

WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

APPLICATION NO./COURT CLAIM NO. G4-33303		
APPLICANT NAME Kershaw Fruit & Cold Storage Co.	CONTACT NAME Jason Shira Aspect Consulting	TELEPHONE NO. (509) 895-5470
WATER RIGHT HOLDER'S NAME (if different) Same as applicant		EMAIL jason.shira@aspectconsulting.com

DATE OF APPLICATION 10/18/2022	PRIORITY DATE Mitigated by a pre-1905 water right No. CS4-02206sb22@2
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WATER SOURCE: Groundwater – alluvial aquifer	CROP: None
INSTANTANEOUS QUANTITY: 200 gpm	ANNUAL QUANTITY: 50.6 acre-feet (30.0 acre-feet [CU])
PERIOD OF USE: Continuous	
PLACE OF USE: A portion of the SW1/4 of Section 24, Township 14 North, Range 17 East W.M.	PURPOSE OF USE: Domestic and Industrial
IRRIGATION METHOD: NA	

CONSUMPTIVE USE CALCULATION:

The maximum total water right authority necessary to support the existing and planned facility is estimated 50.6 acre-feet per year that results in 22.8 consumptive acre-feet based on a consumptive use rate of 45 percent. Kershaw has purchased 30 acre-feet from a water bank in excess of a conservative estimate of consumptive water use to mitigate existing and future activities.

A comparative analysis of total and consumptive water use was completed on metering data versus modeled. Kershaw collected metering data from June 9, 2020, to February 21, 2021. The domestic water use was modeled using the DOH Water System Planning Guidance (DOH, 2019) for nonresidential water use. Irrigation was calculated using Ecology Guidance (GUID 1210) and the Washington Irrigation Guide (WIG). Total water use and consumptive use rates for cold storage room and packing line operations are based on best professional judgment from the fruit industry vendors.

Metering data shows lower water demand than expected using planning estimates. For example, the longer-term metering period shows the facilities' average annual water demand is approximately 18,828 gpd, whereas the calculated planning estimate of the existing facility is 27,310 gpd. Similarly, the average consumptive use rate is 47 percent per the planning estimates for the existing facility, whereas the meter data suggests a consumptive use rate of 32 percent comparing the maximum water demand to the maximum average monthly discharge. Therefore, total water use and consumptive water use rates were determined using planning estimates and assigned consumptive use rates.

Table 1 below provide a summary of water use in gallons per day for each operation based on the above planning quantities and total water use for existing and anticipated expansion.

Table 1: Total Water Use Summary

Operation Demand	Existing		Planned	
	Total	CU	Total	CU
Packing Average Demand (gpd)	10,847		13,889	
Cold Storage Average Demand (gpd)	9,813		9,813	
Nonres Demand (gpd)	6,650		4,900	
Total (acre feet)	24.7	11.5	25.9	11.3
Cumulative Total (acre-feet)	24.7	11.5	50.6	22.8
CU (%)	47%		45%	

Table 2 presents the operations and associated total annual quantities and consumptive use rates. This analysis resulted in an average daily water demand of 42,849 gallons per day (gpd) for the packing line and cold storage and 11,550 gpd for domestic use and irrigation. The combination of operations and assigned consumptive use rates results in a total annual quantity of 50.6 afy of which 22.8 afy is consumptive at a consumptive use rate of 45 percent.

Table 2: Consumptive Use Rate Estimates

Operation		Annual Water Use		
		%CU	Total (gallons)	CU (gallons)
Cold Storage	Cooling Tower	100%	2,412,504	2,412,504
	Defrost Tank Cleanout	10%	60,000	6,000
	Misc Refrig Maintenance		117,000	11,700
Packing Line Spray Bars	2,028,000		202,800	
Packing Line Main Tank	468,000		46,800	
Packing Line	Packing Secondary Tank		390,000	39,000
	Packing Sanitation		975,000	97,500
Domestic	Staff (nonresidential)	30%	1,528,800	458,640
	Irrigation	85%	472,285	401,442
Total (gallons per year)			8,451,589	3,676,386
Cumulative Total (acre-feet)			50.6	22.8
CU (%)			45%	

Wells completed in the alluvial formation are in direct hydraulic continuity with the Naches River. Drawdown effects from pumping of the proposed wells would reduce lateral groundwater flow which, in turn, would reduce baseflow contribution to the Naches River and impact TWSA. The proposed mitigating water right will provide offset and be water budget neutral with respect to TWSA in the Yakima River Basin as measured at the Parker gage. Month by month mitigation is offered to account for the project's year-round water use, and the Water Storage and Exchange Contract No. 09XX101700 may mitigate out-of-season impacts to instream flows, if needed. The proposed water right transfer will not affect System Operation Advisory Committee (SOAC)-recommended reach-specific target flows.

Based on the above calculations, total water demand (Qa) for the project does not exceed 50.6 ac-ft/yr. Similarly, consumptive water demand for the project does not exceed 22.8 ac-ft/yr CU. Direct metering data collected during the development schedule will quantify actual water use

and discharge to inform consumptive use rates for both the expansion and the Proof of Appropriation prior to certification.

NARRATIVE DESCRIPTION OF PROJECT:

The Kershaw campus consists of marketing, packing, and shipping facilities. The marketing facilities include administrative offices staffed by 89 people with eight shower facilities, ten domestic use restrooms, and an employee workout facility.

The packing and shipping facilities consists of a 66,666 square feet apple packing plant, plus a six-bay loading dock, shipping staff office and 88,335 square feet of cold storage cooled by three engine rooms. The existing packing line and shipping facilities employs 194 people. Kershaw plans to expand the cold storage area by 93,506 square feet over the next 10 years depending on market conditions. The additional cold storage will require three additional engine rooms. In addition, the expansion will include six shipping bays, an office, and two ADA compliant restrooms and one-breakroom facility for an additional 22 operational staff.

On October 18, 2022, Kershaw filed Application No. G4-33303 with the Ecology requesting an appropriation of public groundwater. The applicant requested an authorization for a Qi of 200 gpm and a Qa not to exceed 50.6 ac-ft/yr (30 ac-ft/yr consumptive use (CU)), from three wells. The proposed purposes of use are year-round domestic and industrial supply for continuous non-contact cooling water, fruit packing, and supporting domestic water supply, and landscaping.

The application proposes to mitigate year-round CU with a pre-1905 priority date water right from the mainstem Yakima River near Yakima. CU will be mitigated with a seasonally reliable (April 1 through October September 15) water right No. S4-83689-J(A). As part of the transfer, the water right will be managed by the United States Bureau of Reclamation (Reclamation) to meet all instream flow targets to be water budget neutral with respect to Total Water Supply Available (TWSA).

