# WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

**APPLICATION NO./COURT CLAIM NO.**

Water Budget Neutral Request No. G4-35516 with mitigation from Trust Water Right No. CS4-05259CL@2sb7

<table>
<thead>
<tr>
<th>APPLICANT NAME</th>
<th>CONTACT NAME</th>
<th>TELEPHONE NO.</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margitta Henkes</td>
<td>Kurt Walker - Ecology</td>
<td>509-454-4237</td>
<td><a href="mailto:kwal461@ecy.wa.gov">kwal461@ecy.wa.gov</a></td>
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<table>
<thead>
<tr>
<th>DATE OF APPLICATION</th>
<th>PRIORITY DATE</th>
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<tbody>
<tr>
<td>September 7, 2011</td>
<td>New use mitigated by trust water right with priority date of October 30, 1884</td>
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</table>

**WATER SOURCE:**

- well

**CROP:**

- Lawn or noncommercial garden

**INSTANTANEOUS QUANTITY:**

- 0.414 acre-ft/yr

**PERIOD OF USE:**

Continuous for single indoor domestic connection and irrigation season for lawn and garden

**PLACE OF USE:**

Parcel No. 679134, located within portions of the NE¼SE¼ and SE¼NE¼ of Section 33, T. 20 N., R. 14 E.W.M.

**PURPOSE OF USE:**

- Single domestic and Irrigation of 500 ft² lawn or garden

**IRRIGATION METHOD:**

**CONSUMPTIVE USE CALCULATION:**

- **Indoor use:** One residential connection at 350 gallons per day (gpd) used continuously year round equates to 0.392 afy of water use, or:
  
  \[
  (350 \text{ gpd per connection}) \times (365 \text{ days}) \times (\text{one connection}) \times (1.0 \text{ ac-ft} / 325,851 \text{ gal}) = 0.392 \text{ afy} 
  \]

  Consistent with WAC 173-539A-050(3), 30% of domestic in-house use on a septic system is consumptively used, therefore:

  Indoor consumptive use = (0.392 afy) x (0.30) = **0.118 afy**

- **Outdoor use:** The requestor proposes to irrigate 500 ft² of lawn and garden. Using a crop irrigation requirement of 18.11 in/yr (or 1.51 ft/yr) for pasture/turf near Cle Elum from the Washington Irrigation Guide and an application efficiency of 80%, the total outdoor irrigation water use is 0.022 afy, or:

  \[
  [(1.51 \text{ ft/yr}) \div 0.80] \times (500 \text{ ft}^2 \div 43,560 \text{ ft}^2/\text{ac}) = 0.022 \text{ afy} 
  \]

  Consistent with WAC 173-539A-050(3), 90% of outdoor use is consumptively used, so:

  Outdoor consumptive use = (0.022 afy) x (0.90) = **0.019 afy**

  **As a result consumptive use (CU) for the project totals to 0.137 afy**

  (CU April 1 to Aug 31 is 0.065 ac-ft and CU Sept 1 to Mar 31 is 0.072 ac-ft)

For detailed analysis of month-to-month uses see spreadsheet below.
NARRATIVE DESCRIPTION OF PROJECT:

The requestor proposes to offset the 0.137 afy of consumptive use for the project (one residential connection and 500 ft$^2$ of lawn and garden) with 0.137 afy of mitigation water acquired from Trust Water Right No. CS4-05259CL@2sb7. During the irrigation season, 0.072 ac-ft is assigned to the USBR-Ecology Exchange Contract (Contract No. 09XX101700) and released between Sept 1 and Mar 31 to address out of season impacts along the Yakima River. In addition, consistent with the Exchange Contract, Ecology plans to assign 0.024 ac-ft of the Trust Water Right to be managed within the Trust Water Right Program for instream flow purposes to benefit the Yakima River.

The proposed well for the new use is to be located in an area that needed additional information ("yellow area") to determine the suitability of the Suncadia Trust Water Rights for use as mitigation to offset the new use. Review of the local area hydrogeology suggests that pumping under G4-35515, as conditioned, would result in flow impacts to Nelson Creek and/or the Yakima River east and north of the Henkes parcel. Copies of the Hydrogeology Memo are available on request from Ecology. For a copy, please contact Kurt Walker at (509) 454-4237, kwal461@ecy.wa.gov.
Location of G4-35516

Total and Consumptive Use under G4-35516

Consumptive Use Calculator for WBN form and Contract water form: WRTS No. G4-35516 (Henkes)

Assumptions for Irrigation:
- Assumed efficiency: 0.8
- % CU for outdoor use: 0.9 per WAC
- Square feet to irrigate: 500

Assumptions for Domestic:
- total use per ERU: 350 gpd
- total use per ERU: 0.03074 af per day
- % CU: 0.3

Irrigation portion:

<table>
<thead>
<tr>
<th>Month</th>
<th>WIG (in/yr)</th>
<th>TIR per ac (APY/ac)</th>
<th>TIR (efy)</th>
<th>CU (efy)</th>
<th>Total use (APY)</th>
<th>Total CU (APY)</th>
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<tbody>
<tr>
<td>Jan</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>Jun</td>
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<td>0.3479</td>
<td>0.004</td>
<td>0.004</td>
<td>0.0032</td>
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<td>Jul</td>
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<td>0.007</td>
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<tr>
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<td>Total</td>
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<td>0.022</td>
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<td>0.0392</td>
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Results:
- Total CU: 0.137 AFY

For WBN form:
- Total use: 0.418 AFY

For Contract form:
- Contract cost: $57.02
- ( billed at $22 per AFY for 36 years)
- Assumes flip-flop starts Sept 1 and irrigation season starts April 1

Total to debit from TWR: 0.161 AFY (Total CU + Total to add to IF at Parker)

Total to add to IF at Parker: 0.084 AFY (1/3 of water assigned to contract)