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DEPARTMENT OF
WATER RESOURCES

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BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR
PERMIT 77-14378, APPLICATIONS FOR
TRANSFER 85396, 85397, AND 85398, AND
APPLICATION FOR EXCHANGE 85538 IN
THE NAME OF PERPETUA RESOURCES
IDAHO, INC.

PETITION FOR RECONSIDERATION

Applicant Perpetua Resources Idaho, Inc. (“Perpetua”) respectfully submits this Petition for Reconsideration (“Petition”) of a portion of a Preliminary Order issued on April 10, 2024 in the subject water rights proceeding. This Petition is timely submitted pursuant to Idaho Code § 67-5243(3) and the Idaho Department of Water Resources Rules at IDAPA 37.01.01.730.02.b.

Perpetua acknowledges the Hearing Officer’s thorough evaluation of the evidence presented by the parties at the administrative hearing on December 11-15, 2023 as reflected in the Preliminary Order. Nevertheless, Perpetua requests that the Hearing Officer reconsider certain portions of the Preliminary Order as set forth below. Specifically, Perpetua requests limited modifications of Conditions 13 and 15 and deletion of Conditions 9, 10, and 14, as further explained below. Perpetua believes these proposed changes are protective of the local public interest and will allow Perpetua the operational flexibility it needs consistent with Idaho water law, and they are consistent with the evidence presented at the hearing.

INTRODUCTION

Perpetua submits this Petition associated with Conditions 9, 10, 13, 14, and 15 on permit 77-14378, and for the identical conditions found on transfers 85396 (Conditions 10 and 11), 85397 (Conditions 7, 10, 11, and 12), and 85398 (Conditions 4, 7, and 8), and on exchange 85538 (Conditions 4, 7, and 8). Perpetua understands the intent of the referenced conditions is to be protective of fish habitat and fish passage in protecting the local public interest values. Perpetua seeks to maintain those proposed protections through modified conditions.

Even though the draft water right permit was issued for 9.6 cfs, by way of Condition 9 and Condition 10, water supply diversion strictly for industrial use is limited to 5.0 cfs, not including dewatering water that is limited by timing of active operations in each pit, by the quantity of dewatering water required to mine, and the season of the year per Conditions 10 and 15.

This Petition is organized with each of the conditions on permit 77-14378 for which Perpetua is requesting reconsideration as section headers, the condition as stated in the permit, followed by the revised proposed language and the rationale for revision with citations to documentation on record.

CONDITIONS 10 AND 15

Preliminary Order Condition

Condition 10 of permit 77-14378 states, *The thirteen industrial supply wells located in Section 15, T18N, R09E, shall not exceed a combined monthly diversion volume of 31 acre-feet.* Condition 15 of permit 77-14378 states, *During all times when the right holder is diverting ground water under this right from any wells in Section 15, T18N, R09E, the right holder shall ensure a flow of at least 3.0 cfs in Meadow Creek from the existing fish passage barrier location above the confluence of Meadow Creek and Blowout Creek to the confluence of Meadow Creek and EFSFSR.*

Proposed Revised Condition

As an alternative to Conditions 10 and 15, Perpetua proposes eliminating Condition 10 and revising Condition 15 as follows:

During any calendar year when the right holder diverts ground water under this right from any wells in Section 15, T18N, R09E, the right holder shall ensure the 3-day average flows in Meadow Creek from the IPDES outfall in the NW ¼ of the SE ¼ Section 15, T18N, R9E to the confluence of Meadow Creek and the EFSFSR meet or exceed the following quantities:

<i>January</i>	<i>1.7 cfs</i>
<i>February</i>	<i>1.6 cfs</i>
<i>March</i>	<i>1.7 cfs</i>
<i>April</i>	<i>2.3 cfs</i>
<i>May</i>	<i>2.3 cfs</i>
<i>June</i>	<i>2.3 cfs</i>
<i>July</i>	<i>2.3 cfs</i>
<i>August</i>	<i>2.2 cfs</i>
<i>September</i>	<i>1.9 cfs</i>
<i>October</i>	<i>1.9 cfs</i>
<i>November</i>	<i>2.0 cfs</i>
<i>December</i>	<i>1.8 cfs</i>

These flow rates shall be maintained by management of groundwater pumping volumes and by streamflow augmentation through the IPDES outfall using water diverted from EFSFSR or groundwater under water rights 77-7122, 77-7285, 77-7293, and 77-14378 or from other sources in compliance with the IPDES permit. Groundwater pumping from any wells in Section 15, T18N, R09E, shall immediately cease if the 3-day streamflow falls below the listed quantities.

Perpetua proposes that revised Condition 15 apply only to permit 77-14378 and not to right 77-7285.

Rationale for Revision

Conditions 10 and 15, in combination, seek to prevent dewatering of Meadow Creek by groundwater pumping. Meadow Creek currently provides spawning habitat for Chinook salmon that, due to fish passage being blocked by the Yellow Pine Pit, are transported there by the Nez Perce Tribe, one of the protestants in this matter. Dewatering of the stream could likewise dewater salmon redds during the baseflow period that typically occurs between August and April.

The Condition 10 limit on monthly diversion volume seeks to reduce streamflow depletions that could occur upstream of the lined section of the creek. The 31-acre foot per month limit of Condition 10 was based on modeling that suggested that 0.5 cfs could be withdrawn from the Meadow Creek well field without adverse impacts on Meadow Creek (Findings of Fact 66). This modeling was based on the full extent of the industrial supply wells and Hangar Flats dewatering wells, as identified in the water rights application for permit, and reflected an expected hydraulic connection between alluvial groundwater and the nearby stream. The actual number of industrial wells and Hangar Flats dewatering wells could be less than the number applied for and will be based on well performance and design. The model finding was not, however, a proposed limit by Perpetua and should not be a limit in the water rights. Furthermore, Condition 10 is not necessary as it is designed to maintain flow in Meadow Creek, which is already covered in Condition 15.

Condition 15 limits when groundwater pumping can occur. However, the 3.0 cfs limit exceeds the baseflows in Meadow Creek during most months of the year. Perpetua believes it is more appropriate to limit groundwater pumping based on historical baseflows.

“Table 1” below is taken directly from hearing exhibit 201 (R.N. Kinzer & M.W. Ackerman, September 11, 2023 Expert Witness Report Prepared for Protestant Nez Perce Tribe). Inspection of Table 1 shows that average monthly flows in Meadow Creek upstream of Blowout Creek fall below 3.0 cfs in average years from September through March, and in low-flow years from August through April. Thus, Condition 15 as proposed in the Preliminary Order would generally limit diversions of groundwater to the annual high streamflow period in May, June, and early July.

Table 1: Discharge flow values of 3-day rolling mean of daily averages for monthly 95%, 50% (median), 5% exceedance at USGS gage site #13310850 (Meadow Creek near Stibnite, ID) for recent years in which complete data were available.

Month	95%	50%	5%
January	1.7	2.1	3.7
February	1.6	1.9	4.5
March	1.7	2.5	12.7
April	2.3	8.0	33.3
May	16.2	39.3	91.6
June	10.2	36.8	101.1
July	3.8	7.1	20.5
August	2.2	3.4	5.6
September	1.9	2.6	4.5
October	1.9	2.9	7.4
November	2.0	2.9	7.5
December	1.8	2.3	4.7

Perpetua pauses over Conditions 10 and 15 because these conditions (1) prevent any groundwater pumping during much of the year, (2) promote groundwater pumping only during the high-flow period when surface water supplies are abundant and should be preferentially diverted, and (3) are redundant because the Meadow Creek flow limitation applies to all wells in the Meadow Creek valley and will be protective absent the volume limitation on supply wells.

As an efficient and appropriate alternative to Conditions 10 and 15, Perpetua proposes in revised Condition 15 to maintain streamflow in Meadow Creek downstream of the IPDES outfall during the baseflow period at the 95% exceedance levels in Table 1. Perpetua proposes that the revised condition include requirements to cease all groundwater diversions from wells in Section 15 if streamflow is not maintained and to maintain streamflows throughout any calendar year that pumping occurs from wells in Section 15. These requirements are more protective of streamflow, but allow greater flexibility for groundwater pumping, than Conditions 10 and 15 for the following reasons:

- The revised condition recognizes and seeks to maintain baseflows that have historically fallen below 1.5 cfs upstream of Blowout Creek. Condition 15 (both revised and original) will require Perpetua to maintain higher flows than the recorded minimums in this stream reach.
- The upstream limit of the reach is the IPDES outfall, which is located less than 100 yards downstream of the existing fish passage barrier (Figure 1) and is the upstream-most point that Perpetua can feasibly augment streamflow.
- The revised condition will allow Perpetua to achieve streamflow maintenance through adaptive management of groundwater pumping, supplemented by treated water discharge.
- The revised condition allows groundwater pumping (including pumping necessary for dewatering purposes) to occur during periods of naturally low streamflow provided the historical baseflow is maintained.
- The revised condition does not impose a significant limitation to diversion during the May through July high-flow period. Flows in those months are a combination of baseflow and runoff. Baseflows continue to be protected in those months.

- Condition 15 (both revised and original) should not apply to water right 77-7285. This right has a maximum diversion rate of 0.5 cfs and an annual volume limit of only 30.2 acre feet. These small quantities will not have a significant depletive impact on Meadow Creek flow. This right should be available, as it historically has been, in years when streamflow augmentation is not available (i.e., late in the reclamation phase when water treatment is no longer operating) and when streamflow augmentation is generally not needed because large volumes of groundwater are not being diverted under permit 77-14378.

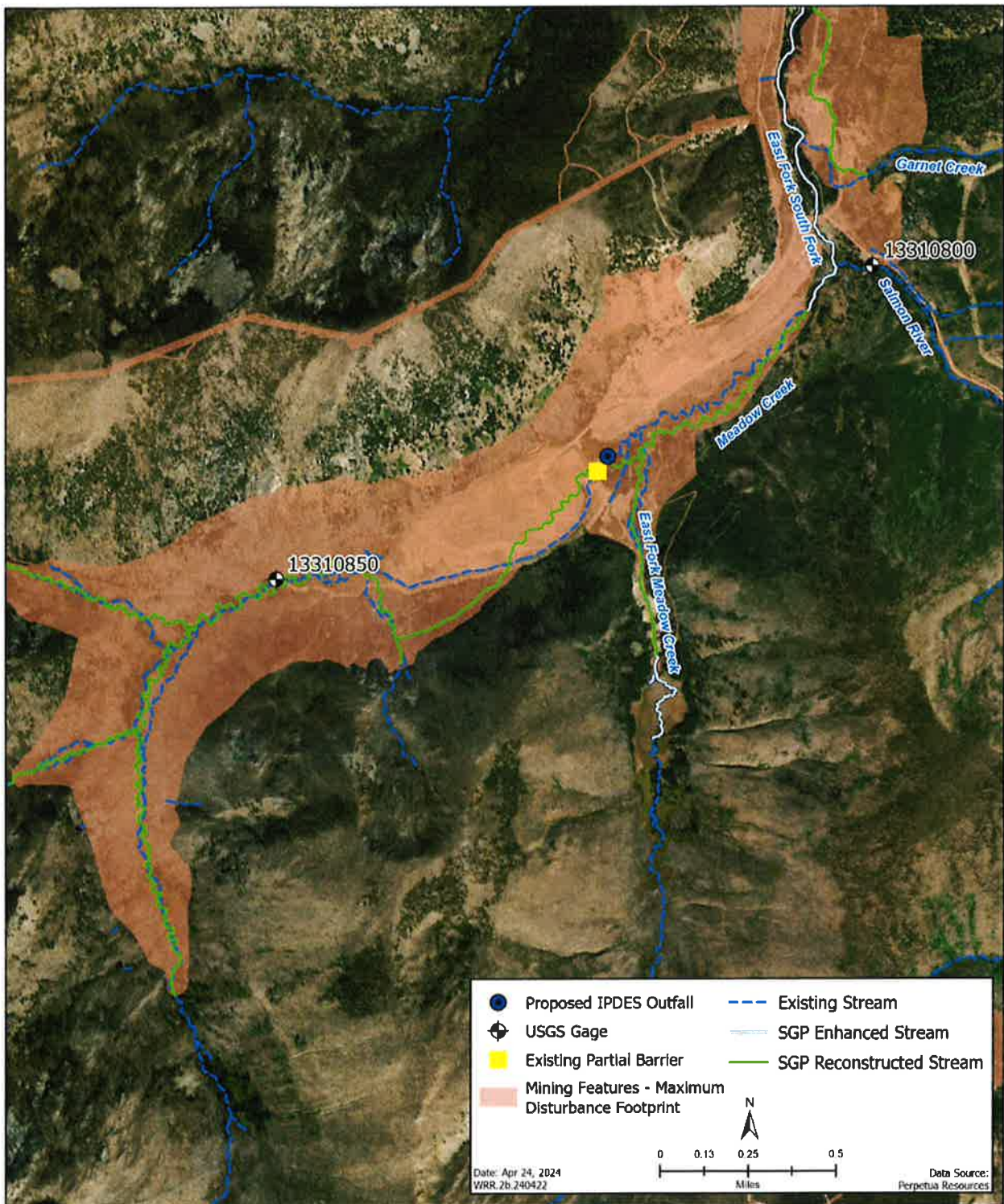


Figure 1. Meadow Creek Existing Fish Barrier, IPDES Outfall and USGS Gage

CONDITION 13

Preliminary Order Condition

Condition 13 of permit 77-14378 states, *From June 30 to September 30, no water shall be diverted under this right unless there is at least 7.25 cfs passing the river pump point of diversion on the EFSFSR in the NESE, Section 3, T18N, R09E.*

Proposed Revised Condition

From June 30 to September 30, no water shall be diverted under this right unless there is at least 1.0 foot of water depth over the fishway weirs downstream of the EFSFSR point of diversion in the NESE, Section 3, T18N, R09E.

Rationale for Revision

The Preliminary Order states, *Evidence in the record supports maintaining a minimum depth of 1.0 feet over the fishway weirs between June 30 and September 30... The record supports a minimum bypass of 7.25 cfs between June 30 and September 30 to maintain a one-foot depth over the fishway weirs.*

Perpetua's position is that a 0.9-foot flow depth is adequate for Chinook salmon passage while the protestants have argued for a 1.0-foot flow depth. The Hearing Officer settled on the more conservative 1.0-foot flow depth in the Preliminary Order, and Perpetua does not seek to upset that determination. However, the 7.25 cfs flow assumes a rectangular weir shape with a 15-inch width that is an early design of the fishway (Bosley Test., Tr. at 349; Bosley Test., Tr. at 515). A rectangular weir shape was assumed because it is easily constructed and analyzed using standard weir equations (Bosley Test., Tr. at 518). But without specifying the weir width, the 7.25 cfs rate does not necessarily ensure fish passage. For example, if the weirs are 30 inches wide, the depth at 7.25 cfs would be substantially less than 1.0 foot, which may not be protective of Chinook salmon passage. More important to Perpetua, a rectangle weir shape may not be the optimum shape

for maintaining fish passage at low flows (Bosley Test., Tr. at 518). Instead, alternate geometries, such as a “U”-shaped weir design, can achieve a 1.0-foot depth and flow targets for fish passage at a flow of less than 7.25 cfs while still maintaining sufficient width for Chinook salmon passage (Bosley Test., Tr. at 518). The current fishway design will be updated to optimize fish passage, flow depth, and water available for diversion (Bosley Test., Tr. at 350). Regardless of the specifics of the weir design, the north portal area includes appurtenances to facilitate trap and haul operations should fish fail to ascend the tunnel for any reason.

Perpetua proposes that Condition 13 be revised to be specific to the 1.0-foot flow depth because flow depth is the fundamental criteria required for successful fish passage, not a particular flow rate. Perpetua can then propose a weir shape that will achieve the 1.0-foot flow depth. The final weir shape will ultimately be addressed by the appropriate reviewing agencies (NMFS, USFWS, and USFS).

Although water right conditions more typically specify a streamflow rather than a water depth, the protection of fish passage sought by Condition 13 is best achieved by water depth specification, allowing Perpetua to determine an optimum weir design. Monitoring of flow depth over a weir is essentially the same as (and actually simpler than) monitoring streamflow rate with a weir.

Additional preservation of adequate flow for fish passage and habitat continues to be provided by the maximum 20% depletion of unimpaired streamflow allowed under Condition 12. The Condition 12 diversion rate limitation was agreed upon after consultation with the Idaho Department of Fish and Game (IDFG) and the Idaho Office of Species Conservation, the two State of Idaho agencies charged with protection of fishery resources and threatened and endangered species.

CONDITION 14

Preliminary Order Condition

Condition 14 states, *From October 1 to June 29, no water shall be diverted under this right unless there is at least 5.00 cfs passing the river pump point of diversion on the EFSFSR in the NESE, Section 3, T18N, R09E.*

Proposed Revised Condition

Perpetua proposes that Condition 14 be eliminated because adequate streamflow and fish habitat protection is provided by Condition 12.

Rationale for Revision

The October 1 to June 29 period is outside the migration period for adult Chinook salmon and bull trout. During this time, there can be out-migration by juvenile fish and overwintering of resident fish in pools. A flow of less than 5.0 cfs is adequate to preserve fish habitat and out-migration during this period. Perpetua recognizes the protestants' concern, as acknowledged by the Hearing Officer in the Preliminary Order, that Condition 12 may mask impacts to the fishery. While such a masking effect is theoretically possible, there is no biological data or hydrologic and hydraulic modeling to suggest that 5.0 cfs is a minimum flow requirement to protect the fishery from October 1 to June 29. IDFG, the expert on fishery issues, did not impose any such condition. Moreover, the McMillen Report did not make a finding that 5.0 cfs was the minimum flow to protect cutthroat trout. Rather the McMillan Report just modeled down to 5.0 cfs (Ex. 47 at 7). The depth criteria for downstream passage of juveniles of all species is 0.3 feet (Ex. 219 at 6). This flow depth can likely be met with streamflow much lower than 5.0 cfs, given that 5.0 cfs results in a water depth of 0.72 feet (Ex. 47 at 11) even without further optimizations to weir shape. Condition 12 provides adequate streamflow and habitat protection during this non-migration period by limiting diversions based on unimpaired streamflow.

The following “Table 3” is taken directly from the Nez Perce Tribe’s Expert Hydrology Report (Ex. 215 at 14). The column “Full Water Right with Condition” demonstrates that limiting diversion to 20% of unimpaired streamflow (Condition 12) maintains flows above 5.0 cfs during the October 1 through June 29 period at the 95% exceedance flow. Therefore, Condition 14 is not necessary and should be deleted.

Table 3: Summary of low flow statistics at the EFSFSR gage from Perpetua’s SHSM output, low flow statistics from historic USGS data, calculated use of full water right (10.43 cfs) with and without the OSC condition, and historic monthly minimum for comparison.

East Fork South Fork Salmon River above Sugar Creek (USGS 13311250)						
	Monthly 95% Exceedance Flows (cfs)					
Month	Mining SHSM	No Action SHSM	Historic Observations (2011-2023)	Full Water Right	Full Water Right with Condition	Historic Minimum (2011-2023)
January	8.7	11.2	8.2	0	5.5	7.5
February	8.4	10.5	8.1	0	5.5	6.9
March	9.3	10	8	0	5.4	6.9
April	13.4	14	10.6	0.1	6.7	8.5
May	72.3	74.7	59.9	49.4	49.4	22.9
June	43	48.3	35.9	25.5	25.5	26
July	13.6	17.3	17.5	7.1	7.1	13.3
August	12	15.7	10.5	0	6.6	9.9
September	11.7	14.5	9.7	0	6.4	9.4
October	10.8	13.9	9.5	0	6.2	9
November	10.4	12.9	10.1	0	6.8	8.2
December	9.3	12	9	0	6.1	7

CONDITION 9

Preliminary Order Condition

Condition 9 of permit 77-14378 states, *The diversion of water directly from the East Fork of the South Fork Salmon River (EFSFSR), located in the NESE, Section 3, T18N, R09E, shall not exceed a maximum diversion rate of 4.50 cfs.*

Proposed Revised Condition

Perpetua proposes that Condition 9 be eliminated because protections of streamflow, fish habitat, and fish passage are provided by Condition 12 and revised Condition 13.

Rationale for Revision

Condition 9 is based on the preliminary 4.5 cfs pump capacity that has been used by Perpetua for planning and design. The 4.5 cfs pump capacity is not a proposal by Perpetua to set a limit for surface water diversions. The 4.5-cfs rate is not a limit listed on Application for Permit 77-14378. Furthermore, there is no evidence in the record that such a limit is necessary to protect the fishery.

As the water right application process has evolved from the time of application through the Preliminary Order, additional diversion restrictions have developed including (1) the 20% of unimpaired streamflow diversion limit of Condition 12, and (2) the Meadow Creek groundwater pumping limitations imposed by Conditions 10 and 15 (or by revised Condition 15). These limitations will significantly reduce the times when Perpetua can divert the full 4.5 cfs from the EFSFSR.

Because of the limitations of the water right conditions, Perpetua desires the ability to pump at rates above 4.5 cfs during high-flow periods (typically April through July) to meet demands in these periods and to refill storage for later use. Such diversions during high-flow periods will not impact the fishery downstream, which appears to be the alternative reason for the 4.5 cfs limit in

the Preliminary Order. Mill demands may be higher during the high-flow period because of deferred ore processing during the low-flow period (Stanaway Test., Tr. at 234). The greater diversion demand from the EFSFSR because of recent diversion limitations is one factor that will be considered in the final pump station designs. There is no record evidence that higher diversion rates during high-flow periods will impede fish passage. Further, removing the 4.5 cfs limit will allow Perpetua to divert less EFSFSR water during low-flow periods, and affect fewer stream miles by net diversions at all flows, which was the intent of locating the raw water intake at the tunnel rather than farther upstream adjacent to the ore processing facility. Pumping at rates above 4.5 cfs when streamflows are high also allows Perpetua to balance Meadow Creek well field pumping to maintain streamflow between the Meadow Creek wellfield and the EFSFSR diversion (Ex. 63 at 19). As a result, the beneficial use sought by the applications can be maintained while maintaining fish passage and habitat protection.

Condition 9 is unnecessary because streamflow protection is provided by Conditions 12 and 13.

SUMMARY

Conditions 9, 10, 13, 14, and 15 on permit 77-14378 (and identical conditions with different numbers on transfers 85396, 85397, and 85398, and exchange 85538) seek to protect fish habitat and fish passage, yet unnecessarily limit the 9.6 cfs authorized diversion rate stated in the draft permit to 5.0 cfs in practice. Perpetua proposes alternative conditions that provide equivalent or improved protection while both maintaining planned beneficial uses and providing Perpetua with the operational flexibility it needs.

Revised Condition 15 provides increased protection of Meadow Creek baseflows within a Chinook salmon spawning stream reach. This alternative condition allows Perpetua to adaptively manage groundwater pumping from the Meadow Creek Section 15 wells, coupled with streamflow

augmentation as needed, to maintain baseflows at levels above the historical minimums. Condition 10 is unnecessary because protection is provided by revised Condition 15.

Revised Condition 13 focuses on water depth, which is the critical factor for Chinook salmon passage. By using depth as the criterion, fish passage is better protected than with flow.

Conditions 9 and 14 are unnecessary because protection of fish habitat and fish passage is provided by Condition 12 and revised Condition 13.

DATED: April 24, 2024

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/s/ Kevin J. Beaton

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CERTIFICATE OF SERVICE

I hereby certify that on April 24, 2024, true and correct copies of the foregoing document was served on the parties by Email:

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