

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

APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 42M 30106841 BY CRAIG JOHNSON)))	PRELIMINARY DETERMINATION TO GRANT PERMIT
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On June 17, 2016, Craig Johnson (Applicant) submitted Application for Beneficial Water Use Permit No. 42M 30106841 to the Glasgow Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC) for 1530 gallons per minute (GPM) and 858 acre-feet (AF) per annum for the purpose of Irrigation. The Department published receipt of the Application on its website. The Department sent Applicant a deficiency letter under § 85-2-302, Montana Code Annotated (MCA), dated September 1, 2016. The Applicant responded with information dated September 30, 2016. The Application was determined to be correct and complete as of October 4, 2016. An Environmental Assessment for this Application was completed on October 12, 2016.

INFORMATION

The Department considered the following information submitted by the Applicant.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Attachments
 - West Crane Aquifer Tests, December 2015 Report by Jon Reiten, Montana Bureau of Mines and Geology
 - System Design or Check, Pivot Sprinkler
 - Pivot Specifications
 - Custom Soil Resource Report for Richland County, Montana
 - Pump Information

- Maps: USDA aerial photo depicting well location, place of use and conveyance facilities and routes.
- Aquifer Testing Addendum
 - Form 633 for each well, Aquifer Test Data (electronic)
 - Well logs for production and monitoring wells
 - AQTESOLV files (electronic)

Information within the Department's Possession/Knowledge

- Aquifer Test Report, dated September 27th, 2016 by Attila Folnagy, Groundwater Hydrologist with the MT DNRC
- Depletion Report, dated September 28th, 2016 by Attila Folnagy Groundwater Hydrologist with the MT DNRC
- Department water rights records of existing rights.
- USGS flow records.
- Variance of Aquifer testing, September 27, 2016 by Denise Biggar, Regional Manager in Glasgow

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).

PROPOSED APPROPRIATION

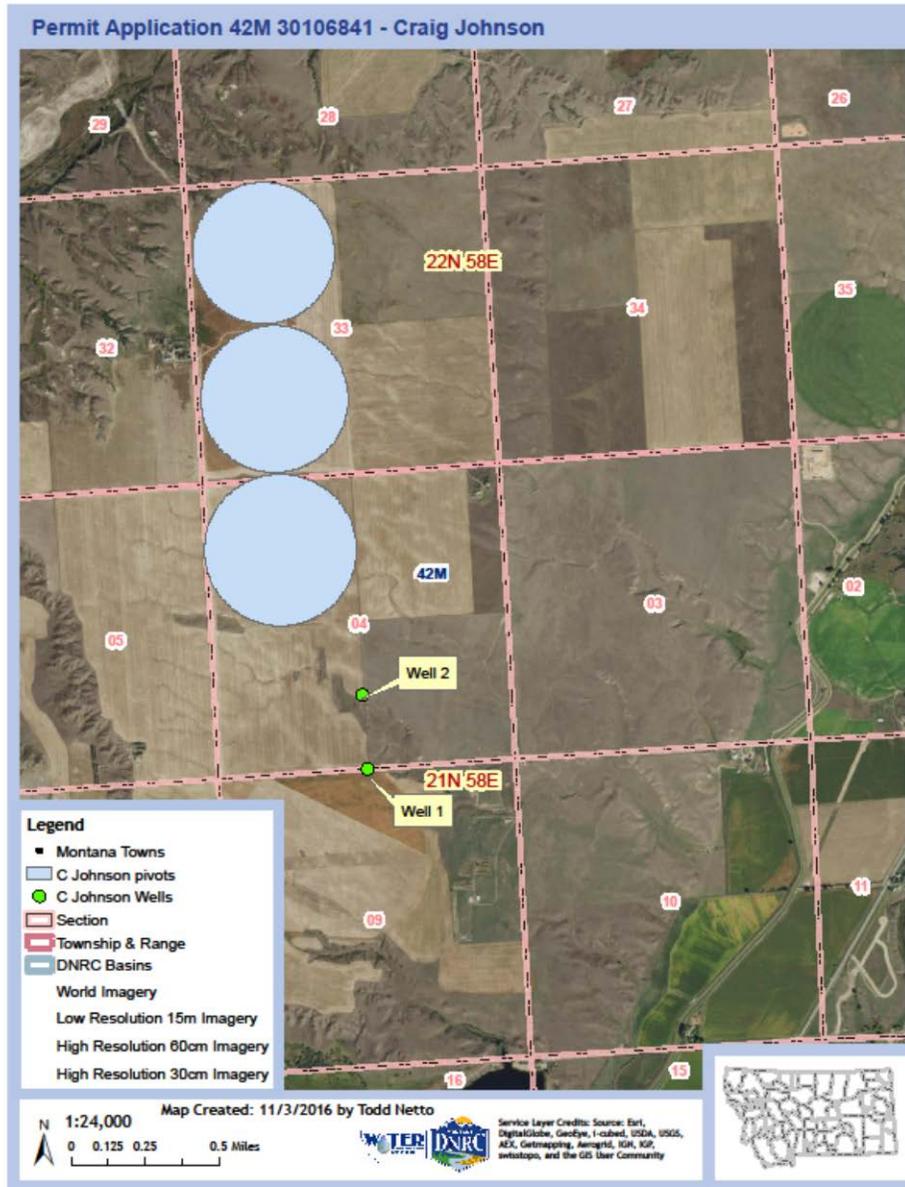
FINDINGS OF FACT

1. The Applicant proposes to divert groundwater, by means of two wells (170 & 190 feet deep) completed in the Lower Yellowstone Buried Channel Aquifer (LYBCA). Well 1 is located in the SESESW of Section 4, T21N, R58E, Richland County, and Well 2 is located in NESESW of Section 4, T21N, R58E, Richland County. The Applicant plans to appropriate water from April 1st to October 31st at 1530 GPM up to 858 AF per annum. The Applicant proposes to sprinkler irrigate crops on 396 acres using three center pivots. The place of use is

generally located in the NW of Section 4, T21N, R58E, Richland County and W2 of Section 33, T22N, R58E, Richland County.

2. The point of diversion and place of use are located in the Lower Yellowstone River basin (42M), which is an area that is not subject to any water right basin closures or controlled ground water area restrictions.

Location Map:



Preliminary Determination to Grant
Application for Beneficial Water Use Permit No. 42M 30106841.

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

GENERAL CONCLUSIONS OF LAW

3. 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 . . .

4. 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.

5. 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.

6. 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).

7. 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.

8. 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

9. The Applicant provided an Aquifer Testing Addendum and Aquifer Test Data Form (Form 633) for each well. Form 633 was submitted in both printed and electronic format for Well 1, Well 2 was only submitted in electronic form. Department Hydrologist, Attila Fohnagy, completed a depletion report on September 28, 2016 and completed an aquifer test report, on September 27, 2016.

10. The proposed diversion consists of two 12 inch production wells. Well 1 was completed to a depth of 170 feet with a static water level of 92 feet and Well 2 was completed to a depth of 190 feet with a static water level of 106.9 feet. To address the aquifer testing requirements of ARM 36.12.121, the Applicant conducted a 72-hour constant rate test at the proposed pumping rate of 630 GPM on Well 1 and a 16.7 hour drawdown and yield test at a rate of 900 GPM on Well 2. The groundwater level data for the two pumping wells and the monitoring well was collected with Rugged TROLL 100 automatic data loggers from In-Situ[®]. Well 1's monitoring well was 153 feet northeast and Well 2 did not have one as it was granted a variance to do a drawdown and yield test. The discharge for each test was measured using a McCrometer in-line flow meter.

11. An evaluation of physical groundwater availability was done by calculating groundwater flux through a zone of influence which is determined by the 0.01 foot drawdown contour. Using the Neuman (1974) solution, a constant pumping rate of 1530 GPM for the 214-day period of diversion, $T = 20,190 \text{ ft}^2/\text{day}$, and $S = 0.1$ generated a distance-drawdown plot. The 0.01 foot drawdown contour occurs at 22,000 feet from the Johnson pumping well. The 0.01 foot drawdown contour extends past the LYBCA boundaries; therefore the radius was truncated to the contact with the Tongue River Member of the Fort Union Formation, 22,000 feet down gradient of the Johnson pumping well, and the LYBCA approximate width of 4,600 feet (mapped by Reiten, 2008). The calculation for groundwater flux (Q) through the delineated area is given by $Q = TWi$ ($T = \text{Transmissivity}$, $W = \text{Width of Zone of Influence}$, $I = \text{Groundwater gradient}$) and is $464,370 \text{ ft}^3/\text{day}$ or 3,891 AF/year.

12. The proposed wells are located 1.1 mile and 2.6 miles from Crane Creek and Yellowstone River, respectively. The source aquifer consists of unconfined sand and gravel water producing zones in a buried ancestral channel of the Yellowstone River bounded by the Tongue River Member of the Tertiary Fort Union Formation to the west and east. The Tongue River Member likely limits the propagation of drawdown to the LYBCA and alluvium of the Yellowstone River. Depletion to surface water for the subject Application was evaluated for the Yellowstone River below the confluence of Crane Creek.

13. The Applicant is requesting an appropriation which would result in varied depletion rates with a low occurring in April of 181.3 GPM and the highest in September with 1,018.6 GPM from the Yellowstone River, as determined in the September 28, 2016 dated Depletion Report by DNRC Groundwater Hydrologists Attila Fohnagy. The entire consumed volume of 839.9 AF will be depleted from the Yellowstone River on an annual basis. The USGS gaging station records (USGS station # 06329500) for the Yellowstone River near Sidney, MT (October 1910 - September 2015 period of record) were utilized to quantify median of mean monthly flows and volumes physically available during the proposed period of diversion. The gaging station is located approximately 11 miles downstream of the confluence of Crane Creek and the Yellowstone River.

14. The following USGS gage was utilized to quantify median of mean monthly flows and volumes on the Yellowstone River: USGS Station #06329500, Yellowstone River near Sidney, MT. This gaging station is located approximately 11 miles downstream of the point where depletions will manifest on the Yellowstone River (below the confluence of Crane Creek and the Yellowstone River). The following table shows the median of mean monthly flows (CFS) and volumes (AF) at the gaging station during the year.

USGS Station #06329500, Yellowstone River near Sidney:

	Jan	Feb	Mar	Apr	May	Jun
Flow (CFS)	5355	6000	9327	9090	17420	40060
Volume (AF)	315409.5	330600	549360	518130	1026038	2283420

	Jul	Aug	Sep	Oct	Nov	Dec
Flow (CFS)	21400	7516	6789	7794	7295	5858
Volume (AF)	1260460	442692.4	386973	459066.6	415815	345036.2

15. The Following is a list of all intervening water rights between the USGS gage and the location where depletions were identified to manifest (Below the confluence of Crane Creek and the Yellowstone River) was generated in order to calculate flow rate and volume physically available in the depleted reach of the Yellowstone River. These water rights were added the gage to determine available water in the reach where depletions will manifest.

Rights Between Gage and Crane Creek Confluence					
Water Right #	Flow (CFS)	Volume (AF)	Section	Township/Range	Period of Diversion
42M 5610 00	5	300.0	6	21N59E	05/01 to 09/15
42M 122088 00	5.57	3225.00	7	21N59E	04/01 to 10/31
42M 137599 00	0.08	0.71	6	21N59E	01/01 to 12/31
42M 16408 00	3.12	2500.00	13	21N58E	04/15 to 10/29
42M 28971 00	1.72	113.50	1	21N58E	04/01 to 11/01
42M 30048245	13.37	947.00	7	21N59E	04/01 to 10/31
42M 119269 00	8.7	870	24	23N59E	04/01 to 11/01
42M 119268 00	133.22	37845.0	25	23N59E	04/01 to 10/31
42M 119271 00	43	33.3	25	23N59E	04/01 to 10/31
42M 119272 00	43	33.3	25	23N59E	04/01 to 10/31

	Physical Availability - Flow Rate (CFS)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Median of the Mean Monthly Flows (USGS 06329500)	5355	6000	9327	9090	17420	40060	21400	7516	6789	7794	7295	5858
Water Rights between POD and Gage	0.2	0.2	0.2	262.6	267.6	267.6	267.6	267.6	267.6	251.9	176.4	0.2
Flow Rate Physically Available	5355.2	6000.2	9327.2	9352.6	17687.6	40327.6	21667.6	7783.6	7056.6	8045.9	7471.4	5858.2

	Physical Availability - Volume (AF)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Median of the Mean Monthly Volume (USGS 06329500)	328690	344520	572491	539946	1069240	2379564	1313532	461332	403267	478396	433323	359564
Water Rights between POD and Gage	0.4	0.4	0.4	11823.0	12231.9	11883.0	12231.9	12231.9	11883.0	11915.2	10467.9	0.4
Volume Physically Available at the POD	328690	344520	572492	551769	1081471	2391447	1325764	473564	415150	490311	443791	359564

CONCLUSIONS OF LAW

16. 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.”

17. 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).

18. 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).

19. 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 9-15)

Legal Availability:

FINDINGS OF FACT

20. The following list of existing legal demands for groundwater within the Department's identified 10,500 feet zone of influence.

Water Right #	Water Right Type	Priority Date	Volume Diverted (AF)
42M 163549 00	STATEMENT OF CLAIM	12/31/1950	1
42M 23822 00	GROUND WATER CERTIFICATE	7/30/1979	1
42M 163547 00	STATEMENT OF CLAIM	12/31/1950	1.5
42M 45175 00	GROUND WATER CERTIFICATE	5/17/1982	2
42M 30063790	GROUND WATER CERTIFICATE	8/8/2012	2.5
42M 36671 00	GROUND WATER CERTIFICATE	10/15/1981	3
42M 30047258	PROVISIONAL PERMIT	3/29/2010	272
42M 30066962	PROVISIONAL PERMIT	8/5/2013	272
42M 30072719	PROVISIONAL PERMIT	3/25/2015	342
Total Volume (AF)			897

21. The legal demands within the zone of influence total 897 AF per annum. Compared to groundwater flux of 3,891 AF, there is 2994 AF per annum legally available to appropriate after all existing water rights have been accounted for. Therefore, there is sufficient supply for the proposed well.

Physically Available (AF/year)	Existing Legal Demand (AF/year)	Physically Available Water - Existing Legal Demands (AF/year)
3,891	897	2994

22. Depletion modeling suggests depletion of the Yellowstone River will occur throughout the year.

23. The Department defined the area of potential impact as the Yellowstone River from the confluence of Crane Creek to the North Dakota border and finds this to be a reasonable area of assessment. Below is a list of the existing surface water rights within the area of potential impact.

Existing Legal Demands (Excluding FWP Instream Flow)					
Water Right #	Flow (CFS)	Volume (AF)	Section	Township/Range	Period of Diversion
42M 5610 00	5	300.0	6	21N59E	05/01 to 09/15
42M 122088 00	5.57	3225.00	7	21N59E	04/01 to 10/31
42M 137599 00	0.08	0.71	6	21N59E	01/01 to 12/31
42M 16408 00	3.12	2500.00	13	21N58E	04/15 to 10/29
42M 28971 00	1.72	113.50	1	21N58E	04/01 to 11/01
42M 30048245	13.37	947.00	7	21N59E	04/01 to 10/31
42M 119269 00	8.7	870	24	23N59E	04/01 to 11/01
42M 119268 00	133.22	37845.0	25	23N59E	04/01 to 10/31
42M 119271 00	43	33.3	25	23N59E	04/01 to 10/31
42M 119272 00	43	33.3	25	23N59E	04/01 to 10/31
42M 104422 00	4.7	913.0	2	22N59E	04/01 to 10/15
42M 104509 00	2.1	412.0	25	23N59E	04/01 to 10/01
42M 114728 00	1.7	271.0	25	23N59E	04/01 to 11/01
42M 30051296	1.1	136.0	2	22N59E	04/01 to 10/15
42M 80579 00	8.7	870.0	24	23N59E	04/01 to 11/01
42M 30064201	2.5	578.0	2	22N59E	01/01 to 12/31
42M 3656 00	3	118.3	9	22N59E	05/01 to 09/01
42M 6815 00	12	2200.0	18	23N60E	05/01 to 09/15
42M 137600 00	NA	0.34	36	23N59E	01/01 to 12/31
42M 137604 00	NA	0.34	13	23N59E	01/01 to 12/31
42M 137605 00	NA	0.34	18	23N60E	01/01 to 12/31
42M 137617 00	NA	0.34	36	23N59E	01/01 to 12/31
42M 165230 00	65.5	47422.0	9	22N59E	01/01 to 12/31
42M 178328 00	2.65	0.0	36	23N59E	04/01 to 09/30
42M 31493 00	8.91	6.6	9	22N59E	09/01 to 03/30
42M 10468 00	4.45	554.0	31	24N60E	04/15 to 10/15
42M 11187 00	4.45	175.0	32	24N60E	04/15 to 10/15
42M 11655 00	5.57	270.0	32	24N60E	05/01 to 10/15
42M 137615 00	NA	0.0	29	24N60E	01/01 to 12/31
42M 55525 00	13.36	275.4	31	24N60E	04/15 to 10/15

42M 7146 00	9.8	330.0	29	24N60E	04/01 to 11/01
42M 137597 00	NA	3.39	8	23N60E	01/01 to 12/31

*NA – Not applicable, these rights are livestock direct from source, therefore, no flow rate assigned. A flow rate of 35 GPM (0.08 cfs) was added in for legal demand downstream water rights to account for stock water right flow rate. This is the amount deemed reasonably necessary by the Department for stock to drink direct from source.

24. The Department provided a listing of the existing water rights including the Montana Department of Fish, Wildlife & Parks (FWP) instream flow reservation, conservation district perfected rights, as well as private individual rights. The Department then compared the physical water availability (median of mean monthly flow rates and volumes) to the amount of water already appropriated under the existing water rights and reservations identified. The Department calculated the median of the mean monthly flow rates and volumes represented in the tables below are legally available for appropriation. The appropriated volumes were calculated by dividing the claimed volumes of the downstream rights by the number of months of the claimed period of use. The FWP instream right volume was calculated by multiplying the flow rate times 1.98 times the number of days in each month for a total yearly volume of 3,266,857 AF.

Legal Availability - Flow Rate (CFS)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flow Rate Physically Available	5355.2	6000.2	9327.2	9352.6	17687.6	40327.6	21667.6	7783.6	7056.6	8045.9	7471.4	5858.2
FWP Instream Right	3738	4327	6778	6808	11964	25140	10526	2676	3276	6008	5848	3998
Legal Demands	77.4	77.4	77.4	351.8	371.8	371.8	371.8	371.8	377.7	347.4	269.8	77.4
Flow Rate Legally Available	1539.8	1595.8	2471.8	2192.7	5351.7	14815.7	10769.7	4735.7	3402.8	1690.5	1353.6	1782.8

Legal Availability - Volume (AF)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Volume Physically Available	328690	344520	572492	551769	1081471	2391447	1325764	473564	415150	490311	443791	359564

FWP Instream Right	229438	248456	416034	404395	734350	1493316	646086	164253	194594	368771	347371	245397
Downstream Water Rights	4001	4001	4001	10570	11144	11144	11144	11144	11115	10615	9061	4001
Volume Legally Available	95250	92063	152457	136804	335977	886987	668534	298167	209440	110924	87358	110166

25. The comparison in the following tables show water is legally available throughout the proposed period of diversion. For ease of calculation the volumes were rounded to the nearest whole number. Legal availability is summarized in the tables below. These depletions will manifest in the Yellowstone River.

Comparison - Flow Rate (CFS)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flow Rate Legally Available	1539.8	1595.8	2471.8	2192.7	5351.7	14815.7	10769.7	4735.7	3402.8	1690.5	1353.6	1782.8
Depletion	0.6	0.6	0.4	0.4	0.6	1.2	1.8	2.2	2.3	1.7	1.2	0.8
Flow Rate Remaining	1539.2	1595.2	2471.4	2192.3	5351.1	14814.5	10767.9	4733.5	3400.5	1688.8	1352.4	1782.0

Comparison - Volume (AF)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Volume Legally Available	95250	92063	152457	126300	325124	876483	657681	287314	198935	100328	76891	110166
Depletion	39.9	32.3	27.1	24	36.1	73.1	109.7	132.8	135.1	106.1	71.8	51.7
Volume Remaining	95210	92031	152430	126276	325088	876410	657571	287181	198800	100222	76819	110114

CONCLUSIONS OF LAW

26. 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).

27. 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.

28. 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.

29. 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.

30. 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 20-25)

Adverse Effect

FINDINGS OF FACT

31. Water is physically and legally available for both groundwater and hydraulically connected surface water in all months of the proposed period of diversion. The proposed wells will be equipped with a Micrometer in-line flow meter that will measure the flow rate in GPM and totalize the volume in AF.

32. The evaluation of drawdown in other wells was done using the Neuman (1974) solution with the following parameters: $T = 20,190 \text{ ft}^2/\text{day}$, and $S = 0.1$. After the fifth year of pumping in July, drawdown in excess of 1 foot extends 8,800 feet from the Applicant’s well. There are ten water rights with wells completed in the LYBCA that may experience drawdown greater than 1 foot.

Water Right #	Owner Name	Distance (ft)	Well Depth (ft)	Static Water Level (ft) bgs	Additional Drawdown (ft)	Available Water Column (ft)
42M 3263 00	H. A. SIMARD; J. D. SIMARD	4,800	160	108	1.7	50.3
42M 30042083	BAKKEN INC	3,200	125	70	2.5	52.5
42M 23822 00	B. J. HUTCHENS; V. L. HUTCHENS	2,800	113	55	2.8	55.2

42M 30063790	C. A. KOSTELECKY; J. KOSTELECKY	3,600	115	47	2.2	65.8
42M 45175 00	B. J. HUTCHENS; V. L. HUTCHENS	2,800	150	80	2.8	67.2
42M 30066962	G. L. BRADLEY; M. G. BRADLEY	2,100	180	101	3.4	75.4
42M 36671 00	B. J. HUTCHENS; V. L. HUTCHENS	2,000	140	55	3.5	81.5
42M 163549 00	C. E., G.W.,L.J.,R.L., WYMAN	6,200	NA	NA	1.3	NA
42M 163548 00	C. E., G.W.,L.J.,R.L., WYMAN	6,900	NA	NA	1.2	NA
42M 163547 00	C. E., G.W.,L.J.,R.L., WYMAN	6,900	NA	NA	1.2	NA

33. Water is legally available in all months of the proposed period of diversion. If a valid call is made on the water the Applicant will make the necessary adjustments to the amount being pumped to alleviate adverse impacts.

34. The Department finds there will be no adverse effect, because the amount of water requested is legally available and the Applicant’s plan to curtail their appropriation during times of water shortage is adequate.

CONCLUSIONS OF LAW

35. 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.

36. 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(8).

37. 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.

38. 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.

39. 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.

40. 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.

41. 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 31-34)

Adequate Diversion

FINDINGS OF FACT

42. The proposed means of diversion will consist of two 12 inch wells. The wells were constructed by Agri-Industries of Williston, ND, a Montana licensed well driller. Well 1 was completed to a depth of 170 feet, screened from 150 to 170 feet, with a static water level (SWL) of 92 feet. Well 2 was completed to a depth of 190 feet, screened from 150 to 180 feet, with a SWL of 106.9 feet. The two wells are manifold. Both wells will use a Goulds 11CLC 5 stage turbine pump with a single Cornell 5 YBH 40 hp booster pump. Water will be piped through a buried 10" PVC pipeline to each pivot. The Applicant provided copies of the well logs, design specifications and sprinkler chart from Agri-Industries. The Applicant also provided a system design checklist from the U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS). (Department File).

43. DNRC analysis, using a monthly pumping schedule, daily drawdown, and interference drawdown for Well 1 and Well 2 showed that there would be 56 feet and 33 feet of drawdown, respectively.

CONCLUSIONS OF LAW

44. 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.

45. 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.

46. 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 42-43).

Beneficial Use

FINDINGS OF FACT

47. The purpose of this proposed appropriation is irrigation. The Applicant will benefit by having the ability to grow high value crops, not possible without irrigation. The Applicant proposes to irrigate 396 acres with a flow rate of 1530 GPM and 858 AF per annum delivered through three center pivot sprinklers.

Agri-Industries drilled the well and designed the center pivot system. The requested flow rate was determined based the design specifications of the system. The requested volume of 2.17 AF/acre is below the DNRC standards for the Climatic Area ARM 36.12.115(2)(e), but within acceptable NRCS requirements for the proposed area.

CONCLUSIONS OF LAW

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

49. 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).

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).

50. It is the applicant's burden to produce 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.

51. Applicant proposes to use water for irrigation which is a recognized beneficial use. § 85-2-102(4), MCA. Applicant has proven by a preponderance of the evidence irrigation is a beneficial use and that 858 AF of diverted volume and 1530 GPM of water requested is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA, (FOF 47)

Possessory Interest

FINDINGS OF FACT

52. The Applicant signed the application form affirming the Applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

53. 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.

54. 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.

55. 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. § 85-2-311(1)(e), MCA. (FOF 52)

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. 42M 30106841 should be GRANTED.

The Department determines the Applicant may divert groundwater, by means of two wells (170 & 190 feet deep), from April 1st – October 31st at 1530 GPM up to 858 AF, from a point in the SESESW & NESESW Section 4, T21N, R58E, Richland County, for irrigation use from April 1st – October 31st. The place of use is located in the NW of Section 4, T21N, R58E, Richland County and W2 of Section 33, T22N, R58E, Richland County. The type of irrigation system is pivot sprinklers and 396 acres will be irrigated under 3 center pivots.

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 7th day of November 2016.

Original Signed by Denise Biggar _____
Denise Biggar, Regional Manager
Glasgow Regional Office
Department of Natural Resources and Conservation