WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

APPLICATION NO./COURT CLAIM NO. KITT-22-03 (Certificate No. S4-83598-J)		
APPLICANT NAME Kittitas County (Arden Thomas)	CONTACT NAME Tyson Carlson, Aspect Consulting	TELEPHONE NO. 509-895-5923
WATER RIGHT HOLDER'S NAME (if different) Solar Dolar LLC		EMAIL tcarlson@aspectconsulting.com

DATE OF APPLICATION(S) November 15, 2022 (Kittitas Conservancy Board)	PRIORITY DATE May 20, 1885

WATER SOURCE: Yakima River (Mill Ditch Diversion)	CROP: Pasture
INSTANTANEOUS QUANTITY: 0.662 cfs	ANNUAL QUANTITY: 137.35 ac-ft/yr (71.89 ac-ft/yr CU)
PERIOD OF USE: April 1 to October 31	
PLACE OF USE: The W½SW¼SE¼ and W½E½SW¼SE¼ of Section 34, T. 18 N., R. 18 E.W.M. to mainstem Yakima River	PURPOSE OF USE: Irrigation of 24.81 acres to Instream flow for mitigation
IRRIGATION METHOD: Water is diverted from a side channel of the Yakima River into the Mill Ditch. Water is conveyed about 2.3 miles down the ditch where it is diverted by a submersible pump into a 6-inch-diamter buried pipe to the authorized place of use. Irrigation is performed using surface flood methods via a series of open ditch laterals to grow pasture. Water typically flows from the north to south across the property until intercepted by laterals directing return flow to a small pond. Water is then pumped from the pond and applied to the area south of the pond using a series of buried pipes and above ground solid set sprinklers. Return flow infiltrates to the ground and returns back to the Yakima River via groundwater and/or a small drainage to the south. See Figure 1.	

CONSUMPTIVE USE CALCULATION:

Using Ecology's Guidance Document, GUID-1210, Determining Irrigation Efficiency and Consumptive Use, application efficiency (Ea) was estimated to be about 47.3 percent for flood irrigation. This Ea was determined by limiting the July instantaneous Total Irrigation Requirement (TIR) to the Court-confirmed Qi of 0.662 cfs (Ea = CIR/TIR). For comparison, GUID 1210 stated that the Ea typical range for flood irrigation is between 35 and 60 percent with an average Ea of 50 percent.

The sum of the monthly TIR multiplied by the number of authorized irrigated acres is the total quantity of water required to fully irrigate the authorized place of use (137.35 ac-ft/yr). The monthly TIR (in acre-feet) is converted to an instantaneous rate (in cfs) by dividing by the number of days in each respective month, then by the conversion factor 1.9834 ac-ft/day/cfs, resulting in a maximum diversion rate (July TIR) of 0.662 cfs.

Based on this analysis, the TIR for the 24.81 acres is summarized in Table 2 below.

Table 2 – Total Irrigation Requirement (TIR)

	Unit	May	Jun	Jul	Aug	Sep	Oct	Total
Qa	acre ft.	13.41	29.70	40.70	32.45	18.47	2.62	**137.35**
Average Qi	cfs	0.218	0.499	0.662	0.528	0.310	0.043	-

In determining percent of consumptive use (%CU), 5 percent was added to the Ea to account for evaporative losses, totaling about 52.3 %CU. Monthly consumptive use for irrigation was then calculated by multiplying the TIR by the specified %CU and the area to be fallowed (CU = TIR x %CU). Total consumptive use is the sum of the monthly consumptive use.

Based on this analysis, Table 2 summarizes the amount of consumptive use from fallowing of 24.81 acres for instream flow for mitigation that will be transferred to the TWRP.

Table 3 – Consumptive Use (Secondary Reach)

	Unit	May	Jun	Jul	Aug	Sep	Oct	Total
Qa	acre ft.	7.03	15.54	21.30	16.98	9.67	1.37	**71.89**
Average Qi	cfs	0.114	0.261	0.346	0.276	0.163	0.022	

NARRATIVE DESCRIPTION OF PROJECT:

Change Application KITT-22-03 (Certificate No. S4-83598-J), proposes to ***change*** the purpose and place of use to instream flow for mitigation. Following approval of the water right change, the Mill Ditch Yakima River diversion will be adjusted to ensure the water (0.662 cfs) remains instream. In addition, the property owned by Solar Dolar, LLC which is appurtenant to this water right shall remain fallow unless authorized by a future water right decision.

The resulting trust water right may be made available for future mitigation of out-of-priority uses through the Kittitas County Water Bank, pending application-specific suitability analysis and Ecology/WTWG review. In addition, water protected in the primary reach could be made available to other project proponents for non-consumptive purposes, such as supplementation of instream flow in Currier and/or Reecer Creeks. These projects would also be subject to stakeholder review and approval.