Processing Materials

- Work copies of applicant-submitted information
- Deficiency letter
- Deficiency response
- Correct & complete determination
- Any correspondence with the applicant after application receipt and prior to sending the Draft PD

Processing Materials

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

November 2, 2026

HOMESTEAD SPORTING CLUB INC;
STILLWATER MOUNTAIN RANCH LLC; AND,
FORE THE WIN LLC
7854 FARM TO MARKET RD
WHITEFISH MT 59937-1307

Subject: Correct and Complete Application for Beneficial Water Use Permit Application No. 76LJ 30171694

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted**. The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.
The Department will issue a Draft Preliminary Determination document within 60 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

Please contact me at (406) 752-2702 or Jack.Vanderbilt@mt.gov if you have any questions.

Sincerely,

Jack Vanderbilt
Water Resource Specialist
Kalispell Regional Water Resources Office

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials

Water & Environmental
TECHNOLOGIES

October 9, 2026

Jim Ferch
DNRC Regional Office
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901

Re: Form 600 Application for Beneficial Water Use Permit 76LJ 30171694 for Homestead Sporting Club, Inc. and Stillwater Mountain Ranch, LLC

Dear Jim,

The purpose of this correspondence is to submit the Application for Beneficial Use (Form 600) for application number 76LJ 30171694 on behalf of Homestead Sporting Club, Inc. and Stillwater Mountain Ranch, LLC. Both entities are doing business as The Homestead and have common managing members.

Application 76LJ 30171694 supports irrigation of a 6-hole golf course and landscaping irrigation for a property located approximately 8 miles west of Whitefish, Montana. Supporting documentation is being provided as necessary to supplement the Form 600 being submitted. A signed, completed Form 600 is provided as **Attachment A**.

The following items are provided in support of the Form 600.

Form No. 600 Responses

As required, the following responses are provided in support of the attached Form 600 where space limitations precluded providing a complete explanation within the form itself.

17. Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point if diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed paces of storage with a unique storage id number; and paces of use (POU) for all overlapping water rights. More than one map may be submitted if necessary to clearly convey all required information.

Figures are provided as **Attachment B.**

Figure 1 documents the location of the two system wells (POD-1 and POD-2).

Figure 2 provides the site layout including the irrigated areas, distribution mains, and designates the areas of "light" irrigation application and shows the golf course greens.

26. Explain how you can control your diversion in response to a call being made.

The proposed diversions are controlled through electrically powered pumps to be installed in the wells, allowing for immediate curtailment of pumping in response to a call from a senior appropriator. System controls allow operators to reduce or cease diversion in real time.

Irrigation is primarily conducted during nighttime hours, which reduces peak demand and allows for more controlled and efficient water use. It has the additional benefit of not impacting golf course use during daytime hours. The system is designed to allow for staged reductions in irrigation demand, including partial or full shutdown of irrigation zones, as necessary.

Together, these operational controls provide the ability to promptly reduce or cease diversion, ensuring that the proposed appropriation can be managed to prevent interference with senior water rights.

33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump cures and total dynamic head calculations, headgate design specifications and dike or dam heigh and length.

POD-1 (GWIC 319653) will be equipped with a Grundfos 62S100-22 submersible pump (or equivalent). This pump is capable of delivering 60 gpm at a total dynamic head (TDH) of 460 feet.

POD-2 (GWIC 327899) is equipped with is equipped with a Grundfos 35S75-25 submersible pump. This pump is capable of delivering 45 gpm at a total dynamic head of 407 feet. TDH calculations for the individual wells account for head losses from the in-well pump to the common pump house.

Additionally, WET has provided a TDH calculation from the common pump house to the uppermost pressure zone of the irrigation system. As shown, the diversion system is designed to deliver a pressure of 70 PSI at the pump house. The pump house pressure is sufficient to provide water at the highest elevation with a total pressure loss of approximately 20 PSI, ensuring that the minimum service pressure of 50 PSI is maintained in the system. Pump curves and TDH calculations are provided as **Attachment C**.

34. Describe the size, materials, capacity and configuration of the infrastructure to convey water from all points of diversion to all proposed places of use. This may include but is not limited to pipelines and ditches. Include a description of any losses related to the proposed conveyance.

The irrigation system consists of two groundwater points of diversion (wells) and a pressurized irrigation distribution system serving the proposed place of use.

POD-1 (GWIC 319653) has a developed source capacity of 60 GPM. Water is conveyed through a Grundfos 62S100-22 submersible pump installed on 2-inch diameter galvanized drop pipe. The pump is installed at a depth of 240 feet.

POD-2 (GWIC 327899) has a developed source capacity of 45 GPM. Water is conveyed through a Grundfos 62S100-22 submersible pump installed on 1.5-inch diameter galvanized drop pipe. The pump is installed at a depth of 220 feet.

The wells are connected through a manifold system, a shared pump house, and common distribution system. POD-1 can pump either direct to the entry area lawn and garden landscaped area or up to

the 6-hole golf course. POD-2 feeds directly into the pump house. From the pump house, water from POD-2 can be delivered to either the 6-hole golf course or the entrance irrigation area depending on the operational need.

A 2-inch HDPE main line connects the entry well (POD-1) to the pump house located adjacent to POD-2. POD-2 feeds directly into the pump house via a 1.5-inch buried HDPE main line. From the pump house, a 3-inch buried HDPE main line feeds the golf course irrigation system. The irrigation zones are supplied by 1.5 and 1-inch HDPE branch lines.

The entry landscaped area is supplied by 1.5-inch HDPE mainlines and 1-inch zone lines equipped with Toro INFINITY 35-series rotors. The proposed system will be regulated at 70 psi at the pump house ensuring an operating pressure of approximately 50 psi at the sprinklers, with rotors spaced approximately 40 to 45 feet apart. Zone sizing will range from approximately 30 to 45 GPM so that the zones may be operated solely by POD-1 and multiple zones can be operated concurrently when POD-2 is also feeding this area. Both wells will be equipped with variable frequency drives (VFD) in order to operate at a range of flows to meet the needs of the system.

Sprinklers will be connected to irrigation lateral lines which are fed via the main trunklines. The golf course will operate primarily using Toro INFINITY 35-series rotors with a design operating pressure of 50 PSI and a spacing of 45 to 50 foot centers. The zone sizing varies from and is designed to operate at a flow rate up to 105 GPM.

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume for the purposes plus any conveyance losses and storage throughout the proposed period of diversion.

Each well will have a submersible pump installed. As demonstrated by the system total dynamic head (TDH) calculations provided in **Attachment C**, the proposed pumps are capable of providing the requested diversion rate throughout the proposed period of diversion (April 20 through October 10). The pumps will be installed at sufficient depth to maintain an available water column for diversion during seasonal groundwater-level fluctuations and drawdown associated with pumping.

Water will be conveyed from the points of diversion to the pressurized distribution system through a buried pipeline system. No measurable conveyance losses are anticipated because the conveyance system consists of closed, buried piping.

Based on the projected monthly diversion requirements, July has the greatest diversion requirement associated with irrigation demand at approximately 7.11 acre-feet. At the proposed diversion rate (total 105 GPM), the two PODs are capable of providing this volume with an average pumping duration of approximately 11.9 hours per day during July. The proposed 105 GPM diversion rate provides sufficient capacity to meet the projected monthly diversion requirements throughout the proposed period of diversion.

Accordingly, the two wells, conveyance and distribution system provide sufficient flow capacity and annual volume to meet the proposed irrigation demand throughout the requested period of diversion.

36. Provide a plan of operations which includes specific information about how water is delivered within the place of use. This may include where applicable, the range of flow rates needed for a pivot.

Groundwater is diverted from the two irrigation wells (POD-1 and POD-2). Depending on the operational need, one or both wells may be in operation. Water is conveyed from the wells through the control room and booster pump to the irrigation distribution system. Water from the wells is pumped into a pressurized automated zoned irrigation network consisting of buried mainlines and laterals, remotely controlled valves, and individual sprinkler heads distributed throughout the proposed place of use. The irrigation system is designed to operate at 50 PSI at the place of use. The service pressure of 70 PSI at the pump house accounts for elevation differences and friction losses that occur between the pump house and the highest point in the irrigation system while ensuring that a minimum operating pressure of 50 PSI is maintained.

Certain sprinklers will be equipped with integral pressure regulators to maintain consistent operating pressure of 50 PSI at the sprinkler heads. Sprinklers without integral pressure regulation will have a pressure regulator installed where the lateral branches from the main. These design elements ensure that sprinkler application is consistent with the system design and that operational pressure differences due to elevation changes do not result in uneven irrigation water distribution.

A central control system will allow individual irrigation areas or stations to be operated as needed. The irrigation system is designed to provide coverage of the proposed greens, tees, fairways, rough, and other irrigated landscape areas. Irrigation is scheduled to occur primarily during nighttime hours to optimize application efficiency and ensure the course remains playable during daytime hours.

The proposed system will include Hunter I-20-06-SS full-circle rotors and Toro Infinity series turf sprinklers with 50 PSI pressure regulation. Sprinkler specification sheets are provided as **Attachment D.**

The Hunter full-circle rotors are the smallest sprinklers in the system and are supplied by 1-inch-diameter HDPE branch linesEach Hunter sprinkler can provide approximately 2.5 GPM with a 35-foot radius.

The Toro full-circle sprinklers are supplied by 1.5-inch diameter HDPE branch lines. Each sprinkler head is capable of providing a flow rate of approximately 8.2 GPM with an operational radius of 43-feet at an operating pressure of 50 PSI.

42.b. If no department standard exists, or if any proposed beneficial use falls outside of department standards, explain how the requested flow rate and volume are reasonable for the purpose.

The period of use of April 20 through October 10 is consistent with the Department's standard for climatic area IV. The irrigation system was designed based on "light" and "heavy" irrigation application areas. Figure 2 provides the location of the proposed light irrigation areas, the remaining areas are designated as "heavy" irrigation areas. Heavy irrigation areas were designed utilizing the assumption of 120 application days in the season with an average application of 0.25 inches per day. This is consistent with the Department's lawn and garden irrigation volume standard of 2.5 acre-feet per acre. Light irrigation areas were designed utilizing the assumption of 120 application days in the season with an average application of 0.125 inches per day. **Table 1** below provides a summary of the irrigation volume calculations.

Table 1 – Irrigation Volume Calculations						
Irrigation Category	Total Acres	Inches Per Day	Irrigation Days Per Season	Inches Per Season	Feet Per Season	AF Per Season
Heavy	6.3	0.25	120	30	2.5	15.75
Light	8	0.125	120	15	1.25	10
					Total	25.75

Light irrigation areas are proposed to be planted with drought resistant crops to ensure the irrigation scheduled is sufficient to maintain these plantings.

Form 600 Attachments:
The following attachments are provided in support of this application:

Attachment A – Form 600 - Signed
Attachment B – Figures
Attachment C – Pump Curves and TDH Calculations
Attachment D – Sprinkler Specifications
Attachment E – Access Easement Agreement
Attachment F – Documentation of Signatory Authority

If you have any questions regarding the information provided above or would like to discuss this matter in further detail, I can be reached at (406) 309-6084 or jgraham@waterenvtech.com.

Sincerely,



Jamie Graham
Project Hydrogeologist
Water & Environmental Technologies

Attachment A

Form 600 - Signed

APPLICATION FOR BENEFICIAL WATER USE PERMIT

§ 85-2-302, MCA

Form No. 600 *(10/2025)*

For Department Use Only

RECEIVED
DNRC Water Resources

OCT 09 2026

Kalispell Unit

Application # 30171694 Basin 76LJ
Priority Date 10/9/2026 Time 1534 AM/PM
Rec'd By JV
Fee Rec'd $ 700 Check # 15839
Deposit Receipt # KW27016914
Payor Water + Environmental Tech Inc.
Refund $ _____ Date _____

FILING FEE

$2900/$1600 – Inside a Basin Closure Area, Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

$2500/$1200 – Outside a Basin Closure Area; Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)). If application is eligible for a filing fee reduction, $500 paid for Form 600P-B will be credited toward filing fees shown above.

Applicant Information: ***Add more as necessary.***

Applicant Name Homestead Sporting Club, Inc
Mailing Address 7854 Farm to Market Road City Whitefish State MT Zip 59937
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Applicant Name Stillwater Mountain Ranch, LLC
Mailing Address 7854 Farm to Market Road City Whitefish State MT Zip 59937
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: ***Add more as necessary.***

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other
Contact/Representative Name Water & Environmental Technologies
Mailing Address 102 Cooperative Way, STE 100 City Kalispell State MT Zip 59901
Phone Numbers: Home _____ Work _____ Cell _____
Email Address jgraham@waterenvtech.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be entered as a response to the relevant question. Clearly label all units in tables and narrative responses.

PREAPPLICATION AND TECHNICAL ANALYSES INFORMATION

1. ☑ **Y** ☐ **N** Do you elect for Department technical analyses to be used for criteria assessment?

2. ☑ **Y** ☐ **N** Did you have a preapplication meeting AND complete a Permit Preapplication Meeting Form Part A and Part B (Form 600P-A and 600P-B)?

IF QUESTION 2 IS NO, answer 2.a and 2.b:

2.a. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.b. ☐ **S** ☐ **NA** Submit the technical analyses, if you elected in question 1 for Applicant technical analyses to be used for criteria assessment. Select "NA" if you elected for Departmental technical analyses.

IF QUESTION 2 IS YES, answer 2.c, 2.d, and 2.e:

2.c. ☐ **Y** ☑ **N** Has any element of the project described in this application changed from the mandatory elements of the project described in the completed form 600P? **If yes:**
2.c.i. Please explain.

_____
_____
_____
_____
_____
_____

2.c.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.d. ☑ **Y** ☐ **N** Are the technical analyses to be used for criteria assessment exactly the same as those completed during the preapplication process? **If no:**
2.d.i. Please explain.

_____
_____
_____
_____
_____

2.d.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.e. ☑ **Y** ☐ **N** Did you elect in Question 1 for Department technical analyses to be used for criteria assessment? **If no:**
2.e.i. ☐ **S** Submit the technical analyses.

APPLICATION ADDENDA AND REVIEW

3. ☐ **S** ☑ **NA** If your application is for groundwater, not surface water, and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).

4. ☐ **S** ☑ **NA** If your application is for groundwater and one or more points of diversion are in a Basin Closure Area, then your project must have a Hydrogeologic Report that conforms with MCA 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements. Please mark the box below that best applies, then select "S" if submitting a Hydrogeologic Report or "NA" if one is not required. This question does not apply to surface water points of diversion in a Basin Closure Area.

- ☐ If you elected to conduct Technical Analyses, you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses but did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form (or changes have occurred since the completed Form 600P), you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses, had a preapplication meeting, completed a Form 600P, and the Technical Analyses remain unchanged since the preapplication meeting, you do not need to submit Form 600-HRA because the Department's Technical Analyses meet the report requirements of § 85-2-360 and § 85-2-361, MCA.

5. ☐ **S** ☑ **NA** If the project is for one or more groundwater points of diversion located in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA).

6. ☐ **S** ☑ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).

7. ☐ **S** ☑ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).

8. ☐ **S** ☑ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).

9. ☐ **S** ☑ **NA** If the proposed purposes include marketing or selling water, (not marketing for mitigation/ aquifer recharge), then submit the Marketing Purpose Addendum (Form 600/606-WMA).

10. ☐ **S** ☑ **NA** If the project involves one or more places of storage, then submit a Permit Storage Addendum (Form 600-SA). This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)).

11. ☐ **S** ☑ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program.

12. ☐ **S** ☑ **NA** If the project includes a point of diversion and/or place of use on State of Montana Trust Land, submit documentation of consent from the DNRC Trust Lands Management Division.

13. ☐ **S** ☑ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing a point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway) pursuant to §85-2-302(4)(c), MCA. Submit a copy of this notice and the recipient list.

PURPOSE AND DIVERSION INFORMATION

14. ☐ **Y** ☑ **N** Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Groundwater

16. What is the source name? bedrock aquifer

17. ☑ **S** Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	**Means of Diversion**	**Acres Irrigated** (if appl.)	**Period of Diversion** *(Month/Day - Month/Day)*	**Period of Use** *(Month/Day - Month/Day)*	**Flow Rate** ☑ *GPM* ☐ *CFS*	**Volume** *(Acre-Feet)*
Irrigation	2 wells	14.28	4/20	10/10	105	25.75
				Total Flow Rate and Volume Required	105	25.75

19. ☑ **Y** ☐ **N** Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the table below, where applicable.

Purpose	**Requested Information**	**Response**
Domestic or multiple domestic	Number of households and bedrooms served per household	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	automated in-ground sprinkler system
Irrigation (flood only)	Design slope	

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	¼	¼	¼	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
2	SW	NE	SE	15	31N	23W	Flathead	1				
1	SE	SW	NE	15	31N	23W	Flathead	1				

PLACE OF USE

21. What are the geocodes of the place of use?

07-4291-15-4-01-60-0000	
07-4291-15-4-01-66-0000	
07-4291-15-4-01-50-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
3.97				SW	NE	15	31N	23W	Flathead
5.52				NE	SE	15	31N	23W	Flathead
4.78				SE	SE	15	31N	23W	Flathead
0.03				SE	NE	15	31N	23W	Flathead

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

23. ☐ **Y** ☑ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

23.a. If yes, summarize how the supplemental and proposed water rights will be operated as a whole to serve the purpose(s).

24. For each supplemental or overlapping water right, please list the water right number, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed

25. ☐ **Y** ☑ **N** Will this application supplement contract water from a Federal Project, ditch company, or other source?

25.a. If yes, explain.

ADVERSE EFFECT

26. Explain how you can control your diversion in response to a call being made.

Details regarding operation controls and system flexibility is provided in the cover letter supporting this application.

27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

Irrigation demand will be reduced in a staged manner during periods of water shortage, including reductions in application rates of approximately 50 percent, and during more sever shortages, up to approximately 25 percent. If a valid call is made by a senior appropriator, pumping will be reduced or ceased as necessary to comply with the call.

28. ☐ **Y** ☑ **N** Are you aware of any calls that have been made on the source of supply or, if groundwater, on nearby surface water sources?

28.a. If yes, explain.

29. ☐ **Y** ☑ **N** Does a water commissioner distribute water or oversee water distribution on your proposed source?

29.a. If yes, list the source(s).

30. ☐ **Y** ☑ **N** Do other water rights share any of the proposed points of diversion?

30.a. If yes, describe how the proposed project will not adversely affect these water rights.

31. ☐ **Y** ☑ **N** Do other water rights share any conveyance infrastructure associated with the proposed project?

31.a. If yes, describe how the proposed project will not adversely affect these water rights.

ADEQUATE MEANS OF DIVERSION AND OPERATION

32. ☑ **S** Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

The attached cover letter provides this response.

34. Describe the size, materials, capacity, and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods.

The attached cover letter provides this response.

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.

The attached cover letter provides this response.

36. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.

The attached cover letter provides this response.

37. ☑ **Y** ☐ **N** Does the proposed conveyance require easements?

37.a. If yes, explain.

A portion of the place of use and associated conveyance are located on property not owned by applicant. An Access Easement Agreement is provided as Attachment E that shows the applicant has legal access to the area.

38. ☑ **Y** ☐ **N** Do you own the land where all proposed points of diversion are located?

38.a. ☐ **S** If no, submit documentation to show you have the right to use all points of diversion located on each property you do not own. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.

39. ☐ **Y** ☑ **N** Will your system be designed to discharge water from the project?

IF YES,

39.a. Explain the wastewater disposal method.

39.b. ☐ **Y** ☐ **N** ☐ **NA** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

40. ☐ **Y** ☑ **N** Do you have any plans to measure your diversion and use?

40.a. If yes, describe the plan and the type of measurements you will take.

41. ☑ **Y** ☐ **N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

41.a. ☑ **Y** ☐ **N** Have all wells been drilled?

41.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?
Martin Wilson - Coldwater Drilling and Pumps WWC-624

41.c. ☐ **Y** ☐ **N** For all wells yet to be drilled, will a licensed well driller construct the wells?

41.d. ☐ **S** ☐ **NA** Submit any well logs not yet submitted to the Department.

BENEFICIAL USE

42. ☑ **Y** ☐ **N** Does the Department have a volume, period of diversion, or period of use standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

42.a. ☐ **Y** ☑ **N** If yes, do all proposed beneficial uses fall within Department standards?

42.b. If no Department standard exists, or if any proposed beneficial use falls outside of Department standards, explain how the requested flow rate and volume are reasonable for the purpose.
The attached cover letter provides this response.

43. ☐ **Y** ☑ **N** Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

44. ☐ **Y** ☑ **N** Are you proposing to use surface water for in-house domestic use?

44.a. ☐ **Y** ☐ **N** If yes, does a COSA exist for the proposed place of use?

44.a.i. ☐ **S** ☐ **NA** If yes, please submit the COSA.

44.a.ii. ☐ **Y** ☐ **N** If no, have you researched or consulted with DEQ regarding their requirements?

POSSESSORY INTEREST

45. ☐ **Y** ☑ **N** Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases 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.

45.a. If yes, explain.

46. ☐ **Y** ☑ **N** ☐ **NA** Do you own all proposed places of use? Mark "NA" if you meet one of the exceptions to the possessory interest requirement.

IF NO,

46.a. ☑ **S** Explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use.

An Access Easement Agreement was previously provided as Attachment E that shows the applicant has legal access to operate the golf course in the area not owned by the applicant. Documentation of signatory authority is provided as Attachment F. As shown, Stacy Smith is listed on the Montana Secretary of State 2026 Annual Reports for both entities. Mr. Smith is identified as a managing member of Stillwater Mountain Ranch, LLC and is listed as a director of Homestead Sporting Club, Inc. Mr. Smith has signed this form 600.

46.b. ☑ **Y** ☐ **N** Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403, MCA.

46.b.i. If no, explain.

PROPOSED COMPLETION PERIOD

47. How much time will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? 10 years

48. Please describe why this amount of time is needed to complete this project.

This time line allows golf course construction, landscaping, and planting to be completed and ensures that a relatively dry year will have occurred after planting and establishment of turf.

AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. ***If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.*

I affirm the information provided for this application is to the best of my knowledge true and correct. If a preapplication meeting form was submitted, I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the Department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under § 45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed $500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Printed Name Stacy Smith

Applicant Signature DocuSigned by: Stacy Smith 822213180657483... Date: 10/9/2026

Printed Name _____

Applicant Signature _____ Date: _____

Printed Name _____

Applicant Signature _____ Date: _____

docusign

Certificate Of Completion

Envelope Id: 71804453-FE0A-820E-80FD-F06D76CD628C
Status: Completed
Subject: Complete with Docusign: 2.0_Form 600_homestead short course .pdf
Source Envelope:
Document Pages: 13
Signatures: 1
Envelope Originator:
Certificate Pages: 1
Initials: 0
Water & Environmental Technologies (WET)
AutoNav: Enabled
docusign@waterenvtech.com
EnvelopeId Stamping: Enabled
IP Address: 72.175.51.82
Time Zone: (UTC-08:00) Pacific Time (US & Canada)

Record Tracking

Status: Original
10/7/2026 1:06:35 PM
Holder: Water & Environmental Technologies (WET)
docusign@waterenvtech.com
Location: DocuSign

Signer Events	Signature	Timestamp
Stacy Smith ssmith@trinity-groupllc.com Partner Security Level: Email, Account Authentication (None)	DocuSigned by: Stacy Smith 3E22131B06574B5 Signature Adoption: Pre-selected Style Using IP Address: 2605:59c0:58c3:6a08:589f:2ee9:12c7:dcba Signed using mobile	Sent: 10/7/2026 1:07:46 PM Resent: 10/8/2026 7:14:36 AM Viewed: 10/9/2026 6:00:32 AM Signed: 10/9/2026 6:00:48 AM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

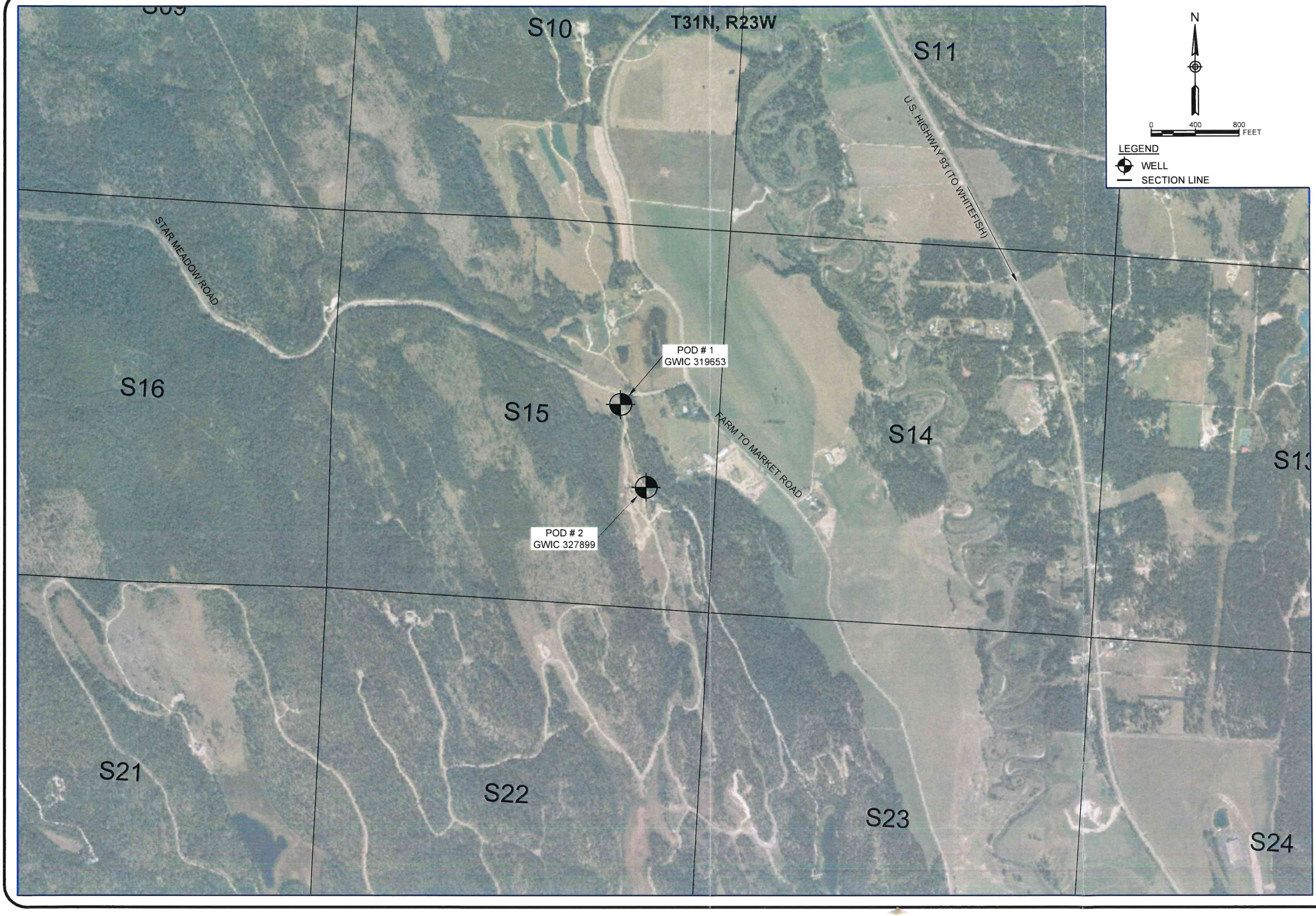
Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	10/7/2026 1:07:46 PM
Envelope Updated	Security Checked	10/8/2026 7:14:30 AM
Envelope Updated	Security Checked	10/8/2026 7:14:30 AM
Certified Delivered	Security Checked	10/9/2026 6:00:32 AM
Signing Complete	Security Checked	10/9/2026 6:00:48 AM
Completed	Security Checked	10/9/2026 6:00:48 AM

Payment Events	Status	Timestamps

Attachment B

Figures



No	Description	Date	Drawn By

COPYRIGHT 2024
Water & Environmental Technologies PC hereby reserves our common law copyright in this document and the ideas and designs incorporated herein as an instrument of professional service prepared for the project noted herein. This document or any part is not to be used for any other projects or other use without our express written authorization.

Water & Environmental TECHNOLOGIES
102 Cooperative Way
STE 100
Kalispell, MT 59901
(406) 756-2550
WATERENVTECH.COM

THE HOMESTEAD AT WHITEFISH
WELL LOCATION AND VICINITY MAP

PROJECT NAME: HOMESTEAD AT WHITEFISH WATER RIGHT
LOCATION: WHITEFISH, MONTANA
FILE NO.: Homestead Vicinity Map.dwg

JOB NO:	1439-21
DATE:	9/16/24
DRAFTER:	JQ
CHECKED BY:	BB

SHEET
FIG. 1

S15, T31N, R23W

FARM TO MARKET ROAD

STAR MEADOW ROAD

$SE\frac{1}{4}, NE\frac{1}{4}$

$NE\frac{1}{4}, SE\frac{1}{4}$

$SE\frac{1}{4}, SE\frac{1}{4}$

$SW\frac{1}{4}, NE\frac{1}{4}$

$NW\frac{1}{4}, SE\frac{1}{4}$

$SW\frac{1}{4}, SE\frac{1}{4}$

PUMP HOUSE

POD # 2
GWIC 327899

POD # 1
GWIC 319653

N

0 100 200 FEET

LEGEND

- WELL (POD)
- PLACE OF USE (TOTAL IRRIGATED AREA 14.3 AC)
- GOLF COURSE GREEN
- LIGHT IRRIGATION AREAS (8.00 AC)
- MAIN LINE 3-INCH
- MAIN LINE 2-INCH
- MAIN LINE 1.5-INCH

No	Description	Date	Drawn By

COPYRIGHT 2026
Water & Environmental Technologies PC hereby reserves our common law copyright in the ideas and designs incorporated herein as an instrument of professional service. This document and the ideas and designs incorporated herein, as an instrument of professional service, is not to be used in whole or part for any other projects or other use without our express written authorization.

Water & Environmental Technologies
102 Cooperative Way
STE 100
Kalispell, MT 59901
(406) 756-2550
WATERENVTECH.COM

HOMESTEAD SPORTING CLUB
POD LOCATION AND IRRIGATED AREA

PROJECT NAME: HOMESTEAD AT WHITEFISH WATER RIGHT
LOCATION: WHITEFISH, MONTANA
FILE NO.: Homestead GC Map.dwg

JOB NO:	1439-21
DATE:	10/9/26
DRAFTER:	JC
CHECKED BY:	BB

SHEET
FIG. 2

Attachment C

Pump Curves and TDH Calculations

POD-1 TO PUMP HOUSE

Well Drop Pipe			**Length (ft)**
2" Galvinized			220
2" check valve	1	17.2	17.2
2" Pitless	**#**	EL	
2" Pitless	1	5.17	5.17
Equivalent Length of 2" Line from Well Pump to Main			242.37
Well Head to Pump House			
2" HDPE			1262
2" Water Line Fittings	**#**	EL	
90° Bend	2	5.17	10.34
Swing Check Valve	1	33.3	33.3
Gate Valve	1	5.32	5.32
Equivelant Length of 2" Line from Well Head to Mechanical Room			1311.0
Total Equivalent Length (2")			**242.37** **ft**
Total Equivalent Length (2" Service)			**1310.96** **ft**

POD-1 TO PUMP HOUSE

Maximum Flow Rate (gpm)	60

2" Water Line from Well Pump to Pitless

Specified Data

l = equivalent length of pipe (ft)	242.37
c = Hazen-Williams roughness constant	150
q = volume flow (gal/min)	60.0
dh = inside or hydraulic diameter (inches)	2

Calculated Pressure Loss

f = friction head loss in feet of water per 100 feet of pipe (ft H20 per 100 ft pipe)	6.62
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	2.85
Head loss (ft H20)	16.05
Head loss (psi)	**6.90**

2" Water Line from Pitless Adapter to Pump House

Specified Data

l = equivalent length of pipe (ft)	1310.96
c = Hazen-Williams roughness constant	150
q = volume flow (gal/min)	60
dh = inside or hydraulic diameter (inches)	2

Calculated Pressure Loss

f = friction head loss in feet of water per 100 feet of pipe (ft H20 per 100 ft pipe)	6.62
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	2.87
Head loss (ft H20)	86.82
Head loss (psi)	**37.59**

Elevation Change

interior pump house	3117
Pumping Water Level (3067' ground @ wellhead surface minus - 145')	2922
PWL includes saftey factor for seasonal groundwater elevation changes	

Total Elevation Loss

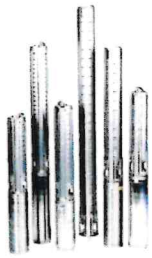
Head loss (ft H20)	195.00
Head loss (psi)	84.42

Total System Calculations

Well to Mech. Room Losses (ft H20)	**297.87**
Well to Mech. Room Losses (psi)	**128.95**
System Operating Pressure (ft H2O)	**161.7**
System Operating Pressure (PSI)	**70**
Total Calculated Head Losses (ft H2O)	**460**
Total Calculated System Head Losses (PSI)	**199**
Pump Selection Criteria - Total Dynamic Head	**460**

Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
	TYPE OF SERVICE:	
REPRESENTATIVE:	SUBMITTED BY:	DATE:
ENGINEER:	APPROVED BY:	DATE:
CONTRACTOR:	ORDER NO.:	DATE:



Note! Product picture may differ from actual product

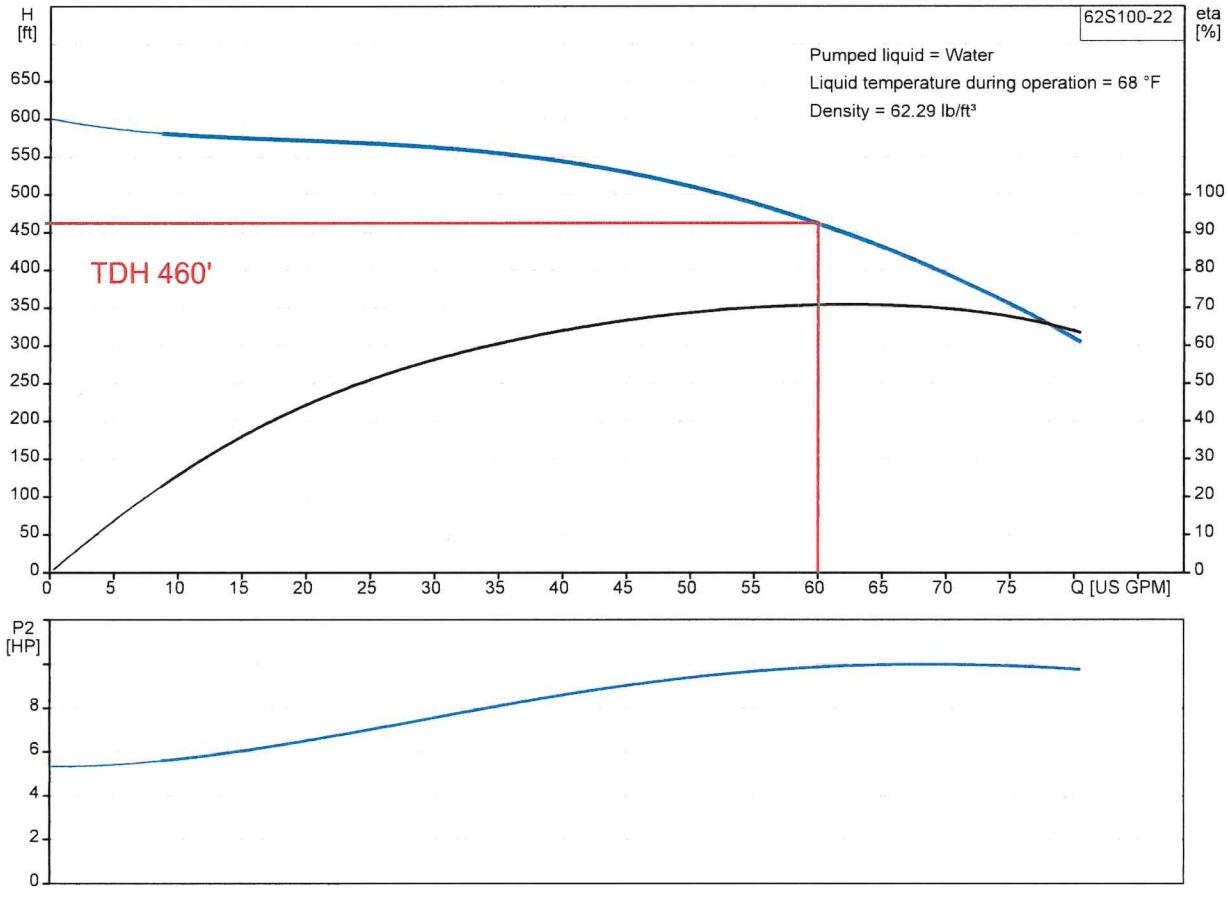
62S100-22

Submersible pumps in stainless steel. EN 1.4301 (AISI 304). EN 1.4401 (AISI 316). EN 1.4539 (AISI 904L). Typical application: Ground water, Irrigation, Mining, Fountain, Off-shore etc.

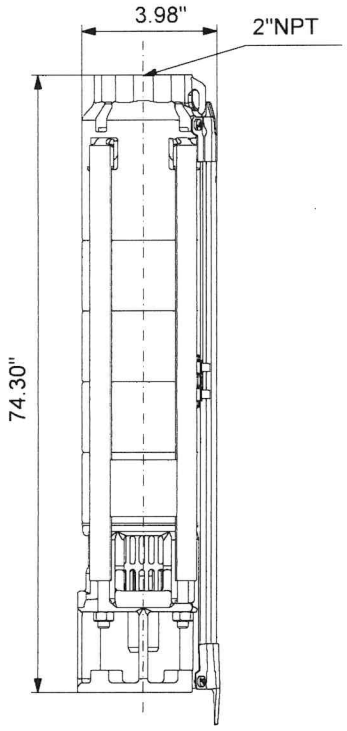
Conditions of Service	
Liquid:	Water
Temperature:	68 °F
Specific Gravity:	1.000

Pump Data	
Liquid temperature range:	5 .. 140 °F
Product number:	98924082

Motor Data	
Mains frequency:	60 Hz



Submittal Data



Materials:

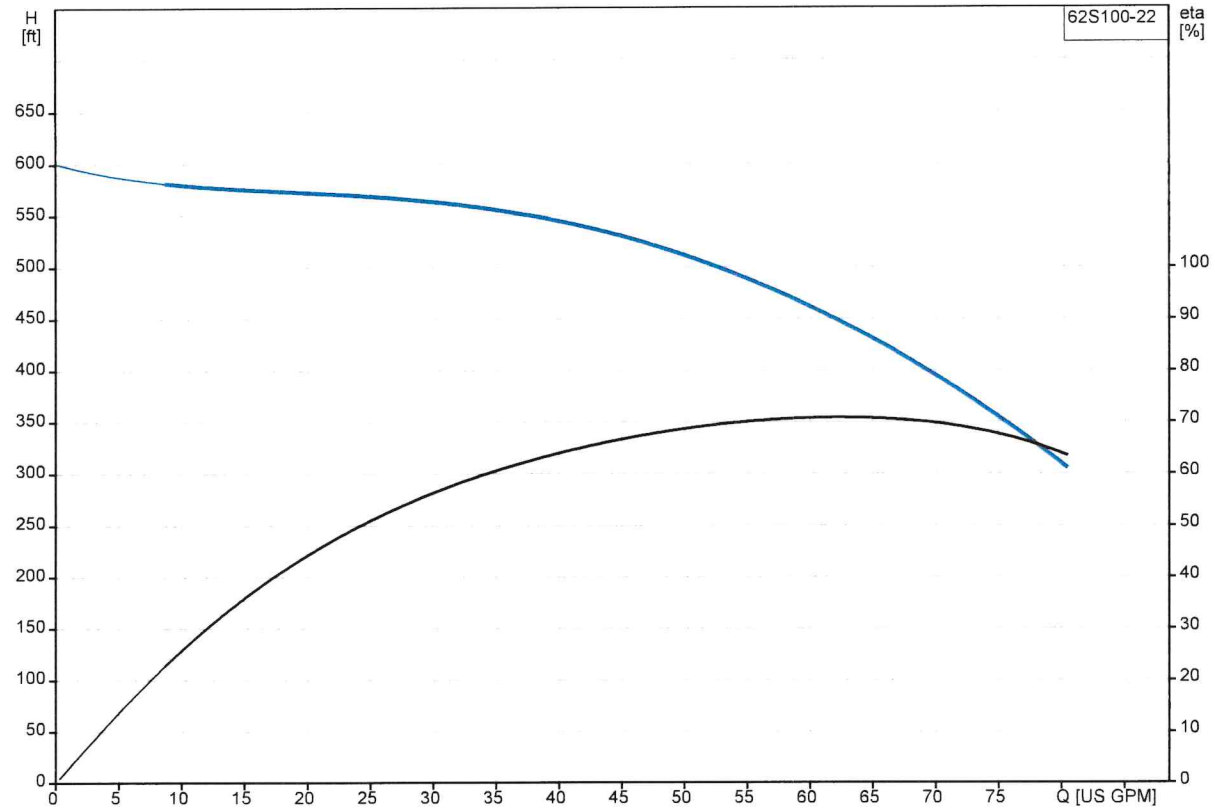
Impeller: Stainless steel
AISI 304
EN 1.4301

GRUNDFOS

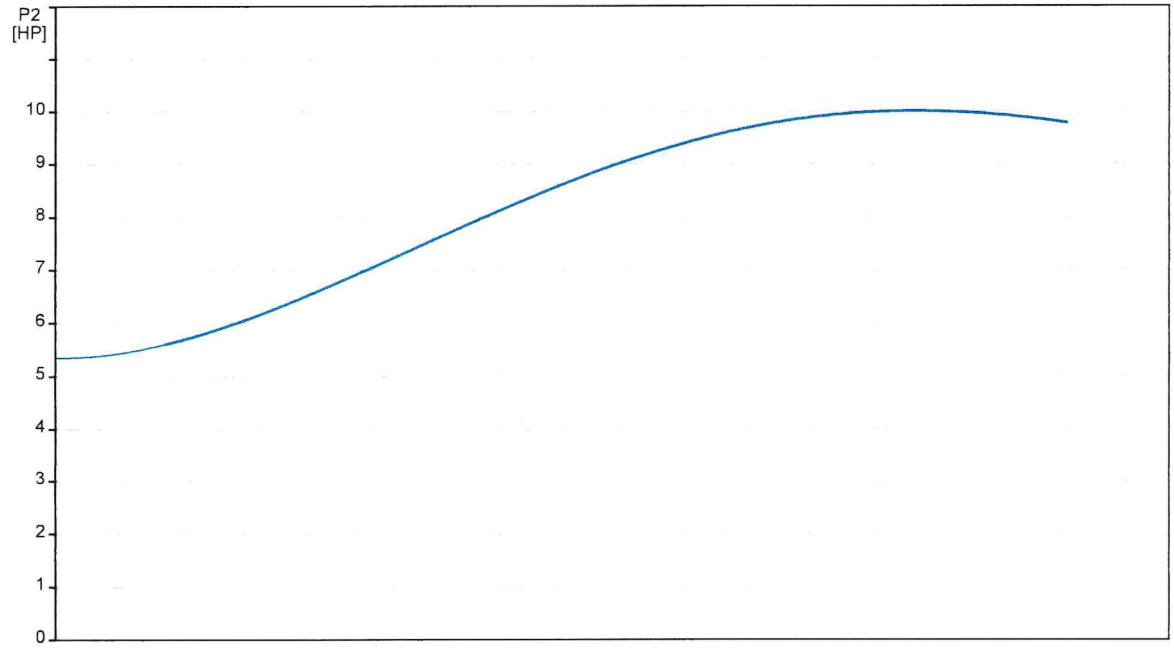
Company name:
Created by:
Phone:

Date: 09/06/2026

98924082 62S100-22 60 Hz



Pumped liquid = Water
Liquid temperature during operation = 68 °F
Density = 62.29 lb/ft³



POD-2 TO PUMP HOUSE

Well Drop Pipe			**Length (ft)**	
1.5" GalvinizedPVC			220	
1.5" Pitless	#	EL		
1.5" Pitless	1	4.03	4.03	
Equivalent Length of 2" Line from Well Pump to Main			224.03	
Well Head to Pump House				
1.5" HDPE			40	
1.5" Water Line Fittings	#	EL		
90° Bend	2	4.03	8.06	
Swing Check Valve	1	13.4	13.4	
Gate Valve	1	1.07	1.07	
Equivelant Length of 1.5" Line from Well Head to Mechanical Room			62.5	
Total Equivalent Length (1.5")			**224.03**	**ft**
Total Equivalent Length (1.5" Service)			**62.53**	**ft**

POD-2 TO PUMP HOUSE

Maximum Flow Rate (gpm)	45

1.5" Water Line from Well Pump to Pitless

Specified Data

l = equivalent length of pipe (ft)	224.03
c = Hazen-Williams roughness constant	150
q = volume flow (gal/min)	45.0
dh = inside or hydraulic diameter (inches)	1.5

Calculated Pressure Loss

f = friction head loss in feet of water per 100 feet of pipe (ft H20 per 100 ft pipe)	15.76
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	6.78
Head loss (ft H20)	35.31
Head loss (psi)	15.18

1.5" Water Line from Pitless Adapter to Pump House

Specified Data

l = equivalent length of pipe (ft)	62.53
c = Hazen-Williams roughness constant	150
q = volume flow (gal/min)	45
dh = inside or hydraulic diameter (inches)	1.5

Calculated Pressure Loss

f = friction head loss in feet of water per 100 feet of pipe (ft H20 per 100 ft pipe)	15.76
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	6.82
Head loss (ft H20)	9.85
Head loss (psi)	4.27

Elevation Change

interior pump house	3117
Pumping Water Level (3117' ground @ wellhead surface minus - 200')	2917
PWL includes saftey factor for seasonal groundwater elevation changes	

Total Elevation Loss

Head loss (ft H20)	200.00
Head loss (psi)	86.58

Total System Calculations

Well to Mech. Room Losses (ft H20)	**245.16**
Well to Mech. Room Losses (psi)	**106.13**
System Operating Pressure (ft H2O)	**161.7**
System Operating Pressure (PSI)	**70**
Total Calculated Head Losses (ft H2O)	**407**
Total Calculated System Head Losses (PSI)	**176**
Pump Selection Criteria - Total Dynamic Head	**407**

Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
	TYPE OF SERVICE:	
REPRESENTATIVE:	SUBMITTED BY:	DATE:
ENGINEER:	APPROVED BY:	DATE:
CONTRACTOR:	ORDER NO.:	DATE:



Note! Product picture may differ from actual product

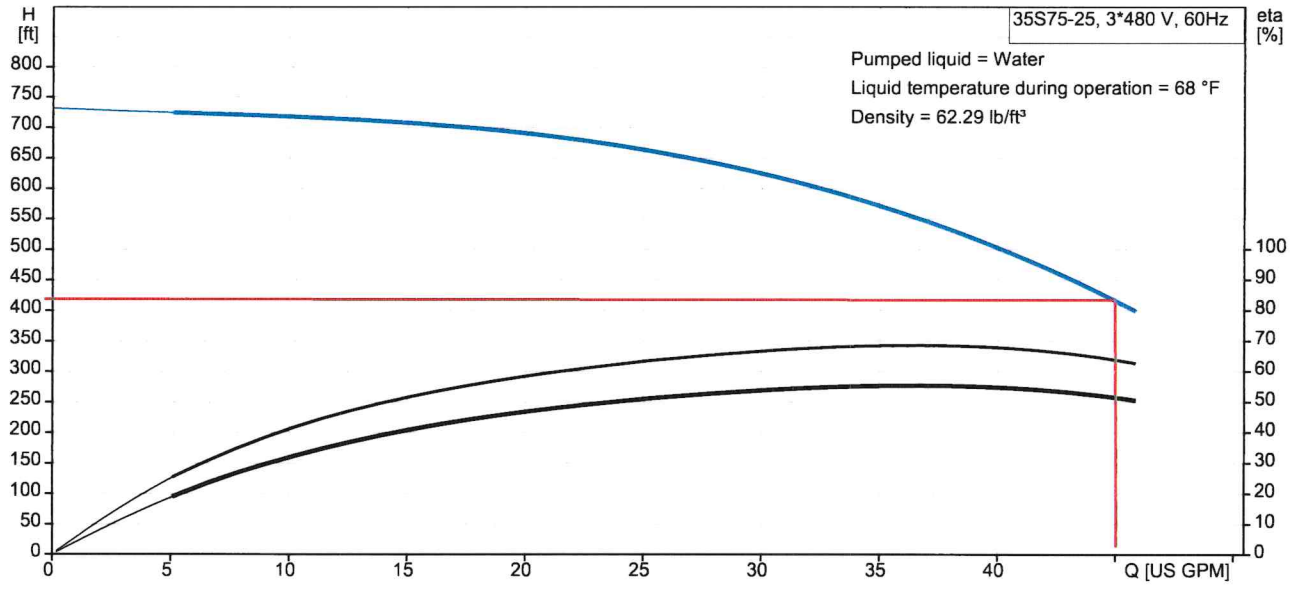
35S75-25

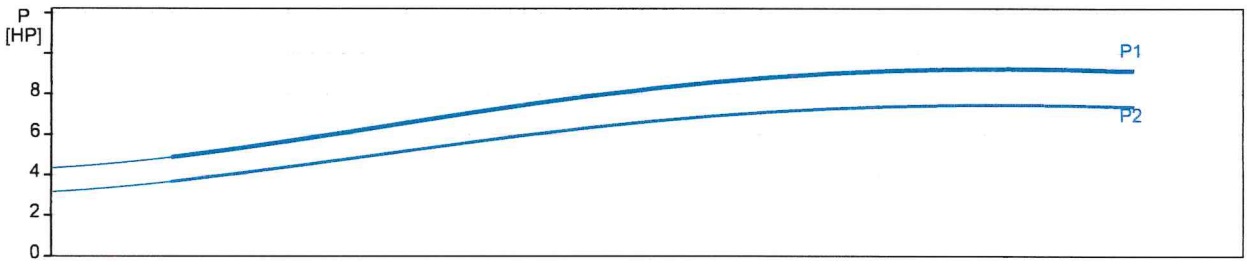
Submersible pumps in stainless steel. EN 1.4301 (AISI 304). EN 1.4401 (AISI 316). EN 1.4539 (AISI 904L). Typical application: Ground water, Irrigation, Mining, Fountain, Off-shore etc.

Conditions of Service	
Efficiency:	51.2 %
Liquid:	Water
Temperature:	68 °F
NPSH required:	ft
Specific Gravity:	1.000

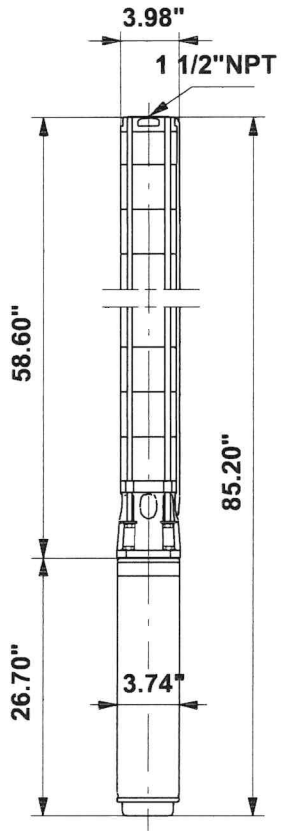
Pump Data	
Liquid temperature range:	5 .. 104 °F
Product number:	98924565

Motor Data	
Mains frequency:	60 Hz
Enclosure class:	IP68





Submittal Data



Materials:

Impeller: Stainless steel
AISI 304
EN 1.4301

GRUNDFOS

Company name:
Created by:
Phone:

Date: 07/10/2026

Qty.	Description
1	**35S75-25** Product No.: 98924565 Multi-stage submersible pump for raw water supply, groundwater lowering and pressure boosting. The pump is suitable for pumping clean, thin, non-agressive liquids without solid particles or fibres. The motor is a 3-phase motor with sand shield, liquid-lubricated bearings and pressure equalizing diaphragm. Liquid: Pumped liquid: Water Liquid temperature range: 5 .. 104 °F Selected liquid temperature: 68 °F Density: 62.29 lb/ft³ Technical: Pump speed on which pump data are based: 3450 rpm Rated flow: 36.5 US GPM Rated head: 534.8 ft Approvals: CULDWUS,CCSAUS Approvals for motor: CCSAUS,C_UL_US_NSF372 Approvals for drinking water: PROP65 Curve tolerance: ISO9906:2012 3B Motor version: T40 Return valve: YES Materials: Pump: Stainless steel EN 1.4301 AISI 304 Impeller: Stainless steel EN 1.4301 AISI 304 Motor: Stainless steel EN 1.4301 AISI 304 Shaft seal: HM/Ceramics Installation: Maximum ambient pressure: 870.23 psi Maximum operating pressure: 870.23 psi Maximum outlet pressure: 329.24 psi Type of connection: NPT(F) Size of connection: 1 1/2 inch Motor diameter: 4 inch Minimum borehole diameter: 4.13 in Electrical data: Motor type: MS4000 Motor flange design: NEMA

GRUNDFOS

Company name:
Created by:
Phone:

Date: 07/10/2026

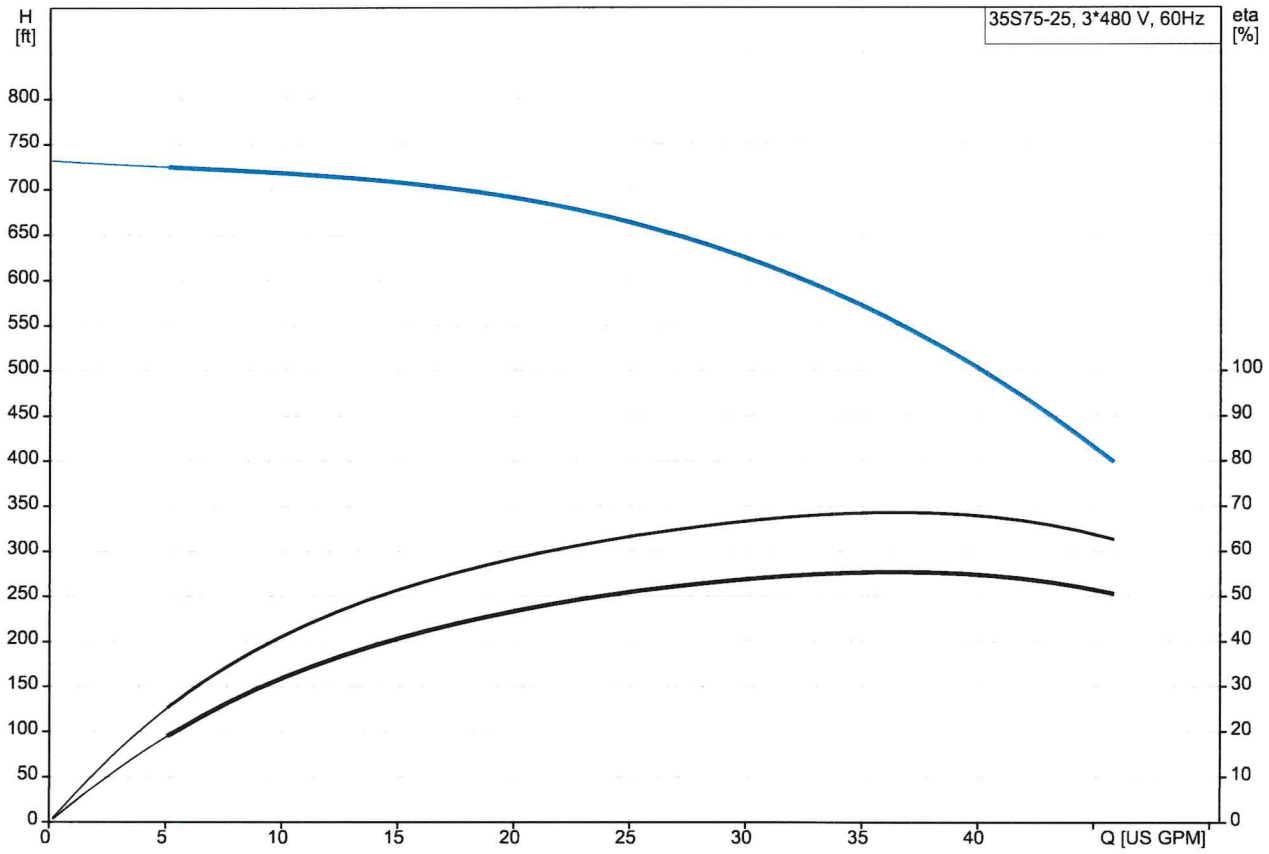
Qty.	Description	
1	Rated power - P2:	7.5 HP
	Power (P2) required by pump:	7.5 HP
	KVA code:	J
	Mains frequency:	60 Hz
	Rated voltage:	3 x 440-460 V
	Service factor:	1.15
	Rated current:	11.4-11.7 A
	Starting current:	560-580 %
	Cos phi - power factor:	0.84-0.79
	Rated speed:	3460-3480 rpm
	Maximum axial load:	992 lb
	Method of start:	Direct-on-line (DOL)
	Enclosure class (IEC 34-5):	IP68
	Insulation class (IEC 85):	F
	Built-in motor protection:	NONE
	Thermal protection:	External
	Built-in temp. transmitter:	Yes
	Motor No:	92959963
	Windings:	Enameled
	Others:	
	DOE Pump Energy Index CL:	0.87
	Net weight:	99.7 lb
	Gross weight:	175 lb
	Shipping volume:	9.32 ft³
	Country of origin:	US
	Custom tariff no.:	8413.70.2004

GRUNDFOS

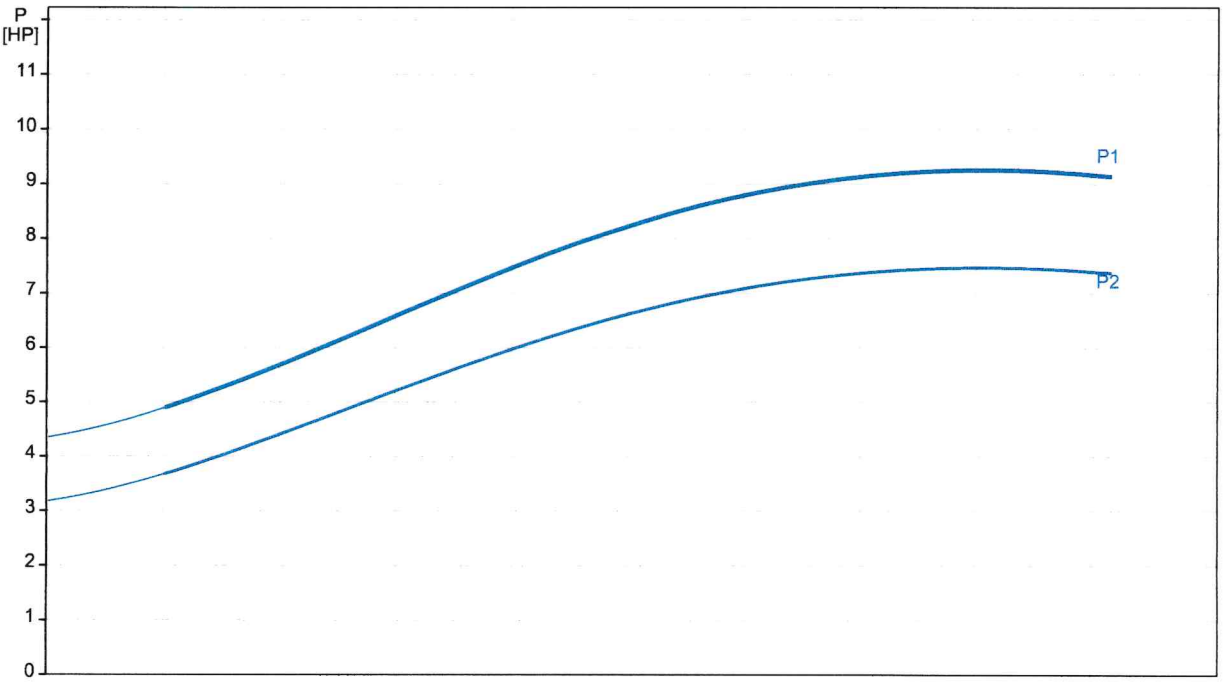
Company name:
Created by:
Phone:

Date: 07/10/2026

98924565 35S75-25 60 Hz



Pumped liquid = Water
Liquid temperature during operation = 68 °F
Density = 62.29 lb/ft³

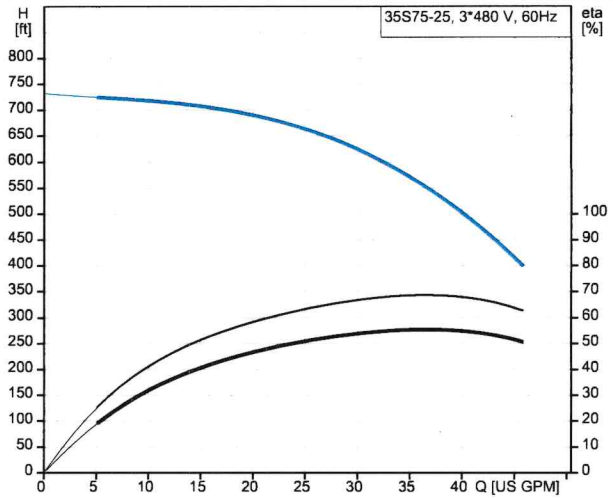


GRUNDFOS

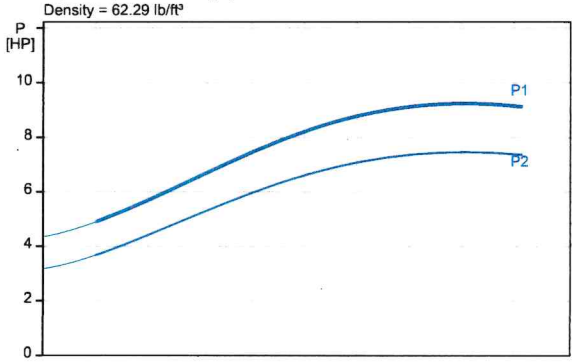
Company name:
Created by:
Phone:

Date: 07/10/2026

Description	Value
General information:	
Product name:	35S75-25
Product No:	98924565
EAN number:	5712603665061
Technical:	
Pump speed on which pump data are based:	3450 rpm
Rated flow:	36.5 US GPM
Rated head:	534.8 ft
Stages:	25
Number of reduced-diameter impellers:	NONE
Approvals:	CULDWUS,CCSAUS
Approvals for motor:	CCSAUS,C_UL_US_NSF 372
Approvals for drinking water:	PROP65
Curve tolerance:	ISO9906:2012 3B
Model:	B
Pump type:	SP7
Motor version:	T40
Return valve:	YES
Materials:	
Pump:	Stainless steel
	EN 1.4301
	AISI 304
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Motor:	Stainless steel
	EN 1.4301
	AISI 304
Shaft seal:	HM/Ceramics
Installation:	
Maximum ambient pressure:	870.23 psi
Maximum operating pressure:	870.23 psi
Maximum outlet pressure:	329.24 psi
Type of connection:	NPT(F)
Size of connection:	1 1/2 inch
Motor diameter:	4 inch
Minimum borehole diameter:	4.13 in
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	5 .. 104 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft³
Electrical data:	
Motor type:	MS4000
Motor flange design:	NEMA
Rated power - P2:	7.5 HP
Power (P2) required by pump:	7.5 HP
KVA code:	J
Mains frequency:	60 Hz
Rated voltage:	3 x 440-460 V
Service factor:	1.15
Rated current:	11.4-11.7 A
Starting current:	560-580 %
Cos phi - power factor:	0.84-0.79
Rated speed:	3460-3480 rpm



Pumped liquid = Water
Liquid temperature during operation = 68 °F
Density = 62.29 lb/ft³



GRUNDFOS

Company name:
Created by:
Phone:

Date: 07/10/2026

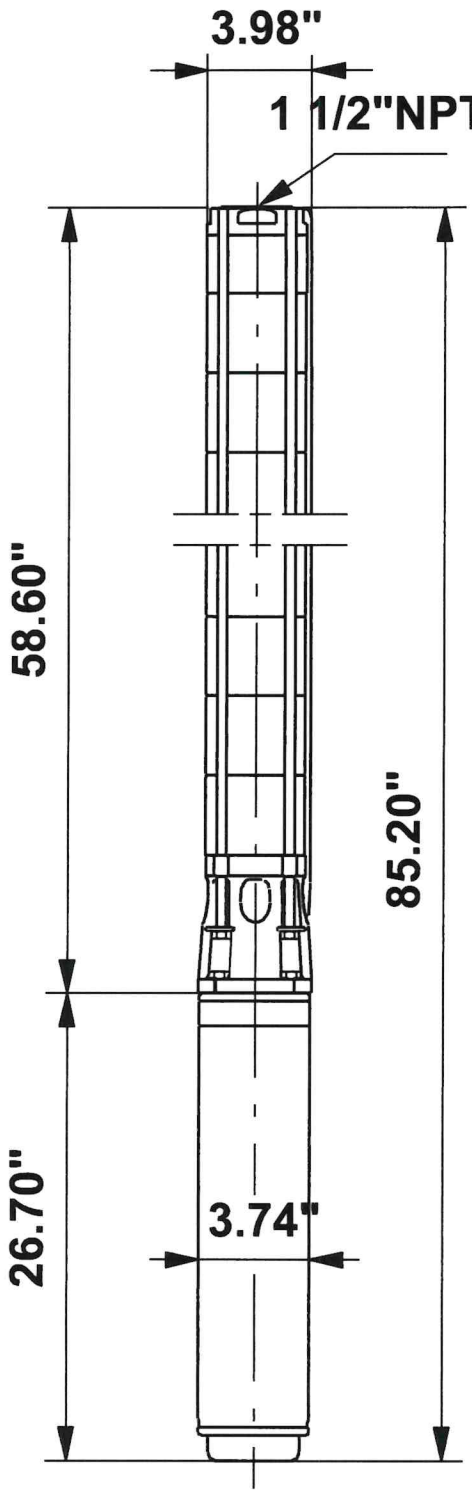
Description	Value
Maximum axial load:	992 lb
Method of start:	Direct-on-line (DOL)
Enclosure class (IEC 34-5):	IP68
Insulation class (IEC 85):	F
Built-in motor protection:	NONE
Thermal protection:	External
Built-in temp. transmitter:	Yes
Motor No:	92959963
Cable number:	N/A
Windings:	Enameled
Others:	
DOE Pump Energy Index CL:	0.87
Net weight:	99.7 lb
Gross weight:	175 lb
Shipping volume:	9.32 ft^3
Country of origin:	US
Custom tariff no.:	8413.70.2004

GRUNDFOS

Company name:
Created by:
Phone:

Date: 07/10/2026

98924565 35S75-25 60 Hz



Note! All units are in [in] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

GRUNDFOS

Company name:
Created by:
Phone:

Date: 07/10/2026

PUMP HOUSE TO DISTRIBUTION

Maximum Flow Rate (gpm)	105

3" Main Line from Pump House to Highest Zone

Specified Data

l = equivalent length of pipe (ft)	873
c = Hazen-Williams roughness constant	150
q = volume flow (gal/min)	105.0
dh = inside or hydraulic diameter (inches)	3

Calculated Pressure Loss

f = friction head loss in feet of water per 100 feet of pipe (ft H20 per 100 ft pipe)	2.60
f = friction head loss in psi of water per 100 feet of pipe (psi per 100 ft pipe)	1.12
Head loss (ft H20)	22.67
Head loss (psi)	9.75

Elevation Change

Highest sprinkler zone elevation	3140
interior pump house	3117
elevation difference: pump house to highest sprinkler zone	23

Total Elevation Loss

Head loss (ft H20)	23.00
Head loss (psi)	9.96

Total System Calculations

Distribution Main Losses (ft H20)	**22.67**
Well to Mech. Room Losses (psi)	**9.81**
Elevation Loss (ft H2O)	**23.00**
System Operating Pressure (PSI)	**10**
Total Calculated Head Losses (ft H2O)	**46**
Total Calculated System Head Losses (PSI)	**20**
Total Dynamic Head - Pump House to System	**46**

Attachment D

Sprinkler Specifications

PGP® ULTRA

Radius: **17' to 46'**
Flow: **0.36 to 14.8 GPM**

The PGP Ultra raises the bar for rotor technology with powerful features developed over three decades of research, customer feedback, and lab testing.

KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalized; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat blade screwdriver
- Flat top nozzles allow fast, easy insertion
- QuickCheck™ Arc Mechanism for fast arc adjustment

OPERATING SPECIFICATIONS

- Nozzle choices: 34
- Radius: 17' to 46'
- Flow: 0.36 to 14.8 GPM
- Recommended pressure range: 25 to 70 PSI
- Operating pressure range: 20 to 100 PSI
- Precipitation rate: 0.4 in/hr approximately
- Nozzle trajectory: standard = 25°, low angle = 13°
- Nozzle racks: Blue 1.5 to 8.0, Gray Low Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR 25, MPR 30, MPR 35
- Warranty period: 5 years

FACTORY-INSTALLED OPTIONS

- Drain Check Valve (up to 10' of elevation)
- Reclaimed water ID
- Blue 1.5 to 4.0 Nozzles

USER-INSTALLED OPTIONS

- Drain Check Valve (up to 3' of elevation) PGP 4" / 6" only (P/N 142300SP)
- HSJ-0 prefabricated ¾" PVC Swing Joint



PGP Ultra Reclaimed
Available as a factory-installed option on all models.



PGP Ultra
Easy arc and radius adjustment

PGP-ULTRA – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

1 Model	2 Standard Features	3 Feature Options	4 Nozzle Options
PGP-00 – Shrub **PGP-04** – 4" pop-up **PGP-06** – 6" pop-up **PGP-12** – 12" pop-up	Adjustable arc, plastic riser, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option **CV** = Drain Check Valve **CV-R** = Drain Check Valve and reclaimed water ID	**Blue 1.5 to 8.0** **Gray low-angle** **Black short-radius** **Green high-flow** **MPR-25-Q, T, H, F** **MPR-30-Q, T, H, F** **MPR-35-Q, T, H, F** **1.5 to 4.0** – Only nozzles 1.5 to 4.0 can be factory-installed

Examples:
PGP-04 = 4" pop-up, adjustable arc
PGP-04-2.5 = 4" pop-up, adjustable arc, and 2.5 nozzle
PGP-12-CV-R-4.0 = 12" pop-up, adjustable arc, with drain check valve and reclaimed water ID, and 4.0 nozzle



PGP-00
Overall height: 7½"
Exposed diameter: 1¾"
Inlet size: ½"



PGP-04
Overall height: 7½"
Pop-up height: 4"
Exposed diameter: 1¾"
Inlet size: ½"



PGP-06
Overall height: 9½"
Pop-up height: 6"
Exposed diameter: 1¾"
Inlet size: ½"



PGP-12
Overall height: 17"
Pop-up height: 12"
Exposed diameter: 1¾"
Inlet size: ½"

Hunter

I-20

Radius: **17' to 46'**
Flow: **0.36 to 14.8 GPM**

The I-20 is loaded with upgraded features such as FloStop® Technology, check valves, and efficient nozzles that make it the perfect choice in a range of applications.

KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalized; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat blade screwdriver
- FloStop Technology stops the flow of water from individual sprinklers to change the nozzle or perform repairs
- Flat top nozzles allow fast, easy insertion
- QuickCheck™ Arc Mechanism for fast arc adjustment
- Available stainless steel riser for extra durability
- Drain Check Valve prevents low-head drainage (up to 10' of elevation)

OPERATING SPECIFICATIONS

- Nozzle choices: 34
- Radius: 17' to 46'
- Flow: 0.36 to 14.8 GPM
- Recommended pressure range: 25 to 70 PSI
- Operating pressure range: 20 to 100 PSI
- Precipitation rate: 0.4 in/hr approximately
- Nozzle trajectory: standard = 25°, low angle = 13°
- Nozzle racks: Blue 1.5 to 8.0, Gray Low Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR 25, MPR 30, MPR 35
- Warranty period: 5 years

FACTORY-INSTALLED OPTIONS

- No drain Check Valve (NCV models)
- Reclaimed water ID
- Blue 1.5 to 4.0 Nozzles

USER-INSTALLED OPTIONS

- HSJ-0 prefabricated ¾" PVC Swing Joint

I-20 (PLASTIC) – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

1 Model	2 Standard Features	3 Feature Options	4 Nozzle Options
I-20-00 – Shrub **I-20-04** – 4" pop-up **I-20-06** – 6" pop-up **I-20-12** – 12" pop-up	Adjustable arc, plastic riser, check valve, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option **NCV** = Without Check Valve *(only available on 4" model)* **R** – Drain Check Valve and reclaimed water ID	**Blue 1.5 to 8.0** **Gray low-angle** **Black short-radius** **Green high-flow** **MPR-25-Q, T, H, F** **MPR-30-Q, T, H, F** **MPR-35-Q, T, H, F** **1.5 to 4.0** – Only nozzles 1.5 to 4.0 can be factory-installed

I-20 (STAINLESS STEEL) – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

1 Model	2 Standard Features	3 Feature Options	4 Nozzle Options
I-20-04-SS – 4" pop-up **I-20-06-SS** – 6" pop-up	Adjustable arc, stainless steel riser, check valve, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option **NCV** = Without Check Valve *(only available on 4" model)* **R** – Drain Check Valve and reclaimed water ID	**Blue 1.5 to 8.0** **Gray low-angle** **Black short-radius** **Green high-flow** **MPR-25-Q, T, H, F** **MPR-30-Q, T, H, F** **MPR-35-Q, T, H, F** **1.5 to 4.0** – Only nozzles 1.5 to 4.0 can be factory-installed

Example:
I-20-12-R-4.0 = 12" pop-up, adjustable arc, with reclaimed water ID, and 4.0 nozzle



I-20-00
Overall height: 7½"
Exposed diameter: 1¾"
Inlet size: ½"



I-20-04
Overall height: 7½"
Pop-up height: 4"
Exposed diameter: 1¾"
Inlet size: ½"



I-20-06
Overall height: 9½"
Pop-up height: 6"
Exposed diameter: 1¾"
Inlet size: ½"



I-20-12
Overall height: 17"
Pop-up height: 12"
Exposed diameter: 1¾"
Inlet size: ½"



I-20 Reclaimed
Available as a factory-installed option on all models.

PGP® ULTRA & I-20 PRB

Radius: **17' to 46'**
Flow: **0.36 to 9.8 GPM**

The PGP Ultra and I-20 PRB Rotors are built to thrive in applications where high water pressure could otherwise lead to inefficient nozzle operation.

KEY BENEFITS

- Pressure-regulated body (45 PSI) reduces high incoming pressure to increase nozzle efficiency (requires dynamic pressure differential: 15 PSI)
- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalized; adjustable arc: from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat-blade screwdriver
- FloStop® Technology stops the flow of water from individual sprinklers, to change the nozzle or perform repairs (I-20 only)
- Flat-top nozzles allow fast, easy insertion
- QuickCheck™ Arc Mechanism for fast arc adjustment
- Available stainless steel riser for extra durability
- Drain Check Valve prevents low-head drainage (up to 10' of elevation)

OPERATING SPECIFICATIONS

- Nozzle choices: 30
- Radius: 17' to 46'
- Flow: 0.36 to 9.8 GPM
- Nozzle discharge pressure: 45 PSI
- Operating pressure range: 35 to 100 PSI
- Recommended pressure range: 60 to 100 PSI
- Precipitation rate: 0.4 in/hr approximately
- Nozzle trajectory: standard - 25°, low angle - 13°
- Nozzle racks: Blue 1.5 to 8.0, Gray Low-Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR-25, MPR-30, MPR-35
- Warranty period: 5 years

FACTORY-INSTALLED OPTIONS

- Reclaimed water ID
- Blue 1.5 to 4.0 Nozzles

USER-INSTALLED OPTIONS

- HSJ-0 prefabricated ¼" PVC Swing Joint



PGP-00-PRB
Overall height: 8⅝"
Exposed diameter: 1¼"
Inlet size: ½"

PGP-04-PRB
Overall height: 8¾"
Pop-up height: 4"
Exposed diameter: 1⅜"
Inlet size: ¾"



I-20-00-PRB
Overall height: 8⅜"
Exposed diameter: ¾"
Inlet size: ½"

I-20-04-PRB
Overall height: 8¾"
Pop-up height: 4"
Exposed diameter: 1¼"
Inlet size: ¾"



I-20-06-PRB
Overall height: 10⅝"
Pop-up height: 6"
Exposed diameter: 1¾"
Inlet size: ¾"

PGP-ULTRA & I-20 PRB - SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

1 Model	2 Standard Features	3 Feature Options	4 Nozzle Options
PGP-00-PRB – Riser mount	Adjustable arc, plastic riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option	**Blue 1.5 to 8.0 – Gray low-angle Black short-radius MPR-25, 30, 35 - Q, T, H, F**
PGP-04-PRB – 4" pop-up		**CV** – Drain Check Valve (PGP-04 only)	
		CV-R – Drain Check Valve and reclaimed water ID	
I-20-00-PRB – Shrub	Adjustable arc, plastic riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option	**Blue 1.5 to 8.0 – Gray low-angle Black short-radius MPR-25, 30, 35 - Q, T, H, F**
I-20-04-PRB – 4" pop-up		**R** – Drain Check Valve and reclaimed water ID	
I-20-06-PRB – 6" pop-up			
I-20-04-SS-PRB – 4" pop-up	Adjustable arc, stainless steel riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles	**(blank)** – No option	**Blue 1.5 to 8.0 – Gray low-angle Black short-radius MPR-25, 30, 35 - Q, T, H, F**
I-20-06-SS-PRB – 6" pop-up		**R** – Drain Check Valve and reclaimed water ID	

Examples:
PGP-04-PRB – 4" pop-up, adjustable arc, plastic riser with no factory-installed nozzle
I-20-04-PRB-3.0-2.5 – 4" pop-up, adjustable arc, plastic riser with 3.0 nozzle
I-20-06-SS-PRB R-MPR-25H – 6" pop-up, adjustable arc, stainless steel riser with MPR-25H

PGP ULTRA / I-20 / PRB BLUE STANDARD NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
1.5 ● Blue	25	29	1.2	0.27	0.32
	35	31	1.4	0.28	0.32
	45	**31**	**1.5**	**0.30**	**0.35**
	55	32	1.8	0.34	0.39
	65	32	1.9	0.36	0.41
2.0 ● Blue	25	33	1.4	0.25	0.29
	35	33	1.7	0.30	0.35
	45	**34**	**2.0**	**0.33**	**0.38**
	55	34	2.1	0.35	0.40
	65	42	2.3	0.43	0.50
2.5 ● Blue	25	33	1.7	0.30	0.35
	35	35	2.1	0.33	0.38
	45	**35**	**2.5**	**0.39**	**0.45**
	55	35	2.6	0.41	0.47
	65	35	2.9	0.46	0.53
3.0 ● Blue	25	35	2.2	0.35	0.40
	35	36	2.7	0.40	0.46
	45	**38**	**3.0**	**0.40**	**0.46**
	55	39	3.4	0.43	0.50
	65	39	3.7	0.47	0.54
4.0 ● Blue	25	37	3.0	0.42	0.49
	35	39	3.5	0.44	0.51
	45	**40**	**4.0**	**0.48**	**0.56**
	55	41	4.5	0.52	0.60
	65	41	4.8	0.55	0.63
5.0 ● Blue	25	37	3.7	0.52	0.60
	35	39	4.5	0.57	0.66
	45	**42**	**5.0**	**0.55**	**0.63**
	55	42	5.7	0.62	0.72
	65	42	6.2	0.68	0.78
6.0 ● Blue	25	38	4.3	0.57	0.66
	35	40	5.6	0.67	0.78
	45	**43**	**6.0**	**0.62**	**0.72**
	55	44	6.7	0.67	0.77
	65	44	7.3	0.73	0.84
8.0 ● Blue	25	37	6.0	0.84	0.97
	35	41	7.0	0.80	0.93
	45	**44**	**8.0**	**0.80**	**0.92**
	55	46	9.0	0.87	0.95
	65	46	9.8	0.89	1.03

I-20-04 Rotor with PRB Body



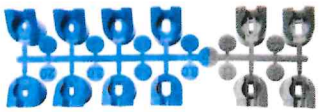
PGP ULTRA / I-20 / PRB GRAY LOW-ANGLE NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
2.0 ● LA Gray	30	25	1.6	0.49	0.57
	40	27	1.9	0.50	0.58
	50	**28**	**2.1**	**0.52**	**0.60**
	60	30	2.3	0.49	0.57
	70	27	2.1	0.55	0.64
2.5 ● LA Gray	40	30	2.5	0.53	0.62
	50	**33**	**2.8**	**0.49**	**0.57**
	60	35	3.0	0.47	0.54
3.5 ● LA Gray	30	29	2.8	0.64	0.74
	40	32	3.1	0.58	0.67
	50	**35**	**3.5**	**0.55**	**0.64**
	60	37	3.8	0.53	0.62
	70	29	3.4	0.78	0.90
4.5 ● LA Gray	40	32	3.9	0.73	0.85
	50	**35**	**4.4**	**0.69**	**0.80**
	60	37	4.7	0.66	0.76

Bold – Recommended pressure

Note:
Actual precipitation rates calculated for 180° operation.
For the precipitation rate for a 360° sprinkler, divide by 2.

Convenient Nozzle Rack





Pressure Regulation
Continual operating pressure of 45 PSI



PR-075
Overall height: 2¼"
Inlet/outlet size: ¾"
For use under all models ¾" inlet sprinklers, regulates to 45 PSI

PGP ULTRA / I-20 / PRB NOZZLES



Blue Standard / Gray Low-Angle
(P/N 782900)

Flat-top nozzle for easy insertion coupled with a headed slotted adjustment screw for quick radius adjustment with a Hunter Wrench or a flat-blade screwdriver





Flat-front nozzle allows easy alignment during installation

PGP ULTRA / I-20 GREEN HIGH-FLOW NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
10 ●	40	42	8.4	0.92	1.06
	50	43	9.5	0.99	1.14
Dk. Green	**60**	**45**	**10.5**	**1.00**	**1.15**
	70	47	11.4	0.99	1.15
13 ●	40	43	10.9	1.13	1.31
	50	44	12.3	1.22	1.41
Dk. Green	**60**	**45**	**13.6**	**1.29**	**1.49**
	70	47	14.8	1.29	1.49
6.0 ● LA	30	31	4.2	0.84	0.97
	40	35	5.0	0.79	0.91
	50	**37**	**5.8**	**0.82**	**0.94**
Dk. Green	60	39	6.3	0.80	0.92
8.0 ● LA	40	37	6.7	0.94	1.09
	50	39	7.7	0.97	1.13
	60	**41**	**8.5**	**0.97**	**1.12**
Dk. Green	70	41	9.2	1.05	1.22

I-20 Rotor with Blue Standard Nozzle



PGP ULTRA / I-20 / PRB BLACK SHORT-RADIUS NOZZLE PERFORMANCE DATA (18'/25')

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
0.50 ● SR	30	17	0.36	0.24	0.28
	40	17	0.43	0.29	0.33
	50	**18**	**0.50**	**0.30**	**0.34**
Black	60	19	0.57	0.30	0.35
1.0 ● SR	30	17	0.78	0.52	0.60
	40	17	0.90	0.60	0.69
	50	**18**	**1.00**	**0.59**	**0.69**
Black	60	19	1.10	0.59	0.68
2.0 ● SR	30	17	1.40	0.93	1.08
	40	17	1.70	1.13	1.31
	50	**18**	**2.00**	**1.19**	**1.37**
Black	60	19	2.20	1.17	1.35
0.75 ● SR	30	23	0.58	0.21	0.24
	40	24	0.68	0.23	0.26
	50	**25**	**0.75**	**0.23**	**0.27**
Black	60	26	0.83	0.24	0.27
1.5 ● SR	30	23	1.10	0.40	0.46
	40	24	1.30	0.43	0.50
	50	**25**	**1.50**	**0.46**	**0.53**
Black	60	26	1.60	0.46	0.53
3.0 ● SR	30	23	2.50	0.91	1.05
	40	24	2.70	0.90	1.04
	50	**25**	**3.00**	**0.92**	**1.07**
Black	60	26	3.10	0.88	1.02

Bold = Recommended pressure

Note:
All precipitation rates calculated for 360° operation. For the proper application rate for a 180° sprinkler, divide by 2.

PGP ULTRA / I-20 / PRB NOZZLES



Dk. Green High-Flow (P/N 444800)



Black Short-Radius (P/N 466100)

Hunter

PGP ULTRA / I-20 / PRB MPR-25 NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
90°	25	23	0.74	0.54	0.62
	35	24	0.88	0.59	0.68
	45	25	1.00	0.62	0.71
	55	25	1.11	0.68	0.79
	65	25	1.21	0.75	0.86
120°	25	23	1.00	0.55	0.63
	35	24	1.21	0.61	0.70
	45	25	1.38	0.64	0.74
	55	25	1.54	0.71	0.82
	65	25	1.67	0.77	0.89
180°	25	23	1.44	0.52	0.61
	35	24	1.73	0.58	0.67
	45	25	1.98	0.61	0.70
	55	25	2.21	0.68	0.79
	65	25	2.41	0.74	0.86
360°	25	24	2.78	0.51	0.58
	35	24	3.34	0.56	0.64
	45	25	3.82	0.59	0.68
	55	25	4.25	0.65	0.76
	65	25	4.63	0.71	0.82

MPR-25 NOZZLE



594277

PGP ULTRA / I-20 / PRB MPR-30 NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
90°	25	29	1.03	0.47	0.54
	35	30	1.23	0.53	0.61
	45	30	1.40	0.60	0.69
	55	30	1.56	0.67	0.77
	65	30	1.69	0.72	0.83
120°	25	29	1.34	0.46	0.53
	35	30	1.62	0.52	0.60
	45	30	1.85	0.59	0.69
	55	30	2.06	0.66	0.76
	65	30	2.24	0.72	0.83
180°	25	29	2.15	0.49	0.57
	35	30	2.59	0.55	0.64
	45	30	2.96	0.63	0.73
	55	30	3.30	0.71	0.82
	65	30	3.60	0.77	0.89
360°	25	29	4.24	0.49	0.56
	35	30	5.08	0.54	0.63
	45	30	5.78	0.62	0.71
	55	30	6.39	0.68	0.79
	65	30	6.92	0.74	0.85

MPR-30 NOZZLE



594278

PGP ULTRA / I-20 / PRB MPR-35 NOZZLE PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft	Flow GPM	Precip in/hr ■	Precip in/hr ▲
90°	25	32	1.40	0.53	0.61
	35	34	1.67	0.56	0.64
	45	35	1.92	0.60	0.70
	55	35	2.13	0.67	0.77
	65	35	2.31	0.73	0.84
120°	25	32	1.77	0.50	0.58
	35	34	2.15	0.54	0.62
	45	35	2.46	0.58	0.67
	55	35	2.74	0.65	0.75
	65	35	2.99	0.70	0.81
180°	25	32	2.75	0.52	0.60
	35	34	3.33	0.55	0.64
	45	35	3.81	0.60	0.69
	55	35	4.23	0.66	0.77
	65	35	4.62	0.73	0.84
360°	25	32	5.36	0.50	0.58
	35	34	6.62	0.55	0.64
	45	35	7.58	0.60	0.69
	55	35	8.43	0.66	0.76
	65	35	9.18	0.72	0.83

MPR-35 NOZZLE

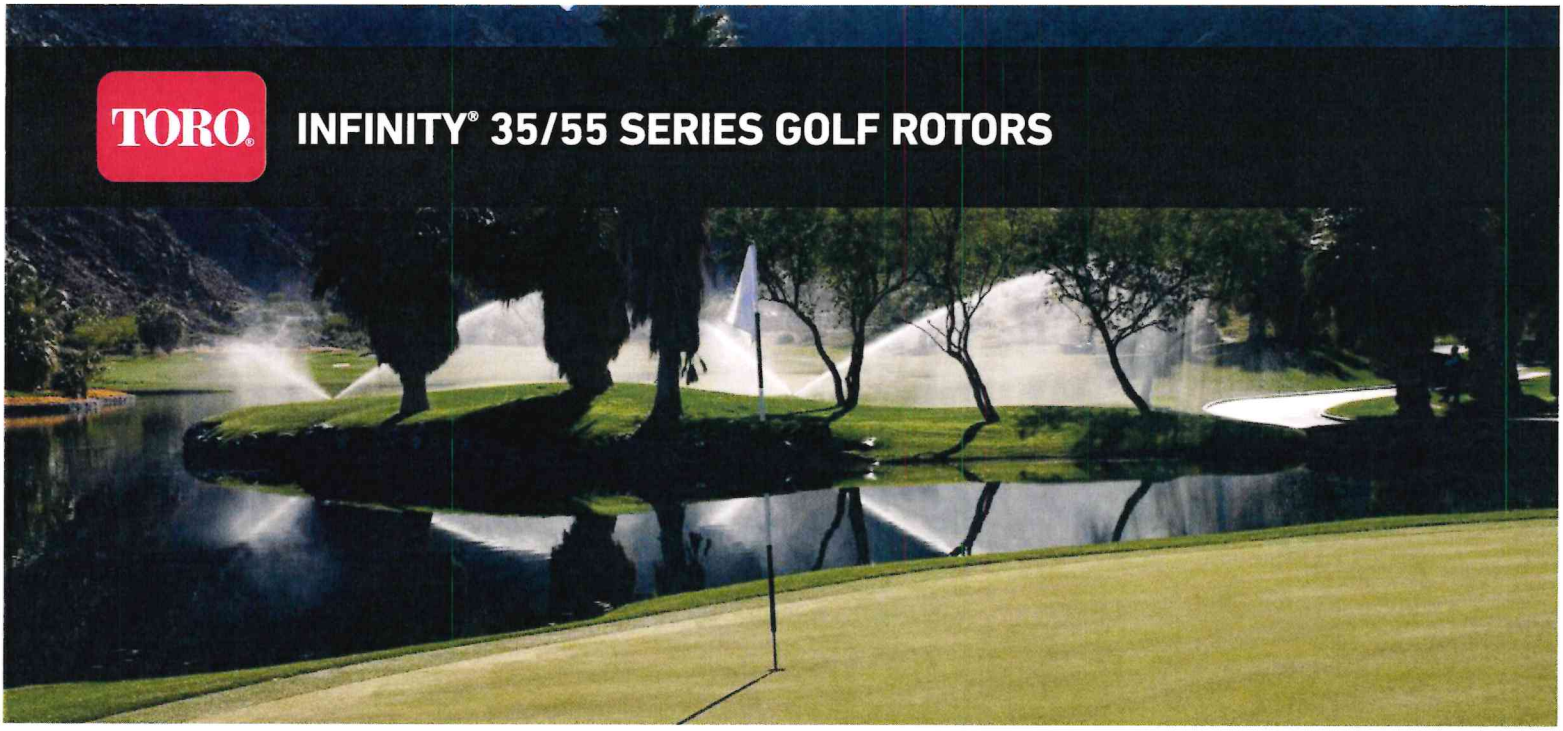


594279

PGP-04 Ultra Rotor with MPR-30 Nozzle



TORO INFINITY® 35/55 SERIES GOLF ROTORS



The INFINITY 35/55 Series with SMART ACCESS® features a dual trajectory main nozzle that provides exceptional nozzle performance at the 25° standard angle position and great performance in windy applications at the 15° low angle position. And the part/full circle drive and ratcheting riser allows you to adjust the area of coverage to match your seasonal watering needs or meet water rationing mandates in seconds with no additional parts required.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 25' to 92' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All nozzles threaded in from front.

Stainless Steel Valve Seat

Eliminates body damage from rocks and debris. This in-destructible stainless steel seat is molded to the body and virtually eliminates body replacements due to seat damage. Standard on all Toro Golf rotors!

Radius Reduction Screw

Allows for fine tuning the radius to exactly the distance you need. In combination with main nozzle sizing and trajectory adjustment the radius reduction screw can effectively reduce the sprinkler throw down to 30'.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to adjust the area of coverage to match your seasonal needs or meet water rationing mandates.



- ✔ Eliminates sprinkler interference
- ✔ Enhances course appearance



INFINITY® SERIES DISTANCE MARKERS

Set your course apart with Toro's unique, customizable distance markers

- *White (118-6234) and Yellow (118-6235) color options provide excellent visibility*
- *Customizable with any graphic image*
- *Multiple number and orientation options available*
- *Any font style*
- *Easy snap-in installation into any INFINITY golf sprinkler*

Smart Access®

Provides top accessibility to all critical components.

- ✔ No digging or unsightly turf repair scars
- ✔ No buried wire splices or ground faults
- ✔ Pilot valve removable with water "ON"
- ✔ Lower long term cost of ownership
- ✔ Customizable marker
- ✔ Replaceable cover if damaged
- ✔ Increased labor efficiency



Dual Trajectory
The 25° setting provides maximum distance of throw and the 15° setting provides improved wind performance, radius reduction and obstacle avoidance.

INF35 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF35-3134	INF35 w/31–34 Nozzles (#3 Nozzle Installed)
• INF35-3537	INF35 w/35–37 Nozzles (#5 Nozzle Installed)
• INF35-3134E	INF35 w/31–34 Nozzles (#3 Nozzle Installed), Effluent
• INF35-3537E	INF35 w/35–37 Nozzles (#5 Nozzle Installed), Effluent



INF55 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF55-5154	INF55 w/51–54 Nozzles (#3 Nozzle Installed)
• INF55-5558	INF55 w/55–58 Nozzles (#5 Nozzle Installed)
• INF55-59	INF55 w/59 Nozzle
• INF55-5154E	INF55 w/51–54 Nozzles (#3 Nozzle Installed), Effluent
• INF55-5558E	INF55 w/55–58 Nozzles (#5 Nozzle Installed), Effluent
• INF55-59E	INF55 w/59 Nozzle, Effluent



SPECIFICATIONS

Operational

- Inlet:
  - INF35: 1" ACME
  - INF55: 1½" ACME
- Radius:
  - INF35: 43' – 83'
  - INF55: 55' – 92'
- Flow Rate:
  - INF35: 8.2 – 47.3 gpm
  - INF55: 14.1 – 61.3 gpm
- Precipitation Rates:
  - INF35: Minimum - .41"/hr; Maximum - .45"/hr
  - INF55: Minimum - .46"/hr; Maximum - .58"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum – 150 psi and minimum – 40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated Lynx Smart Module w/DCLS:
    - Momentary low voltage pulse

Additional Features

- INF35 has eight nozzle variations (30, 31, 32, 33, 34, 35, 36 & 37)
- INF55 has nine nozzle variations (51, 52, 53, 54, 55, 56, 57, 58 & 59)
- Three in-line nozzles, rotating stream pattern
- Two back nozzle positions
- Stator variations: 3
- Radius reduction screw 363-4839 for fine tuning
- Ratcheting riser
- Nozzle base clutching

Dimensions

- SMART ACCESS® Cover and Compartment Diameter:
  - INF35: 7⅝"
  - INF55: 7⅝"
- Body height:
  - INF35: 10"
  - INF55: 11⅜"
- Weight:
  - INF35: 4.26 lbs.
  - INF55: 5.08 lbs.
- Weight – Intergrated with Lynx Smart Module:
  - INF35: 4.95 lbs.
  - INF55: 5.71 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—INFINITY 35 & INFINITY 55

INFX5-XXX-XX

Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Optional*
INFX	**5**	XX	X	X	X
3—1" 5—1½"	5—Part-circle and Full-circle In One	**INF35**—30, 31, 32, 33, 34, 35, 36, 37 **INF55**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 psi 8—80 psi 1—100 psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 6—Integrated Lynx Smart Module w/DCLS	7—Effluent

Example: When specifying an INF35 Series Sprinkler with #34 nozzle, pressure regulation at 65 psi and Spike Guard you would specify: **INF35-346-2**

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

INFINITY® 35/55 SERIES GOLF ROTORS

INFINITY 35 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 30 (White Plug)		Nozzle Set 31 (Yellow)		Nozzle Set 32 (Blue)		Nozzle Set 33 (Brown)		Nozzle Set 34 (Orange)		Nozzle Set 35 (Green)		Nozzle Set 36 (Gray)		Nozzle Set 37 (Black)	
	102-2208		102-6906		102-0726		102-6907		102-0728		102-6955		102-6935		102-6936	
	Yellow	Beige	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green
	102-5670	102-6942	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	53	13.8	56	18.3	61	21.7	65	25.3	—	—	—	—	—	—
65	45	10.0	53	15.5	59	20.5	64	24.4	68	28.2	72	34.1	—	—	—	—
80	46	11.5	57	17.3	62	22.7	67	27.1	71	31.1	75	37.8	78	40.3	80	44.0
100	47	13.4	59	19.1	65	24.9	70	29.8	74	34.1	79	40.9	81	43.8	83	47.3

INFINITY 35 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	52	13.6	58	18.1	61	21.5	62	25.6	—	—	—	—	—	—
65	45	10.0	54	15.3	60	20.3	64	24.2	65	27.3	69	33.1	—	—	—	—
80	46	11.5	58	17.2	64	22.6	69	26.8	69	30.2	75	36.8	76	39.7	76	42.9
100	47	13.4	60	19.0	66	24.7	71	29.5	72	32.9	78	39.5	82	42.6	82	46.1
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White					
Conversions			INF35-3134								INF35-3537					

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 1¼" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle. All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 35 NOZZLE APEX

Pressure	Nozzle	Apex at 15°	Apex at 25°
65 psi	31	6' @ 51'	13' @ 54'
	32	6' @ 51'	11' @ 64'
	33	7' @ 59'	13' @ 68'
	34	8' @ 63'	15' @ 74'
	35	9' @ 66'	15' @ 76'
80 psi	36	8' @ 75'	18' @ 83'
	37	9' @ 74'	19' @ 82'

INFINITY® 35/55 SERIES GOLF ROTORS

TORO®

INFINITY 55 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 51 (Yellow) 102-6906		Nozzle Set 52 (Blue) 102-0726		Nozzle Set 53 (Brown) 102-6907		Nozzle Set 54 (Orange) 102-0728		Nozzle Set 55 (Green) 102-6955		Nozzle Set 56 (Gray) 102-6935		Nozzle Set 57 (Black) 102-6936		Nozzle Set 58 (Red) 102-6909		Nozzle Set 59 (Beige) 102-4259	
	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green
	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.1	57	18.5	62	22.3	66	25.8	—	—	—	—	—	—	—	—	—	—
65	57	15.8	60	20.9	65	25.1	69	28.7	73	35.9	—	—	—	—	—	—	—	—
80	59	17.5	61	23.1	68	27.8	72	31.7	76	39.7	80	43.1	83	48.2	85	50.0	89	57.5
100	61	19.3	63	25.3	71	30.3	75	34.5	80	43.5	83	49.0	88	51.5	90	53.9	92	61.3

INFINITY 55 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.0	59	16.5	62	22.2	63	25.6	—	—	—	—	—	—	—	—	—	—
65	56	15.6	62	20.7	65	25.0	66	28.5	75	35.3	—	—	—	—	—	—	—	—
80	59	17.4	66	23.0	69	27.7	70	31.5	78	39.0	78	42.4	79	46.9	79	49.5	82	57.2
100	60	19.2	68	25.1	71	30.2	72	34.3	80	41.9	81	47.2	83	52.1	83	53.4	85	60.8
Stator	102-1939 Yellow								102-1940 White								102-1941 White	
Conversions	INF35-3134								INF35-3537								INF55-59	

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 1¼" swing joint at flows over 25-gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle. All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 55 NOZZLE APEX

Pressure	Nozzle	Apex at 15°	Apex at 25°
65 psi	51	6' @ 51'	13' @ 54'
	52	6' @ 51'	11' @ 64'
	53	7' @ 59'	13' @ 68'
	54	8' @ 63'	15' @ 74'
	55	9' @ 66'	15' @ 76'
80 psi	56	8' @ 75'	18' @ 83'
	57	9' @ 74'	19' @ 82'
	58	10' @ 82'	18' @ 87'
	59	11' @ 81'	21' @ 91'

The Toro Company, Irrigation Business • 5825 Jasmine Street, Riverside, CA 92504 • 877-345-8676 • Specifications subject to change without notice • © 2021 All rights reserved • P/N 21-5054-IGNA

Attachment E

Access Easement Agreement

202500021262
Page: 1 of 7
Fees: $56.00
Debbie Pierson, Flathead County MT by TP 9/30/2025 10:54 AM

After recording return to:

William VanCanagan
Datsopoulos, MacDonald & Lind, P.C.
201 W. Main Street, Suite 201
Missoula, MT 59802
Phone: (406) 728-0810

0007226 hm

GOLF COURSE
ACCESS EASEMENT AGREEMENT

Lot 1, Phase 1, The Homestead at Whitefish

This Golf Course Access Easement Agreement (this "Agreement") is made by and between Top Shelf Montana Ranch, LLC a Wyoming limited liability company ("Grantor"), and Stillwater Mountain Ranch, LLC, a Montana limited liability company, and The Homestead Sporting Club, Inc., a Montana nonprofit corporation (each individually, a "Grantee", and together, "Grantees").

RECITALS

WHEREAS, of even date herewith, Grantor has acquired from Stillwater Mountain Ranch, LLC ownership of the real property described as:

> LOT 1 OF THE AMENDED PLAT OF LOT 1 & OPEN SPACE "A" OF THE HOMESTEAD AT WHITEFISH PHASE 1, ACCORDING TO THE MAP OR PLAT THEREOF ON FILE AND OF RECORD IN THE OFFICE OF THE CLERK & RECORDER OF FLATHEAD COUNTY, MONTANA

("**Grantor's Lot**"); and

WHEREAS, there are presently situated upon Grantor's Lot certain areas that are part of The Homestead at Whitefish Golf Course, to include the No. 4 green and the No. 5 tee box, within the area legally described in Exhibit A and depicted in the Golf Improvement Easement Exhibit prepared by Sands Surveying Inc., dated September 18, 2025, both attached hereto (the "Easement Area");and

WHEREAS, Grantor wants to grant to grant to Grantees, and Grantees want to acquire from Grantor, an exclusive easement in and to the Easement Area for the purposes described herein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor and Grantees hereby agree as follows:

ARTICLE 1
INCORPORATION

The foregoing recitals are incorporated into and made part of this Agreement as if fully set forth in this Article 1.

ARTICLE 2
GRANT OF EASEMENT

Grantor hereby grants and conveys to Grantees a perpetual, exclusive easement in the Easement Area for access to and use, operation, maintenance, and modification of the Easement Area consistent with their present uses, i.e., a golf green and tee box associated with The Homestead at Whitefish Golf Course. Such easement includes rights that are customary and incidental to access to and use, maintenance, operation, and modification of golf green and tee box.

ARTICLE 3
MAINTENANCE AND INDEMNITY

Grantees shall be solely responsible for maintaining the Easement Area and for all costs thereof, and Grantor shall have no responsibility to maintain the Easement Area. Grantees, their members and their guests may use the Easement Area solely at their own risk. Grantor makes no warranty or representation regarding the condition of the Easement Area or their fitness for the uses described herein. Grantor shall have no liability for injury to persons or damage to property resulting from Grantees', their members' or their guests' use of the Easement Area. Grantees hereby agree to indemnify, defend and hold harmless Grantor from and against all claims, costs, damages, liabilities, proceedings and suits arising out of Grantees', their members' or their guests' use of the Easement Area.

ARTICLE 4
GENERAL PROVISIONS

4.1 Covenants Running with the Land. This Agreement shall run with the land and shall be binding upon and inure to the benefit of Grantor and Grantees and their successors and assigns. The "dominant estate" for purposes of this Agreement shall include any property owned by the Grantees, or either of them, comprising part of The Homestead at Whitefish Golf Course in The Homestead at Whitefish subdivision or any phase thereof. In addition, the easement rights of The Homestead Sporting Club, Inc. shall be an easement in gross and shall run to successor operators of The Homestead at Whitefish Golf Course.

4.2 Partial Invalidity. The invalidity of any covenant, restriction, condition, limitation or any other provision of this Agreement, or any part of the same, shall not impair or affect in any manner the validity, enforceability, or effect of the remaining provisions of this Agreement.

4.3 Perpetuities and Other Invalidity. If any of the options, privileges, covenants or rights created by this Agreement would otherwise be unlawful or void for violation of the rule against perpetuities or some analogous statutory provisions, the rule restricting restraints on alienation, or any other statutory or common law rules imposing time limits, then such provision shall continue only until 21 years after the death of the survivor of the now living lawful descendants of the person holding the office of the President of the United States of America as of the Effective Date.

4.4 No Waivers. No covenants, restrictions, conditions, obligations, or provisions contained in this Agreement shall be deemed to have been abrogated or waived by reason of any failure to enforce the same, irrespective of the number of violations or breaches which may occur.

4.5 Notices. Notices given pursuant to this Agreement shall be given by certified mail, return receipt requested, to the parties' addresses of record according to the Montana Secretary of State at the time such notice is given, and shall be deemed given on the second (2nd) business day following deposit of such notice with the United States Postal Service.

4.6 Attorneys' Fees and Costs. The prevailing party in any suit to enforce this Agreement or seek damages under this Agreement shall be entitled to reimbursement of court costs and reasonable attorneys' fees incurred in connection therewith.

4.7 Entire Agreement; Amendments. This Agreement contains the entire agreement between and among the parties regarding the subject matter hereof, which, except as otherwise expressly set forth herein, can only be amended in writing by the then-owners of the property described in the Recitals. Any modification to this Agreement shall be recorded in the public records of Flathead County.

4.8 No Public Dedication. Nothing herein shall be construed as a dedication of rights to the public.

4.9 Applicable Law. This Agreement shall be governed and construed in accordance with the laws of the State of Montana.

4.10 Counterparts. This Agreement may be executed in counterparts which, when assembled, shall constitute one and the same agreement.

The remainder of this page is intentionally left blank.

IN WITNESS WHEREOF, the Grantor and Grantee have executed this Agreement to be effective as of the Effective Date.

GRANTOR:

Top Shelf Montana Ranch, LLC,
a Wyoming limited liability company

By: _____
Print Name: Anthony Bruno
Title: Manager

STATE OF Florida)
) SS
COUNTY OF Hillsborough)

Acknowledged before me this 23 day of September, 2025 by Anthony Bruno as the Manager of Top Shelf Montana Ranch, LLC

(SEAL) Notary Public State of Florida
Cassandra Donovan
My Commission
HH 211580
Exp. 3/5/2026

_____
Notary Signature

GRANTEES:

Stillwater Mountain Ranch, LLC,
a Montana limited liability company

By: _____
Print Name: G. Stacy Smith
Title: _____

STATE OF Montana)
) SS
COUNTY OF Flathead)

Acknowledged before me this 23rd day of September, 2025 by G. Stacy Smith as the Authorized Signor of Stillwater Mountain Ranch, LLC.

(SEAL)

CRYSTAL MARIE KRAUSE
NOTARY PUBLIC for the
State of Montana
Residing at Kalispell, Montana
My Commission Expires
September 5, 2029

_____
Notary Signature

The Homestead Sporting Club, Inc.,
a Montana non-profit corporation

By: _____
Print Name: G. Stacy Smith
Title: _____

STATE OF Montana)
) SS
COUNTY OF Flathead)

Acknowledged before me this 23rd day of September, 2025 by G. Stacy Smith as the Authorized Signor of The Homestead Sporting Club, Inc.

(SEAL)

CRYSTAL MARIE KRAUSE
NOTARY PUBLIC for the
State of Montana
Residing at Kalispell, Montana
My Commission Expires
September 5, 2029

_____
Notary Signature

Exhibit A

Easement Area

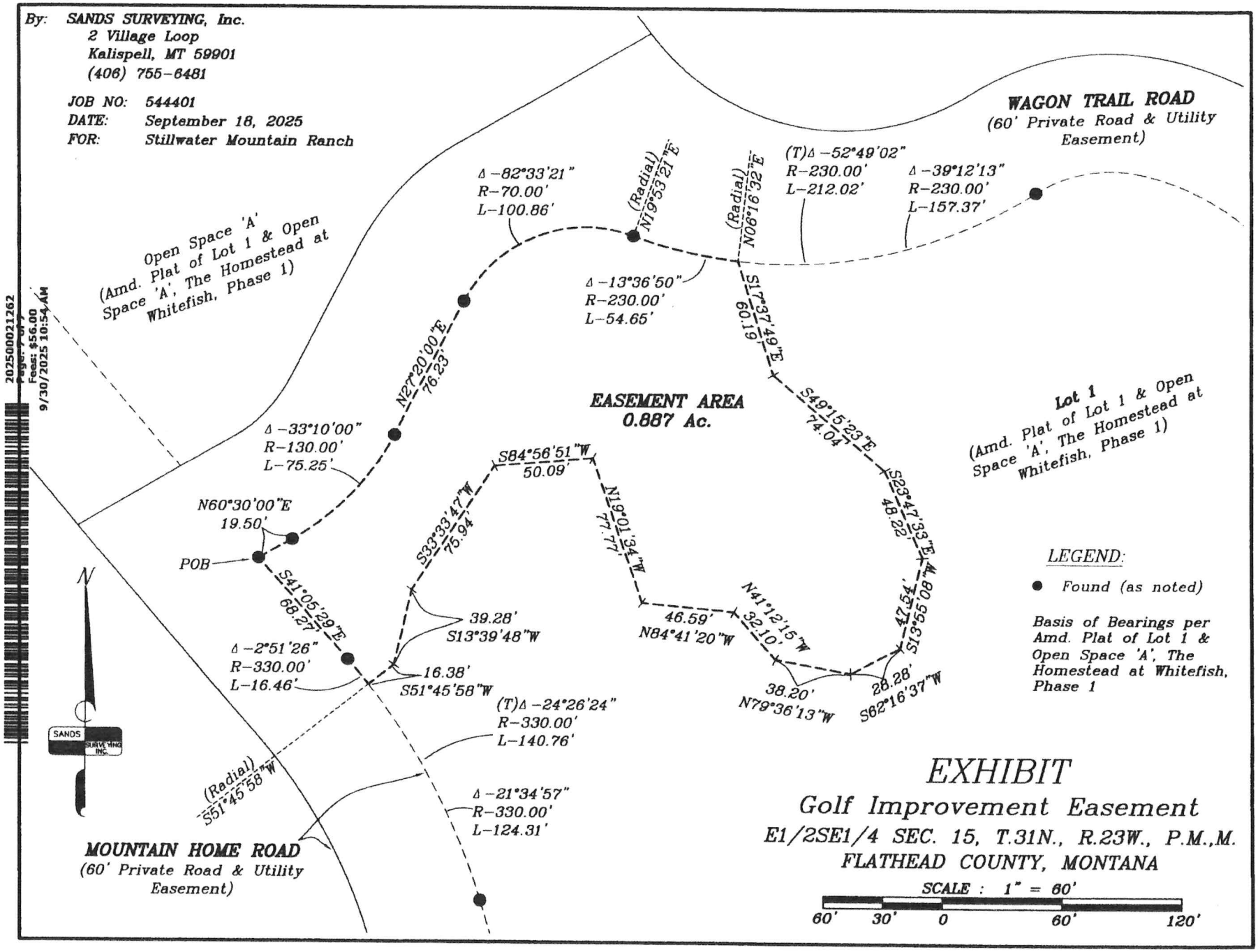
A TRACT OF LAND, SITUATED, LYING AND BEING IN THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 15, TOWNSHIP 31 NORTH, RANGE 23 WEST, P.M.,M., FLATHEAD COUNTY, MONTANA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS TO WIT:

BEGINNING at the intersection of the southerly R/W of a 60 foot private road and utility easement known as Wagon Trail Road and the easterly R/W of a 60 foot private road and utility easement known as Mountain Home Road, which is a found iron pin; Thence along the southerly R/W of said Wagon Trail Road the following five (5) courses: N60°30'00"E 19.50 feet to a found iron pin and the P.C. of a 130.00 foot radius curve to the left, concave northwesterly, having a central angle of 33°10'00"; along an arc length of 75.25 feet to a found iron pin; N27°20'00"E 76.23 feet to a found iron pin and the P.C. of a 70.00 foot radius curve to the right, concave southeasterly, having a central angle of 82°33'21"; along an arc length of 100.86 feet to a found iron pin and the P.R.C. of a 230.00 foot radius reverse curve to the left, concave northeasterly (radial bearing N19°53'21"E); southeasterly along said curve through a central angle of 13°36'50" an arc length of 54.65 feet; Thence leaving said R/W S17°37'49"E 60.19 feet; Thence S49°15'23"E 74.04 feet; Thence S23°47'33"E 48.22 feet; Thence S13°55'08"W 47.54 feet; Thence S62°16'37"W 28.28 feet; Thence N79°36'13"W 38.20 feet; Thence N41°12'15"W 32.10 feet; Thence N84°41'20"W 46.59 feet; Thence N19°01'34"W 77.77 feet; Thence S84°56'51"W 50.09 feet; Thence S33°33'47"W 75.94 feet; Thence S13°39'48"W 39.28 feet; Thence S51°45'58"W 16.38 feet to said easterly R/W of Mountain Home Road, which is on a 330.00 foot radius curve to the left, concave southwesterly (radial bearing S51°45'58"W); Thence northwesterly along said curve and along said R/W through a central angle of 02°51'26" an arc length of 16.46 feet to a found iron pin; Thence continuing along said R/W N41°05'29"W 68.27 feet to the point of beginning and containing 0.887 ACRES.

2025000021262
Page: 2 of 2
Fees: $56.00
9/30/2025 10:54 AM

By: SANDS SURVEYING, Inc.
2 Village Loop
Kalispell, MT 59901
(406) 755-6481

JOB NO: 544401
DATE: September 18, 2025
FOR: Stillwater Mountain Ranch



LEGEND:

- Found (as noted)

Basis of Bearings per Amd. Plat of Lot 1 & Open Space 'A', The Homestead at Whitefish, Phase 1

EXHIBIT

Golf Improvement Easement

E1/2SE1/4 SEC. 15, T.31N., R.23W., P.M.,M.
FLATHEAD COUNTY, MONTANA

SCALE : 1" = 60'

60' 30' 0 60' 120'

202500021263
Page: 1 of 3
Fees: $24.00
Debbie Pierson, Flathead County MT by TP 9/30/2025 10:54 AM

After recording return to:
William K. VanCanagan, Esq.
Datsopoulos, MacDonald & Lind, P.C.
201 W. Main St., Ste. 201
Missoula, MT 59802

0007226 hm

DECLARATION OF ANNEXATION
THE HOMESTEAD AT WHITEFISH

Lot 1 of Homestead at Whitefish Phase 1

This Declaration of Annexation for The Homestead at Whitefish is made this 23 day of Sept., 2025 by Stillwater Mountain Ranch, LLC, a Montana Limited Liability Company ("Declarant").

RECITALS

WHEREAS, reference is made to that certain Amended and Restated Declaration of Covenants, Conditions, Restrictions and Easements for the Homestead at Whitefish recorded on November 5, 2021 as Document No. 202100038834, as amended by the First Amendment recorded on November 22, 2021 as Document No. 202100040533, records of Flathead County, Montana (the "Homestead Declaration"); and,

WHEREAS, Declarant holds the right to expand the effect of the Homestead Declaration to include Expansion Property pursuant to Article XVI of the Homestead Declaration; and,

WHEREAS, Declarant is the owner of the real property described in Exhibit "A", attached hereto (the "Expansion Property"); and,

WHEREAS, Declarant desires to annex the Expansion Property pursuant to the provisions of the Homestead Declaration, and this instrument shall constitute the Declaration of Annexation with respect to the Expansion Property as contemplated by Section 16.3 of the Homestead Declaration,

NOW, THEREFORE, pursuant to the authority conferred by the applicable provisions of the Homestead Declaration, the Expansion Property described in Exhibit "A", attached hereto, is hereby annexed and submitted to the provisions of the Homestead Declaration. The Expansion Property will constitute a single Lot for purposes of the Homestead Declaration. The voting rights and Assessment allocation for the Expansion Property shall be as described in Section 16.3 of the Homestead Declaration, i.e., the Expansion Property will be allocated one vote and liability for the Common Expenses equal to the liability allocated to each other Lot subject to the Homestead Declaration, and the proportionate voting interests and allocation of Common Expenses for such other Lots shall be adjusted accordingly.

IN WITNESS WHEREOF, Declarant has executed this Declaration of Annexation on the date first written above.

Stillwater Mountain Ranch, LLC,
a Montana Limited Liability Company

By: _____
G. Stacy Smith, Authorized Member

STATE OF Montana)
) SS
COUNTY OF Flathead)

Acknowledged before me this 23rd day of September, 2025 by G. Stacy Smith in his capacity as Authorized Member of Stillwater Mountain Ranch, LLC.

(SEAL)

CRYSTAL MARIE KRAUSE
NOTARIAL SEAL
State of Montana

CRYSTAL MARIE KRAUSE
NOTARY PUBLIC for the
State of Montana
Residing at Kalispell, Montana
My Commission Expires
September 5, 2029

_____
Notary Public for the State of Montana

202500021263
Page: 3 of 3
Fees: $24.00
9/30/2025 10:54 AM

LEGAL DESCRIPTION

Lot 1 of the Amended Plat of Lot 1 & Open Space "A" of the Homestead at Whitefish Phase 1, according to the map or plat thereof on file and of record in the office of the Clerk & Recorder of Flathead County, Montana.

Attachment F

Documentation of Signatory Authority

STATE OF MONTANA

SECRETARY OF STATE

2026 ANNUAL REPORT

STATE OF MONTANA
-FILED-
SECRETARY OF STATE
File Number: 17109221
Date Filed: 3/5/2026 6:52:36 PM

Business Type

Business Type	Domestic Limited Liability Company
Business Sub-Type	Limited Liability Company

Business Name

Name of Business Entity	STILLWATER MOUNTAIN RANCH, LLC
The file number of this entity on the records of the Montana Secretary of State is	C1165125
Country of Organization	United States
State of Organization	Montana
Annual Report Year	2026
Business Purpose	

Business Mailing Address of Principal Office

Address

BECKIE REYNOLDS
7854 FARM TO MARKET RD
WHITEFISH, MT 59937

Business Physical Address of Principal Office

Address

BECKIE REYNOLDS
7854 FARM TO MARKET RD
WHITEFISH, MT 59937-9154

The registered agent on record is:

Registered Agent

WILLIAM K VANCANAGAN
Non-Commercial Registered Agent
Agent Number
RA00002828
Email Address
bvancanagan@dmllaw.com
Website
Physical Address
201 W MAIN ST
STE 201
MISSOULA, MT 59802
Mailing Address
201 W MAIN ST
STE 201
MISSOULA, MT 59802

Select the Type of Change

Select one if a registered agent change is needed:

LLC Management

LLC Managed By	Members

Members

Name Of Individual Or Business Entity	Business Mailing Address	Email Address	Active Registered Entity
Joseph I. Worsham II	STILLWATER MOUNTAIN RANCH LLC 5506 WANETA DR. DALLAS, TX 75209	eawpetro@yahoo.com	

Page 1 of 2

B1596-4148 03/05/2026 6:52 PM Received by MT Secretary of State Christi Jacobsen

G. Stacy Smith	STILLWATER MOUNTAIN RANCH LLC 1273 MOUNTAIN HOME RD WHITEFISH, MT 59937	ssmith@trinity-groupllc.om	

Declarations

☒ I understand that the information I enter into the online system is public information and will appear online and on copy requests exactly as I key it into the system.

☒ I have been authorized by the business entity to file this document online.

☒ I, HEREBY SWEAR AND/OR AFFIRM, under penalty of law, including criminal prosecution, that the facts contained in this document are true. I certify that I am signing this document as the person(s) whose signature is required, or as an agent of the person(s) whose signature is required, who has authorized me to place his/her signature on this document.

Signature

Self	*Beckie Reynolds*	*03/05/2026*
Signer's Capacity	Sign Here	Date

Position: Authorized Agent

Daytime Contact

Phone Number: (406) 546-6553

Email: beckie@thehomesteadwf.com

B1596-4149 03/05/2026 6:52 PM Received by MT Secretary of State Christi Jacobsen

Page 2 of 2

STATE OF MONTANA

SECRETARY OF STATE

2026 ANNUAL REPORT

STATE OF MONTANA
-FILED-
SECRETARY OF STATE
File Number: 17109173
Date Filed: 3/5/2026 6:10:45 PM

Business Type	
Business Type	Domestic Non-Profit Corporation
Business Sub-Type	Mutual Benefit Corporation with members
Business Name	
Name of Business Entity	The Homestead Sporting Club, Inc.
The file number of this entity on the records of the Montana Secretary of State is	D1279785
Country of Organization	United States
State of Organization	Montana
Annual Report Year	2026
Business Purpose	To own and operate a social club.
Business Mailing Address of Principal Office	
Address	REBECCA REYNOLDS 7854 FARM TO MARKET RD #910 WHITEFISH, MT 59937
Business Physical Address of Principal Office	
Address	REBECCA REYNOLDS 7854 FARM TO MARKET RD WHITEFISH, MT 59937
The registered agent on record is:	
Registered Agent	WILLIAM K VANCANAGAN Non-Commercial Registered Agent Agent Number RA00002828 Email Address bvancanagan@dmllaw.com Website Physical Address 201 W MAIN ST STE 201 MISSOULA, MT 59802 Mailing Address 201 W MAIN ST STE 201 MISSOULA, MT 59802
Select the Type of Change	
Select one if a registered agent change is needed:	

Directors

Full Name	Business Mailing Address	Position	Email Address
William MacDonald	401 BAKER AVENUE WHITEFISH, MT 59937	Director	will@purewestmt.com
G. Stacy Smith	7854 FARM TO MARKET ROAD WHITEFISH, MT 59937	Director	ssmith@trinity-groupllc.com
Joseph Worsham	4514 COLE AVENUE SUITE 652 DALLAS, TX 75205	Director	eawpetro@yahoo.com

Page 1 of 2

B1596-4032 03/05/2026 6:10 PM Received by MT Secretary of State Christi Jacobsen

Officers

Full Name	Business Mailing Address	Position	Email Address
Joseph Worsham	5506 WANETA DR. DALLAS, TX 75209	Other Officer	EAWPETRO@YAHOO.COM

Declarations

☒ I understand that the information I enter into the online system is public information and will appear online and on copy requests exactly as I key it into the system.

☒ I have been authorized by the business entity to file this document online.

☒ I, HEREBY SWEAR AND/OR AFFIRM, under penalty of law, including criminal prosecution, that the facts contained in this document are true. I certify that I am signing this document as the person(s) whose signature is required, or as an agent of the person(s) whose signature is required, who has authorized me to place his/her signature on this document.

Signature

Self	*Beckie Reynolds*	*03/05/2026*
Signer's Capacity	Sign Here	Date

Position: Authorized Agent

Daytime Contact

Phone Number: (406) 546-6553

Email: beckie@thehomesteadwf.com

B1596-4033 03/05/2026 6:10 PM Received by MT Secretary of State Christi Jacobsen

Page 2 of 2

Technical Analyses Report/ Scientific Credibility Review

- Departmental Technical Analyses Report/ Scientific Credibility Review
- Any correspondence relating to the Technical Analyses Report

Technical Analyses Report / Scientific Credibility Review

Water Resources Division – Kalispell Regional Office
655 Timberwolf Pkwy, Ste. 4
Kalispell, MT 59901-1215
(406) 752-2288
DNRCKalispellWater@mt.gov

April 13, 2026

HOMESTEAD SPORTING CLUB INC,
STILLWATER MOUNTAIN RANCH,
FORE THE WIN LLC
7854 FARM TO MARKET RD
WHITEFISH MT 59937-1307

Subject: Completed Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 76LJ 30171694

Dear Applicant,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (Department) has completed the technical analyses for Beneficial Water Use Permit Preapplication No. 76LJ 30171694 based on the information provided in your Preapplication Meeting Form accepted by the Department on February 20, 2026. The technical analyses can be found in the attached report.

This Technical Analyses Report **IS**: A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-311, MCA if you submit a Form 600 for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT**: An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria in §85-2-311, MCA.

You have 180 days to submit the Beneficial Water Use Permit Application Form 600 considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Kalispell Regional Office by October 10, 2026, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)).

Please contact me at (406) 752-2702 or Jack.Vanderbilt@mt.gov if you have any questions about the application process.

Sincerely,

Jack Vanderbilt
Water Resource Specialist
Kalispell Regional Office

Encl.: Groundwater Permit Technical Analyses Report Parts A and B for Beneficial Water Use Permit Preapplication No. 76LJ 30171694

Cc via email: Jamie Graham, Water & Environmental Technologies

Groundwater Permit Technical Analyses Report- Part A

The Montana Department of Natural Resources and Conservation (DNRC) Water Resources Division

Melissa Brickl, Groundwater Hydrologist, Water Sciences Bureau (WSB)

Applicant Name	Homestead Sporting Club
Application No.	76LJ 30171694
Point of Diversion Legal Land Description	Section 15, Township 31 North, Range 23 West, Flathead County

Overview

This report is Part A of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right permit application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM 36.12.1303) in support of the water rights criteria assessment as required in §85-2-402, Montana Code Annotated (MCA).

This Groundwater Permit Technical Analyses Report – Part A contains the following sections:

Overview 1
1.0 Executive Summary 2
2.0 Hydrogeologic Setting 4
3.0 Aquifer Test Summary 6
4.0 Aquifer Test Analysis 10
5.0 Modeling Inputs 20
6.0 Adequacy of Diversion Analysis 21
7.0 Physical Availability Analysis 23
8.0 Adverse Effect Analyses 24
8.1 Groundwater - Drawdown in Existing Wells 25
8.2 Surface Water - Net Depletions (Consumed Water) 27
Review 34
References 34
Appendix A: 1-foot-Contour Water Rights

1.0 Executive Summary

Application Details

The Applicant requests to divert groundwater from two new wells at a rate of 105.0 gallons per minute (gpm) and 25.8 acre-feet (AF) for irrigation of 14.3 acres of turf grass April 20 through October 10.

Approved Variances from ARM 36.12.121

A variance for a deviation from aquifer testing requirement ARM 36.12.121(3)(a) was granted by the Kalispell Regional Office on January 23, 2026, which requires pumping to be maintained within 5% of the average pumping rate. After review, two data points were outside the 5% average at the start of the test. The pumping rate stabilized throughout the rest of the test (WSB Aquifer Testing Addendum Review document, 1/15/2026). Granting of the variances was recommended because the quality of the data derived from the tests was sufficient for modeling.

WSB Technical Analyses Findings

Based on information submitted, the WSB estimated aquifer properties, evaluated the proposed well(s) available water column, and evaluated potential impacts to existing groundwater and surface water rights. Adverse effects were evaluated by comparing drawdown in existing wells and quantifying net depletions to surface water. These analyses are in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect. A summary of WSB findings described in subsequent sections are listed below.

TECHNICAL ANALYSES FINDINGS

AQUIFER TEST ANALYSIS	An aquifer Transmissivity (T) of 113.0 ft^2/day and Storativity (S) of 8.77 x 10^{-5} generated from the Dougherty-Babu (1984) solution applied to the Observation Well (Groundwater Information Center (GWIC) ID 319653) and Production Well (GWIC ID 327899) was estimated using submitted aquifer test data.
MODELING INPUTS	Technical analyses in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect (drawdown in existing wells) were modeled in AQTESOLV (HydroSOLVE INC., 2007) using the following inputs: • Dougherty-Babu (1984) solution for Production Well 1 and Observation Well 1 • Well locations (Applicant supplied coordinates) • Saturated thickness (b) = 60 ft • T = 113.0 ft^2/day • S = 8.77 x 10^{-5} • S_w = 1.168

ADEQUACY OF DIVERSION	The proposed wells using the Dougherty-Babu (1984) solution, previously stated aquifer properties and monthly pumping schedule (**Table 4**) to meet the requested annual volume would experience 86.2 and 113.7 feet (ft) of drawdown after the first year, leaving approximately 153.7 and 169.5 ft of available water column above the bottom of the well perforations.
PHYSICAL AVAILABILITY	The model predicted the 0.01-foot drawdown contour or zone of influence (ZOI) occurs approximately 3,681 ft from the Applicant's wells after one year of pumping at the monthly pumping schedule (**Table 4)**. The groundwater flux through the ZOI is equal to 208.6 AF/year. There are seven active groundwater rights completed within the ZOI and source aquifer that need to be evaluated as a legal demand (**Appendix A of Part B**).
ADVERSE EFFECT (DRAWDOWN IN EXISTING WELLS)	After five years, assuming the wells are pumped according to the monthly pumping schedule shown in **Table 4,** seven groundwater rights in the source aquifer are predicted to experience drawdown equal to or greater than one foot (**Appendix A of Part A**).
ADVERSE EFFECT (NET DEPLETION TO SURFACE WATER)	The Stillwater River, approximately 3,800 ft east of the proposed wells, is identified as being hydraulically connected to the source aquifer. Monthly net depletions resulting from the proposed use of groundwater are identified in **Table 1.** The starting point of net depletions to the Stillwater River is the northern boundary of Section 14, Township 31 North, Range 23 West, Flathead County (**Figure 17**).

Table 1: Consumed volume and net depletions to hydraulically connected surface water sources.

Month	Total Consumed Volume (AF)	Stillwater River Net Depletions (AF)	Stillwater River Net Depletions (gpm)
January	0.0	1.5	11.2
February	0.0	1.4	11.2
March	0.0	1.5	11.2
April	0.0	1.5	11.2
May	0.2	1.5	11.2
June	2.2	1.5	11.2
July	3.4	1.5	11.2
August	5.0	1.5	11.2
September	4.5	1.5	11.2
October	2.5	1.5	11.2
November	0.0	1.5	11.2
December	0.0	1.5	11.2
Total	**18.1**	**18.1**	

2.0 Hydrogeologic Setting

The proposed wells are in Section 15, Township 31 North, Range 23 West, 8.5 miles northwest of Whitefish, Montana (**Figure 1**). Production Well No. 1 (GWIC ID 327899) and Production Well No. 2 (GWIC ID 319653) are 300 ft from each other and completed in a fractured bedrock aquifer of the metasedimentary Belt Supergroup (Harrison et al., 2000; Smith, 2004). The aquifer source code for this bedrock aquifer is 400BELT.

The proposed wells are 300.0 ft deep and screened from 260.0 to 300.0 ft below ground surface (bgs). The static water level for GWIC ID 327899 is 62.70 ft below top of casing (btc) and 22.39 ft btc for GWID ID 319653. The bedrock consists of alternating beds of clays and shales of the Ravalli Formation of the Belt Supergroup (Johns, 1961).

The surficial geology in the area is mapped as either Belt Supergroup or a mix of glacial till deposits overlying the bedrock (Smith, 2004). The glacial till may act as a confining layer between the overlying alluvium and underlying Bet Supergroup. On a regional scale, potentiometric surface mapping shows that groundwater in the bedrock along valley margins is hydraulically connected to the alluvial aquifer (LaFave et. al., 2004; Coffin, 1972).

Within the Whitefish Mountain Range there is sufficient fracture permeability in the Belt Supergroup rocks to yield water to wells (LaFave et. al., 2004). The wells derive water from both primary matrix pore space of the bedrock and secondary fractured space within the bedrock. However, the permeability is variable due to

irregular fracture distribution and differing capabilities of the fractures to transmit water. This results in large variations in well yield with a maximum yield of 600 gpm and an average yield of 20 gpm (LaFave et. al., 2004)

Fault and fracture hydrology is often complex and differs in flow across different structural and lithologic settings. A series of faults in the vicinity of the proposed project (**Figure 1**) with a north-northwest orientation and vertical fractures (Harrison et al., 2000) may act as either conduits, barriers or both to groundwater flow (Bense et al., 2013). Regionally, groundwater moves away from the mountains along the valley margins toward the center of the valley and locally is moving east towards the Stillwater River (LaFave et. al., 2004; Smith, 2004). Recharge water propagates downward vertically to the bedrock aquifer from snowmelt and precipitation where bedrock is exposed.

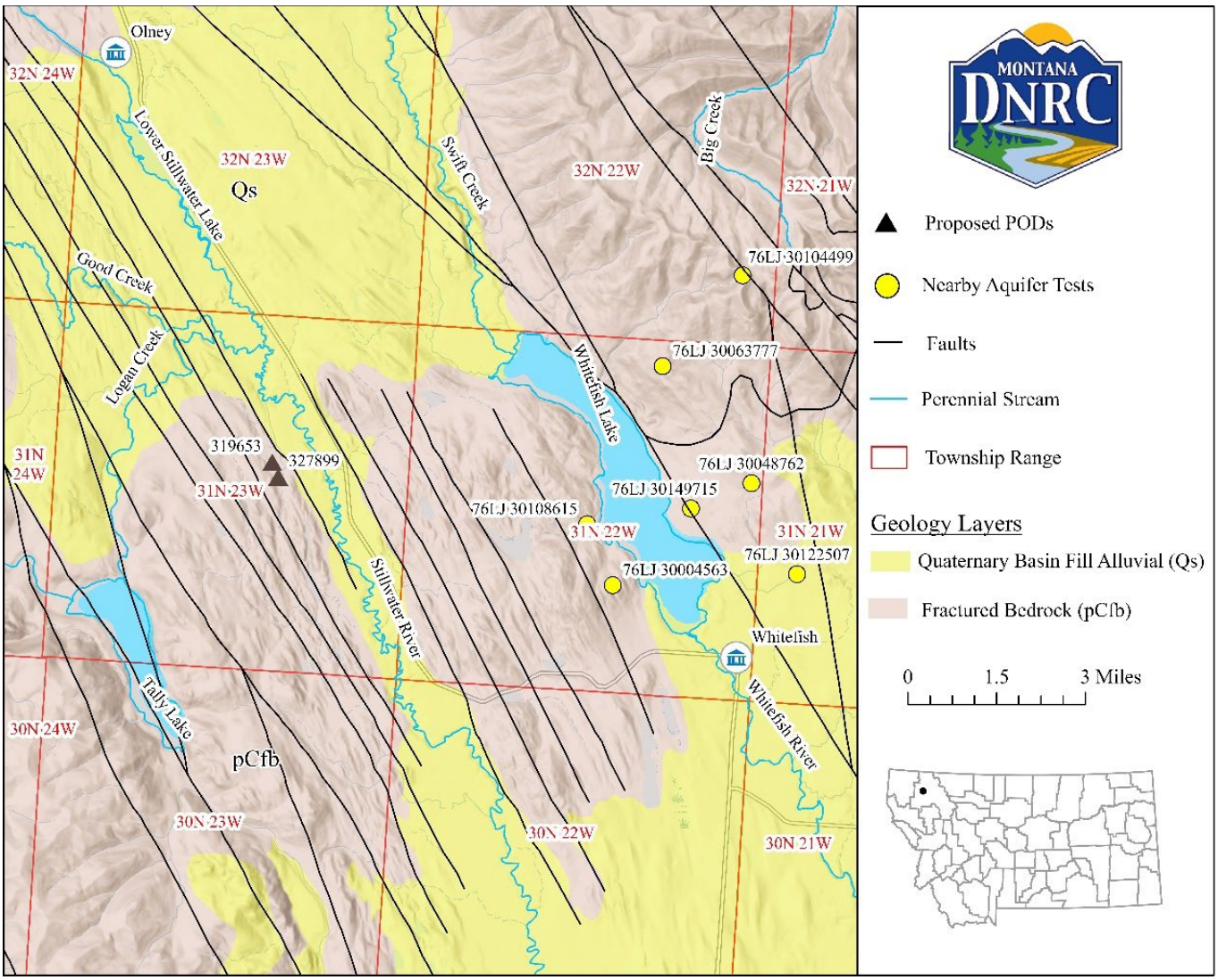


Figure 1: Map of the Applicant's aquifer test location and other nearby aquifer tests (fault data from Hernandez et al., 2022; Harrison et al., 2000).

3.0 Aquifer Test Summary

DNRC requires two different types of tests, "Aquifer Tests" and "Drawdown and Yield Tests", which are used to analyze different application criteria.

- An "Aquifer Test" is a pumping test that is meant to provide data to model aquifer properties. The minimum duration of these tests is either 24-hours or 72-hours, depending on the proposed flow rate and volume (ARM 36.12.121(3)(e)), and DNRC only requires one of these tests per application. Aquifer Tests must include observation well data, and pre-test monitoring data as well as post-test recovery data.
- A "Drawdown and Yield Test" is a pumping test that is meant to evaluate well construction and the ability of the aquifer to yield water to the well. This is also known as demonstrating "adequacy of diversion". The minimum duration of these tests is 8 hours, and every well that is a part of the application must be tested. Observation wells, pre-test, and post-test data is not required for Drawdown and Yield Tests.

Field Methods and Equipment

Two 24-hour aquifer tests were conducted on the Production Wells, GWIC ID 327899 and 319653, starting on February 13, 2024 and May 23, 2022, respectively. The average pumping rates were 44.5 and 59.9 gpm, respectively. Completion details for the wells used in the aquifer tests are identified in **Table 2**. Additional aquifer test information such as the monitoring periods for the test, equipment used, collected water levels, and measured discharge can be found on Form 633. **Figure 1** identifies the location of the Production Well(s).

Table 2: Specification of wells for aquifer test.

GWIC ID	Well ID	Distance from the Production Well (ft)	Completed Well Depth (ft bgs)	Perforated Interval (ft bgs)	Casing Diameter (inches)
327899	Production Well 1	NA	300	260-300	6.6
319653	Observation Well 1	1,050 ft NW of Production Well 1	300	260-300	6.6
319653	Production Well 2	NA	300	260-300	6.6
245577	Observation Well 2	1,115 ft west of Production Well 2	325	285-325	6

Background, Drawdown and Recovery Data

Figures 2 through 5 summarize background, drawdown, and recovery water level data for the aquifer test.

Background Data

Background groundwater levels were monitored in the Production and Observation Wells for 48 hours for both 24-hour tests (**Figure 2** and **3**). For Observation Well No. 2, prior to the May aquifer test, pumping cycles were identified (**Figure 3**) but would not affect the analysis since static water levels recovered back to pre-pumping conditions.

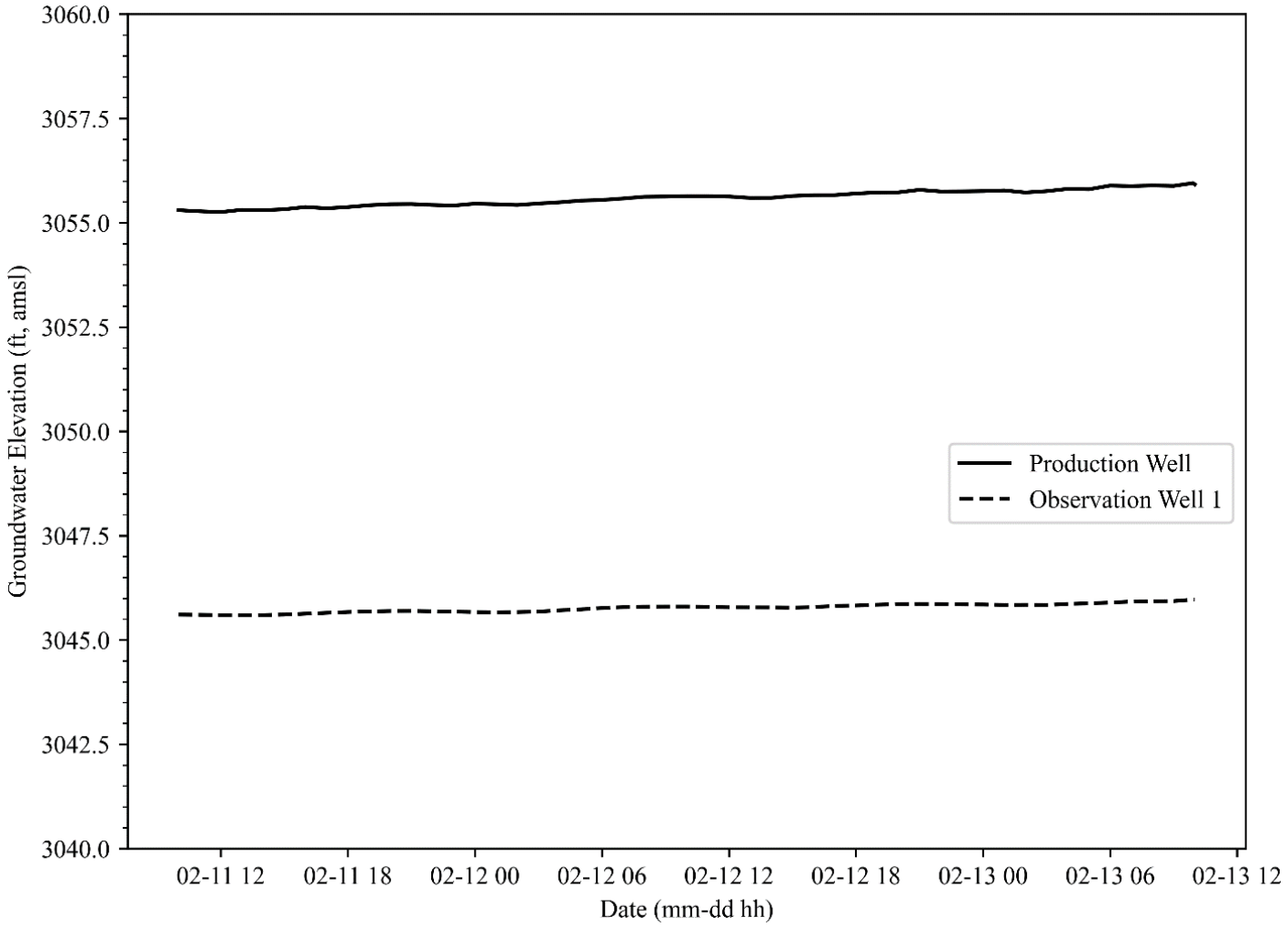


Figure 2: Background data for Production Well No. 1 (GWIC ID 327899) and Observation Well No. 1 (GWIC ID 319653) prior to the February 24-hour test.

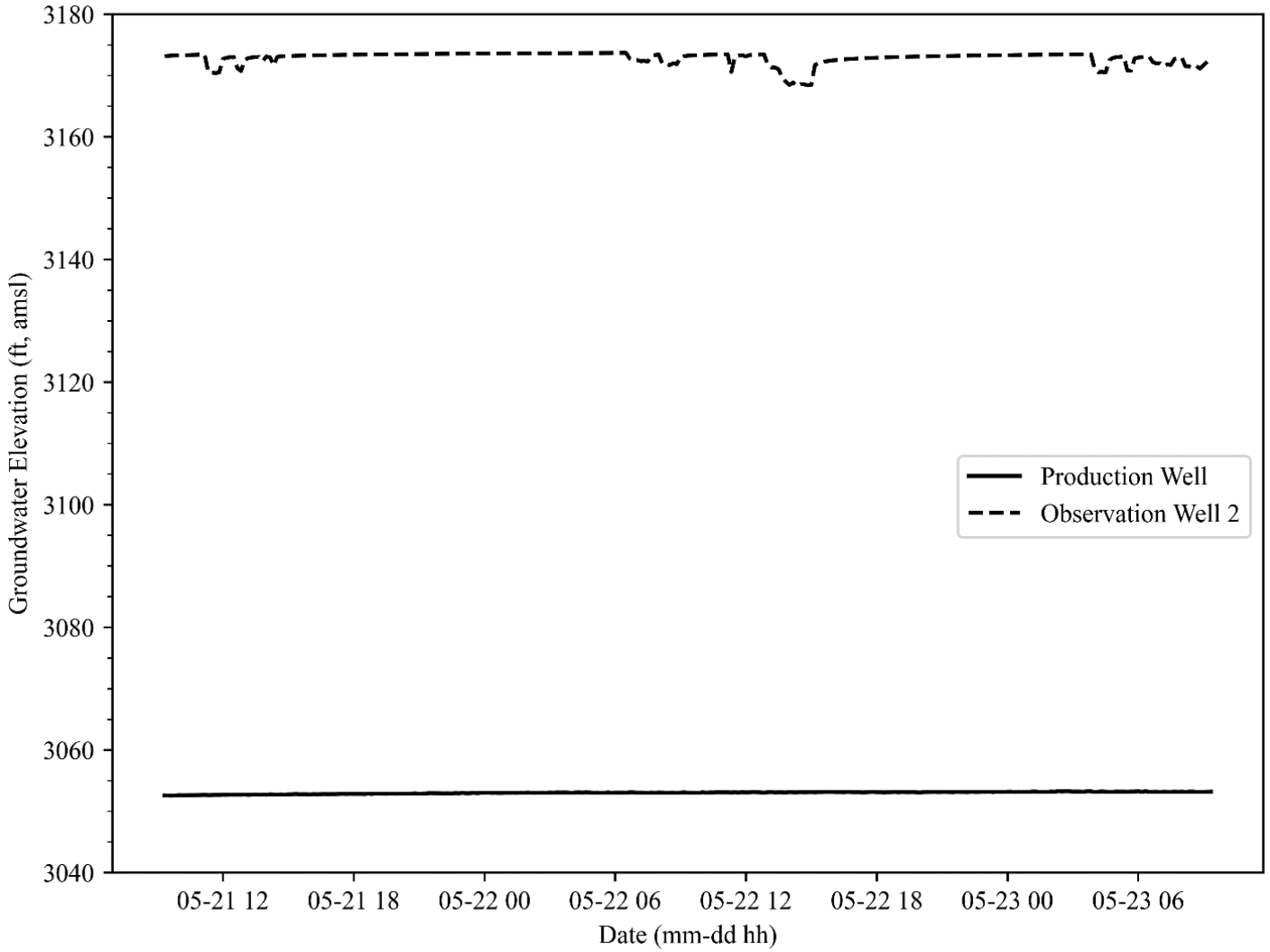


Figure 3: Background data for Production Well No. 2 (GWIC ID 319653) and Observation Well No. 2 (GWIC ID 245577) prior to the May 24-hour test.

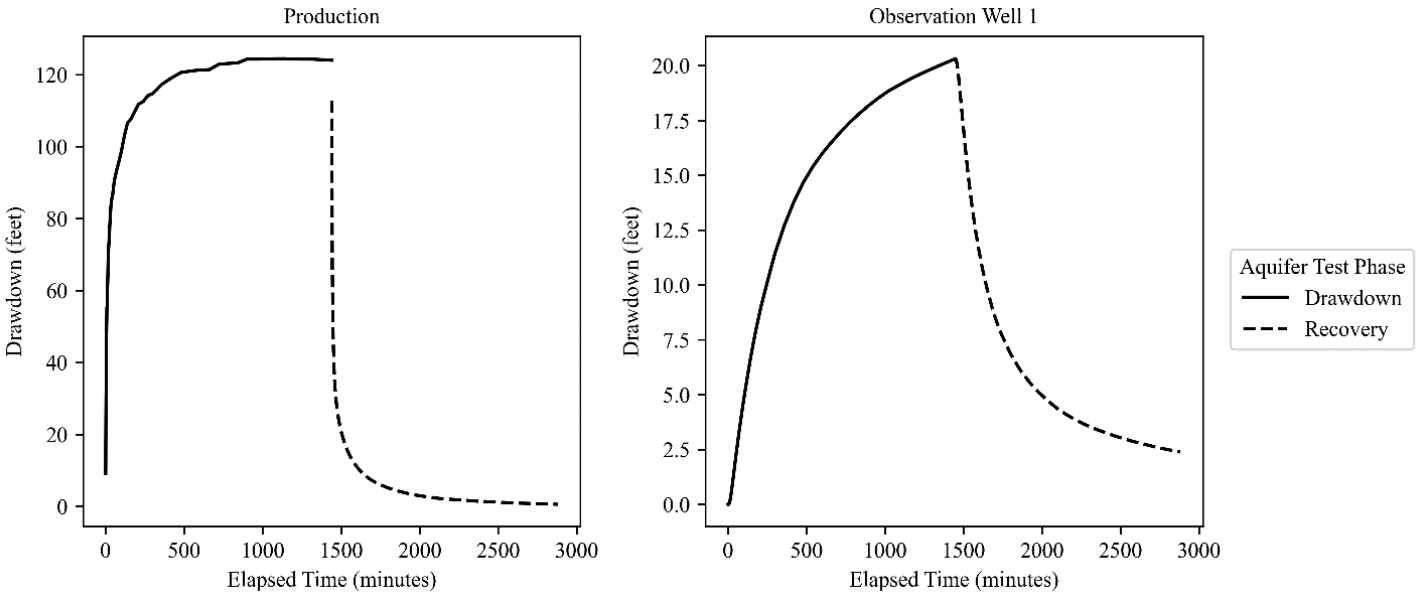


Figure 4: Drawdown and recovery data for the February 24-hour aquifer test on Production Well No. 1 (GWIC ID 327899) and Observation Well No. 1 (GWIC ID 319653).

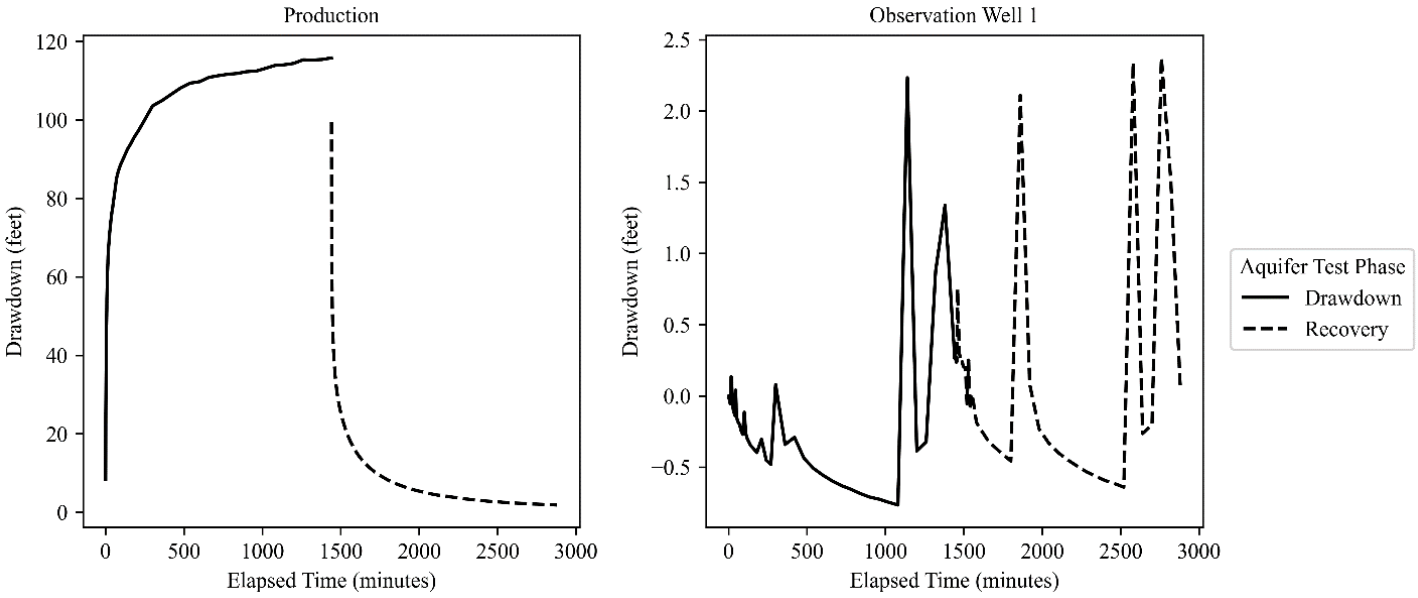


Figure 5: Drawdown and recovery data for the May 24-hour aquifer test on Production Well No. 2 (GWIC ID 319653) and Observation Well No. 2 (GWIC ID 245577).

Table 3 identifies the maximum drawdown and available water column above the bottom of the well or perforated interval for the Production and Observation Wells at the end of the aquifer test. Available water column was quantified by adding 2 ft to the bottom of the perforated interval or bottom of well depth, to reflect the measurement point for static water levels (top of casing).

Table 3: Available water column at the end of the aquifer test for the Production and Observation Wells.

GWIC ID	Well ID	Static Water Level (ft btc)	Maximum Observed Drawdown (ft)	Available Water Column (ft)
327899	Production Well 1	62.08	124.44	115.48
319653	Observation Well 1	22.03	20.29	259.68
319653	Production Well 2	14.80	115.80	171.40
245577	Observation Well 2	27.19	2.23	297.58

4.0 Aquifer Test Analysis

Methods

The DNRC utilized AQTESOLV® (HydroSOLVE, Inc., 2007) to analyze drawdown data from the aquifer test, obtain estimates of aquifer properties, and model predicted drawdown in existing wells. AQTESOLV® is an analytical modeling software that uses image well theory and the principle of superposition to simulate aquifer stress tests. Known well, aquifer, and aquitard characteristics from well logs and previous investigations are input into the model. Calculated aquifer drawdown and measured flow rates from the aquifer test, and the spatial location of each well are also input into the model. Using this compilation of data, aquifer properties including Transmissivity (T) and Storativity (S) are estimated based on a best-fit visual match between the observed and theoretical drawdown data.

Analyses

Analytical groundwater solutions were matched to Observation Well drawdown data to generate estimates of aquifer properties for the source aquifer**.** As identified in **Figure 6** through **Figure 12** theoretical AQTESOLV® predicted derivatives (red line) were compared to the calculated derivatives from the observed drawdown (black triangles) and predicted drawdown (blue line) compared to the observed drawdown (black squares). Observation Well No. 2, associated with the May 24-hour aquifer test on Production Well No. 2, was not used in deriving aquifer properties since the pump came on multiple times during the test and did not represent drawdown from pumping. A summary of aquifer test analyses for Production and Observation Wells is found in **Table 4**.

For all the models analyzed, the saturated thickness, b, of the aquifer is equal to 60 ft, which is 150% of the screened length of the pumped well (Weight, 2008). The Cooper-Jacob (1946) solution was fit to Observation Well No. 1 late-time drawdown data (**Figures 6)**, where the straight line can suggest radial flow conditions in an infinite-acting aquifer. Observing the flow plots, minimal radial flow conditions were present, and bilinear flow was observed at late time.

The Theis (1935) recovery solution was fit to late-time recovery data for Observation Well No. 1 (t/t'=1) which is more representative of regional aquifer transmissivity (Willmann et al., 2007) (**Figure 7**). The ratio of S/S' is indicative of either an infinite non-leaky confined aquifer (S/S'=1), leaky-confined aquifer (S/S'>1) or no-flow boundary (S/S'<1) (Theis, 1935). The calculated S/S' for Observation Well No. 1 is 1.10. These values are close to the boundary between a leaky and fully confined system. Considering the interpreted hydrogeologic setting, the aquifer is classified as non-leaky confined.

For the Observation Well No. 1 the Moench (1984) solution was matched to drawdown and recovery data which evaluates aquifer properties for bedrock with dual porosity (**Figure 8**). The solution approximates the matrix as slab blocks with fractures to simulate highly fractured bedrock. Moench (1984) solution is designed to capture delayed yield which was not observed in drawdown data. The matrix hydraulic conductivity and specific storage parameters showed minimal influence on the model, so the Dougherty-Babu (1984) solution was applied to the Observation Well No. 1, and both Production Wells data (**Figure 9, 10, 12**). The Dougherty-Babu (1984) solution accounts for partial penetration, wellbore storage and wellbore skin which was observed in both the Production Wells. Additionally, recovery data for Observation Well No. 1 was analyzed using the Agarwal (1980) method to enhance the interpretation by applying a transformation (**Figure 11**). The confined solutions do not align with the recovery data, as recharge is occurring that may be due to the transition to an alluvial system with higher hydraulic conductivity east of the Production Wells.

The recommended aquifer T and S values to be used in forward modeling is 113.0 ft^2/day and 8.77 x 10^{-5}, respectively derived from the Dougherty-Babu (1984) solution. This solution was selected since the additional parameters in the Moench (1984) solution did not significantly impact the model's fit due to the lack of delayed yield. The Cooper-Jacob solution does not account for anisotropic conditions and does not meet the assumption of infinite acting radial flow conditions. The T value of 113.0 ft^2/day is lower than the calculated geometric mean (124.9 ft^2/day) across the seven solutions but is reasonable given the variability of fractured systems. This value incorporates all data from the February test, providing a more representative reflection of the system than relying on data from a single well.

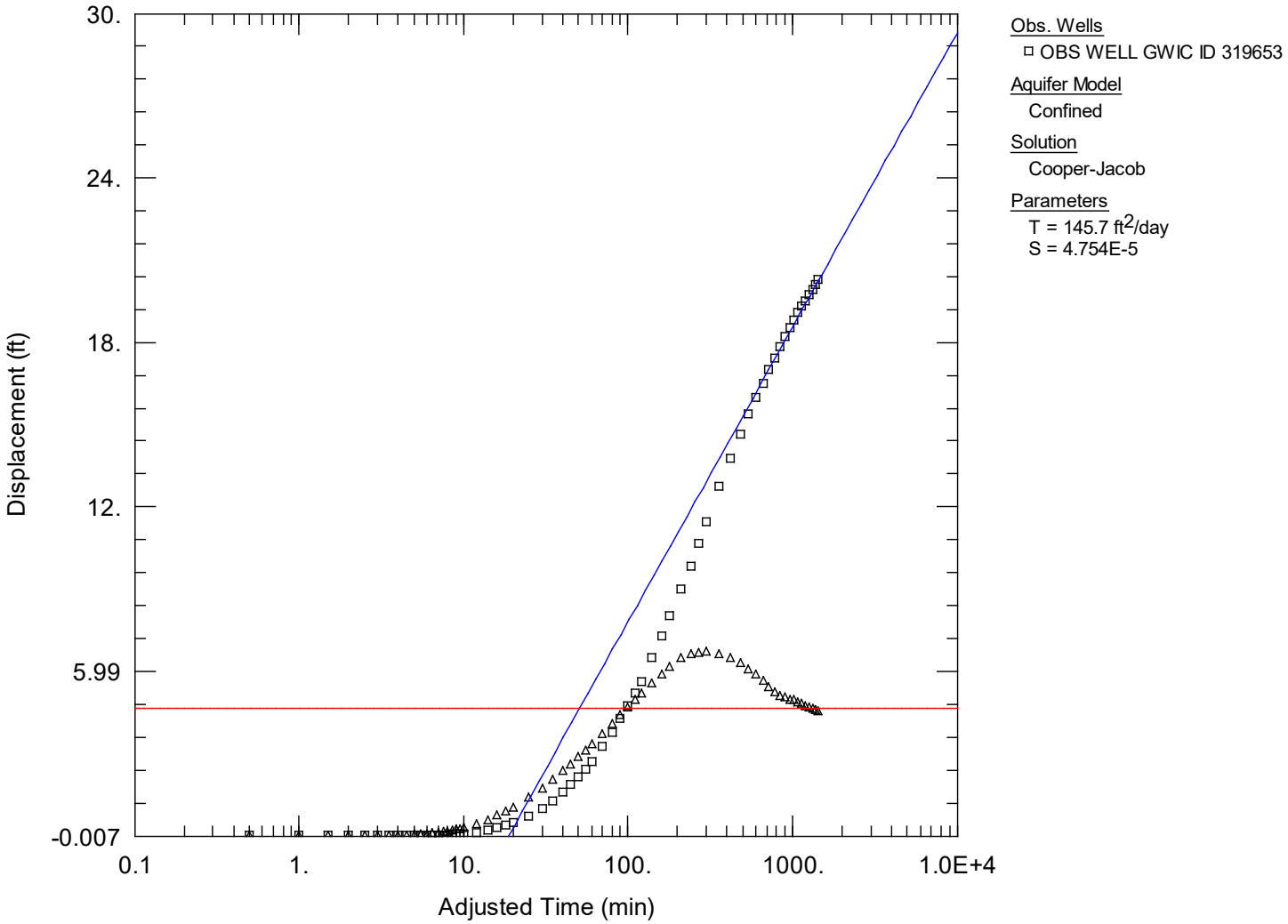


Figure 6: Cooper-Jacob (1946) drawdown and derivative analysis for Observation Well No. 1.

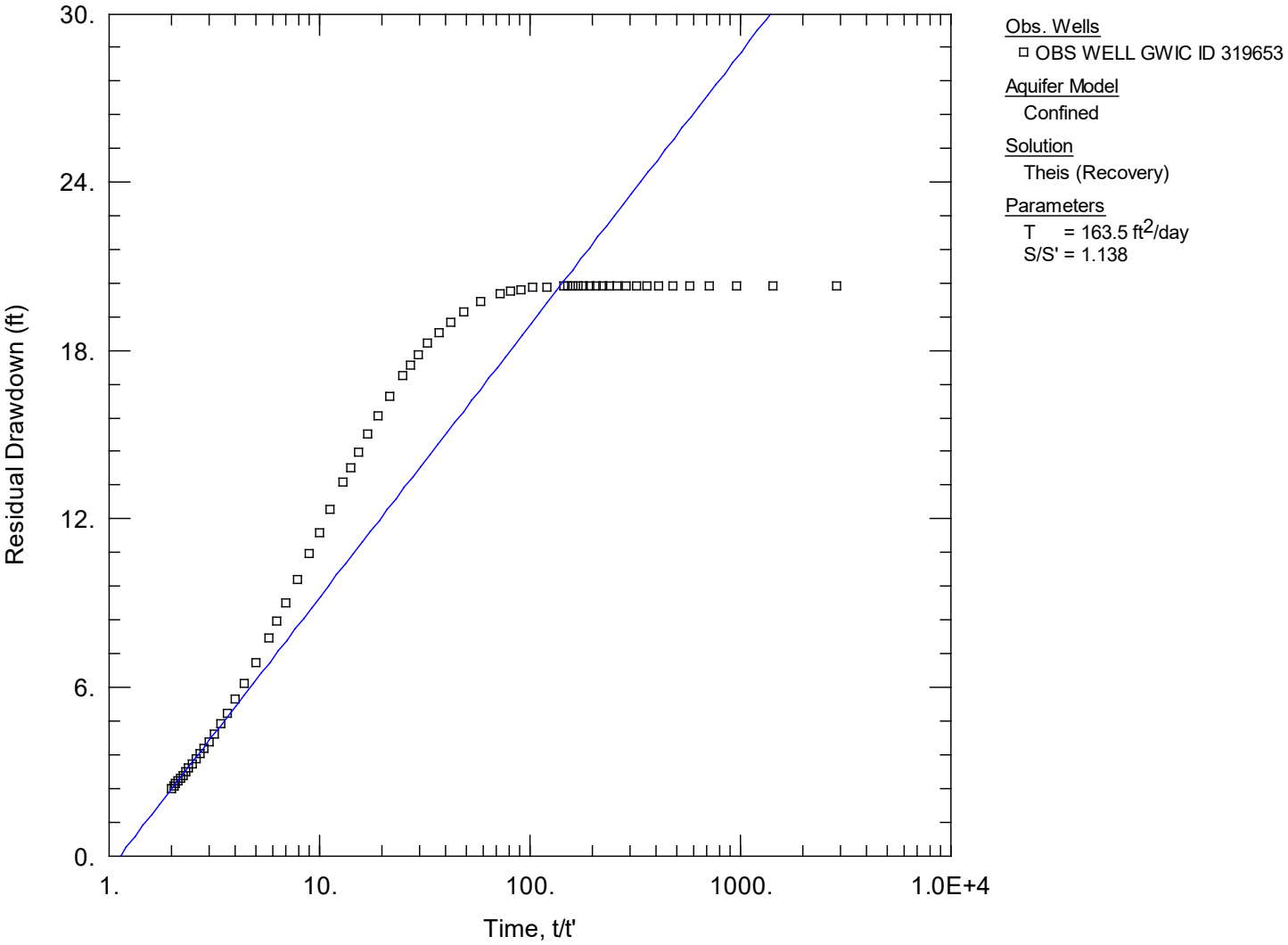


Figure 7: Theis (1935) recovery analysis for Observation Well No. 1.

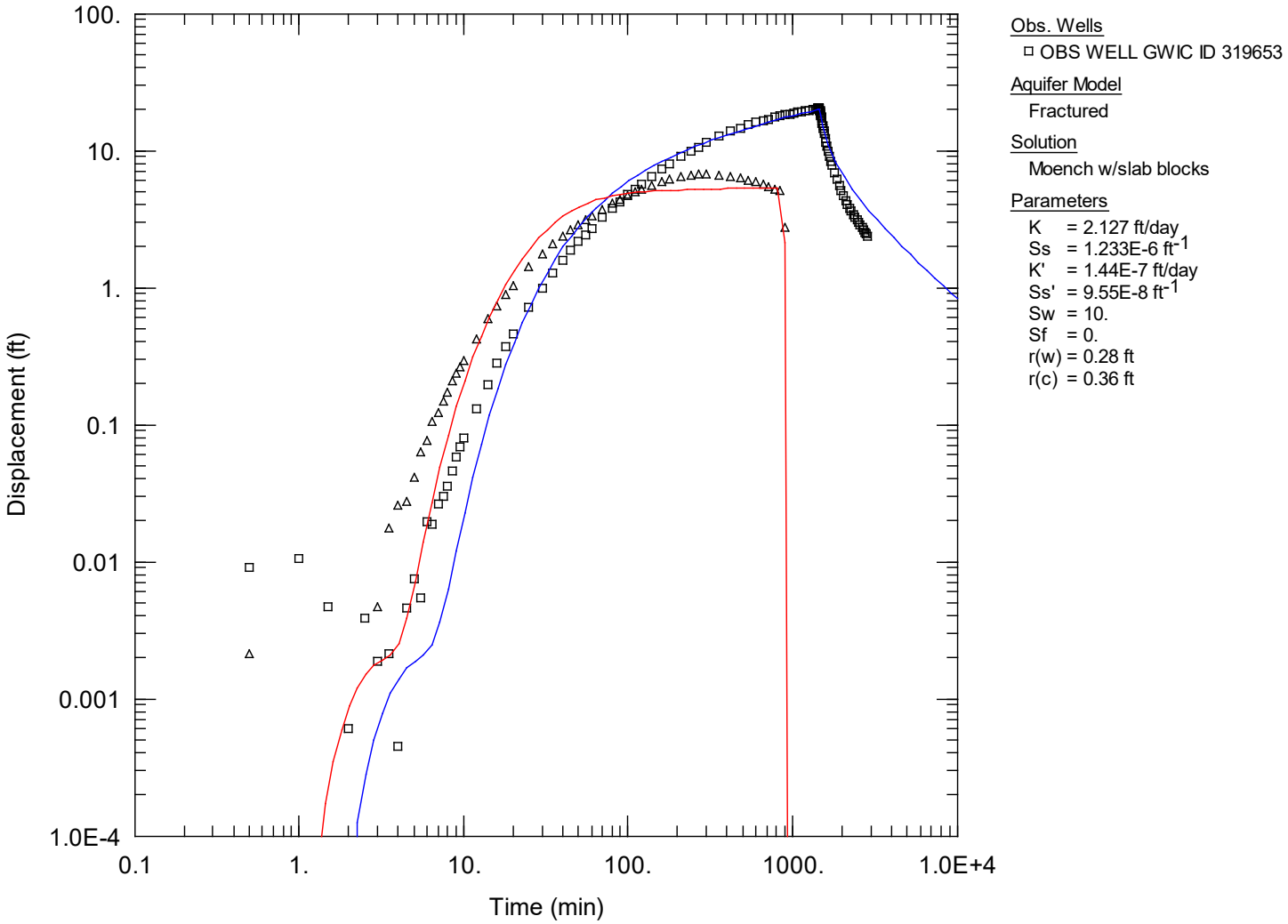


Figure 8: Moench (1984) drawdown, recovery, and derivative analysis for Observation Well No. 1.

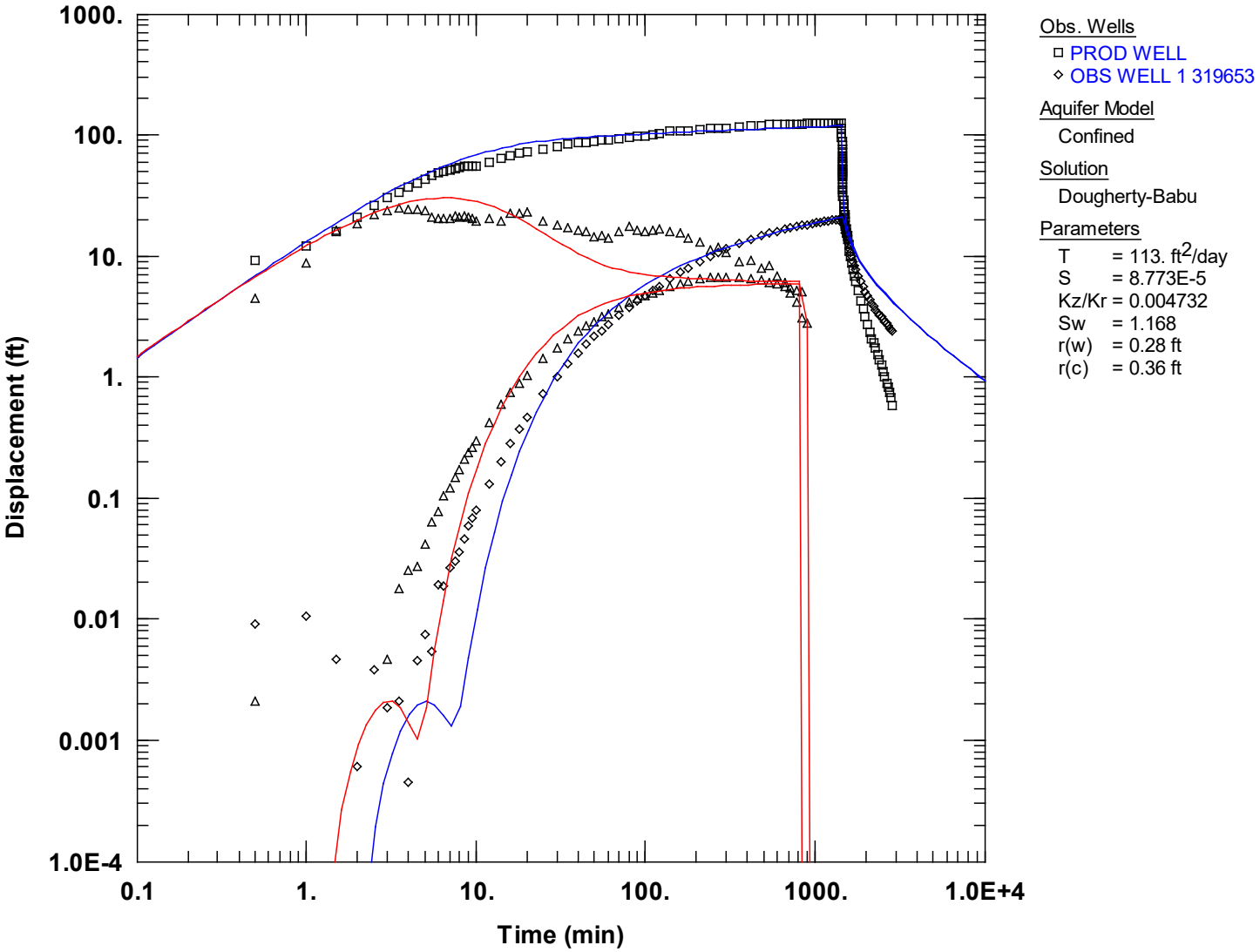


Figure 9: Dougherty-Babu (1984) drawdown, recovery and derivative analysis for Production Well No. 1 and Observation Well No. 1.

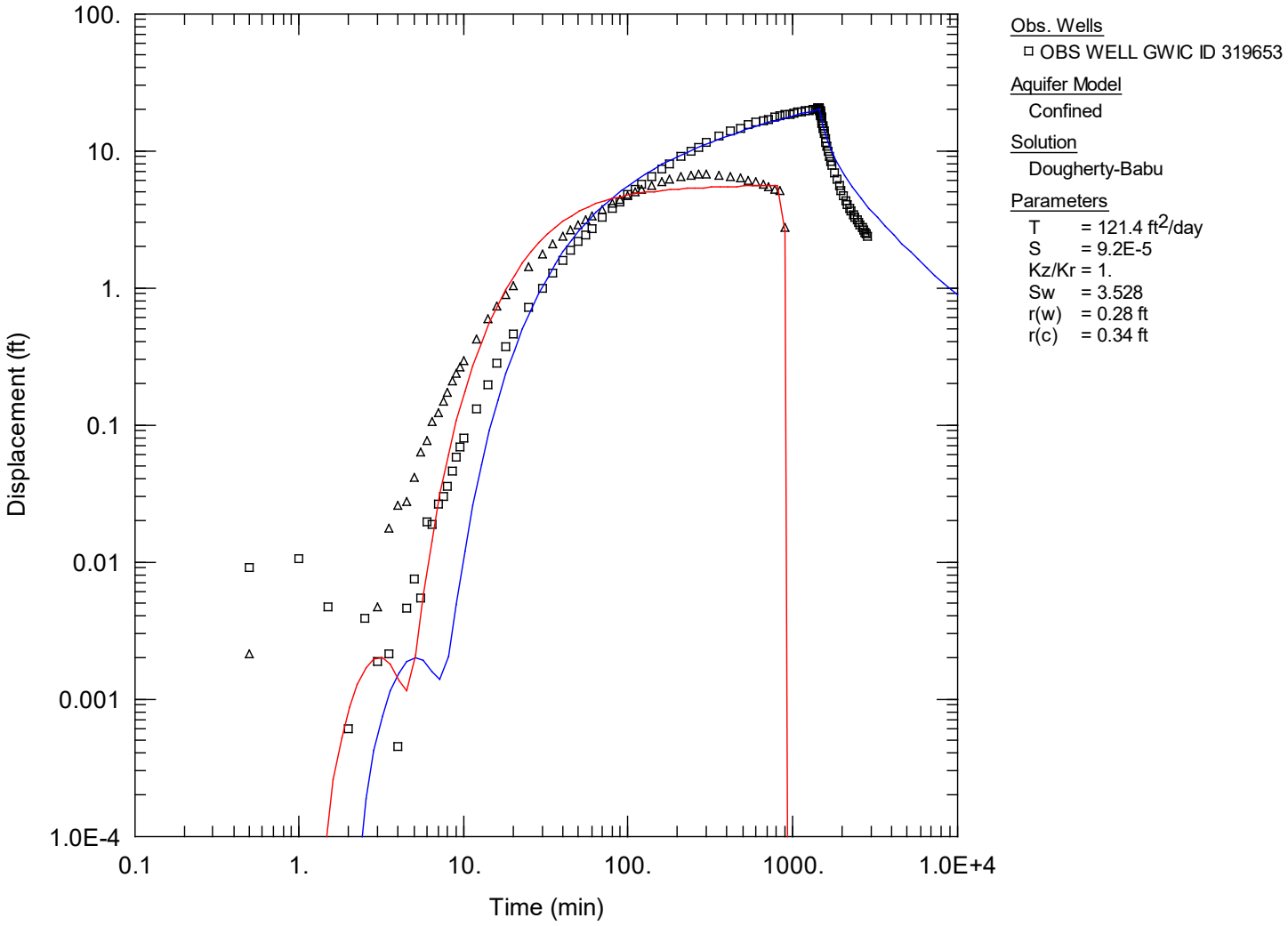


Figure 10: Dougherty-Babu (1984) drawdown, recovery and derivative analysis for Observation Well No. 1.

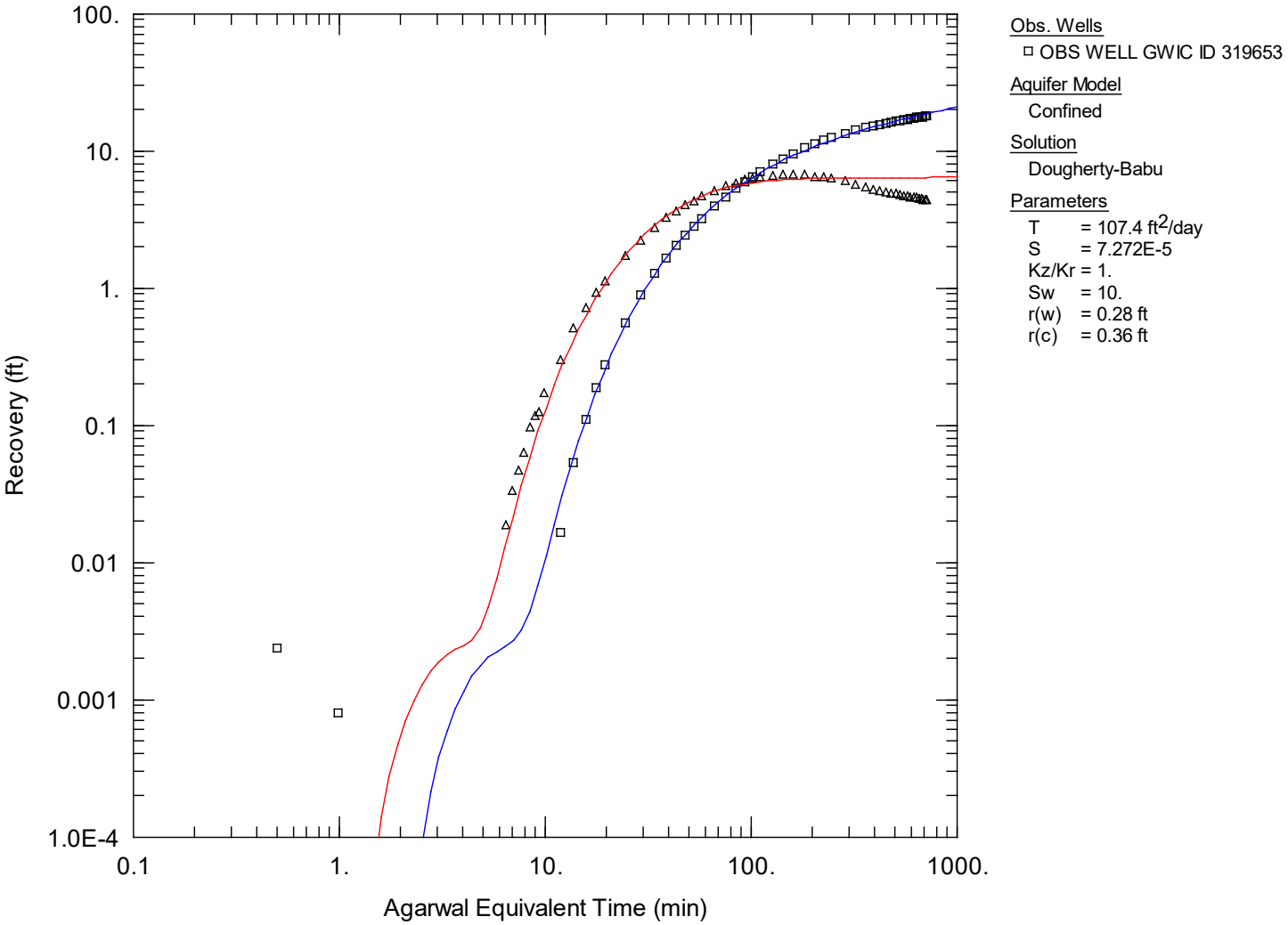


Figure 11: Dougherty-Babu (1984) recovery (Agarwal 1980) and derivative analysis for Observation Well No. 1.

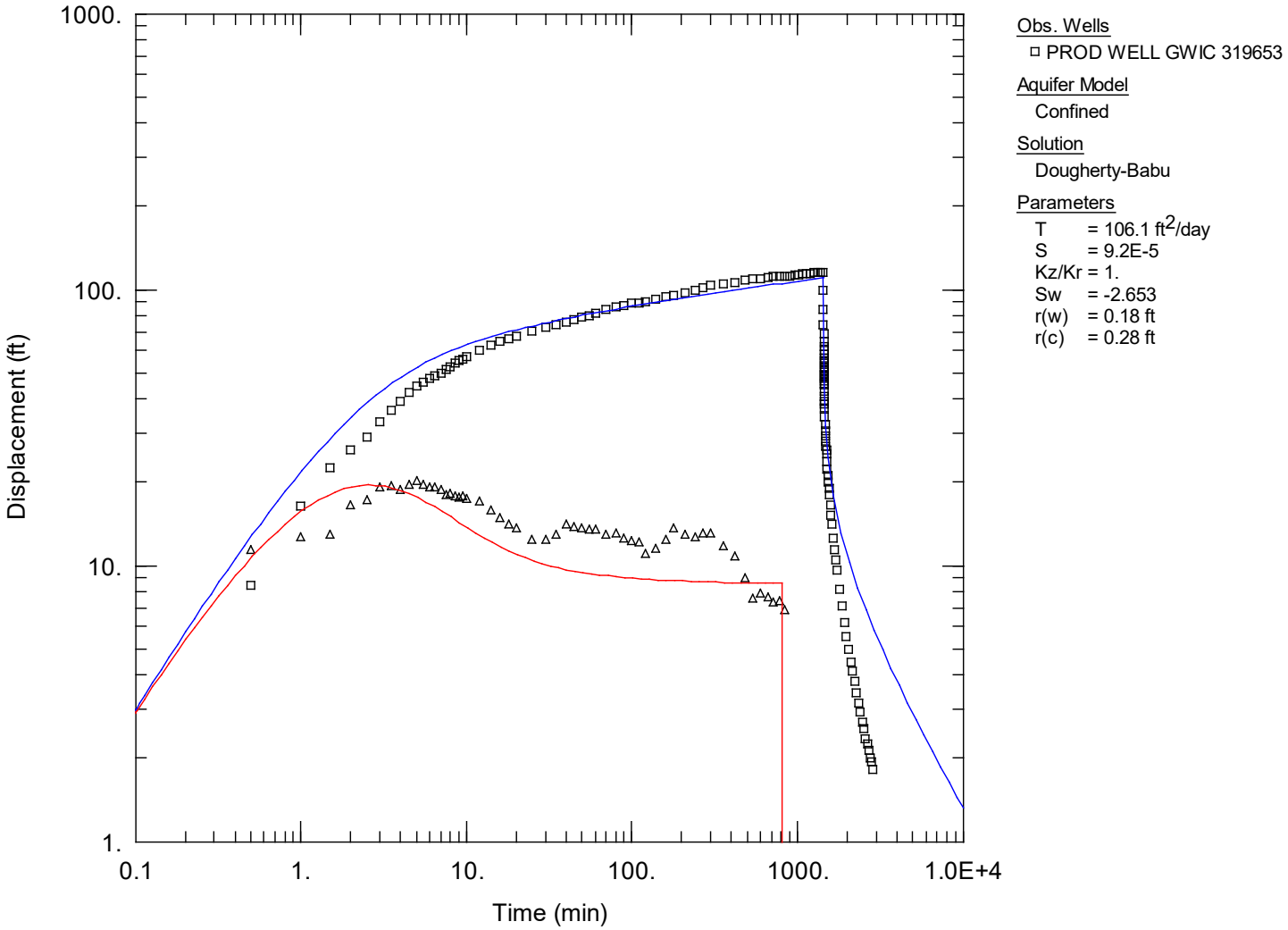


Figure 12: Dougherty-Babu (1984) drawdown, recovery and derivative analysis for Production Well No. 2.

Table 4: A summary of aquifer test analyses for Production and Observation Wells. T = Transmissivity, S = Storativity, NA = Not Available.

Aquifer Test Phase	Well Analyzed (GWIC ID)	Well ID	Analysis Solution	T (ft^2/day)	S or Sy
Pumping	319653	Observation Well 1	Cooper-Jacob (1946)	145.7	4.75×10^{-5}
Recovery	319653	Observation Well 1	Theis (1935)	163.5	S/S' = 1.1
Pumping and Recovery	319653	Observation Well 1	Moench (1984)	127.6	7.40×10^{-5}
Pumping and Recovery	319653 and 327899	Observation Well 1 and Production Well 1	Dougherty-Babu (1984)	113.0	8.77×10^{-5}
Pumping and Recovery	319653	Observation Well 1	Dougherty-Babu (1984)	121.4	9.20×10^{-5}
Recovery	319653	Observation Well 1	Dougherty-Babu (1984) Agarwal (1980)	107.4	7.27×10^{-5}
Pumping and Recovery	319653	Production Well 2	Dougherty-Babu (1984)	106.1	NA
			Geometric Mean	**124.9**	

The recommended aquifer T and S values to be used in forward modeling is 113.0 ft^2/day and 8.77×10^{-5}, respectively derived from the Dougherty-Babu (1984) solution. This solution was selected since the additional parameters in the Moench (1984) solution did not significantly impact the model's fit due to the lack of delayed yield. The Cooper-Jacob solution does not account for anisotropic conditions and does not meet the assumption of infinite acting radial flow conditions. The T value of 113.0 ft^2/day is lower than the calculated geometric mean (124.9 ft^2/day) across the seven solutions but is reasonable given the variability of fractured systems. This value incorporates all data from the February test, providing a more representative reflection of the system than relying on data from a single well.

Additional Aquifer Test and/or Aquifer Property Comparison

The DNRC Aquifer Test database and MBMG GWIC database were queried for nearby aquifer tests completed in the source aquifer; their data is summarized below. There were seven aquifer tests identified within a ten-mile radius of the proposed wells and associated with the Belt Supergroup aquifer (**Table 5**). The T values ranged from 23.3 to 1,473 ft^2/day as permeability is variable due to irregular fracture distributions. The T value

of 113.0 ft^2/day and S value of 8.77 x 10^{-5} derived is within the range of observed values. As identified in **Figure 1** and in **Table 5**, the derived aquifer T is reasonable when compared to other T values derived from nearby pumping test data.

Table 5: Nearby Aquifer Tests. Note: T = Transmissivity. NA = Not Available.

Water Right No.	GWIC ID	Well Depth (ft)	Distance from Applicant Well (ft)	Aquifer Test Length (hours)	Pump Rate (gpm)	T (ft^2/day)	S or Sy
76LJ 30108615	207051	748	5.4	24	40	23.3	$5.0x10^{-4}$
76LJ 30004563	188042	846	6.0	24	50	31.8	0.001
76LJ 30063777	234814	425	6.8	24	80	105.0	0.01
76LJ 30149715	253145	440	7.1	72	256	1,473	$4.7x10^{-4}$
76LJ 30048762	254822	725	8.0	72	256	629.2	NA
76LJ 30104499	284164	997	8.6	24	70	213.0	0.01
76LJ 30122507	299379	529	9.0	24	100	200.0	NA

5.0 Modeling Inputs

Technical analyses in support of the following criteria assessment: adequacy of diversion, physical availability, and adverse effect (drawdown in existing wells) were modeled in AQTESOLV (HydroSOLVE INC., 2007) using the following inputs:

- Dougherty-Babu (1984) solution for Production Well 1 and Observation Well 1
- Well locations (Applicant supplied coordinates)
- Saturated thickness (b) = 60 ft
- T = 113.0 ft^2/day
- S = 8.77 x 10^{-5}
- S_w = 1.168

Monthly pumping schedules and boundaries used to complete technical analyses are identified in subsequent criteria sections.

6.0 Adequacy of Diversion Analysis

An evaluation of the potentially available water column remaining in the proposed well(s) was modeled in FWD:SOLV (HydroSOLVE INC., 2024) using the following:

- Assumed monthly pumping schedule identified in **Table 6** for the period of diversion.

The Applicant requests to divert 105.0 gpm where Production Well No. 1 would divert a flow rate of 45.0 gpm and Production Well No. 2 would divert a flow rate of 60.0 gpm for a total of 25.8 AF per annum. Irrigation volume was apportioned monthly according to the monthly percent of total consumed volume (NIR 80% dry year) using the USDA Natural Resources Conservation Service Irrigation Water Requirements (IWR) program (NRCS, 2023).

Table 6: Assumed monthly pumping schedule for the proposed wells based on the pumping rates of 45.0 gpm for Production Well No. 1 and 60.0 gpm for Production Well No. 2.

Month	NIR IWR 80% Dry Year (in/ac)[1]	Total Diverted Volume (AF)	Total Diverted Flow Rate (gpm)	Diverted Flow Rate for Production Well No.1 (gpm)	Diverted Flow Rate for Production Well No.2 (gpm)
January	0.0	0.0	0.0	0.0	0.0
February	0.0	0.0	0.0	0.0	0.0
March	0.0	0.0	0.0	0.0	0.0
April	0.3	0.3	2.5	1.1	1.4
May	2.1	3.2	23.5	10.0	13.4
June	3.2	4.8	36.6	15.7	20.9
July	4.7	7.1	52.1	22.3	29.7
August	4.3	6.5	47.5	20.3	27.1
September	2.3	3.5	26.6	11.4	15.2
October	0.2	0.3	2.0	0.9	1.1
November	0.0	0.0	0.0	0.0	0.0
December	0.0	0.0	0.0	0.0	0.0
Total	**17.1**	**25.8**			

[1]Whitefish weather station

As identified in **Table 7,** total drawdown is the sum of interference drawdown and predicted drawdown with well loss. Only one well is proposed, no interference drawdown was calculated. Well loss is calculated by dividing the predicted theoretical maximum drawdown by a well efficiency value. Predicted theoretical drawdown for the proposed well(s) was modeled for the period of diversion using the monthly pumping schedule for each well identified in **Table 6**. Well efficiency is calculated by dividing the modeled maximum drawdown for the aquifer test by the maximum observed drawdown of the aquifer test. The aquifer adjacent to the proposed wells would experience a predicted total drawdown of 113.7 ft at the end of July of the first year of pumping (**Figure 13**). The remaining available water column for Production Well No. 1 and No. 2 is

153.7 and 169.5 ft, respectively and is equal to the available drawdown above the bottom of the well minus total drawdown.

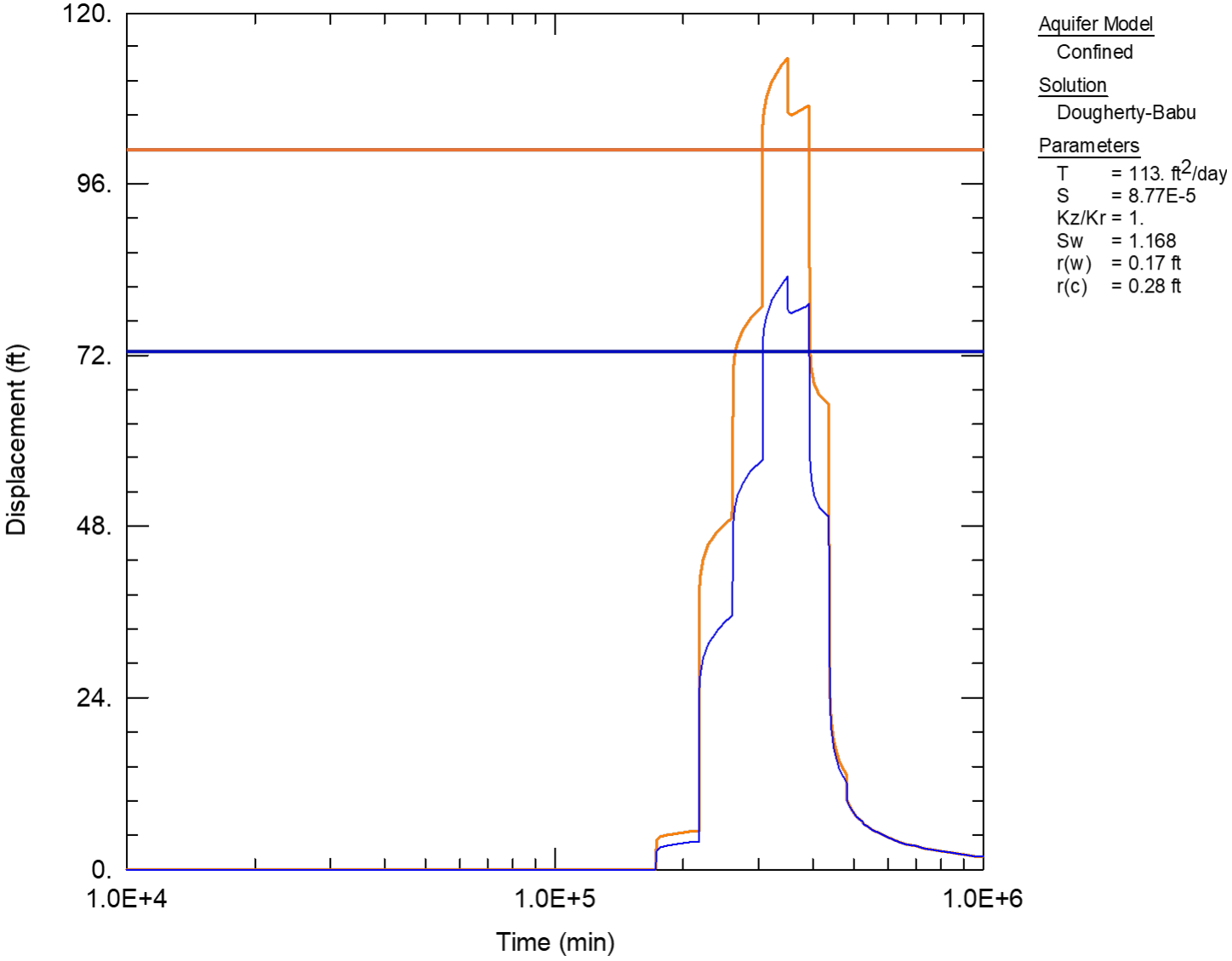


Figure 13: AQTESOLV radial plot at the end of the first year/time-drawdown plot for the proposed pumping schedule for the proposed well. Production Well No. 1 is shown in blue and Production Well No. 2 in orange. The curved lines represent both wells pumping with interference, while the horizontal lines indicate no interference.

Table 7: Remaining available water column for the proposed well(s).

Drawdown Estimate	Production Well No. 1 GWIC 327899	Production Well No. 2 GWIC 319653
Total Depth at Bottom of Perforated Interval (ft	302.0	302.0
Pre-Test Static Water Level (ft btc)	62.08	14.80
Available Drawdown Above Bottom of Well (ft)	239.9	283.2
Observed Drawdown of Aquifer Test (ft)	124.44	115.80
Modeled Drawdown Using Mean Aquifer Test	119.3	168.7
Well Efficiency (%)	95.9	100.0
Predicted Theoretical Maximum Drawdown (ft)	72.2	100.2
Predicted Drawdown with Well Loss (ft)	75.3	100.2
Interference Drawdown (ft)	10.9	13.5
Total Drawdown (ft)	86.2	113.7
Remaining Available Water Column (ft)	**153.7**	**169.5**

[1]The total well depth measuring point (bgs) was adjusted to the top of well casing based on a 2 ft well casing stickup reported on the well log.

7.0 Physical Availability Analysis

An evaluation of groundwater availability in the source aquifer for the purpose of evaluating physical and legal availability was done by calculating groundwater flux through a zone of influence (ZOI) corresponding to the 0.01-foot drawdown contour. The two proposed wells were modeled as one well at the centroid of the proposed points of diversion. The 0.01-foot drawdown contour was modeled in AQTESOLV (HydroSOLVE INC., 2007) using the following pump schedule and boundaries:

- Constant pumping rate of 16.0 gpm for the period of diversion.
- Constant head boundary 3,800 ft east of the centroid of the proposed wells, respectively to represent the Stillwater River.

The normalized pumping rate required to produce the annual volume per GWIC ID 327899 and 319653 is 16.0 gpm. According to **Figure 14** the 0.01-foot drawdown contour extends at the most western and eastern extent approximately 3,681 ft from the Applicant's well(s). **Appendix A of Part B** of this report lists the active and severed water rights within the ZOI. These rights are also displayed in **Figure 16.** The direction of groundwater flow is predominantly from west to east, as such the width of the ZOI that is perpendicular to groundwater flow equals 7,342 ft. The groundwater gradient of 0.03 ft/ft was calculated using a potentiometric surface mapped by LaFave et. al., 2004. The calculation for groundwater flux (Q) through the delineated area is given by Eq. 1 and is 24,889 ft^3/day or 208.6 AF/year:

$$\mathbf{Q = TWi}$$

where:
T = Transmissivity = 113.0 ft^2/day
W = Width of Zone of Influence = 7,342 ft
i = Groundwater gradient (from X) = 0.03 ft/ft (LaFave et. al., 2004, Part B).

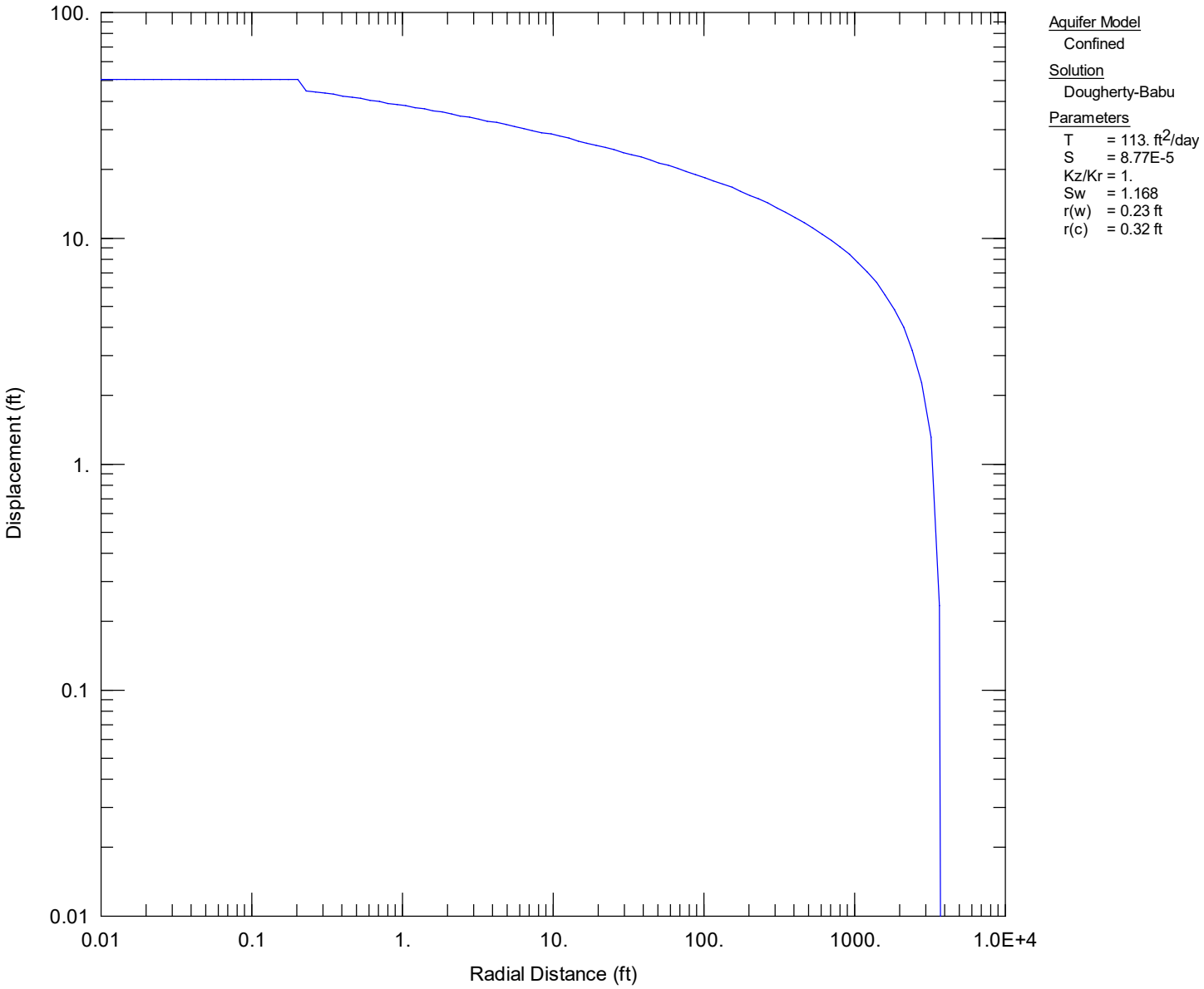


Figure 14: Dougherty-Babu (1984) distance-drawdown plot at the end of July after one year of pumping.

8.0 Adverse Effect Analyses

Under §85-2-311, Montana Code Annotated (MCA), using the Applicant's proposed pump schedule and associated volume, adverse effect is evaluated by modeling drawdown in nearby wells, changes in net depletions to surface water, and changes in return flows to surface water.

8.1 Groundwater - Drawdown in Existing Wells

The DNRC simulates the effects of drawdown on existing groundwater rights over a five-year period and conservatively assumes that all pumped water is derived from storage, meaning drawdown is not offset by increased recharge or reduced discharge. This modeling simplification for the five-year simulation period represents a worst-case scenario. In practice, drawdown is often partially offset by leakage from overlying aquifers or by recharge from surface water. Therefore, simulating pumping effects over five years is a conservative approach intended to approximate a new equilibrium condition after adding the additional pumping stress to the aquifer.

The drawdown in existing wells was modeled in AQTESOLV (HydroSOLVE INC., 2007) using the following:

- The assumed monthly pumping schedule for the proposed well(s) identified in **Table 6** for a period of five years.
- Constant head boundary 3,800 ft east of the centroid of the proposed wells, respectively to represent the Stillwater River.

As identified in **Figure 15**, after five years drawdown greater than one foot occurs within 3,565 ft of the proposed well. As such, 7 rights are within the 1-foot drawdown contour as identified in **Figure 16** and are listed in **Appendix A of Part A**.

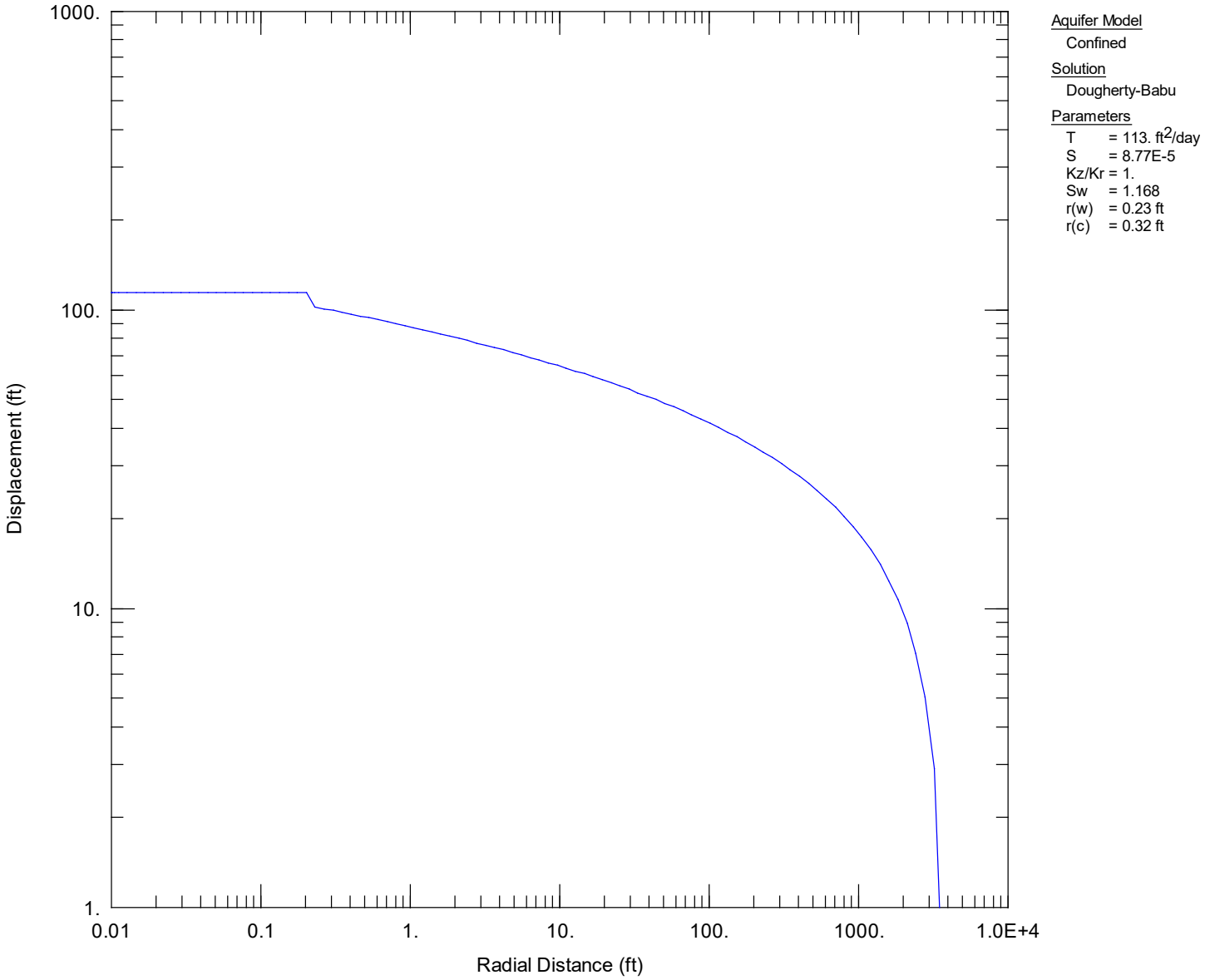


Figure 15: Dougherty-Babu (1984) distance-drawdown plot at the end of July of the fifth year of the assumed monthly pumping schedule.

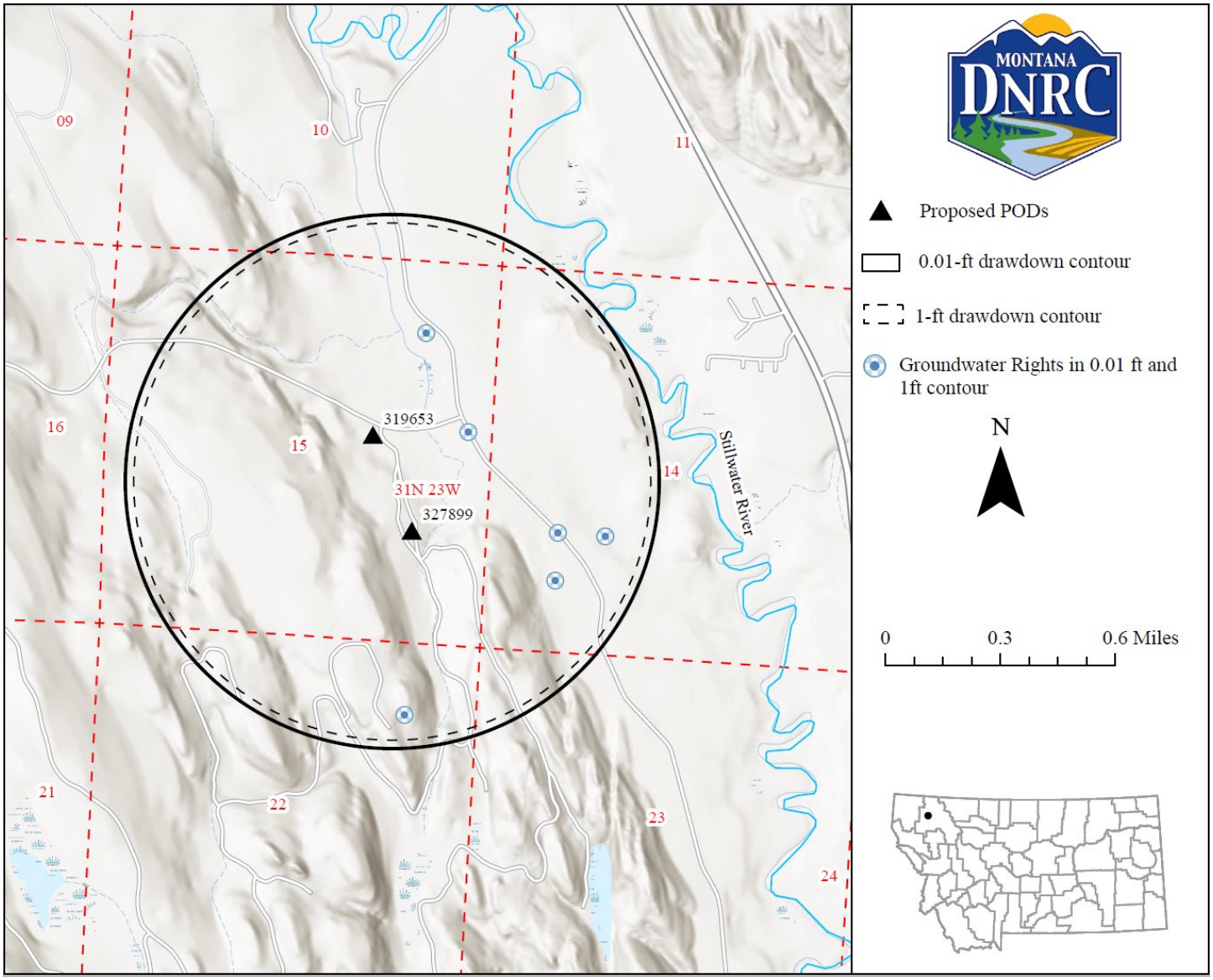


Figure 16: Groundwater rights within the 0.01-foot drawdown contour to analyze for legal demand within the source aquifer. 1-foot drawdown contour and groundwater rights that would experience drawdown greater than or equal to one foot from the proposed use. Two water rights represent one of the points.

8.2 Surface Water - Net Depletions (Consumed Water)

Pursuant to *Montana Trout Unlimited v. DNRC*, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the DNRC recognizes the connection between surface water and groundwater, and the effect of pre-stream capture and induced infiltration on surface waters.

Net depletions to surface water depend on propagation of drawdown to areas of the aquifer from which water can be captured. Captured water consists of two possible sources – a reduction in the natural discharge (outflow) rate of groundwater from the aquifer (pre-stream capture) or an increase in the natural/artificial recharge (inflow) rate to the aquifer (e.g. induced infiltration). Two important assumptions are made when

evaluating net depletions: first the stream and underlying aquifer remain hydraulically connected by a continuous saturated zone, and second, the stream does not become dry. In addition, net depletion is not a function of groundwater flow rate or direction (Theis, 1938; Leake, 2011) and drawdown from pumping can propagate through the entire thickness of the confining layer to overlying aquifers or surface waters (Konikow and Neuzil, 2007).

As such, net depletions are identified for hydraulically connected surface water sources, not including ditches or ephemeral streams. Net depletion is equal to consumption for proposed groundwater use and is described as the calculated volume, rate, timing, and location of reductions to surface water that are offset by return flows (non-consumed water). Net depletion is evaluated by 1.) quantifying the consumed volume associated with the proposed use; 2.) identifying hydraulically connected surface waters; and 3.) calculating the monthly rate and timing of net depletions to affected surface water(s).

1. Consumed Volume

Consumed groundwater does not return to the source aquifer. Consumed volume depends on the proposed use and its associated percentage of known consumption. Depletion is assumed to be equivalent to consumption on an annual basis unless return flows do not accrete to the potentially affected surface water.

Monthly consumption for irrigation, not including turf grass, can be calculated using ARM 36.12.115 irrigation standards and associated efficiency values or the net irrigation requirement (dry year 80% chance) calculated using the USDA Natural Resources Conservation Service (NRCS) IWR program with inputs consistent with DNRC consumptive use rules in ARM 36.12.1902. Monthly consumption for irrigation of turf grass (lawns) is calculated using either a minimum efficiency value of 70% and ARM 36.12.115 lawn and garden standards or the net irrigation requirement from IWR with inputs consistent with DNRC (2010) Consumptive Use Methodology for turf grass.

Consumption for other purposes are listed in **Table 8** and are based on the results of studies by Kimsey and Flood (1987), Vanslyke and Simpson (1974), Paul, Poeter, and Laws (2007), DNRC (2018), wastewater treatment method, operation of systems, or DNRC policy. Net evaporation is calculated using gridded monthly net evaporation values and methodologies associated with DNRC (2023). Municipal use for non-municipalities(e.g. water district) may have variable consumption rates.

Table 8: Percent consumption by use.

Purpose	Method of Treatment/Use	Consumed
Domestic/Municipal/Commercial/Institutional	Individual drainfields	10%
Domestic/Municipal/Commercial/Institutional	Central treatment facility with minimal consumption	5%
Domestic/Municipal/Commercial/Institutional	Evaporation basin or land application	100%
Municipal Use for Municipality	Variable	100%
Water Marketing (Water Depots)/Agriculture Spraying/Oil Well Flooding/Stock Water/some Industrial Uses	Variable	100%
Commercial/Industrial	Aggregate Washing – construction standard for moisture allowed in the finished aggregate product.	5%
Commercial	Snow Making – depends on time of day, machine, weather at time of operation, etc.	10-30%
Fisheries, Recreation, Storage for Irrigation	Net evaporation off reservoir surface, gridded monthly net evaporation values and methodologies	AF/acre
Geothermal	Closed loop systems	0%

WSB Findings

For the subject application the annual consumed volume for turf grass is estimated to be 18.1 AF based on DNRC standards using the Whitefish weather station and 70% irrigation efficiency (DNRC, 2010).

2. Hydraulically Connected Surface Water(s) and Location of Net Depletions

Potentially affected surface waters in a net depletion evaluation are identified by their hydraulic connection, both direct and indirect, to the source aquifer of a proposed groundwater diversion. Hydraulic connection depends on the depth to groundwater beneath the beds of surface waters, connection between deep and overlying shallow aquifers, vertical gradients, and can vary along a reach and with time of year.

Procedures for evaluating hydraulic connection and identifying one or more potentially affected surface water(s) for a proposed well in an unconfined/confined aquifer or regional bedrock aquifer can be found in DNRC (2018) and DNRC (2019), respectively. Net depletion is apportioned between multiple potentially affected surface waters generally following procedures described in Section 3.2 of a guidance document developed by the Province of British Columbia (2016) for determining the effect of groundwater diversion on specific streams.

Following protocols in DNRC (2018) **Table 9** identifies published information used to assess hydraulically connected surface water(s) and suggests the Stillwater River is the only perennial surface water source that will be depleted. Not all data may be available for each project and is noted as "NA" when that occurs.

Table 9: Published information used to identify hydraulically connected surface water(s).

Published Information	**Surface Water Source:** Stillwater River	**Surface Water Source:** Logan Creek	**Surface Water Source:** Tally Lake
USGS National Hydrographic Dataset (NHD)[1]	Perennial	Perennial	Perennial (Lake)
USGS PROSPER Dataset[2]	Perennial (more confident) SPP 1.0-0.8	Perennial (less confident) SPP 0.6-0.4	Perennial (more confident) SPP 1.0-0.8
Shallow wells adjacent to surface waters[3]	GWIC IDs: 88129, 88130 and 88131	GWIC IDs: 160578, 180263, 88159	No mapped shallow wells
Published Water Table Maps, Publications, Previous Water Rights, etc.[4]	Smith (2004), LaFave et. al. (2004), Coffin et al. (1972); Water Rights Applications: 76LJ 30116427, 76LJ 30116429, 76LJ 30110482, and 76LJ 30108615	LaFave et. al. (2004), Harrison et al. (2000)	NA
Gridded National Soil Survey Geographic Database[5]	No mapped hydric soils; Shallow water table mapped	No mapped hydric soils; Shallow water table mapped	No mapped hydric soils
Aerial imagery	Wet Channel (NAIP, 2021)	Wet Channel (NAIP, 2021)	Wet Basin(NAIP, 2021)
Affidavits, photographs, etc.	NA	NA	NA

[1] Review NHD to identify perennial, intermittent, and ephemeral classifications for surface water sources most proximal to the proposed diversion(s).

[2] USGS PROSPER probability of streamflow permanence (greater than 50 percent of the time it flows).

[3] Per DNRC (2018) hydraulic connection of individual stream reaches to ground water is evaluated by comparing streambed elevations to static ground water elevations measured in MBMG GWIC wells less than 50 ft deep and within 1,000 ft of surface water or from published water table maps. Surface water within that area is considered hydraulically connected to the unconfined aquifer if static ground water elevations are above or within 10 ft of the elevation of the stream bed.

[4] On a regional scale, potentiometric surface mapping shows that groundwater in the bedrock along valley margins is hydraulically connected to the alluvial aquifer (LaFave et. al., 2004). Locally, a synoptic run conducted by Coffin et al. (1972) showed a gaining reach of the Stillwater River located approximately 1 mile from the proposed wells indicating that groundwater is discharging into the Stillwater River above the confining layers seen in well logs. Geologic mapping by Harrison et al. (2000) has identified normal faults intersecting Logan Creek, suggesting that the source aquifer is hydraulically connected to Logan Creek.

[5] Review Gridded National Soil Survey Geographic Database to identify hydric soils or shallow water tables near surface water sources.

WSB Findings

Based on the review of the published information in **Table 9**, the source aquifer is hydraulically connected to Logan Creek and the Stillwater River, perennial surface water sources. However, the distance from the proposed wells to the Stillwater River and Logan Creek is 3,800 ft and 13,000 ft respectively. Following the inverse distance weighted method described in DNRC (2018) and Section 3.2 of a guidance document developed by the Province of British Columbia (2016), the Stillwater River and Logan Creek are assigned 92% and 8% of net depletions respectively. The proportion of the net depletion volume assigned to Logan Creek is less than 10%, which is the recommended cutoff from DNRC (2018). Therefore, the Stillwater River is the only source considered hydraulically connected to the source aquifer and is considered for the rate and timing of net depletions. As identified in **Figure 17**, the starting point of net depletions to the Stillwater River is the northern boundary of Section 14, Township 31 North, Range 23 West, Flathead County.

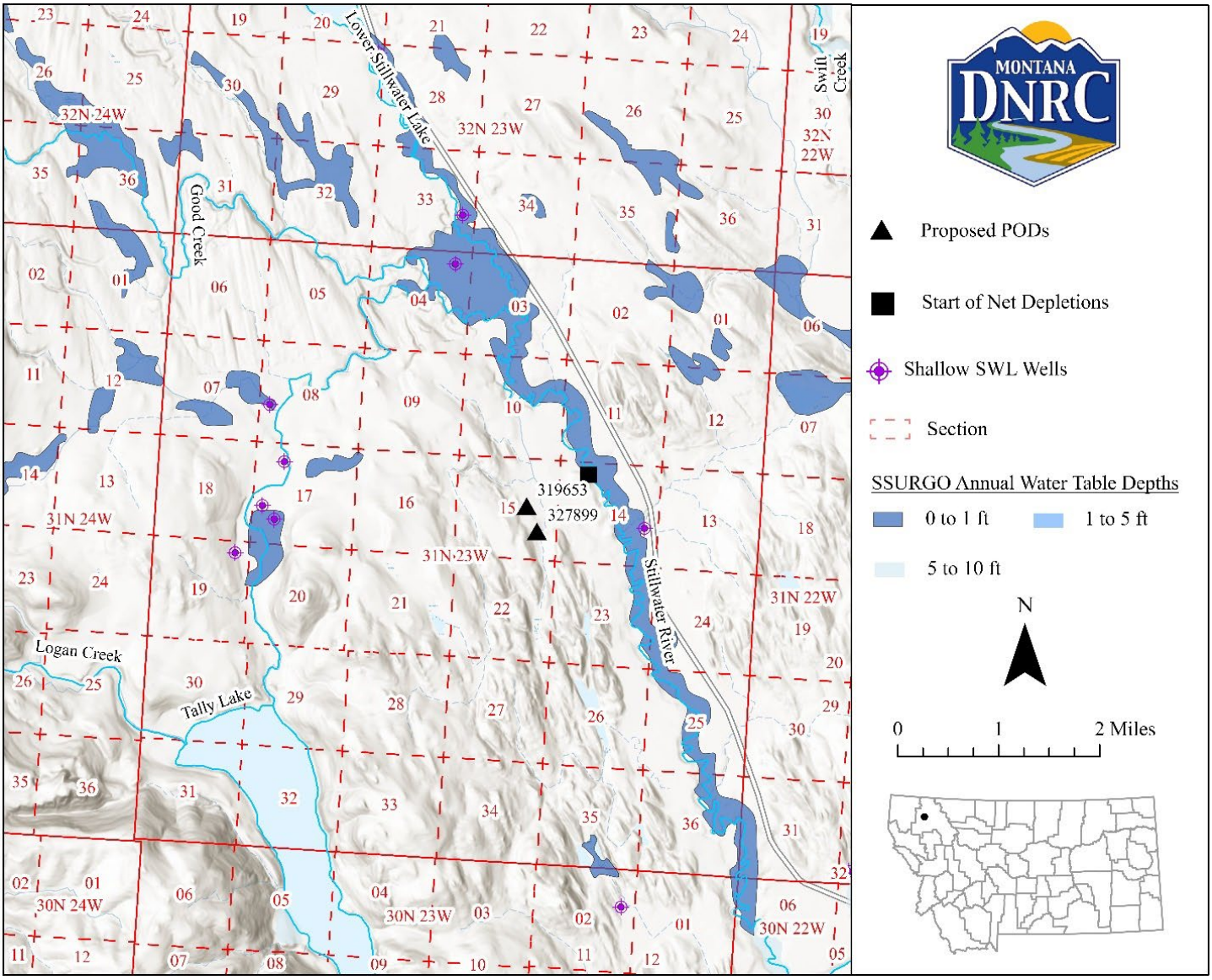


Figure 17: The black square indicates the location at which net depletions would start and propagate downgradient along the Stillwater River.

3. Rate and Timing of Depletions

Evaluations of the rate and timing of depletions caused by pumping are based on the basic concept that groundwater pumping eventually is offset by an equivalent increase in recharge or decrease in discharge (Theis, 1940; Leake et al., 2008), a process defined as capture by Lohman (1972). Capture occurs as drawdown propagates to surface water and areas of phreatophyte vegetation that takes water directly from groundwater. In the absence of credible evidence to the contrary, capture of ET by phreatophytes is neglected and net depletion is assumed to equal total capture. This assumption is justified because published estimates for conditions common in Montana alluvial valleys indicate capture of ET generally is less than 10 percent of total capture (Xunhong, 2006). Capture of ET in ephemeral drainages may be significant and will be evaluated on an application-by-application basis.

The rate and timing of net depletion caused by pumping may be modeled using a variety of analytical and numerical models selected to fit site-specific conditions and needs. Simple models including the Alluvial Water Accounting System (AWAS), the Well Pumping Depletion Model (WPDM) or FWD:SOLV (HydroSOLVE, 2024) typically are used by DNRC to model depletions to one source with simple aquifer boundaries. Adjustments may be made for more complex conditions or multiple sources using methods like those described by Contor (2011), analytical models by Hunt (2003) and Butler et al. (2001) or a superposition numerical groundwater flow model.

Modeling is not necessary in some situations such as where a proposed use is constant year-round because of the depth to the source aquifer and a distance to potentially affected stream reaches. Modeling of depletions can be simplified if the proposed place of use is located the same relative distance from the potentially affected surface water as the proposed wells and all non-consumed water infiltrates the source aquifer and returns to the potentially affected surface water as return flows. Under those simplifying assumptions, depletion can be modeled based on withdrawal of the monthly consumed amounts. Otherwise, depletion by the full withdrawals and return flows need to be modeled separately with net depletion calculated as depletion minus return flows.

Net depletion by pumping in the source aquifer primarily occurs through propagation of drawdown through the unconfined aquifer to the potentially affected reach of the Stillwater River. The proposed use is seasonal, however, due to the nature of the confined bedrock aquifer, net depletions would occur to the Stillwater River at a constant net depletion rate of 11.2 gpm as seen in **Table 1** (DNRC, 2018).

Review

This document has been reviewed on April 3, 2026 in accordance with Category 7 of DNRC's Water Sciences Bureau Minimum Standards of Review, Version 2, February 2024.

References

Agarwal, R.G., 1980. A new method to account for producing time effects when drawdown type curves are used to analyze pressure buildup and other test data, SPE Paper 9289, presented at the 55th SPE Annual Technical Conference and Exhibition, Dallas, TX, Sept. 21-24, 1980.

Bense, V. F., Gleeson, T., Loveless, S. E., Bour, O., & Scibek, J. 2013. Fault zone hydrogeology. *Earth-Science Reviews*, *127*, 171-192.

Cooper, H.H. and C.E. Jacob, 1946. A generalized graphical method for evaluating formation constants and summarizing well field history, Am. Geophysical Union Trans., vol. 27, pp. 526- 534.

DNRC, 2010. Technical Memorandum: Consumptive Use Methodology – Turf Grass, dated March 23, 2010.

DNRC, 2018. Technical Memorandum: Standard Practices for Net Surface Water Depletion from Ground Water Pumping. July 6, 2018.

DNRC, 2019. Technical Memorandum: Physical and Legal Availability of Ground Water, dated April 22, 2019.

Dougherty, D.E and D.K. Babu, 1984. Flow to a partially penetrating well in a double-porosity reservoir, Water Resources Research, vol. 20, no. 8, pp. 1116-1122.

Groundwater Information Center (GWIC), 2024. Montana Bureau of Mines and Geology, http://mbmggwic.mtech.edu/.

Harrison, J. E., Whipple, J. W., Cressman, E. R., Kayser, H. Z., Derkey, P. D., & Center, E. D. (2000). Geologic and structure maps of the Kalispell 1 X 2 quadrangle, Montana, and Alberta and British Columbia (No. 2267).

Hernandez, M.A., Horton, J.D., and San Juan, C.A., 2022, GIS data for geologic and structure maps of the Kalispell 1 x 2 degrees quadrangle, Montana, and Alberta and British Columbia: U.S. Geological Survey data release, https://doi.org/10.5066/P9TZT33J.

HydroSOLVE, Inc. 2007. AQTESOLV for Windows, v.4.5. written by G.M. Duffield, http://www.aqtesolv.com/.

Johns, W.M., 1961. Geologic Investigations in the Kootenai-Flathead area, northwestern Montana; no 3 northern Lincoln County; Montana Bureau of Mines and Geology Bull 36, 68p.

LaFave, J.I., Smith, L.N., Patton, T.W., 2004, Groundwater Resources of the Flathead Lake Area: Flathead, Lake, Missoula, and Sanders Counties, Montana, Part A. MBMG

LaFave, J.I., Smith, L.N., Patton, T.W., 2004, Groundwater Resources of the Flathead Lake Area: Flathead, Lake, Missoula, and Sanders Counties, Montana, Part B. MBMG

Moench, A.F., 1988. The response of partially penetrating wells to pumpage from double-porosity aquifers, Proceedings of the International Conference on Fluid Flow in Fractured Rocks, Atlanta, GA, May 16-18, 1988.

Moench, A.F., 1994. Specific yield as determined by type-curve analysis of aquifer-test data: Groundwater, v. 32, No. 6, p. 949-957.

Natural Resources Conservation Service (NRCS), 2003. Irrigation Water Requirement (IWR) computer program, http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/manage/?cid=stelprdb1044890.

Province of British Columbia (2016). Determining the likelihood of hydraulic connection guidance for the purpose of appropriating demand from diversion of groundwater on streams. Version 1.0. Water Sciences Series, WSS2016-01.Prov.B.B., Victoria B.C

Smith, Larry N., 2004. Surficial geologic map of the upper Flathead River valley (Kalispell valley) area, Flathead County, northwestern Montana : Montana Bureau of Mines and Geology Montana Ground-Water Assessment Atlas 2-B-06, 1 sheet, scale 1:70,000.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. 2024. Web Soil Survey. Available online at https://websoilsurvey.nrcs.usda.gov/.

Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophys. Union Trans., vol. 16, pp. 519-524.

Weight, W., 2008, Manual of applied fi eld hydrogeology, 2nd ed.: New York, McGraw-Hill.

Appendix A: 1-foot-Contour-Water Rights

WATER RIGHT NUMBER	ALL OWNERS	WELL DEPTH (FT)	WELL STATIC WATER LEVEL (FT)	DRAWDOWN (FT)	REMAINING AVAILABLE WATER COLUMN (FT)
76LJ 71028 00	GERALD R HANSEN			14.5	
76LJ 71029 00	TAMARACK HOLDINGS LLC	139	17	8.3	113.7
76LJ 30162647	BETTY J MILLER	400	57	6.6	336.4
76LJ 30149157	GENE L HANSEN; GERALD R HANSEN	305	37	5.5	262.5
76LJ 30148526	BETTY J MILLER	65	40	3.8	21.2
76LJ 30148527	BETTY J MILLER			3.8	
76LJ 30030249	JOSEPH I WORSHAM	396	230	3.0	163.0

Groundwater Permit Technical Analyses Report – Part B

Department of Natural Resources and Conservation (DNRC/ Department)

Water Resources Division

Jack Vanderbilt, Water Resource Specialist, Kalispell Regional Office

Applicants	HOMESTEAD SPORTING CLUB INC, STILLWATER MOUNTAIN RANCH LLC, FORE THE WIN LLC
Application No.	76LJ 30171694
Proposed Point of Diversion	POD 1 (GWIC ID No. 319653): SWNESE of Section 15, Township 31N, Range 23W, Flathead County
	POD 2 (GWIC ID No. 327899): SESWNE of Section 15, Township 31N, Range 23W, Flathead County

Overview

This report is Part B of a two-part publication which analyzes data submitted by the Applicant in support of the above-mentioned water right application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in § 85-2-311, Montana Code Annotated (MCA).

This Groundwater Permit Technical Analyses Report – Part B contains the following sections:

Overview 1
Variances 2
1.0 Application Details 2
2.0 Surface Water Analysis of Depleted Surface Water 4
2.1 Source Description 4
2.2 Method of Estimation 4
2.3 Monthly Flow Rate and Volume 4
3.0 Area of Potential Impact Analysis 6
3.1 Area of Potential Impact Analysis of Groundwater 6
3.2 Area of Potential Impact Analysis of Depleted Surface Water 6
Review 7
References 7
Appendix A: Groundwater Rights in the Zone of Influence 8
Appendix B: Water Rights within the Surface Water Area of Potential Impact 8

Variances

The Applicant requested variances from the aquifer testing requirements in ARM 36.12.121(3)(a) on December 9, 2025. ARM 36.12.121(3)(a) states that pumping must be maintained throughout the duration of the test. The rate may not depart from the average pumping rate by more than 5%. At the start of the 24-hour test for the irrigation well (GWIC ID 327899) there were two data points outside of 5%. The WSB determined that these variable data points would not affect their modeling. A variance from aquifer testing requirement ARM 36.12.121(3)(a) was granted by the Kalispell Regional Office.

1.0 Application Details

The Applicant proposes to divert groundwater from April 20 – October 10 at a rate of 105.0 gallons per minute (GPM) up to 25.75 acre-feet (AF) of volume annually from two wells: POD 1 (GWIC ID No. 319653) and POD 2 (GWIC ID No. 327899) for sprinkler irrigation of 14.3 acres for a golf course. The proposed points of diversion and places of use are shown in Table 1 and Figure 1.

Table 1. Summary of the proposed use

Source	Purpose	Flow Rate (GPM)	Diverted Volume (AF)	Consumed Volume (AF)	Period of Diversion and Use	Point of Diversion	Place of Use
Groundwater: 400BELT fractured rock aquifer - 2x wells (GWIC ID Nos. 319653 and 327899)	Irrigation (14.3 acres)	105.0	25.75	18.03 (70% consumptive)	04/20 – 10/10	SWNESE (POD 1) and SESWNE (POD 2) of Section 15, Township 31N, Range 23W, Flathead County	SWNE and E2SE of Section 15, Township 31N, Range 23W, Flathead County (Irrigation)

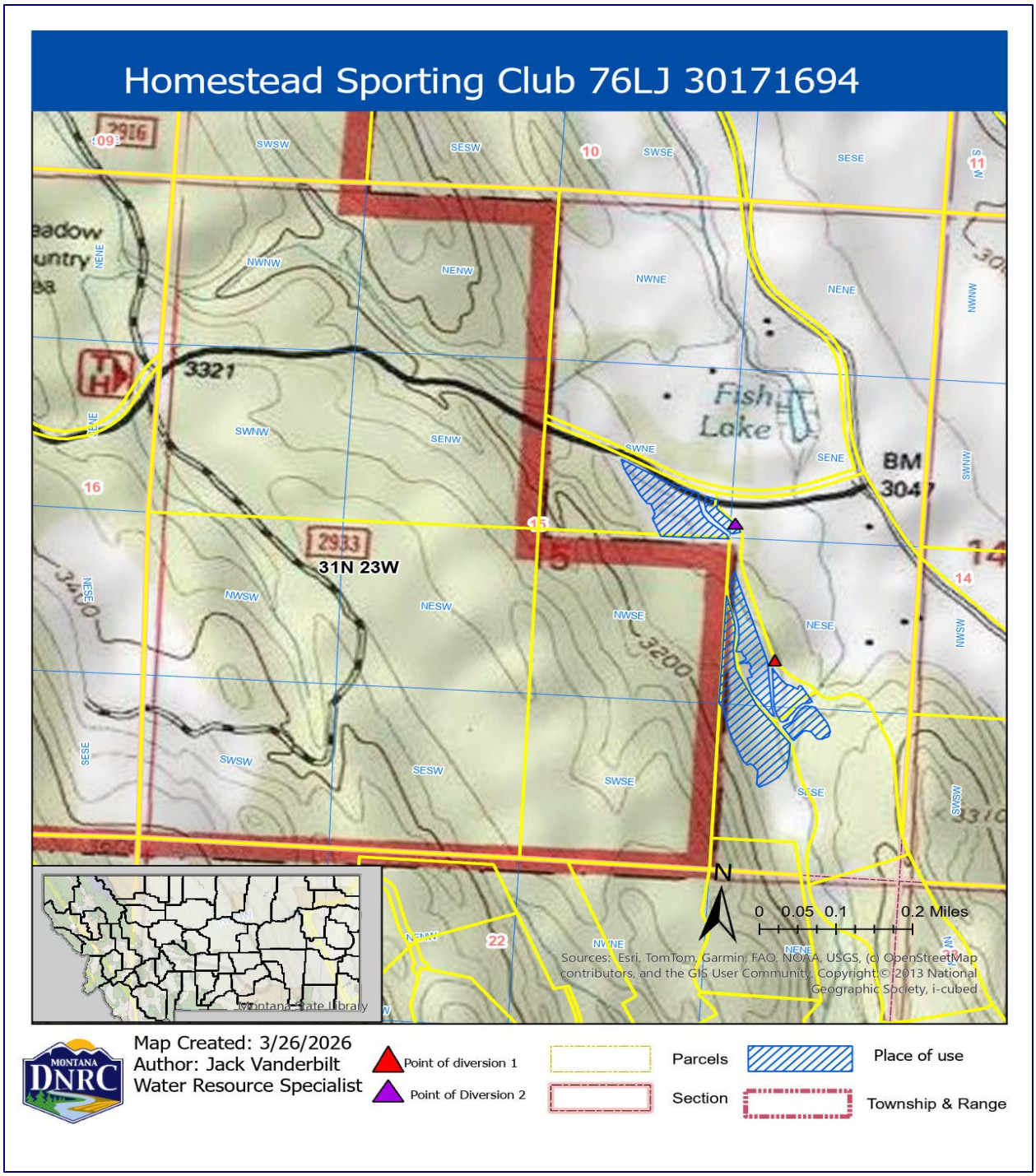


Figure 1: Map of the proposed points of diversion and place of use.

2.0 Surface Water Analysis of Depleted Surface Water

2.1 Source Description

Part A of the Technical Analyses Report includes the Groundwater Analysis, which describes the methodologies used to identify the depleted surface water source (the Stillwater River) and the locations of net depletions on that source. Net depletion by pumping in the source aquifer primarily occurs through propagation of drawdown through the unconfined aquifer to the potentially affected reach of the Stillwater River. While the proposed use is seasonal, the nature of the confined bedrock aquifer would result in a constant year-round net depletion rate to the Stillwater River of 11.2 GPM.

Depleted Source of Water: Stillwater River

Depleted Source Type: Perennial

Location of Depletions (LOD): Northern boundary of Section 14, Township 31N, Range 23W, Flathead County.

2.2 Method of Estimation

Gage Name: Stillwater River at Lawrence Park, at Kalispell MT

Gage Number: USGS Gage #12365700

Period of Record: March 2007 – May 2025

Why this gage is considered an appropriate data source: USGS Gaging Station No. 12365700 is the nearest active gage and has a data record that is more representative of the modern conditions of the Stillwater River. While the Stillwater River near Whitefish, MT USGS Gaging Station No. 12365000 was historically located nearer to the LOD, that gage has not recorded data since September 30, 2006. USGS Gaging Station No. 12365700 is located approximately 32 miles downstream of the LOD. The date range used includes the entire period of record for this gage. The Applicant's consultant conducted a visual survey of streamflow conditions between the two gages (available in the administrative file), and despite the presence of numerous water rights located along the stretch, the streamflow appeared to maintain and even gain through the reach. There appears to be upwelling of groundwater located within the reach as well as likely return flows from other water uses along the reach.

2.3 Monthly Flow Rate and Volume

Methodology: Physical availability of Stillwater River water at the LOD will be quantified monthly. Department practice for physical availability analyses where the gaging station used is downstream of the LOD is to add the monthly flow rates of existing diversionary water rights between the gaging station and the LOD to the median of the mean monthly flows at the gaging station.

The Department calculated median of the mean monthly flow rates in cubic feet per second (CFS) for the Stillwater River using USGS Gaging Station No. 12365700 records for each month of the period of

depletions (**Table 2**, column B). Those flows were converted to monthly volumes (**Table 2**, column C) using the following conversion found in the DNRC Water Calculation Guide: median of the mean monthly flow (CFS) × 1.98 (AF/day/1 CFS) × days per month = AF/month.

The Department calculated the monthly flows appropriated by existing users between USGS Gaging Station No. 12365700 and the LOD (**Table 2**, column D) by:

i. Generating a list of existing water rights from USGS Gaging Station No. 12365700 up to the LOD (The list is contained in the administrative file and is available upon request);

ii. Designating uses as occurring during their recorded periods of diversion;

iii. Assigning a single combined flow rate of 0.08 CFS to all livestock direct from source rights without a designated flow rate (per DNRC adjudication standards); and,

iv. Assuming that the flow rate of each existing right is continuously diverted throughout each month of the period of diversion. This assumption is necessary due to the difficulty of differentiating the distribution of appropriated volume over the period of diversion. This leads to an overestimation of existing uses from the source. The Department finds this an appropriate measure of assessing existing rights as it protects existing water users.

Since the gage used is downstream of the LOD, the Department added the flow rates of the existing diversionary water rights between USGS Gaging Station No. 12365700 and the LOD (**Table 2**, column D) to the median of the mean monthly gage values (**Table 2**, column B) to determine physical availability at the LOD on the Stillwater River (**Table 2**, column E). Physically available monthly flows were then converted to monthly volumes (**Table 2**, column F).

Table 2: Physical Availability at The Location of Depletion (LOD)

A	B	C	D	E	F
Month	**Median of mean monthly flow at USGS Gaging Station No. 12365700 (CFS)**	**Median of mean monthly flow at USGS Gaging Station No. 12365700(CFS)**	**Existing legal demands between the LOD and USGS Gaging Station No. 12365700(CFS)**	**Physically available water at LOD(CFS)**	**Physically available monthly volume at the LOD (AF)**
January	88.02	5,184.44	2.99	91.01	5,360.55
February	94.65	5,035.17	2.99	97.64	5,194.24
March	131.99	7,774.21	7.55	139.54	8,218.91
April	550.73	31,391.78	95.10	645.83	36,812.48
May	937.87	55,240.60	234.03	1,171.90	69,024.97
June	690.10	39,335.70	242.64	932.74	53,166.18
July	249.77	14,711.72	243.58	493.35	29,058.58
August	129.86	7,648.81	241.70	371.56	21,884.94
September	92.61	5,278.86	241.23	333.84	19,028.97
October	94.37	5,558.28	209.58	303.95	17,902.54
November	112.72	6,425.21	7.00	119.72	6,824.21
December	90.48	5,329.04	2.99	93.47	5,505.15

3.0 Area of Potential Impact Analysis

3.1 Area of Potential Impact Analysis of Groundwater

The Area of Potential Impact (AOPI) for groundwater is considered to be the Zone of Influence (ZOI), or 0.01-foot drawdown contour surrounding the point of diversion. The determination of the ZOI for this application is described in Part A of this report. The list of groundwater rights within the ZOI includes active and severed water rights within the ZOI that are either completed in the source aquifer or have an unknown well depth. Groundwater rights within the ZOI are listed in Appendix A of Part B of this report.

Quantification Methodology: See Section 7.0 of Groundwater Permit Technical Analyses Report – Part A.

3.2 Area of Potential Impact Analysis of Depleted Surface Water

The surface water AOPI for this application:

The AOPI is the Stillwater River from the LOD in Section 14, Township 31N, Range 23W, Flathead County, downstream to the Stillwater River confluence with Flathead River in Section 27, Township 28N, Range

21W, Flathead County. A total of 156 surface water rights exist within this reach. A list of these rights is included with this report in Appendix B. Due to the large size of this list, the list will be sent via email as an excel spreadsheet file. The list is additionally contained in the administrative file and is available upon request.

Why this is an appropriate AOPI:
Depletion of water from the Stillwater River will reduce the total flow and volume of water in the Stillwater River downstream of the LOD. The AOPI was terminated at the confluence of the Stillwater River and Flathead River because the legal availability of the Flathead River is well characterized in the reach of the Flathead River downstream of this confluence and the anticipated depletion of the Stillwater River will not significantly impact the Flathead River downstream of Section 27, Township 28N, Range 21W, Flathead County.

Methodology: The Department considered the characteristics of the Stillwater River to determine an appropriate AOPI for the depleted source.

Review

This document has been reviewed by the Department on April 13th, 2026

References

DNRC Technical Memorandum: Physical Availability of Surface Water with Gage Data
Department Standard Practice for Area of Potential Impact Analysis

****

Appendix A: Groundwater Rights in the Zone of Influence

WATER RIGHT NUMBER	All OWNERS	PERIOD OF DIVERSION	VOLUME (AF)
76LJ 71028 00	GERALD R HANSEN	01/01-12/31	5.75
76LJ 71029 00	TAMARACK HOLDINGS LLC	01/01-12/31	1.61
76LJ 30162647	BETTY J MILLER	01/01-12/31	4.75
76LJ 30149157	GENE L HANSEN; GERALD R HANSEN	01/01-12/31	3.4
76LJ 30148526	BETTY J MILLER	01/01-12/31	1.79
76LJ 30148527	BETTY J MILLER	01/01-12/31	3.4
76LJ 30030249*	JOSEPH I WORSHAM	01/01-12/31	10

*This water right is an unquantified water right and is limited to the actual amount used up to 10 acre-feet (AF). For the purposes of this table the water right has been assigned the full 10 AF.

Appendix B: Water Rights within the Surface Water Area of Potential Impact

Due to its length, this list has been provided with this report as an Excel spreadsheet via email. The list is also contained in the administrative file and is available upon request.

Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

Water & Environmental
TECHNOLOGIES

February 20, 2026

Jim Ferch
DNRC Regional Office
655 Timberwolf Parkway, Ste 4
Kalispell, MT 59901

Re: Pre-Application Meeting Form 600P-B and 600P-A Follow Up Submittal for Homestead Sporting Club Groundwater Application 76LJ 30171694

Dear Jim,

We appreciate you and your staff's support during our pre-application meeting on September 2, 2025. Since that time WET has prepared and submitted a variance request to aquifer testing standards which was subsequently approved by DNRC. Accordingly, we are pleased to provide the form 600P-B and associated documents that will allow DNRC to initiate the technical analysis process. The signed form 600P-B is provided as **Attachment A.** A copy of the variance approval is provided as **Attachment B**.

No follow-up responses were required associated with the Form 600P-A.

The following responses have been amended from the pre-application meeting:

Amended Responses:

1. *Do you elect to have DNRC conduct the Technical Analyses?*

Yes, WET elects to have DNRC conduct the Technical Analyses.

No other amended responses are required. However, WET has prepared supplemental documentation which supports the availability of water in the Stillwater River, which was identified as a hydraulically connected depleted surface water source in the Form 600P-B. This technical memorandum is provided as **Attachment C**.

The following attachments are provided in support of this pre-application:

Attachment A – Form 600P-B

Attachment B – DNRC Variance Approval Letter

Attachment C – Stillwater River Technical Memorandum

If you have any questions regarding the information provided above or would like to discuss this matter in further detail, I can be reached at (406) 309-6085 or jgraham@waterenvtech.com.

Sincerely,

Jamie Graham
Project Hydrogeologist, Water & Environmental Technologies

Attachment A

Form 600P-B

PREAPPLICATION MEETING FORM: PART B
PERMIT

§ 85-2-302, MCA

Form No. 600P-B *(Revised 02/2025)*

For Department Use Only

Application # 30171694 Basin 76LJ
Form Received UP
Fee Rec'd $ 500.00 Check # 1502
Deposit Receipt # KLV26700160
Payor Water + Environmental Tech Inc.
Form Returned _____
Refund $ _____ Date _____

RECEIVED
DNRC Water Resources
FEB 20 2026
Kalispell Unit

PREAPPLICATION MEETING FEE
$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE
An application will be eligible for a filing fee reduction and expedited timelines if the Applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of Applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

The Applicant is responsible for providing a "Follow-up Responses" document for all follow-up identified in Preapplication Meeting Form Part A (Form 600P-A). The Applicant may not alter Form 600P-A. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled.

The following guidelines are applicable to both the "Follow-up Responses" and "Amended Responses" documents. Clearly label all question numbers. Answer questions in the same format as Form 600P-A. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is included with the document.

1. ☐ **Y** ■ **N** Are you submitting this form in response to a determination by the Department that a previously submitted Form 600P-B was inadequately completed?

If yes,

a. Date form was returned ("Form Returned" date found in "For Department Use Only" box on the previously submitted Form 600P-B): _____

b. If a "Follow-up Responses" or "Amended Responses" document is required by questions 2 or 3, submit complete updated documents with responses that stand-alone. The Department will only use the most recently submitted "Follow-up Responses" and "Amended Responses" documents for departmental technical analyses or scientific credibility review; the Department will not use multiple versions of a document.

2. ☐ **Y** ■ **N** Were any questions identified as requiring follow-up on Form 600P-A?

If yes,

a. ☐ **S** Submit "Follow-up Responses" document for all questions requiring follow-up.

3. ■ Y □ N Are you submitting amended responses to any questions from Form 600P-A?

If yes,

a. ■ **S** Submit "Amended Responses" document and record in the table below each question number with an amended response. The amended response will entirely replace the previous response; the amended response cannot build off the previous response.

Question No.	Question No.	Question No.	Question No.
1			

FOLLOW-UP AND AMENDED RESPONSES AFFIDAVIT & CERTIFICATION

"I attest that this preapplication meeting form (Form 600P-A and Form 600P-B), follow-up, and amended responses accurately portray the proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if, upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form, amended responses, or follow-up materials (ARM 36.12.1302(6)(a))."

Applicant Signature — Date: 2-12-26

Applicant Signature — Date

"We confirm that the preapplication form (Form 600P-A and Form 600P-B), amended responses, and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the Applicant has elected to complete technical analyses, we confirm they have submitted each required element of technical analysis based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

Department Signature — Date: 2/27/26

Department Signature — Date

Attachment B

DNRC Variance Approval Letter

THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

GOVERNOR GREG GIANFORTE

DNRC DIRECTOR AMANDA KASTER

Water Resources Division

Kalispell Regional Office

655 Timberwolf Pkwy Ste 4
Kalispell MT 59901-1215
phone: 406-752-2288

January 23, 2026

Water and Environmental Technologies
bbennett@waterenvtech.com

RE: Variance Review for 76I 30171694 – Homestead Sporting Club

Dear Ms. Graham,

The Applicant (through its consultant) requested a variance from the aquifer testing requirements for the subject-line permit pre-application.

A variance from the following rules is needed for the aquifer test.

- 36.12.121(3)(a)

The Department grants a variance of aquifer testing from the rules noted directly above.

Sincerely,

Jim Ferch
Kalispell Water Resources Regional Manager
jferch@mt.gov
406-752-2706

Attachment C

Stillwater River Memorandum

Water & Environmental
TECHNOLOGIES

TECHNICAL MEMORANDUM

To: Jim Ferch, Water Resources, Kalispell Regional Office Manager, Montana DNRC

From: Jamie Graham, Hydrogeologist - Water & Environmental Technologies

Date: February 20, 2026

Re: Stillwater River Assessment – In support of Homestead Sporting Club Groundwater Application 76LJ 30171694, Flathead County, Montana
WET Project No. 1687-23

INTRODUCTION

Homestead Sporting Club is seeking to permit water usage for golf course irrigation. The bedrock aquifer is the groundwater source for Homestead Sporting Club's irrigation wells. This aquifer has been identified as hydraulically connected to the Stillwater River and net depletions have been assigned to this water body in past applications. In the technical analysis for a past application for this same use, a net depletion of 11.2 gallons per minute was assigned to the Stillwater River. Additionally, based on DNRC's analysis and an assessment of existing water rights on the Stillwater River within the area of potential impact as defined in DNRC's report, there is not water legally available in the Stillwater River between the months of August and October as the existing legal demands within the area of potential impact exceed the flow rate of the Stillwater River in these months.

The purpose of this memorandum is to provide supplemental information for DNRC to utilize in their analysis of groundwater application 76LJ 30171694 and request that DNRC re-evaluate gage selection for the Stillwater River.

WET believes that the DNRC's use of the Whitefish Gage (USGS 12365000) may not be representative of hydrologic conditions in the affected reach identified in the technical analysis. Given the proximity of the Lawrence Park Gage (USGS 12365700) to the identified depleted reach, its more consistent and active period of record, and its representation of late-season baseflow conditions, we request DNRC evaluate water availability using this station or document why it is less appropriate than the currently selected gage. The Whitefish gage station has a period of record from 1930 through 2006, with several gaps in the dataset. The Lawrence Park gage has been active since October 2007 and continues to be maintained and operated by the USGS.

DNRC DETERMINATION SUMMARY

DNRC's Technical Analyses Report evaluated surface water availability on the Stillwater River using streamflow data from the former Stillwater River at Whitefish gage and estimated monthly surface water depletions associated with the proposed groundwater appropriation. Based on this evaluation, it was concluded that no legal surface water was available from August through October due to late-season low-flow conditions and the presence of senior surface water rights.

As a result, August, September, and October were identified as a period during which additional surface water depletions would be inconsistent with available supply as reflected in the gage record at the former Whitefish station.

SEPTEMBER 2025 PHYSICAL INSPECTION OF THE STILLWATER RIVER

A physical inspection of the Stillwater River was conducted on September 19, 2025, at multiple locations along the reach both above and below the depleted section. Observations included continuous surface flow and connected channel features throughout the inspected reach. Flow conditions were evaluated using visual assessment and field-based flow estimates. No dry reaches or isolated pools were observed during the inspection period.

Inspection locations were selected based on accessibility via public roadways and proximity to the proposed project location. WET personnel inspected the Stillwater River at seven locations. **Figure 1** provides the location of the Stillwater River, the seven inspection locations, the proposed place of use for Homestead Sporting Club's water use, the location of the historical Whitefish Gage (USGS 12365000), and the location of the active Lawrence Park Gage (USGS 12365700).

Table I. Stillwater River Observation Locations

OBSERVATION LOCATION	MAP ID	CHANNEL WIDTH (FEET)	ESTIMATED MAXIMUM DEPTH (FEET)
Martin Camp Road Bridge	1	40'	3'
Farm to Market Road Bridge	2	53'	3.5
Twin Bridges Bridge	3	70'	3'
Spring Prairie Bridge	4	42'	3.5'
Church Drive Bridge	5	55'	3.5'
U.S. Highway 93 Bridge	6	65'	Too turbid for estimation
Flathead Valley Community College	7	101'	Too turbid for estimation

Table I provides a summary of the data collected at each of the observation locations and the associated river location map identification number. Stream velocity was recorded at certain locations utilizing the float method. This method includes deploying a floating object into the stream and measuring the time elapsed for the object to travel a known distance.

A summary of stream flow estimates at the locations measured is provided in **Table II**. Stream velocity values are based on an average of three "float tests". The distance traveled by the float (in feet) was divided by average speed of the float test (in seconds) to compute stream velocity. Flow rate was calculated by multiplying the velocity by the average depth (estimated based on the maximum channel depth multiplied by one half) and multiplying that by the channel width.

Table II. Flow Estimates

OBSERVATION LOCATION	MAP ID	STREAM VELOCITY (FT/SEC)	ESTIMATED AVERAGE DEPTH (FEET)	ESTIMATED FLOW RATE (CFS)
Martin Camp Road Bridge	1	0.87	1.5	52.2
Spring Prairie Bridge	4	0.74	1.75	54.4
Church Drive Bridge	5	0.59	1.75	56.8

A photographic journal including photographs of the river at each observation location is provided as **Attachment A**.

River observations were completed between 1:30 and 5:15 PM on Friday September 19, 2025. Within this timeframe, the Lawrence Park Gage reported gage heights ranging from 2.60 to 2.61 feet and reported discharge ranging from 51.8 to 53.7 cubic feet per second. At the time of the preparation of this report, this data remains provisional. Discharge statistics for the Lawernce Park Gage for September 19 based on 18 years of daily mean data indicate that gage reports 95.667 CFS as the median reading. This indicates that the observed conditions of the September 19, 2025 field assessment are representative of very low seasonal conditions in the Stillwater River.

CONSISTENCY BETWEEN FIELD OBSERVATIONS AND LAWRENCE PARK GAGE DATA

Field observations conducted on September 19, 2025 are consistent with late-season low-flow conditions indicated by the Stillwater River at Lawrence Park gage.

Estimated flows measured in the field (52.2 to 56.8 cfs) closely correspond with the provisional Lawrence Park gage discharge values recorded during the same timeframe (51.8 to 53.7 cfs). This supports the consistency of the field-based estimates, affirms the relatively limited use of surface water, and suggests that the Lawrence Park gage reasonably reflects flow conditions within the Stillwater River basin.

Additionally, field observations indicate a slight downstream increase in estimated discharge, suggesting that the inspected reach may function as a gaining stretch during late-season baseflow conditions. The gaining nature of the stream appears to compensate for water diverted for beneficial use.

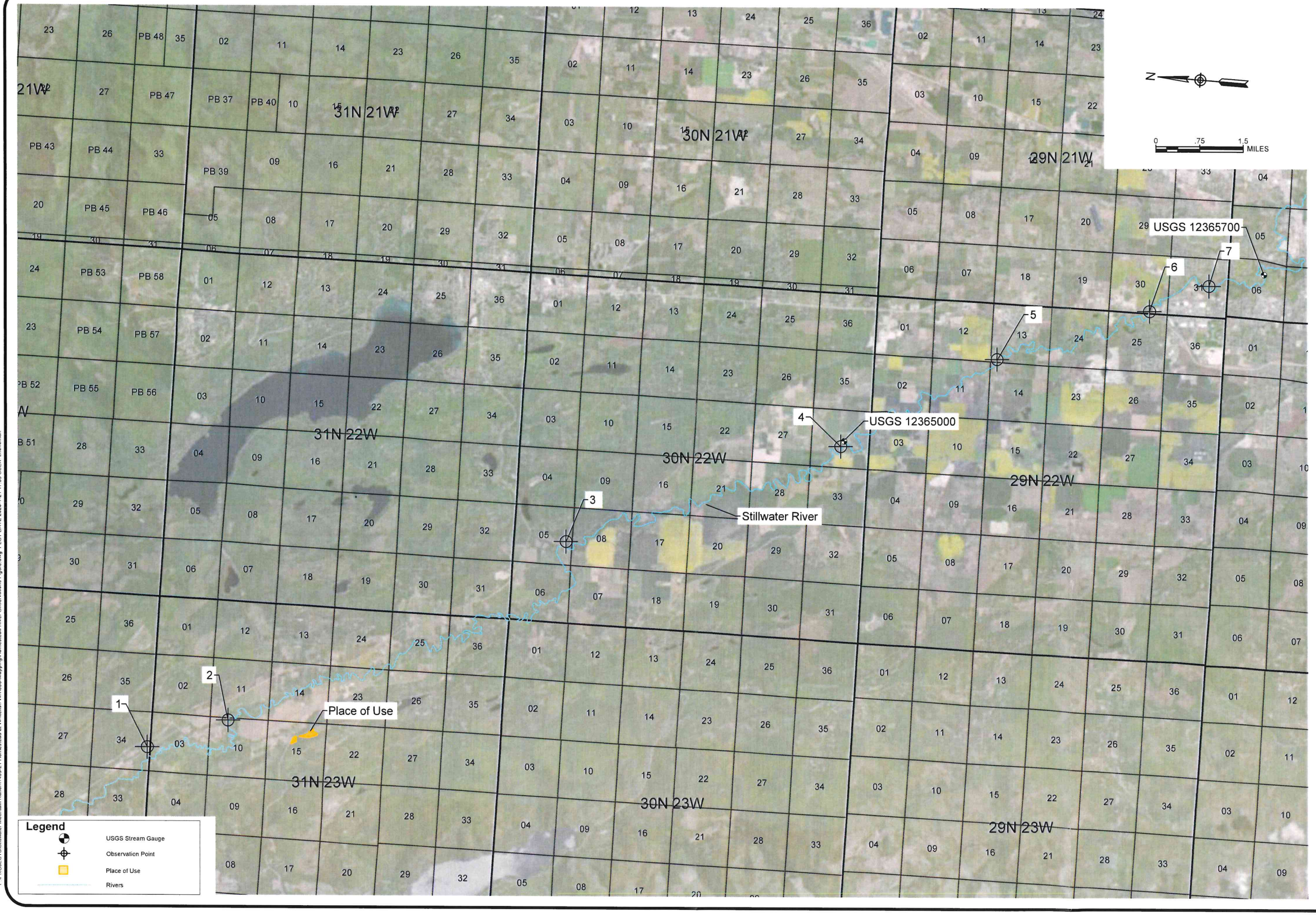
APPROPRIATENESS OF LAWRENCE PARK GAGE

The Stillwater River gage at Lawrence Park is less influenced by upstream hydrologic controls and has a consistent period of record of stream flow over the past two decades. The location of the gage better captures the hydrologic conditions of the Stillwater River, including the active water use upstream of the gage. As a result, this gage appears better suited to represent groundwater-supported baseflow conditions within the affected reach during late-season low-flow periods.

REQUEST FOR RE-EVALUATION

Based on the September 19, 2025 field observations and the comparison of available gage data, it is requested that DNRC consider evaluating surface water availability using the Stillwater River at Lawrence Park gage. Alternatively, WET seeks to understand the reasoning for continued reliance on the former Stillwater River at Whitefish gage for evaluating water availability within the affected reach.

FIGURES



P:\PROJECTS\Stillwater Mountain Ranch\1439-21 Homestead at Whitefish WR\350-Mapping\Homestead River Observations Figure.dwg PLOT DATE 2026-1-21 17:09 USER: zheffernan

No	Description	Date	Drawn By
1	JG Edits	01/21/26	ZH

COPYRIGHT 2026
Water & Environmental Technologies PC hereby reserves our common law copyright in the document and the ideas and designs incorporated herein as an instrument of professional service. Any use of this document and/or the ideas and designs incorporated herein, in part or any other parcels or other use without our express written authorization.

Water & Environmental Technologies
102 Cooperative Way
Suite. 100
Kalispell, MT 59901
(406) 756-2550
waterenvtech.com

River Observation Locations

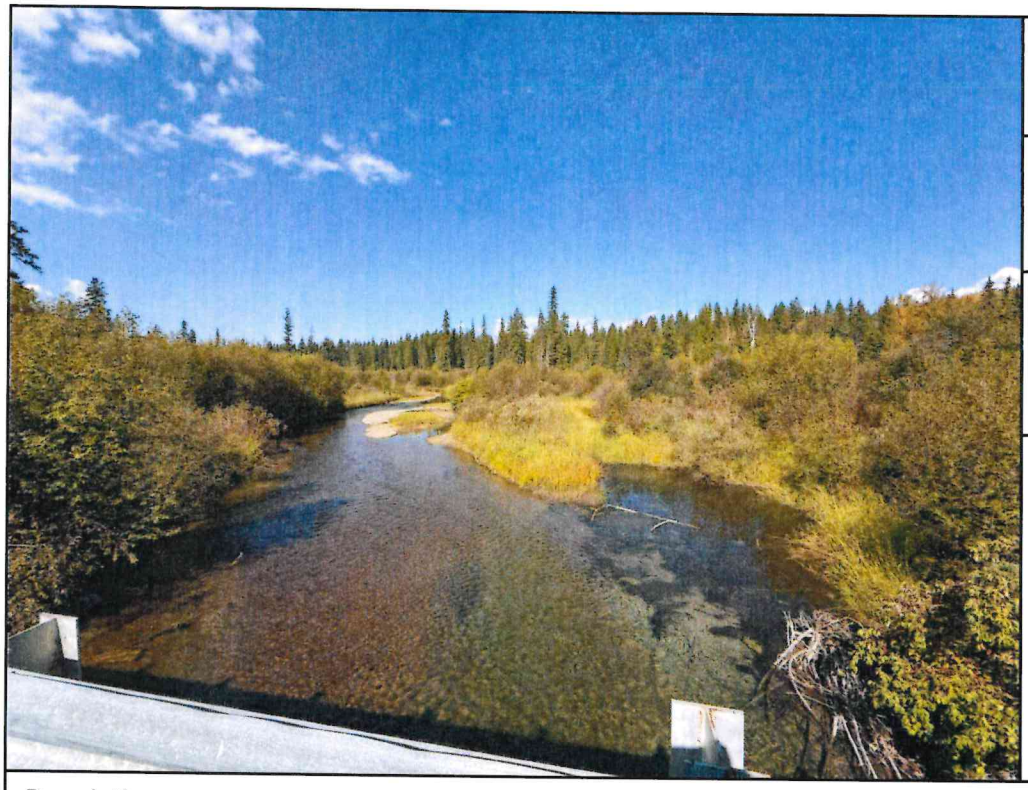
PROJECT NAME: HOMESTEAD WHITEFISH WATER RIGHT
LOCATION: WHITEFISH, MT
FILE NO.: Homestead River Observations Figure.dwg

JOB NO:	1439-21
DATE:	1/21/26
DRAFTER:	ZH
CHECKED BY:	JG

SHEET
Figure 1

ATTACHMENT A

Photographic Journal of Stillwater River Observations



Photograph Number:
1

Photographer:
Jamie Graham

Date:
September 19, 2025
1:54 PM

Photo Location:
Stillwater River – Martin Camp Road

Description:
View of Stillwater River at Martin Camp Road bridge crossing, Photograph is facing north (upstream).



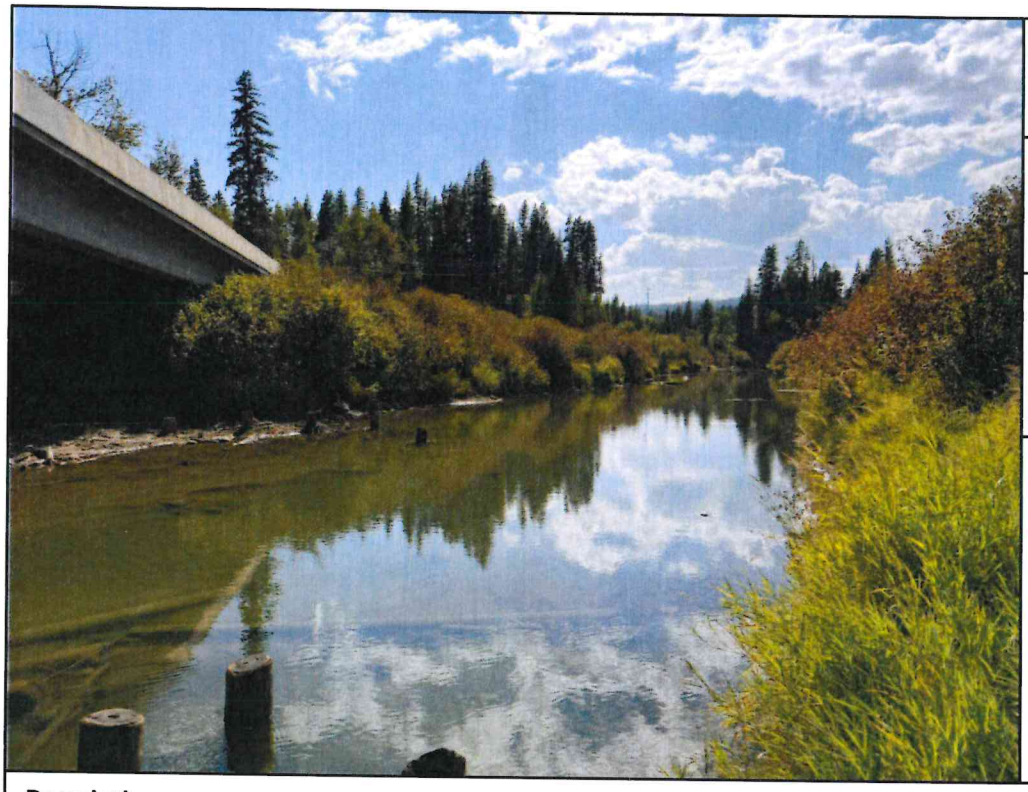
Photograph Number:
2

Photographer:
Jamie Graham

Date:
September 19, 2025
1:55 PM

Photo Location:
Stillwater River – Martin Camp Road

Description:
View of Stillwater River at Martin Camp Road bridge crossing, Photograph is facing south (downstream).



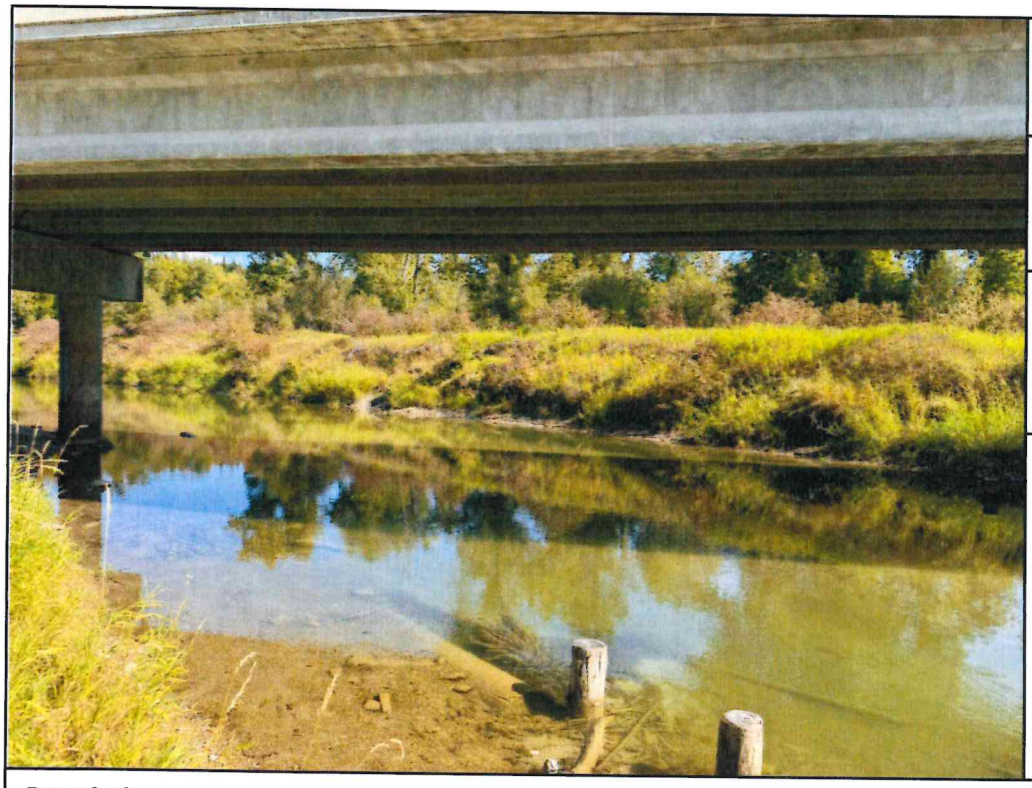
Photograph Number:
3

Photographer:
Jamie Graham

Date:
September 19, 2025
2:16 PM

Photo Location:
Stillwater River – Farm to Market Road

Description:
View of Stillwater River at Farm to Market Road bridge, Photograph is facing southwest (upstream).



Photograph Number:
4

Photographer:
Jamie Graham

Date:
September 19, 2025
2:16 PM

Photo Location:
Stillwater River – Farm to Market Road

Description:
View of Stillwater River at Farm to Market Road bridge, Photograph is facing northeast (downstream).



Photograph Number:
5

Photographer:
Jamie Graham

Date:
September 19, 2025
2:40 PM

Photo Location:
Stillwater River – Twin Bridges

Description:
View of Stillwater River from Twin Bridges Road bridge, Photograph is facing north (upstream).



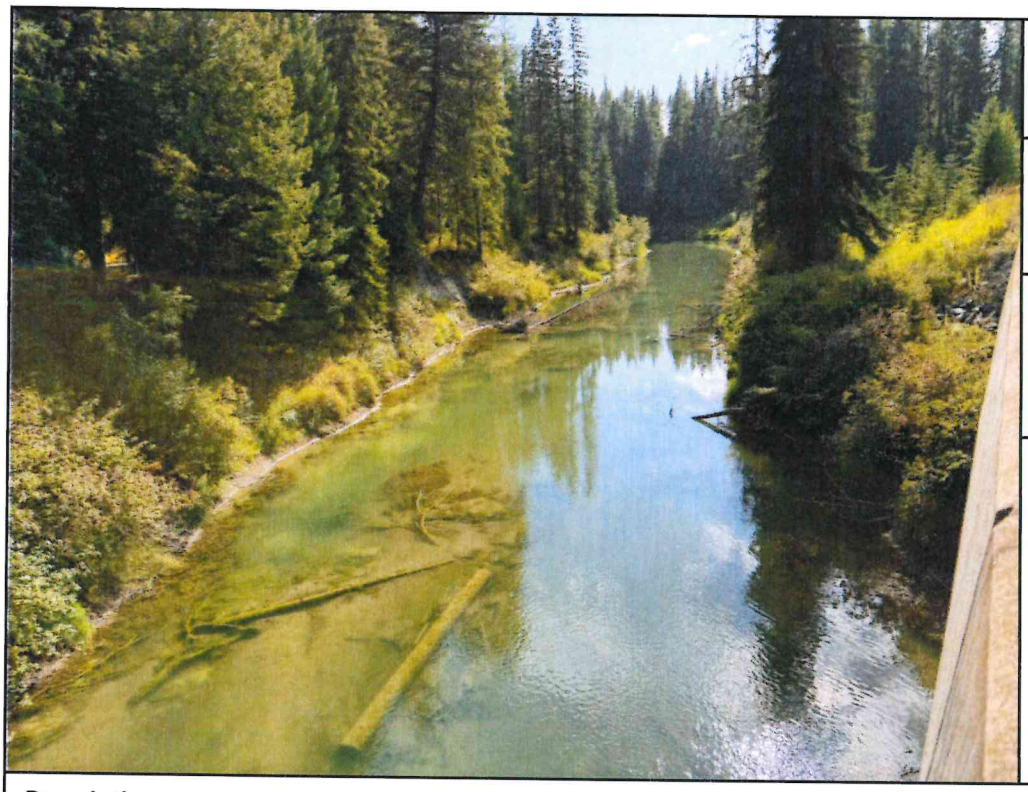
Photograph Number:
6

Photographer:
Jamie Graham

Date:
September 19, 2025

Photo Location:
Stillwater River – Twin Bridges

Description:
View of Stillwater River from Twin Bridges Road bridge, Photograph is facing south (downstream).



Photograph Number:
7

Photographer:
Jamie Graham

Date:
September 19, 2025
2:41 PM

Photo Location:
Stillwater River – Twin Bridges

Description:
View of Stillwater River from Twin Bridges Road bridge, Photograph is facing south (downstream).



Photograph Number:
8

Photographer:
Jamie Graham

Date:
September 19, 2025
2:41 PM

Photo Location:
Stillwater River – Twin Bridges

Description:
View of Stillwater River from Twin Bridges Road bridge, Photograph is facing directly overhead from south (downstream) side.



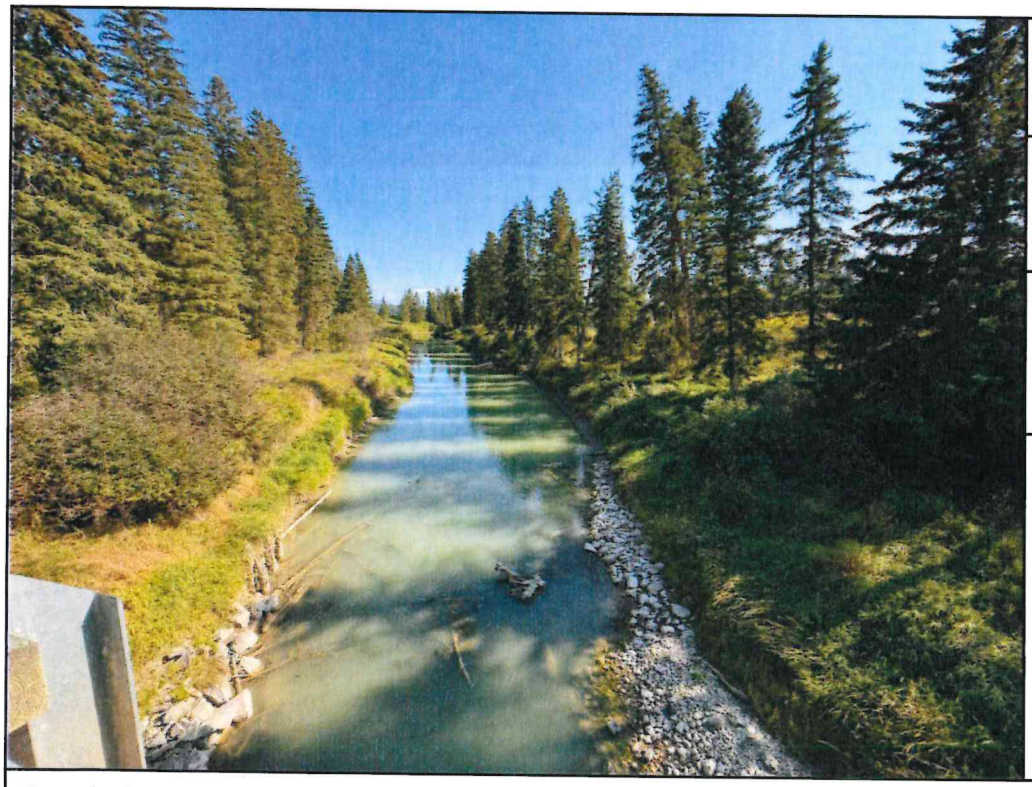
Photograph Number:
9

Photographer:
Jamie Graham

Date:
September 19, 2025
2:57 PM

Photo Location:
Stillwater River – Spring Prairie

Description:
View of Stillwater River from Spring Prairie Road bridge, Photograph is facing northwest (upstream).



Photograph Number:
10

Photographer:
Jamie Graham

Date:
September 19, 2025
2:58 PM

Photo Location:
Stillwater River – Spring Prairie

Description:
View of Stillwater River from Spring Prairie Road bridge, Photograph is facing southeast (downstream).



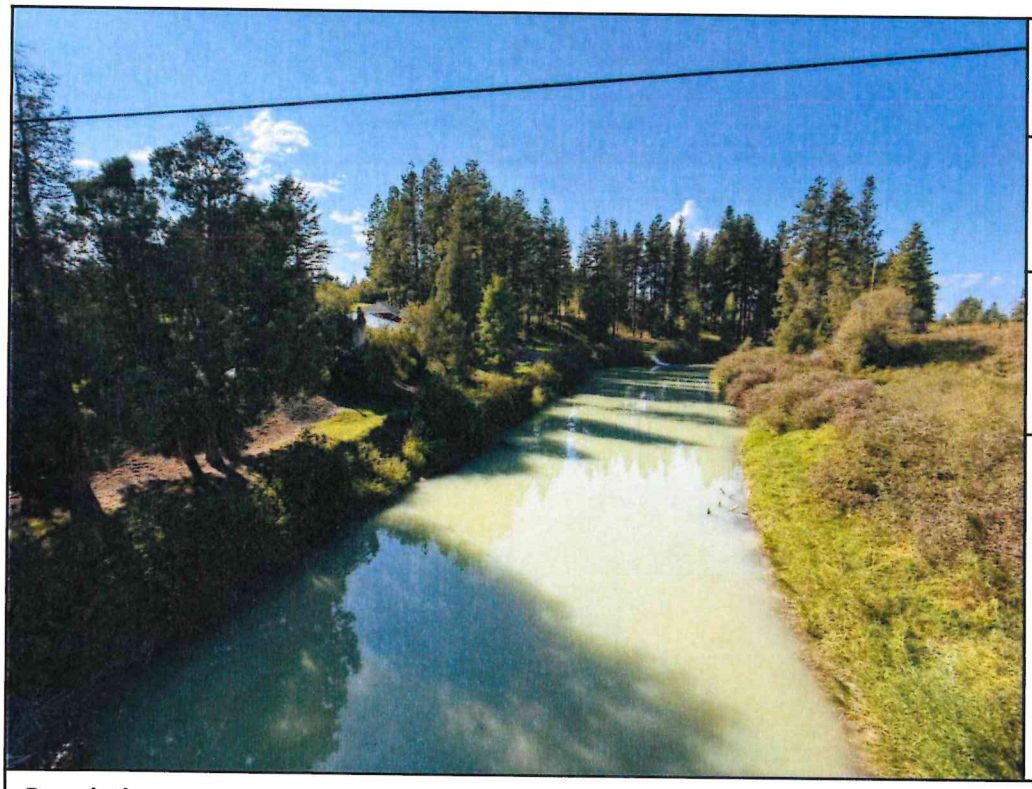
Photograph Number:
11

Photographer:
Jamie Graham

Date:
September 19, 2025
3:15 PM

Photo Location:
Stillwater River – Church Drive

Description:
View of Stillwater River from Church Drive bridge, Photograph is facing east (downstream).



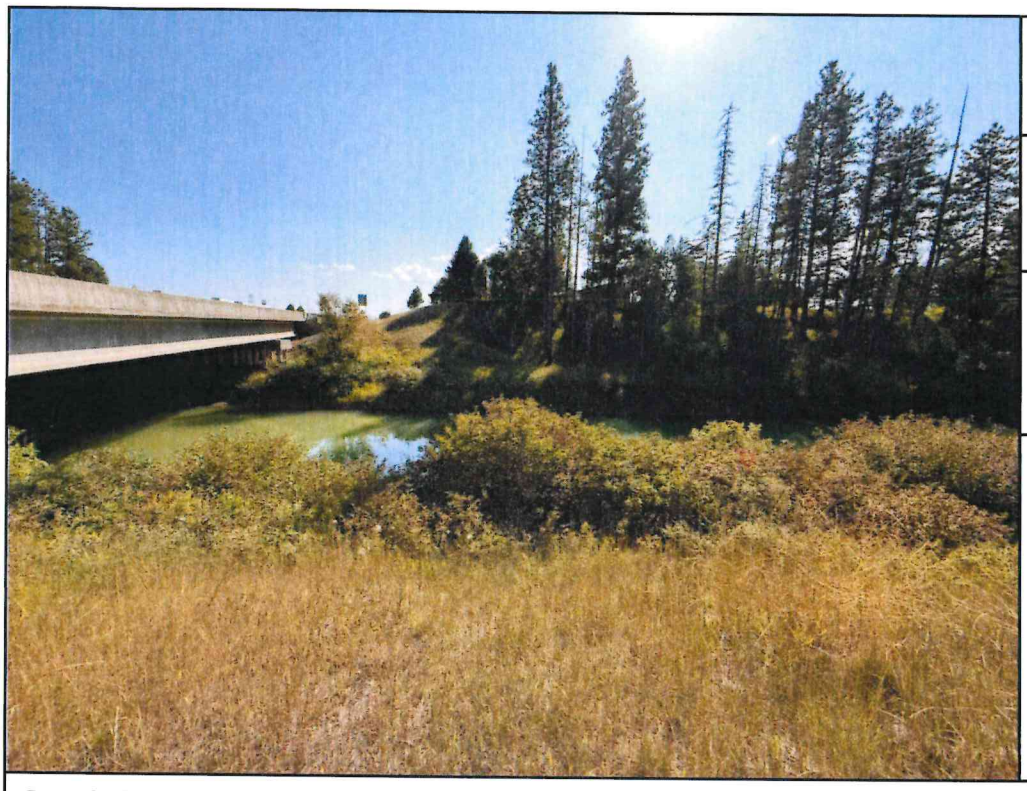
Photograph Number:
12

Photographer:
Jamie Graham

Date:
September 19, 2025
3:16 PM

Photo Location:
Stillwater River – Church Drive

Description:.
View of Stillwater River from Church Drive bridge, Photograph is facing west (upstream).



Photograph Number:
13

Photographer:
Jamie Graham

Date:
September 19, 2025
3:30 PM

Photo Location:
Stillwater River – Bridge Crossing at Highway 93

Description:
View of Stillwater River from north bank adjacent to the U.S. Highway 93 bridge. Photograph is facing south.



Photograph Number:
14

Photographer:
Jamie Graham

Date:
September 19, 2025
3:30 PM

Photo Location:
Stillwater River – Bridge Crossing at Highway 93

Description:
View of Stillwater River from north bank adjacent to the U.S. Highway 93 bridge. Photograph is facing south.



Photograph Number:
15

Photographer:
Jamie Graham

Date:
September 19, 2025
4:39 PM

Photo Location:
Stillwater River at Flathead Valley Community College

Description:
View of Stillwater River from west bank adjacent to Flathead Valley Community College. Photograph is facing north.



Photograph Number:
16

Photographer:
Jamie Graham

Date:
September 19, 2025
4:40 PM

Photo Location:
Stillwater River at Flathead Valley Community College

Description:
View of Stillwater River from west bank adjacent to Flathead Valley Community College. Photograph is facing south.



Photographer:
Jamie Graham

Date:
September 19, 2025
4:41 PM

Photo Location:
Stillwater River at Flathead Valley Community College

Photographer:
Jamie Graham

Description:
View of Stillwater River from west bank adjacent to Flathead Valley Community College. Photograph is facing west.

PREAPPLICATION MEETING FORM: PART A

PERMIT

§ 85-2-302, MCA

Form No. 600P-A *(Revised 03/2025)*

For Department Use Only

Application # 30171694 Basin # 76LJ

Meeting Date 09/02/2025 Time 13:00

Variance Request Deadline 1/18/2026

Completed Form Deadline 3/1/2026

RECEIVED
12/15/2025
DNRC
KALISPELL WATER RESOURCES

PREAPPLICATION MEETING FEE

$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

The Department will fill out Permit Preapplication Meeting Form Part A (Form 600P-A) and will identify items for follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within 10 business days. Within 180 days of the preapplication meeting, the Applicant will complete Preapplication Meeting Form Part B (Form 600P-B), including identified follow-up, any amended responses, and Follow-up and Amended Responses Affidavit & Certification. Variance requests must be submitted on Form 653 to the Department on or before the Variance Request Deadline, which is day 138 of the 180 day-deadline for a completed preapplication meeting form. Form 653 may be submitted earlier than the Variance Request Deadline. The Department has 30 business days to process the Form 653.

Applicant Information: *Add more as necessary.*

Applicant Name Homestead Sporting Club
Mailing Address 7854 Farm to Market Road City Whitefish State MT Zip 59937
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Applicant Name Stillwater Mountian Ranch LLC, Attn: Joe Worsham
Mailing Address 7854 Farm to Market Road City Whitefish State MT Zip 59937
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☐ Applicant ☑ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name Water & Environmental Technologies - Brad Bennett
Mailing Address 102 Cooperative Way, STE 100 City Kalispell State MT Zip 59901
Phone Numbers: Home _____ Work _____ Cell _____
Email Address bbennett@waterenvtech.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the applicant will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Meeting Attendees: *Add more as necessary.*

Name	Role	Name	Role
Brad Bennett- WET	Hydrogeologist	Jim Ferch	KRO Manager
Jamie Graham	Hydrogeologist		
Joseph Howerton	Water Resources Specialist		
Abby Williams	Water Resources Specialist		
Travis Wilson	Water Resources Specialist		

Table of Contents

APPLICATION DETAILS 3
SURFACE WATER 8

Surface Water Analysis 8
Surface Water Analysis: Perennial or Intermittent 8
Surface Water Analysis: Ephemeral 14
Surface Water Analysis: Lakes 15
Surface Water Analysis: Other 15

Area of Potential Impact Analysis 16

GROUNDWATER 17

Groundwater Analysis for Permits 17
Groundwater Analysis for Permits: Well/Pumping Pit 17
Groundwater Analysis for Permits: Developed Spring 19
Groundwater Analysis for Permits: Pond 20

Surface Water Depletion Analysis 20
Surface Water Analysis of Depleted Surface Water 22
Area of Potential Impact Analysis of Depleted Surface Water 28
Hydrogeologic Report 28

MANDATORY PROJECT-SPECIFIC QUESTIONS 30

Project-Specific Questions: Controlled Groundwater Areas and Basin Closures 30

NON-MANDATORY QUESTIONS FOR CRITERIA ANALYSIS 32

Adverse Effect 32
Adequate Diversion Means and Operation 33
Beneficial Use 35
Possessory Interest 36
Non-Mandatory Project Specific Questions 37
Place of Storage 37
Project-Specific Questions: Water Marketing 38

FOLLOW-UP 39
PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION 41

APPLICATION DETAILS

The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. Label units in narrative responses and tables. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

S = Submitted. *Use when required item is included with form.*
A = See attachment. *Use when additional space is needed to answer a question.*
F = Follow-up. *Use when follow-up is necessary.*

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
1. Do you elect to have DNRC conduct Technical Analyses?	☐ Y ☒ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all proposed points of diversion labeled with a unique POD ID number (include GWIC ID, if available, for wells), all proposed places of use, all proposed conveyance structures (including ditches and pipelines), all proposed places of storage, and places of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	☒ S	☐ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Mandatory Project-Specific questions 54 to 56 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ☒ N	☐ F
4. Is the proposed use temporary?	☐ Y ☒ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F

5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF). ☐ A ☐ F

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	*(MM/DD-MM/DD)*	*Flow Rate*	*GPM*	*CFS*	*(AF)*
Irrigation	04/20	10/10	105	☑	☐	25.75
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
		Total	105	☑	☐	25.75

6. Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable. ☑ Y ☐ N ☐ F

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of dwellings	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Sprinkler Irrigation for Golf Course
Irrigation (flood only)	Design slope	

7. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD # used for the project map (question 2). ☐ A ☐ F

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
1	SW	NE	SE	15	31N	23W	Flathead	1					GW	bedrock aquifer	well
2	SE	SW	NE	15	31	23W	Flathead	1					GW	bedrock aquifer	well

8. What are the geocodes of the place of use?	☐ A	☐ F

07-4291-15-4-01-60-0000	
07-4291-15-4-01-66-0000	
07-4291-15-4-01-50-0000	

9. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.	☐ A	☐ F

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
4.00				SW	NE	15	31N	23W	Flathead
5.52				NE	SE	15	31N	23W	Flathead
4.78				SE	SE	15	31N	23W	Flathead
14.3	***Total***								

10. Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?	☐ Y ☒ N	☐ F
a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s). _____ _____ _____ _____ _____	☐ A	☐ F

11. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F

Water Right No.	**Avg. Period of Diversion**	**Avg. Period of Use**	**Flow Rate**			**Volume Contributed**
	MM/DD-MM/DD	*MM/DD-MM/DD*	*Flow Rate*	*GPM*	*CFS*	*AF*
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

12. Will this application supplement contract water from a Federal Project, ditch company, or other source?	☐ Y ☒ N	☐ F
a. If yes, explain. _____ _____ _____	☐ A	☐ F
13. Does the project involve one or more places of storage? This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)). If yes, answer the following questions once for each place of storage. Use an "Additional Place of Storage (600P)" sheet if more than one. Additionally, you may choose to answer non-mandatory questions 76 to 80 for place of storage.	☐ Y ☒ N	☐ F
a. Is this application to enlarge an existing reservoir? If yes, list the water right numbers for the existing reservoir. _____	☐ Y ☐ N	☐ F
b. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
c. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: *Surface Acres x Maximum Depth (FT) x 0.5 = Capacity (AF)* _____	☐ A	☐ F

d. What is the surface area of the place of storage? _____ _____	☐ A	☐ F
14. Will your system be designed to discharge water from the project?	☐ Y ■ N	☐ F
a. If yes, explain the wastewater disposal method. A discharge permit may be required to comply with §§ 75-5-410 and 85-2-364, MCA. _____ _____ _____	☐ A	☐ F
15. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AF (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ■ N	☐ F
16. Will you be transporting water for use outside of Montana? If yes, you must submit an Out-of-State Use Addendum (Form 600/606-OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	☐ Y ■ N	☐ F
17. Does the project include the water marketing purpose? If yes, you may choose to answer non-mandatory questions 81 to 85 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ■ N	☐ F
18. Are you proposing a point of diversion and/or place of use on State of Montana Trust Land? If yes, documentation of consent from the DNRC Trust Lands Management Division will be required at application submittal.	☐ Y ■ N	☐ F
19. Is the project located in designated sage grouse habitat? If yes, a review letter from the Montana Sage Grouse Habitat Conservation Program will be required at application submittal.	☐ Y ■ N	☐ F

SURFACE WATER

☐ **Applicable**, move on to question 20. ⬓ **Not Applicable**, skip to question 30.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water Analysis

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
20. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.	☐ A	☐ F

POD #	**Flow Rate**			**Volume**	**Period Start**	**Period End**
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD*	*MM/DD*
1		☐	☐			
2		☐	☐			
		☐	☐			
		☐	☐			
		☐	☐			

21. Is the source type of the diversion perennial or intermittent, ephemeral, lake, or other? _____	☐ A	☐ F

Perennial or intermittent	Answer questions 22 to 25	**Ephemeral**	Answer question 26	**Lake**	Answer question 27	**Other**	Answer questions 28 to 29

Surface Water Analysis: Perennial or Intermittent

☐ **Applicable** ☐ **Not Applicable**

22. Are stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer question 23.		
b. If no, answer question 24.		

23. Stream gage data are available.		
a. Is one stream gage located above the most upstream POD and one stream gage located below the most upstream POD?	☐ Y ☐ N	☐ F
i. If no, is only one stream gage located near the most upstream POD?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage located upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
c. What is the distance between the gage(s) and the most upstream POD? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the most upstream POD? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ☐ N	☐ F
i. If yes, explain. _____ _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F

g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N	☐ F
i. If yes, skip to question 23.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were requirements established and followed for maintaining a permanent gage datum and meeting specified accuracy limits?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F

h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		☐ F
ii. If no, answer question 24.		
24. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ☐ N	☐ F
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the requirements of ARM 36.12.1702 or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 25.		
b. If yes,		
i. Submit available measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method were the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F

1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 25.		
25. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the source:		

i. Will measurements be collected prior to submission of Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(1)(b) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F

1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the proposed period of diversion?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F
b. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Surface Water Analysis: Ephemeral

☐ **Applicable** ☐ **Not Applicable**

26. Did you elect for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, do you have climate or drainage area data you would like the Department to consider during Technical Analyses?	☐ Y ☐ N	☐ F
i. If yes, submit this information to the Department.	☐ S	☐ F
b. If no,		
i. Describe the estimation technique you propose to use to estimate physical availability at the point of diversion. _____ _____ _____	☐ A	☐ F
ii. What is the net annual precipitation? Include the source of this information. _____ _____	☐ A	☐ F

iii. What is the drainage area upstream of the point of diversion and how was this figure calculated? _____ _____ _____	☐ A	☐ F

Surface Water Analysis: Lakes

☐ **Applicable** ☐ **Not Applicable**

27. Has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
a. If yes, provide this information to DNRC.	☐ S	☐ F
b. If no, answer the following questions,		
i. When do you plan to collect this information? _____		☐ F
ii. What data collection method will you use? _____ _____	☐ A	☐ F

Surface Water Analysis: Other

☐ **Applicable** ☐ **Not Applicable**

28. Explain why the source type is “other”. _____ _____	☐ A	☐ F
29. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the measurement data collected? _____ _____	☐ A	☐ F

ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F
a. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline.	☐ Y ☐ N	☐ F
b. If no,		
i. When do you plan to measure? _____		☐ F
ii. What data collection method will be used? _____ _____ _____	☐ A	☐ F
iii. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis

No additional information needed for Technical Analyses.

GROUNDWATER

☐ **Applicable**, move on to question 30. ☐ **Not Applicable**, skip to question 54.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater Analysis for Permits

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
30. What is the type of groundwater diversion? Well	☐ A	☐ F

Well/Pumping Pit	Answer questions 31 to 35	**Developed Spring**	Answer question 36	**Pond**	Answer questions 37 to 39

Groundwater Analysis for Permits: Well/Pumping Pit

■ Applicable ☐ Not Applicable

31. Per ARM 36.12.121 a 24- or 72-hour aquifer test is required; do you propose not to conduct the test? An 8-hour test will be required, if no aquifer test is completed.	☐ Y ■ N	☐ F
a. If yes, explain. The Department will let you know if the request is reasonable and identify additional data needs. _____ _____ _____ _____ _____	☐ A	☐ F

32. Submit Aquifer Test Data Form (Form 633). If a variance is requested, Form 633 must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 633 is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	■ S	☐ F
33. Submit the Aquifer Testing Addendum (Form 600/606-ATA) and associated materials (e.g., well logs). If you request a variance, Form 600/606-ATA must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 600/606-ATA is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	■ S	☐ F
34. Are you requesting a variance from ARM 36.12.121? If you are unsure if a variance request will be needed, mark follow-up and answer this question once Form 600/606-ATA and Form 633 are complete. A variance must be requested by the Variance Request Deadline.	■ Y ☐ N	☐ F
a. If yes, submit Form 653, Form 600/606-ATA, and Form 633 together on or before the Variance Request Deadline.	■ S	☐ F
b. If no, you may choose to submit Form 600/606-ATA and Form 633 before the Variance Request Deadline, and the Department will review these two forms. However, if the Department determines a variance is needed after the Variance Request Deadline, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).		
35. Have all proposed wells/pumping pits been constructed?	■ Y ☐ N	☐ F
a. If no, answer the following questions:		
i. Submit a list of the POD IDs for all wells/pumping pits and mark whether they have or have not been constructed.	☐ S	☐ F
ii. When will all proposed wells/pumping pits be constructed? _____		☐ F
iii. Is the requested volume for each proposed well/pumping pit known?	☐ Y ☐ N	☐ F
1. If yes, list the flow rate and volume requested for each proposed well/pumping pit. Label with POD ID. _____ _____ _____	☐ A	☐ F

2. If no, what is the total requested volume (AF) and the number of proposed PODs? _____		☐ F

Groundwater Analysis for Permits: Developed Spring

☐ Applicable ■ Not Applicable

36. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, submit the measurements and answer the following questions,	☐ S	☐ F
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1), answer the following questions. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1703(1). Variances from ARM 36.12.1703(1) are not allowed.		
i. When do you plan to measure? _____		☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater Analysis for Permits: Pond

☐ Applicable ■ Not Applicable

37. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
38. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
39. Is the pond fed or drained by surface water?	☐ Y ☐ N	☐ F
a. If yes,		
i. Explain. _____ _____ _____	☐ A	☐ F
ii. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F

Surface Water Depletion Analysis

40. Is the type of groundwater diversion for your proposed project a developed spring? If yes, skip to question 45 because this section is complete. If no, move onto question 41.	☐ Y ■ N	☐ F
41. Is the type of groundwater diversion for your proposed project a pond? If yes, answer question 41.a, then skip to question 45 because this section is complete. If no, move onto question 42.	☐ Y ■ N	☐ F
a. Will any of the ponds have diversions for out-of-pond use that differ from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide a schedule of the diversions for out-of-pond use in the table below. Use the same POD # as the project map (question 2). Attach any additional schedules with POD # labeled.	☐ A	☐ F

POD #			
Month	**Diversions for Out-of-Pond Use Volume (AF)**	**Month**	**Diversions for Out-of-Pond Use Volume (AF)**
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each well/pumping pit? What is the well/pumping pit depth (FT), if available, or estimated well/pumping pit depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	☐ F

POD #	Flow Rate			Volume	Period of Diversion	Depth	Measured or Estimated
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD-MM/DD*	*FT*	
1	60	☑	☐	14.71	04/20 - 10/10	300	Measured
2	45	☑	☐	11.04	04/20 - 10/10	300	Measured
		☐	☐				
		☐	☐				
		☐	☐				

43. Will any of the *new* wells/pumping pits have a monthly pumping schedule that differs from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ■ N	☐ F
a. If yes, provide the alternative pumping schedule(s) in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # labeled.	☐ A	☐ F

POD #				POD #			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

44. Will one or more *existing* wells/pumping pits be used for the proposed project?	☐ Y ■ N	☐ F
a. If yes, will any of the *existing* wells/pumping pits have a monthly pumping schedule, before or after the proposed project, that differs from an allocation of diverted volume by the number of days in the month (if year-round use) or the 80% dry year net irrigation requirement (if irrigation/lawn and garden use) (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide the pumping schedules before and after the proposed project in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # and before/after proposed project labeled.	☐ A	☐ F

Before proposed project: POD #				**After proposed project: POD #**			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Surface Water Analysis of Depleted Surface Water

45. Based on the preliminary net depletion data provided by the Department at this preapplication meeting, what are the hydraulically connected surface water source(s)? **Net depletion data provided by the Department at the preapplication meeting is preliminary and is subject to change during Technical Analyses. If the source or location of net depletion data changes during Technical Analyses, then surface water analysis of depleted surface water source(s) will reflect the Technical Analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).* If the type of groundwater diversion for your proposed project is a developed spring, write "NA" and skip to question 51 because this section is complete. Stillwater River	☐ A	☐ F
46. Answer the questions in this section one time for each hydraulically connected source. Use the "Additional Hydraulically Connected Source (600P)" sheet, as necessary. For which hydraulically connected source are you answering questions 47 to 50? Stillwater River		☐ F
47. Are stream gage data available?	■ Y ☐ N	☐ F
a. If yes, answer question 48.		
b. If no, answer question 49.		

48. Stream gage data are available		
a. Is one stream gage located above and one stream gage located below the start of the depleted reach?	☐ Y ■ N	☐ F
i. If no, is only one stream gage located near the start of the depleted reach?	■ Y ☐ N	☐ F
1. If yes, is the stream gage upstream or downstream? Downstream (2 below)		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: USGS Stillwater River at Lawrence Park near Kalispell #12365700 Gage 2: USGS Stillwater River near Whitefish #12365000		☐ F
c. What is the distance between the gage(s) and the start of the depleted reach? Write "N/A" for Gage 2 if one gage available. Gage 1: TBD Gage 2: 23 miles		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the start of the depleted reach? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ■ N	☐ F
i. If yes, explain.	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: >10 years Gage 2: >10 years		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: USGS Gage 2: USGS		☐ F
g. Is each available stream gage operated and maintained by USGS or DNRC?	■ Y ☐ N	☐ F
i. If yes, skip to question 48.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		

1. How frequently is stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	■ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. 2		
ii. If no, answer question 49.		
49. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions, is the source otherwise measured?	☐ Y ☐ N	☐ F

a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 50.		
b. If yes,		
i. Submit measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method was the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 50.		

50. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Will measurements be collected prior to submission of a completed Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F

c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting to deviate from the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F

b. If no, do you plan on requesting to deviate from the Department's standard for monthly measurements throughout the months with net depletions? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis of Depleted Surface Water

All information for area of potential impact of depleted surface water was collected in previous questions.

Hydrogeologic Report

51. Does your project include one or more wells, pumping pits, or ponds that are in a basin closure area? If yes, fill out questions 52 to 53. Your project must have a Hydrogeologic Report that conforms with § 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements.	☐ Y ◙ N	☐ F
52. Did you elect in question 1 for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Form 600-HRA, and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360, MCA for a Hydrogeologic Report and Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA) and Hydrogeologic Report Addendum (600-HRA) with your Technical Analyses.	☐ S	☐ F
53. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, identify and explain which of the following three options best describes your plan to mitigate depletions of hydraulically connected surface water and respond to the relevant questions below. ☐ Application to Change a Water Right to mitigate the adverse effects created ☐ Alternative mitigation plan ☐ Documentation to show a mitigation plan is not required		
a. Application to Change a Water Right to mitigate the adverse effects created: Submit a summary of your initial proposal. *A separate Preapplication Meeting will be required for each Application to Change a Water right to a mitigation or aquifer recharge purpose to qualify for expedited timelines and reduced filing fees for the project per ARM 36.12.1302(7)(a).*	☐ S	☐ F
b. Alternative mitigation plan: Submit a summary of your initial proposal.	☐ S	☐ F

i. Do you propose to use water with a marketing for mitigation/aquifer recharge purpose?	☐ Y ☐ N	☐ F
1. If yes,		
a. List the change authorization number(s) for all water rights proposed for use. _____	☐ A	☐ F
b. What is the area defined for marketing for all water rights proposed for use? _____	☐ A	☐ F
c. If Marketing for aquifer recharge, submit the analysis of the monthly accretions to hydraulically connected surface water(s); otherwise write "NA". _____	☐ S	☐ F
c. Documentation to show a mitigation plan is not required: Submit all documentation.	☐ S	☐ F

MANDATORY PROJECT-SPECIFIC QUESTIONS

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Project-Specific Questions: Controlled Groundwater Areas and Basin Closures

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
54. Does the project include one or more groundwater points of diversion located in the East Valley Controlled Groundwater Area (EVCGWA)?	☐ Y ■ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-EVCGWA: East Valley Controlled Groundwater Area Permit Application.		
ii. If yes, how does this project meet the specific requirements of the East Valley Controlled Groundwater Area? Include any relevant documentation. _____ _____ _____ _____	☐ A	☐ F
b. If no, skip to question 55.		
55. Does the project include one or more groundwater points of diversion located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, is the proposed flow rate and volume over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-YCGA: Yellowstone Controlled Groundwater Area Permit Application.		
ii. If yes, answer the remaining parts of question 55 and submit *Form 600 YCGA: A Yellowstone Controlled Groundwater Area Addendum Over 35 gallons per minute* with the application.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of Yellowstone National Park), submit with the application a report prepared by a qualified professional verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.		
b. If no, skip to question 56.		

56. Is the project for surface water or groundwater and subject to one or more of the Controlled Groundwater Areas; administrative, Department ordered, or legislative basin closures; or compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas) not covered in questions 54 to 55?	☐ Y ☒ N	☐ F
a. If yes, identify each area and describe how the proposed project meets its requirements. An application must meet the specific requirements of the Controlled Groundwater Area or closure to be accepted by the Department. _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A	☐ F

NON-MANDATORY QUESTIONS FOR CRITERIA ANALYSIS

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-boxes
57. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Irrigation volume will be initially reduced by 50% in times of sever water shortage. Following a valid call by a senior appropriator, the well pumps will be shut off.	☐ A
58. Explain how you can control your diversion in response to call being made. Power to the pumps can be shut off.	☐ A
59. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ☒ N
a. If yes, explain.	☐ A
60. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ☒ N

61. Will the point of diversion or conveyance infrastructure be shared with one or more existing water rights?	☐ Y ■ N
a. If yes, explain how capacity of the shared point of diversion and/or conveyance infrastructure is sufficient for all water rights.	☐ A

Adequate Diversion Means and Operation

62. Submit a diagram of how you will operate your system from the point of diversion to the place of use.	☐ S
63. Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length. System is under design. However water will be conveyed via in-well pumps through an underground pipe system to deliver water to the irrigated areas.	☐ A

64. Describe the size, materials, capacity, and configuration of infrastructure to convey water from point of diversion to place of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods. You may work with the Department to estimate ditch conveyance losses but will need to provide sufficient baseline information; which includes ditch slope, dimensions, length, lining material, soil type, and location. Location of water mains can be provided with Form 600.	☐ A
65. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion. No losses are anticipated associated with conveyance.	☐ A
66. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.	☐ A

67. Does the proposed conveyance require easements?	☐ Y ☐ N
a. If yes, explain. _____ _____ _____	☐ A
68. Do you own the land where all proposed points of diversion are located?	☐ Y ☐ N
a. If no, documentation to show you have the right to use all points of diversion located on each property you do not own will be required upon application submittal. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.	
69. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal. Storage will not be utilized. _____ _____ _____ _____	☐ A
70. Do you have any plans to measure your diversion and use?	☐ Y ☐ N
a. If yes, describe the plan and the type of measurements you will take. _____ _____ _____	☐ A

Beneficial Use

71. Does the Department have a standard for any of the purposes for which water is used? Department standards can be found in ARM 36.12.112 and ARM 36.12.115.	☐ Y ☐ N
a. If yes, list the purposes for which the Department has a standard and note whether the proposed use falls within or outside the standard. _____ _____	

72. If no Departmental standard exists for any proposed purpose, or if any proposed purpose falls outside of Department standards, explain how the use is reasonable for that purpose. _____ _____ _____ _____ _____ _____ _____	☐ A
73. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ☐ N
a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
74. Are you proposing to use surface water for in-house domestic use?	☐ Y ☐ N
a. If yes, does a COSA exist for the proposed place of use?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

Possessory Interest

75. Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases 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.	☐ Y ☐ N
a. If yes, explain. _____ _____ _____ _____	☐ A

b. If no,	
i. Do you own all proposed places of use?	☐ Y ☐ N
1. If no,	
a. Explain. Documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use will be required at application submittal. _____ _____ _____ _____	☐ A
b. Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403.	☐ Y ☐ N
i. If no, explain. _____ _____ _____	☐ A

Non-Mandatory Project Specific Questions

Place of Storage

76. Does the proposal include at least one place of storage? If yes, answer questions 77 to 80 for each individual place of storage (use "Additional Place of Storage (600P)" sheet for additional places of storage). A Permit Storage Addendum (Form 600-SA) will be required at application submittal. If no, this section is complete, and you can skip to question 81.	☐ Y ☐ N
77. Are preliminary designs available? Preliminary designs will be required at application submittal.	☐ S
a. If yes, submit preliminary designs.	☐ Y ☐ N
78. Will the place of storage be lined?	☐ Y ☐ N
79. What is the annual net evaporation of water from the place of storage, based on the Department's gridded net evaporation layer? If you propose a different method, attach an explanation and justification of the method. _____	☐ A

80. Is the place of storage capacity calculated to be greater than 50 AF?	☐ Y ☐ N
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam? This will be required by application submittal.	☐ Y ☐ N

Project-Specific Questions: Water Marketing

81. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 82 to 85). A Water Marketing Addendum Purpose Addendum (600/606-WMA) will be required at application submittal. If no, this section is complete.	☐ Y ☐ N
82. For what purpose(s) will the marketed water be used? _____ _____ _____	☐ A
83. How will you control or limit access to the water? _____ _____ _____	☐ A
84. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
85. Provide a service area map. Create map on an aerial photograph or topographic map and show the following: general service area boundary, section corners, township and range, scale bar, and north arrow.	☐ S

FOLLOW-UP

The tables below will identify all questions marked for follow-up. Applicant follow-up will be submitted with the completed Preapplication Meeting Form: Part B (Form 600P-B). Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses." At the preapplication meeting, the Department may offer to provide the Applicant with information pertinent to identified follow-up. In this case, record in the notes column what information the Department will provide and the date by which the Department will email this information to the Applicant. This information will supplement but not replace Applicant follow-up. It is the responsibility of the Applicant to provide all follow-up, including questions supplemented by Department information, in the "Follow-up Responses" document.

The "Follow-up Responses" document must conform to the following standards. Label all responses with the question number. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted.

***The Applicant may not alter the Preapplication Meeting Form: Part A (Form 600P-A) signed at the Preapplication Meeting**. Instead, the Applicant must use the Amended Responses procedure defined in Form 600P-B. Do not include additional information for questions that were not marked for follow-up on this table; instead include any additional information pursuant to the process for amending responses defined in Form 600P-B.*

QUESTION #	NOTES

PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting, and that the items marked for follow-up will require the Applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication meeting is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the Department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves five business days to return the form to the applicant if:

1 – the completed form does not include all necessary follow-up information identified in the meeting, OR
2 – the completed form is not adequate for the Department to proceed with technical analyses, OR
3 – the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
4 – the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the $500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the $500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires.

Applicant Signature	9-5-2025 Date
Applicant Signature	Date
Department Signature	12-15-2025 Date