WATER TRANSFER WORKING GROUP PROJECT DESCRIPTION

APPLICATION NO./COURT CLAIM NO.
Water Budget Neutral Request Nos. G4-35560, G4-35561, and G4-35561 with mitigation from Trust Water Right No. CS4-01676sb5d@2

APPLICANT NAME
Thomas & Kathleen Roth

CONTACT NAME
Kurt Walker - Ecology

TELEPHONE NO.
509-454-4237

WATER RIGHT HOLDER’S NAME (if different)
Mitigation with Roth Trust Water Right

EMAIL
kwal461@ecy.wa.gov

DATE OF APPLICATION
April 30, 2012

PRIORITY DATE
New use mitigated by trust water right with priority date of June 30, 1900

WATER SOURCE:
wells

CROP:
Lawn or noncommercial garden

INSTANTANEOUS QUANTITY:
ANNUAL QUANTITY:
1.176 acre-ft/yr

PERIOD OF USE:
Continuous for 3 indoor domestic connection and irrigation season for lawn and garden

PLACE OF USE:
Parcel No. 954234, 954235, and 954236, located within the SE¼SW¼ of Section 29, T. 20 N., R. 16 E.W.M.

PURPOSE OF USE:
3 domestic uses and Irrigation of 1,500 ft² lawn or garden (500 ft² per domestic connection).

IRRIGATION METHOD:

CONSUMPTIVE USE CALCULATION:

**Indoor use**: 3 residential connection at 350 gallons per day (gpd) used continuously year round equates to 1.176 acre-feet per year (afy) of water use, or:

\[(350 \text{ gpd per connection}) \times (365 \text{ days}) \times (3 \text{ connection}) \times (1 \text{ ac-ft/325,851gal}) = 1.176 \text{ afy}\]

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

\[\text{Indoor consumptive use} = (1.176 \text{ afy}) \times (0.30) = 0.353 \text{ afy}\]

**Outdoor use**: The requestor proposes to irrigate 1,500 ft² of lawn and garden. Using a crop irrigation requirement of 24.0 in/yr (or 2.0 ft/yr) for pasture/turf and an application efficiency of 80%, the total outdoor irrigation water use is 0.086 ac-ft/yr, or:

\[\left[\frac{1.51 \text{ ft/yr}}{0.8} \times (1,500 \text{ ft}^2 \div 43560 \text{ ft}^2/\text{ac})\right] = 0.086 \text{ ac-ft/yr}\]

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

\[\text{Outdoor consumptive use} = (0.086 \text{ afy}) \times (0.90) = 0.077 \text{ ac-ft/yr}\]

As a result consumptive use (CU) for the project totals to 0.430 afy
(CU May 1 to July 31 is 0.132 ac-ft and CU August 1 to April is 0.298 ac-ft)

NARRATIVE DESCRIPTION OF PROJECT:

The requestor proposes to offset the 0.077 ac-ft/yr of consumptive use for the project (3 residential connection and 1,500 ft² of lawn and garden) with 0.077 ac-ft/yr of mitigation water acquired from Trust Water Right No. CS4-01676sb5d@2. During the irrigation season, 0.298 ac-ft is assigned to the USBR-Ecology Exchange Contract (Contract No. 09XX101700) and released between August 1 to April 30 to address out of season impacts along the Yakima River.
**Consumptive Use Calculator for WBN form and Contract water: WRTS Nos. G4-35560, G4-35561, and G4-35562 (Roth)**

**Assumptions for Irrigation:**
- Assumed efficiency: 0.8
- % CU for outdoor use: 0.9 per WAC
- Square feet to irrigate: 1500
- Acreage: 0.034

**Assumptions for Domestic:**
- total use per ERU: 350 gpd
- total use per ERU: 0.001074 af per day
- #ERU: 3
- % CU: 0.3 for septic system

### Irrigation portion:

<table>
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<tr>
<th>Month</th>
<th>WIG (In/yr)</th>
<th>TIR per ac (AFY/ac)</th>
<th>TIR (afy)</th>
<th>CU (afy)</th>
<th>Total use (AFY)</th>
<th>CU (AFY)</th>
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**Results:**

For WBN form:
- Total CU: 0.430 AFY
- Total use: 1.262 AFY

For Contract form:
- CU (May 1 to July 31): 0.132 AFY
- CU (Aug 1 to April 30): 0.298 AFY
- Contract water: 0.298 AFY

**Total to add to IF at Parker:** 0.000 AFY
**Total to debit from TWR:** 0.430 AFY

**contract cost:** $242.57

($22 per afy of assigned water for 37 years)

Assumes irrigation season starts May 1 and USBR release begins Aug 1.

1/3 of water assigned to contract.

(Total CU) + (Total to add to IF at Parker)