated the proposed diverted volume for each right based on the percentage of the total acres provided by each water right. First the max acres for each right were divided by a total of 187 historical acres (Table 15, FOF 29) to determine the percentage. Then the percentage was multiplied by the max volume of 213.4 AF allowed (FOF 39) to determine the volume per water right. Table 19 shows the proposed diverted volume for each water right proposed for change.

Table 19. Proposed Diverted Volume per Water Right

Water Right No.	Historical Max Acres	Percent of Total Acres (187)	Proposed Diverted Volume	Proposed Max Acres
40C 167385-00	45	24.06%	51.35 AF	186.4
40C 167386-00	16	8.56%	18.26 AF	186.4
40C 167387-00	54	28.88%	61.62 AF	186.4
40C 167389-00	37	19.79%	42.22 AF	186.4
40C 19338-00	35	18.72%	39.94 AF	186.4
Total	**187**	**100%**	**213.4 AF**	**186.4**

41. In order to prevent adverse effect through expansion of use or increased diverted or consumed volume, the Department will add the following conditions if the change is authorized.

WATER USE MEASUREMENT

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED MEASURING DEVICE AT THE PUMPS OR NEAR THE PUMPS ON THE PIPELINE TO THE IRRIGATION SYSTEMS. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. THE APPROPRIATOR SHALL KEEP WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED FROM MAY 1 TO SEPTEMBER 30. THE WATER USE RECORDS SHALL BE COMPILED AND SUBMITTED TO THE DEPARTMENT BY DECEMBER 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR.

FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF THE CHANGE AUTHORIZATION. THE RECORDS MUST BE SENT TO THE BILLINGS WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL ENSURE THE MEASURING DEVICE IS MAINTAINED SO IT IS ALWAYS OPERATED PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

IMPORTANT INFORMATION

IF ANY OF THE WATER RIGHTS USED TO PROVIDE FLOW FOR THIS IRRIGATION SYSTEM ARE OUT OF PRIORITY AS DETERMINED BY THE DULY APPOINTED WATER COMMISSIONER OR A VALID CALL IS MADE, THE APPROPRIATOR MUST CEASE DIVERSION AND THE IRRIGATION SYSTEM MUST BE SHUT DOWN UNTIL THERE IS ENOUGH FLOW RATE AVAILABLE ON THE SOURCE FOR ALL WATER RIGHTS ON THIS SYSTEM TO BE DIVERTED, OR THE APPROPRIATOR MAY USE WATER PURCHASED FROM ANOTHER SOURCE SUCH AS DEADMAN'S BASIN RESERVOIR.

IMPORTANT INFORMATION

THE TOTAL DIVERTED VOLUME SHALL NOT EXCEED 213.4 AF. THE DIVERTED FLOW RATE SHALL NOT EXCEED 3.7 CFS. DIVERSION UNDER THIS CHANGE AUTHORIZATION SHALL CEASE WHEN THE VOLUME METER REACHES 69,536,603.4 GALLONS OR 213.4 AF.

IMPORTANT INFORMATION

THE APPROPRIATOR SHALL NOT DIVERT WATER UNDER STATEMENT OF CLAIM NOS. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, OR 40C 19338-00 AFTER SEPTEMBER 30.

42. Based on the information submitted, DNRC Water Sciences Bureau (WSB) Hydrologist Jack Landers quantified the historical and proposed non-consumed volume and the location of historical and proposed return flows. The historical non-consumed volume totals 90.92 AF, and the location of historical return flows is to the Musselshell River downstream of the western boundary of the NWSWNW Sec. 33, T12N, R31E, Rosebud County, as shown in Figure 3 (FOF 45). The proposed non-consumed volume based on the continued flood irrigation of 40.4 acres is 21.71 AF, and the location of proposed return flows, as identified in Figure 3, is to the

Musselshell River beginning at the northern boundary of the SESWSE Sec. 29, T12N, R31E, Petroleum County.

43. The Department analyzed the change to determine if return flows will enter back into the source where they have historically returned upstream of the location of the next downstream appropriator or water is left instream so historically diverted flows are available during the historical period of diversion, either below the point of diversion or where return flows historically returned to the source. The Applicants propose to leave historically diverted flows instream during the historical period of diversion, above the location where return flows historically returned to the source. If neither criterion were met or return flows accreted to more than one source, the return flow analysis would include a monthly breakdown of the rate and timing of return flows and would evaluate the impacts to the rights identified in Table 20, FOF 44. Because water will be left instream at and above the location of the next downstream appropriator (40C 19336-00 has a point of diversion at the same location as 40C 19338-00), the Department calculated the annual volume of return flow under the historical and proposed places of use.

44. The Department has considered an area of potential adverse effect on the Musselshell River. This reach was determined by accounting for the location of the proposed and historical points of diversion and the proposed reduction in return flows as described in FOF 42. This reach extends from the SESENE Sec. 32, T12N, R31E, the location of the most upstream historical POD, downstream to the S2NWSW Sec. 8, R12N, R31E, Rosebud County. There are 15 water rights within the area of potential adverse effect, as shown in Table 14.

Table 20. Water Rights Within the Area of Potential Adverse Effect

Water Right No.	Owner Name	Purpose	Period of Use	Flow Rate*	Volume (AF)*
40C 30008850	MONTANA, STATE OF DEPT OF FISH WILDLIFE & PARKS	FISHERY	01/01 to 12/31	70 CFS	50674.23
40C 201662 00	JUSTIN KINCHELOE; YOHNA PFLUGHOFT	STOCK	01/01 to 12/31		
40C 70691 00	KIMBERLY A MAXWELL; THOMAS A MAXWELL; MAXWELL, KIMBERLY A LIVING TRUST	STOCK	10/01 to 04/30	40 GPM	3.50
40C 167386 00	NATALIE C BOYD; PAUL J BOYD	IRRIGATION	05/01 to 10/15	273.77 GPM	
40C 167385 00	NATALIE C BOYD; PAUL J BOYD	IRRIGATION	05/01 to 10/15	1.71 CFS	

40C 167387 00	NATALIE C BOYD; PAUL J BOYD	IRRIGATION	05/01 to 10/15	2.05 CFS	
40C 19336 00	BAILEY RITCHEY; JESSE RITCHEY	DOMESTIC	01/01 to 12/31	100 GPM	7.00
40C 19337 00	NATALIE C BOYD; PAUL J BOYD; BAILEY RITCHEY; JESSE RITCHEY	IRRIGATION	05/01 to 09/30	3.12 CFS	
40C 19338 00	NATALIE C BOYD; PAUL J BOYD	IRRIGATION	05/01 to 09/30	3.12 CFS	115.00
40C 167389 00	NATALIE C BOYD; PAUL J BOYD	IRRIGATION	05/01 to 10/15	1.82 CFS	
40C 30141917	USA (DEPT OF INTERIOR BUREAU OF LAND MGMT)	STOCK	01/01 to 12/31		
40C 30141928	USA (DEPT OF INTERIOR BUREAU OF LAND MGMT)	STOCK	01/01 to 12/31		
40C 200296 00	ALLAN MCDANIEL	IRRIGATION	04/01 to 10/04	350.06 GPM	
40C 201663 00	YOHNA PFLUGHOFT	IRRIGATION	05/01 to 10/01	1.13 CFS	
40C 30008437	ALLAN MCDANIEL; YOHNA PFLUGHOFT	STOCK	01/01 to 12/31		5.1

*Water rights listed with no flow rate or volume contain remarks for those elements limiting them to the amounts historically used beneficially

45. The historical and proposed consumed and non-consumed volumes have been calculated with the inputs shown in Table 15 (FOF 29) and Table 16 (FOF 31), following the method described in FOF 12 and in ARM 36.12.1902(16) to calculate the historical and proposed non-consumed volumes.

Table 21. Historical Use

Water Right No. / Irrigation Method	**AC**	**IWR (in)[1]**	**Mgmt. Factor[2]**	**Field Efficiency**	**Crop Consumption (AF)**	**Applied Volume (AF)**	**IL (AF)[3]**	**Total Consumed Volume (AF)**	**Non-Consumed Volume (AF)**
40C 167385-00 / Flood	45	23.18	47.7%	60%	41.46	69.11	3.46	44.92	24.19
40C 167386-00 / Flood	16	23.18	47.7%	60%	14.74	24.57	1.23	15.97	8.60
40C 167387-00 / Flood	54.0	23.18	47.7%	60%	49.76	82.93	4.15	53.90	29.03
40C 167389-	37.0	23.18	47.7%	60%	34.09	56.82	2.84	36.93	19.89

00 / Flood									
40C 19338-00 / Wheel line sprinkler	35.0	23.18	47.7%	70%	32.25	46.07	4.61	36.86	9.21
Total	187.0	-	-	-	172.30	279.50	16.29	188.58	90.92

[1]Ingomar IWR Weather Station
[2]Rosebud County Historical Use Management Factor
[3]Irrecoverable losses are 5% of field application volume for flood irrigation and 10% of field application volume for sprinkler irrigation

Table 22. Proposed Use

Type / Irrigation Method	**AC**	**IWR (in)[1]**	**Mgmt. Factor**	**Field Efficiency**	**Crop Consumption (AF)**	**Applied Volume (AF)**	**IL (AF)[4]**	**Total Consumed Volume (AF)**	**Non-Consumed Volume (AF)**
Within historical POU[2] / Flood	40.4	23.18	47.7%	60%	37.22	62.04	3.10	40.33	21.71
Outside historical POU[3] / Sprinkler	146.0	25.83	72.7%	90%	228.47	253.86	25.39	253.86	0.00[5]
Total	186.4	-	-	-	265.69	315.90	28.49	294.19	21.71

[1]Ingomar IWR Weather Station
[2]Rosebud County Historical Use Management Factor
[3]Rosebud County Proposed Use Management Factor
[4]Irrecoverable losses are 5% of field application volume for flood irrigation and 10% of field application volume for sprinkler irrigation
[5]Proposed use is 100% consumptive due to 90% efficient sprinkler irrigation and 10% irrecoverable losses

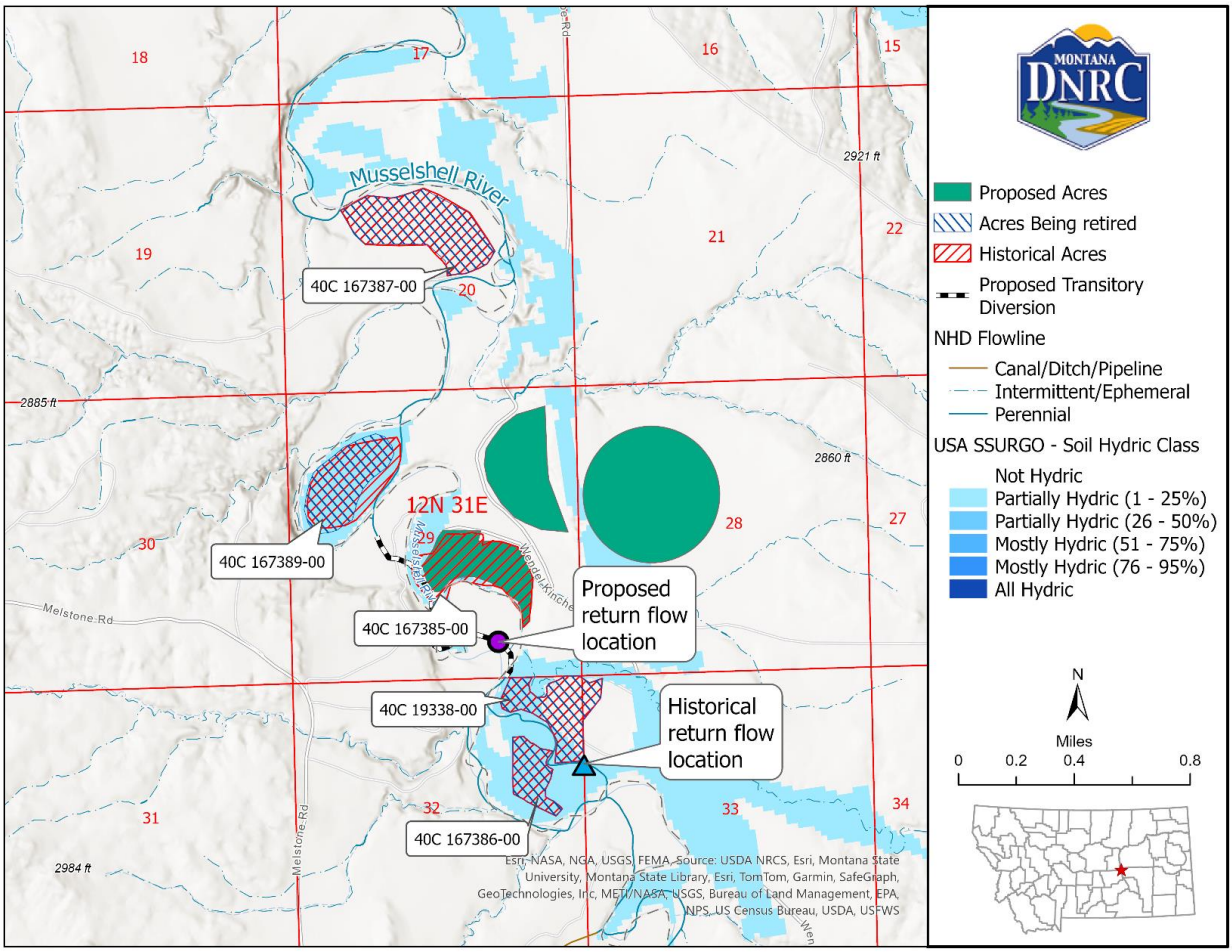

Figure 3. Location of historical and proposed irrigation and return flows

46. Methods used for analyzing the historical and proposed return flows are discussed in the Department-completed Technical Analyses Part B (Department File). The WSB determined the historical and proposed return flows accrue to the Musselshell River, and the location where the historical return flows accrued is approximately 1 mile upstream of where the proposed return flows will accrue. Under the proposed change, water is left instream so historically diverted flows are available during the historical period of diversion. In addition, the Applicants would leave a portion of historical diverted non-consumed volume instream at the historical point of diversion. Therefore, an analysis of rate and timing of return flows was not conducted.

47. Historically, each field was irrigated under a separate water right, as shown in Figure 3 (FOF 45). Under the proposed change, all five water rights would irrigate the entire proposed POU. The proposed return flow volume attributed to each water right was calculated by

multiplying the proposed return flow volume by the proportion of individual flow rates to the total flow rate, shown in Table 23.

Table 23. Historical and Proposed Annual Return Flow Volume Attributed to the Water Rights Proposed for Change

WR Number	Flow Rate (CFS)	Proposed Supplemental Proportion	Historical Return Flow Volume (AF)	Proposed Return Flow Volume (AF)
40C 167385-00	1.71	0.18	24.19	3.99
40C 167386-00	0.61	0.07	8.60	1.42
40C 167387-00	2.05	0.22	29.03	4.78
40C 167389-00	1.82	0.20	19.89	4.24
40C 19338-00	3.12	0.34	9.21	7.28
Total	9.31	1.00	90.92	21.71

48. The Applicants are proposing to retire the PODs for all the water rights proposed for change. The historical PODs for Statement of Claim nos. 40C 167385-00, 40C 167386-00, and 40C 19338-00 are upstream of the location where the proposed return flows will accrue. The beginning of the proposed transitory diversion reach is above the location of the historical points of diversion for Statement of Claim 40C 167385-00 and 40C 167386-00. There are three water rights between the historical points of diversion for 40C 167385-00 and 40C 167386-00 and the proposed point of diversion. Those water rights are Water Reservation no. 40C 30008850, Statement of Claim nos. 40C 30141917 and 40C 30141928. Water Reservation 40C 30008850 is not diverted, would not be subject to call by the Applicants, and would benefit from the flow being left instream by the Applicants. Statement of Claim nos. 40C 30141917 and 40C 30141928 are for livestock drinking directly from the Musselshell River. These two claims would also benefit from the flow being left instream by the Applicants. They are all below the location where return flows accrue. The flow rate being left instream is greater than the flow rate required for the livestock direct water rights. The instream flow water reservation will benefit from having additional flow available for the fishery throughout the affected reach. The proposed change would leave 3.73 CFS (3.12 CFS historically diverted under Statement of Claim 40C 19338-00, and 0.61 CFS historically diverted under Statement of Claim 40C 167386-00) instream above the location where the proposed return flows will accrue.

49. There is one legal demand between the historical PODs for Statement of Claim nos. 40C 19338-00 and 40C 167386-00 and the location of the proposed return flows. That water right is Statement of Claim 40C 19336-00 for domestic use year-round at a rate of 100 GPM up to 7 AF. The flow rate and volume of water being left instream by the proposed change is more than the amount required to satisfy the existing legal demand.

50. Statement of Claim 40C 19336-00 is listed as a multiple use right with Statement of Claim 40C 19338-00. Statement of Claim 40C 19338-00 will be left instream from the historical point of diversion to the location of the top of the transitory reach of the proposed point of diversion. The proposed diverted volume is 69.2 AF less than the historical diverted volume, and water will be left instream. The historical consumption of the multiple use rights are dependent on their individual uses. The changing of the irrigation right will not affect the consumptive uses under the domestic right. While these multiple use claims were filed by the same claimant, on the same source, both claimed just the year 1947 (hence the December 31 priority date for irrigation) but they were claimed in different counties, indicating that they were for uses on the opposite sides of the river. This information coupled with the differing ownership, differing flow rates (based on pump capacity), and differing volumes indicate that these two water rights were incorrectly designated as multiple uses of the same right.

51. Because the source is managed by Water Commissioners, the Applicants are already subject to water measurement requirements; the Applicants have the ability to shut down their pumps if call is made. The Applicants are proposing to leave 5.61 CFS instream from May 1 to September 30 and 2.49 CFS instream from October 1 to October 15; the proposed diverted volume is less than the historical diverted volume; the existing legal demand between the historical and proposed location of return flows will be satisfied; and the Department is proposing conditions to require water measurement and reporting; the Department finds that the proposed appropriations will not create an adverse effect to existing water rights.

ISSUES RAISED BY PUBLIC COMMENTS AND DEPARTMENT RESPONSES

52. The public submitted three (3) comments regarding adverse effect, and these comments raised 3 issues. These issues generally called into question an extended period of non-use (abandonment) and therefore Commenters being subject to call by the Applicants (Issue 1), use of a 1965 tributary water right (Issue 2), and irrigation of new acres (Issue 3).

53. Issue 1: The Commenters state that the Applicants' water rights have not been used for more than 20 years. The Commentors believe the draft preliminary determination (DPD) is based on a flawed assumption that water rights have been used continuously to their full historical extent and say the DPD fails to account for prolonged period of non-use and its consequences. The Commenters state that if the Applicants resume use of senior water rights the Commenters will be subject to call. The Commenters state that as a result of more than 20 years of non-use the rights have effectively been abandoned. (Commenters Delphia Melstone Water Users Association (WUA), Larry and Diane Ahlgren, Charles Jennaway)

54. Response 1: The Department assessed the adverse effect criterion based on the historical, pre-1973, use of the water rights proposed for change (FOF 12-29), the potential adverse effects of moving the points of diversion and places of use of the five (5) water rights proposed for change (FOF 42-51), and the Applicants' plan to prevent adverse effect to other water users (FOF 30-41). In the application materials, the Applicants stated that water was last used in 2025 and that water was not used for a period after the 2011 flood changed the Musselshell River course. The Commenters did not provide evidence to show that there was an extended period of non-use nor did they say which acres were not irrigated for an extended period of time. Without more information the Department cannot analyze the effects of the period of non-use. The Commenters did not provide evidence to show that there has been an extended period of time that the Commenters have not been subject to call. Without new evidence the Department cannot analyze the Applicants' ability to make call. Commenter Ahlgren is downstream of the Applicants and therefore would not be subject to call by the Applicants. The proposed change will leave 5.61 CFS instream from May 1 to September 30 and will leave 6.19 CFS instream from October 1 to October 15 that was historically diverted (FOF 32). Section 85-2-309(2), MCA, provides that the Department may certify all factual and legal issues involving abandonment to the proper court for adjudication. Under the statute, certification may occur after the Department determines that there is a valid objection to an application, not at the public comment stage. The Department did not update the criteria analysis in response to comments about resumption of use after an extended period of non-use, changes in the Applicant's ability to make call, or abandonment.

55. Issue 2: The Commenters state that a 1965 water right from a tributary of the Musselshell River was used only sporadically to irrigate a small parcel of land. (Commenters Delphia Melstone WUA, Larry and Diane Ahlgren, Charle Jennaway)

56. Response 2: The Water rights proposed for change in application no. 40C 30170690 do not include any from tributaries of the Musselshell River and none of the water rights proposed for change carry a 1965 priority date. The Department did not update the criteria analysis in response to comments about a 1965 water right from a tributary of the Musselshell River.

57. Issue 3: The Commenters state that the acreage proposed for new irrigation has not historically been irrigated. (Commenters Delphia Melstone WUA, Larry and Diane Ahlgren, Charle Jennaway)

58. Response 3. The Commenters did not explain how the irrigation of new acres would create an adverse effect to the Commenters. The Department analyzed the effects of changing

the place of use as well as the change in rate and timing of return flows due to the proposed change (FOF 42-51). The Department did not update the criteria analysis in response to comments about irrigating new acres.

59. The public comments regarding the adverse effect criterion have been addressed in FOF 52-66. Considering the public comments and the original analyses conducted, the Department finds that the Applicant has proven based on a preponderance of the evidence that the proposed change will not cause adverse effect.

BENEFICIAL USE

FINDINGS OF FACT

60. The Applicants propose to change the points of diversion and places of use for Statements of Claim nos. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, and 40C 19338-00. The proposed flow rate is 3.71 CFS from May 1 to October 15. The Department proposes to restrict the period of diversion and use to May 1 through September 30. The Applicants propose to flood irrigate 40.4 acres and sprinkler irrigate 146 acres under center pivot sprinkler irrigation systems. The volume required for the flood irrigation of 40.4 acres is 62.04 AF (FOF 36). The volume of water available for the sprinkler irrigation of 146 acres is 151.36 AF (FOF 38).

61. The requested flow rate is based on the system design and is 8.9 GPM per acre. This flow rate is within the typical range required for center pivot irrigation systems. The volume for the proposed use is limited by the historical consumptive use of the water rights proposed for change. The proposed volume is equal to the historical consumptive use plus an allowance for the efficiency of the flood irrigation system as described in FOF 36-38. The Applicants have purchased 100 shares of Deadman's Basin stored water to use when the water rights proposed for change are out of priority. The Applicants' available volume based on historical consumptive use will allow for full-service irrigation of the 40.4 acres under flood irrigation and will allow for application of approximately 1.01 AF per acre under the center pivot sprinkler irrigation systems. While the amount of water available is not enough for full-service irrigation of the entire place of use, some water is better than none and will provide a benefit to the Applicants.

62. The Department finds the use of 3.7 CFS and 213.4 AF for the purpose of irrigation of 186.4 acres is a beneficial use of water.

ADEQUATE DIVERSION

FINDINGS OF FACT

63. The proposed diversion consists of two pumps physically manifold to a single pipeline, which will be moveable along the riverbank that borders the Applicants' property. The first pump is a Cornell 4 RB with a 40-horsepower (HP) electric motor. The second pump is a Cornell 4 HH, also with a 40 HP motor. The 4 RB at 40 HP at 140 feet of Total Dynamic Head (TDH) can pump 860 GPM. The 4 HH at 40 HP at 135 feet of TDH can pump 801.45 GPM for a total pumping capacity of 1,661.45 GPM or 3.7 CFS. Each pump will have a flow meter and a totalizer as required for Water Commissioners by the Musselshell Distribution Project. From the pump site, the supply line will split with a 10-inch line going to the full pivot and a second 10-inch line going to the half pivot and the flood irrigated acres. The pipeline to the half pivot and flood irrigated acres will be reduced to 6-inch lines. The supply lines are PVC schedule 40. The 10-inch line has a capacity of 3,000 GPM, and the 6-inch line can convey up to 800 GPM. The Applicants provided pump curves, the proposed pumps, and pipeline capacity data sheets, which show water flow capacity based on pipe material and diameter. The capacity of the system is limited by the pumps.

64. The Department finds the proposed diversion is adequate to divert 3.7 CFS for the purpose of irrigation of 186.4 acres.

POSSESSORY INTEREST

FINDINGS OF FACT

65. The Applicants signed the affidavit on the application form affirming the Applicants have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (Department File)

CONCLUSIONS OF LAW

HISTORICAL USE AND ADVERSE EFFECT

66. 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*, ¶ 10 (an appropriator's right only attaches to the amount of water actually taken and beneficially applied).[1]

67. 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*, ¶¶ 43-45.[2]

68. 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*, ¶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

[1] DNRC decisions are available at: https://dnrc.mt.gov/Directors-Office/HearingOrders

[2] *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).

change or potential for adverse effect.[3] 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 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*, ¶ 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).[4]

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[3]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. Section 85-2-234, MCA

[4] 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

69. 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 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*, ¶ 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).[5]

70. 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 ¶¶ 45-46 and 55-6; *Spokane Ranch & Water Co.*, 37 Mont. at 351-52, 96 P. at 731.

71. 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,

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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.)

[5] 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).

> 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. . . .
> 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).

72. 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. ARM 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. ARM 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. ARM 36.12.1901 and 1903.

73. 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).

74. 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).

75. 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).

76. 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. ARM 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 ARM 36.12.1902. (FOF 12).

77. If an Applicant seeks more than the historic consumptive use as calculated by ARM 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.*; *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").

78. Based upon the Applicants' evidence of historical use, the Applicants have proven by a preponderance of the evidence the historical use of Statement of Claim 40C 167385-00 to be a diverted volume of 69.11 AF, a historically consumed volume of 44.92 AF, and flow rate of 1.71 CFS. (FOF 13-15)

79. Based upon the Applicants' evidence of historical use, the Applicants have proven by a preponderance of the evidence the historical use of Statement of Claim 40C 167386-00 to be a diverted volume of 24.57 AF, a historically consumed volume of 15.97 AF, and flow rate of 0.61 CFS. (FOF 16-18)

80. Based upon the Applicants' evidence of historical use, the Applicants have proven by a preponderance of the evidence the historical use of Statement of Claim 40C 167387-00 to be a diverted volume of 82.93 AF, a historically consumed volume of 53.90 AF, and flow rate of 2.05 CFS. (FOF 19-21)

81. Based upon the Applicants' evidence of historical use, the Applicants have proven by a preponderance of the evidence the historical use of Statement of Claim 40C 167389-00 to be a diverted volume of 56.82 AF, a historically consumed volume of 36.93 AF, and flow rate of 1.82 CFS. (FOF 22-24)

82. Based upon the Applicants' evidence of historical use, the Applicants have proven by a preponderance of the evidence the historical use of Statement of Claim 40C 19338-00 to be a diverted volume of 46.07 AF, a historically consumed volume of 36.86 AF, and flow rate of 3.12 CFS. (FOF 25-27)

83. Based upon the Applicants' comparative analysis of historical water use and return flows to water use and return flows under the proposed change, the Applicants have 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. Section 85-2-402(2)(a), MCA. (FOF 31-51)

BENEFICIAL USE

84. A change Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use. Sections 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. ARM 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 (Mont. 1st Jud. Dist. Ct.) (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,, *Order Affirming DNRC Decision*, Pg. 3 (Mont. 5th Jud. Dist. Ct.) (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).

85. The Department may issue a change authorization for less than the amount of water requested, but may not issue a change authorization for more water than is requested or more water than can be beneficially used without waste for the purpose stated in the application. Section 85-2-312, MCA; *see also, McDonald v. State*, 220 Mont. 519, 722 P.2d 598 (1986); *Toohey v. Campbell*, 24 Mont. 13, 60 P. 396 (1900).

86. Applicants propose to use water for irrigation, which is a recognized beneficial use. Section 85-2-102(5), MCA. Applicants have proven by a preponderance of the evidence

irrigation is a beneficial use and that 213.4 acre-feet of diverted volume and 3.71 CFS flow rate of water requested is the amount needed to sustain the beneficial. Section 85-2-402(2)(c), MCA (FOF 60-62).

ADEQUATE MEANS OF DIVERSION

87. 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).

88. Pursuant to § 85-2-402 (2)(b), MCA, Applicants have 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 63-64)

POSSESSORY INTEREST

89. 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 ARM 36.12.1802.

90. The Applicants have 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 65).

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. 40C 30170690 should be GRANTED IN MODIFIED FORM, subject to the following.

The Applicants may change the point of diversion for Statement of Claim 40C 167385-00 to a transitory pump site from the W2SESE Sec. 29. T12N, R31E to NWNESW Sec. 29, T12N, R31E, Rosebud County and may change the place of use to 102 AC in the W2 Sec. 28; 44 AC

in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County. The Applicants may divert 1.71 CFS up to 51.35 AF from May 1 to September 30.

The Applicants may change the point of diversion for Statement of Claim 40C 167386-00 to a transitory pump site from the W2SESE Sec. 29. T12N, R31E to NWNESW Sec. 29, T12N, R31E, Rosebud County and may change the place of use to 102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County. The Applicants may divert 0.61 CFS up to 18.26 AF from May 1 to September 30.

The Applicants may change the point of diversion for Statement of Claim 40C 167387-00 to a transitory pump site from the W2SESE Sec. 29. T12N, R31E to NWNESW Sec. 29, T12N, R31E, Rosebud County and may change the place of use to 102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County. The Applicants may divert 1.38 CFS up to 61.62 AF from May 1 to September 30.

The Applicants may change the point of diversion for Statement of Claim 40C 167389-00 to a transitory pump site from the W2SESE Sec. 29. T12N, R31E to NWNESW Sec. 29, T12N, R31E, Rosebud County and may change the place of use to 102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County. The Applicants may divert up to 42.22 AF from May 1 to September 30.

The Applicants may change the point of diversion for Statement of Claim 40C 19338-00 to a transitory pump site from the W2SESE Sec. 29. T12N, R31E to NWNESW Sec. 29, T12N, R31E, Rosebud County and may change the place of use to 102 AC in the W2 Sec. 28; 44 AC in the NE Sec. 29; 2.5 AC in the E2NESW, and 37.9 AC in the SE Sec. 29, T12N, R31E, Rosebud County. The Applicants may divert up to 39.94 AF from May 1 to September 30.

The application will be subject to the following conditions, limitations or restrictions:

WATER USE MEASUREMENT

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED MEASURING DEVICE AT THE PUMPS OR NEAR THE PUMPS ON THE PIPELINE TO THE IRRIGATION SYSTEMS. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. THE APPROPRIATOR SHALL KEEP WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER

DIVERTED FROM MAY 1 TO SEPTEMBER 30. THE WATER USE RECORDS SHALL BE COMPILED AND SUBMITTED TO THE DEPARTMENT BY DECEMBER 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR.

FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF THE CHANGE AUTHORIZATION. THE RECORDS MUST BE SENT TO THE BILLINGS WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL ENSURE THE MEASURING DEVICE IS MAINTAINED SO IT IS ALWAYS OPERATED PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

IMPORTANT INFORMATION

IF ANY OF THE WATER RIGHTS USED TO PROVIDE FLOW FOR THIS IRRIGATION SYSTEM ARE OUT OF PRIORITY AS DETERMINED BY THE DULY APPOINTED WATER COMMISSIONER OR A VALID CALL IS MADE, THE APPROPRIATOR MUST CEASE DIVERSION AND THE IRRIGATION SYSTEM MUST BE SHUT DOWN UNTIL THERE IS ENOUGH FLOW RATE AVAILABLE ON THE SOURCE FOR ALL WATER RIGHTS ON THIS SYSTEM TO BE DIVERTED, OR THE APPROPRIATOR MAY USE WATER PURCHASED FROM ANOTHER SOURCE SUCH AS DEADMAN'S BASIN RESERVOIR.

IMPORTANT INFORMATION

THE TOTAL DIVERTED VOLUME SHALL NOT EXCEED 213.4 AF. THE DIVERTED FLOW RATE SHALL NOT EXCEED 3.7 CFS. DIVERSION UNDER THIS CHANGE AUTHORIZATION SHALL CEASE WHEN THE VOLUME METER REACHES 69,536,603.4 GALLONS OR 213.4 AF.

IMPORTANT INFORMATION

THE APPROPRIATOR SHALL NOT DIVERT WATER UNDER STATEMENT OF CLAIM NOS. 40C 167385-00, 40C 167386-00, 40C 167387-00, 40C 167389-00, OR 40C 19338-00 AFTER SEPTEMBER 30.

NOTICE

The 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 16th day of June 2026.

/Original signed by Heidi Christison/
Heidi Christison, Manager
Billings Regional Office
Montana Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT IN MODIFIED FORM was served upon all parties listed below on this 16th day of June, 2026, by first class United States mail.

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