

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

**APPLICATION FOR BENEFICIAL
WATER USE PERMIT NO. 43Q 30161831)
BY REGAL LAND DEVELOPMENT, LLC) PRELIMINARY DETERMINATION TO
GRANT PERMIT**

On December 29, 2023, Regal Land Development, LLC (Applicant) submitted Application for Beneficial Water Use Permit No. 43Q 30161831 to the Billings Regional Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC) for 260 GPM and 51.875 AF for domestic and lawn and garden irrigation. Mark Elison, Jill Lippard, and Veronica Corbett for the Department met with consultant for the Applicant, Scott Worthington of In Site Engineering, on September 26, 2023. The Department published receipt of the Application on its website. The Application was determined to be correct and complete as of April 24, 2024. An Environmental Assessment for this Application was completed on April 29, 2024.

INFORMATION

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

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Attachments
 - Well log reports for GWIC ID 186628 and 186625
 - Aquifer Test Data Form 633 in electronic and paper format for one 8-hour pump test
 - Pre-application meeting form dated September 26, 2023

- Maps:
 - Topo maps showing the general location of Oak Ridge Estates subdivision and the proposed POD and POU

Information Received after Application Filed

- Emails dated January 10, 2024, through January 30, 2024, discussing proposed pump flow rates, pumping schedules, and overall pump operation
- Aquifer Testing Variance Request Approval Letter from Mark Elison, DNRC Billings Regional Manager, to Scott Worthington, Consultant, dated January 30, 2024

Information within the Department's Possession/Knowledge

- Groundwater Permit Report by Evan Norman, Groundwater Hydrologist, dated March 5, 2024
- Groundwater Permit Application Technical Report by Veronica Corbett, Water Resource Specialist, dated April 24, 2024
- DNRC Hogans Slough above Shiloh Conservation Area Gage 43Q_06300 (period of record from May 2021 through June 2023)
- DNRC Hogans Slough below Shiloh Drain Gage 43Q_06400 (period of record from May 2021 through June 2023)
- Hydrology of the West Billings Area: Impacts of Land-Use Changes on Water Resources, John Olson & Jon Reiten (2002), Montana Bureau of Mines and Geology, Report of Investigation 10
- DNRC Water Calculation Guide
- DNRC water rights database
- Water right file for Provisional Permit 43Q 109880-00
- Irrigation Water Requirements program (IWR) program created by US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2003
- The Department also routinely considers the following information. The following information is not included in the administrative file for this Application but is available upon request. Please contact the Billings Regional Office at 406-247-4415 to request copies of the following documents.

- DNRC Technical Memorandum: Variance – Yellowstone River Terrace Level 3 Aquifer Properties Memo, dated March 1, 2022

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, 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, and POD means point of diversion.

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert groundwater from the Yellowstone River Terrace 3 alluvial aquifer, by means of two wells, one 82.8 feet in depth, one 83 feet in depth. Water will be diverted from January 1 to December 31 for multiple domestic use, and from May 1 to October 31 for lawn and garden irrigation, at 260 GPM up to 79.1 AF. The Applicant proposes two points of diversion in the SESENE of Section 4, Township 1S, Range 25E, Yellowstone County in the existing Oak Ridge Estates Subdivision and a pumphouse to a community water system located in Lot 1, Block 2 of the Oak Ridge Estates Subdivision. This community water system will supply 81 homes over a net residential area of 42 acres and an average lot size of 0.5 acres. The two wells will provide domestic water to 81 homes, lawn and garden irrigation to approximately 0.25 acres per lot, and lawn and garden irrigation for one park lawn of approximately 0.50 acres in Block 2, Lot 35 of the Oak Ridge Estates Subdivision. Total irrigated acres cover 20.75 acres. The place of use is generally the S2NE Section 4, T1S, R25E, Yellowstone County. Multiple domestic use will account for 70 GPM and 27.22 AF of the requested flow rate and volume while lawn and garden irrigation and irrigation of a 0.5-acre community park account for the remaining 190 GPM and 51.88 AF of the requested appropriation. This application is to bring into compliance existing and formerly permitted water use under Provisional Permit 43Q 109880-00, which was issued on October 13, 2000. Provisional Permit 43Q 109880-00 had a project completion notice due date of December 31,

2006, and was terminated by operation of law on November 27, 2009 due to no project completion notice or request for extension of time being received by the required deadline.

2. The subdivision is located near Big Ditch (1,500 ft away), Shiloh Drain (5,600 ft away), Hi Line Ditch (5,700 ft away), Cove Ditch (6,900 ft away) and Hogans Slough (7,200 ft away).

3. The Applicant requests 79.1 AF of which 39.0 AF will be consumed and 40.1 AF will return to the source aquifer as identified in the Department Groundwater Permit Report.

4. The proposed permit is not supplemental to any other water rights and does not share a place of use with any other water rights.

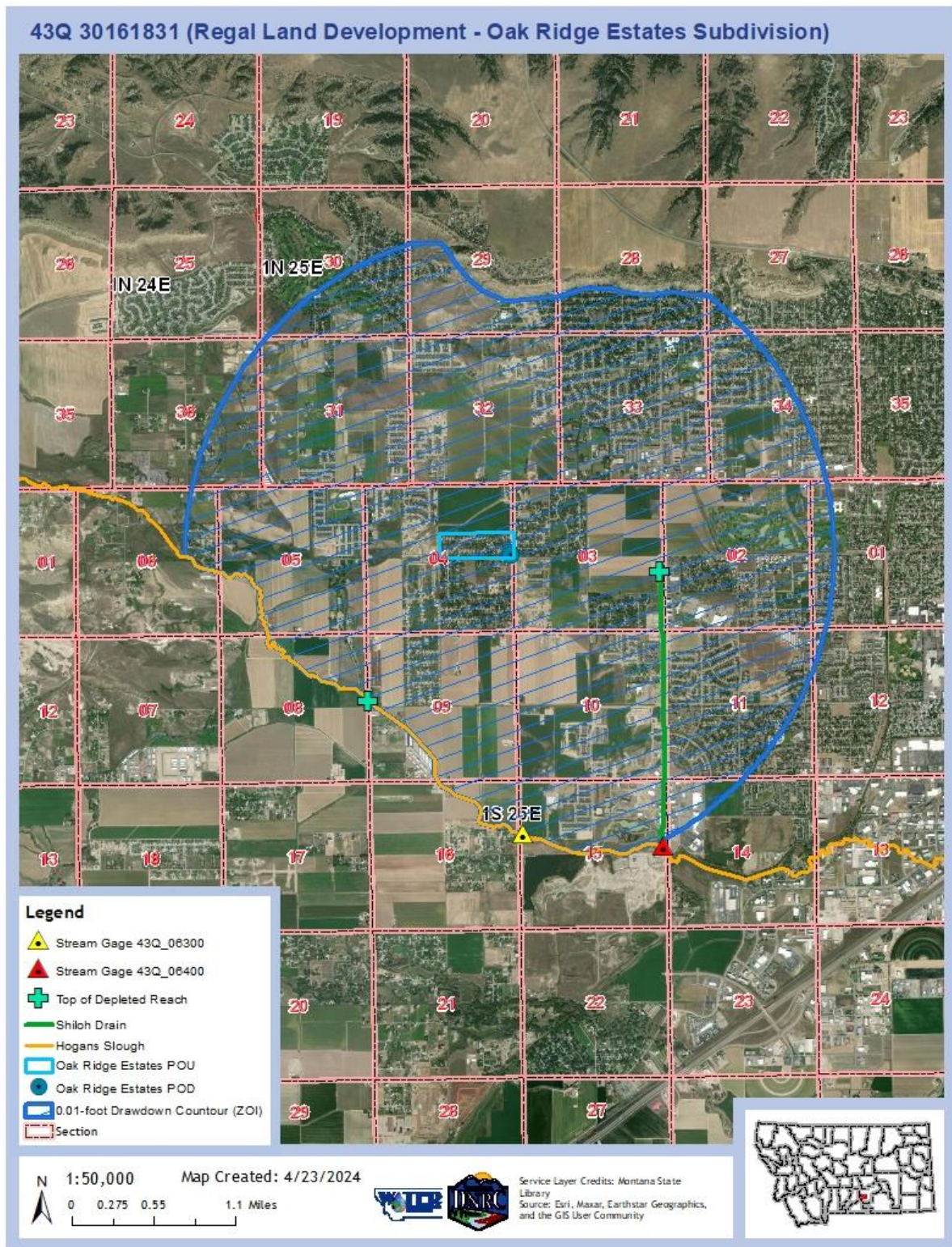


Figure 1. Project area for Groundwater Permit Application No. 43Q 30161831

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

5. The Montana Constitution expressly recognizes in relevant part that:
- (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
 - (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
 - (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

- (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
- (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

6. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

- ... the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:
 - (a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and
 - (ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal

availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) 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 use has 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 under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, “the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies.” § 85-2-311(5), MCA (emphasis

added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is “more probably than not.” Hohenlohe v. DNRC, 2010 MT 203, ¶¶33, 35.

7. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

(1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, “uncontrolled development of a valuable natural resource” which “contradicts the spirit and purpose underlying the Water Use Act.”); see also, In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

8. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starnier (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior

appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court,

Memorandum and Order (2011). The Supreme Court likewise explained that:

.... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

9. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

10. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

PHYSICAL AVAILABILITY

FINDINGS OF FACT

11. The Applicant requested a variance from aquifer testing requirements under 36.12.121(3)(e), (f), and (h) on November 21, 2023. The variance was requested based on the 20-year, uninterrupted use of the two wells and because the Applicant is aware that DNRC has sufficient data on properties of the source aquifer to model the proposed appropriation. The proposed project meets the parameters defined in the Yellowstone River Terrace Level 3 Aquifer Properties Memo, dated March 1, 2022, which allows the Applicant to forgo the 24-hour or 72-hour aquifer test if project is within the mapped boundaries of the Yellowstone River Terrace Level 3 (Qat3) and the Applicant agrees to use the aquifer properties as defined in the memo. The Department granted the variance request verbally on December 18, 2023, during a phone

call with Scott Worthington, In Site Engineering, and via written letter on January 30, 2024. The Department stipulated that an 8-hour drawdown and yield test would still be required for a minimum of the peak flow rate requested, 260 GPM. Data for this testing was submitted with the application on Aquifer Testing Report Form 633.

12. GWIC ID 186628, also known as the Oak Ridge South well (#1) is one of two which currently supply water to the Oak Ridge Estates subdivision via a public water supply. An 8.4-hr drawdown and yield test was conducted on GWIC ID 186628, beginning on December 21, 2023. Department Hydrologist Evan Norman analyzed the drawdown and yield test data and issued a Groundwater Permit Report on March 5, 2024. The results of the 8.4-hour drawdown and yield test were modeled at an average rate of 280 GPM. The Applicant requested a flow rate of 260 GPM to provide the volume of water for appropriation, so the testing flow rate exceeds the requested flow rate. The wells for Application for Beneficial Water Use Permit 43Q 30161831 are located on mapped alluvial fan deposits (Qaf) along the edge of an unconfined hydrologic unit referred to as the Yellowstone River Terrace Level 3 (Qat3). The recommended aquifer properties to analyze groundwater permit criteria include a transmissivity (T) = 6,000 ft²/day and specific yield (Sy) = 0.1 identified from the Yellowstone River Terrace Level 3 Aquifer Properties Memorandum. The groundwater gradient is (i) = 0.004 ft/ft (Groundwater Permit Report, 2024). Modeling using those aquifer properties and a normalized flow rate of 49.1 GPM (the flow rate required to produce the requested annual volume) generated a distance-drawdown plot. The modeled 0.01-foot drawdown or zone of influence occurs at 11,700 ft from the proposed wells and the total width of the zone of influence (W) is 20,000 ft, truncated to the shale bedrock unit to the north and Hogans Slough to the south. The volume of total groundwater flux (Q) each year within the zone of influence as defined by 0.01 foot of drawdown is given as $Q=TWi$ and is 480,000 ft³/day (6,000 ft²/day x 20,000 ft x 0.004 ft/ft) or 4,022 AF/YR.

13. The Department finds that the amount of groundwater physically available at the proposed point of diversion is 4,022 AF/YR.

CONCLUSIONS OF LAW

14. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that “there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate.”

15. It is the applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-411 by Anson* (DNRC Final Order 1987)(applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

16. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

17. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF 11-13)

LEGAL AVAILABILITY:

FINDINGS OF FACT

18. Department Hydrologist Evan Norman modeled the 0.01-foot drawdown contour at 11,700 ft from the proposed wells and the total width of the zone of influence (W) as 20,000 ft, truncated to the shale bedrock unit to the north and Hogans Slough to the south. There are 472 groundwater rights within the modeled zone of influence. A list of these water rights is in the file. There are three (3) Exempt Rights, 421 Groundwater Certificates, 14 Provisional Permits, and 34 Statements of Claim. Of the 421 Groundwater Certificates, 60 do not have volumes recorded in the Department database. The volume for the 60 Groundwater Certificates was taken as the average of all Groundwater Certificates for which volumes were recorded, at 2.58 AF/YR. Statements of Claim for Stock use were calculated as 0.034 AF/AU x number of AU for the period of diversion. Statements of Claim for Domestic were calculated as 1.5 AF, per adjudication standards. Statements of Claim for Irrigation were calculated based on Climatic Area 1 for the region and using 45% efficiency, which results in 4.1 AF/AC. This is the most conservative estimation technique for these water rights. One Provisional Permit, 43Q 82001-00, does not have a volume. This permit was issued to add flow rate to an existing permit, 43Q 49511-00. No legal demand was added to Provisional Permit 43Q 82001-00 as the volume demand is already attributed to 43Q 49511-00. The total annual legal demand on groundwater

within the zone of influence is 3,609.5 AF/YR. Table 1 is a comparison of the water supply and current legal demands for groundwater.

Table 1. Comparison of the water supply and current legal demands for groundwater

Physically Available (AF/year)	Existing Legal Demands (AF/year)	Physically Available minus Existing Legal Demands (AF/year)
4,022	3,609.5	412.5

19. The amount of groundwater available is 4,022 AF/YR and the existing legal demands of groundwater total 3,609.5 AF/YR. The Department finds that the comparison shows that groundwater is legally available (4,022 AF – 3,609.5 AF = 412.5 AF).

20. Analysis by Department Hydrologist Evan Norman in the March 2, 2024, Groundwater Permit Report concludes Shiloh Drain and Hogans Slough are hydraulically connected to the source aquifer and would be depleted by this groundwater appropriation. The surface water depletion from the proposed wells is distributed as 62% to Shiloh Drain and 38% to Hogans Slough. The depleted reach on Shiloh Drain is downstream from its start at the southern boundary of SENE Section 3, T1S, R25E, Yellowstone County to the confluence of Shiloh Drain and Hogans Slough in the SESENE Section 15, T1S, R25E. The depleted reach on Hogans Slough is downstream from a point at the eastern boundary of SENE Section 8, T1S, R25E, Yellowstone County to the confluence of Shiloh Drain and Hogans Slough. The estimated monthly depletions to Shiloh Drain and Hogans Slough are described in Table 2.

Table 2. Modeled net depletion to surface water sources for proposed groundwater appropriation 43Q 30161831

Month	Shiloh Drain Net Depletion (AF)	Shiloh Drain Net Depletion (GPM)	Hogans Slough Net Depletion (AF)	Hogans Slough Net Depletion (GPM)
January	2.2	15.8	1.3	9.7
February	2.0	16.4	1.3	10.5
March	1.9	13.8	1.3	9.1
April	1.8	13.4	1.2	9.1
May	1.7	12.3	1.2	8.5
June	1.7	12.5	1.1	8.5
July	1.7	12.7	1.1	8.2
August	1.9	14.2	1.2	8.4
September	2.2	16.6	1.2	9.1
October	2.4	17.4	1.3	9.4
November	2.4	18.2	1.3	10.1
December	2.3	16.9	1.4	9.9
Total	24.2		14.8	

21. The Department has operated a stream gage on Hogans Slough above Shiloh Conservation Area (above the confluence with Shiloh Drain) (43Q_06300) in the NWSWNW Section 15, T1S, R25E, and a stream gage on Hogans Slough below Shiloh Drain (43Q_06400) in the SESENE Section 15, T1S, R25E since May 2021 and data from those gages was used to determine water availability.

22. There are no legal demands on Shiloh Drain within the depleted reach. To determine legal availability of water at the top of the depleted reach on Shiloh Drain, the mean monthly flow for the gage above Shiloh Drain (43Q_06300) can be compared to the mean monthly flow for the gage below Shiloh Drain (43Q_06400). The physical availability of water at the top of the depleted reach is taken as the mean monthly flow of the gage below Shiloh Drain minus the mean monthly flow of the gage above Shiloh Drain. Mean monthly volume is calculated as mean monthly flow times 1.98 times the number of days in the month.

Table 3. Physically available flow on Shiloh Drain at top of depleted reach by month (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow on Hogans Slough Below Shiloh Drain (43Q_06400)	1.02	1.64	1.27	1.03	8.66	22.50	27.90	28.71	34.66	16.91	1.75	1.23
Mean Monthly Flow on Hogans Slough Above Shiloh Drain (43Q_06300)	0.74	0.82	0.84	0.81	3.04	8.07	12.34	14.90	16.25	10.57	1.01	1.13
Physical Availability of Water at Top of the Depleted Reach	0.28	0.82	0.44	0.23	5.62	14.42	15.57	13.82	18.41	6.34	0.74	0.10

Table 4. Physically available volume on Shiloh Drain at top of depleted reach by month (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Volume on Hogans Slough Below Shiloh Drain 43Q_06400	62.3	90.6	78.0	61.2	531.6	1336.3	1712.5	1762.2	2058.5	1037.6	104.0	75.2
Mean Monthly Volume on Hogans Slough Above Shiloh Drain 43Q_06300	45.1	45.5	51.3	47.8	186.4	479.6	757.1	914.3	965.3	648.8	60.0	69.4
Physical Availability of Water at Top of the Depleted Reach	17.2	45.2	26.7	13.4	345.2	856.7	955.4	848.0	1093.3	388.8	44.0	5.8

23. The area of potential impact to Shiloh Drain is from the top of the depleted reach to the confluence with Hogans Slough. There are no legal demands on Shiloh Drain between the top of the depleted reach and the confluence with Hogans Slough. Therefore, Tables 3 and 4 above represent the both the physical availability of water and the physical availability of water minus the legal demands on Shiloh Drain.

24. The Department finds that the flow rate and volume of water physically and legally available within the area of potential impact for Shiloh Drain exceeds the modeled depletions in all months as shown in Tables 3 and 4.

25. There is one water right on Hogans Slough between the gage (43Q_06300) and the top of the depleted reach. Statement of Claim 43Q 184007-00 appropriates 0.56 CFS for irrigation on 15 acres from May 1 to September 30. The volume for this Claim is taken as 61.5 AF/YR (4.1 AF/AC) based on Department standards for 45% efficiency flood irrigation in Climatic Area 1. The distribution of flow rate and volume by month for this water right is in the file. The existing legal demand between the gage and the top of the depleted reach was added to the mean monthly flow at the gage to determine physical availability of water on Hogans Slough at the top of the depleted reach. Mean monthly volume is calculated as mean monthly flow times 1.98 times the

number of days in a month.

Table 5. Physically available flow on Hogans Slough at top of depleted reach by month (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Flow	0.74	0.82	0.84	0.81	3.04	8.07	12.34	14.90	16.25	10.57	1.01	1.13
Legal Demands Between the Gage and Top of the Depleted Reach	0.00	0.00	0.00	0.00	0.56	0.56	0.56	0.56	0.56	0.00	0.00	0.00
Physical Availability of Water at Top of the Depleted Reach	0.74	0.82	0.84	0.81	3.60	8.63	12.90	15.46	16.81	10.57	1.01	1.13

Table 6. Physically available volume on Hogans Slough at top of depleted reach by month (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Monthly Volume	45.1	45.5	51.3	47.8	186.4	479.6	757.1	914.3	965.3	648.8	60.0	69.4
Legal Demands Between the Gage and Top of the Depleted Reach	0.0	0.0	0.0	0.0	12.5	12.1	12.5	12.5	12.1	0.0	0.0	0.0
Physical Availability of Water at Top of the Depleted Reach	45.1	45.5	51.3	47.8	198.9	491.6	769.6	926.7	977.3	648.8	60.0	69.4

26. There are two legal demands on Hogans Slough within the depleted reach. One is Statement of Claim 43Q 184007-00, as discussed above. The other is Provisional Permit 43Q 30068497 for 359 GPM (0.8 CFS) from January 1 to December 31 for 204 AF for irrigation of wetland and upland vegetation and fishery purposes. The distribution of flow rate and volume by month for these water rights is in the file. The legal demands between the top of the depleted reach and the bottom of the area of potential impact (confluence of Hogans Slough with Shiloh

Drain) were subtracted from the physically available water at the top of the depleted reach to determine if water was legally available.

Table 7. Physically available water minus legal demands on Hogans Slough by month (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical Availability of Water at Top of the Depleted Reach	0.74	0.82	0.84	0.81	3.60	8.63	12.90	15.46	16.81	10.57	1.01	1.13
Legal Demands within the Depleted Reach	0.80	0.80	0.80	0.80	1.36	1.36	1.36	1.36	1.36	0.80	0.80	0.80
Physical Availability of Water minus Legal Demands	-0.07	0.02	0.03	0.00	2.24	7.27	11.54	14.10	15.45	9.77	0.21	0.33

Table 8. Physically available water minus legal demands on Hogans Slough by month (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical Availability of Water at Top of the Depleted Reach	45.1	45.5	51.3	47.8	198.9	491.6	769.6	926.7	977.3	648.8	60.0	69.4
Legal Demands within the Depleted Reach	17.1	15.4	17.1	16.5	29.5	28.6	29.5	29.5	28.6	17.1	16.5	17.1
Physical Availability of Water minus Legal Demands	28.0	30.0	34.2	31.3	169.3	463.0	740.1	897.2	948.7	631.7	43.5	52.3

27. The largest modeled monthly depletion to Hogans Slough is 5.91 GPM (0.013 CFS) in February and 0.80 AF in January and March. The volume of water physically available minus the legal demands within the area of impact exceeds the modeled depletions in all months. The flow rate of water physically available minus the legal demands within the area of impact exceeds the modeled depletion in all months except for January and April. Because the modeled depletions to Hogans Slough appear to exceed the legal availability of water by 0.08 CFS in January and by 0.01 CFS in April, the Department refined analysis of legal demands with respect to Provisional Permit 43Q 30068497. The analysis in Tables 5 and 6 above assumes the maximum flow rate of 0.8 CFS over all months and volume evenly distributed over the period of diversion. The Provisional Permit is for one fill and evaporation from three ponds and irrigation of wetland vegetation. Application materials for Provisional Permit 43Q 30068497 split out the water requirements by month except for filling the ponds. Assuming the water to fill the ponds is evenly distributed from January through December, the volume and flow requirements from the application for 43Q 30068497 are given in Table 9.

Table 9. Monthly Flow Rate and Volume given by Applicant for Provisional Permit 43Q 30068497

Month	Pond Fill (CFS)	Pond Fill (AF)	Evaporation and Crop Requirement (CFS)	Evaporation and Crop Requirement (AF)	Total Demand (CFS)	Total Demand (AF)
January	0.058	3.43	0.01	0.5	0.07	3.9
February	0.058	3.43	0.01	0.7	0.07	4.1
March	0.058	3.43	0.02	1.0	0.08	4.4
April	0.058	3.43	0.05	3.1	0.11	6.5
May	0.058	3.43	0.21	12.9	0.27	16.3
June	0.058	3.43	0.54	33.0	0.60	36.4
July	0.058	3.43	0.75	46.4	0.81	49.8
August	0.058	3.43	0.66	40.6	0.72	44.1
September	0.058	3.43	0.28	17.2	0.34	20.6
October	0.058	3.43	0.06	3.8	0.12	7.2
November	0.058	3.43	0.01	0.8	0.07	4.2
December	0.058	3.43	0.01	0.6	0.07	4.1
Total		41.16		160.5		201.6

28. The monthly flow rates provided in the application materials for Provisional Permit 43Q 30068497 indicate a required flow rate of 0.07 CFS in January and 0.11 CFS in April, which are less than the physically available flow rate on Hogans Slough for January (0.74 CFS) and April

(0.81 CFS). Based on the legal demands for 43Q 30068497 as provided in Table 9, the flow rate and volume of water physically available minus the legal demands within the area of impact on Hogans Slough exceeds the modeled depletions for the proposed groundwater permit in all months.

Table 10. Physically available water minus legal demands on Hogans Slough adjusted per Table 9 (CFS)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical Availability of Water at Top of the Depleted Reach	0.74	0.82	0.84	0.81	3.60	8.63	12.90	15.46	16.81	10.57	1.01	1.13
Legal Demands within the Depleted Reach	0.07	0.07	0.08	0.11	0.83	1.16	1.37	1.28	0.90	0.12	0.07	0.07
Physical Availability of Water minus adjusted Legal Demands	0.67	0.75	0.76	0.70	2.77	7.47	11.53	14.18	15.91	10.45	0.94	1.06

Table 11. Physically available water minus legal demands on Hogans Slough adjusted per Table 9 (AF)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical Availability of Water at Top of the Depleted Reach	45.1	45.5	51.3	47.8	198.9	491.6	769.6	926.7	977.3	648.8	60.0	69.4
Legal Demands within the Depleted Reach	3.9	4.1	4.4	6.5	28.8	48.5	62.3	56.6	32.7	7.2	4.2	4.1
Physical Availability of Water minus adjusted Legal Demands	41.2	41.4	46.9	41.3	157.6	431.1	694.9	857.7	932.6	641.6	55.8	65.3

29. The Department finds that the flow rate and volume of water physically and legally available within the area of potential impact for Hogans Slough exceeds the modeled depletions in all months as shown in Tables 10 and 11.

30. The Department finds that groundwater is physically and legally available in excess of the proposed flow rate and volume of the appropriation, and the surface water physically and legally available exceeds the flow rate and volume of the depletion proposed by the Applicant in Application for Beneficial Water Use Permit 43Q 30161831.

CONCLUSIONS OF LAW

31. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

32. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005) (it is the applicant's burden to produce the required evidence.); *In the Matter of*

Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC (DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

33. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing Smith v. Duff*, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing Loyning v. Rankin* (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No. 63997-42M by Joseph F. Crisafulli* (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage.) Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. § 85-2-311(a)(ii), MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial*

Water Use Permit No. 41H 30023457 By Utility Solutions LLC (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

34. Because the Applicant bears the burden of proof as to legal availability, the Applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. Section 85-2-311(a)(ii), MCA. Absent such proof, the Applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC (DNRC Final Order 2007) (permit denied); In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

35. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007)(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application*

for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 (“DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator”; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for “historic beneficial use” in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, supra.

36. Use of published upstream gauge data minus rights of record between gauge and point of diversion adjusted to remove possible duplicated rights shows water physically available. Using same methodology and adding rights of record downstream of point of diversion to the mouth of the stream shows water legally available. *In the Matter of Application for Beneficial Water Use Permit No. 41P-105759 by Sunny Brook Colony* (DNRC Final Order 2001); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992);

37. Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. § 85-2-311(1)(a)(ii), MCA. (FOF 18-30)

ADVERSE EFFECT

FINDINGS OF FACT

38. The Applicant proposes to limit irrigation in the event of a water shortage or if a valid call is made. Restrictions could include limiting residential lot irrigation to limited days per week, decreasing the allowable irrigable acres per lot, or restricting water to domestic use only. These restrictions would be new to any subdivision or homeowner agreements. A community water supply is used in this subdivision and control of the water supply is held by the developer and Certified Water System Operator; should valid call be made, the Operator can completely cease diversion.

39. Using aquifer parameters in the March 5, 2024, Groundwater Permit Report and a monthly pumping schedule that accounts for domestic use and lawn and garden irrigation, modeled drawdown is greatest at the end of July in the fifth year of pumping and exceeds 1.0 foot in wells closer than 950 ft from the proposed wells. The eight (8) water rights in the source aquifer that are predicted to experience drawdown greater than 1.0-foot are listed in Table 12. For wells that have a recorded static water level, the minimum available drawdown after predicted drawdown from the proposed appropriation is 52 ft. Drawdown for similar wells is expected to be comparable. Wells that are expected to experience 1.0-foot drawdown will have adequate available water in the water column for this appropriation to not create adverse effect.

Table 12. Groundwater rights predicted to experience greater than one foot of drawdown

Water Right Number	Distance (ft)	Well Depth (ft)	Well Static Level (ft)	Drawdown (ft)	Available Drawdown (ft)
43Q 30114076	660	75	23	2	52
43Q 39281 00	660	UNK*	UNK*	2	NA
43Q 107135 00	660	57	UNK*	2	NA
43Q 30149646	664	75	19	2	56
43Q 85397 00	664	72	15	2	57
43Q 92963 00	664	74	16	2	58
43Q 103450 00	664	75	UNK*	2	NA
43Q 108111 00	736	78	20	2	58

UNK* - Missing values were not included in water right filing and thus are unknown

40. The volume of groundwater physically and legally available (412.5 AF/YR) exceeds the Applicant’s proposed use (79.1 AF/YR).

41. Shiloh Drain and Hogans Slough are considered hydraulically connected to the source aquifer. Table 2 shows the modeled monthly depletions to Shiloh Drain and Hogans Slough by

volume and flow rate. Surface water is physically and legally available in the depleted reach in excess of all modeled monthly depletions.

42. Based on findings that surface and groundwater availability exceeds legal demands on depleted surface water sources, and the Applicant's plan to prevent adverse effect through proposed limits on irrigation during times of water shortage or if valid call is made, the Department finds that the proposed appropriation of up to 260.0 GPM and 79.1 AF will not cause adverse effect to other existing water rights or reservations.

CONCLUSIONS OF LAW

43. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co. (1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

44. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(5).

45. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 4.

46. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

47. It is the Applicant's burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (legislature has placed the burden of proof squarely on the applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

48. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 8.

49. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b), MCA. (FOF 38-42)

ADEQUATE DIVERSION

FINDINGS OF FACT

50. An analysis of adequacy of diversion is modeled using the Theis solution (Groundwater Permit Report, 2024) with a $T = 6,000 \text{ ft}^2/\text{day}$ and $S_y = 0.1$. Predicted theoretical drawdown for the proposed wells are modeled for the period of diversion using the monthly pumping schedule identified in Table 13 below. The Applicant requests a total of 51.9 AF for irrigation of 20.75 acres of lawn and garden, which uses DNRC's standard lawn and garden application volume of 2.5 AF per acre. The Applicant requests 27.2 AF or 0.28 AF per home for domestic use, which is consistent with Montana Department of Environmental Quality standards. The requested lawn and garden irrigation volume was apportioned according to the monthly net irrigation requirement for the Billings WSO weather station listed in the Irrigation Water Requirement (IWR) program.

Table 13. Assumed monthly pumping schedule for the multiple domestic and lawn and garden irrigation wells

Month	IWR, Billings (in)	Domestic and Irrigation (AF)	Domestic and Irrigation (GPM)
January	0.0	2.3	16.9
February	0.0	2.1	16.9
March	0.0	2.3	16.9
April	0.4	3.1	23.2
May	2.7	8.2	59.7
June	4.8	12.6	94.8
July	6.6	16.4	120.0
August	6.0	15.0	109.8
September	2.9	8.5	64.2
October	0.8	4.0	29.4
November	0.0	2.2	16.9
December	0.0	2.3	16.9
Total	24.2	79.1	

51. The lawn and garden irrigation period of use is May 1 through October 31. The monthly pumping schedule was obtained by (1) distributing the multiple domestic diverted volume throughout the year based on days in the month, and (2) apportioning the requested diverted lawn and garden irrigation volume based on the net irrigation requirement obtained through the IWR program.

52. The two existing wells were used to model the full domestic and irrigation uses across the subdivision. As identified in Table 14, total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Well efficiency is calculated by dividing the modeled maximum drawdown for the pumping test by the maximum observed drawdown of the pumping test. The modeled interference drawdown from the additional public water supply well is 1.0 ft. The aquifer adjacent to GWIC ID 186628, Applicant Well 1 (South), would experience a predicted total drawdown of 13.1 ft at the end of July of the first year of pumping leaving 45.9 ft of available water column above the bottom of the well. The predicted total drawdown and remaining water column for GWIC ID 186628 and 186625, Applicant Well 2 (North), are expected to be similar.

Table 14. Remaining available water column for GWIC ID 186628, Applicant Well 1 (South)

Drawdown Estimate	Applicant Well 1 (South)
Perforated interval depth (ft)	82.80
Pre-Test Static Water Level (ft btc)	23.87
Available Drawdown Above Bottom of Perforations (ft)	58.9
Observed Drawdown of Aquifer Test (ft)	37.6
Modeled Drawdown Using Mean Aquifer Test Rate (ft)	7.7
Well Efficiency (%)	20
Predicted Theoretical Maximum Drawdown at assumed monthly pumping schedule (ft)	2.5
Predicted Drawdown with Well Loss (ft)	12.1
Interference Drawdown (ft)	1.0
Total Drawdown (ft)	13.9
Remaining Available Water Column (ft)	45.9

53. An 8.4-hr drawdown and yield test was conducted on GWIC ID 186628, beginning on December 21, 2023. The 8.4-hour drawdown and yield test pumped at an average rate of 280 GPM. The Applicant requested a flow rate of 260 GPM, so the testing flow rate exceeds the requested flow rate. The submission of the 8.4-hour drawdown and yield tests satisfied the testing requirement.

54. The two wells, Oak Ridge Estates Well 1 (South) and Oak Ridge Estates Well 2 (North), provide water for the 81-home subdivision and 0.5-acre park lawn through a public water supply. The wells were originally drilled by a licensed well contractor and the system was designed by a professional engineer. The two wells have 10” steel casings with 15 hp submersible pumps operated with variable frequency drives. Water is distributed to the 81 homes via 1 to 1.25-inch buried water lines. This method of diversion has been in place for over 20 years with no reported issues.

55. The Department finds that the proposed means of diversion and conveyance are capable of diverting the flow rate and volume of water requested.

CONCLUSIONS OF LAW

56. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

57. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

58. Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. *In the Matter of Application for Beneficial Water Use Permit No. 41I-105511 by Flying J Inc.* (DNRC Final Order 1999).

59. E.g., *In the Matter of Application for Beneficial Water Use Permit No. 61293-40C by Goffena* (DNRC Final Order 1989) (design did not include ability to pass flows, permit denied).

60. 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. § 85-2-311(1)(c), MCA (FOF 50-55).

BENEFICIAL USE

FINDINGS OF FACT

61. The Applicant requests 260 GPM (0.58 CFS) flow rate and 79.1 AF volume for multiple domestic and lawn and garden uses. Multiple domestic and lawn and garden are recognized as beneficial uses under the Montana Water Use Act. §85-2-102 (5), MCA.

62. The Applicant proposes multiple domestic use for 81 dwellings and lawn and garden use for 81 residential lots and one park. Water demand for domestic use was calculated with an estimated average of three (3) people per home at 100 gallons per person per day. Over one year, this amounts to 27.22 AF total ($81 \times 3 \times 100 \times 365 = 8,869,500$ gallons/325,851 gallons = 27.22 AF) or 0.34 AF per residence for multiple domestic use. The DNRC Water Calculation Guide lists 100 gallons per day (GPD) per person for single family homes which is consistent with the requested volume. A volume of 27.22 AF/YR is requested for the domestic use of this subdivision. The area of lawn and garden for the 81 lots is 20.25 acres. The average lot size is 0.5 acres and an estimated 0.25 acres is considered un-irrigated by dwelling, driveway, patio, sidewalks, and other paved surfaces. Using the DNRC standard for lawn and garden irrigation, a volume of 50.625 AF ($20.25 \text{ acres} \times 2.50 \text{ AF/AC} = 50.625 \text{ AF}$) is requested for lawn and garden irrigation of this subdivision. A park is also included in the subdivision. The park is 0.5 acres and

the DNRC standard for lawn and garden irrigation will also be used here. A volume of 1.25 AF ($0.5 \text{ AC} \times 2.50 \text{ AF/AC} = 1.25 \text{ AF}$) is requested for lawn and garden irrigation of the park. In total, 27.22 AF is requested for domestic use and 51.875 AF is requested for lawn and garden irrigation, totaling 79.1 AF ($27.22 \text{ AF} + 50.625 \text{ AF} + 1.25 \text{ AF} = 79.096 \text{ AF}$) of volume proposed. This volume of water is within DNRC standards for beneficial use.

63. The Applicant requests a maximum flow rate of 260 GPM (0.58 CFS) for the proposed subdivision. The maximum flow rate of 260 GPM is based upon predicted peak flows associated with multiple domestic and lawn and garden uses. The requested domestic 27.22 AF volume averaged over the period of diversion is 17 GPM ($27.221 \text{ AF} \times 43,560 \text{ ft}^2/\text{AC} \times 7.48 \text{ gal/ft}^3 / 365 \text{ days} \times 1440 \text{ min} = 16.87 \text{ GPM}$). Based on domestic peaking factors of 3 people per dwelling, the peak flow is 70 GPM for domestic water use ($4.116 \text{ peak factor} \times 17 \text{ GPM} = 70 \text{ GPM}$). The requested 50.625 AF volume for lawn and garden irrigation averaged over the period of diversion is 91,640 GPD ($50.625 \text{ AF} \times 43,560 \text{ ft}^2/\text{AC} \times 7.48 \text{ gal/ft}^3 / 180 \text{ days} = 91,640 \text{ GPD}$). Assuming lawn and garden irrigation may occur for 8.25 hours per day throughout the period of diversion, flow rate is calculated to be 185 GPM ($91,640 \text{ GPD} / 8.25 \text{ hours} / 60 \text{ min} = 185.13 \text{ GPM}$). The requested 1.25 AF volume for park irrigation averaged over the period of diversion is 2,263 GPD ($1.25 \text{ AF} \times 43,560 \text{ ft}^2/\text{AC} \times 7.48 \text{ gal/ft}^3 / 180 \text{ days} = 2,263 \text{ GPD}$). Assuming lawn and garden irrigation of the parkland may occur for 8.25 hours per day throughout the period of diversion, flow rate is calculated to be 5 GPM ($2,263 \text{ GPD} / 8.25 \text{ hours} / 60 \text{ min} = 4.57 \text{ GPM}$). Based on predicated peak flows, the total flow rate to support the multiple domestic and lawn and garden uses is 260 GPM ($70 \text{ GPM} + 185 \text{ GPM} + 5 \text{ GPM} = 260 \text{ GPM}$).

64. The Department finds the proposed multiple domestic and lawn and garden uses are beneficial, and the requested flow rate of 260 GPM and volume of 79.1 AF are reasonably justified per ARM 36.12.1801(3).

CONCLUSIONS OF LAW

65. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

66. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13,

60 P. 396. The amount of water under a water right 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, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds, Dee Deaterly v. DNRC et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

67. Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (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).

68. It is the applicant's burden to produce the required evidence. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); see also Royston; Ciotti.

69. Applicant proposes to use water for multiple domestic and lawn and garden irrigation which are recognized beneficial uses. § 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence multiple domestic and lawn and garden irrigation are beneficial uses and that 79.1 AF of diverted volume and 260 GPM of water requested are the amounts needed to sustain the beneficial uses. § 85-2-311(1)(d), MCA. (FOF 60-64)

POSSESSORY INTEREST

FINDINGS OF FACT

70. This application is for instream flow, sale, rental, distribution, or is a municipal use application in which water is supplied to another. It is clear that the ultimate user will not accept the supply without consenting to the use of water. The Applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.

CONCLUSIONS OF LAW

71. Pursuant to § 85-2-311(1)(e), MCA, an 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, or if the proposed use has 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 under the permit.

72. Pursuant to ARM 36.12.1802:

(1) An applicant or a representative shall sign the application affidavit to affirm the following:

(a) the statements on the application and all information submitted with the application are true and correct and

(b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.

(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.

(3) The department may require a copy of the written consent of the person having the possessory interest.

73. The Applicant has proven by a preponderance of the evidence that they have 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. § 85-2-311(1)(e), MCA. (FOF 70)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 43Q 30161831 should be GRANTED.

The Department determines the Applicant may divert groundwater, by means of two wells, approximately 83 feet deep, from January 1 to December 31 for multiple domestic use, and from May 1 to October 31 for lawn and garden irrigation, at 260 GPM up to 79.1 AF, from two points of diversion in the SESENE of Section 4, Township 1S, Range 25E, Yellowstone County in the existing Oak Ridge Estates Subdivision. The place of use is generally Oak Ridge Estates Subdivision in the S2NE Section 4, T1S, R25E, Yellowstone County.

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 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, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the Department preliminarily determined to grant the permit or change in appropriation right, the Department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 25th day of June 2024.

/Original signed by Mark Elison/

Mark Elison, Manager

Billings 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 25th day of June 2024, by first class United States mail.

REGAL LAND DEVELOPMENT, INC.

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Veronica Corbett, Water Resource Specialist
Billings Regional Office
Department of Natural Resources and Conservation

DATE