DEQ DIVISION 33 APPLICATION REVIEW SHEET

Recommendations for Water Right Applications that may affect the
Habitat of Sensitive, Threatened or Endangered Fish Species, OAR 690-33-310 through 340.

Application #: G 18327 **Applicant's Name:** TRECO INVESTMENTS LLC

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1) Is there a connection to a 303(d) listed water quality limited water body? ☐ NO ☒ YES

Explain: Pudding River is listed for dissolved oxygen, temperature, biological criteria, *E. coli* and toxics. A TMDL exists for the Molalla-Pudding subbasin and includes temperature, bacteria, pesticides, nitrate, and metals. Data is not available for Farmer Creek.

Molalla-Pudding TMDL Parameter Reductions

Mercury:
27% Reduction Willamette Basinwide-All Subbasins

Temperature:
Attainment and preservation of effective shade levels on smaller tributaries associated with system potential vegetation will eliminate most anthropogenic nonpoint source heat loads. Surrogate measure is percent effective shade targets and a heat load equivalent of 0.05 ºC of the Human Use Allowance. Other important measures— preserving and restoring cool water refuges where salmonids rear and migrate to when the river warms up in the summer; restore instream flow quantity.

Peak temperatures typically occur in mid-July through mid-August and often exceed the salmon and trout rearing and migration criterion and core cold water criterion. Temperatures in late summer in the upper Molalla River and Table Rock Fork occasionally exceed the spawning criterion. The critical period in which WLAs apply is June 1 – September 30 for the Pudding River and May 1 – October 31 for the Molalla River. Point sources within the Pudding or Molalla watersheds, that discharge outside of those respective critical periods, receive an implicit heat load allocation sufficient to cover their current conditions of discharge. All portions of the TMDL except WLAs apply year round.

Sources or Source Categories: Nonpoint source solar loading due to a lack of riparian vegetation from forestry, agriculture, rural residential, and urban activities. Channel form change due to hydrologic modification and current and historic stream area land use. Reduction in stream flow due to consumptive uses.

Bacteria:
75% to 87% reduction summer
70% to 92% reduction fall-winter-spring

Iron:
3-6 mg/l total suspended target to meet 19% to 96% reduction based on stream flow Pudding River and Zollner Creek Watersheds.

Legacy Pesticides:
30% reduction DDT Pudding River and Tributaries
90% reduction Dieldrin Pudding River and Tributaries
15 mg/L Pudding River In stream total suspended solids targets

303(d) 2012 Water Quality Limitations

Water Body (Stream/Lake)	River Miles	Parameter	Season	Criteria	Beneficial Uses	Status
Pudding River	0 to 35.4	DDT 4,4	Year Round	Table 20 Toxic Substances	Drinking water; Resident fish and aquatic life; Anadromous fish passage	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 35.4	Dieldrin	Year Round	Table 20 Toxic Substances	Drinking water; Resident fish and aquatic life; Anadromous fish passage	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 47.5	Dissolved Oxygen	January 1 - May 15	Spawning: Not less than 11.0 mg/L or 95% of saturation	Resident trout spawning	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 53.8	Dissolved Oxygen	Year Round (Non-spawning)	Cool water: Not less than 6.5 mg/l	Cool-water aquatic life	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 35.4	E. Coli	FallWinterSpring	30-day log mean of 126 E. coli organisms per 100	Water contact recreation	Cat 4A: Water quality limited,

				ml; no single sample > 406 organisms per 100 ml		TMDL approved
Pudding River	35.4 to 61.7	E. Coli	FallWinterSpring	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	Water contact recreation	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 35.4	Iron	Year Round	Table 20 Toxic Substances	Aquatic life	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 61.8	Temperature	Year Round (Non-spawning)	Salmon and trout rearing and migration: 18.0 degrees Celsius 7-day-average maximum	Salmon and trout rearing and migration	Cat 4A: Water quality limited, TMDL approved
Pudding River	0 to 61.8	Biological Criteria	Year Round	Biocriteria: Waters of the state must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed
Pudding River	47.5 to 61.8	Dissolved Oxygen	October 15 - May 15	Spawning: Not less than 11.0 mg/L or 95% of saturation		Cat 5: Water quality limited, 303(d) list, TMDL needed
Pudding River	0 to 61.8	Guthion	Year Round	Table 20 Toxic Substances	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed
Pudding River	0 to 35.4	Lead	Year Round	Table 20 Toxic Substances	Aquatic life	Cat 5: Water quality limited, 303(d) list, TMDL needed

2) What is the potential for this use to impact a water quality limited water body: ☐ HIGH ☒ MEDIUM ☐ LOW

Explain: The groundwater review indicates that there is a hydraulic connection between the well and surface waters in the Pudding River watershed. Surface water is not available to be withdrawn from the Pudding during much of the proposed months of use (June – October). Withdrawal could affect quantity and quality in critical summer months when temperatures are already too warm. The Pudding River has an ISWR. Based on water availability, the cumulative withdrawal is likely to cause ecological harm from June through September. Scientific literature identified harm occurring when 6-35 percent of daily flow is withdrawn[1].

PUDDING R > MOLALLA R - AB MILL CR - WILLAMETTE BASIN

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Avail	Percent of flow
151	50	JAN	2220	124	2100	36	2060	6
151	50	FEB	2120	114	2010	36	1970	5
151	50	MAR	1680	75.7	1600	36	1570	5
151	50	APR	1190	51.6	1140	36	1100	4
151	50	MAY	710	48.9	661	36	625	7
151	50	JUN	335	69.9	265	36	229	21
151	50	JUL	148	110	38	36	2.03	74
151	50	AUG	89.6	90.2	-0.617	36	-36.6	101
151	50	SEP	88.6	51.4	37.2	36	1.16	58
151	50	OCT	139	11	128	36	92	8
151	50	NOV	916	48.3	868	36	832	5
151	50	DEC	2110	118	1990	36	1960	6
151	50	ANN	706000	55100	651000	26100	627000	8

[1] Richter, B. D., Davis, M. M., Apse, C. and Konrad, C. (2012), A Presumptive Standard for Environmental Flow Protection. River Res. Applic., 28: 1312–1321. doi:10.1002/rra.1511

3) If the answer to question (2) is HIGH or MEDIUM, will the proposed use still result in diminution of water quality for the habitat of sensitive, threatened, or endangered fish species? ☐ NO ☒ YES

If YES, how? Threatened fish species potentially using the Pudding River during the proposed months of use for rearing and/or migration are Chinook, Coho, Steelhead, and Pacific lamprey.

Temperature and dissolved oxygen are a flow-related parameter. When streamflow is reduced, heat capacity is reduced. As a waterbody heats up, dissolved oxygen concentrations decline. Be reducing streamflow, this use is likely to exacerbate the temperature and dissolved oxygen impairments. The assimilative capacity of a waterway is flow dependent. Reduced flows can increase the concentrations of bacteria, pesticides, nitrate and metals.

Increases in temperature or a reduction in dissolved oxygen would impact sensitive, threatened, and endangered fish. Fish require different temperature and concentrations of dissolved oxygen based on their species and life history stage. Oregon's temperature and dissolved oxygen limits are based on the most sensitive species and life history stage at the location and season of concern. The temperature and dissolved oxygen concentrations of this waterbody are already known to be insufficient for the habitat of sensitive, threatened, and endangered fish. Any additional heat or reduction in dissolved oxygen concentrations would further impact the habitat.

4) Can conditions be applied to mitigate the impact of the use?

☐ NO ☒ YES; recommend from Menu of Conditions and skip to question 7.

Permit should not be issued without flow mitigation. Additional mitigation may be required from other IRT members (example: OWRD may require mitigation for periods when water is not available.)

Surface flow mitigation is unlikely to provide the same benefit groundwater provides to gaining stream reaches. However, if groundwater mitigation is unavailable within a mile of the well location, surface water mitigation will provide suitable mitigation.

Mitigation obligation: Mitigation water must be obtained for the June 1- September 30 time period for the amount identified in the permit. Applicant should contact the OWRD caseworker to discuss flow mitigation options.

Flow mitigation condition: Prior to water use under this permit, the applicant must provide water mitigation water that is of no less volume than the amount identified in the permit. The mitigation flow must be sourced upstream of the groundwater use and must affect the impacted reach for the June 1- September 30 time period.

Water Quality: The use may be restricted if the quality of the source stream or downstream waters decreases to the point that those waters no longer meet existing state or federal water-quality standards due to reduced flow.

Prohibited Activities: Permittee may not cause pollution of any waters of the state, or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means, per ORS 468B.025(1). If the Department of Environmental Quality determines that pollution of waters of the state is occurring, the permit holder is not in compliance with ORS 468B.025(1), DEQ shall notify OWRD of the violation.

Agricultural Water Quality Management Area Rules: Permittee must comply with basin-specific Agricultural Water Quality Management Area Rules in OAR 603-095. Livestock management and cropping must protect riparian areas on the property, allowing site capable vegetation along streams to establish and grow to provide the following functions: shade (on perennial and some intermittent streams), bank stability, and infiltration or filtration of overland runoff.

Compliant Flow Restrictor – Applicant shall install an OWRD approved flow restrictor.

1200-C: A 1200-C Stormwater Discharge Permit may be required for this proposed use if construction projects that disturb an acre or more of land. Permittee must contact DEQ prior to project construction.

* If the application is amended in a way that may affect water quality, DEQ shall be notified and given the opportunity to submit updated comments and conditions.

5) If conditions cannot be identified to offset impacts, would the proposed use affect the Habitat of Sensitive, Threatened, or Endangered Fish Species? ☐ NO ☐ YES

If YES, please explain:

6) If a permit is issued, are there any conditions you would like to see included in the permit?

Refer to conditions listed in question 4.

7) Your recommendation under OAR 690-033-0330 (2): ☒ Approval with conditions
☐ Approval without conditions
☐ Denial

DEQ Representative signature: Heather Tugaw Date: August 21, 2017

WRD Contact: **Caseworker**: Barbara Poage, Water Rights Division, 503-986-0900 / Fax 503-986-0901

MENU OF CONDITIONS FOR WRD, ODFW, DEQ AND AG

The following condition will be included in any permit issued unless ODFW explicitly requests that it be omitted:
The permittee shall not construct, operate or maintain any dam or artificial obstruction to fish passage in the channel of the subject stream without providing a fishway to ensure adequate upstream and downstream passage for fish, unless the permittee has requested and been granted a fish passage waiver or exemption through the Oregon Department of Fish and Wildlife. The permittee is hereby directed to contact an Oregon Department of Fish and Wildlife Fish Passage Coordinator before beginning construction of any in-channel obstruction.

fishself The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional prior to diversion of any water. Permittee shall obtain written approval from ODFW that the installation of the required screen and by-pass devices meets the state's criteria or the permittee shall submit documentation that ODFW has determined screens and/or by-pass devices are not necessary.

fishapprove The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.

fishdiv33 If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed**.**

The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.

The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.

fishmay Not withstanding that ODFW has made a determination that fish screens and/or by-pass devices are not necessary at the time of permit issuance, the permittee may be required in the future to install, maintain, and operate fish screening and by-pass devices to prevent fish from entering the proposed diversion and to provide adequate upstream and downstream passage for fish.

b52 Water may be diverted only when Department of Environmental Quality sediment standards are being met.

b5 The water user shall install and maintain adequate treatment facilities meeting current DEQ requirements to remove sediment before returning the water to the stream.

b51a The period of use has been limited to _____ through _____.

b57 Before water use may begin under this permit, a totalizing flow meter must be installed at each diversion point.

b58 Before water use may begin under this permit, a staff gage that measures the entire range and stage between full reservoir level dead pool storage must be installed in the reservoir. The staff gage shall be United States Geological Survey style porcelain enamel iron staff gage style A, C, E or I. Additionally, before water use may begin under this permit, if the reservoir is located in channel then weirs or other suitable measuring devices must be installed upstream and downstream of the reservoir, and, a gated valve outlet must be installed. A written waiver may be obtained from the local Watermaster if in his judgment the installation of the weir(s) will provide no public benefit.

futile call The use of water allowed herein may be made only at times when waters from the (NAME OF SURFACE WATER) would not otherwise flow into a tributary of the_____ River or sufficient water is available to satisfy all prior rights, including rights for maintaining instream flows.

riparian If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed**.**

wq The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.

fence The stream and its adjacent riparian area shall be fenced to exclude livestock.

blv Water must be diverted to a trough or tank through an enclosed water delivery system. The delivery system must be equipped with an automatic shutoff or limiting flow control mechanism or include a means for returning water to the stream source through an enclosed delivery system. The use of water shall not exceed 0.10 cubic feet per second per 1000 head of livestock.