

WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

APPLICATION NO./COURT CLAIM NO. G4-36094		
APPLICANT NAME Wallace Ranch II, LLC	CONTACT NAME Tyson Carlson, Aspect Consulting	TELEPHONE NO. 509-895-5923
WATER RIGHT HOLDER'S NAME (if different) Wallace Ranch Limited Partnership		EMAIL tcarlson@aspectconsulting.com

DATE OF APPLICATION(S) January 27, 2020	PRIORITY DATE January 23, 2020, mitigated by a 1894 water right
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WATER SOURCE: Groundwater – Up to three wells completed in the unconsolidated fluvial aquifer	CROP: N/A
INSTANTANEOUS QUANTITY: 300 gpm	ANNUAL QUANTITY: 43.82 ac-ft/yr; not to exceed 30.00 ac-ft/yr (CU)
PERIOD OF USE: Year round, as needed	
PLACE OF USE: Wallace Ranch Group A Water Service Area	PURPOSE OF USE: Municipal
IRRIGATION METHOD: N/A	

CONSUMPTIVE USE CALCULATION:

The following section describes how the total and consumptive water use values were calculated to identify how much water is needed to mitigate 1) indoor consumptive use for the entire project, and 2) irrigation of outdoor water use associated with the development on the plateau. Consumptive use under the permit shall not exceed 30 ac-ft/yr (CU).

As provisioned, these estimates will be confirmed by direct metering during the permit's above-specified development schedule.

Indoor

The Washington Department of Health (DOH) Water System Design Manual (DOH, 2020) was used to estimate water use at full build-out of project. Table 2 presents the average daily demand (ADD) calculations per DOH for the riverfront and plateau clusters. The number of lots at full build-out is 56 (18 riverfront; 38 plateau), plus amenities and swimming pools. Consistent with municipal water system planning a residential density of 2.5 people per lot was assumed at full time occupancy.

Consumptive use is assumed to occur at 30 percent of total annual use consistent with the Upper Kittitas Groundwater Rule (Chapter 173-539A WAC). Water use of the swimming pool, including fill, backwash, splash-out, and average pan evaporation rates, is conservatively considered 100 percent consumptive.

Table 2. Wallace Ranch Indoor Total and Consumptive Water Demand

	Quantity	Units	ADD (gpd)	Total ADD (gpd)	Total Use (ac-ft/yr)	Total Consumptive Use (ac-ft/yr CU)
Residential Lots - Indoor Use	56	ERUs	200	11,200	12.54	3.76
Community and Residential Pool - Fill and Maintenance	57	Pools	109*	6,202	6.94	6.94
Community Center/Boathouse	6	ERUs	200	1,200	1.34	0.40
Stables	2	ERUs	200	400	0.45	0.14
Clubhouse	6	ERUs	200	1,200	1.34	0.40
Total					22.61	11.64

* Calculations assumed community pool dimensions: 75' x 54' x 5', 25 yard lap swim pool; Residential pool dimensions: 32' x 16' x 3'; Lee & Heaney (2008) estimated overflow, backwash rate, and splash-out; assumed 42 inches evaporated per summer by pan evaporation rates for Thorp, WA; assuming fill occurs in 1 week; 100% consumptive.

Outdoor Irrigation

Irrigated acreage for open space and lawns was calculated using the Washington Irrigator Guide (WIG) and Ecology's *Guidance Document, GUID-1210, Determining Irrigation Efficiency and Consumptive Use*, Table 1, (GUID-1210). The WIG estimates a CIR for pasture/turf grass near Cle Elum at 1.51 ac-ft/ac. According to GUID-1210, the average Application Efficiency (Ea) of pop-up impact sprinklers is 75 percent, resulting in a TIR equal to 2.01 ac-ft/ac per year. Multiplying the TIR by the maximum number of acres proposed under the permit, the irrigated area (9.45 acres) equals a total water duty of 19.01 ac-ft/yr. Applying the specified %CU (85 percent), total CU equals 16.16 ac-ft/yr (CU).

Similarly, total and consumptive water demands for an approximate 1-acre community garden irrigated for 6 months were estimated using the ADD (or half of the MDD) from the DOH Water System Design Manual (90 gpd per 1,000 ft²) and GUID-1210 (85%CU) resulting in a conserve 2.20 ac-ft/yr (or 1.87 ac-ft/yr (CU)).

Note that outdoor irrigation for the riverfront lots, including establishment of native plants under the approved planting plan (GCH 2024) will use the remaining appurtenant water right to the property. Similarly, stockwater for paddocks and/or stables will be provided under current water right authorization.

In addition to the consumptive use required to offset project impacts, additional consumptive use must be assigned for mainstem Yakima River sources to utilize the

Water Storage and Exchange Contract No. 09XX101700 between Ecology and the United States Bureau of Reclamation. Per Section 14(c)(2)(a) of the contract, a one-third portion of the consumptive use water assigned to the contract must be permanently assigned to instream flow for management in the TWRP. Based on an assumed contract period of October 1 to October 31, 0.98 acre-feet (CU) will be assigned to the contract, requiring 0.33 acre-feet (CU) assigned to instream flow to benefit the Yakima River below Parker.

Based on these calculations, total water demand (Qa) for the project does not exceed 43.82 (22.61 + 19.01 + 2.20) ac-ft/yr. Similarly, consumptive water demand for the project does not exceed 30.00 (11.64 + 16.16 + 1.87 + 0.33) ac-ft/yr CU.

Direct metering data collected during the development schedule will quantify actual indoor and irrigation water use to inform water use during phasing of the project and the Proof of Appropriation prior to certification. Should indoor demands be greater, outdoor irrigation will be reduced to fully satisfy indoor domestic requirements.

Water not used within the authorized place(s) of use will be protected in the TWRP via temporary donation.

NARRATIVE DESCRIPTION OF PROJECT:

Wallace Ranch comprises approximately 1,164 acres in Kittitas County, located within portions of Sections 3, 10, 11 and 14 of Township 19 North, Range 16 East Willamette Meridian (W.M.) as shown on Figure 3. The Wallace family has owned the ranch for several generations and consists of over 50 twenty-acre plus tracts. Wallace Ranch recently applied to Kittitas County to replat the parcels as a conservation plat that will preserve open space and cluster the (56-lot) residential development into three areas. The initial cluster consists of an 18-home development along the riverfront property adjacent to the Yakima River, followed by two additional development clusters located on the high on the plateau to the west. The clustered residential areas will be served by a Group A public water system with well(s), storage tank, and distribution lines. All homes will be support by either individual or a cluster-specific Large Onsite Septic System (LOSS) and drain field.

To support the project, Wallace Ranch filed an application for a new mitigated water right permit with Ecology (No. G4-36094). The application requested an instantaneous quantity (Qi) of 300 gallons per minute (gpm), and a cumulative annual quantity (Qa) not to exceed 30 acre-feet per year (ac-ft/yr) consumptive use (CU) for municipal purposes. Impacts to surface water rights and TWSA will be mitigated by transfer of a portion of an existing senior seasonally reliable pre-1905 surface water right (No. S4-83912-J(B)) currently appurtenant to the Wallace Ranch property into the State Trust Water Right Program for purpose of instream flow for mitigation.

The suitability of water rights for mitigation in Upper Kittitas County are illustrated by the current mainstem Yakima River water right mitigation suitability map. The map indicates that the Wallace Ranch project, including the river corridor and areas surrounding all three residential clusters, is in the green zone and suitable for mitigation with mainstem Yakima River water rights. No tributary-specific mitigation is required.

The appropriation proposed under the subject application(s) will be water budget neutral by dedicating up to 30 acre-feet (CU) from water right No. CS4-83912-J(B). Month by month mitigation is offered to account for the project's indoor and outdoor water use during the irrigation season (April 15 – October 1). Out-of-season use and/or potential carry over impacts to instream flows will be mitigated through use of Water Storage and Exchange Contract No. 09XX101700 between Ecology and Reclamation. The application is therefore water budget neutral with respect to Total Water Supply Available (TWSA).

CONCLUSION

In support of the project, Aspect Consulting completed a draft hydrogeologic investigation (available upon request). The proposed wells completed in the unconsolidated fluvial aquifer are in high continuity with the Yakima River. In addition, groundwater in the fluvial aquifer is both physically and legally available for appropriation and authorization of the proposed wells will not impair nearby groundwater users, nearby surface water – including TWSA, or ESA-listed species.