

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

APPLICATION TO CHANGE WATER RIGHT NO. 76C 30162542 by SPP Montana, LLC	}	PRELIMINARY DETERMINATION TO GRANT CHANGE AUTHORIZATION
---	---	--

On December 4, 2023, SPP Montana, LLC (Applicant) submitted an Application to Change Water Right No. 76C 30162542 to change Statement of Claim No. 76C 215024 00 to the Kalispell Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The Department published receipt of the application on its website. The Application was determined to be correct and complete as of May 10, 2024. An Environmental Assessment for this application was completed on April 18, 2024.

INFORMATION

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

Application as filed:

- Irrigation Application for Change of Appropriation Water Right, Form 606-IR
- Attachments:
 - Appendix A- Statement of Claim 76C 215024-00
 - Appendix B- 1965 Wolf Creek Irrigation
 - Appendix C- Photojournal Wolf Creek
 - Appendix D- Proposed & Historic Diverted Volume Calculations
 - Appendix E- Open Channel Calculations
 - Appendix F- Preliminary Specifications
 - Appendix G- Existing Water Rights
- Maps:
 - Figure 1- Water Right Change Vicinity Map, undated
 - Figure 2- Proposed and Historical Place of Use and Point of Diversion, undated
 - Figure 3- Historical Place of Use areal Map, USDA, 1979
 - Figure 4- Historical Survey Books Site Map, WRS, 1965
 - Figure 5- Historical Place of Use Aerial Map, 1962
 - Figure 6- Historical Place of use Aerial Map, 1954
 - Figure 7- Wolf Creek Irrigation System (Conveyance) Map, undated

Information Received after Application Filed

- Email received on May 6, 2024 from Brad Bennett of Water & Environmental Technologies to DNRC with clarification on adequate means of diversion for the proposed diversion works.

Information within the Department's Possession/Knowledge

- Lincoln County Water Resources Survey (WRS), dated June 1965
- USGS Orthoimage R02C03, sourced from Earth Explorer Single Frame Archive, dated 1954
- 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 Kalispell Regional Office at 406-752-2288 to request copies of the following documents.
 - DNRC Technical Memorandum: Assessment of new consumptive use and irrecoverable losses associated with change applications, dated April 15, 2013
 - DNRC Technical Memorandum: Development of standardized methodologies to determine Historic Diverted Volume, dated September 13, 2012
 - DNRC Technical Memorandum: Policy Memo- Return Flows, dated April 1, 2016
 - DNRC Technical Memorandum: Calculating Return Flows, dated April 18, 2019

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; CFS means cubic feet per second; GPM means gallons per minute; AF means acre-feet; AC means acres; AF/YR means acre-feet per year; POU means place of use; POD means point of diversion; ARM means the Administrative Rules of Montana; MCA means Montana Code Annotated; WRS means Lincoln County Water Resources Survey; GWIC means the Montana Bureau of Mines and Geology Groundwater Information Center; BGS means below ground surface; BTC means below top of well casing; AMSL means above mean sea level; LiDAR means light detection and ranging; and TDH means total dynamic head.

WATER RIGHTS TO BE CHANGED

FINDINGS OF FACT

1. The Applicant proposes to change the point of diversion and place of use of Statement of Claim 76C 215024-00 in this Application for Change Authorization. Statement of Claim 76C 215024-00 has historically covered a diversion of water from Wolf Creek at a headgate located in the NW ¼ of the NW ¼ of the NE ¼ of Section 22, Township 30N, Range 27W in Lincoln County Montana, at a rate of diversion of 1,918.62 gallons per minute (GPM) (4.27 cubic feet per second (CFS)) up to a diverted volume of 214.31 acre feet (AF) for irrigation. Water is transported via the 4,050 foot length Conley Ditch to the place of use. The place of use (POU) reaches 151.0 acres in the SE ¼ of the SE ¼ of Section 21, W ½ of the SW ¼ of Section 22, W ½ of the NW ¼ of Section 27, and E ½ of the NE ¼ of Section 28, Township 30 N, Range 27 W, Lincoln County, Montana.
2. The existing and proposed places of use do not involve any supplemental water rights.
3. This change application proposes to change the original right 76C 215024-00. There have been no previous change applications granted on this right.

CHANGE PROPOSAL

FINDINGS OF FACT

4. The Applicant proposes to change the point of diversion, place of use, and means of conveyance of Statement of Claim 76C 215024-00. The proposed change will result in pivot, wheel line, and water-reel irrigation occurring in 30.3 acres in the W ½ of the SW ¼ of Section 27, 4.3 acres in the NW ¼ of the SW ¼ of Section 27, 12.8 acres in the SW ¼ of the NW ¼ of Section 27, and 31.0 acres in the E ½ of the E ½ of Section 28, Township 30 N, Range 27 W, Lincoln County Montana. The POD will also be changed to a pump in the NE ¼ of the NW ¼ of the SE ¼ of Section 28, Township 30 N, Range 27 W in Lincoln County, Montana. This location is downstream of the historical POD. After this change, the Applicant will appropriate up to 93.95 AF per year at a flow rate of 1.15 CFS (515 GPM). The proposed period of use will not change from the historic period of use: May 1, through October 15, annually.
5. The existing and proposed places of use do not involve any supplemental water rights.
6. This change application proposes to change the original right 76C 215024-00. There have been no previous change applications granted on this right.

Table 1: Summary of Existing Water Rights Proposed for Change

Water Right Number	Priority Date	Purpose	Flow Rate (CFS)	Diverted Volume (AF)	Period of Diversion & Use	Source Name	Means of Diversion	Point of Diversion	Places of Use
Statement of Claim 76C 215024-00	October 27, 1903	Irrigation	4.27	214.31	05/01 – 10/19	Wolf Creek	Headgate	Headgate in NWNWNE Sec 22 T30N, R27W, Lincoln County, Montana	SESE Sec 21; W2SW Sec 22; W2NW Sec 27; E2NE Sec 28; T30N, R27W, Lincoln County, Montana

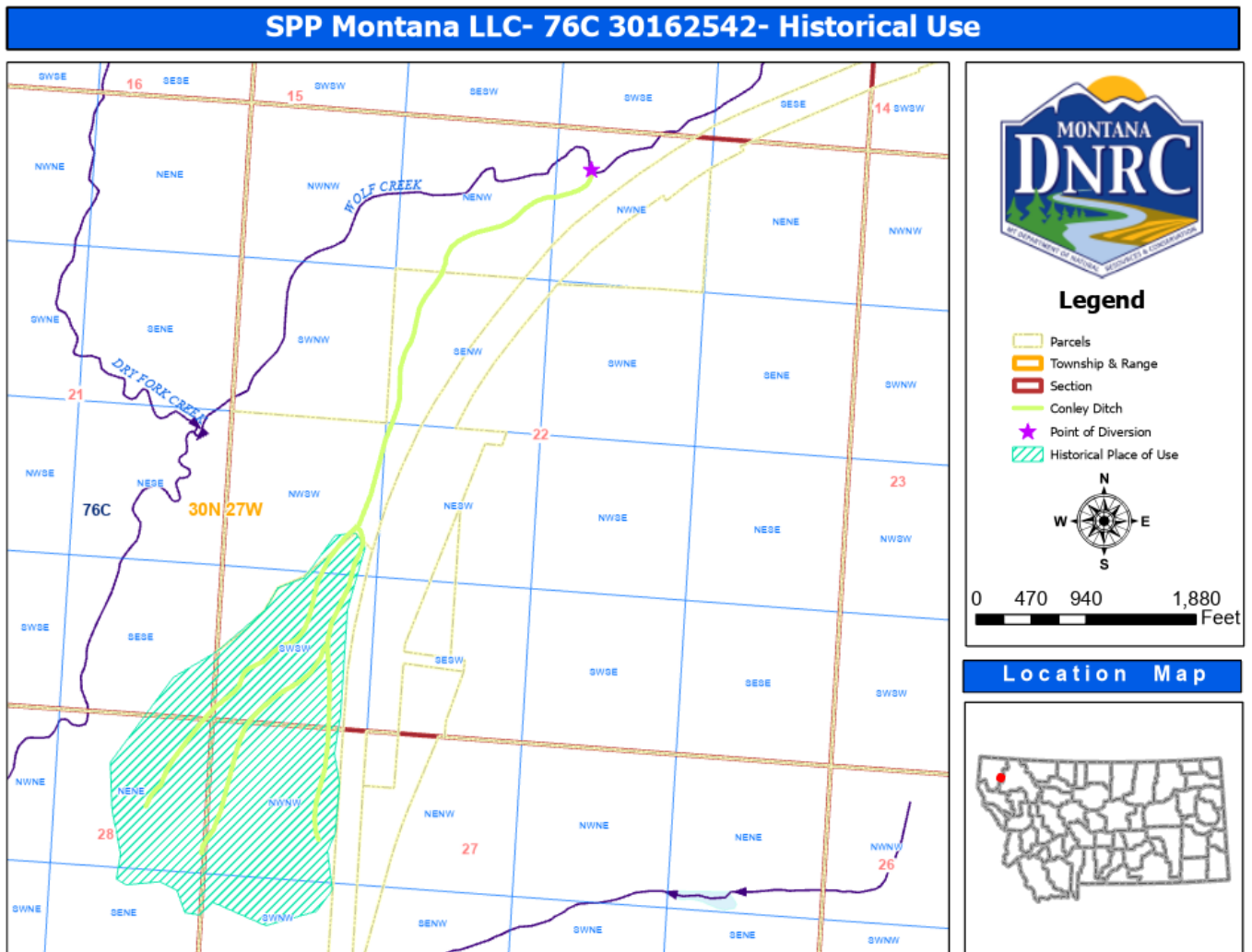


Figure 1- Map of Historic Place of Use and Point of Diversion

Table 2: Summary of Proposed Changes

Water Right Number	Priority Date	Purpose	Flow Rate (CFS)	Diverted Volume (AF)	Period of Diversion & Use	Source Name	Means of Diversion	Point of Diversion	Places of Use
Statement of Claim 76C 215024-00	October 27, 1903	Irrigation	1.15	93.95	05/01 – 10/15	Wolf Creek	Pump	<i>Pump in NENWSE Sec 28 T30N, R27W</i>	<i>SESE Sec 21; W2SW Sec 22; W2NW Sec 27; E2NE Sec 28; T30N, R27W, Lincoln County, Montana</i>

** *Italicized elements reflect those elements that are proposed for change*

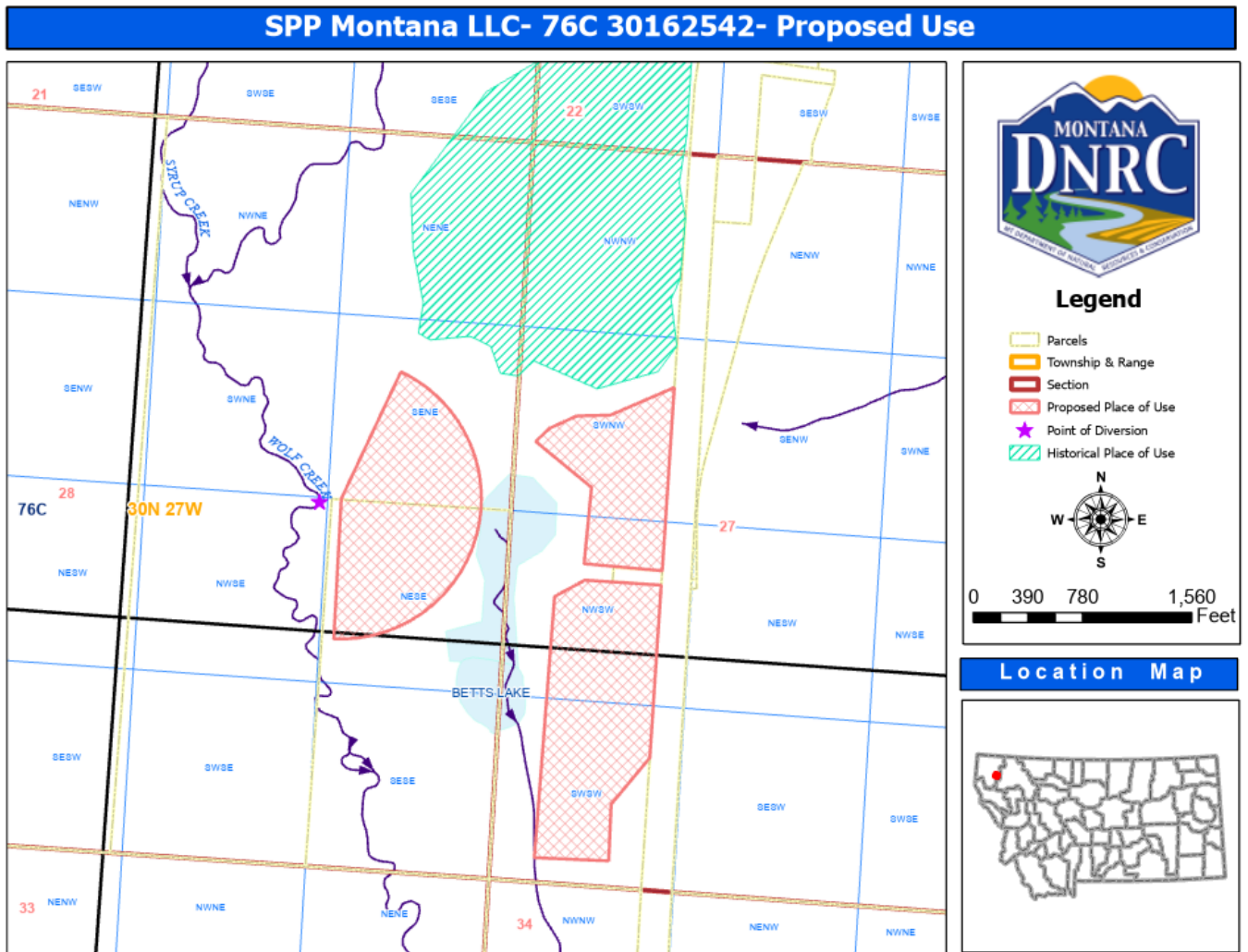


Figure 2- Map of Proposed Place of Use and Point of Diversion

CHANGE CRITERIA

7. 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.

8. 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

Adjudication Status:

9. Basin 76C, part of the Clark Fork Division, Fisher River Watershed, is in Temporary Preliminary Decree. Statement of Claim 76C 215024-00 was not included in the Basin 76C Temporary Preliminary Decree issued February 28, 1984. Statement of Claim 215024-00 was filed late on April 17, 1996. The priority date is October 27, 1903, however the enforceable priority date is June 30, 1973 due to the late filing of the claim.

Historical Irrigated Acreage:

10. The Applicant has proven 109.2 acres of historical flood irrigation in the SE ¼ of the SE ¼ of Section 21, W ½ of the SW ¼ of Section 22, W ½ of the NW ¼ of Section 27, and E ½ of the NE ¼ of Section 28 of Township 30 north, Range 27 west, Lincoln County, Montana based on historical imagery from 1954, 1962, and 1979 provided with the application (figures 3,5, & 6). This was confirmed by the Department from polygon measurement within USGS Orthoimage R02C03, sourced from Earth Explorer Single Frame Archive, dated 1954.

11. 137 acres were found from the 1975 Wolf Prairie Orthophoto image in the DNRC Summary Exam, dated August 26, 2002.

12. The Lincoln County Water Resources Survey (WRS), dated June 1965, found 61 acres, However, the accompanying field notes found 2 additional acres, totaling 63 acres.

13. Based on the Department findings in the 1954 USGS Orthoimage of 109.2 acres, and findings from the DNRC Summary Exam, the Department finds the Applicant's submission of 109.2 historical irrigated acres as substantial and credible.

14. The existing place of use does not involve any supplemental water rights.

Period of Use & Period of Diversion:

15. The historical period of use and period of diversion is May 1 – October 15, totaling 168 days. Per the claim file, water was put to use on October 27, 1903. Water has been historically diverted for 12-day periods in each month May-October.

16. The POU exists within Climatic Area 6. As there are no given standards for Climatic Area 6, DNRC reverts to the closest standards available which are those of Climatic Area 5, or April 25 – October 5. Although the period of use falls outside of Department standards, the Department considers the period of

use provided on the Statement of Claim to be reasonable as it falls within the standard and is of similar duration.

Historical Consumptive Volume (HCV):

17. Historical consumptive volume was determined according to ARM 36.12.1902(16) by multiplying Lincoln County weather station Irrigation Water Requirement (IWR) seasonal evapotranspiration data by a county management factor. This produces a value in inches per acre, which was then multiplied by the number of acres and divided by 12 to produce historical consumptive use in acre feet (AF). The parameters used in historical consumptive volume calculations are given in Table 3 below:

Table 3: Historic Consumptive Values						
County	Weather Station	IWR Flood Irrigation Seasonal ET (inches)	Lincoln County 1964-1973 Management Factor (Percent)	Adjusted Crop Consumptive Volume after Inclusion of Management Factor (feet)	Historical Acres Irrigated	Historical Consumed Volume (HCV) (AF)
Lincoln	Fortine	16.09	47.10%	0.63	109.20	68.96

18. Historic consumptive use calculations are provided in Table 4 below. On farm efficiency percentage was determined from ARM 36.12.115(e), and irrecoverable loss percentage for flood irrigation is determined from ARM 36.12.1902(17).

Table 4: Historic Consumptive Use Calculations							
Lincoln County (Fortine) Flood ET (inches)	Lincoln County 1964-1973 Management Factor (Percent)	Historic Acres Irrigated	Historic Consumed Volume (HCV)(AF)	On-farm Efficiency (Percent)	Historical Field Application (AF)	Historical Irrecoverable Losses (IL) (Flood 5%) (AF)	Historical Consumed Volume- Including IL (AF)
16.09	47.10%	109.20	68.96	55%	125.38	6.27	75.23

Conveyance Losses:

19. Irrigation on Statement of Claim 76C 215024-00 historically involved flood irrigation of alfalfa hay. The historical point of diversion was a headgate on Wolf Creek located in the NW ¼ of the NW ¼ of the NE ¼ of Section 22, Township 30 N, Range 27 W in Lincoln County, Montana, at a rate of diversion of 1,918.62 GPM (4.27 CFS). The Conley Ditch convey water 4,050 feet in a southwesterly direction to the historical place of use, where flood irrigation was controlled by a series of ditches with canvas check dams. The Applicant provided a cross sectional area measurement of 22.75 ft² for Conley Ditch, resulting in a total capacity of 92,137.50 ft² (2.12 AF). Utilizing Manning’s equation for open channel flow, the ditch is estimated to have a maximum capacity of 64.3 CFS. However, flows in excess 5 CFS are likely to enhance vegetative disturbance and bank erosion, therefore the Department finds the claimed flow rate of 4.27 CFS to be reasonable.

20. Conveyance loss in the Conley Ditch was calculated by methods described in ARM 36.12.1902(10) and equals the sum of Seepage Loss, Vegetative Loss, and Ditch Evaporation. When calculated via rule, the components are determined by the following variables:

- i. Seepage Loss (A): wetted perimeter, ditch length, ditch loss rate, days of diversion
- ii. Vegetation Loss (B): % loss per mile, flow rate, days of diversion, evaporation rate
- iii. Ditch Evaporation (C): ditch surface area, evaporation rate

21. Conveyance Losses (CL) in Conley Ditch were calculated by determining values for Seepage Loss (A), Vegetation Loss (B) and Evaporative Loss (C). Variables given by the Applicant are in Table 5 below:

Table 5: Applicant Provided Variables			
Wetted Perimeter (ft)	Ditch Length (ft)	Soil Type	Number of Days
4.57	4,050	Sand & Gravel*	72

*A 2.4 ft³/ft²/day loss rate, R_{Loss} value is reflective of the sand & gravel soil type.

- a. Seepage Loss was calculated as follows:

Seepage Loss (A) = ((wetted perimeter)(ditch length)(loss rate)(days))/43,560 ft²/acre

$$A = \frac{4.57 \text{ ft} * 4,050 \text{ ft} * 2.40 \text{ ft}^3/\text{ft}^2/\text{day} * 72 \text{ days}}{43,560 \text{ ft}^2/\text{acre}} = 73.42 \text{ AF}$$

- b. Vegetation Loss was calculated as follows:

Vegetation Loss (B) = (% loss/mile)(flow)(# days)(ditch length)*2 (unit conversion constant)

(A percent loss per mile of 0.75% is used per the NEH standard (1993)).

$$B = 0.75 \% * 4.27 \text{ ft}^3/\text{s} * 72 \text{ days} * 4,050 \text{ ft} * \frac{1 \text{ mi}}{5,280 \text{ ft}} * 2 = \mathbf{3.54 \text{ AF}}$$

c. Evaporative Loss was calculated as follows:

$$\text{Ditch Evaporation (C)} = ((\text{ditch width})(\text{ditch length})(\text{evaporation rate}))/43,560 \text{ ft}^2/\text{acre}$$

Evaporation rate was calculated using the DNRC gridded monthly evaporation data in Table 6 below:

Table 6: Gridded Monthly Evaporation Data												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Monthly Net Evaporation (inches)												
0.00	0.00	0.43	0.87	1.42	2.05	2.36	5.05	4.91	3.28	1.33	0.00	22.00
Number of Days Irrigated												
0	0	0	0	12	12	12	12	12	12	0	0	72
Adjusted Monthly Net Evaporation (inches)												
0	0	0	0	0.55	0.82	0.91	1.95	1.96	1.27	0	0	7.46

The gridded monthly evaporation data is tabulated from 30-year monthly gridded climate normal for the period from 1991-2020 from NOAA National Centers for Environmental Data, and factor in average temperature, minimum temperature, elevation, and latitude.

$$C = \frac{10 \text{ ft} * 4,050 \text{ ft} * 7.46 \text{ in/year} * 1 \text{ ft}/12 \text{ in}}{43,560 \text{ ft}^2/\text{acre}} = \mathbf{0.57 \text{ AF}}$$

d. Total seasonal conveyance loss is equal to the sum of seepage loss, vegetation loss, and ditch evaporation:

$$\text{Conveyance Loss} = 73.42 \text{ AF} + 3.54 \text{ AF} + 0.57 \text{ AF} = \mathbf{77.53 \text{ AF}}$$

e. The calculations above are summarized in Table 6 below:

Table 6: Conveyance Loss Summary Calculations

^A Seepage Loss	Ditch Wetted Perimeter (ft)	Ditch Length (ft)	Ditch Loss Rate (ft ³ /ft ² /day)	Days Irrigated	Seepage Loss (AF)
	4.57	4,050	2.40	72	73.42
^B Vegetation Loss	% Loss/Mile	Historical Flow Rate (CFS)	Days Irrigated	Ditch Length (miles)	Vegetation Loss (×2) (AF)
	0.75	4.27	72	0.77	3.54
^C Ditch Evaporation	Ditch Width (ft)	Ditch Length (ft)	Period Adjusted Evaporation Factor (ft)	Ditch Evaporation (AF)	Seasonal Conveyance Loss (AF) (A+B+C)
	10	4,050	0.62	0.6	77.53

Historical Diverted Volume:

22. Historical diverted volume was calculated according to the “Development of standardized methodologies to determine Historic Diverted Volume” DNRC Technical Memorandum. Historic diverted volume is equal to the sum of the historic consumptive volume (HCV) divided by the efficiency, and the conveyance losses (CL). Field efficiency for a contour ditch-flood irrigation system with a 0.8% slope (slope provided by the applicant) is determined as 55% per ARM 36.12.115(e).

$$\frac{HCV}{efficiency} + CL = \frac{75.23 AF}{0.55} + 77.53 AF = \mathbf{214.31 AF}$$

23. The Department finds the following historical use, as shown in Table 7.

Table 7: Summary of Historical Use findings for 76C 215024-00

Water Right #	Priority Date	Diverted Volume	Flow Rate	Purpose (Total Acres)	Consumptive Use- Including IL	Places of Use	Point of Diversion
76C 214024-00	October 27, 1903	214.31 AF	4.27 CFS	109.20	75.23 AF	SESE Sec 21; W2SW Sec 22; W2NW Sec 27; E2NE Sec 28; T30N, R27W, Lincoln County, Montana	Headgate in NWNWNE Sec 22 T30N, R27W, Lincoln County, Montana

ADVERSE EFFECT

FINDINGS OF FACT

24. Statement of Claim 76C 215024-00 was issued for a flow rate of 1,918.62 GPM (4.27 CFS). A total diverted volume of 214.31 AF was calculated in the Historic Use section above (FOF 22), based on the Net Irrigation Requirement (NIR) from the USDA Natural Resources Conservation Service (NRCS) Irrigation Water Requirements (IWR) at a representative weather Station (Fortine Weather Station). The NIR is multiplied by a county-wide management factor (from ARM 36.12.1902) to produce an adjusted NIR representative of actual crop yields in Montana. Crop consumption is determined by multiplying the adjusted NIR by the number of acres of irrigation. Crop consumption is then divided by the field efficiency identified from the irrigation method and ARM 36.12.115. Irrecoverable losses (IL) are 5% of the field applied volume for flood irrigation per ARM 36.12.1902(17). The total consumed volume is the field applied volume minus the total consumed volume.

Consumptive Volume:

25. The historical consumed and non-consumed volume was calculated with the inputs shown in Table 8 following the methods described above and in ARM 36.12.1902.

Table 8: Historical Use									
Irrigation Method	Acres	IWR (in)¹	Mgmt. Factor²	Field Efficiency	Crop Consumption (AF)	Applied Volume (AF)	Irrecoverable Losses (IL) (Flood 5%) (AF)	Total Consumed Volume- Including IL (AF)	Non-Consumed Volume (AF)
Flood	109.20	16.09	47.1%	55%	68.96	125.38	6.27	75.23	50.15

¹Fortine IWR Weather Station, Flood Irrigation NIR

²Lincoln County Historical Use Management Factor Percentage 1964-1973 (pre-July 1, 1973 HCU)

26. The proposed consumed and non-consumed volume was calculated with the inputs shown in Table 9 following the methods described above and in ARM 36.12.1902.

Table 9: Proposed New Irrigation Outside of the Historical Place of Use

Irrigation Method	Acres	IWR (in)¹	Mgmt. Factor²	On-farm Efficiency-Sprinkler (Percent)	Crop Consumption (AF)	Applied Volume (AF)	Irrecoverable Losses (IL) (Sprinkler 10%) (AF)	Total Consumed Volume-Including IL (AF)	Non-Consumed Volume (AF)
Wheel Line / Water-Reel	47.40	16.09	58.8%	70%	37.37	53.39	5.34	42.71	10.68
Center Pivot	31.00	18.69	58.8%	70%	29.39	40.56	4.06	32.44	8.12
Total	78.40				65.76	93.95	9.40	75.15	18.80

¹Fortine IWR Weather Station, Wheeline & Pivot Irrigation NIR

²Lincoln County Proposed Use Management Factor Percentage 1997-2006

27. The consumed volume is the sum of the volume consumed by crops and the irrecoverable application loss. Historic consumptive volume, including irrecoverable losses, is 75.23 AF per season. The proposed consumptive use volume is 75.15 AF, from Table 9, above. The difference between historic consumptive use and proposed consumptive use is 0.08 AF, which will remain in Wolf Creek at the proposed point of diversion. The change will result in a decreased flow and diverted/consumed volume than originally claimed and historically proven.

Return Flows:

28. Wolf Creek is hydraulically connected to return flows from both the historic and proposed places of use. Methods of determining this connection are described below:

- a. The receiving stream was determined by proximity and evidence of hydraulic connection to groundwater. Mounding beneath irrigated fields propagates in all directions independent of groundwater flow rate or direction and generally does not depend on surface topography (Leake, 2011). Return flows may accrete to more than one receiving reach or to a different stream than the source water is diverted from. Hydraulic connection of individual stream reaches to groundwater is evaluated by comparing streambed elevations to static groundwater elevations measured in wells less than 50 ft deep and within 1,000 ft of surface water or from published water table maps (DNRC, 2019). Surface water within that area is considered hydraulically connected to the unconfined aquifer if static groundwater elevations are above or within 10 ft of the elevation of the stream bed (DNRC, 2019).

b. Wells were queried from the Montana Bureau of Mines and Geology (MBMG) Groundwater Information Center (GWIC) database to investigate the surficial aquifer and hydraulic connection of nearby surface water to the unconfined aquifer. As shown in Figure 3, the historical place of use is adjacent to Wolf Creek and overlays both the mapped Precambrian Middle Proterozoic Lower Prichard Formation (Ypl) and unmapped unconsolidated glacial drift sediments observed in local well logs (GWIC IDs 86743, 86744, 326935, and 86745). The surficial aquifer consists of a matrix of cobbles, gravel, sand, and clay sediments up to 120 ft thick. GWIC ID 86743 and 86744 are near the project and in the vicinity of Wolf Creek with a static water level of 20 ft and 8 ft below top of casing (btc) and have a total depth of 39 and 30 ft below ground surface (bgs), respectively.

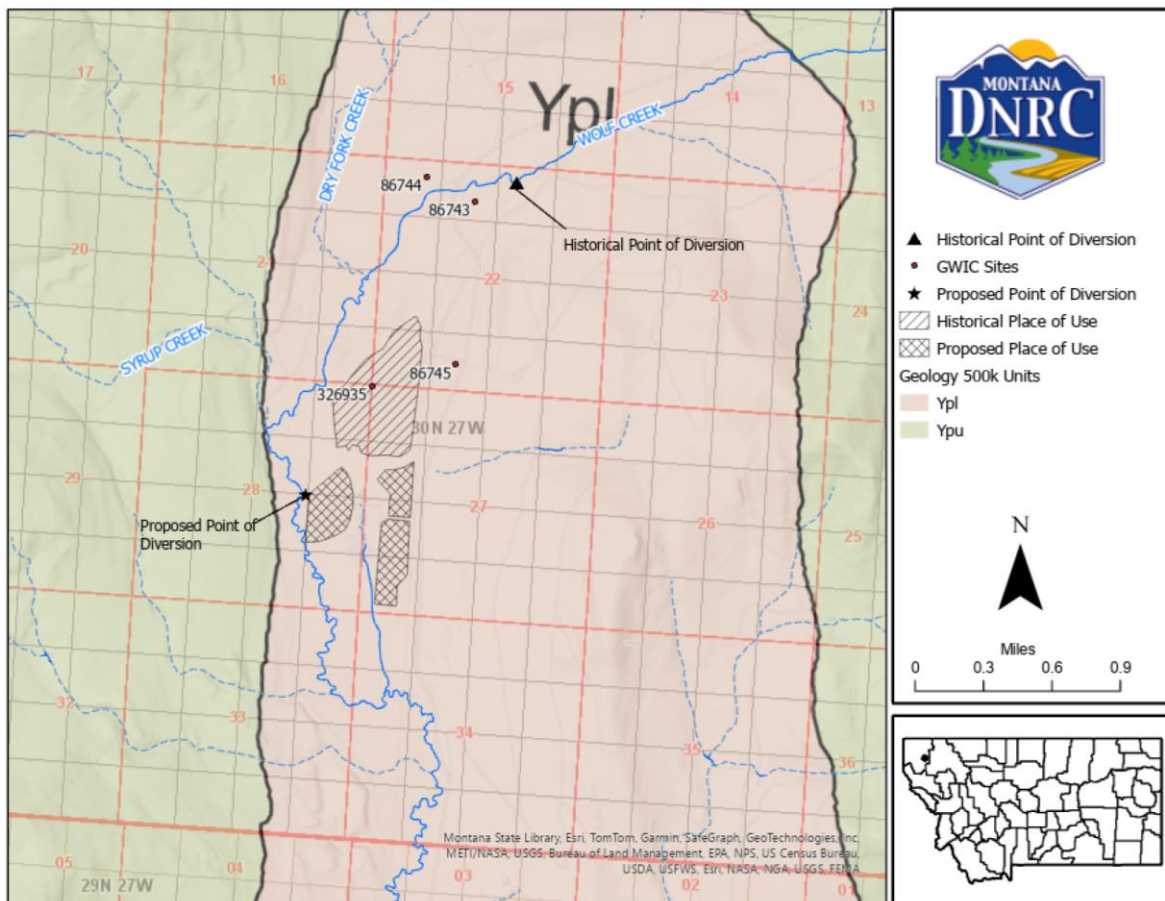


Figure 3- Location of Historical and Proposed Irrigation and the Proposed Reach of Wolf Creek that will Receive Return Flows

c. To further evaluate the hydraulic connection between Wolf Creek and the surficial aquifer, LiDAR (1-meter) data obtained from the Montana State Library for Lincoln County collected in 2020 was used to estimate water surface elevations for GWIC ID 326935, 86745, 86744, 86743, and the stream bed elevation for Wolf Creek near the wells. As identified in Table 10, estimated static water level elevations are higher than the estimated elevations of the Wolf Creek streambed in three of the four

wells, suggesting that the surficial aquifer is connected to Wolf Creek. As shown in Figure 3, DNRC identifies Wolf Creek as the closest perennial source water body to the historical and proposed place of use and the receiving stream for return flows.

Table 10: Comparing Well Static Water Elevations to Wolf Creek Stream Bed Elevations					
GWID ID	Depth of Well (ft BGS)	Static Water Level (ft BTC)	Well Elevation at Ground Surface (ft AMSL)	Well Static Water Level Elevation (ft BTC AMSL)¹	Range of Wolf Creek Streambed Elevations Near Well (ft AMSL)²
86743	39	20	3,000	2,982	2,989-2,991
86744	30	8	2,997	2,991	2,989-2,991
326935	120	9	2,972	2,965	2,958-2,960
86745	105	12	2,975	2,965	2,958-2,960

¹Assumed a 2-ft stick up for each well when estimating static water level elevation and that GWIC locations are representative of the well's actual location.

²Elevation of Wolf Creek water surface from LiDAR minus 2-ft of water depth (assumed).

29. The location of return flows from 109.20 acres of historical irrigation is Wolf Creek downstream of the northern boundary of the SESE Section 21, Township 30 North, Range 27 West, Lincoln County, Montana (Figure 3).

30. Under the proposed change, return flows from 78.40 acres of irrigation would accrue to Wolf Creek beginning at the northern boundary of the NWSE Section 28, Township 30 North, Range 27 West, Lincoln County, Montana (Figure 3).

31. The Applicant's proposed flow rate of 1.15 CFS is significantly lower than the claimed flow rate of 4.27 CFS. Furthermore, the proposed diverted volume of 93.95 AF compared to the historical diverted volume of 214.31 AF significantly increases the volume of water left in Wolf Creek. There will not be adverse effect on other water right holders on Wolf Creek, including the nearest rights, which exist as instream flow rights and stock watering rights approximately 2,000 feet upstream of the historical POD.

32. There are no water rights held between the historical POD and proposed POD (located 2.43 miles downstream, or the location of return flows below the proposed POD). Therefore, there will be no adverse effect in relation to the relocation of return flows to other appropriators.

33. The proposed change will result in a reduction of diverted flow, volume, and consumptive use, which will leave more water in Wolf Creek. Therefore, there will be no adverse effect in relation to the proposed POD, and POU change on other appropriations.

BENEFICIAL USE

FINDINGS OF FACT

34. The proposed change will uphold the beneficial irrigation purpose but will result in a decrease in diverted volume and flow rate, and consumptive volume.

35. The consumptive volume was determined by calculating the consumptive use, applied field volume, and irrecoverable losses for each means of irrigation. Values given by ARM 36.12.1902 used in the following calculations given in Table 11 below:

Table 11: Values given within ARM 36.12.1902				
Fortine Weather Station Wheel Line IWR for Alfalfa	Fortine Weather Station Pivot IWR for Alfalfa	Lincoln County Management Factor (1997-2006) (proposed use)	Sprinkler Efficiency	Irrecoverable Losses for sprinkler application (per ARM 36.12.1907(17))
16.09 in/acre/season	18.69 in/acre/season	58.8%	70%	10%

36. Crop consumptive use for 31.00 new acres of proposed pivot irrigation was calculated as follows:

- a. Consumptive Use = (Wheel Line IWR)(County Management Factor)(# of irrigated acres)

$$\text{Consumptive Use} = \frac{18.69 \text{ in}}{12 \text{ in/ft}} * 0.588 * 31.0 \text{ acres} = \mathbf{28.39 AF}$$

- b. Applied Field Volume is calculated as follows:

$$\text{Applied Volume} = (\text{Consumptive Use}) / (\text{Efficiency})$$

$$\text{Applied Volume} = \frac{28.39 AF}{0.70} = \mathbf{40.56 AF}$$

- c. Irrecoverable Losses are calculated as follows:

$$\text{Irrecoverable Losses} = (\text{Applied Volume}) * (\% \text{ of volume applied for sprinkler systems})$$

$$\text{Irrecoverable Losses} = 40.56 AF * 0.10 = \mathbf{4.06 AF}$$

- d. Total Consumptive Volume is calculated as follows:

$$\text{Total Consumptive Volume} = (\text{Crop Consumptive Use}) + (\text{Irrecoverable Losses})$$

$$\text{Total Consumptive Volume} = 28.39 AF + 4.06 AF = \mathbf{32.44 AF}$$

37. Crop consumptive use for 47.5 new acres of proposed wheel-line and water-reel irrigation was calculated as follows:

- a. Crop Consumptive use is calculated as follows:

$$\text{Consumptive Use} = (\text{Wheel Line IWR})(County Management Factor)(\# \text{ of irrigated acres})$$

$$\text{Consumptive Use} = \frac{16.09 \text{ in}}{12 \text{ in/ft}} * 0.588 * 47.40 \text{ acres} = \mathbf{37.37 AF}$$

- b. Applied Field Volume is calculated as follows:

Applied Volume = (Consumptive Use) / (Efficiency)

$$\text{Applied Volume} = \frac{37.37 \text{ AF}}{0.70} = \mathbf{53.38 \text{ AF}}$$

- c. Irrecoverable Losses are calculated as follows:

Irrecoverable Losses = (Applied Volume) * (% of volume applied for sprinkler systems)

$$\text{Irrecoverable Losses} = 53.38 \text{ AF} * 0.10 = \mathbf{5.34 \text{ AF}}$$

- d. Total Consumptive Volume is calculated as follows:

Total Consumptive Volume = (Crop Consumptive Use) + (Irrecoverable Losses)

$$\text{Total Consumptive Volume} = 37.37 \text{ AF} + 5.34 \text{ AF} = \mathbf{42.71 \text{ AF}}$$

38. The requested irrigation volumes have been calculated per ARM 36.12.1902, and therefore satisfy the beneficial use requirements per ARM 36.12.1801(3)(b).

ADEQUATE DIVERSION

FINDINGS OF FACT

39. The Applicant proposes to change the means of diversion from a headgate and ditch utilizing flood irrigation to an in-creek pump and sprinkler irrigation including pivot, wheel line, and water-reel.

40. The new irrigation system will be served by a 20 horsepower Cornell Pump, Model 3WHA-20-2 with a Baldor model EJPM2524T motor located at a pump station. A flow meter with totalizer will measure the volume of water diverted and measure instantaneous flow rate. The system in total will consist of 1,614 feet of 4-inch PVC pipe and 5,195 feet of 6-inch PVC pipe.

41. The pump will deliver water via a 6-inch pipe to a Rienke Electrogator II (or equal) center-pivot irrigation system located in the E ½ of the E ½ of Section 28, Township 30 N, Range 27 W, approximately 125 feet east of the point of diversion. The pivot has a radius of 1,000 feet and will irrigate a total area of 31.0 acres. Water will continue another 3,115 feet through 6-inch pipe to a tee, where 590 feet of 6-inch pipe will provide water to the southern wheel line, and 850 feet of 6-inch pipe will carry water to a northern tee. From the northern tee, 540 feet of 4-inch line will deliver water to the northern wheel line, and 534 feet of 4-inch pipe will deliver water to the water-reel. The two Rienke Two-Wheel Power Tower (or equal) wheel line sprinklers will consist of 515 feet of 6-inch pipe and 540 feet of 4-inch pipe featuring risers at intervals necessary to deliver water to the proposed place of use in the W ½ of the W ½ of Section 27, Township 30 N, Range 27 W. The area in the SW ¼ of the NW ¼ of Section 27, Township 30 N, Range 27 W will be irrigated using a Kifco Ag-Rain Water-Reel.

42. Irrigation of the system occurs on a rotation. The pivot and southern wheel line are run independently, and the water reel and northern wheel line are run in combination. The maximum total dynamic head (TDH) at the farthest reaches of the system is 135.8 feet, per:

i. The head required at the center pivot, including:

- a. The minimum system operating pressure of 39.8 psi (equivalent to 92 feet of head);
- b. The 10-foot lift to the center pivot; and,
- c. The friction losses in the 125 feet of 6-inch PVC at 515 GPM (equivalent to 2.1 feet of head.)
- d. Thus, the TDH at the center pivot is 104 feet.

ii. The head required at the water reel, including:

- a. The minimum system operating pressure of 111 psi (48 psi (equivalent to 111 feet demand) from the primary pump plus 68 psi from the reel-mounted booster pump);
- b. The 6 foot lift to the water reel;
- c. The friction losses in the 4,090 feet of 6-inch PVC at 216 GPM (equivalent to 13.8 feet of head); and,
- d. The friction losses in the 534 feet of 4-inch PVC at 74 GPM (equivalent to 1.8 feet of head.)
- e. Thus, the TDH at the water reel is 132.6 feet.

iii. The head required at the northern wheel line move, including:

- a. The minimum system operating pressure of 36 psi (equivalent to 107 feet of head);
- b. The 5 foot lift to the northern wheel line move;
- c. The friction losses in the 4,090 of 6-inch PVC at 216 GPM (equivalent to 13.8 feet of head);
- d. The friction losses in the 540 ft of PVC with risers at 142 GPM (equivalent to 6 feet of head); and,
- e. The friction losses in the 1,000 feet of 4-inch wheel line at 142 GPM (equivalent to 4 feet of head.)
- f. Thus, the TDH at the northern wheel line move is 135.8 feet.

iv. The head required at the southern wheel line move, including:

- a. The minimum system operating pressure of 47 psi (equivalent to 109 feet of head);
- b. The friction losses in the 3,830 feet of 6-inch PVC at 257 GPM (equivalent to 17.8 feet of head); and,
- c. The friction losses in the 1,800 feet of 4-inch wheel line at 257 GPM (equivalent to 3 feet of head.)
- d. Thus, the TDH at the southern wheel line move is 129.8 feet.

43. The pump is capable of producing 1.15 CFS at 135.8 feet of TDH based on the Applicant-provided system specifications. This flow rate will allow the Applicants to supply the irrigation system at adequate operating pressures.

44. The Department finds the system capable of producing and distributing the requested flow rate of 1.15 CFS and annual volume of 93.95 AF.

POSSESSORY INTEREST

FINDINGS OF FACT

45. The Applicant signed the affidavit on the application form affirming the Applicant has possessory interest in the property where the water is to be put to beneficial use. The signed application is available in the Department file upon request.

CONCLUSIONS OF LAW

HISTORICAL USE AND ADVERSE EFFECT

46. 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

47. 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

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

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. 48. 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 change or potential for adverse effect.² A comparative analysis of the historic use of the water right to the proposed change in use is necessary to prove the change will not result in expansion of the original right, or adversely affect water users who are entitled to rely upon maintenance of conditions on the source of supply for their water rights. *Quigley*, 103 P.2d at 1072-75 (it is necessary to ascertain historic use of a decreed water right to determine whether a change in use 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).³

²A 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

³ Other western states likewise rely upon the doctrine of historic use as a critical component in evaluating changes in appropriation rights for expansion and adverse effect: *Pueblo West Metropolitan District v. Southeastern Colorado Water Conservancy District*, 717 P.2d 955, 959 (Colo. 1986)(“[O]nce an appropriator exercises his or her privilege to change a water right ... the appropriator runs a real risk of requantification of the water right based on actual historical consumptive use. In such a change proceeding a junior water right ... which had been strictly administered throughout its existence would, in all probability, be reduced to a lesser quantity because of the relatively limited actual historic use of the right.”); *Santa Fe Trail Ranches Property Owners Ass'n v. Simpson*, 990 P.2d 46, 55 -57 (Colo., 1999); *Farmers Reservoir and Irr. Co. v. City of Golden*, 44 P.3d 241, 245 (Colo. 2002)(“We [Colorado Supreme Court] have stated time and again that the need for security and predictability in the prior appropriation system

49. 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).⁴

50. 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.

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

The question of adverse effect under §§ 85-2-402(2) and -408(3), MCA, implicates return

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.)

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

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).

52. 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.

53. 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).

54. 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).

55. 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).

56. 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 No.35-38).

57. 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”).

58. Based upon the Applicant’s evidence of historic use, the Applicant has proven by a preponderance of the evidence the historic use of Statement of Claim No. 76C 215024-00 to be a diverted volume of 214.31 AF, a historically consumed volume of 72.23 AF and flow rate of 4.27 CFS. (FOF Nos. 9-22)

59. 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. Section 85-2-402(2)(b), MCA. (FOF Nos. 24-33)

BENEFICIAL USE

60. 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).

61. Applicant proposes to use water for irrigation which is a recognized beneficial use. Section 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence irrigation is a beneficial use and

that 93.95 acre-feet of diverted volume and 1.15 CFS 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. Section 85-2-402(2)(c), MCA (FOF Nos. 34-38).

ADEQUATE MEANS OF DIVERSION

62. 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).

63. 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. 39-44)

POSSESSORY INTEREST

64. 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.

65. 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. 45).

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. 76C 30162542 should be Granted subject to the following.

The Applicant proposes to:

- Change the POU *from* 35.00 acres in the W ½ of the SW q/4 of Section 22, 72.00 acres in the W ½ of the SW ¼ of Section 27, and 44.00 acres in the W ½ of the SW ¼ of Section 27, Township 30 N, Range 27 W, Lincoln County Montana *to* 30.30 acres in the W ½ of the SW ¼ of Section 27, 4.30 acres in the NW ¼ of the SW ¼ of Section 27, 12.8 acres in the SW ¼ of the NW ¼ of Section 27, and 31.00 acres in the E ½ of the E ½ of Section 28, Township 30 N, Range 27 W, Lincoln County Montana. This location is outside of, and just south of the historical place of use.
- Change the POD *from* the NW ¼ of the NW ¼ of the NE ¼ of Section 22, Township 30 N, Range 27 W, Lincoln County, Montana *to* the NE ¼ of the NW ¼ of the SE ¼ of Section 28, Township 30 N, Range 27 W in Lincoln County, Montana. This location is downstream of the historical POD.

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 27th day of June, 2024.

/Original signed by Jim Ferch/

Jim Ferch, Manager

Kalispell 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 was served upon all parties listed below on this Dated this 27th day of June, 2024 by first class United States mail.

SPP MONTANA LLC
6304 PEAKE ROAD
MACON, GA 31210

and

BRAD BENNETT
WATER & ENVIRONMENTAL TECHNOLOGIES
102 COOPERATIVE WAY, SUITE 100
KALISPELL, MT 59901

KALISPELL Regional Office, (406) 752-2288