DEPARTMENT OF ECOLOGY
State of Washington

State of Washington
REPORT OF EXAMINATION
FOR TRUST WATER RIGHT

Changed Place of Use
Changed Purpose of Use

PRIORITY DATE
4/19/1973

WATER RIGHT NUMBER
CG3-21039C@2

BEGIN TRUST TERM
January 1, 2011

END TRUST TERM
December 31, 2020

WATER RIGHT OWNER
Washington Department of Ecology
Office of Columbia River
303 S Mission St., Ste. 200
Wenatchee, WA 98801

Purpose and Quantity

Trust water right for the purpose of instream flow, at a maximum rate of 2.90 cubic feet per second (cfs) and an annual quantity of 591 acre-feet (ac-ft) through 2020, subject to terms of Contract C1100119.

The entire quantity of water was formerly used consumptively and may be temporarily used as mitigation for new out-of-stream purposes.

Table 1:
Benefitting Reach
(April 1 – Oct 15 Irrigation season from Contract C1100119)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Poplars				2.01	6.51	9.19	11.34	10.66	5.58	1.5			46.78 in/ac
% of 46.78				4.3	13.92	19.65	24.24	22.78	11.92	3.21			100%
Qa (ac-ft)				25.39	82.24	116.10	143.27	134.61	70.43	18.95			591
Qi (cfs)				0.43	1.34	1.95	2.33	2.19	1.18	0.64			---

Note: Poplar data from Bureau of Reclamation's Hermiston, OR station

Trust Water Right Place of Use

The place of use for this trust water right lies within the Columbia River, beginning at Lake Wallula's upstream boundary and extending downstream to the mouth of the Columbia River at the Pacific Ocean. (Lake Wallula is backwater held by McNary Dam).

Trust Water Right Provisions

The instream flow captured in this Report of Examination is year-to-year through 2020 pursuant to the terms of Contract C1100119 between the Department of Ecology and the Port of Walla Walla.

This authorization will expire on December 31, 2020, unless terminated earlier subject to the terms of Contract C1100119.

Findings of Facts and Decisions

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. CG3-21039C@2, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

FILE COPY

File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.

- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.
- You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW, Ste 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Yakima, Washington, this 14th day of March 2013.

Mark C. Schuppe, Operations Manager

For additional information visit the Environmental Hearings Office Website: http://www.eho.wa.gov. To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser.

BACKGROUND

Description and Purpose of Proposed Change

Under Contract C1100119 with the Port of Walla Walla, the applicant (Washington State Department of Ecology – Office of Columbia River) is leasing seven water rights from the Port of Walla Walla for up to 10 years. The lease conveyed these seven rights into the State Trust Water Rights Program and the seven rights are now managed by the Department of Ecology. Subsequent to the lease, the applicant has proposed that the purposes of use and places of use of the seven rights change to instream flow within the Columbia River. This Investigator's Report covers one of the applications for change, CG3-21039C@2. No construction is proposed under this application. Rather, ground water withdrawals under G3-21039C cease subject to the terms of Contract C1100119.

This application qualifies for expedited processing under WAC 173-152-050(3)(a) whereby water right change applications may be processed prior to applications submitted at an earlier date when the proposed water use, if approved, would substantially enhance or protect the quality of the natural environment. The Washington Department of Fish and Wildlife indicates that instream flow augmentation in this area would benefit all five Pacific salmon species and Steelhead trout as well as numerous other game and non-game fish.

Attributes of the Certificate and Proposed Change

Table 1: Summary of Existing Attributes and Proposed Changes to Water Right No. G3-21039C

Attributes	Documented	Proposed
Name	Dean Howe	WDOE – Office of Columbia River
Priority Date | Date of Application for Change	April 19, 1973	April 4, 2011
Instantaneous Rate	1300 gallons per minute	No Change
Annual Quantity	744 acre-feet	No Change
Source	Ground water	No Change
Point of Withdrawal	SW¼SE¼ Sec 14, T. 7 N., R. 31 E.W.M.	No Change
Purpose of Use	Irrigation of 160 acres	Instream Flow
Period of Use	January 1 to December 31	No Change
Place of Use	SW¼ Sec 18, T. 7 N., R. 32 E.W.M.	Columbia River

Legal Requirements for Proposed Change
The following is a list of requirements that must be met prior to authorizing the proposed change in Purpose of Use and Place of Use.

- **Public Notice under RCW 90.42.040(5)(a) and RCW 90.03.280**
  Public Notice was published in the Walla Walla Union, a newspaper of general circulation in Walla Walla County, on September 26th and October 3rd, 2011. No comments were received during the 30-day protest period.

- **Notice under RCW 90.42.040(5)(b)**
  Notice of pertinent information on this proposed change was sent to appropriate state agencies, potentially affected local governments, and federally recognized tribal governments, and other interested parties on September 30, 2011. Ecology received one comment during the comment period which ended on October 23, 2011. The comment was from the Washington Department of Fish and Wildlife and is discussed below, near the end of this report.

- **State Environmental Policy Act (SEPA), Chapter 43.21C RCW and Chapter 197-11 WAC**
  A water right application is subject to a SEPA threshold determination (i.e. an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

(a) It is a surface water right application for more than 1 cubic feet per second (cfs), unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cfs, so long as that irrigation project will not receive public subsidies;
(b) It is a ground water right application for more than 2,250 gallons per minute (gpm);
(c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
(d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g. the need to obtain other permits that are not exempt from SEPA);
(e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Collectively, the proposed changes to the seven water rights conveyed into the State Trust Water Right Program involve 9,179 gpm. As such, this application meets condition (c) above. Pursuant to WAC 197-11-315 an environmental checklist was completed, and under WAC 197-11-926 Ecology assigned itself as the lead agency.

Pursuant to WACs 197-11-310 and 197-11-340, a threshold determination of nonsignificance (DNS) was made in December 2011. Copies of the DNS and checklist were sent to agencies with jurisdiction, affected tribes, and local agencies. Public notice of the DNS was published in the Tri-City Herald on December 13, 2011. No comments were received during the fourteen day comment period.

INVESTIGATION

History of Water Use/Extent and Validity

On December 1, 2010, the Port of Walla Walla filed seven applications for change with the Walla Walla County Water Conservancy Board (WWCWCB). These seven applications pertain to the same seven rights leased by Ecology that are now also being considered for change to instream flow. The applications to WWCWCB propose changing the purpose of use from irrigation to industrial/commercial and changing the place of use to cover a future industrial park. A lengthy period of time (approximately 10 years) to begin construction of the industrial park under these applications responds to the current climate of economic uncertainty and accounts for the temporary lease by Ecology and conveyance into the State Trust Water Right Program. On June 11, 2011, the WWCWCB issued Records of Decision (RODs) and Records of Examination (ROEs) for the seven applications, and on August 10, 2011, the Department of Ecology's Eastern Regional Office (ERO) approved them with some modifications. The ROEs provide a discussion on the history of water use under the seven rights. WWCWCB's application number WALL 10-14 refers to the changes proposed to G3-21039C under application CG3-21039C@1.

The history provided in the ROE for WALL 10-14 indicates that water under the seven rights was used to grow hybrid poplar trees using drip irrigation in two discrete management groups called "South Farm" and "North Farm". The trees were all harvested in 2010 (South Farm) and 2011 (North Farm); the five South Farm rights were donated to the State Trust Water Rights Program (TWRP) in 2010, including the subject right G3-21039C. The subsequent lease under C1100119 of these water rights by Ecology terminated the South Farm Trust donations and conveyed all seven rights into the TWRP. Notably, the history given in WALL 10-14 does not suggest a 5-year period of complete non-use of water under G3-21039C.

Within the ROE, the WWCWCB tentatively determined that an instantaneous rate of 1300 gpm and 591 acre-feet (ac-ft) were available for that change to G3-21039C, and Ecology's ERO approved those values.

Aerial photos taken in 1996, 2003, 2004, 2005, 2006, and 2009 were reviewed for this Investigator's Report. In the 1996 photo it appears approximately 131 acres were irrigated within the place of use. In years 2003 and 2004 it appears the crop had been harvested and not yet replanted. In years 2005, 2006, and 2009 it appears the approximately 131 acres were back in production and being irrigated.

Water right G3-21039C authorizes up to 160 acres of irrigation, though only approximately 131 acres appear to be formerly irrigated within its place of use. The WWCWCB and Ecology's ERO determined that not all the water under this right had

been applied to beneficial use, and during their recent processing of the seven change applications (irrigation to commercial/industrial), the right was reduced from its original values.

Other Rights Appurtenant to the Place of Use

Original Place of Use

Below, Table 2 lists seven active change authorizations that overlap in place of use with G3-21039C and their attributes.

Table 2: Attributes of active rights that overlap with G3-21039C in place of use

Document Number	Priority/Date of Application (Changes)	Purpose(s)	Instantaneous Rate (gpm)	Annual Quantity (ac-ft)
CG3-21039C@1	12/1/2010	Comm/Indus	1300	591
CG3-24791C@1	12/1/2010	Comm/Indus	310	281
CG3-28146	12/1/2010	Comm/Indus	4134	2357
CG3-21936C@1	12/1/2010	Comm/Indus	530	278
CG3-28683C	12/1/2010	Comm/Indus	2066	746
CG3-21038C@1	12/1/2010	Comm/Indus	531	265
CG3-21037C@1	12/1/2010	Comm/Indus	308	243

Note: Document numbers beginning with a "C" refer to change authorizations and the priority date given them refers to when the change application was received by Ecology.

Proposed Place of Use

Many diversionary rights exist on the Columbia River within the place of use. Listing them here is of limited practical value. Of note is that minimum flows set in 1980 under Chapter 173-563 WAC apply here. If approved for change to instream flow, this trust water right would add to the1980 minimum flows with respect to its 1973 priority date in addition to other existing instream flow rights with respect to their priority dates within the new place of use. Water use offset by using this trust water as mitigation would not be added to the 1980 minimum flows. Instream flows within Lake Wallula (and the Hanford Reach) are measured at the McNary Dam outflow measuring station. Lake Wallula is backwater held by McNary Dam.

Proposed Purpose of Use

The proposed purpose of use is instream flow. Water use offset by using this trust water as mitigation is a future possibility and would be addressed in an ROE specific to such a proposal.

Hydrogeologic Evaluation

This area was evaluated by a staff hydrogeologist licensed to practice in the State of Washington. A separate technical memorandum discussing this area and this application, written and stamped by the hydrogeologist, is in the file. The remainder of this section is excerpted from this memorandum:

Previous Hydrogeologic Investigations:

Two previous hydrogeologic investigations were completed in regard to change applications filed on the subject water rights. The first investigation was completed in 2002 by Ecology and the second investigation was completed by the WWCWCB in June of 2011. The conclusion of both investigations was that the ten subject wells were completed in the upper alluvial aquifer. In addition, it was the conclusion of the 2011 investigation that the upper alluvial aquifer in this area is hydraulically connected to the Columbia River.

Hydrogeologic Setting

The ten subject wells located within Sections 11 and 14, Township 7 N., R. 31 E.W.M., Walla Walla County, Washington are all within a mile of the Columbia River. Five of the ten wells are within 1,500 feet of the Columbia River. The wells range in depth from 91 feet to 150 feet below ground surface (bgs) with depths to static water levels ranging from 52 to 105 feet bgs (WWCWCB, 2011). Based on the well log information on file with Ecology, all of the wells are completed into materials described on the driller's logs as sand, silt, gravel, and clay. Static water level measurements taken in 2008 and 2009 by Anderson Perry & Associates indicate that the groundwater elevation of the unconfined water table in the area of the subject wells ranges from 337 feet above mean sea level (MSL) to 342 feet above MSL (Wells, 2011). By comparison, the normal operating range of McNary Pool is from 335 feet above MSL to 340 above MSL.

Approximately 24 miles downstream at river mile 292 the McNary Dam raises the elevation of the Columbia River creating the reservoir known as Lake Wallula. Lake Wallula extends up the Columbia River to approximately river mile 346 and up the Snake River to the base of Ice Harbor Dam at river mile 9.7. The stretch of the Columbia River between river mile 346 and the next upstream dam is known as the Hanford Reach. The Hanford Reach begins at the base of the Priest Rapids Dam and for 51 miles is the only free flowing stretch of the Columbia River in the United States.

Regulatory Considerations

The Columbia River mainstem is regulated under Chapter 173-563 WAC which defines the minimum flows that must be maintained in the Columbia River. WAC 173-563-040 defines the various control points along the river and the minimum flows that must be maintained at each control point. McNary Dam is one such control point and as such the water in Lake Wallula and the Hanford Reach is managed collectively. In practical terms this means water rights subject to the minimum flows with a source of Lake Wallula or the Hanford Reach are regulated at the same time regardless of their priority dates. Should regulation in favor of minimum flows occur on the Columbia River, then those rights leased under contract C1100119 that have minimum flow provisions (G3-28146C and G3-28683C) would not be fully exercised during the curtailment period and as such would not be available for the intended purposes.

The groundwater not withdrawn at the subject wells discharges to Lake Wallula when the groundwater elevations in the aquifer are higher than that of the river. Under this condition and as a result of the regulatory scheme the groundwater discharging to Lake Wallula would be available to mitigate future water use anywhere in Lake Wallula and the Hanford Reach.

Impairment Considerations

Groundwater will no longer be pumped from the subject wells and thus no impairment will occur at the existing place of use. The approval of the requested changes to the subject water rights would make water available to mitigate for future out-of-stream uses. Future uses of groundwater will require additional analyses to identify local impairment issues.

Conclusions to the Hydrogeologic Investigation

The minor difference in elevation of the groundwater aquifer and that of Lake Wallula indicates a high degree of hydraulic connection between the two water bodies. There are no geological structures mapped in the area that would impede movement of water between the groundwater aquifer and Lake Wallula. Groundwater elevations within a shallow alluvial aquifer generally mimic topography and as such the direction of groundwater flow in this area is likely west-southwest towards Lake Wallula. Groundwater not withdrawn at the subject wells will discharge to Lake Wallula when the head relationships are such that the elevations of the groundwater are higher than that of Lake Wallula. As a result there are no hydrogeologic reasons why the proposed uses of water under the subject Change Applications shouldn't be approved.

Trust Water Discussion

Trust Water Calculations:

Under Contract C1100119 the amount of water leased by Ecology will be determined by Ecology's ERO review of the amount approved from the WWCWCB's seven Records of Decision and Reports of Examinations (see Agreement Bullets #4 and #5 of Contract C1100119).

The tentative determination of the extent and validity given under WALL 10-14 indicates that the instantaneous rate of withdrawal under G3-21039C has not relinquished. Meter readings were not available. From evaluation of system capacity and pump tests, among other analyses, the WWCWCB found that 1300 gpm were applied to beneficial use under G3-21039C, and Ecology approved this rate.

For the total annual amount withdrawn, the WWCWCB found that 122 ac-ft have relinquished of the 744 ac-ft given on the certificate, reducing the right to 622 ac-ft. The WWCWCB estimated a 5% efficiency loss and calculated the consumptively used quantity at 95% of 622 ac-ft, or 591 ac-ft. As such, the WWCWCB found that 591 ac-ft would be available for that change, and Ecology approved this amount.

This change is being processed under Chapter 90.42 RCW. This RCW Chapter, titled "Water Resource Management", indicates that the provisions of RCWs 90.03.380 and .390 apply to this type of trust water acquisition. RCW 90.03.380 outlines the process for changing a water right, including changes in purpose of use; RCW 90.03.390 covers temporary or seasonal changes to water rights. Note: for processing this change, the purpose of use is *changing* as opposed to a new purpose being *added*; ergo an annual consumptive quantity calculation is not required under RCW 90.03.380.

The season of use for water right G3-21039C covered the entire year: January 1 to December 31. From metering data contained within Attachment 3 of a Technical Memorandum authored by Anderson-Perry & Associates, Inc, dated March 25, 2011, (the March 25 Memo), it appears irrigation of the hybrid poplars was used only within the period April 1 to October 31. These data cover irrigation at the subject place of use (termed "Fiber Tree Farm" in the March 25 Memo) during the 2002 to 2010 seasons. Additionally, data on water use requirements by the Bureau of Reclamation's Pacific Northwest Cooperative Agricultural Weather Network (Agrimet) from their Hermiston, Oregon, station (HERO) indicate that hybrid poplar trees greater than three years old need watering only from April 1 to October 15. The following is excerpted from the March 25 Memo: *"The HERO Agrimet weather station is located 35 miles southwest of the Fiber Tree Farm. The Legrow (LEGW) Agrimet weather station is located about 8 miles northwest of the Fiber Tree Farm. Climatic data comparing these two weather stations is* [sic] *similar and representative of the weather and crop water usage at the Fiber Tree Farm. Precipitation data...shows a good correlation between the two stations."*

Trust water as instream flow resulting from the non-pumping of the subject well is modeled after the water use requirements for hybrid-poplar trees as described at the Bureau of Reclamation's HERO station. See Table 1 on the accompanying Report of Examination for this change. The daily readings were totaled for each month, and each month given a percentage of the yearly total. Monthly distribution of the 591 ac-ft specific to this change was then determined by these percentages. Instantaneous rates were limited to 2.90 cfs, as determined by the WWCWCB (1300 gpm = 2.90 cfs).

Note that under RCW 90.42.080(9) the full quantity of water withdrawn before the acquisition reverts back to the Port of Walla Walla at lease termination. As such, the annual quantity reverted would be 591 ac-ft; the instantaneous rate reverted would be 1300 gpm.

Trust Water Place of Use:

Trust water places of use typically involve a primary reach and a secondary reach. From Ecology's Guidance Document 1220 (Guide 1220), the primary reach is the portion of a water body that benefits from both the former consumptive use and return flow waters of a trust water right. It is the reach between the original diversion point and the point where the last return flows reenter the stream or river. The secondary reach is the portion of a water body that received return flow waters while the water right was exercised for its original out-of-stream purpose. The secondary reach therefore only benefits from the former consumptive portion of the trust water right. It is downstream from the point where return flows from the historic use under the water right reentered the stream or river.

Non-consumptive water was not included in the WWCWCB decision and, pursuant to Contract C1100119, will not be considered under this change proposal. Only formerly used consumptive water will be considered. Eliminating non-consumptive water from consideration eliminates the need to distinguish a primary and secondary reach.

For this trust water acquisition, some complexity affects the place of use. Ground water discharges to an artificial reservoir (see "Hydrogeologic Evaluation" above); water not pumped from wells authorized under G3-21039C would flow to Lake Wallula. Any contributing ground water from not pumping wells authorized under G3-21039C would benefit all of Lake Wallula, as opposed to only locally raising the pool level from where ground water discharges to Lake Wallula and areas downstream. As such, the reach benefitting from this change would begin at Lake Wallula's upstream boundary and would extend downstream along the Columbia River to its mouth on the Pacific Ocean. In addition, Lake Wallula extends up the Snake River as far as Ice Harbor Dam (approximate Snake River mile 9.7) and as a result the reach of the Snake River from Ice Harbor Dam to its confluence with the Columbia River (Snake River mile 0) would benefit too.

Trust Water Management:

Water right G3-21039C was conveyed into the State Trust Water Rights Program by a lease of up to 10 years under Contract C1100119. Ecology, under the subject change application, CG3-21039C@2, proposes to change the purpose of use to instream flow in the Columbia River for the term of the lease. The benefit to instream flow will be felt by the Columbia River by non-use of the well beginning at Lake Wallula and extending downstream to its mouth. Chapter 173-563 WAC outlines regulation procedures with respect to 1980-priority instream flows. The subject 1973-priority trust water could be added to the 1980 instream flows should regulation become necessary. Trust water would be protected by adding the instantaneous flow by month as discussed above to the control points identified in, and consistent with, WAC 173-563-040.

If this change is approved, the instream flow may be offered as temporary mitigation for other uses not otherwise permissible without mitigation. Mitigation water provided under the Port of Walla Walla lease would recover Ecology's cost of leasing this water, equating to $105 per acre-foot each year. More information is available at the following web address:

http://www.ecy.wa.gov/programs/wr/cwp/PWW-Permits.html

Any portion committed to mitigation would not be added to instream flow.

Impairment Considerations

No impairment is expected as a result of this change. Pursuant to RCW 90.42.080(8), should existing water rights be impaired from this trust water right, the trust water right shall be altered to eliminate the impairment.

Public Interest Considerations

Under RCW 90.42.080(5), the provisions of RCWs 90.03.380 and .390 apply to lease conveyances into the TWRP. Under RCW 90.03.380, changes to water rights may not impair existing rights, however the public interest test does not apply to water right changes. Nevertheless, under 90.44.100(2), changes to ground water rights are subject to the "…findings as prescribed in the case of an original application." In terms of the public interest, the addition of instream flow to the Columbia River would likely benefit anadromous and resident fish, an interest of the public (Chapter 90.54 RCW).

Consideration of Protests and Comments

In response to notice given under RCW 90.42.040(5)(b), the Washington Department of Fish and Wildlife (WDFW) provided comment. WFDW has no objection to the proposed change and recognizes the benefit to fish and habitat in the Columbia River, and WFDW requested that a summary of any water leases resulting from temporary mitigation (discussed above) be provided to them.

No protests or comments were received under notice given under WAC 197-11-340 specific to SEPA.

CONCLUSIONS

Based on the above, all legal obligations including public notice under RCWs 90.42.040(5)(a) and 90.03.380, notice under RCW 90.42.040(5)(b), and SEPA requirements have been complied with for this change proposal. No impairment is expected, the change is in the public interest, water is available, and the tentative determination of the extent and validity of water right G3-21039C is a year-round use of 1300 gpm and 622 ac-ft.

Under Contract C1100119, while processing CG3-21039C@2, Ecology is bound by the earlier WWCWCB decision and Ecology's ERO approval to consider their resulting 591 ac-ft of consumptive use only. Trust water as instream flow resulting

from non-pumping of the subject well would be managed as monthly values of ac-ft and cfs as described above and presented in Table 1 of the accompanying Report of Examination.

Ground water not pumped under G3-21039C discharges to the Columbia River when the head relationships are such that the elevations of the ground water are higher than that of Lake Wallula.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that the request for change under CG3-21039C@2 be approved in the amounts and within the limitations listed below and subject to the provisions listed in the Report of Examination.

Trust Water Right Attributes:

Subject to the terms of C1100119, monthly instream flow through December, 2020, would be managed at a rate of up to 1300 gpm (2.90 cfs) and up to 591 ac-ft/yr as presented in Table 1 of the accompanying Report of Examination.

The place of use lies within the Columbia River, beginning at the upstream boundary of Lake Wallula and extending downstream to the mouth of the Columbia River at the Pacific Ocean.

Report by: _____ _____ 3/6/13

Thomas Perkow
Office of Columbia River

Date