

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

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<b>APPLICATION TO CHANGE WATER RIGHT ) NO. 43A 30158835 by Hardscrabble Ranch ) LLC )</b>	<b>PRELIMINARY DETERMINATION TO GRANT CHANGE</b>
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On November 8, 2022, Hardscrabble Ranch LLC (Applicant) submitted Application to Change Water Right No. 43A 30158835 to change Water Right Claim No. 43A 190637-00 to the Bozeman Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the Application on its website. The Department sent Applicant a deficiency letter under §85-2-302, Montana Code Annotated (MCA), dated May 5, 2023. The Applicant responded with information dated August 28, 2023. On August 28, 2023, the Glasgow Regional Office received the application file from the Bozeman Regional Office. The Applicant submitted additional information via email on October 6, 2023. The Application was determined to be correct and complete as of November 15, 2023.

The Department met with the Applicant's representative, DMS Natural Resources, on September 21, 2022, for a pre-application meeting. An Environmental Assessment for this Application was completed on December 6, 2023.

**INFORMATION**

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

Application as filed:

- Application to Change Water Right, Form 606-IR
- Attachments
  - Exhibit A: Written notice of the application to each shared ditch user
  - Exhibit B: Historical imagery (7/5/1948 USGS, 9/10/1976 USGS, 8/24/1981 USGS)
  - Exhibit C: Water Resource Survey (WRS) for Township 1N, Range 7E
- Maps:
  - Exhibit IR.2.C: Historic Use on 7/5/1948 USGS photo
  - Exhibit IR.2.E: Proposed use on 9/30/2021 NAIP

### Information Received after Application Filed

- Email from Deborah Stephenson (Consultant) to Kerri Strasheim (DNRC Bozeman Regional Office Manager), Lih-An Yang (DNRC Glasgow Regional Office Acting Manager/New Appropriations Specialist), Lyra Reynolds (DNRC New Appropriations Specialist), and Todd Netto (former DNRC Glasgow Regional Office Manager), dated October 6, 2023, re. water court order granting motion to amend place of use.
- Email from Kerri Strasheim (DNRC Bozeman Regional Office Manager) to Deborah Stephenson (Consultant), Lih-An Yang (then DNRC New Appropriations Specialist), Lyra Reynolds (DNRC New Appropriations Specialist) and Todd Netto (then DNRC Glasgow Regional Office Manager), dated August 29, 2023, re. Glasgow helping with application.
- Deficiency response from DMS Natural Resources, LLC, dated August 28, 2023.
- Email from William Moore (consultant) to Lih-An Yang (DNRC Glasgow Regional Office Acting Manager/New Appropriations Specialist), dated November 27, 2023, re. ditch conveyance loss calculations in the November 15, 2023, technical report.
- Email from William Moore (consultant) to Lih-An Yang (DNRC Glasgow Regional Office Acting Manager/New Appropriations Specialist), Kerri Strasheim (DNRC Bozeman Regional Office Manager), and Shannon Baumgardner (DNRC New Appropriations Program Specialist), dated December 8, 2023, re. typo in technical report dated December 6, 2023.

### Information within the Department's Possession/Knowledge

- Irrigation Change Application Technical Report dated December 6, 2023\*
- Return Flow Report by Water Science Bureau dated November 7, 2023
- The Department also routinely considers the following information. The following information is not included in the administrative file for this Application; it is available upon request. Please contact the Glasgow Regional Office at 406-228-2561 to request

\*The original report, dated November 15, 2023, was revised by DNRC on December 6, 2023, with updated ditch conveyance loss calculations. The DNRC sent the revised report to the Applicant on December 6, 2023. This report contains one typo. On the bottom of page 2, the bold heading should read "**Historical diverted volume for this water right: 97.67 AF**". The Department's file has been corrected.

copies of the following documents.

- “Return Flows—Policy Memo” (Davis, 2016)
- “Change in Method of Irrigation—Policy Memo” (Davis, 2015)
- “DNRC Consumptive Use Methodology” updated March 17, 2010
- “Development of standardized methodologies to determine Historic Diverted Volume” (Roberts and Heffner, 2012)
- “Technical Memorandum: Distributing Conveyance Loss on Multiple User Ditches” (Heffner, 2020).

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

**WATER RIGHTS TO BE CHANGED**

**FINDINGS OF FACT**

1. Applicant seeks to change Statement of Claim No. 43A 190637-00 for 429.05 gallons per minute (GPM) flow and a diverted volume of the amount put to historical and beneficial use from an unnamed ditch on Brackett Creek for the purpose of flood irrigation with an enforceable priority date of 6/30/1973. The Applicant claimed a priority date of June 1, 1897; however, the claim was filed on September 1, 1982, as Late Claim B. The enforceable priority date for Late Claim B is June 30, 1973. The point of diversion is a headgate on Brackett Creek in SWNESE Section 3, Township (T) 1N, Range (R) 7E. The period of use and the period of diversion are April 15 to November 15. The place of use is 34 acres in N2SW Section 2, T1N, R7E and N2SESW Section 2, T1N, R7E, in Gallatin County, approximately 20 miles northeast of Bozeman. Table 1 summarizes the elements of the water right proposed for this change application:

Table 1: Water right proposed for change.

W.R. NO.	FLOW	VOLUME	PURPOSE	PERIOD OF USE	PLACE OF USE	POINT OF DIVERSION	PRIORITY DATE
Statement of Claim 43A 190637-00	429.05 GPM	Historical and beneficial use	Flood irrigation	04/15-11/15	N2SW Sec 2 T1N R7E (29.25 acres), N2SESW Sec 2 T1N R7E (4.75 acres)*	Headgate SWNESE Sec 3 T1N R7E	Enforceable priority date for Claim B 6/30/1973

\* Water Court Order for Case 43A-6004-A-2023 dated Oct. 5, 2023, granted the Applicant's motion to amend Statement of Claim 43A 190637-00 to include N2SESW Sec 2 T1N R7E in the place of use.

2. The Applicant is the sole owner of the water right proposed for changed.
3. Statements of claim 43A 190637-00 and 43A 190638-00 are multiple uses of the same right. Statements of claim 43A 190638-00 serves livestock drinking directly from Brackett Creek year-round in SW Section 2, T1N, R7E, for 39 animal units.
4. Statements of Claim 43A 30153450, 43A 30153451, and 43A 30153452 (all livestock direct from Brackett Creek) are split claims from 43A 190638-00. Their points of diversion and places of use are either downstream of or overlapping with the reach of Brackett Creek which the Applicant proposed to pump from.
5. There was no previous change authorization on Statement of Claim 43A 190637-00.

## **CHANGE PROPOSAL**

### **FINDINGS OF FACT**

6. The Applicant proposes to change the point of diversion and place of use for Statement of Claim 43A 190637-00. The Applicant proposes to change point of diversion from a headgate in Brackett Creek to a portable pump that may be moved along Brackett Creek within the S2NWSW, NESWSW and NWSESW of Section 2, T1N, R7E, Gallatin County. The Applicant also proposes to retire 7.5 acres of historical irrigation in the S2NESW and N2SESW of Section 2, T1N, R7E, and add 3.6 new acres to place of use in SWNWSW and NWSWSW of Section 2, T1N, R7E, all in Gallatin County.
7. The historical unnamed ditch contours along the northern edge of the historical place of use on the north side of Brackett Creek. The new 3.6 acres to be irrigated are on the south side of the creek. Under the change proposal, the ditch will be retired and irrigation method will change from flood to sprinkler irrigation. The period of use and period of diversion will remain the same, April 15 to November 15. Upon retiring 7.5 acres of the historical 34-acre place of use, and adding 3.6 new acres, the proposed place of use will contain 30.1 acres.
8. Upon retiring 7.5 acres of the historical 34-acre place of use, the historical return flow to Brackett Creek will be reduced by 7.12 AF per year. The Applicant proposes to leave 7.12 AF instream in Brackett creek at the historic point of diversion during the period of diversion. Water

that was historically diverted and beneficially used will no longer be diverted under change authorization 43A 30158835.

9. The application meets the requirements of the Department’s “Policy Memo—Return Flow” (Davis, 4/1/2016) allowing for an annual analysis of return flows. The water proposed to be left instream would not be of beneficial use and would not be needed for the project. The flow rate, 429.05 GPM, remains intact.

10. The Department’s May 5, 2023, deficiency letter identified a possible omission in the legal description of the claimed historical place of use. Subsequently, the Applicant filed a Motion to Amend Water Right Claim 43A 190637-00 with the Water Court on July 19, 2023. The motion was granted on Oct. 5, 2023, per Water Court Order for Case 43A-6004-A-2023. The Order amended the place of use as 29.25 acres in N2SW, and 4.75 acres in N2SESW, both in Section 2, T1N, R7E, totaling 34 acres.

11. Figure 1 shows the historical use for change application 43A 30158835.

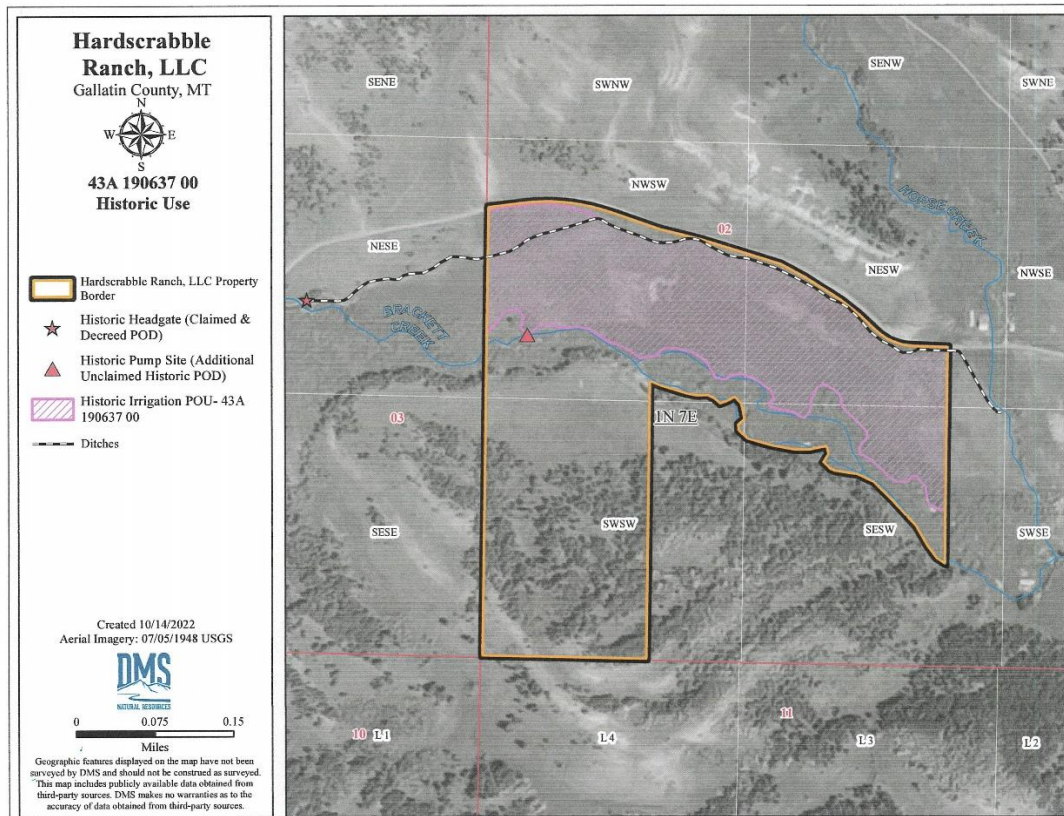


Figure 1: The historic irrigation area for change application 43A 30158835.

12. Figure 2 shows the proposed use for change application 43A 30158835.

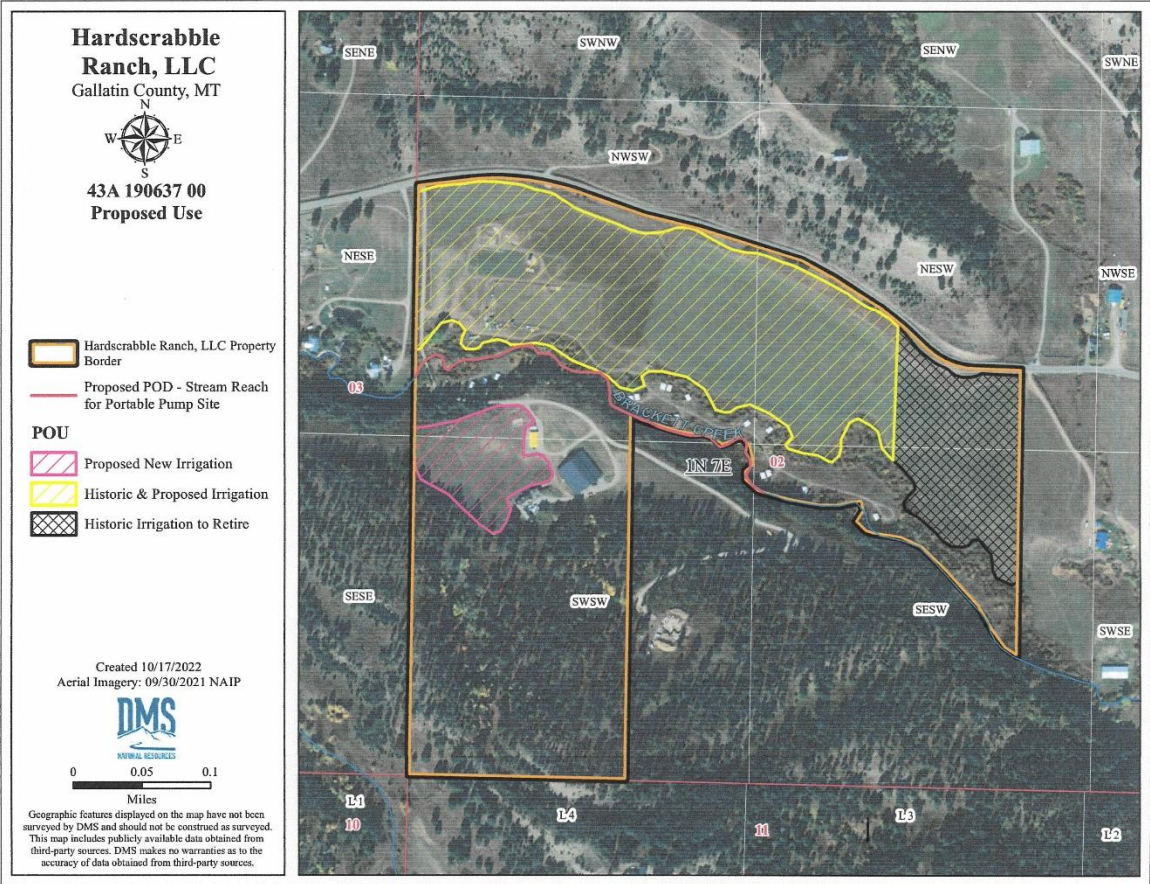


Figure 2: The proposed use for change application 43A 30158835.

**CHANGE CRITERIA**

13. 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 probably 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.

14. The evaluation of a proposed change in appropriation does not adjudicate the underlying right(s). The Department's change process only addresses the water right holder's ability to make a different use of that existing right. *E.g., Hohenlohe*, at ¶¶ 29-31; *Town of Manhattan*, at ¶8; *In the Matter of Application to Change Appropriation Water Right No.41F-31227 by T-L Irrigation Company* (DNRC Final Order 1991).

## **HISTORIC USE AND ADVERSE EFFECT**

### **FINDINGS OF FACT - Historic Use**

15. Water Resource Survey photo 179-245B found 34 irrigated acres in the historical place of use. Photo AR1FZ0000030112, dated July 5, 1948, along with photo supplied by the Applicant dated September 10, 1976, confirmed historical place of use to be 34 acres. The Master's Report filed with the Montana Water Court for Case 43A-0422-R-2021 dated February 25, 2022 confirmed that water right 43A 190637-00 was to be appropriated for 34 acres with a flow rate of 429.05 GPM.

16. While this water right is not supplemental to other water rights, 43A 190637-00 and 43A 190638-00 (livestock direct on Brackett Creek) are multiple uses of the same right. The ditch will

be retired under the proposed change, and the Applicant would be able to continue exercising the multiple use right from the source.

17. There is no water commissioner on the ditch.

18. According to the Applicant, the unnamed ditch with headgate diverting Brackett Creek into the ditch had been used for flood irrigation since prior to the 1970s. Sometime during the mid-1970s, the ditch was no longer used due to its poor condition. Instead, the Applicant's predecessor pumped water directly from Brackett Creek during the period of diversion when water flow was available for diversion. Although this POD change was not documented by a change authorization at the time, the Applicant's predecessor and other users have not used the ditch since the mid-1970s and have instead pumped directly from Brackett Creek. Diverted water was used to flood irrigate 34 acres of pasture grass and alfalfa hay on the north side of the Creek.

19. The unnamed ditch was shared by three other users. Statement of Claim 43A 191901-00 owned by Robert E. & Yova Lynn, and Rober J. & Laura D. Black, appropriates the use of the ditch upstream of the Applicant. The appropriation is for 4.6 acres in SENESE Sec 3, T1N, R7E, with a flow rate of 74 GPM diverted by headgate from May 1 to July 15.

20. Downstream of the Applicant, Statement of Claim 43A 30153449 also shared the headgate and use of the ditch. Statement of Claim 43A 30153449 of Guenther Revocable Trust was a split claim from 43A 190637-00 authorized by the Water Court, according to Water Court Master's Report for Case 43A-0422-R-2021. Claims 43A 30153449 and 43A 30153450 are multiple uses of the same right. Claim 43A 30153449 is an irrigation right for 75.39 GPM on 6 acres in N2SW Sec 2, T1N, R7E, from April 15 to November 15. Claim 43A 30153450 is a livestock direct right on Brackett Creek from Jan 1 to Dec. 31. Both have a priority date of June 30, 1973. Table 4 summarizes the shared ditch uses.

21. The historic consumptive use for this water right was calculated pursuant to ARM 36.12.1902. The water right being changed is a Statement of Claim and, as such, the underlying historic use of the water right will be evaluated as it existed as of July 1, 1973.

22. The 34-acre place of use was irrigated for pasture grass and alfalfa hay. The Applicant described the historical conveyance system as flood irrigation from an unnamed ditch with a slope of approximately 4.5%. The place of use is on the east slope of the Bridger Mountains, 20 miles northeast of Bozeman. The Applicant states that historical flood irrigation typically lasted from 92



to 208 days between April 15 and November 15. A 92-day irrigation took place when diversion was only feasible from April 15 to July 15 and haying took place after July 15. When flow in Brackett Creek allowed for diversion from April 15 to November 15 (215 days) with a one-week break for haying, 34 acres were irrigated for 208 days.

23. Climatic data from the weather station, Bozeman MT State, are used to derive the water right's historical consumptive use. Evapotranspiration for Gallatin County at the Bozeman MT State station is 18.42 inches annually for flood irrigation. The 1964-1973 management factor for Gallatin County is 73.5%. The Applicant described an on-farm efficiency of 50%, which is the average of the efficiency from contour ditch with design slope of 1.5-3%, 55%, and the efficiency from contour ditch with design slope of 6%, 45%.

24. Table 2 summarizes the historical consumptive volume calculation.

Table 2: Historical Consumptive Volume for Statement of Claim 43A 190637-00

Gallatin County MT State Bozeman IWR Flood Irrigation Seasonal ET (Inches)	Gallatin County 1964-1973 Management Factor (Percent)	Historical Acres	HCV AF (minus IL)	On-farm Efficiency (Percent)	Field Application (AF)	Historical Irrecoverable Losses (IL) Flood 5%	HCV AF (Including IL)
18.42	73.5%	34	38.36	50%	76.72	76.72 x 5% = 3.84	<b>38.36 + 3.84 = 42.20</b>

25. The historical diverted volume was calculated pursuant to ARM 36.12.1902(10) and the Department's standard methodology (Roberts and Heffner, 2012). Total historic diverted volume is equal to water applied to field plus seasonal conveyance losses. Historic diverted volume was determined using the Applicant's explanation of irrigation operations and the best available measurement supplied by the Applicant regarding the unnamed ditch. Table 3 summarizes the calculation of the historical diverted volume. The calculation of the ditch conveyance loss assigned to the Applicant is explained after Table 3.

Table 3: Historical Diverted Volume

Historical Diverted Volume (HDV)	HCV AF ( <i>minus IL</i> )	On-farm Efficiency	Seasonal Conveyance Loss Volume apportioned to the Applicant	Total HDV AF
	38.36	50%	20.95	(38.36/50%) + 20.95 = <b>97.67</b>

26. Conveyance loss is calculated for the ditch from the point of diversion (headgate) to its end in SENESW Section 2, T1N, R7E. Because three other users share the ditch, the DNRC's multiple user ditch memo (Heffner, 2020) is used to apportion the ditch conveyance loss to the Applicant's field. Water rights 43A 190638-00 and 43A 30153450 are not included in the conveyance loss calculation because their purpose is livestock drinking direct from source and no flow rate is assigned. All conveyance losses associated with water being conveyed from the point of diversion to place of use are assigned to water rights 43A 191901-00, 43A 190637-00, and 43A 30153449. The four users are listed below from upgradient to downgradient:

Table 4: Ditch users and their water rights

Water Right No.	Field Name	Diverted Flow Rate (GPM)
43A 191901-00	Rober E & Yova Lynn	74
43A 191901-00	Laura D & Robert J Black	74
43A 190637-00	Hardscrabble Ranch	429.05
43A 30153449	Guenther Revocable Trust	75.39
Total Ditch Flow Rate		578.44

27. The ditch is divided into four segments from the headgate to the upper edge of the fourth field. The conveyance loss for each segment is calculated in Tables 5 to 9.

Seepage loss = wetted perimeter x ditch length x ditch loss rate x days irrigated

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

Evaporation = ditch width x ditch length x net evaporation for April through October

The Applicant measured a set of ditch width, ditch depth, and base width at a location 160 feet down from the headgate in SWNESE Section 3, T1N R7E. These dimensions are used for the

segment from headgate to the edge of Lynn's field, and the segment from Lynn's field to Black's field. The Applicant measured a second set of ditch width, ditch depth, and base width at the start of the place of use. These dimensions are used for the segment from the Black's field to the Applicant's field, and the segment from the Applicant's field to Guenther's field. The Department confirmed the ditch wetted perimeter with geometric math based on the ditch dimensions. The length of each segment was measured by the Applicant from aerial imaging. The Department used the NRCS Web Soil Survey to determine the soil type below the ditch, which is Enbar clay loam (522A). Clay loam represents a ditch loss rate of approximately 0.6 ft<sup>3</sup>/ft<sup>2</sup>/day (Figure 2-50 in DNRC Historical Diverted Memo dated September 13, 2012). The net evaporation for the project area is 12.49 inches (1.04 ft) from April through October, per DNRC memo "Technical Memorandum: Pond and Wetland Evaporation/Evapotranspiration" (Water Science Bureau, June 7, 2023).

Because the Applicant's and downstream Guenther Revocable Trust's use of the ditch spans from April 15 to November 15 minus 7 days of haying, and Lynn and Black are only appropriated for May 1 to July 15, seepage loss and vegetation loss calculations for segment 1 (head gate to the edge of Lynn's field) and segment 2 (Lynn's field to the edge of Black's field) are separated into three time periods. The three time periods are April 15 to April 30 (16 days), May 1 to July 15 (76 days), and July 16 to November 15 minus 7 days of haying (116 days).

Figures 3 and 4 are maps created by the Applicant showing how the ditch segments and time periods are considered in conveyance loss calculation. Tables 5 through 8 demonstrate the calculations of each user's ditch conveyance loss.

Figure 3: Conveyance loss ditch segment parameters for April 15 to April 30 and July 16 to November 15.

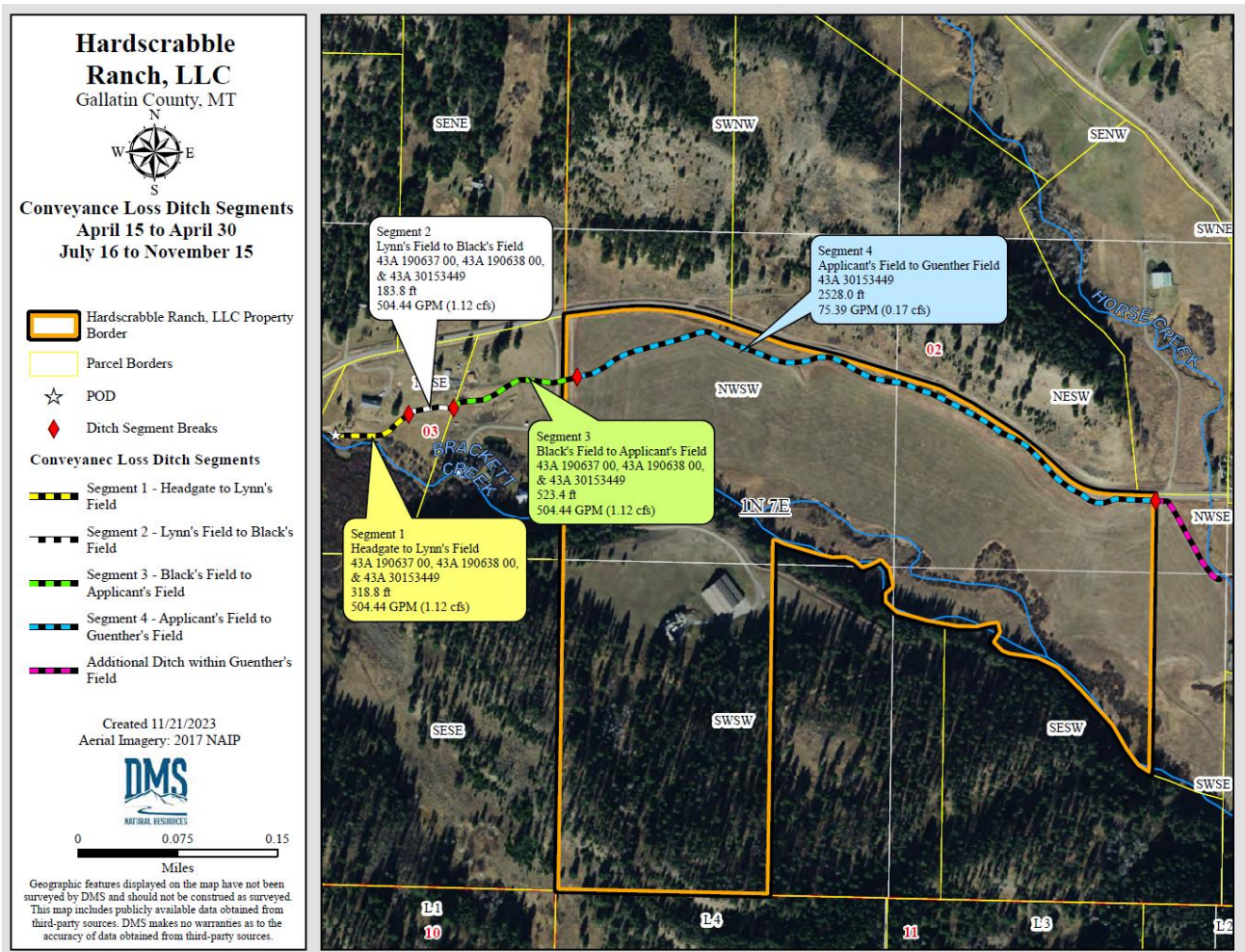


Figure 3: Conveyance loss ditch segment parameters for April 15 to April 30 and July 16 to November 15.

Figure 4: Conveyance loss ditch segment parameters for May 1 to July 15.

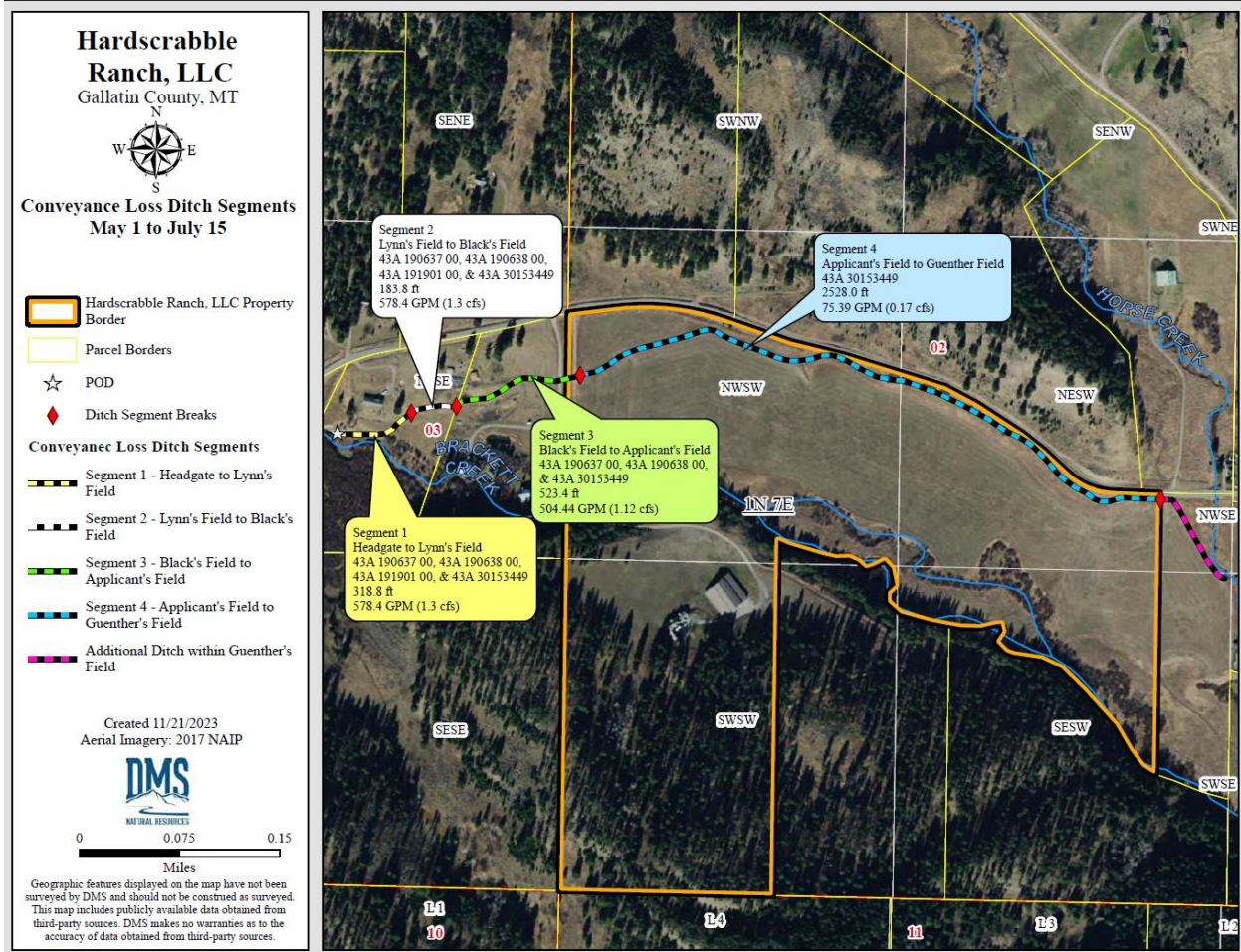


Figure 4: Conveyance loss ditch segment parameters for May 1 to July 15.

Table 5: Conveyance loss for segment #1 from headgate to the edge of Lynn's field.

<i>Seepage Loss:</i>	Ditch Wetted Perimeter (Feet)*	Ditch Length (Feet)	Ditch Loss Rate (ft <sup>3</sup> /ft <sup>2</sup> /day)	Days Irrigated	<b>Seepage Loss (/43560) AF</b>
	12.06	319	0.60	16 days (April 15 to April 30)	<b>0.85</b>
76 days (May 1 to July 15)				<b>4.03</b>	
116 days (July 16 to Nov 15)				<b>6.15</b>	
<i>Vegetation Loss:</i>	% loss/mile	Estimated Flow Rate (CFS)**	Days Irrigated	ditch length (miles)	<b>Vegetation Loss (*1.98) AF</b>
	0.0075	1.12	16	0.06	<b>0.02</b>
		1.29	76		<b>0.09</b>
		1.12	116		<b>0.12</b>
<i>Ditch Evaporation:</i>	Ditch Width (Feet)*	Ditch Length (Feet)	Evaporation (Feet)	<b>Ditch Evaporation (/43560) AF</b>	<b>Total AF</b>
	11.00	319	1.04	<b>0.08</b>	<b>11.33</b>

\* The Applicant measured these dimensions 160 feet down from the headgate.

\*\* Sum of appropriated flow rates diverted in this segment during the corresponding time period.

Table 6: Conveyance loss for segment #2 from Lynn's field to the edge of Black's field.

<i>Seepage Loss:</i>	Ditch Wetted Perimeter (Feet)*	Ditch Length (Feet)	Ditch Loss Rate (ft <sup>3</sup> /ft <sup>2</sup> /day)	Days Irrigated	<b>Seepage Loss (/43560) AF</b>
	12.06	184	0.60	16 days (April 15 to April 30)	<b>0.49</b>
76 days (May 1 to July 15)				<b>2.32</b>	
116 days (July 16 to Nov 15)				<b>3.55</b>	
<i>Vegetation Loss:</i>	% loss/mile	Estimated Flow Rate (CFS)**	Days Irrigated	ditch length (miles)	<b>Vegetation Loss (*1.98) AF</b>
	0.0075	1.12	16	0.05	<b>0.01</b>
		1.29	76		<b>0.05</b>
		1.12	116		<b>0.07</b>

<i>Ditch Evaporation:</i>	Ditch Width (Feet)*	Ditch Length (Feet)	Evaporation (Feet)	<b>Ditch Evaporation (/43560) AF</b>	<b>Total AF</b>
	11.00	184	1.04	<b>0.05</b>	<b>6.53</b>

\* The Applicant measured these dimensions 160 feet down from the headgate.

\*\* Sum of appropriated flow rates diverted in this segment during the corresponding time period.

Table 7: Conveyance loss for segment #3 from Black's field to the edge of Applicant's field.

<i>Seepage Loss:</i>	Ditch Wetted Perimeter (Feet)*	Ditch Length (Feet)	Ditch Loss Rate (ft <sup>3</sup> /ft <sup>2</sup> /day)	Days Irrigated	<b>Seepage Loss (/43560) AF</b>
	5.77	523	0.60	208	<b>8.65</b>
<i>Vegetation Loss:</i>	% loss/mile	Estimated Flow Rate (CFS)**	Days Irrigated	ditch length (miles)	<b>Vegetation Loss (*1.98) AF</b>
	0.0075	1.12	208	0.10	<b>0.34</b>
<i>Ditch Evaporation:</i>	Ditch Width (Feet)*	Ditch Length (Feet)	Evaporation (Feet)	<b>Ditch Evaporation (/43560) AF</b>	<b>Total AF</b>
	5.5	523	1.04	<b>0.07</b>	<b>9.06</b>

\*The Applicant measured these dimensions near the beginning of the place of use.

\*\* Sum of appropriated flow rates diverted in this segment during the corresponding time period.

Table 8: Conveyance loss for segment #4 from Applicant's field to the edge of Guenther's field.

<i>Seepage Loss:</i>	Ditch Wetted Perimeter (Feet)*	Ditch Length (Feet)	Ditch Loss Rate (ft <sup>3</sup> /ft <sup>2</sup> /day)	Days Irrigated	<b>Seepage Loss (/43560) AF</b>
	5.77	2528	0.60	208	<b>41.79</b>
<i>Vegetation Loss:</i>	% loss/mile	Estimated Flow Rate (CFS)**	Days Irrigated	ditch length (miles)	<b>Vegetation Loss (*1.98) AF</b>
	0.0075	0.17	208	0.48	<b>0.25</b>
<i>Ditch Evaporation:</i>	Ditch Width (Feet)*	Ditch Length (Feet)	Evaporation (Feet)	<b>Ditch Evaporation (/4356'0) AF</b>	<b>Total AF</b>
	5.5	2528	1.04	<b>0.33</b>	<b>42.37</b>

\*The Applicant measured these dimensions near the beginning of the place of use.

\*\* Sum of appropriated flow rates diverted in this segment during the corresponding time period.

Using Technical Memorandum: Distributing Conveyance Loss on Multiple User Ditches” (Heffner, 2020), the conveyance loss apportioned to the Applicant for each segment is summarized in Table 9.

Table 9: Distribution of conveyance loss to the Applicant’s field.

Segment	Total Conveyance Loss (AF)	Percentage of Applicant’s Conveyance Loss	Conveyance Loss apportioned to the Applicant (AF)
1	11.33	429.05 GPM / (74+429.05+75.39) GPM = 74%	11.33 x 74% = 8.40
2	6.53	429.05 GPM / (74+429.05+75.39) GPM = 74%	6.53 x 74% = 4.85
3	9.06	429.05 GPM / (429.05+75.39) GPM = 85%	9.06 x 85% = 7.70
4	42.37	0%	42.37 x 0% = 0
<b>Total</b>			<b>20.95 AF</b>

28. The Department summarizes the historical use in Table 10:

Table 10: Summary of the historical use of Claim 43A 190637-00.

W.R. NO.	Enforceable Priority Date	Diverted Volume	Flow Rate	Purpose & acres	Consumptive Use	Point of Diversion	Place of Use
43A 190637-00	6/30/1973	97.67 AF	429.05 GPM	Flood irrigation  34 acres  04/15-11/15	42.20 AF	Headgate  SWNESE Sec 3 T1N R7E	N2SW Sec 2 T1N R7E (29.25 acres), N2SESW Sec 2 T1N R7E (4.75 acres)*

\* Water Court Order for Case 43A-6004-A-2023 dated Oct. 5, 2023, granted the Applicant’s motion to amend Statement of Claim 43A 190637-00 to include N2SESW Sec 2 T1N R7E to the place of use.

***FINDINGS OF FACT – Adverse Effect***

29. The Applicant proposes to change the point of diversion and place of use of water right 43A 190637-00. The Applicant proposes to change the point of diversion from a headgate in Brackett Creek to a portable pump that may be moved along Brackett Creek within the S2NWSW,



NESWSW, and NWSESW of Section 2, T1N, R7E, Gallatin County. Applicant proposes to add 3.6 acres to place of use in the SWNWSW and NWSWSW of Section 2, T1N, R7E, Gallatin County. Applicant proposes to retire 7.5 acres of historical irrigation in the S2NESW and N2SESW of Section 2, T1N, R7E to offset the water use by the new acres.

30. The applicant will leave 7.12 AF instream during the period of diversion to offset the loss of return flow due to the retired acres.

31. The Applicant proposes to retire 7.5 acres of the 34-acre historical irrigation and add 3.6 acres of turf grass to the water appropriation. Per DNRC’s policy memorandum on irrigation efficiency (Davis, 2015), the Department will not analyze changes in consumptive use for acres that fall within the boundaries of the area of historical irrigation. As proposed, 26.5 acres remain within the boundaries of the 34-ac area of historical irrigation and within the historical period of diversion and use. Therefore, the same parameters (ET, management factor, on-farm efficiency) used for calculating the historical consumed volume on the 34-ac historical place of use will be used to calculate the proposed consumed, and diverted, volumes on 26.5 acres. Conveyance loss will not be analyzed as the ditch is retired. Table 11 shows how the proposed diverted volume is calculated.

Table 11: Proposed diverted volume of the 26.5 acres within historical use boundary.

Gallatin County (MT State Bozeman) IWR Flood Irrigation Seasonal ET (Inches)	Gallatin County 1964-1973 Management Factor (Percent)	Historical Acres	CV AF (minus IL)	On-farm Efficiency (Percent)	Field Application AF	Proposed Diverted Volume
18.42	73.5%	26.5	29.90	50%	29.90/50% = 59.80	<b>59.80</b>

32. The Applicant also proposed to sprinkler-irrigate 3.6 new acres of turf grass. The Applicant proposed to apply up to 58,000 gallons per acre per week for 107 days between April 15 and November 15. The Applicant based this irrigation schedule on golf course turf grass irrigation requirement. Table 12 calculates the diverted volume on these 3.6 acres.

Table 12: Proposed diverted volume on the added 3.6 acres.

Proposed Sprinkler Rate	Proposed Acreage	Proposed Period of Use	Total Applied volume (AF)
58,000 gallons per acre per week	3.6	107 days, or 15.29 weeks	$(58,000 \times 3.6 \times 15.29) / 325,851 = 9.79$

Total proposed diverted volume on the historical 26.5 acres and new 3.6 acres is 69.59 AF per year (Table 13).

Table 13: Total Proposed Diverted Volume

Proposed diverted volume on 26.5 acres (AF)	Proposed diverted volume on 3.6 acres (AF)	Total Proposed Diverted volume (AF)
<b>59.80</b>	<b>9.79</b>	<b>59.80 + 9.79 = 69.59</b>

33. The Department finds that the proposed diverted volume, 69.59 AF, does not exceed the historical diverted volume, 97.67 AF.

34. For consumptive volume, the parameters used to calculate the historical consumed volume on the 34-acre historical place of use will be used to calculate the proposed consumed volumes on 26.5 acres (Table 14).

Table 14: Proposed consumptive volume of the historical 26.5 acres.

Gallatin County (MT State Bozeman) IWR Flood Irrigation Seasonal ET (Inches)	Gallatin County 1964-1973 Management Factor (Percent)	Historical Acres	CV AF (minus IL)	On-farm Efficiency (Percent)	Field Application AF	Irrecoverable Losses (IL) Flood 5%:	CV AF (Including IL)
18.42	73.5%	26.5	29.90	50%	59.80	59.80 x 5% = 2.99	<b>29.90 + 2.99 = 32.89</b>

35. For consumptive volume on the new 3.6-acre turf grass irrigation, the Applicant stated that turf grass irrigation is more consumptive than standards used by the Department for crops, and proposed to use a 95% consumptive rate. The consumptive volume on the 3.6-acre is calculated to be 9.30 AF per year (Table 15).

Table 15: Proposed consumptive volume on the 3.6-acre turf grass addition, as proposed by the Applicant.

Proposed Diverted Volume from Table 12	Consumptive Rate	Total Consumptive Volume (AF)
9.79 AF	95%	<b>9.79 x 95% = 9.30</b>

36. The total consumptive volume for the proposed irrigation is the proposed consumptive volume plus the new turf grass consumptive volume, which equals 42.19 AF (Table 16).

Table 16: Total proposed consumptive volume

Proposed consumptive volume on 26.5 acres (AF)	Proposed consumptive volume on 3.6 acres (AF)	Total Proposed consumptive volume (AF)
32.89	9.30	<b>32.89 + 9.30 = 42.19</b>

37. The Department finds that the proposed consumptive volume, 42.19 AF, does not exceed the historical consumed volume, 42.20 AF.

38. This project meets the requirements of the Return Flows Policy Memo (Davis, 2016) that enables evaluating return flows on an annual rather than monthly basis. The requirements of the Davis (2016) memo are: Return flow will enter back to the same historical source upstream of the next downstream appropriator, water is left instream so historically diverted flows are available during the historical period of diversion, and this change does not constitute an enlargement of flow rate and consumptive use. The DNRC Water Science Bureau’s Surface Water Change Report dated Nov. 7, 2023, confirmed that return flows will enter back to the same historical source.

39. Return flow is that part of a diverted flow which is put to beneficial use and is not consumed and returns to a surface water source. Return flow is calculated by subtracting the consumptive volume including irrecoverable losses from the field applied volume. For historical return flow, its volume is calculated by subtracting the historical consumptive volume including irrecoverable losses (42.20 AF) from the field applied volume (76.72 AF) found in Table 1. Annual volume that returned to source (Brackett Creek) under historical practice is  $76.72 - 42.20 = 34.52$  AF.

40. On the 26.5 acres which fall within the boundary of the historical place use, 26.91 AF return flow will be generated. This figure was calculated by subtracting the historical consumptive volume including irrecoverable losses (32.89 AF) from the field applied volume (59.80 AF) in Table 14. On the 3.6 new turf grass acres, 0.49 AF return flow will be generated. This figure was calculated by subtracting the 95% consumptive volume (9.30 AF) from the field applied volume (9.79 AF) in Table 15. Total annual return flow volume under the new practice =  $26.91$  AF +  $0.49$  AF =  $27.40$  AF.

41. Changes in return flow = proposed return flow - historical return flow =  $27.40$  AF -  $34.52$  AF =  $-7.12$  AF per year.

42. The Applicant calculated return flows with a method that is based on return flow volume per acre and arrived at 7.16 AF reduction of return flow. The minor difference is likely due to rounding.

43. Three downstream water right holders have signed a waiver of adverse effect analysis. Robert E. and Yova Lynn of water right 43A 191901-00 signed the waiver on August 8, 2023. Laura D & Robert J Black of water right 43A 191901-00 signed on August 24, 2023. Guenther Revocable Trust of water rights 43A 30153449 and 43A 30159450 signed on August 8, 2023.

44. The water rights being considered for adverse effect include all active surface water rights on Brackett Creek from the historical point of diversion headgate in SWNESE Section 3 through SW quarter of Section 2, T1N, R7E. This reach is selected because it represents historical ditch users, water rights diverted from the reach of Brackett Creek that also overlaps with, or just downstream of, the proposed pump site reach.

Table 17: Water rights considered for adverse effect. All rights are sourced from Brackett Creek.

Water Right	Type	Owner	Purpose	Means of Diversion	Priority Date	Flow	Acres
43A 166895-00	Statement of Claim	Wertz Family LLC	Livestock Direct	Multiple	06/01/1897	--	--
43A 190638-00	Statement of Claim	Hardscrabble Ranch LLC	Livestock Direct		06/01/1897	--	--
43A 191901-00	Statement of Claim	Laura D & Robert J Black; Rober E & Yova Lynn	Irrigation	Ditch	12/31/1964	74 GPM	4.6
43A 30153449	Statement of Claim	Guenther Revocable Trust	Irrigation	Headgate	06/01/1897	75.39 GPM	6
43A 30153450	Statement of Claim	Guenther Revocable Trust	Livestock Direct		06/01/1897	--	--
43A 30153451	Statement of Claim	Gregory T and Susan M Scartozzi	Livestock Direct		06/01/1897	--	--
43A 30153452	Statement of Claim	Rebel Estate LLC	Livestock Direct		06/01/1897	--	--
43A 30017698	Water reservation	MT FWP	Fishery	Instream	12/15/1978	3.17 to 63.2 CFS	--

45. There are other water rights on the main stem Brackett Creek. There is not greater access to water as a result of changing the POD from headgate to a portable pump. According to the Applicant, due to the poor condition of the ditch, the Applicant and other ditch users stopped using the ditch in the mid-1970s and instead have utilized pump sites in Brackett Creek. This change application would formalize the switch in POD and will not affect other downstream users.

46. Because the reach of Brackett Creek where pumping could occur starts approximately 1000 feet downstream of the headgate, and the pump could be moved along a 1700-ft reach, water will be left instream longer than the historic practice.

47. The Department finds that the proposed change will not have an adverse effect on the downstream users.

## **BENEFICIAL USE**

### **FINDINGS OF FACT**

48. Applicant proposes to use water for irrigation. On 26.5 acres within the historical place of use, the Applicant will continue to irrigate pasture grass and alfalfa hay. For the new addition of 3.6 acres on the south side of the creek, water will be used to irrigate turf grass along with wildflowers and natural hay. Irrigation is a recognized beneficial use of water in Montana per §§85-2-102(5) and -402(2)(c), MCA.

49. Applicant proposes to divert water at 429.05 GPM for 69.59 AF per year. On a per-acre basis, 69.59 AF per year over 30.1 acres equates 2.3 AF per acre, which is within the Department's standard for climate III area, where Bozeman is located.

50. The Department finds that the proposed change is a beneficial use of water and that 69.59 AF diverted volume and 42.19 AF consumed volume are needed for the beneficial use.

## **ADEQUATE DIVERSION**

### **FINDINGS OF FACT**

51. The Applicant proposes to divert water from Brackett Creek by a portable pump. The pump is a Berkeley Company model B3JRBM CW No. 5001 which has been used by the Applicant's predecessor and will continue to be used by the Applicant. The pump's operating capacity is 60HP 2200 RPM. The pump will be mounted on a Kubota tractor for mobility.

52. From the pump, water will be piped via above-ground pipes to the north side of the creek. Water will be applied to the crops via a combination of existing 4-inch handlines and big-gun sprinklers. Water will also be piped via above-ground pipes to the south side of the creek and connected with underground sprinkler system and/or portable big gun sprinklers to water turf grass as well as natural hay. The proposed diversion and operation will eliminate conveyance loss from the ditch and increase crop use efficiency.

53. The Department finds the diversion means and operation adequate for the proposed irrigation use.

## **POSSESSORY INTEREST**

### **FINDINGS OF FACT**

54. The Applicant is the sole owner of the place of use. The applicant signed the affidavit on the application form affirming the applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

## **CONCLUSIONS OF LAW**

### **HISTORIC USE AND ADVERSE EFFECT**

55. Montana's change statute codifies the fundamental principles of the Prior Appropriation Doctrine. Sections 85-2-401 and -402(1)(a), MCA, authorize changes to existing water rights, permits, and water reservations subject to the fundamental tenet of Montana water law that one may change only that to which he or she has the right based upon beneficial use. A change to an existing water right may not expand the consumptive use of the underlying right or remove the well-established limit of the appropriator's right to water actually taken and beneficially used. An increase in consumptive use constitutes a new appropriation and is subject to the new water use permit requirements of the MWUA. McDonald v. State, 220 Mont. 519, 530, 722 P.2d 598, 605 (1986)(beneficial use constitutes the basis, measure, and limit of a water right); Featherman v. Hennessy, 43 Mont. 310, 316-17, 115 P. 983, 986 (1911)(increased consumption associated with expanded use of underlying right amounted to new appropriation rather than change in use); Quigley v. McIntosh, 110 Mont. 495, 103 P.2d 1067, 1072-74 (1940)(appropriator may not expand a water right through the guise of a change – expanded use constitutes a new use with a new priority date junior to intervening water uses); Allen v. Petrick, 69 Mont. 373, 222 P. 451(1924)(“quantity of water which may be claimed lawfully under a prior appropriation is limited to that quantity within the amount claimed which the appropriator has needed, and which within a reasonable time he has actually and economically applied to a beneficial use. . . . it may be said that the principle of beneficial use is the one of paramount importance . . . The appropriator does not own the water. He has a right of ownership in its use only”); Town of Manhattan, at ¶ 10 (an appropriator's right only attaches to the amount of water actually taken and beneficially applied); Town of Manhattan v. DNRC, Cause No. DV-09-872C, Montana Eighteenth Judicial District Court, *Order Re Petition for Judicial Review*, Pg. 9 (2011)(the rule that one may change only that to which it has a right is a fundamental tenet of Montana water law and imperative to MWUA change provisions); In the Matter of Application to Change a Water Right No. 41I 30002512 by Brewer

Land Co, LLC, DNRC Proposal For Decision and Final Order (2004).<sup>1</sup>

56. Sections 85-2-401(1) and -402(2)(a), MCA, codify the prior appropriation principles that Montana appropriators have a vested right to maintain surface and ground water conditions substantially as they existed at the time of their appropriation; subsequent appropriators may insist that prior appropriators confine their use to what was actually appropriated or necessary for their originally intended purpose of use; and, an appropriator may not change or alter its use in a manner that adversely affects another water user. Spokane Ranch & Water Co. v. Beatty, 37 Mont. 342, 96 P. 727, 731 (1908); Quigley, 110 Mont. at 505-11,103 P.2d at 1072-74; Matter of Royston, 249 Mont. at 429, 816 P.2d at 1057; Hohenlohe, at ¶¶43-45.<sup>2</sup>

57. The cornerstone of evaluating potential adverse effect to other appropriators is the determination of the “historic use” of the water right being changed. Town of Manhattan, at ¶10 (recognizing that the Department’s obligation to ensure that change will not adversely affect other water rights requires analysis of the actual historic amount, pattern, and means of water use). A change applicant must prove the extent and pattern of use for the underlying right proposed for change through evidence of the historic diverted amount, consumed amount, place of use, pattern of use, and return flow because a statement of claim, permit, or decree may not include the beneficial use information necessary to evaluate the amount of water available for change or potential for adverse effect.<sup>3</sup> A comparative analysis of the historic use of the water right to the proposed change in use is necessary to prove the change will not result in expansion of the original right, or adversely affect water users who are entitled to rely upon maintenance of conditions on the source of supply for their water rights. Quigley, 103 P.2d at 1072-75 (it is necessary to ascertain historic use of a decreed water right to determine whether a change in use

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<sup>1</sup> DNRC decisions are available at:

[http://www.dnrc.mt.gov/wrd/water\\_rts/hearing\\_info/hearing\\_orders/hearingorders.asp](http://www.dnrc.mt.gov/wrd/water_rts/hearing_info/hearing_orders/hearingorders.asp)

<sup>2</sup> 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).

<sup>3</sup>A claim only constitutes *prima facie* evidence for the purposes of the adjudication under § 85-2-221, MCA. The claim does not constitute *prima facie* evidence of historical use in a change proceeding under §85-2-402, MCA. For example, most water rights decreed for irrigation are not decreed with a volume and provide limited evidence of actual historic beneficial use. §85-2-234, MCA



expands the underlying right to the detriment of other water user because a decree only provides a limited description of the right); Royston, 249 Mont. at 431-32, 816 P.2d at 1059-60 (record could not sustain a conclusion of no adverse effect because the applicant failed to provide the Department with evidence of the historic diverted volume, consumption, and return flow); Hohenlohe, at ¶44-45; Town of Manhattan v. DNRC, Cause No. DV-09-872C, Montana Eighteenth Judicial District Court, *Order Re Petition for Judicial Review*, Pgs. 11-12 (proof of historic use is required even when the right has been decreed because the decreed flow rate or volume establishes the maximum appropriation that may be diverted, and may exceed the historical pattern of use, amount diverted or amount consumed through actual use); Matter of Application For Beneficial Water Use Permit By City of Bozeman, *Memorandum*, Pgs. 8-22 (Adopted by DNRC *Final Order* January 9,1985)(evidence of historic use must be compared to the proposed change in use to give effect to the implied limitations read into every decreed right that an appropriator has no right to expand his appropriation or change his use to the detriment of juniors).<sup>4</sup>

58. 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

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<sup>4</sup> Other western states likewise rely upon the doctrine of historic use as a critical component in evaluating changes in appropriation rights for expansion and adverse effect: Pueblo West Metropolitan District v. Southeastern Colorado Water Conservancy District, 717 P.2d 955, 959 (Colo. 1986)("[O]nce an appropriator exercises his or her privilege to change a water right ... the appropriator runs a real risk of requantification of the water right based on actual historical consumptive use. In such a change proceeding a junior water right ... which had been strictly administered throughout its existence would, in all probability, be reduced to a lesser quantity because of the relatively limited actual historic use of the right."); Santa Fe Trail Ranches Property Owners Ass'n v. Simpson, 990 P.2d 46, 55 -57 (Colo.,1999); Farmers Reservoir and Irr. Co. v. City of Golden, 44 P.3d 241, 245 (Colo. 2002)("We [Colorado Supreme Court] have stated time and again that the need for security and predictability in the prior appropriation system dictates that holders of vested water rights are entitled to the continuation of stream conditions as they existed at the time they first made their appropriation); Application for Water Rights in Rio Grande County, 53 P.3d 1165, 1170 (Colo. 2002); Wyo. Stat. § 41-3-104 (When an owner of a water right wishes to change a water right ... he shall file a petition requesting permission to make such a change .... The change ... may be allowed provided that the quantity of water transferred ... shall not exceed the amount of water historically diverted under the existing use, nor increase the historic rate of diversion under the existing use, nor increase the historic amount consumptively used under the existing use, nor decrease the historic amount of return flow, nor in any manner injure other existing lawful appropriators.); Basin Elec. Power Co-op. v. State Bd. of Control, 578 P.2d 557, 564 -566 (Wyo,1978) (a water right holder may not effect a change of use transferring more water than he had historically consumptively used; regardless of the lack of injury to other appropriators, the amount of water historically diverted under the existing use, the historic rate of diversion under the existing use, the historic amount consumptively used under the existing use, and the historic amount of return flow must be considered.)

use and the water is subject to appropriation by others. E.g., Hohenlohe, at ¶144; 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; In the Matter of Application for Change Authorization No. G (W)028708-411 by Hedrich/Straugh/Ringer, DNRC Final Order (Dec. 13, 1991); In the Matter of Application for Change Authorization No. G(W)008323-G76l By Starkel/Koester, DNRC Final Order (Apr. 1, 1992); In the Matter of Application to Change a Water Right No. 41l 30002512 by Brewer Land Co, LLC, DNRC Proposal For Decision and Final Order (2004); Admin. R.M. 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).<sup>5</sup>

59. Although the level of analysis may vary, analysis of the extent to which a proposed change may alter the amount, location, or timing return flows is critical in order to prove that the proposed change will not adversely affect other appropriators who rely on those return flows as part of the source of supply for their water rights. Royston, 249 Mont. at 431, 816 P.2d at 1059-60; Hohenlohe, at ¶¶ 45-6 and 55-6; Spokane Ranch & Water Co., 37 Mont. at 351-52, 96 P. at 731. Noted Montana Water Law scholar Al Stone explained that the water right holder who seeks to change a water right is unlikely to receive the full amount claimed or historically used at the original place of use due to reliance upon return flows by other water users. Montana Water Law, Albert W. Stone, Pgs. 112-17 (State Bar of Montana 1994).

60. 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

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<sup>5</sup> 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, ¶¶ 22, 31,43, 198 P.3d 219, ¶¶ 22, 31,43(citing Hidden Hollow Ranch v. Fields, 2004 MT 153, 321 Mont. 505, 92 P.3d 1185).

manner:

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

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).

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

62. 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).

63. 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. Schreckendquist, 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).

64. 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).

65. The Department has adopted a rule providing for the calculation of historic consumptive use where the applicant proves by a preponderance of the evidence that the acreage was historically irrigated. Admin. R. M. 36.12.1902 (16). In the alternative an applicant may present its own evidence of historic beneficial use. In this case Applicant has elected to proceed under Admin. R.M. 36.12.1902. (FOF Nos. 21-24).

66. If an applicant seeks more than the historic consumptive use as calculated by Admin.R.M .36.12.1902 (16), the applicant bears the burden of proof to demonstrate the amount of historic consumptive use by a preponderance of the evidence. The actual historic use of water could be less than the optimum utilization represented by the calculated duty of water in any particular case. E.g., Application for Water Rights in Rio Grande County 53 P.3d 1165 (Colo., 2002) (historical use must be quantified to ensure no enlargement); In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., supra; Orr v. Arapahoe Water and Sanitation Dist. 753 P.2d 1217, 1223 -1224 (Colo., 1988)(historical use of a water right could very well be less than the duty of water); Weibert v. Rothe Bros., Inc., 200 Colo. 310, 317, 618 P.2d 1367, 1371 - 1372 (Colo. 1980) (historical use could be less than the optimum utilization “duty of water”).

67. Based upon the Applicant’s evidence of historic use, the Applicant has proven by a preponderance of the evidence the historic use of Water Right Claim No. 43A 190637-00 to be 97.67 AF diverted volume and 429.05 GPM flow rate with a consumptive use of 42.20 AF. (FOF Nos. 15—28)

68. Based upon the Applicant’s comparative analysis of historic water use and return flows to water use and return flows under the proposed change, the Applicant has proven that the proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons or other perfected or planned uses or developments for which a permit or certificate has been issued or for which a state water reservation has been issued. §85-2-402(2)(b), MCA. (FOF Nos. 29—47)

### *BENEFICIAL USE*

69. A change applicant must prove by a preponderance of the evidence the proposed use is a beneficial use. §§85-2-102(5) and -402(2)(c), MCA. Beneficial use is and has always been the hallmark of a valid Montana water right: “[T]he amount actually needed for beneficial use within the appropriation will be the basis, measure, and the limit of all water rights in Montana . . .” McDonald, 220 Mont. at 532, 722 P.2d at 606. The analysis of the beneficial use criterion is the same for change authorizations under §85-2-402, MCA, and new beneficial permits under §85-2-311, MCA. Admin.R.M. 36.12.1801. The amount of water that may be authorized for change is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River

Protective Association v. Siebel, *Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court (2003) (*affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518); Worden v. Alexander, 108 Mont. 208, 90 P.2d 160 (1939); Allen v. Petrick, 69 Mont. 373, 222 P. 451(1924); Sitz Ranch v. DNRC, DV-10-13390, Montana Fifth Judicial District Court, *Order Affirming DNRC Decision*, Pg. 3 (2011)(citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant’s argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet); Toohy 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).

70. Applicant proposes to use water for irrigation which is a recognized beneficial use. §85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence irrigation is a beneficial use and that 69.59 acre-feet of diverted volume and 429.05 GPM flow rate of water requested is the amount needed to sustain the beneficial use and is within the standards set by DNRC Rule/other standard. §85-2-402(2)(c), MCA (FOF Nos. 48—50)

#### ADEQUATE MEANS OF DIVERSION

71. 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. 6<sup>th</sup> 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).

72. Pursuant to §85-2-402 (2)(b), MCA, applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. (FOF Nos. 51—53)

### POSSESSORY INTEREST

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

74. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. (FOF No. 54)

### 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. 43A 30158835 should be GRANTED subject to the following.

The point of diversion of Statement of Claim 43A 190637-00 will be changed to a portable pump that may be moved along Brackett Creek within S2NWSW, NESWSW and NWSESW of Section 2, T1N, R7E, Gallatin County. The Applicant will retire 7.5 acres of historical irrigation in S2NESW and N2SESW of Section 2, T1N, R7E, and add 3.6 acres to place of use in SWNWSW and NWSWSW of Section 2, T1N, R7E, Gallatin County. The application is authorized to divert 69.59 AF of water per year at a flow rate of 429.05 GPM. The Applicant will continue to divert water during a period of diversion from April 15 to November 15, and use water for irrigation on 30.1 acres during the period of use from April 15 to November 15.

### NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§85-2-307, and -308, MCA. If this

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

DATED this 5<sup>th</sup> day of March, 2024.

/Original Signed by Lih-An Yang/  
Lih-An Yang, Acting Regional Manager  
Glasgow Regional Office  
Department of Natural Resources  
and Conservation



**CERTIFICATE OF SERVICE**

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 5<sup>th</sup> day of March, 2024 by first class United States mail.

HARDSCRABBLE RANCH, LLC  
15660 BRACKETT CREEK RD  
BOZEMAN, MT 59715

(VIA EMAIL)

DMS NATURAL RESOURCES  
% DEBORAH STEPHENSON  
STEPHENSON@DMSNATURALRESOURCES.COM

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Glasgow Regional Office, (406) 228-2561